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Breaking the Cycle

A Strategy for Conflict-sensitive Rural Growth in Burundi

Editors:
Ilhem Baghdadli
Bernard Harborne
Tania Rajadel

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Foreword

Over the last forty years, Burundi's economic growth hovered well below the Sub-Saharan average—the lowest regional average in the world. Moreover, the country did not experience yet a bounce in GDP growth as is generally the case after signing peace agreements and some degree of stability resumes. Yet, growth is an essential foundation for long lasting peace, in a country like Burundi where 63 percent of the population suffers from food insecurity. So, the main challenge ahead is to kick-start growth by stimulating main drivers such as agriculture, which provides 94 percent of all employment, 80 percent of export revenues and 40 percent of the aggregate GDP.

This book makes a substantive contribution to our thinking on how to boost rural growth and break the cycle of poverty and conflict in Burundi. Drawing together the findings of normative and empirical analysis across a wide range of potential sources of growth for the country, this work identifies areas in the rural economy with the greatest potential to stimulate growth and consolidate peace. It focuses on short term needs and suggests policy reforms and investments with the potential to boost food supply and strengthen export crop competitiveness, thereby expanding growth.

This book results from strong collaboration with Government of Burundi and donors, including European Union / Stabex, International Monetary Fund (IMF), United States Agency for International Development (USAID), Food and Agriculture Organization of the United Nations (FAO), United Kingdom Department for International Development (DFID), The French Cooperation Agency and the Belgium Cooperation. It is very useful resource for policymakers and sector practitioners who are seeking ways to kick start growth in Burundi. It will also be of considerable interest in other post-conflict settings, where the development of a sound agricultural base can be a foundation for long-lasting growth.

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Foreword

The study on the sources of rural growth in Burundi results from a meticulous work carried out by eminent Experts of the World Bank in response to a request of the Government of Burundi. It describes the global environment, which explains poverty aggravation and builds proposals to overcome most binding constraints to growth in Burundi.

The Government of Burundi designed, in collaboration with development partners, a Poverty reduction Strategy Paper (PRSP) and is pursuing the Millennium Development Goals (MDG).

This study is an important contribution in the fight against poverty, as it identifies ways to resume growth in the rural world, which accounts for 90 percent of employment, represents more than 50 percent of GDP, and over 80 percent of export earnings. Increasing rural income would have large multiplier effects on the national economy. This would enable breaking the vicious circle of poverty and starting a virtuous circle of economic growth and poverty reduction.

The study underlines that reforming export-crop subsectors such as coffee, tea and horticulture would help increase participation in higher value specialty markets. Entering these market segments would increase export revenues and producers' incomes. Meeting this goal requires strengthening the peace process to secure people and goods, enhancing good governance, enabling macroeconomic stability, and developing infrastructures and the business climate.

The Government of Burundi is committed to implement all relevant proposals included in this study, which was conducted in collaboration with Burundians and development partners, in order to reverse poverty trends in Burundi.

H.E. The Second Vice-president of the Republic of Burundi
Gabriel NTISEZERANA

Acknowledgments

The Government of Burundi is grateful to every person who contributed to the successful achievement of this work and in particular to the following.

World Bank Team and International Consultants

This main report summarizes the work done by a multidisciplinary team led by Ilhem Baghdadli (Economist, TTL, AFTS3) with support from Bernard Harborne (Lead Conflict Advisor, co-TTL, AFTCS). The team comprises Antonio Estache (Senior Adviser, SDNVP), Aurore Simbananiye (Program Assistant, AFMBI), Daniel Alberto Benitez (Economist, FEU), Deo-Marcel Niyungeko (Municipal engineer, AFTU2), Elke U. Kreuzwieser (Senior expert, PSD), Ephraim Kebede (Economist, AFTP3), Eric Mabushi (Economist, AFMBI), Germaine Mafougong (Team Assistant, AFTS3), Guillemette Sidonie Jaffrin (Financial expert, AFTFS), Jean-Paul Zoyem (Consultant, Prem Poverty), Jean-Pascal Nguessa Nganou (Country Economist, AFTP3), John Baffes (Senior Agriculture Economist, DECRG), Korotimi Sylvie Traore (Program assistant, AFTS3), Michael Morris (Lead Agriculture economist, AFTS3), Quentin T. Wodon (Lead economist, AFTPM), Susana Carrillo (Senior Governance expert, WBI), Tania Rajadel (Economist, AFTS3), Vincent L. Fruchart (Conflict specialist, SDV). Main contributors from outside the Bank are Vincent Glaesener (FAO), Patricia Larbouret (FAO), Marc Moens (FAO), Ba Mbaye (FAO) Alexander Kavalec (FAO), Dan Clay (MSU), Anne Ottawa (MSU) Paul Deluco (MSU) Luis Flores(MSU), Eric Kacou (OTF) and James Foster (OTF). The report was reviewed by Dipack Dasgupta (SASPR), Stephen Mink (Lead Economist, AFTSN), Vivian Foster (Lead Economist, AFTSN), Janvier Nkurunziza (UNCTAD), Peter Uvin (The Fletcher School), and Tom Bundervoet (Vrije Universiteit Brussel).

Government of Burundi

The January 2007 workshop was attended by H. E. Pierre NKURUNZIZA, President of the Republic of Burundi; while H. E. Gabriel NTISEZERANA, 2nd Vice-President, attended the May 2007 workshop.

The following members of the Government of Burundi also attended the two workshops: Denise Sinankwa (Minister of Finance), Potame Nizigire (Minister of Public Work and equipment), Herman Tuyaga (Minister of Energy and Mines), Donatien Nijimbere (Minister of Trade and Industry), and Jean de Dieu Mutabazi (Minister of Agriculture and Livestock).

The logistic organization of the work was ensured by EMSP PIU, under the leadership of Séléus Nezerwe, project coordinator.

The following persons provided significant contributions: Pr Tharcisse Yamuremye (Macroeconomist, EMSP), Nestor Niyungeko (president of the coffee sector reform steering committee), Charles Ntunguka (Food security), Cyrille Sigejeje (CCIB), Rémy Keza (Plan), Tracy Dexter (International Alert), Charles Ndayiziga (CENAP), Déo Ngendakumana

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Workshop Participants

A very large number of executives of the public sector, private sector, civil society, NGOs, IFIs and media participated in the two workshops.

