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STAPLE FOODS VALUE CHAIN ANALYSIS

COUNTRY REPORT - BURUNDI

July 2010

This publication was produced for review by the United States Agency for International Development. It was prepared by Chemonics International Inc.

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ACRONYMS AND ABBREVIATIONS

CADDP	Comprehensive Africa Agriculture Development Programme
CET	Common External Tariff
COMESA	Common Market for Eastern and Southern Africa
DRC	Democratic Republic of Congo
EAC	East African Community
EU	European Union
GATT	General Agreement on Trade and Tariffs
GDP	Gross Domestic Product
GOB	Government of Burundi
HDI	Human Development Index
ICT	Information Communication Technology
ISO	International Standardization Organisation
ISTEEBU	Institute of the Statistics and Economic Studies
MDG	Millennium Development Goals
MFI	Microfinance Institutions
MTIT	Ministry of Trade, Industry and Tourism
NFSP	National Food Security Programme
NGOs	Non Government Organisations
PRSP	Poverty Reduction Strategy Paper
SADC	Southern Africa Development Community
SAN	National Agricultural Strategy
WTO	World Trade Organization

PART I: THE BURUNDI ECONOMY

I AN OVERVIEW OF BURUNDI'S ECONOMY

Burundi covers an area of 2.834 km², including 2,000 km² of lakes and 2,350 km² of arable land. It is located 1,200 km off the coast of the Indian Ocean and 2,000 km from the coast of the Atlantic Ocean. It borders with the DRC in the West, Rwanda in North and Tanzania in the East and the South. Burundi's population stood at 8.06 million inhabitants in 2008 with more than 90% residing in the rural areas. Women account for about 51% of the population. The annual rate of growth of the population is about 3% on average. Burundi is one of the most densely populated countries in the region – about 300 people per square kilometre. In some parts of the country, population density is double the national average – it stands at 650 residents per km² in the North and 500 residents per /km² in the Centre and the West of the country. Burundi also has one of the world's lowest per capita incomes – US\$110 in 2007. Per capita income fell by almost 40 % during the war, from US\$180 in 1993 to US\$110 in 2007.

2.1 MAIN SECTORS OF THE ECONOMY

Burundi's economy is largely agricultural. Since 2005, the agriculture sector has accounted for about 50% of the country's GDP compared to 35% for the service sector and 15% for the industrial sector (IDEC, 2009). A recent study by the Institute of the Statistics and Economic Studies (ISTEEBU) revealed that over 90% of the population is engaged in subsistence agriculture, 3% in the secondary industry and 5% in the tertiary sector. The agriculture sector is the main source of income for the majority of the population and earns more than 90% of the export earnings for the country. Coffee and tea are the main export commodities, with the former accounting for 60-80% of export earnings, while tea provides 10%. Livestock contributes less than 5 % to the country's GDP.

Burundi's mineral sector remains small, with a potential that is not yet determined. However, small quantities of gold, tungsten, columbo-tantalite, bastnaesite, and cassiterite are mined. Explorations have revealed the presence of petroleum in Lake Tanganyika and in the Ruzizi Valley, as well as large nickel deposits at Musongati. There are also deposits of copper, cobalt, platinum, nickel and phosphate. Industry is still in an embryonic stage and accounts for about 15% of GDP. The formal sector, which is dominated by trade, accounts for about 35% of the GDP.

2.2 GROWTH TRENDS

The Government of Burundi (GOB) aims at achieving an annual average growth rate of the economy of 8.1% in the medium- to long-term (2005-2015). It is anticipated that the return of peace to the country should create a favourable environment for the revival of the economy. In the framework of the Poverty

Reduction Strategy Paper (PRSP), and for the promotion of sustainable and equitable economic growth, the objective is to implement an economic recovery programme that will raise the rate of growth from 6% to 7% on average per annum and the doubling of the GDP per capita in 15 years. This strong growth will be based on agriculture and the private sector. Government will also support rural development in order to promote various economic activities and to diversify of the incomes of the rural population.

2.3 RECENT ECONOMIC DEVELOPMENTS

Burundi has experienced four wars since independence in 1962. The most recent war began in 1993, causing over 300,000 deaths and displacing about 1.2 million people – 16 % of the population. The war and a four-year regional economic embargo devastated the economy, resulting in a long period of economic decline. The war led to a substantial rise in poverty levels, with the number of people living below the poverty line rising from 35 % in 1993 to 67 % in 2006. Rural poverty is estimated to be twice that of urban areas. In 2007, Burundi had a human development index (HDI) of 0.413 and was ranked 167th out of 177 countries surveyed. Since January 2009, however, there have been efforts by the GOB at restoration of peace to the country, although there are still persistent acts of banditry, a large number of land disputes, instances of human rights violations, and corruption.

Since 2001, economic performance has improved, but real GDP growth is still low at an average of about 3% per annum in 2001-2008. Economic growth remains highly volatile given its dependence on the widely fluctuating agriculture sector due to climatic shocks in recent years. For example, the drought in 2005 led real GDP to grow by only 0.9% points, rising sharply in 2006 to 5.1%, but falling to 3.6% in 2007. In 2008, despite the unprecedented increase in fuel and food prices, real GDP growth stood at about 4.5%.

However, economic diversification is low and agriculture continues to play a key role, contributing 45% of GNP and generating 91% of export revenues. Agricultural performance is strongly correlated with climatic changes and international prices for coffee and tea, the major exports. The secondary and tertiary sectors were hard hit by the conflict and remain underdeveloped and the state continues to play a decisive role in all economic sectors.

II THE STATUS OF BURUNDI'S AGRICULTURE SECTOR

3.1 THE SIGNIFICANCE OF THE AGRICULTURE SECTOR

As noted earlier, Burundi's economy depends predominantly on the agriculture sector which, since 2005 has accounted for nearly 50% of the GDP. Agriculture employs about 92% of the population, compared to 3% employed in industry and 5% in the tertiary sector. The sector provides 95% of the food supply and raw materials and more than 90% of the export earnings. The food crops sub-sector accounts for up to 25% of GDP, while export crops represent only 1% of the GDP.

The main cash crops include coffee, tea, cotton, palm oil, and cane. These account for 25% of the area under cultivation. These are also the main sources of export revenues. Coffee is the most important of these accounting for 60-80% of the total of the exports earnings, followed by tea with 10%. Livestock breeding, mainly extensive, is practised by 58% of all farms but contributes just 8% of GDP.

3.2 DYNAMICS OF GROWTH OF THE SECTOR

Although Burundi was self-sufficient in food crops before 1990, today it depends on food imports and food aid to meet its nutritional needs. During the 1980s, it was possible to offset the effects of population growth by expanding land under cultivation. That option has largely disappeared and average farm size is just 0.5 hectare. Pressure on land has led to intensive deforestation by up to 2% per annum and to the depletion of soils with the resulting low yields. With average annual production per capita having fallen from 610 kg in 1988-1993 to 470 kg in 2007, the population is currently growing faster than farm production.

Small-scale producers remain at a subsistence level. Government extension services have been interrupted by the conflict and inadequate funding. A new strategy, based on assigning generalist farmer-monitors is now being put in place, although it remains production-centred with no linkages to research, POs, markets or private service providers.

The rural economy is poorly monetized, savings mobilization is very low and access to credit is limited by the low rural penetration of credit institutions (estimated at 4% in 2002). Household incomes have fallen markedly – from US\$45 per annum in 1999/2000 to US\$30 in 2004/05 (or 33%). Coffee contributes less than 20% to total value-added formation. Falling world prices, delays in the privatization of public enterprises and insufficient producer participation in decision-making, etc, have led to farms being abandoned by farmers. The recent increase in coffee prices was not enough to stimulate production. Tea accounts for 10-15% of exports; non-traditional exports such as

flowers, vegetables and tropical fruit have as yet little impact. Generally speaking, export development is contingent upon implementation of major economic reforms to lift trade constraints and increase production.

The traditional export sub-sectors, particularly coffee which has potential in high value-added specialty markets, are promising. The privatisation of the sub-sector should open up better prospects for small-scale producers. Non-traditional exports hold a lot of potential in niche and regional markets. The return of peace and security should also lead to the emergence of economic operators that can enter into supply contracts with farmers. Nevertheless, gaining entry into these markets, which are subject to strong national and international competition, will demand adaptation efforts on the part of Burundian small-scale producers to be able to meet the increasingly strict quality requirements.

Another opportunity is presented by the emerging farmer organizations. These new forms of solidarity are still in their infancy. However, the example of the national confederation of coffee growers' associations – now beginning to provide services to its members and the organizing efforts under way in the tea, rice and fishing sub-sectors – demonstrates the potential for these associations and the role they could play in sub-sector development.

The proliferation of microfinance institutions (MFIs) (operating mainly in urban areas) and current development of a national microfinance strategy are assets for small producers in need of financing. Finally, the decentralization initiative provided for under the communal law in effect is another avenue to explore in promoting local development

3.3 MAIN COMMODITIES PRODUCED

There are four major sub-sectors in Burundian agriculture sector: crops, livestock, fisheries, and the forestry. The food crops sub-sector accounts for 75% of the total land under cultivation. The sub-sector has about 4 types of crops: cereals, leguminous plants, roots and tubers and bananas. The leguminous plants occupy the first place in terms of area planted accounting for 325,000 ha. This is followed by bananas with 213,000 ha, roots and tubers with 211,000 ha and cereals with 206,000 ha (Table 3.1). In spite of their importance in the nutritional balance, data on production of vegetables and fruits are incomplete.

Table 3.1: Burundi's Crop Sub-sector

Crop	Area Planted (in ha)	Production (in Tons)
Bananas	213 000	1 721 000
Roots and tubers	211 000	1 527 000
Leguminous plants	325 000	241 000
Cereals	206 000	290 000
Coffee	84 000 (before 1993)	30 081
Tea	8 931 planted 7 150 en production	6 858
Cotton	4000	2 869
Quinquina	482 planted et 188 in production	247
Oil palm	9 700 tenera et 3 000 dura	18 147
Soja	4000	3 000
Groundnuts	13000	9500
Sunflower	-	1 000
Sucre	3 000	20 000
Rice	12 000	22 000 paddy, 14 000 riz blanc
Wheat	9500	8 000

Source: SAN, 2008

Cash crops such as coffee, tea, cotton, palm oil, sugar cane occupy 25% of the area under cultivation. Export crops represent 1% of the GDP. Fishing is mainly on Lake Tanganyika with national production in 2007 standing at 12,500 tons.

3.4 MAIN CHALLENGES AND CONSTRAINTS

Burundi's agriculture sector faces a wide range of challenges – physical, demographic and economic. The physical challenges include: the interaction between the terrain, the climatic changes, and the degradation of the ecosystem due to erosion. Such factors as land division, declining soil fertility, rudimentary traditional techniques, insufficient production and marketing support services, high illiteracy and poor access to credit, have led to poor agricultural productivity and low incomes for rural families. Finally, urban markets – principally in Bujumbura, where 75% cent of the urban population live – have seen a steady decline in purchasing power over the past 15 years, with implications for demand for farm products.

The key challenges for Burundi's agriculture sector can be summarised as:

- **Loss of vegetable cover:** The average rate of deforestation was about 3% in the period 1993 to-1997. This is compounded by the destruction of the ecosystems and the biodiversity.
- **Soil erosion:** The topography of the country is hilly with many slopes which sometimes reach 100-125%. Because of the scarcity of land, farmers cultivate these slopes and plant crops on them. These results in strong erosion and haulage of solid materials by the rivers which causes damage downstream.

- **Loss of soil fertility:** The loss of soil fertility is attributed to two factors, namely the overexploitation of the land and erosion. More than 36% of the grounds are acidic and have an aluminic toxicity.
- **Low productivity:** In an analysis “the abstract rural multi-activity in Burundi” Mathieu François Régis notes that the index of productivity from 100 in 1991 to 107 in 2002, dropped to 104 in 2004.

Other challenges to Burundian agriculture include climatic changes, poor management, and the high inputs prices.

3.5 AGRICULTURE SECTOR POLICIES

3.5.1 The Government Programme 2000-2010

The Government programme (2005-2010) aims at achieving good governance and revival of the socio-economic development in Burundi. It seeks to identify and address the principal constraints to the development of the agriculture sector in Burundi and re-establish the country’s food balance, improve the trade balance position, and increase incomes of rural households, and raise the sector productivity.