Acronyms and Abbreviations

ABEC	Association Burundaise des Exportateurs de Café
CCIB	Chambre de Commerce et d'Industrie du Burundi
CMU	Country Management Unit
CNDD-FDD	Conseil National pour la Défense de la Démocratie—Forces de Défense de la Démocratie
CNRS	Commission Nationale pour la Réhabilitation des Sinistrés
CWS	Coffee Washing Station
DDR	Disarmament, Demobilization, and Reintegration
DEC	Development Economics
DGE	Direction Générale de l'électricité
DGEE	Direction Générale de l'eau et de l'électricité
DGHER	Direction Générale de l'hydraulique et des énergies rurales
EAC	East African Community
FAO	Food and Agriculture Organization
FBu	Franc Burundais
FDI	Foreign Direct Investments
FFE	Food For Education
FFV	Fresh Fruits and Vegetable
FFW	Food For Work
FNL	Forces Nationales de Libération
GAP	Good Agricultural Practices
GCF	Gross Capital Formation
GDP	Gross Domestic Product
GHI	Global Hunger Index
GoB	Government of Burundi
ICA	International Coffee Agreement
ICOR	Incremental Capital Output Ratio
ICT	Information and Communications Technologies
IDP	Internally Displaced Persons
IFC	International Finance Corporation
IM	Infant Mortality
IMF	International Monetary Fund
ISA	Institut Supérieur de l'Agriculture
ISABU	Institut des Sciences Agronomiques du Burundi
ITAB	Institut des Techniques Agricoles du Burundi
LDC	Low Developed Countries
MDG	Millennium Development Goals
MDRP	Multi-Country Demobilization and Reintegration Program
MFI	Micro-Finance Institution
MSU	Michigan State University
NGO	Non-Governmental Organization

O&M	Operation and Maintenance
OCIBU	Office du Café du Burundi
ODA	Official Development Assistance
OECD	Organization for Economic Co-operation and Development
ONUB	United Nations Operation in Burundi
OTB	Office du Thé du Burundi
OTF	On The Frontier
PCN	Project Completion Note
PREM	Poverty Reduction and Economic Management
PRSP	Poverty Reduction Strategy Paper
PSD	Private Sector Development
PU	Population Undernourished
QSTM	Quality, Standards, Testing, and Metrology
QUIBB	Questionnaire des Indicateurs de Base du Bien-Etre
REER	Real Effective Exchange Rate
Regideso	The Régie de production et de distribution d'eau et d'électricité
SAP	Structural Adjustment Program
SCAA	Specialty Coffee Association of America
SDN	Social Development Network
SDV	Social Development
SME	Small and Medium Enterprises
SODECO	Société de Déparchage et de Conditionnement du Café
SOGESTAL	Société de Gestion des Stations de Lavage
SoRG	Sources of Rural Growth
SPS	Sanitary and Phytosanitary
SSA	Sub-Saharan Africa
SSR	Security Sector Reform
STABEX	Stabilization of Export Earnings
TFP	Total Factor Productivity
TT&P	Transport, Telecommunication and Post
UN	United Nations
UWC	Underweight Children
WBI	World Bank Institute
WFP	World Food Program

Executive Summary

Burundi, situated in the heart of the Great Lakes Region, is one of the poorest nations in the world. As a small landlocked country, with about 7 million people, it has one of the highest population densities on the African continent. Socioeconomic fault-lines dating back to colonial intervention in the nineteenth century have given Burundi a particularly violent and turbulent history. Beset by coups d'états, presidential assassinations, and genocide, the country has been caught in a cycle of violence and underdevelopment whereby brief periods of peace have been followed by further state repression and armed conflict. The 2000 Arusha peace accords, the Pretoria agreement of late 2003 with the Conseil National pour la Défense de la Démocratie—Forces de Défense de la Démocratie (CNDD-FDD), the peaceful elections of 2005, and the recent Dar es Salaam peace agreement with the Forces Nationales de Libération (FNL) have ushered in a period of relative stability. This fragile political process, however, has not been matched by a parallel rebound in economic growth that has been observed in post-conflict African countries and is a precondition for long-lasting peace.

This work aims to identify areas in Burundi's rural economy with the greatest immediate potential to stimulate growth and consolidate peace over the next three years. The short-term focus will be on the rural economy. It is vital, however, that the Government of Burundi and its partners address other critical areas in the medium term to sustain growth. The industrial and service sectors are of particular significance, as they need to absorb a burgeoning, youthful and increasingly urbanized generation. The first challenge is to take stock of international best practices and Burundian history, and develop a sound agricultural base as the critical foundation for sustainable growth. Best practice lessons suggest the need for strengthening institutions to enable effective aid absorption and targeted reforms, and designing pro-poor reforms to prevent conflict risks. In Burundi, weak institutions have nourished a vicious cycle of poverty and violence. Chronic uncertainty encouraged opportunistic investments that have exacerbated latent tensions among the society's three main constituencies: the state; communities; and the private sector.

Our work identifies policy reforms and investments with potential to boost food supply and strengthen export crop competitiveness, thereby expanding rural growth. To facilitate constructive interactions among the three main constituencies of Burundian society, this study recommends the following:

- *At the state level,* strengthen capacity so that the state can fulfill its responsibilities and effectively serve its constituents, without being oversized and miss-using public funds. This would encourage more effective macroeconomic management and the design and implementation of reforms to underpin growth. The latter includes privatizing the main agricultural parastatal and identifying priority public investments.
- *At the community level,* invest in human and physical capital to ensure food security and further develop the agricultural sector. Over the last forty years of cyclical violence, communities have been deeply injured and have suffered the loss of physical and social assets, reducing the ability to meet the most basic needs. The overarching objective now is to move away from emergency conditions that focus only on subsistence and facilitate the recovery of resilient livelihood and robust local exchange.

- *At the private sector level,* change business conduct and interventions to establish incentives to invest in production and processing. Economic development is generally stimulated by an expanding private sector that serves public interest while seeking (and finding) its own. The state's role includes fostering such private sector development by setting rules that bring private and public interests into alignment. The ultimate goal, therefore, is to increase the private sector's involvement in the economy and its contribution to shared growth.

Chapter 1 presents the main interventions recommended by this work. Chapter 2 demonstrates the need for sustainable and stable economic performance in Burundi. Chapters 3 and 4 establish a diagnostic of the agriculture sector, and Chapter 5 suggests ways to lift the most binding constraints.

Key Findings

Chapter 1: A Strategy for Conflict-sensitive Rural Growth

Burundi's turbulent history reveals the inextricable link between civil war and the country's growth, poverty, and economic composition. The vicious cycle of poverty and violence in Burundi was fed by weak institutions and the lack of constructive engagement among the state, communities and the private sector. As part of a longer term effort, the study defines a new approach to better target investments and reforms and enables the government to drive positive change. The strategy builds on the main findings of the report's contributors in the light of a three-pillar approach, inspired by Tony Addison [2001], and presented in the figure below.