The objectives of the programme for the agriculture sector are summarised below:

- **Agriculture:** production and distribution of inputs, training of farmers, development of rural micro-finance, the promotion of producer associations and the development of the fertilizer industry;
- **Livestock:** promotion of agro-zoo-technical integration, increase in the availability of zoo-medical products, organization of the training of the stockbreeders and the veterinary staff, diffusion of high-output races, manufacture of the zoo-medical products locally.
- **Agricultural processing industry:** promotion of conservation and the marketing of farm surplus through development of agricultural processing, as well as privatization of the sector.
- **Beekeeping:** improvement of productivity, fight against pollution of Lake Tanganyika, regulation of the techniques of fishing, installation of a circuit of conservation of fish, development of beekeeping, and research on fishing.
- **Forestry:** protection and conservation of the biodiversity, regulation on the exploitation of forests, rational management and control of the die wood, sensitization of the population on the risks of deforestation, use of the alternative sources of energy, development of the agro-forestry.

3.5.2 The Agricultural Policy

The Government approved a sector policy in March 2006 with a dual objective: to reactivate agricultural activity in the short term and rehabilitate natural resources and agro-industrial infrastructure, and to modernize the agriculture sector in the medium and long term to become an engine of national economic growth. The

sector policy, in line with the New Partnership for Africa's Development, provides for 10% of the national budget to be allocated to agriculture; in 2006 it represented just 1.4%, very low for a sector that employs most of the population. This policy is underpinned by the Government's commitment to the Comprehensive Africa Agriculture Development Programme (CAADP), although there are several steps yet to be completed before Burundi signs the pact. Nevertheless, the proposed mechanism lacks a coherent strategy to define and rank priorities. It aims essentially to strengthen production and fails to take into account issues relating to profitability, marketing or improving small producers' access to markets and land. It is also silent on the role of POs and private operators in reactivating agriculture. These failings have led the Ministry of Agriculture (MINAGRIE) to begin work on a national agricultural strategy for the period 2008-2015, currently being developed with support from the World Bank. The strategy is to be provided with a medium term sector spending framework. In addition, plans call for developing a sector policy supported by the MINAGRIE institutional support project that is to begin shortly with financing from Belgium.

3.5.3 The National Agricultural Strategy (2008-2015)

Government in collaboration with development partners aims to reduce poverty and to promote food security. In light of this objective Government developed a National Agricultural Strategy (SAN), which takes the benchmarks contained in the PRSP, the Millennium Development Goals (MDG) the Comprehensive Africa Agriculture Development Programme CADDP and the EAC development strategies. The SAN is the basis for formulation and implementation of the programmes and projects which will help in the rehabilitation and modernization of the sector. The objective of the Strategy is raise agricultural production and to promote agricultural activity to reach, or even exceed the best levels attained before the crisis and to transform the sector from subsistence into commercial agriculture. A growth rate of 6% per annum is anticipated.

3.5.4 National Food Security Programme 2009-2015

The National Food Security Programme (NFSP), along with the CSLP and the SAN, integrates the priorities of vulnerable groups which are the vast majority of the farmers. The objectives of this programme are:

- (a) re-establishment of food security,
- (b) improvement of the nutritional cover of the population,
- (c) reduction of the vulnerability of the households, and
- (d) mobilization of emergency aid in the event of catastrophes.

However, and in spite of its significance in the economy, this sector receives limited financing, equivalent to less than 5% of the total national budget, while the non-productive services take 60% to 70%.

PART II: VALUE CHAIN ANALYSIS FOR SELECT STAPLE COMMODITIES

III THE MAIZE SUB-SECTOR

A value chain is a sequence of steps involved in the process of production to market delivery of a product. It provides a means of understanding relationships between businesses, methods for increasing efficiency, and ways to enable businesses to increase productivity and add value. Value-chain approaches are a vehicle for linking small businesses to markets, and thus are essential for improving rural economies and reducing poverty.

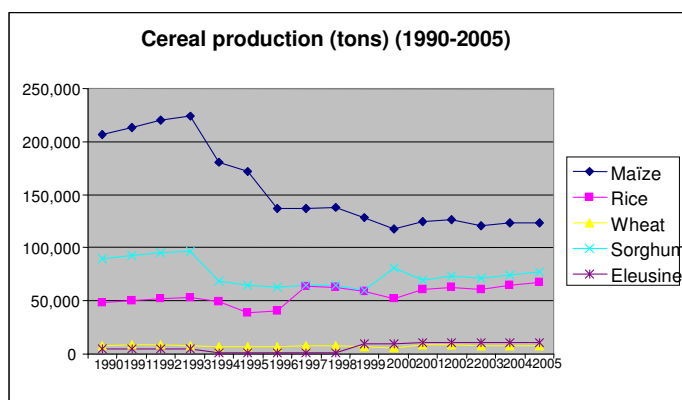
There has been very limited work on value chains conducted in Burundi and the research done in recent years has been funded mainly by donors. During the civil war, public sectors research agencies experienced several challenges, such as lack of financial resources from government and donors as well as a lack of human resource capacity. This situation has affected their capacity to conduct research.

3.1 MAIZE PRODUCTION

3.1.1 Main Trends and Projections

Maize has been produced in Burundi since the colonial era. It is the main cereal grown in Burundi. In 2005, total maize production reached 126,000 tons¹, or 43% of all cereals produced in the year. Although the yield per hectare on the hills reduced, it is relatively good and compared to that of rice. It is comparatively low in the plains.

Figure 3.1: Estimates of cereal production in Burundi, 1990-2005



Source: FAOSTAT

¹ Statistics vary from one source to another from 123 000 tons to 126 000 tons.

The country has experienced a deficit of nearly 20% of its cereal requirements. Maize production which stood at about 225,000 tons before 1993 suffered a dramatic fall of almost half between 1993 and 2000. It has remained quite low, standing at around 126,000 tons in spite of the end of the crisis in 2003. After the there were serious tensions in some regions until 2006, which could explain the fall in maize production in these areas. This level of production corresponds to the production achieved in 1970.

For small producers, maize has the advantage of not requiring large investments in terms of inputs. Small amounts of maize seed are needed to sow cultivated areas. Maize is sensitive to diseases which affect yields. According to a recent research conducted by PAIR Project, 52.9% of the time allocated to maize is supported by women.

Table 3.1: Maize Production in Burundi, 2004-2008

	2004	2005	2006	2007	2008*
Volume (MT)	12,319	135,000	116,825	115,507	122,444
Area Planted	114,000	116,000	115,000	115,000	115,333

* Estimated using a three-year moving average

Source: FAOSTAT

3.1.2 Main Maize Growing Areas

Maize is grown throughout the country. It is primarily a staple food in highland areas with altitudes of over 1,800 meters. Along with beans, maize is also an important staple food in central plateaus area of between 1,300 and 1 800 meters of altitude. It is grown on hills between September and February and in swampy areas in dry seasons.

Grown alone, or in association with other annual crops, such as beans, it quickly covers the soil and protects it against deterioration agents. Like other cereals, harvests are limited to cobs allowing the stems, leaves and roots enrich the soil with organic matter and mineral elements.

3.2 MAIZE CONSUMPTION

3.2.1 Domestic Consumption

Maize plays an important role in ensuring food security, especially in highland areas where it is stored and consumed throughout the year. In times of crises and low production, maize has been the main staple food in dietary habits of most Burundians. Maize flour, for example, is preferred to cassava traditionally consumed in these regions due to its richness in terms of nutrients. Almost all domestic production of maize is consumed by the farmers. This is true even in

high production areas (high and medium altitude) as well as the Imbo plains².

Maize is consumed in various forms – grilled or whole, as a cake, or as porridge – especially in urban centres. Over 70% of the maize is consumed as food, and about 10% is used as animal feeds (maize bran). There is also increasing demand of value-added products (maize flour, poultry feeds, etc) especially in urban centres where maize is gaining importance both as a major food item and for income generation. Due to institutional breakdowns arising from the political instability that hit the country, there is no data on current consumption.

There is growing domestic demand for this product which is valued for its nutritional content especially for feeding mothers. This project was initiated with external financial support and has inspired other private investors who produce artisan mixtures of flour sold in markets and food shops. Currently this same mixture is used in the industrial complex of the Mosso Sugar Company to supplement the nutrition of cane cutters.

There is also a growing use of animal feed. The growth of livestock with improved varieties kept in stables and requiring a diet more balanced and rich should increase the demand for this kind of product. Maize can be is also used in beer production. The BRARUDI has tried in the past to invest in the production of varieties of maize substitutes for barley, but it abandoned the experiment for productivity reasons. However, with price rise of cereals on the world market, the productivity of this substitution is likely to be considered again.

3.2.2 Maize Trade

A. Maize Exports

Burundi does not export maize. Production is not enough even to meet internal demand. At the sub-regional level, Kenya, Uganda and Tanzania seem to be the large regional producers, very far ahead of Rwanda and Burundi (3% of the total production).

B. Maize Imports

Along with beans and rice, maize is one of the major agricultural products which are widely traded in the EAC region. However, due to lack of statistical data on import, it is not clear how much of this is imported by Burundi. Trade in maize requires well established networks that ensure large transfers between countries. Traders tend to speculate on prices by hoarding and respond to major tenders by national institutions (police, army, schools, etc). A study conducted in the region³, revealed that the share of the rural population in maize trade is of the order of

² Source: Database available at the University Centre for Research for Economic and Social Development, Bujumbura.

³ Zambia, Mozambique, Kenya, Malawi, Ethiopia.

40% to 60% which demonstrates the significance of this commodity to the country, in terms of food security.

Imports of maize from the rest of the world are low (less than 5%). The application of the CET rate of 50% for maize since the Burundi joined the EAC Customs Union could have consequences of increasing the price of the product and therefore serve as an additional incentive to production.

Table 3.2: Maize Imports, 2004-2008

	2004	2005	2006	2007	2008*
Volume (MT)	82,821	59,479	51,350	74,700	61,843
Value (US\$)	15,145	10,807	12,850	28,100	17,252

* Estimated using three-year moving average

Source: FAOSTAT

3.3 VALUE CHAIN MAPPING

Maize, like other cereals, involves a great number of operators, including producers, collectors, whole-sellers, retailers, processors and consumers.

3.3.1 Functions Matrix

Farmers: Production is organized at the household level. Maize is harvested, dried and stored in form of cobs, and rarely in form of grain. Apart from drying, there is virtually no treatment of the maize to protect it from spoilage or pests because of lack of finances and availability of chemicals in the country. In these conditions, stocks are attacked and losses are difficult to avoid. Maize is well stored suspended in an aerated place or cribs. Storage in form of grain is difficult and requires preparation and suitable premises and often an insecticide treatment. Like all dry grains, it is easily marketable thereby allowing farmers a source of cash income.

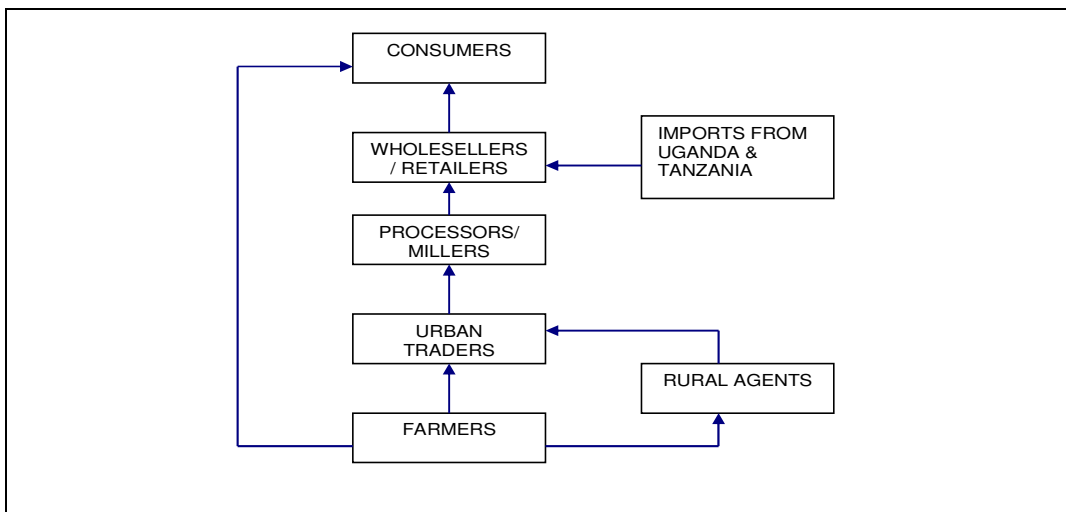
The farmers sell their maize to rural agents and urban traders. Often, the farmers are not in a position to negotiate better prices, for lack of strong organization, limited knowledge of prices and margins achievable, and because of the immediate needs of cash.