- Pillar 1 -	- Pillar 2 -	- Pillar 3 -
Improve macroeconomic management and state capacity	**Strengthen communities by investing in human & physical capital**	**Develop the private sector throughout agriculture value chains**
– Enhance the effectiveness of public expenditures	– Support producers organizations and extension services	– Develop options for the privatization of parastatal companies in coffee and tea subsector
– Restrain external debt	– Help producers become stakeholders	– Set up a framework encouraging the development of the private sector in line with public interest
– Improve governance and State capacity	– Invest in rural road and management of land and water	– Develop small entrepreneurship

Chapter 2: Burundi's Growth: The Need for Long-lasting and Stable Performance

Past weakness and volatility of Burundian growth were due to the state's inability to engage in effective public expenditures to develop the country's meager endowment. Chronic

uncertainty on the political and economic scenes also encouraged opportunistic investments and misuses of public funds, especially in the coffee sector. Moreover, the high and ineffectively targeted government expenditures resulted in a debt ratio above the Sub-Saharan African (SSA) average with little to show for it. Full attention should now be given to reinforcing the state's capacity to be an instrument of development. In post-conflict settings, the state must also be able to design and implement pro-poor reforms. Our poverty analysis shows that in Burundi, households in agriculture are not only the largest but also the poorest group. Hence, this report identifies potential policy reforms and investments to improve agricultural household revenues.

Chapter 3: Agricultural Recovery: Food Security and Beyond

While the food situation in Burundi remains a great concern, it also has untapped opportunities for growth. For several years, food crises have been rife in certain parts of the country, a consequence of repeated conflicts, insufficient food production and the rapid population growth resulting from high birth rates and the return of refugees.

Subsistence crops and livestock account for 91 percent of GDP, and present the main source of income for most households. The current performance of these subsectors is very poor and imports of foodstuff are increasing, steadily exerting growing pressure on foreign currency reserves. Weak agricultural performance is partly explained by inefficient production systems, arduous access to inputs, and the lack of investment in human and physical capital. With food demand increasing annually at a rate of 3–6 percent, more effective production of crops and livestock for local consumption can contribute to growth. Chapter 3 further explains Burundi's food security issue and identifies priority actions to overcome obstacles to higher growth in the subsistence crop and livestock subsectors.

Chapter 4: Export Crops: Toward a Significant Contribution to Growth

Cash crops account for almost all export revenue. Coffee, the main contributor by far, is produced by about 800,000 households and accounts for 85 percent of export revenue despite its mediocre performance. Tea is currently Burundi's second largest cash crop. It provides 12 percent of total merchandise export earnings, and is produced by four estates and over 50,000 smallholders. Horticulture expanded recently and appears to offer promise for diversifying agricultural risk and revenue.

Privatizing the coffee and tea subsectors and developing small entrepreneurs in the horticulture subsector are vital to increasing the contribution of export crops to growth. The privatization of the coffee and tea subsectors should ensure that property transfers improve the sector's competitiveness and contribute to shared growth. Increasing the contribution of horticulture to growth involves a different approach, and will depend on improving the business climate and access to rural finance.

Chapter 5: Overcoming the Main Obstacles to Growth

In post-conflict Burundi, the poor security of goods and people is a prime obstacle, and overcoming it requires enhancing security and justice while reducing inequalities and discrimination. Preventing conflict will also require better management of land tenure issues, which fuel tensions and reduce investments.

Given its financial resources, landlocked location, and mostly rural nature, post-conflict Burundi has encountered considerable difficulties in developing effective infrastructure services. Strengthening the rural road network to facilitate better local marketing of food is an immediate priority. A next urgent step would require rationalizing energy production and distribution, to improve the use of existing facilities. Developing electricity generation and distribution could also foster processing of agricultural products and value addition.

Finally, doing business remains costly and risky. Burundi needs improve the legal and regulatory framework, strengthen the public institutions that support private businesses, and make production factors available at lower costs.

CHAPTER 1

A Strategy for Conflict-sensitive Rural Growth

By Bernard Harborne, Ilhem Baghdadli, and Tania Rajadel

This work aims to identify areas in Burundi's rural economy with the greatest potential to stimulate growth and consolidate peace. The work focuses on the next three years, and how the Government of Burundi can assist its people to recover materially after a long period of civil war. While absorbing the increasingly urbanized generation into the industrial and service sectors will be important, a strong agricultural base will be key in helping Burundi break its tragic cycle of violence. Therein lies the fundamental question—how can a growth strategy break this cycle of violence? What is different in 2007 compared to other periods of post-conflict recovery in Burundi's history that makes such a growth strategy more likely to succeed?

In order to answer these questions, this chapter reviews Burundi's violent history and its relationship to economic growth. The chapter also draws on experience of other countries undergoing similar transitions and lessons that may prove useful.

A History of Cyclical Violence

Burundi has a turbulent history tainted by some of the most violent statistics on the continent—assassinations of heads of state, frequency of its coup d'états, and persons killed over the last four decades. The record suggests four distinct periods of partial growth and crises.

- *1962–1972—Independence and limited economic growth (2 percent GDP per capita growth on average) coupled with increasing inter-ethnic violence.* In 1972, rebellion triggered the killing of about 300,000 Hutus and a drop in annual GDP growth to –7 percent.

- *1973–1991—Relative calm, steady growth and increased inflow of foreign aid with interruptions of violence.* The 1970's to mid-1980's were characterized by increased aid and borrowing accompanied by some reform. However, political instability followed the first Buyoya coup of 1987, during which about 20,000 people were killed and over 60,000 fled to Rwanda.
- *1992–2000—Civil war and economic crisis.* The 1992 referendum installed a multiparty political system, and Melchior Ndadaye was elected as the first Hutu president in 1993. That same year, Ndadaye was assassinated, triggering the massacre of over 100,000 people, and the flight of over 500,000 refugees. The following economic crisis was exacerbated by the economic embargo following Buyoya's second coup in 1997. Peace talks started in 1998.
- *2000–2007—Peace agreement and fragile transition.* In 2000, some 90 parties signed the Arusha Peace Agreement, a major but fragile breakthrough. It was supported first by an African Union and then a UN peacekeeping mission. In 2005, in a peaceful election, Pierre Nkurunziza of the CNDD-FDD became President. On the economic side, the embargo was lifted in 1999, enabling donors to participate in the country's recovery. Burundi's performance remains unimpressive (real GDP grew by only 0.9 percent in 2005) and the need for effective growth has to be urgently addressed.

What this episodic violent history relates is the inextricable link between civil war and Burundi's growth, poverty levels, and economic composition. We see that periods of relative peace have been accompanied by periods of ferocious and well-organized violence. This correlation between poverty and war is put more plainly by Scully (1997): " [. . .] countries that kill their own people are poorer and grow more slowly than countries which do not [. . .] killing in Burundi during 1965–90 reduced GDP by 54.8 percent."

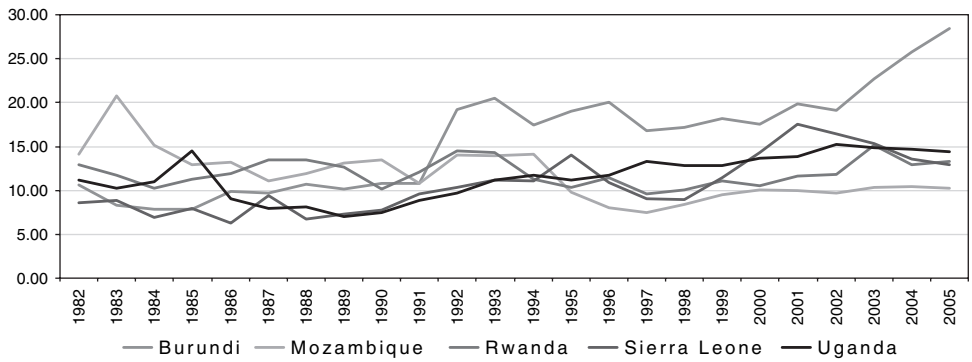
Investigating Conflict at the Level of the Community, the State, and the Private Sector

As the conflict section in Chapter 5 points out, there are a number of critical underlying root causes of conflict. Yet, the most compelling feature of Burundi's violent history is the role of the state in repressive violence against sections of the population, principally associated with Hutu identity. The state is predominant in Burundi, and evidence suggests that not only has it suffered long periods of violence but that during peace intervals, public policy and investment have reinforced stratification and unequal distribution of resources, further compounding underdevelopment.

Government expenditures in Burundi comprise the largest share of GDP in the subregion, and is markedly larger than similar societies undergoing such war-to-peace transitions (Figure 1.1).

Burundi has experienced total war and entered into an underdevelopment-conflict cycle, where each period of cessation of hostilities is seemingly followed by an inevitable resurgence of conflict. Addison (2001) describes this vicious cycle of poverty and violence and its effects on the three main constituencies in society—communities, the private sec-

Figure 1.1. Government Expenditures in Burundi, Mozambique, Uganda, Rwanda, and Sierra Leone (percent of GDP, 1960 to 2005)



Source: World Bank, World Development indicators.

tor, and the state (Figure 1.2). He suggests that breaking the cycle implies transforming state institutions and providing them with the ability and the incentives to foster constructive interactions between its constituencies.

Weak institutions and macroeconomic instability generate chronic uncertainty, which encourages opportunistic investments and fuel tensions between communities, the private sector, and the state. All three actors adopt measures to survive, cope, or exploit.

- At the state level, the cycle of poverty and violence is generally associated with weak capacity, predatory behavior and corruption, with investment favoring some groups, regions and sectors. Thus, the state fails to set up a framework that would foster private sector investments, help the poor communities improve their prospects and encourage constructive interactions between these constituencies.
- The private sector lacks incentives to develop in line with public interest and to recreate markets and employment. It focuses on commerce rather than long-term investment in production, since the latter is more vulnerable to predation.
- At the community level, the lack of public and private investment accentuates social inequalities, stratification and conflict risk. Poverty and violence also fracture social capital and devastates trust within and between communities and between the community and the state.

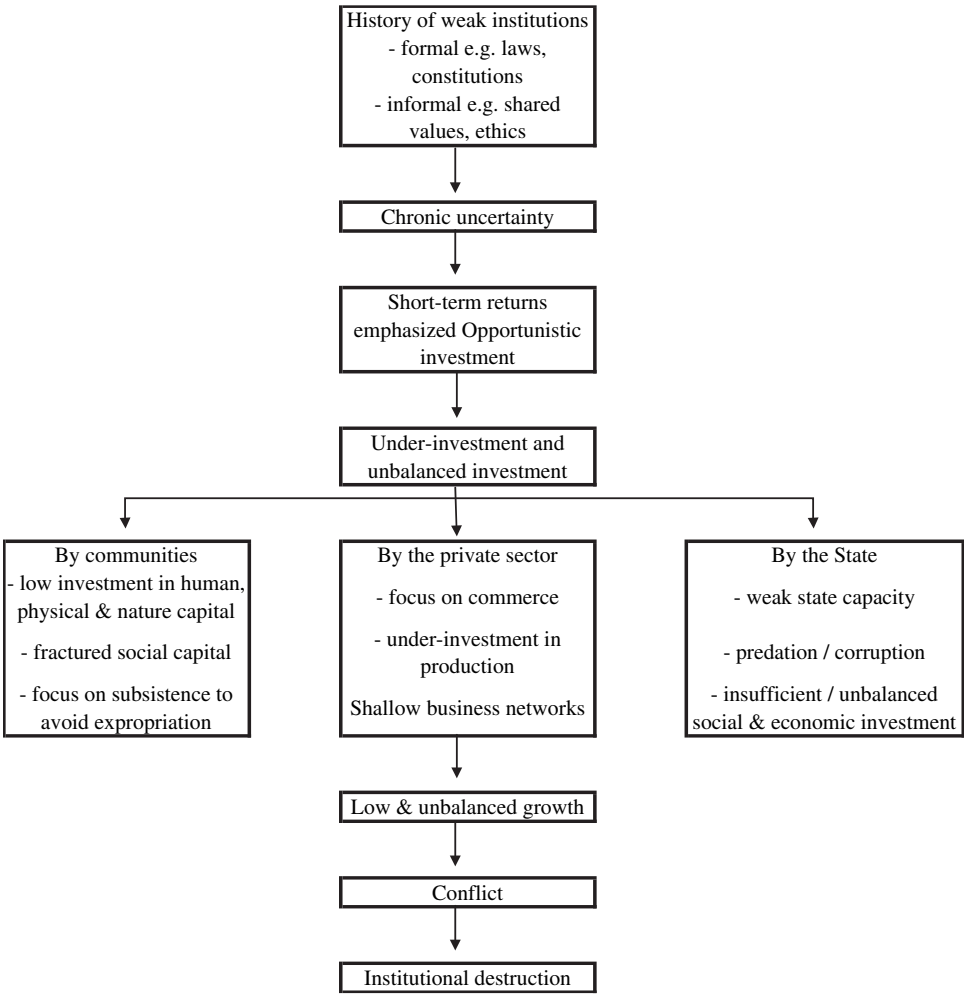
These coping strategies result in low and unbalanced growth, which fuel conflict, further undermining institution and leading to the next cycle of poverty and violence. Key lessons imply transforming institutions and policies to favor constructive interactions between the state, the private sector and the communities.

Adapting the Addison lessons to Burundi, the evidence from our work is telling.

State

Government institutions have been instruments of violent oppression, unequal distributors of investments, and unfair regulators of markets. As highlighted in chapter 4 on the

Figure 1.2. Weak Institutions Lead to Conflict and Lead to Further Institutional Destruction



Source: Adapted from Addison 2003.

cash crops, particularly coffee, public investments have been skewed toward particular geographical areas and toward particular classes. Moreover, the 1988–1992 Five Year Plan "only allocated 16 percent of its investment funds to rural development while the bulk went to urban centers where the industrial and service enterprises, consisting of largely parastatal companies and the Tutsi elite are concentrated" (Gaffney 2000). As a result, Tutsis from Bururi managed 60 percent of the largest public corporations by the late 1990s (ICG 2004). Further, during the mid-1980s, "Bujumbura and its immediate vicinity absorbed 50 percent of the nation's total investment, while the province of Bururi alone, drew a further 16 percent" (Gaffney 2000).