Traders: Trade in maize is common in low-lying areas of Burundi where it is bought and sold in form of grain. The maize is bought by rural agents, usually on local markets, and then sold to urban traders and wholesalers who store it for subsequent sale during the lean periods through tenders advertised by humanitarian agencies and government. These transactions are organized and controlled by a small number of players who also participate in regional trade.

Processors: Maize is usually consumed as roasted or boiled cobs. When consumed as flour, processing is carried out almost exclusively using traditional methods using pestle and mortar. At the industrial level, maize is processed into composite flour for human consumption. This mixture of flour consists of maize, soybeans and sorghum.

Figure 3.2 below shows the maize value chain in Burundi. As can be seen, local production is supplemented by imports from the region, mainly from Uganda and Tanzania. Imports are mainly by wholesalers and retailers.

Figure 3.2: The Maize Value Chain in Burundi



3.3.2 Volume Flows and Value Changes

Trade in dry maize is common in low-lying areas which are also known for consumption of cassava flour, as well as in urban areas and their outskirts (for example, the Imbo plains). Maize is collected by rural agents from farmers to and sold to urban traders, who often store it in order to sell in times of shortages, or to humanitarian aid organizations and to Government. Transactions in maize trade are generally well organized and controlled by a small number of players who also participate in the regional trade. As a result of such monopoly, often, farmers are not in position to negotiate good prices due to the lack of a strong organization, lack of market information (such as prices, demand, etc) and the need to sell in order to meet their immediate needs. Often, they sell their produce at literally give-away prices. Such monopoly is also common in trade of other commodities such as beans, and to a less extent, rice, leading to very strong price fluctuations in the course of the year (about 100%).

Prices range from low to high levels between harvest periods and lean periods – in the region of Francs 250-500 per kilogramme. Retailers are the ones who get the big share of the profits to the detriment of farmers.

3.4 CHALLENGES AND CONSTRAINTS

The main challenges facing the maize sub-sector in Burundi include:

- **Limited access to improved seeds:** Access to improved seeds in Burundi is complicated by the lack of a distribution and commercial network. In the circumstances majority of farmers find it difficult to regularly renew seeds. It has not been possible to establish a viable commercial seed sector in the country. The quality of maize produced in the country is often lower than that imported from neighbouring countries and therefore less appreciated by urban consumers.
- **Lack of fertilisers:** In order to get good yields, maize needs good mineral and/or the organic manure. However, because of the weak financial capacity of most farmers and the lack of organic manure produced on the farm, it is very difficult to increase production of maize in a given season.
- **Lack of storage facilities:** The maize produced is stored in poor conditions where the humidity rate is too high, there are attacks by weevils and other pests, all leading to very significant losses. Moreover, due to limited financial capacity farmers are not able to get herbicides and other chemicals which can preserve the maize.
- **Dominance of networks of traders:** Transactions in maize are largely controlled by networks of a few traders. The entry of new actors is made difficult by curtails and limited negotiations skills of operators.

3.5 END-MARKET ANALYSIS

The term end-market as used in this report indicates where the final transaction takes place in the value chain. Typically, it is where the end user of the product is located, meaning the individual or organization for whom the product has been created. The analysis of the end-market in this section identifies the key trends affecting the maize sub-sector, articulates the view points of the buyers and experts with regard to the strengths, weaknesses, opportunities and threats in the maize sub-sector, examines the buyer preferences and makes recommendations for improving the maize sub-sector competitiveness.

3.5.1 Key Trends in the Maize Sub-sector

The main trends in Burundi's maize sub-sector include the following:

Increasing production: There has been an increase maize production from 5 to 8 tones per hectare, and this potential can be enhanced provided appropriate inputs are applied. Since the importation of maize seems to be low (less than 5%), the application of a tariff of 50% under the EAC CU on maize will have a positive impact in terms of increasing local production.

Increasing demand: There is growing demand for maize, especially from livestock farmers (breeders). The new policy on livestock is promoting the stalling type in livestock. The result is increased demand for maize for the cattle feed on top of the demand to feed the population.

Quality considerations: Consumers are much more attracted by the quality of the maize because the price varies according to varieties. The bitter maize is often intended for animals coming.

3.5.2 SWOT Analysis: Views from the Market Place

Table 3.3 below summarises the strengths, weaknesses, opportunities and threats (SWOT) of Burundi’s maize sub-sector.

Table 3.3: A Summary SWOT Analysis of Burundi’s Maize Sector

Strengths	Weaknesses
<ul style="list-style-type: none"> • Easy access to seed for planting and the possibility of quick multiplication per hectare planted; • Possibility of intercropping with other crops; • Fairly easy storage and cheap processing using home made mills; • Availability of maize varieties, which are rich in amino acids. 	<ul style="list-style-type: none"> • Lack of good quality seed for planting by farmers; • Poor storage conditions, leading to attacks by weevils, and high moisture content, aflatoxins, etc; • Subsistence production by farmers; • Dominance of a small number of players (traders); • Weak internal marketing system.
Opportunities	Threats
<ul style="list-style-type: none"> • Existence of high demand nationally and regionally; • Availability of high performing varieties under the seed (CTB) project; • Availability of multiplication centres for these varieties; • High levels of protection under the EAC Customs Union CET 	<ul style="list-style-type: none"> • Competition from high quality from high quality imports; • Inflows of food aid from donor countries (e.g. from the USA) which disrupt domestic production; • The WTO requirements to liberalise trade, including removal of tariffs on trade in maize.

IV THE WHEAT SUB-SECTOR

Wheat is a strategic crop for Burundi. Indeed, each year the country spends significant amounts of foreign exchange on imports of wheat flour. At the same time, Burundi has major advantages in wheat production, namely good weather, fertile soils, and experience in growing wheat that way dates back to more than thirty years. Agricultural research in Burundi has developed many wheat varieties, which are suitable for baking, especially for bread-making. The “*Mbayiwayu*” variety which is grown in rural areas yields about 1,500 kg per hectare.

4.1 WHEAT PRODUCTION

There is virtually no published data on the wheat industry in Burundi. Available information both on actual production and on the development potential is quite scanty. The data presented for this study has largely been sourced from FAOSTAT (Table 4.1). As can be seen, current production of wheat is estimated at 7,500 tons/year, with yields ranging from 400 to 800 kg/ha. According to the US Department of Agriculture (2009), even though projected production growth far outstrips the historical trends, supplies will not be sufficient to meet nutritional requirements over the next decade.

Table 4.1: Wheat Production in Burundi, 2004-2008

	2004	2005	2006	2007	2008*
Area Planted (Ha)	9,000	10,050	10,000	9,500	9,850
Volume (MT)	7,493	9,000	8,007	7,987	8,331

* Estimated using three-year moving average

Source: FAOSTAT

4.1.1 Main Wheat Growing Areas

The ecological areas conducive to wheat are the regions of Mugamba and Bututsi but studies conducted show that it can be extended to the other regions like the South West of Kirimiro, Buyogoma, and Buyenzi.

4.2 WHEAT CONSUMPTION

4.1.2 Domestic Consumption

Wheat is produced primarily for household consumption although a small portion is sold to traders. There are mills but they also function within the context of household consumption: producers bring their grains for grinding and go back home with flour used to make the slurry. Most of the wheat produced in the

highlands is consumed in form of paste [*Ugali*]⁴. Some is sold on the local markets: it is collected by urban traders and sold to processors with flour mills in Bujumbura city. The latter sell to the retailers and wholesalers, who sell it to the final consumers.

It is noteworthy that on account of its low content in protein (8-9%) and glutes (18-20%), the locally produced wheat is not suitable for bread-making. It is best mixed in small proportions (of less than 15%) with imported wheat which is rich in proteins (14% of proteins, 35% of glutes). It is expected that the dissemination and popularization of new bread making varieties, will lead to a reduction in the import of wheat by 50%⁵.

4.1.3 Wheat Trade

A. Wheat Exports

There are virtually no exports of wheat from Burundi given the high demand for it in the country. Internal production is not enough to meet internal demand, meaning that the country has to import to supplement local production.

Table 4.2: Wheat Exports, 2004-2008

	2004	2005	2006	2007	2008
Volume (MT)	500	NA	29	29	29
Value (US\$)	87	NA	28	28	28

Source: FAOSTAT

B. Wheat Imports

Burundi depends very much on imports of wheat in order to meet domestic demand. As Table 4.3 below indicates imports have been fluctuating in the period 2004 – 2007. They fell from 8,888 metric tons in 2004 to 2,633 MT in 2005 before rising to 8,017 MT in 2007, but falling again to 4,897 in 2008.

Table 4.3: Wheat Imports, 2004 – 2008

	2004	2005	2006	2007	2008*
Volume (MT)	8,888	2,633	4,042	8,017	4,897
Value (US\$)	3,198	930	1,698	11,777	4,801

* Estimated using a three-year moving average

Source: FAOSTAT

⁴ The dry wheat grains are processed into flour by milling.

⁵ Report of the mission of identification for the supporting project to the selection of six agricultural sectors in order to set up IFAD support projects, September 2008.

4.3 VALUE CHAIN MAPPING

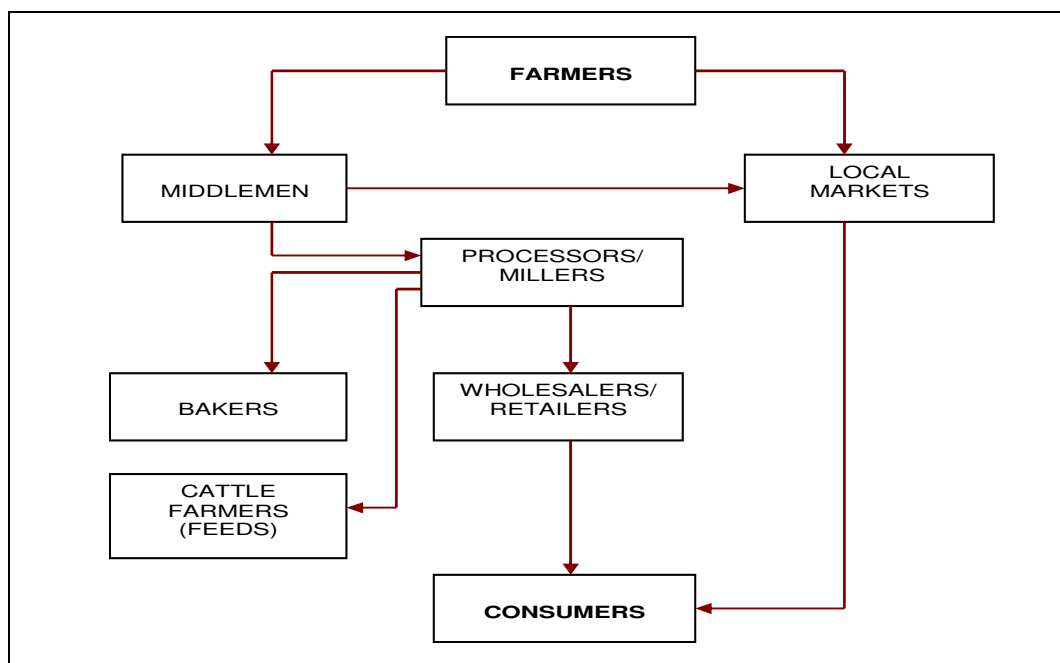
4.1.4 Functions Matrix

Farmers: These essentially produce for their own consumption. Producers based in the surrounding areas of Muramvya flour mill reserve a part of their production to that mill.

Collectors: These are middlemen who buy wheat from farmers, especially those living far from the mills. They buy from farmers usually at very low prices and sell to processors with a certain margin.

Processors: These fall into two categories – the big industrial millers (such as the main flour mill at Muramvya) and the smaller ones (such as Farisana and Azam). There are other processors with smaller mills scattered throughout the country. These mainly buy and mill wheat into flour for sale to the retail and wholesale traders. Households grind small quantities for family consumption. Figure 4.1 below summarises the wheat value chain in Burundi.

Figure 4.1: The Wheat Value Chain in Burundi



4.1.5 Volume Flows and Value Changes

The major part of the national production is intended for domestic consumption. In fact, the wheat supply chain is extremely short and limited: beyond the production step and family home consumption, which remains low, nowadays the national flour mills are able to buy wheat. National production is estimated at

7,500 tons per year (-2%).

The price of a kilo of wheat ranges between 1,200 and 1,800 Burundi Francs depending on a number of factors, including the world market prices, the quality of the wheat. The price paid to local farmers for their wheat is Francs 500 per kg during harvest. This is a minimum price because it is a variety which is not used for baking bread. Three months after harvest, the price of a kilo goes up to Francs 800 - 1,000 or more during the sowing time.

4.4 CONSTRAINTS AND OPPORTUNITIES

The wheat sub-sector in Burundi faces a wide range of challenges. They include:

- **Small size of farms:** The farms on which wheat is grown are typically small in size – less than a hectare. This is related to the scarcity of arable land given that Burundi is largely a hilly country. Consequently, output is constrained by land availability.
- **Poor terrain:** Because of the hilly terrain, it is difficult to introduce mechanised agricultural practices. Farmers often have to go to the extent of opening up farms on hill sides in order to plant the wheat.
- **Lack of finance:** Most farmers are poor and cannot afford to borrow to finance purchases of inputs (fertilisers, pesticides, etc) and equipment. They cannot afford to access credit in financial institutions because of lack of collateral, but also due to the limited availability of financial services, especially in rural areas.

4.5 END MARKET ANALYSIS

4.1.6 Key Trends in the Wheat Sub-sector

Increase demand: The locally established bakeries need about 330, 000 tons of wheat flour per year. There are two main bakeries in Bujumbura and they are not in position to meet the demand for wheat flour products such as bread, etc. As a result, they have to import good quality wheat from outside in large quantities.

Increasing quality: With the improvements in local wheat quality, it is expected imports of wheat will fall by about 50% of current levels. It means that with the current demand, the flour mill of Muramvya will be able to use about 150, 000 tones per year from national production. ISABU currently has four tested varieties of wheat which are distributed to farmers and so far have had good outputs.

Increasing production: Burundi's joining of the EAC CU and the application of CET is likely to limit imports of wheat from outside the region. Import of wheat will be taxed at 35% which is above the maximum rate of the CET, because wheat is a sensitive product for Burundi. By the same token, flour will be subject to a customs tariff of 60%. Such protection is expected to boost domestic production.

Increasing price: One of the consequences of the protection accorded to wheat under the EAC CU is the price increase of bread which will much more affect consumers in urban centres. However, for farmers this protection will raise the profitability leading to increased production. For the time being, a ton of wheat costs US\$ 600 at a flour mill.

Diversifying quality: In the framework of modernization, the MINOLA flour mill aims at producing three types of wheat products, namely: flour for bakery, flour for doughnuts and flour for chapatti (Indian bread).

4.1.7 Buyer Preferences

The choice of wheat depends on the intended purpose. For bakeries, the required quality is the bread-making type which is obtainable from flour mills. The bread making wheat is also used in the preparation of pancake or chapatti, and other pastes.

4.1.8 SWOT Analysis

Table 4.4 below summarises the strengths, weaknesses, opportunities and threats of the wheat sector in Burundi.

Table 4.4: A Summary SWOT Analysis of Burundi's Wheat Sector

Strengths	Weaknesses
<ul style="list-style-type: none"> • Availability of processing facilities throughout the country; • Innovative government policy to promote commercialisation of agricultural production; • Policies to encourage domestic savings, promote access to credit, and private investment in agriculture; 	<ul style="list-style-type: none"> • Limited output, unable to meet demand; • Production mainly for subsistence (domestic consumption) • Lack of storage facilities, leading to attacks by weevils and aflotoxins; • Trade dominated by a small group of players.
Opportunities	Threats
<ul style="list-style-type: none"> • Introduction of new high performing varieties under the ISABU project; • High demand for wheat and wheat products, especially in urban centres; • Tariff protection under the EAC list of sensitive products to guarantee the competitiveness of locally produced wheat; 	<ul style="list-style-type: none"> • Competition from imported wheat; • The WTO requirements to liberalise trade, including removal of tariffs on trade in wheat;l

V THE RICE SUB-SECTOR

5.1 RICE PRODUCTION

Rice was introduced in Burundi in the 1960s and promoted in the plains of Imbo and Lower Rusizi. Since then, production has been growing steadily to reach an estimated 70,000 tons of paddy in 2005⁶. As a result, rice production takes third position among cereals after maize and sorghum and seventh, in order of importance, after sweet potatoes, cassava, beans, maize and banana [all varieties considered (about 5% to 6 % of the national production)] and sorghum.

The strong growth of domestic production of rice is attributed, on the one hand, to the increase in the area cultivated and to improvements in yields. In an effort to increase the area planted, farmers have extended into marshland and in swamps. Improvements in yields are due to the introduction of high yielding varieties (\pm 5.5 tons/ha of paddy rice in farming areas) and to transplanting in all SRDI areas.

Rice is grown in ordinary soils and in swamps. This type of rice growing is practiced either (i) in valleys without major watersheds, where water supply is mainly from rainfall, or (ii) in clay shallow soils likely to undergo hazard flooding depending on the levels of watershed, or (iii) in the non-developed marshes with seasonal water supply. The rice cultivating cycle is essentially the same as that of upland rice (5 months), with sowing done in late November and harvest in June. Cultivation techniques are rudimentary. The average yield is 1.5 t/ha.

In irrigated areas, where farmers have control of water, nurseries are prepared in December and harvesting takes place in June (5-month varieties). Better yields have been observed on marshlands where there is temporary flooding. The potential yield is 4.5 t/ha, but the actual yields are much lower. The low production in marshlands compared to their potential is related to the lack of water control and the low use of inputs. Upland rice growing takes place on the hillsides in November-May. Cultivation techniques are rudimentary and the yields obtained on farming area vary significantly: from 300 kg to 2 tons per hectare with average of 800 kg /ha.

Lowland rice growing: In Central Imbo, SRDI covers 4,850 hectares. Production in SRDI areas takes place in plots of 50 acres each. The SRDI, which is a state company, manages infrastructure and soil and provides technical support, guarantees facilities for inputs credit (seeds, fertilizers, pesticides) and cash credits for the payment of workforce by farmers. The SRDI is responsible for the maintenance of tracks, building of primary channels and artificial structures. The

⁶ The absence of agricultural census since the early 1990s means that all the statistical data is indicative.

secondary and tertiary channels are maintained by operators grouped in associations of rice growers who number 17. Each one manages a group of plots of 200 to 300 ha. Today, the plots are left fallow between rice crops. Vegetables are often grown off-season (in Cibitoke, for instance). The main constraints to the development of double rice growing are water management, (coordination of water management is very difficult), the available workforce and control of phytosanitary problems.

Table 5.1: Rice Production in Burundi, 2004-2008

	2004	2005	2006	2007	2008*
Area Planted (Ha)	19,500	19,500	20,500	21,000	20,333
Volume (MT)	64,532	67,947	68,311	70,911	69,056

* Estimated using a three-year moving average

Source: FAOSTAT

5.1.1 Main Rice Growing Areas

Production in the SRDI area is estimated at about 22,000 tons of paddy rice per season. Production of upland rice (mainly in Ruyigi) is estimated at 1,000 tons of rice production in marshlands of altitude (Ngozi, Karuzi, Kayanza, Muyinga, Kayanza and Gitega) and secondarily in Nyanza-Lac and Moso is approximately 45,000 tons⁷.

Rice is produced on hills as upland rice, in the marshlands in the framework of uncontrolled irrigation systems and in the plains and marshlands developed under controlled irrigation. Its cultivation is practiced throughout the country: the plains and marshlands and in valleys below 1,700 m altitude. Cultivation of irrigated rice has some risks to the environment, including the drying up of high biodiversity wetlands, interruption of the constant flow of water from their storage capacity, elimination of overflow basins by increasing the risk of sudden floods and soil erosion. Intakes of nutrients and pesticides threaten the quality of river water crossing them. Irrigation also poses risks for secondary soil salinization. A long term plan for monitoring of risks of acidification and re-acidification of soils (DAP) or secondary salinization of irrigated plains will have to be developed.

5.2 RICE CONSUMPTION

5.2.1 Domestic Consumption

In rural areas, production is largely for domestic consumption and is integrated into the crop rotation system in combination with other commodities. In plains

⁷ The only known production is in the SRDI areas (thanks to the existence this state company). Others productions are little known and are probably under estimated. The production hilly upland rice seems to be developed with the fall of culture of cassava due to mosaic virus.

and marshlands, on the other hand, rice production is usually for commercial reasons rather than for consumption. Demand for rice has increased in urban areas and has become an essential commodity for individuals and institutions (army, police, schools, etc.).

Like wheat, rice consumption is a function of consumer purchasing power⁸. It is therefore possible that with the economic development of the country, population increase, and the increasing urbanization of the population, there will be a sharp increase in demand for rice. In fact, demand for rice in Burundi is already estimated at 100% by 2015.

5.2.2 Rice Trade

A. Rice Imports

Although domestic production appears to be increasing, nonetheless, the country has to import rice from neighbouring countries and the world market in order to meet demand, particularly in the capital, Bujumbura. Table 7.1 below shows the rice imports in 2004 – 2008.

Table 5.2: Rice Imports in 2004 – 2008

	2004	2005	2006	2007	2008*
Volume (MT)	4,320	2,246	11,375	3,225	5,615
Value (US\$)	1,242	887	3,257	1,407	5,551

* Estimated using a three-year moving average

Source: FAOSTAT

About 90% of the recorded rice imports rice comes from Asia (Pakistan, and Vietnam) and the rest, mostly from the EAC region. However, Tanzanian rice is the most frequently found on Burundi markets although this does not appear in official statistics.

5.3 VALUE CHAIN MAPPING

5.3.1 Functions Matrix

Providers of seeds: These are diversified and include the associations of peasants who multiply seeds, NGOs and institutions which provide seeds with a sampling made by the SRDI. SRDI makes the same sampling and recovers the seeds it has lent to people.

Farmers: The financial rewards of farmers vary according to production and

⁸ Some products less appreciated can have a negative flexibility, i.e. that their consumption decreases while the households' purchasing power increases.

prices. Overall, in the hills and in rain-fed systems, farmers' profits from rice production are low. On the other hand, in irrigated systems in plains and lowlands, particularly under intensive control of water, rice cultivation allows significantly higher returns. There are two kinds of producers of rice grown in the flat area - those organized and trained by the SRDI and those outside the SRDI.

Collectors/ Hawkers using bikes: Collectors buy small quantities from of rice from farmers and from local markets. Then they sell the rice for a margin to traders. They also sell some of the rice bought from farmers and markets to markets based in provinces.

Traders: These mostly buy the rice from farmers both inside and outside the SRDI area. Based in large towns, they also buy the rice from middlemen. These are operational in and around the markets of Bujumbura and sell rice directly to consumers.

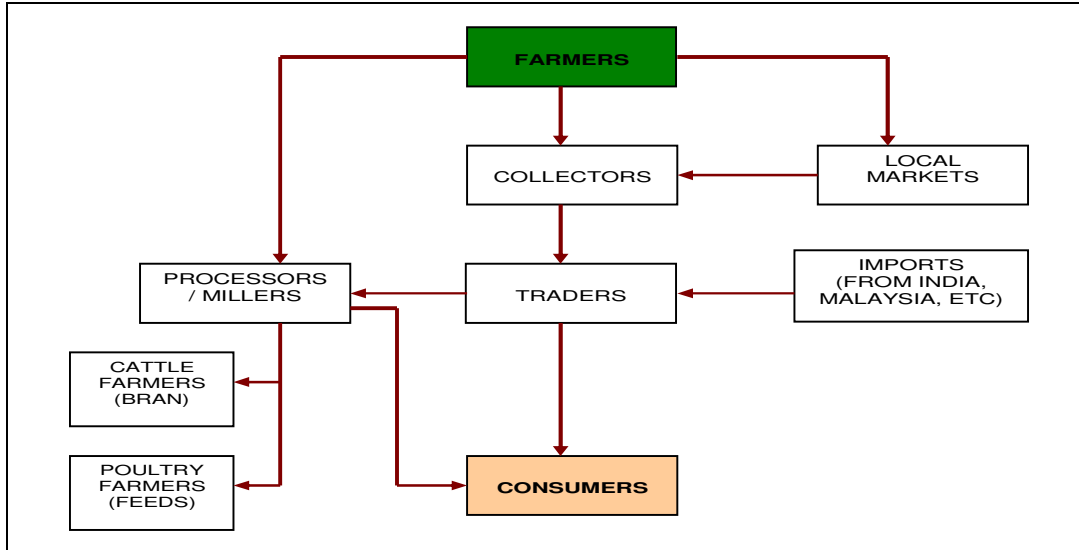
Processors: These have small mills and generally process small quantities. They also include the associations of producers who get hulling machines and process a part of the production (more than 50%) which was formerly intended to the SRDI. Among the processors is SRDI, which promoted for the first time the project of rice in the Imbo region. Previously, SRDI processed nearly the whole production in that region. Today, however, it processes a smaller proportion because due to limited capacity and the rising operational costs.