The education sector has some of the most distorted investment patterns. Estimates indicate that by the late 1980's "about 60 percent of the total external aid to Burundi for education

financing benefited Bururi, one province out of 15" (Jackson). In 2001, "government spending on tertiary education represented 692 percent of per capita GDP compared to 62 percent for secondary education and 12 percent for primary education" (Ndikumana 2004).

The issue for the government is not simply one of the size of state consumption (figure 1.1)—as public spending, particularly in post-conflict contexts, is a vital aspect of peace building. It is how those investments can be made in such a manner for a developmental-state to promote growth as well as redistribute—rather than predate upon—resources.

Private Sector

Chapter 2 underlines failures of the state to encourage private investment by providing macroeconomic stability, enforcing the legal framework and property rights and designing public investment in line with public interest. Chapter 5 highlights specific weaknesses in the investment climate, such as the need for reform of the investment and banking codes. To date, the Burundian private sector has been primarily engaged in commerce, import, and export, and has largely ignored the agricultural sector except for small investments in upstream production of cash crops. Commerce is critical particularly for a landlocked country, and trade relations in the sub-region are very important. However, it is necessary to provide the private sector with the incentive to engage investments in production and processing activities in addition to trade.

Communities

Burundi's deprivation at the family level is most simply described by the levels of food insecurity detailed in Chapter 3. In the northern region of the country, almost one-half of the population has a daily caloric intake of 1,400 kcal, but in the south, less than one-fifth of the population lives in a household with a very low caloric intake. The recent Global Hunger Index (IFPRI 2006) put Burundi as having the worst indicators in the world. Agricultural productivity is the lowest in the sub-region.

The coffee sector, outlined in Chapter 4, is illustrative of the relationship between the state and communities. State institutions have imposed agricultural policies, including planting of coffee trees and use of fertilizer, upon a reluctant rural population. Coffee producing communities have responded through evasive actions, such as smuggling or even outright rebellion, such as bush burning. This has historically been met at times by violent repression (see Oxfam 2002, International Alert 2007).

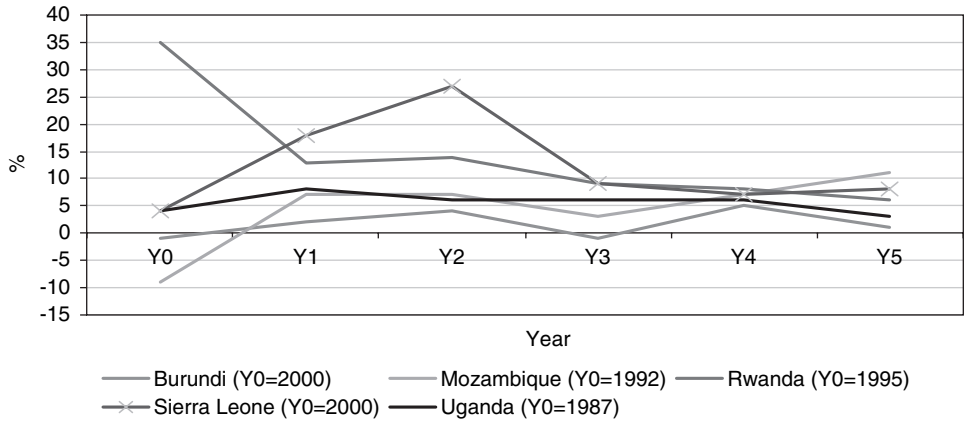
We also note that Burundi's households cannot be treated as one generic constituency. There is significant geographic differentiation between poverty levels of different provinces and stratification according to different livelihood groups. As a recent CARE study highlighted, there are severe differences between genders. This report highlights the increase in sexual violence and risk of transmission of HIV/AIDS just after the coffee harvest, as men use sexually violent tactics to control cash payments largely earned by women picking coffee beans.

Breaking the Cycle

In looking at the Addison model, breaking the cycle of underdevelopment in Burundi requires transforming state institutions and favoring fruitful interactions between the state,

the private sector and the communities, to build the foundations for growth and long-lasting peace. It is critical for such growth to be kick-started after seven years of relative stability. Experience suggests that there is normally a rebound in economic growth in post-conflict economies, as a result of greater security and productivity. This has not occurred in Burundi (see figure 1.3 below), highlighting the structural constraints to growth in peaceful periods as well as during armed conflict.

Figure 1.3. Growth Comparisons



Sources: World Development Indicators.

Preventing Conflict Risks

Since the signing of the Arusha Accords in 2000, Burundi has reached a level of optimism unknown after many years of armed conflict. Successful elections in August 2005 saw the peaceful transfer of power to a broad coalition government of the CNDD-FDD, headed by Pierre Nkurunziza. This was followed by a Comprehensive Peace Agreement in September 2006, signed between the government and the FNL in Dar es Salaam.

Has the cycle of underdevelopment and conflict been broken or is this simply a prolonged cessation of hostilities? Similar trends were present in the early 1990s when democratic elections resulted in a reform-oriented government, but that ended with the resumption of civil war in 1993.

Over the past year a number of reports[1] pointed to continuing human rights abuse, corruption, and political instability as objective indicators of the fragility and risks of resumption of conflict. As recent studies indicate, it can be dangerous to specify with certainty the probability of resumption of conflict (Suhrke and Samset 2007). However, the value of the World Bank's work (Collier 2003) has been not only to highlight the risk of resumption of conflict—26 to 40 percent depending on the out-years from the peace settlement—but also to point to the kinds of risks that lead to resumption of conflict.

1. ICG and Swiss Peace FAST 2006 reports.

This work has been more rigorously applied to Burundi (Ndikumana 2004), specifically addressing risk factors including low income, dominant ethnic group, presence of primary exports, the duration of peace between conflicts, and levels of secondary male education.

The challenge for governments and international partners is how to address those risks. While each post-war situation is context-specific, generic experience is helpful in providing guidance on what polices and strategies have worked elsewhere. In particular, a number of key factors have proven critical in the so-called post-conflict period.

Ensuring Security

The key ingredient to Burundi's success thus far has been security of the transition, which despite changes in timeframe has remained on course since Arusha and beyond the elections of 2005. The role of peacekeeping forces in reducing risks during transitions is increasingly decisive (Sambanis 2002). This has a critical multiplier effect for "without security the post-conflict situation is liable to be seen as too precarious to induce the investment necessary for economic development" (Collier 2003).

Fostering Pro-poor Growth and Youth Employment

Economic growth is key to enabling recovery from conflict and addressing the underlying structural weakness of low per capita income. Experience suggests that the norm is for a bounce in GDP growth immediately after signing peace agreements as some degree of stability resumes. In turn, such growth for countries in transition must be explicitly pro-poor. "Unless policies are explicitly pro-poor, reconstruction efforts risk to be narrow, benefiting mostly the elite. If legitimate employment prospects and wages are depressed, demobilized ex-combatants will face few job opportunities other than continuing war and crime, while economic hardship will strengthen demagogues in exploiting ethnic rivalries and political tensions, thereby undermining peace itself" (Elbadawi, Kaltani and Schmidt-Hebbel 2007). In countries like Burundi, where three out of five people are younger than twenty, it is also vital to stimulate youth employment.