5.3.2 Volume Flows and Value Changes

The rice from lowlands, marshlands (or the rice crop of the underground), uplands and hills is mostly consumed by rural dwellers. Its price is fairly low and is affordable for the rural population. Due to the high quality, the rice produced in the flat areas is very popular among urban dwellers. Prices for rice in Bujumbura are generally high and ranges from 100 to 150 Francs per kilo. The price of rice is, however, good for farmers from all areas compared to with other cereals because it benefits from the reference price fixed by SRDI.

The price of rice in the market is Francs 1,200 for the good quality variety imported from Tanzania. The rice from SRDI occupies the second position at 1,000 Francs and 800 Francs. Figure 5.1 below summarises the rice value chain in Burundi.

Figure 5.1: The Rice Value Chain in Burundi



5.4 CONSTRAINTS AND OPPORTUNITIES

5.4.1 Constraints

Poor organization of farmers: As with other crops, the lack of organization of farmers has resulted not only in expensive supply of inputs, but also in low prices for farmers. The profitability of the production and processing largely depends on the reference prices are set by the SRDI. This situation is quite risky given that it is not possible to predict the actual movements of prices in the absence of the SRDI.

Vulnerability of the crop: The crop is relatively sensitive to disease, fertility, control of water and maintenance. The quality of rice produced outside SRDI area is lower because of the harder varieties and poor farming practices. The number of improved varieties introduced by ISABU for marshlands is limited, unlike the situation prevailing in the plains (SRDI).

Limited access to inputs: Access to inputs and their use are inadequate, except in organized areas such as SRDI. Investments in irrigation infrastructure are very expensive. Farmers lack technical expertise for the management of areas and water resources leading to production losses and/or waste of water and other resources. The costs of maintenance and renewal of facilities are generally not reflected in actual prices to farmers.

Lack of storage facilities: Farmers generally lack good storage facilities mainly because of lack of finances. They find themselves in a situation of net buyers of agricultural products, while they are at the very core of production. The SRDI standard product is the long-grain rice with 15% of crack. Rice from rural areas is often of lower quality, because of the type of seed used and inefficient processing

(wastes, high rates of cracks).

Lack of competitiveness: The commercial sector is less open and transparent to competition. This is reflected on consumers, especially in Bujumbura, and tends to benefit traders who conspire to maintain the SRDI prices as reference.

5.5 END MARKET ANALYSIS

5.5.1 Key Trends in the Rice Sub-sector

Production: Production has continued to grow reaching about 70,000 tons of paddy rice in 2005⁹. The increase is due to two main factors: first is the increase in acreage cultivated, especially through encroachment on marshlands, and second is the intensification and improvement of outputs the introduction of varieties which have higher yields (± 5.5 tones/ha of paddy rice in rural area).

5.5.2 Buyer Preferences

Preferences of rice by consumers depend to a large extent on their localities. Urban dwellers prefer good quality rice compared to the rural dwellers. The big communities (boarding schools, military and police camps) have no requirement which is really expressed because of the budgetary constraint. They eat the cheapest rice of which the quality is mean

5.5.3 SWOT Analysis

Table 5.3 below shows the strengths, weaknesses, opportunities and threats of the rice sub-sector in Burundi.

Table 5.3: SWOT Analysis of the Rice Sub-sector in Burundi

Strengths	Weaknesses
<ul style="list-style-type: none"> • High profitability of the sector – cultivation of the marshes for rice production reduces pressure on land; • Access to inputs (seed, fertilisers, etc) through the SRDI; • Increased production thanks to improved water control and better farming technology; • Availability of hulling facilities; • A well organised commercial sector. 	<ul style="list-style-type: none"> • Distortions of profitability arising from the restructuring strategy of SRDI • Failure by farmers to rally around common stakes and services of interest. • Diversion of inputs to other crops; • High incidence of diseases and pests; • Poor management practices – mismanagement of water resources, infrastructure, and equipment.
Opportunities	Threats
<ul style="list-style-type: none"> • Growing demand for rice, especially in urban centres; • Support provided under the CTB to the seed sub-sector; 	<ul style="list-style-type: none"> • Competition from imported wheat; • The WTO requirements to liberalise trade, including removal of tariffs on trade in rice • Undefined status of harnessed plots.

⁹ All statistic data are indicative.

VI THE SORGHUM SUB-SECTOR

Known under the scientific name of **Sorghum vulgare**, sorghum is a cereal grown primarily in tropical regions. There are at least 6 types of sorghum in Burundi – sorghum grain, feed sorghum, sugar sorghum, paper sorghum, broom sorghum and Johnson grass (weed). This analysis restricts itself to grain sorghum due to its importance in human food (porridge, semolina, beer etc), for livestock feed (cattle, sheep, pigs and poultry) and is the only cultivated in our study area.

Sorghum has long enjoyed a legendary prestige among Burundians. Nationwide, sorghum has a very rich cultural content among the Burundi population. At the hill level, sowing and harvesting of sorghum has a social character beyond the family, it was used during the annual sowing festival "UMUGANURO" in Burundi monarchy. Sorghum beer is ever-present in all celebrations (marriage, lifting of mourning). That is why, after harvest, some amount of sorghum is set aside in anticipation of these events throughout the year.

6.1 SORGHUM PRODUCTION

The sorghum production system in Kirundo Province in general and in Bugabira and Busoni commune in particular remains traditional. Sowing is done by broadcast - in December for long-cycle variety and August and December for the short-cycle variety. Weeding occurs twice in the season. Harvesting occurs 6 months and 3 months later, for the first and the second variety, respectively. Threshing and winnowing takes place directly after harvest.

Farmers use elementary tools such as hoes, machetes, baskets, etc). Depending on differences related to farm size and other production means, problems and constraints of farmers identified are not identical. These constraints relate to access to resources, namely land, nonexistent certified seeds, loss of yield due to deterioration of capital fertility, and access to markets, water shortage during crucial growth period of the plant.

Table 6.1: Sorghum Production in Burundi, 2004-2008

	2004	2005	2006	2007	2008*
Area Planted (Ha)	55,000	55,000	65,000	66,000	62,000
Volume (MT)	74,171	67,947	82,249	85,565	78,587

* Estimated using a three-year moving average

Source: FAOSTAT

As Table 6.1 shows, production has been slowly rising, from 74,171 MT in 2004 to 85,565 MT in 2007. The increase was largely due a corresponding rise in the area planted, which rose from 55,000 ha to 66,000 ha in the same period.

6.1.1 Main Sorghum Growing Areas

In Burundi, sorghum is grown in low-lying and flat areas. These are mainly the north-western provinces of Muyinga, Kirundo, Karuzi, Cibitoke and the central eastern provinces of Muramvya, Gitega, Ruyigi and Rutana, which are fertile and typically give higher yields of sorghum.

6.2 SORGHUM CONSUMPTION

6.1.2 Domestic Consumption

Sorghum is traditionally consumed in the whole country, especially during ritual celebrations. For a long time, sorghum has been used for brewing of beer and preparation of *Ugali* after processing it into flour, but due changes in feeding habits of Burundians, consumption of sorghum as *Ugali* has declined. This has been attributed to, and exacerbated, by the availability and easy accessibility to flour from other cereals like maize and tubers (cassava). Thanks to its richness in proteins, sorghum is mixed with other cereals (wheat, maize) in varied proportions in order to make flour for feeding babies. There are no data on the amounts of domestic consumption, given that the farmers do not keep records.

6.1.3 Sorghum Trade

There are virtually no exports of sorghum by Burundi, since domestic production is not enough to meet domestic demand. A very insignificant quantity is imported from the region – from Tanzania and Rwanda.

6.3 VALUE CHAIN MAPPING

6.1.4 Functions Matrix

Sorghum is a minority crop in Burundi and trading in the commodity is fairly new and at a low level as most of the production has traditionally been for own consumption and for home brewing. The traditional varieties when traded have been sold by the farmer directly to local brewers or through middlemen. The latter then sell to final users – usually local beer brewers. Processing into flour for home consumption/brewing has in the past been mainly by traditional methods, using a grinding stone, although motorised milling is spreading even into small trading centres.

6.4 CONSTRAINTS AND CHALLENGES

- **Changes in the feeding habits:** The change of food habits which substitute the sorghum *Ugali* by the one of other foodstuffs like the *Ugali* of maize and mostly of cassava.

- **Reduction of cultivable lands:** the natural growth of the population has reduced the cultivable lands and farmers preferred other crops which are profitable to the detriment of the sorghum.
- **Long vegetative cycle:** that constraint is linked to the second, in fact six months of land exploitation is a limiting factor for that crop.
- **Development of other fodder crops:** in earlier times, sorghum leaves and stems were used to feed cattle during the dry season. However, the development of other types of fodder (pennisetum, tripsacum laxum, labralab, banana glass, etc) has two advantages (feed for cattle and protection of soil) and limited the extension of that crop.
- **Pressure on the family labour:** that crop is demanding in terms of labour from the sowing till the harvest via struggling against sparrows.

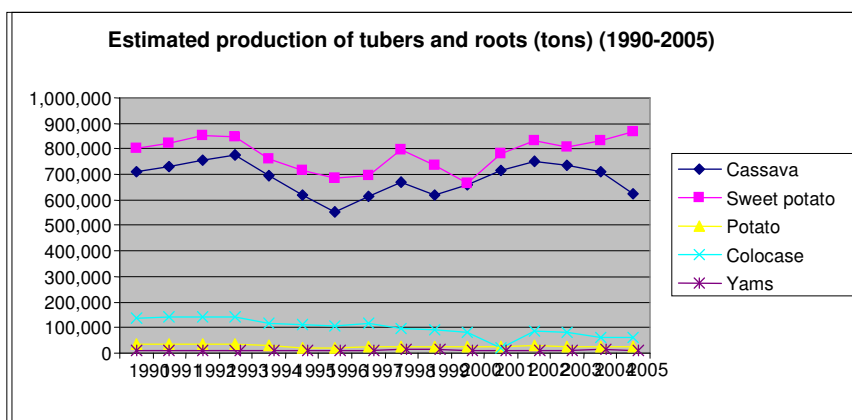
VII THE CASSAVA SUB-SECTOR

Cassava is a major staple commodity, which was introduced in Burundi by missionaries. Its importance is reflected by its role in rural food security. Cassava accounts for about 21% of national production, second in position to sweet potatoes and beans.

7.1 CASSAVA PRODUCTION

Burundi is almost completely self-sufficient in roots and tubers. Annual national production of cassava has always been very high, varying between 600,000 and 700,000 metric tons of fresh cassava. Unlike other agricultural commodities that have faced falls in production of over 50% between 1993 and 2005, cassava production has resisted these crises, serving as a staple product for the population. However, in recent years, farmers have experienced severe mosaic attacks that have depressed p. Several projects are now underway to replace cassava varieties sensitive to mosaic with those which are resistant so that production is restored in one or two years to levels of the past.

Figure 7.1: Estimated production of tubers and roots (tons), 1990-2005



Following damages caused by the cassava mosaic, projects supported by different donors have invested in the multiplication of tolerant varieties. Industrial manures are not yet oriented to cassava but tests are underway under the CATALIST project to introduce formulas capable of ensuring an incentive cost/benefit relationship.

7.1.1 Main Cassava Growing Areas

The main production areas of cassava are the valleys (Bugesera, Moso Imbo) in the central plateaux (Buyenzi Kirimiro, Bweru, Buyogoma and Mugamba North) and foothills (Mumirwa) overlooking the Rusizi plain bordering the Democratic Republic of Congo. For environmental reasons, South Mugamba and Bututsi

located at an altitude of more than 1,800 meters do not integrate cassava in their production systems.

The agro-ecological zones of high production are Moso, Mumirwa and Buragane. The central plateaux and Bugesera rather record an average production. In areas of high production such as Imbo, cassava occupies over 30% of the area. Even in regions of average production, the area occupied by tubers is between 10.6% (Bugesera) and 35% (Buyenzi).

Uganda and Tanzania are the two major regional producers (38% and 48% respectively). The other three countries account for each less than 5% of the regional production. In terms of production per capita, there are three groups of producers in the region: Tanzania and Uganda (> 180 kg/capita.), Burundi and Rwanda (+ -90 kg/capita.) and finally Kenya (+ -20 kg/capita.). In terms of yields on the other hand, Kenya (11 t/ha) would be better off than Burundi (9 t/ha), Rwanda (6t/ha) and Tanzania (10 t/ha), but less than Uganda (14t/ha).

7.2 CASSAVA CONSUMPTION

7.1.2 Domestic Consumption

According to a baseline survey conducted recently by the PAIR programme, domestic consumption exceeds 60% of production. Cassava offers many possibilities for processing and recovery: flour, chips, crisps, starch, biofuel, gari etc. Once out of earth, cassava is not stored as fresh and therefore requires a processing for its storage. Retting (for bitter cassava), peeling, drying intend to facilitate storage.