Enhancing International Aid Effectiveness

Post-conflict economies represent opportunities for growth and policy reform. Typically, in conflict settings, "evidence suggests donors may provide too much aid too early and reduce aid flows too quickly, just when post-conflict economies are ready to absorb more aid" (Elbadawi, Kaltani, and Schmidt-Hebbel 2007). Further, "the end of a civil war creates a temporary phase during which aid is particularly effective in the growth process during the first full peace period the absorptive capacity for aid is around double its normal level. As with aid in more normal circumstances, absorptive capacity depends upon policy, but, conditional upon policy, aid is considerably more effective" (Collier and Hoeffler 2002).

Aid intervention has had some impact on trends in Burundi. However, aid assistance in the past has been used more as a check on violence rather than to address underlying structural causes of violence (Ngaruko and Nkurunziza 2004). Examples include: (a) pressure on Government by donors to create a National Commission after the 1988 massacres in order to push for a power sharing government; (b) the imposition of the trade embargo

in 1996 after the second Buyoya coup; and (c) the conditionalities placed on the Government to move toward inclusion of the CNDD post-Arusha. At best aid can be used as an instrument of leverage, but historically it has been a tool of reaction as opposed to contributing to sustained growth.

Implementing Immediately the Policy Reforms Essential for Long-lasting Peace

Experience from other transitions suggests that post-conflict periods are critical junctures in which to push for the necessary reforms to align additional aid to growth strategies. While war-to-peace transitions are by nature fragile, they also provide opportunities for different state-private interests to cohere around interests that support longer-term goals of stability than short-term personal gain.

Reform policies can be manipulated by elites for their own ends. Nkurunziza and Ngaruko (2004) call this a 'market of reform.' Reform processes are launched whereby oligopolies maximize rent-seeking opportunities at the same time as donors launch as many conditions and priorities as possible. Given the asymmetry of information, donors inevitably lose out. In this way "reform has been part of a vicious circle whereby it shaped biased distributive politics that caused repetitive violent conflicts, responsible for the shaping of the political leadership, which in turn designed reforms and distributive politics biased in favor of ruling group members" (Nkurunziza and Ngaruko 2004).

Growth and policy reform are critical ingredients in post-conflict settings. Policy reforms, however, can suffer from being lack of knowledge of the underlying political economy. This is particularly important in post-conflict transitions where risks of resumption remain highest, and in the past where economic recovery and economic policy have been treated separately from conflict prevention (Addison 2001).

Key Lessons from International Best Practices

Considering Burundi's difficult history, it is evident that new approaches must be adopted so that the Government can be an instrument of positive change. While our work is short term oriented, it is part of a longer term effort, which involves following four lessons in consolidating peace and growth.

Lesson 1: Setting Up a Coherent Peace-building Framework

It is clear from the literature and good practice (OCED 2006) that the tendency should be toward ensuring coherent peace building strategies that strengthen the links between different security, political, and development components. The Government has most clearly articulated its overall strategy for Burundi in the Poverty Reduction Strategy Paper (PRSP) of September 2006. The PRSP comprises three essential pillars as critical to sustaining peace: improving security and governance; achieving equitable and sustainable growth; and developing human capital.

In May 2007, donors committed $665.6 million to fund the poverty reduction action plan up to 2010—a clear signal of support. One critical component of the strategy—security and governance—is the major element of the UN peace building *plan d'action* supported

by $50 million from the newly created UN peace building commission. This plan places particular importance on reform of the military and the police, as well as building capacity of the rule of law—essential elements of long-term stability. Recent evidence from East Timor and the role of Burundi's military in the past recommend security sector reform as being a key ingredient of any sustained peace. The complementary component focuses on kick-starting economic growth.

Lesson 2: Designing Pro-poor Reforms in Post-conflict Countries

Chapter 3 confirms that sectors of the economy have been underinvested, particularly the rural economy. Hence, the rural sector has been targeted—'as the agricultural sector goes, so does Burundi's economy' (Ndikumana 2004). Global experience suggests that growth strategies in developing countries must have a strong agricultural component—"agricultural strategies alone will not lead to success. However, the converse also applies: for the poorest countries, economic growth and sustained poverty reduction are unlikely to be achieved without initially stimulating sustained agricultural production growth" (World Bank and IFPRI 2005). In addition to being rural-based, it is critical that the strategy realigns investments to be pro-poor and particularly to ensure a more equitable distribution of growth and per-capita income among Burundi's provinces.

Lesson 3: Strengthening Institutions to Enable Effective Aid Absorption

Large amounts of aid can only be effectively used if donors have a better understanding of political economy dynamics as well as improving state capacity. "The impact of aid depends on the quality of state institutions and policies" (Burnside and Dollar 2004). Further, "in the past aid has not systematically led to improvements in institutions and policies. But the phrase 'in the past' is quite important. In the past, aid has been allocated indiscriminately with regard to institutions that are critical for growth" (Burnside and Dollar 2004). As indicated, donors are prepared to put significant funding behind the Government's strategies. However, if that is to be sustained it will be important that Government institutions are strengthened, particularly in areas such as transparent and accountable financial management, project implementation, and monitoring and evaluation.

Lesson 4: Prioritizing Reforms to Overcome Most Binding Constraints

Lessons from the nineties show that catalyzing growth requires identifying the most binding constraints and designing investments and reforms that would alleviate them. There is no formal set of rules to determine exactly what these constraints are although some frameworks, such as the Hausmann, Rodrik and Velasco (2005), can apply when relevant information is available. In any case, pragmatism and country specifics should be considered as the prime guides by policymakers.

In a post-conflict setting, the Addison framework is a useful way to organize actions, and make sure that the three key constituents of society (communities, the private sector, and the state) receive reinforcing interventions. All three are critical actors in the rural sector and specifically in the growth of food and cash crops. What actions are required to promote growth, address their respective weaknesses, and enhance their strengths?

The Sources of Rural Growth Strategy

Based on international best practices and Burundian history, our work defines interventions to develop constructive relations between the state, communities and the private sector to stimulate sustainable growth. Placed under an overarching commitment to good governance, these interventions consist of reforms and investments targeted at improving state capacity and accountability, boosting food production and improving export crops' contribution to growth. They also intend to release the most binding constraints in infrastructures and business climate.

Pillar 1: Strengthen Macroeconomic Management and Improve State Capacity

To break the cycle of violence and poverty in Burundi institutions need to be transformed to enable them to foster constructive engagements among the state, communities and the private sector. Ultimately, these transformations would allow more effective use of public funds, and the establishment of a framework to enable the private sector to develop in line with public interest. Such efforts should contribute to scaling back state predominance while improving the effectiveness of public expenditures, external debt management and state's accountability. Finally, these efforts should help poor communities improve their current earnings and prospects.

Strengthen Macroeconomic Management to Underpin Sustainable Growth. Chapter 2, in its macroeconomic analysis, associates volatile growth in Burundi with poor governance, high and ineffectively targeted government expenditures, and a debt ratio above the Sub-Saharan average.

- Burundi's coffee sector illustrates poor governance. The sector, which benefited from most public investment, did not experience an increase in competitiveness (Chapter 4). Cyclical violence and the lack of transparency facilitated misuses of public funds in all sectors of the economy, ranging from weakly designed and/or executed expenditures to pervasive corruption. As a result, the economy remained very much dependant on the coffee sector, which in turn continued to be a disappointing contributor to growth. Good governance principles must now apply in Burundi to provide state institutions with both the incentives and the capacity to better manage public funds and place the country on a sustainable growth path.
- Kick-starting growth in Burundi will require improving state capacity to design and implement effective policy reforms and investments. Areas of improvement include the set up of an operational system for public expenditure management, to stop faulty allocations of public expenditures and minimize weaknesses in budget execution. Such a system should increase transparency of budget allocation and effective spending by allowing society to consent and support strategic directions for public expenditures and related reforms, and to monitor government performance and hold it accountable for results.
- Finally, Burundi has a high external debt (compared to other SSA countries) that needs to be managed to minimize negative externalities on investments and economic growth. The country's debt service obligations could erode confidence in the on-going economic reforms and contribute to a negative policy dynamic, relying

Table 1.1. Recommended Actions To Strengthen Rural Growth

Targeted interventions
Pillar 1: Improve macro-economic management and State capacity
1: Foster macroeconomic reform to underpin sustainable growth
1.1. Implement governance principles in line with international best practices;
1.2. Improve state's capacity and accountability to design and execute effective public expenditures;
1.3. Improve external debt management.
2: Improve State capacity to undertake pro-poor policies
2. Develop and implement a methodology to perform an agricultural census
3. Conduct a study on land tenure
4. Investigate further sources of growth within and outside agriculture
5. Perform a regional study on the competitiveness of Burundi's food crop and livestock production to design the next generation of investments
6. Perform a traffic survey
7. Conduct a study on utility tariffs
Pillar 2: Strengthen Communities by Investing in Human and Physical capital
1: Help poor communities improve their revenues and prospects
8. Supporting producer organizations and extension services
9. Help producer organizations become stakeholders in the coffee and tea subsectors.
2: Invest in Rural Roads and Management of Land and Water
10. Invest in land and water management to intensify agriculture production in a long-lasting way
11. Fund the construction, rehabilitation, and maintenance of roads, with a priority to the rural network
12. Support the creation of another 10 MW.
Pillar 3: Develop the private sector throughout agriculture value chains
1: Develop options for the privatization of parastatal companies in the coffee and tea subsectors
13. Launch pilot programs for small infrastructure investments, market intelligence, knowledge and skills transfers
14. Use MIGA guarantees in early stages of up-coming privatization to reduce risks perceived by foreign investors and increase their appetite and willingness to pay to enter the Burundian markets
2: Set up a framework encouraging the development of the private sector in line with public interest
15. Enhance the business climate by: setting up a legal and regulatory framework in line with best practices and performing a Financial Sector Assessment Program
16. Provide assistance for a viable input system

Source: Authors.

on debt relief rather than growth enhancement. Finally, high debt levels can lead to additional administrative layers, further exacerbating capacity constraints and slowing the development of capable public institutions.

Improve State Capacity to Undertake Pro-poor Policies. Our work acknowledges that growth is a necessary but insufficient condition for poverty reduction in post-conflict Burundi. Lessons learned from best practices in similar settings, suggest that policy design and execution must be explicitly pro-poor to help communities improve their prospects,

restore trust, and encourage constructive relations between and within communities. An in-depth analysis of Burundi's poverty profile was, therefore, performed to identify specific vulnerabilities and potential opportunities that need to be considered to soundly tailor sector reforms and effectively target investments. This analysis shows that rural populations and youth are amongst the most vulnerable groups. In the short run, the growth strategy must focus on the rural sector and youth employment.

Recommended Interventions. In Burundi, where budget constraints are extremely severe, the cost of getting things wrong is particularly high. Our work recommends setting up and implementing a transparent system to manage public funds and external debt as well as reinforcing state capacity to design effective pro-poor policy reforms and investments. In the very short run, a series of studies could help reinforce the state capacity to foresee market trends and opportunities.

- The completion of the agricultural census would provide an indispensable foundation for an effective agricultural policy.
- An in-depth assessment of the regional competitiveness of Burundi's food-crops and livestock production would help the country understand where its competitive advantages lie to guide effective reforms and sustainable investments.
- Identifying further sources of growth in the urban and service sectors would help sustain growth in the medium term.

As Chapter 5 underlines, all constraints to rural growth are not specific to agriculture. For instance, enhancing agriculture competitiveness requires managing transport costs and utility costs, which constitute the biggest part of the selling price. Hence, in the short run, our work also recommends:

- Performing a traffic survey to guide investments in the road network.
- Re-assessing utilities tariff setting to strike a better balance between affordability and the financial viability of the networks.

Pillar 2: Strengthen Communities by Investing in Human and Physical Capital

To strengthen communities, our work recommends investing in human and physical capital to ensure food security and further develop the agricultural sector. The food situation in Burundi remains a matter of great concern (Chapter 3). This year again, parts of the country underwent famine-conditions. Food production is insufficient and could be significantly increased in order to better address people's needs. The overarching objective is to move away from emergency conditions, where the focus is only on subsistence. Indeed, boosting food crop and livestock production could also significantly increase revenue at the farm level and prepare the country for the surge in marketed transactions expected with the up-coming urbanization. Expanding food crop and livestock production would require investing in both human and physical capital to enable sustainable intensification of the Burundian agriculture. Prime investments in human capital would involve supporting producer organizations and reinforcing extension services. Investing in physical capital would involve strengthening input distribution in the agricultural sector, improving soil and

water conservation and management, and developing infrastructure services in rural areas to further intensify agricultural production and improve the sector's competitiveness.