7.1.3 Cassava Trade

A. Cassava Imports

The provinces of Ngozi and Gitega serve as collection centres for imports of chips from Tanzania and cassava flour from Uganda before transportation to markets in Bujumbura (chips and cassava flour) or to Rwanda for cassava flour. In good harvests, 7 to 10 trucks of 10 tons of chips cross the border between Burundi and Tanzania at Kobero each week. Part of these imports is directly processed at Rugari trading centre, which is known for processing of chips into cassava flour to meet Muyinga province needs populations.

Some traders from Ngozi have a complex organization, similar to that in place for beans and maize, with assemblers who are sent to neighbouring countries (cassava flour from Uganda), storage on spot with a mill to turn the chips into flour. When the volumes are sufficient, the stock is carried to the country by truck. Traders of Muyinga are directly supplied by the border markets of Mwanza and Karagwe in Tanzania or Kampala, while traders of Cankuzo buy from Mishiha border market or from the "no man's land" between the two borders. Traders of Ruyigi, Kinyinya are supplied from markets bordering Tanzania.

Since May 2008, Tanzania banned the export of food crops. This led to a significant reduction of exports of cassava chips to Burundi.

There are minor exports of cassava flour to Rwanda, estimated at about 2 to 3 trucks of 10 tons per day. The export of cassava flour is the work of some Burundian traders who supply the Rwandan border markets.

Table 7.1: Cassava Imports in 2004 – 2007

	2004	2005	2006	2007
Volume (MT) manioc sec	NA	NA	NA	13,840
Value (US\$)	NA	NA	NA	951
Volume (MT) farine	NA	NA	NA	8275
Value (US\$)	NA	NA	NA	645

Source: FAOSTAT

7.3 VALUE CHAIN MAPPING

7.1.4 Functions Matrix

Farmers: Farmers harvest, peel and dry cassava roots. They have several marketing options. Using hired transport they sell directly to rural retailers, rural consumers or, if they are near a town to wholesalers. They also transport cassava (fresh or dried chips) and sell it directly to urban market or through commission agents. Some of the large-scale farmers with big volumes of the crop sell direct to big traders at farm gate. They also sell to traders (who provide links with major consumer markets). Farmers rarely sell on credit terms except with traders with whom they have built a long standing business relationship.

Traders: Two main provincial centres dominate the trade in cassava products: Ngozi and Gitega. Rumonge town is also active but with less importance. Ngozi market is a place of collection of products from Ngozi province and partly in the districts of Kirundo, Muyinga, Karuzi and Northern Cankuzo for their carriage to Bujumbura. Located in the heart of an area with very high population density, it is also a very dynamic consuming market.

The strategic central geographical location of Gitega town makes it an important hub for cassava products. Gitega market is a collection centre. It assembles its own production and those from the provinces of Rutana, North Makamba, East Bururi, Ruyigi, Karuzi and Cankuzo. As for Rumonge market, it also constitutes a collection market for the local products but also products from the province of Makamba. These products are then transported to Bujumbura.

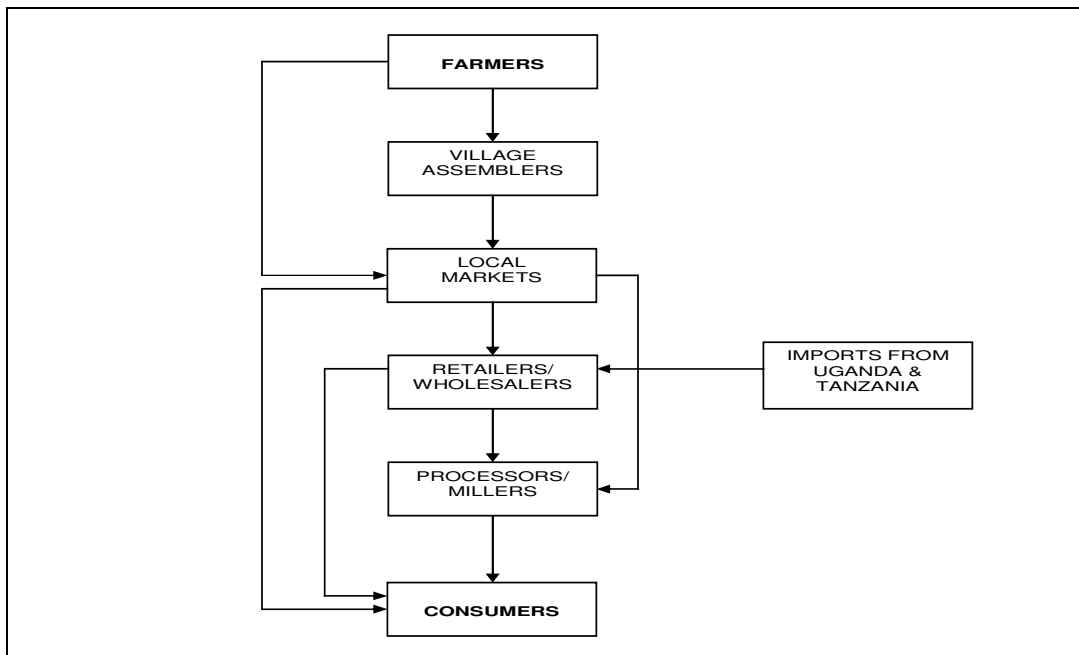
Bujumbura has 6 major markets including the central market dominating transactions. Others are Buyenzi market (west of the city), Kinama (North), Kanyosha (South), Musaga (south) and Kinindo (West). The central market is

supplied from Cibitoke/Bubanza Kayanza, Ngozi, Gitega and Rumonge and their supplying areas. This market serves as a wholesale market for cassava products, namely different kinds of chips and flour. The other 5 markets are retail markets but are also frequented by wholesalers and semi-wholesalers. These markets have some peculiarities:

- (i) Kinama and Buyenzi have many mills for cassava processing. On the other hand Kanyosha is much less well equipped. Kinama market is a particularly active market for the sale of cassava because it is located in the north and therefore closer to producing areas of Bujumbura Rural, Cibitoke and Bubanza.
- (ii) Buyenzi market is an old market while Musaga and Kinindo are recent markets and well built. Kinindo Market faces flow problems.

Processors: The processing of cassava is mainly done by women using locally made pestles. Industrial processing is carried out using hammer mills for the manufacture of cassava flour. These mills are often held by traders or women's associations and are often located in urban centres – Bujumbura, Ngozi, Gitega, and in Rugari in Muyinga province near the border with Tanzania. They process between 500 and 3,000 kg a day. Rare mills with low capacity are installed in certain areas of production such as Gitanga.

Figure 7.1: The Cassava Value Chain in Burundi



7.1.5 Volume Flows and Value Changes

Cassava is especially exchanged in two forms. The non-processed cassava is locally sold because of its weight. The processed cassava is transported to remote

areas and is sold in form of flour and/or roots. The targeted markets are the biggest urban areas. According to the CAPAD study on the diagnostic and development plan of the cassava sector, the net average income for the farmer is Burundi Francs 565,000 per hectare. Those figures corroborate with the findings of the study on the sources of growth (2007) (557 000 BIF/ha).

In addition, there are strong disparities in the prices paid by consumers in the different provinces. These variations are attributed to differences in transport costs in different provinces. This shows that, like other agricultural products, the market for cassava is not yet devoid of imperfections, such as the lack of market information, and trade opportunities.

7.4 CONSTRAINTS AND CHALLENGES

Diseases: The cassava crop has been jeopardized recently following the outbreak of mosaic. The virus causing the disease is very mutant and spreads easily through regions. As cassava is a major commodity for food security, numerous projects strive to distribute the strain which resists the mosaic. There is a strong potential for developing the cassava crop especially by increasing the outputs in bringing in improved varieties.

7.5 END MARKET ANALYSIS

7.1.6 Key Trends in the Cassava Sub-sector

Increased production: Cassava production in Burundi was seriously affected by the war as was the case with other crops. Cassava has remained an important staple food which has been available in hard times and therefore suitable for food security. High levels of poverty have also stimulated production especially at a time when prices of other cereals are on the increase. The new projects are interested in possibilities of new processing in order to produce the starch and this will require the production increase so as to meet that new demand.

New varieties of cassava have managed to adapt to all agro-ecological areas are tested and distributed. They show very good perspectives of outputs. Mixtures of the cassava flour are observed in different proportions depending on the destination of the needed product.

7.1.7 SWOT Analysis

Strengths	Weaknesses
<ul style="list-style-type: none"> • Rich in nutrients and therefore good for food security; • Low cost production of cassava • Easy access to inputs (seedlings); • Interplanting with other crops; 	<ul style="list-style-type: none"> • Poor agricultural practices by farmers, leading to losses; • Costly transportation, especially of the fresh cassava;

<ul style="list-style-type: none"> • Easy processing using local technology and storage for longer periods; 	
Opportunities	Threats
<ul style="list-style-type: none"> • Introduction of new disease-resistant varieties; • Growing demand throughout the country; • Possibility of supplying feeds for animals – cattle, etc. 	<ul style="list-style-type: none"> • Emergence of diseases such as cassava mosaic; • Competition from other substitutes, such as wheat.

VIII THE BEANS SUB-SECTOR

The importance of bean as a crop and as a food is closely associated with human population density. Bean is the 4th most important crop in Burundi and is one of leading crops in the country in terms of consumption.

8.1 BEANS PRODUCTION

With an annual average production of 300 tons, beans account for 4% of total annual production of major food crops at national level. Women are primarily responsible for decisions and labour in the production of beans in Burundi. For example, they consistently contribute relatively more to the production of bean than to maize. Because women have relatively less access, fertiliser use in bean production in Burundi is very limited for bean than for other crops.

In 2001-2005, there was a sharp drop of about 52% in production, especially in Kayanza due to floods in the marshlands and in Kirundo because of water shortage. However, following this dramatic fall in 2004, there was an increase in production in 2005 in Ngozi. Nonetheless, problems of lower yields (up to 40% from 1982 in 2007) persist, and the population pressure is becoming more and more unbearable.

Table 8.1: Beans Production in Burundi, 2004-2008

	2004	2005	2006	2007	2008*
Area Planted (Ha)	240,000	275,000	230,000	230,000	153,000
Volume (MT)	220,218	245,000	208,951	205,196	219,716

* Estimated using a three-year moving average

Source: FAOSTAT

As can be seen from Table 8.1 above, there has been a decline in the area planted with a corresponding fall in quantities produced. Production fell from 220,218 MT in 2004 to 205,196 MT in 2007. This reflects the constraints to increased production of the crop.

8.1.1 Main Beans Growing Areas

Bean production intensity is greatest in areas of high population density, where farms are tiny and few significant sources of dietary protein exist. The main production areas are in the provinces of Ngozi, Gitega, Kirundo, Kayanza, Muyinga and Karuzi. However, because of drought, Kirundo has lost its top place to other provinces less affected by drought (such as Makamba and Cibitoke).

8.2 BEANS CONSUMPTION

8.2.1 Domestic Consumption

Beans are the most widespread legume and are among the population's most important staple foods both in rural and urban areas, along with rice, cassava, and banana. Beans are the main source of protein for the poor and average households. Before the ravages of drought, about half of the total beans produced were sold. Currently, because of the low production, farmers provide first for their subsistence and only sell a small part. It is actually in Kirundo that the study team found the most popular variety called "Golden Kirundo" which has great commercial value.

Large and medium-sized seeds are most commonly preferred but small seeds are also acceptable, especially by poorer consumers and producers who rely on low-priced food and seed. Bean mixtures were marketed and consumed more commonly in the past, but have since declined partly due to an increasing preference by urban consumers of uniform samples.

8.2.2 Beans Trade

Given the low national production of beans, there are virtually no exports of the commodity and, as a result, the country has had to depend heavily on imports from the region, predominantly from Tanzania and Uganda. Table 8.2 below shows the imports of beans into Burundi in the period 2004 – 2008.

Table 8.2: Imports of Beans in 2004 – 2008

	2004	2005	2006	2007	2008*
Volume (MT)	9,518	7,000	10,700	11,077	9,592
Value (US\$)	3,782	2,800	6,400	4,576	4,592

* Estimated using a three-year moving average

Source: FAOSTAT

8.3 VALUE CHAIN MAPPING

8.3.1 Functions Matrix

Farmers: Bean is an important source of cash for small-scale farmers, whether as part of the total farm income or for providing a marketable product at critical times when farmers have nothing else to sell. The importance of bean as a cash crop varies within and across production areas in Burundi. In some densely populated areas of Burundi, less than 20% is marketed. Even then, however, farmers are strongly influenced by market preferences when choosing the

varieties to plant. Overall, farmers grow beans for domestic consumption mainly and the limited surplus is then sold to meet domestic needs of the households.

Harvesting is done in two ways. For fields intended for household consumption, harvesting is staggered, starting even during the weeding. Beans consumption is in various forms: (i) as green leaves "*umukubi*", (ii) as green beans, (iii) as cooked dry beans. The most common form is the consumption of cooked dry beans.

Rural collectors: These take the beans to small local markets and sell them to traders from large towns and urban centres. These in turn sell the beans to the final consumers in the urban centres. There is no processing of beans in Burundi.

8.3.2 Volume Flows and Value Changes

For locally produced quantities, the round of commercialization of bean proceeds to the same way as other cereals. More than 60% of sold bean on the markets of Bujumbura is from neighbouring countries, particularly Tanzania and to a certain extent DRC¹⁰

8.4 CONSTRAINTS AND CHALLENGES

Disease: One of the key constraints facing the bean sub-sector in Burundi is disease. Bean is a crop which is very vulnerable to diseases (viruses, fungi, bacteria) and climate. Beans are difficult to store because of attacks by insects. Pesticides are expensive. Although there is research in high yielding varieties, the multiplication and dissemination of the latter have remained difficult for majority of farmers.

Poor handling facilities: Furthermore, the packaging is often beyond the population's financial capacity. Traditional varieties remains predominant, growing on line allowing easy treatment is not adopted and many fields are often totally destroyed by pests without any phytosanitary intervention carried out. The system is still traditional and does not generate significant income.

Access to inputs: the country faces the problem of multiplication of selected seeds after being deprived of many centres of seeds destroyed during war.

Decreasing production: Production of beans is progressively declining giving way to other more productive and profitable crops. In fact, the used seeds come from storages of farmers and /or from the purchase in markets¹¹ this has a negative impact on the productivity of farmers.

¹⁰ Report of the 8th Regional Seminar of RESAPAC, Nsengiyumva D, 1995

¹¹ Report: Project "Emergency Production of qualitative seed".

8.5 END MARKET ANALYSIS

8.5.1 Key Trends in the Beans Sub-sector

Increasing demand: which follows the curve of the growth/ progression of the local population since bean is the main source of vegetable proteins and provides the essential food proteins to people.

8.5.2 SWOT Analysis

The table below summarises the strengths, weaknesses, opportunities and threats to the bean sub-sector in Burundi.

Strengths <ul style="list-style-type: none">• Emergence of new varieties of beans;• Existence of the right conditions for growing of beans;• Low cost commodity – easy to produce;• Readily available inputs.	Weaknesses <ul style="list-style-type: none">• Vulnerability to diseases, viruses and bacteria;• Lack of fertilisers and pesticides for farmers;• Generally low of technology applied;• Poor handling practices by farmers leading to losses.
Opportunities <ul style="list-style-type: none">• Growing demand for beans;• Existence of a regional markets;• Demand from donor agencies such as the WFP for food relief.	Threats <ul style="list-style-type: none">• Unstable prices;• Competition from regional suppliers.

IX THE GROUNDNUTS SUB-SECTOR

9.1 GROUNDNUTS PRODUCTION

In the regions such as Moso, groundnut is a profitable crop and it is grown by the majority of families. Table 9.1 below shows the production of groundnuts in Burundi in the period 2004-2008. As can be seen, both the area planted and the volume of groundnuts (in metric tons) produced increased marginally the period under review.

Table 9.1: Production of Groundnuts in Burundi, 2004 – 2008

	2004	2005	2006	2007	2008*
Area Planted (Ha)	12,000	12,000	12,500	13,000	12,500
Volume (MT)	8,800	8,880	9,200	9,500	9,193

* Estimated using a three-year moving average

Source: FAOSTAT

9.1.1 Main Groundnuts Growing Areas

Although it is weakly represented in comparison with other food crops, the groundnut is a traditional crop in Burundi. The favourable agro-ecological area is the Moso region which is the main area of production followed by the Imbo region and the north-eastern depressions. The two uplands natural regions (Mugamba and Bututsi) are particularly not conducive to that crop.

9.2 VALUE CHAIN MAPPING

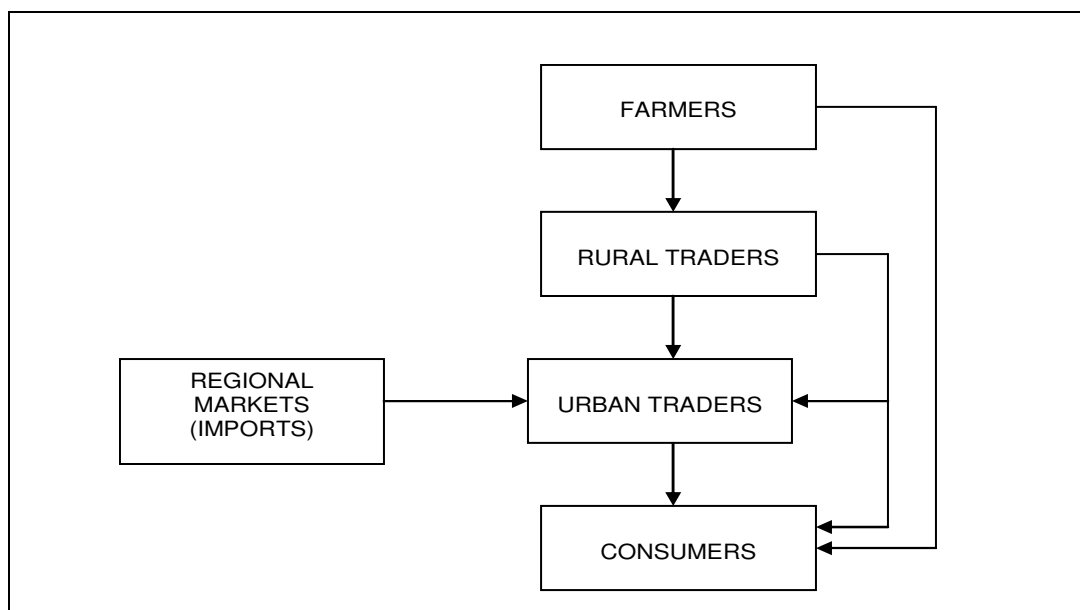
9.2.1 Functions Matrix

Farmers: As with the other food products in Burundi, trade in groundnuts is under the control of traders. The farmers usually produce for domestic consumption and sale of the surplus to the rural traders.

Rural traders: The rural traders collect small quantities from the farmers until they enough volume which they sell to the bigger traders in urban centres. They use different forms of transportation to get the groundnuts from the farmers, but usually use pick-up trucks to transport it to the urban traders. The rural traders buy at a lower price and add a margin to cover their costs and profit margins in the final price to the urban traders. The prices offered to farmers are usually lower, but in any case depend the prevailing conditions, such as the quantities produced, the varieties produced, the prices offered by urban traders, etc.

Urban traders: Urban traders buy the product at a higher price from the rural traders, but prices usually differ in different markets. The urban traders sell to the consumers in different forms. The Mutoyi extraction unit sells the groundnut oil and flour which would be financially competitive with the imported oil. That oil is not competitive with the refined palm oil produced in Burundi, even if the qualities of the groundnut oil are more appreciated than its competitor.

Figure 12.3: The Groundnuts Value Chain in Burundi



9.2.2 Volume Flows and Value Changes

The main markets for groundnuts are in the provincial urban centres and in Bujumbura. Farmers are not well organized as a result of which, it is practically impossible for them to negotiate a good price. Only collectors play the role of intermediaries and achieve important beneficial margins and they take up nearly all the added value of producer.

9.3 CONSTRAINTS AND CHALLENGES

The main constraints and challenges of the groundnuts sector in Burundi include the following:

- **Lack of sector associations:** The absence of structured farmer groups in the groundnut sector doesn't neither allow for the negotiation of better prices
- There is no emergence of semi-industrial and industrial processing units capable of capturing the production on contract conventions.

**PART C: THE BUSINESS ENABLING ENVIRONMENT FOR
TRADE IN AGRICULTURAL COMMODITIES**

X THE POLICY ENVIRONMENT

9.1 PRICING AND MARKETING POLICIES

9.1.1 Status and impact of pricing and marketing policies

Burundi has sought to implement a liberal trade policy for a long time despite its landlockedness and the lack of access to external markets. Burundi joined the World Trade Organization (WTO) on 23rd July 1995. It was a contracting party to the General Agreement on Trade and Tariffs (GATT) since May 13, 1965. Burundi adopted the IMF and World Bank structural adjustment programmes which led to the liberalisation of trade. In the regional context, Burundi is a member of a number of regional organisations, including: the African Union (AU); COMESA, CEPGL, CEEAC, and the EAC (1st July 2007).

Burundi is negotiating an Economic Partnership Agreement (EPA) with the European Union (EU) along with the other EAC Partner States. However, for Burundi to benefit from these trade preferences she will need to increase her exports. This will imply introduction of the following measures:

- (a) Development of a strategy for promotion and diversification of exports to the region and beyond;
- (b) Development of irrigation schemes, agricultural and agro-industrial mechanization in order to increase agricultural production;
- (c) Adoption of a policy of attracting foreign direct investments;
- (d) Promotion of ICT in the public and private sectors and in rural and urban areas.

In order to attract investments, the Government has already set up an investment promotion agency and a desk to deal with matters of improving the business environment in Burundi.

9.1.2 Opportunities for reform

- **Business environment reforms:** Since 2006, the Ministry of Trade, Industry and Tourism (MTIT) has taken measures to improve the business climate in Burundi. Within that framework, in 2007-2008, with the financial support of the PAGE Project, the Ministry conducted a number of studies.

In 2008, the Government of Burundi, with the support of the ARCANE project reorganized the Burundi Chamber of Commerce. A temporary Board of the Federal Chamber of Commerce and Industry of Burundi was set up and will be fully operational after the elections scheduled in the first half of 2010. In addition, a sectoral group for the development of the private sector was set up. This is a

forum in which the Government, the private sector, donors and civil society meet to discuss matters the economy.

- **Trade facilitation:** The government has sought to reform and modernize the customs management by putting in place the Burundi Revenue Authority (BRA). Government is revising all related trade policies, taking measures to strengthen institutions, laws and regulations and to fully participate in the EAC and in COMESA treaties. This will enable Burundi to have access to bigger markets. The simplification of the tariff structure, the removal of tax exemptions and the setting up of a reduced tariff structure in conformity with the provisions of EAC and COMESA, as well as the adoption of a system of customs assessment of the WTO are among the measures will strengthen the country competitiveness.

9.1.3 Fast tracking reforms of trade policy

Government trade policy seeks to expand the country's export base in order to create new sources of foreign exchange revenue, including export of cut flowers and fruits, mines and tourism. The increase of exports is at the core of the Government strategy. This policy imposes on government the challenge of finding ways to maximize opportunities within the country's potential.

Reforms and privatization of traditional export sectors: The government has already adopted an action plan for implementation of the recommendations made for the rehabilitation, modernization of the production facilities and of the privatization of the sectors of coffee, tea and cotton, in order to reduce the cost to government. For coffee which is the country's major export, the Government will allow private investors to set up their own washing factories and to directly deal with farmer associations in order to reduce the cost to Government. The coffee and tea sectors have potentialities of increasing the produced quantities and returns of exportation; the first is due to the increase of outputs and to the creation of the added value, and the second is due to the increase of cultivable land areas.

Promotion of non traditional exports: The strategy for non-traditional exports aims at finding new markets, training export managers, technical assistance in meeting market standards, building storage infrastructure, and means of air freight for exportable products of high value. The creation of an institutional, legal and regulatory framework is also one of the government priorities.

Promotion of the horticulture sector: Burundi has considerable potential for the production and export of the horticultural commodities. If appropriate investments are attracted to the cut flowers sub-sector, for example, it Burundi has potential to generate US\$300,000 per hectare. The government is seeking to provide maximum support to private initiatives dealing with the promotion of non traditional agricultural products with considerable potential, including palm oil, mango, maracoudja, avocado, etc. Government is already supporting the private sector through the integrated framework in the production of high potential export

products such as essential oils (votives, macadamia and the lemon grass). It is encouraging the construction of storage facilities for perishable products before their shipment. The common fund for staple foods is studying the possibilities of funding the building of a refrigerated terminal. The restoration of direct flights between Bujumbura and European countries will go a long way in improving Burundi's access to these markets.

9.1.4 Promotion of other export products

There exist potentials of increase in exportations of BRARUDI products in the neighbouring countries. The government will encourage the establishment of agents or sale branches of national companies which want to export their products to the neighbouring countries. The Government will ensure that the provisions relating to the EAC Customs Union and to the COMESA Free Trade Area are respected by the authorities in the countries of destination. Similarly, there are possibilities of exporting textile products. Finally, Burundi will have to develop a strategy for the development of ICT in the medium and long run as a tool to strengthen the role of "country warehouse" that Burundi wishes to become.

9.1.5 Measures Needed

There is need for reforms in the country's institutional framework in order to respond to current changes and environment. One of the institutions that need to be reformed is the Ministry of Trade and Industry. To this end, an institutional audit was planned to be conducted in 2010. There is also need for reform in the customs management to address the various deficiencies therein, and in this regard, the creation of the Burundi Revenue Authority in April 2010 is a step in the right direction. Furthermore, as a matter of priority, there is need for creation of specialized services dealing with exports. The MTIT is facing a shortage of qualified staff and material resources, such as equipment (computers, etc) for the efficient delivery of services.

9.2 REGIONAL STRUCTURED TRADING SYSTEM PLATFORM

Burundi is a member state of a number of regional organisations, including the EAC, COMESA, CEEAC and CEPGL. As a member of the EAC Burundi participates in the Customs Union and the recently launched Common Market which will become effective in July 2011. Burundi also actively participates in the COMESA Free Trade Area. It is worth noting that COMESA, the EAC and SADC are moving towards harmonizing their policies in order to avoid the distortions on trade and to widen the markets

XI THE REGULATIONS FRAMEWORK

11.1 CUSTOMS DOCUMENTATION AND CLEARING PROCEDURES

The Ministry of Finance oversees and supervises the Department of Customs but in order to comply with the practices in the sub-region, the Burundi Revenue Authority took over these responsibilities effective from April 2010 and will accomplish all formalities related to the clearing and to the perception of returns.

Upon arrival of goods, the transport agent must give the cargo manifest, the transportation letter and all related documentation to the customs. For clearing purposes, the goods are declared by the authorised customs officials.. The clearing procedures last from 4 to 5 days if the required documents are in order.

11.2 STANDARDS

11.2.1 Specification

The legal basis of the system of standardization and quality control in Burundi is the executive order issued in December 1999 relating to the institution of a system of standardization and quality control. In Burundi those tasks are carried out by the Burundian Office of Standardization and Quality Control, because of the problems of equipments and staff expertise.

11.2.2 Application for imports and exports

The Burundian Office of Standardization and Quality Control, founded in 1992, is the official body in charge of the standardization and quality control. It is responsible for defining and applying the standards, verifying the conformity and quality of imported or exported products. It is also in charge of assisting enterprises in settling the system of quality assurance.

The BBN is a member of the International Standardization Organisation (ISO). For the time being, it collaborates with laboratories of EAC and COMESA member states and four national laboratories in terms of sampling and analyzing.

11.3 SANITARY AND PHYTO-SANITARY REQUIREMENTS

11.3.1 Specification

The current regulation relating to sanitary and phyto-sanitary measures dates back from the colonization era. The law related to SPS is mostly applied to coffee, tea, rice and meat, but it doesn't have application measures. No legal provision is in force in terms of quarantine.

11.3.2 Application for imports and exports

The main phyto-sanitary law is the order n° 1/33 issued in June 30, 1993 related to the protection of plants in Burundi, but it has nothing to do with the control of pesticides, the border control of import, and export of plants, the issuance of a phyto-sanitary certificates to exporters or a reshipment certificate required by the international models determined by the international convention on the protection of plants and by the requirements of the importing country.

Due to lack of clarity of the Burundian legislation, the European Union (EU) banned the importation of Burundian fish since the breakout of the 1993 crisis. Burundian fish is not allowed to enter the EU market although the country has a huge potential in that sector. In order to lift that ban, the EU has put a number of conditions which the Burundi government must fulfil:

- (a) application officially for the authorisation to be sent to the General Manager in charge of the health of consumers;
- (b) the request must include a confirmation of the Burundi's capacity to meet the provisions of the EU sanitary legislation;
- (c) the General Manager in charge of the health of consumers sends then a questionnaire to the country in order to collect information related to the legislation of the country, to the organisation and to the competent authority to procedures of analysis and sampling, to laboratories, to system of certification, etc.

On the basis of the results of inspection and guarantees provided by the country, the EC will put Burundi on the list of countries authorized to export to the EU.

11.4 TRADE (IMPORT AND EXPORT) RESTRICTIONS

11.4.1 Import restrictions

Only banned products are subject to prohibited importation. Concerning restrictions, only imported sugar was highly taxed in the past (2002-2005) as a measure to protect the national sugar production. Other products such as rice, sugar, maize, wheat, etc are on the list of sensitive products of EAC and they are taxed at the rate ranging from 35% to 100%. The intention is to protect national production of these products in Burundi and in the region.

11.4.2 Export restrictions

Only the export of coffee beans is forbidden. Other products, especially the manufactured products, benefit from incentives provided for by the law on the promotion of exports and the law on the free trade area. Those incentives include tariff reductions, removal of taxes and especially taxes on profits, removal of duties on raw material and the capital items and the reimbursement of VAT. However, from time to time, sugar is subjected to quantitative restrictions for

export because of the insufficient production of SOSUMO and of the lack of product on the market.

11.5 TARIFFS, NON-TARIFFS CHARGES AND NON-TARIFF BARRIERS

11.5.1 Tariffs

Burundi has adopted the EAC Common External Tariff since the 1st July 2009 and the applied rates are the following:

- 0% - for raw materials and capital items;
- 10% - for intermediary products; and
- 25 % for final products.

However, the CU Protocol also allows some exceptions for products that require special protection. These include:

- Sensitive products : 35% - 100% ;
- Processed products and the semi processed ones used as raw materials: 0 %.

The two last lists are under currently under revision. It is noteworthy that the practice of charging entry visa for Burundians by Tanzania is rather odd, just as is the payment by Burundian vehicles of taxes upon entry into Tanzanian territory. That situation doesn't favour the growth of trade between the two countries. It penalises Burundian exporters just as it does affect imported products from Tanzania. Fortunately, this issue is being addressed at the regional level and Tanzania has shown readiness to give it consideration during the next budget.

11.5.2 Non-Tariff Barriers

In the EAC region, there are efforts to address the issue of non-tariff barriers especially with the establishment of the Customs Union. However, in spite of this, Burundian exports continue to face problems when it comes to entering the European, American and Asian markets because of the problem of certification. For example, Burundian fish is forbidden to enter the EU due to the lack of an updated law on the sanitary and phyto- sanitary measures.

11.6 LOCAL REGULATIONS

In accordance with the WTO provisions, Burundi can apply the safeguard measures in case of perturbation of the economy or if a concerned product is imported with much increased quantity that there is a risk to jeopardize the national production. The measures taken are often in form of the customs tariff increase and should be adopted during a fixed and enough periods so as to recover the economic situation.

Concerning the Burundian economy, the financial situation of various public and private companies is quite worrying. They have made many efforts in investing in factories, in renewing the machines in order to meet the domestic demand but they subsequently faced a drastic regression of their productions and their exportations since the beginning of the socio economic crisis in 1993. The consecutive devaluations faced by Burundi have also decreased the financial flex part of industries which were obliged to enter into competition with the sub region after the integration of Burundi in the EAC customs union and in the COMESA free exchange area.

Those companies are also highly indebted and cannot respond to the requirements of competitiveness of the sub region. As Burundi is one of the least developed countries in the world and is a post conflict one, the EAC and COMESA member states should be flexible in order to respond to the request about the safeguard measures.

Otherwise, Burundi should enjoy the right of giving the necessary support and protection to the production units during a certain period, in order to avoid the deindustrialization and the tremendous social costs which may bring about victims with the loss of jobs.

Concerning agricultural products, Burundi should keep the prerogatives so as to nominate the strategic products; meeting the needs of food security, without forgetting those which participate in the elimination of poverty in order to put forward the safeguard measures accepted by the partners.

XII CONCLUSIONS, POLICY IMPLICATIONS AND RECOMMENDATIONS

Conclusions

The foregoing analysis has revealed that Burundi's agricultural sector is still facing a number of challenges. The examination of the specific staple foods also shows a number of cross-cutting issues that should be addressed in a holistic manner.

First, Burundi's economy in general and the agricultural sector in particular were negatively affected by the political instability that befell the country. However, the political events did not entirely wipe out the existing potential in the economy and in the agricultural sector in particular. Indeed, as the analysis has revealed, the return of stability and sanity has led to some recovery in production of the various agricultural commodities.

Secondly, while there has been increase in the production of some staple commodities, this has been slow and most importantly it has been on account of increase in the area planted. At the same time, the increase in the area planted is constrained by such factors as the hilly terrain, lack of technology, lack of finances, among others. Moreover, the growth of the area harvested has been faster than the rate of yield increase. This has been consistent with historical patterns of the dynamics of some commodities (such as sorghum, rice, maize, etc), where output is driven mainly by bringing more land into cultivation.

Thirdly, the low aggregate yield figures do, however, suggest a strong and mostly untapped potential for boosting productivity in Burundi, through application of appropriate technologies and adoption of an enabling environment for production of most of the commodities under consideration. The current surge in prices of commodities such as rice in international markets, as well as the trade regime in the EAC to which Burundi is a member, should give a new impetus for investment in these commodities in order to expand production and reduce dependence on imports.

Fourthly, the analysis has revealed that Burundi is not self-sufficient in most of the commodities analysed. Self-sufficiency is measured by the ratio of production over consumption. For most commodities, this ratio has declined, compelling the country to rely on imports. In fact, as the trade data has revealed, Burundi is a net importer of most the staple commodities analysed in this report.

Fifthly, efforts to revive production of these commodities are affected by the structural constraints, which tend slow real increase in production. Among the deplorable constraints are the weak intensification of production, the scattered layout of cultivable land, poor water management, and the problems of post-harvest conservation and processing. These are compounded by farmers' poor

access to credit and the lack of competitiveness of many agricultural products. Lastly, it would appear that the extension services and the coordination of interventions in the agricultural sector are insufficient and inadequate.

Burundi possesses abundant water resources, significant potential in terms of irrigable land – as yet underdeveloped – and a favourable climate. This natural potential, if accompanied by a sustainable return to security, offers good prospects for agricultural development. With a nutritional deficit running at 20-30%, small producers – if they enabled to re-conquer domestic markets – would be able to increase their incomes and improve household food security.

The restoration of security should favour the emergence of economic operators that can enter into supply contracts with producers. Nevertheless, conquering these markets, subject to strong national and international competition, will demand an adaptation effort of small producers, especially if they are to meet increasingly strict quality requirements.

Another promising opportunity has to do with emerging farmers' organizations. These new forms of solidarity are still incipient, but the example of the national confederation of coffee growers' associations – now beginning to provide services to its members – as well as the organizing efforts under way in the tea, rice and fishing sub-sectors, demonstrate the potential for these organizations and the role they could play in sub-sector development. The proliferation of microfinance institutions (MFIs) (operating mainly in urban areas) and current development of a national microfinance strategy are assets for small producers in need of financing. Finally, the decentralization initiative provided for under the communal law in effect is another avenue to explore in promoting local development.

The way forward

The strategies of the Government should target the facilitation of the commercial integration of Burundi and at the same time the fundraising in order to fund that integration. Those strategies include the implementation of commercial policies reforms, the facilitation of the trade via the reform of the customs management and the capacity building of specialized services of the Ministry of Trade, the fast tracking of reforms and privatizations of traditional sectors of exportation, the promotion of non traditional exportations of which the products of the sector of flowers and fruits, the industrial products and the tourist sector.

The introduction of reforms in order to strengthen the main institutions in charge of the promotion of exports, the simplification of customs procedures and the full elimination of tariff and non tariff barriers are necessities which are conditional towards the promotion of trade, the structural adjustment and the elimination of poverty in Burundi.

REFERENCES

Nkurunziza J. D. (2005). Why has Burundi grown so slowly? The Political Economy of Redistribution;

Manyong V. M. et al (2000), Impact of IITA-improved Germplasm on Maize Production in West and Central Africa;

Dat Van Tran (2) World Rice Production: Main Issues and Technical Possibilities. International Rice Commission (Rome, Italy);

FAO (1996), Special Report: Crop and Food Supply Situation in Burundi.

IMF (2009), Burundi Poverty Reduction Strategy Paper – Annual Progress Report. IMF Country Report No. 09/90

IFAD (2008), Republic of Burundi: Country Strategic Opportunities Programme.