Poor Agriculture Performances and the Lack of Human and Physical Capital. Subsistence crops and livestock products represent the main source of income for most households and amount to 91 percent of agricultural GDP. The performance of these subsectors is very low, and generates chronic food deficits, which underlie the extreme vulnerability of the population. Imports of foodstuff are increasing steadily, depriving the country of foreign exchange needed to import capital goods, such as pharmaceutical drugs, fertilizers, or oil products. Yields are stagnating yields and production is low. Yields of major food crops have changed very little during the past forty years. Production of food crops has decreased significantly and the population of animal species suffered precipitous decline since the onset of the latest period of civil unrest. Today, livestock consists essentially of small animals. The weak results of the agricultural sector are partly explained by inefficient production systems, arduous access to inputs, and the dramatic lack of investment in human and physical capital. Food production is dominated by small scale subsistence-oriented family-farming units and most inputs today are out of reach for many farmers. Moreover, the repeated conflicts prevented use of storage facilities and skewed the production towards more secure but less profitable roots and tubers. These production choices hampered investments in processing, thwarting the creation of value added in the agricultural sector. During the last forty years of cyclical violence, the state undertook no investment in human capital, which eroded the pool of skilled and managerial labor force. Research and extension were also neglected, undermining the potential development of the sector. No major investments in irrigation, infrastructure and other physical capital were completed, barring access to markets and impeding the sector's competitiveness. With food demand increasing at a 3 to 6 percent annual rate, it is critical to turn the subsistence crops and livestock subsectors into much better contributors to growth.

Re-build Human Capital by Strengthening Producer Organizations and Developing Knowledge. Agricultural recovery will require significant investments in human capital to create long-lasting producer organizations and to promote know-how through better research and extension services.

The foundations of producer organizations are still fragile in post-conflict Burundi, where the repeated conflicts have fractured the social capital and undermined trust within and between communities. So far, they only exist in the coffee and tea subsectors, where donors pushed for their creation to better prepare the execution of the privatization agenda. As the latter envisaged transferal of some property to farmers, it was necessary to set up organizations to represent producers' duties and rights and voice their wishes and claims. In the other agricultural subsectors, where there is no such agenda, it will be important to create similar associations. As producer organizations are the main recipients of investments, their representation and capacity will be vital. Producer organizations will need to be transparent, accountable and commit to communicating with all producers on a regular basis. To ensure that these organizations make a difference for farmers' welfare, it is crucial to build and strengthen their capacity, notably in the areas of management, marketing and negotiation. Reaching out to international audiences and communicating with all stakeholders of the sector are major challenges for these associations, which must plead effectively for their members' interests and actively seek new market opportunities.

Research and extension services will also be significant for the recovery of agriculture. It will have an impact on all aspects of competitiveness—improving yields and volumes, enhancing quality and price, and reducing production cost. This would, however, require high investments in education, in particular in vocational training, and building confidence between public and private service providers and the recipient producers.

Investment in Physical Capital to Intensify Agriculture Production. Large investments in physical capital are needed to ensure sustainable intensification of agricultural production.

Burundi needs to improve the conservation and management of soil and water. Sustainable intensification of the food crop subsector will not be possible without improvements in the natural resource base. Given the high rate of land degradation, accelerating soil fertility losses, limited area under irrigation, and low use of improved water management practices, there is an urgent need to scale up investments in the conservation and management of land and water resources. To reverse soil losses and declines in soil fertility, efforts should focus on improving water conservation and management technologies and practices as well as soil conservation and management practices. A couple of small scaled irrigated projects have been developed in horticulture and there is a huge demand to develop more. Given the cost associated with infrastructure irrigation and Burundian budget constraints, it is important to promote those investments that are economically viable and appropriately targeted in terms of location and scale.

In a context of recurrent conflicts, the provision of infrastructure services has been obviously deficient. Given its financial resources, landlocked location, and mostly rural nature, Burundi has encountered even greater difficulties in developing effective infrastructure services. As revealed by chapter 5, the short-term priority is to strengthen the rural road network to access markets for inputs and outputs. Better transport services will increase food crop competitiveness by improving their cost structure and ensuring quality and freshness, with the latter potentially increasing selling prices. The next urgent step would entail adding value to agricultural production by developing processing. This would necessitate rationalizing energy production and distribution.

Recommended Interventions. Government of Burundi could start re-building its human capital by supporting the creation and strengthening of producer organizations and the reinforcement of research and extension services through technical assistance lending. Setting up and strengthening producer organizations would be based on the principles of representation. Building capacity for these associations should focus on management, marketing and negotiation skills. Government of Burundi could also use supports from International Financial Institutions to help producer organizations become stakeholders in the coffee and tea subsectors, where the pending privatization should be finalized shortly. To strengthen communities, the Government could also support substantial investment in physical capital that would alleviate the main bottlenecks in the provision of infrastructure services, and water and soil management. Sector investment lending could help realize the most urgent investments needed in water and soil management and other critical physical capital to intensify agriculture production in a long-lasting manner. Other interventions could address the transport network by designing and implementing a lending investment to support the construction, rehabilitation, and maintenance of roads, with a priority to the rural network. Importantly, such interventions are labor intensive and would

thus generate wage employment with multiplier effects. The Government could also focus on developing generation of another 10MW, lowering what is a currently a major impediment to the development of processing activities and also creating new job opportunities.

Pillar 3: Develop the Private Sector throughout Agriculture Value Chains

The government needs to design and implement a sound privatization strategy for the coffee and tea subsectors. The objective is not only to increase private sector involvement in the economy, but also to enhance its contribution to shared growth. Therefore, privatization schemes should target potential investors who bring, in addition to cash, better management and privileged access to the best available know-how, technologies, and equipment. In post-conflict Burundi, it is also crucial that privatization schemes, as any other reform, are tailored to ensure fair distribution of wealth along the supply chain. The Government also needs to promote a favorable business climate and access to finance to unleash small entrepreneurship in agriculture-related activities.

Cash Crops and the Poor Involvement of the Private Sector. The following sections describe the current performances of coffee, tea and horticulture and discusses the challenges facing these sectors in becoming significant contributors to growth.

Coffee. In 2005/05, Coffee was grown on over 70,000 hectares by small-scale producers. Production levels vary considerably from one campaign to the next—6,334 tons in 2005/06, 36,600 tons in 2004/05 and 5,673 tons in 2003/04 according to the parastatal OCIBU. These changes are beyond cyclical variations and reflect both unreliability of production and smuggling to neighboring countries such as Rwanda, where prices are much higher. Yields are amongst the lowest in the sub-region and quality is declining sharply. Producer prices have also remained the lowest in the sub-region over the last four decades. In 2005/06, the price for cherry coffee was about 200 FBU per kilogram.

Given that the sector has benefited from the largest public investments, this performance in mediocre. Burundi's coffee industry is managed by the largest parastatal in the country and was endowed with 136 washing stations and four dry mills many years before neighboring countries. Burundian coffee is solely sold on commodity market despite considerable changes in market trends and the growing importance of the specialty and gourmet segments. Although two small dry mills are owned by private stakeholders, the private sector is only present in the export activities through the ABEC, which is reported to create no value added. The overall management of the industry has been highly contested for decades and explains the consensus around the necessity to privatize it.

It is urgent to improve coffee's contribution to growth, and therefore to increase its competitiveness. Coffee production should now target not only commodity markets but also niche markets. Demand standards and norms are easier to satisfy for commodity markets, which require cost competitiveness, but structural constraints impede Burundi's cost competitiveness potential. Indeed, the country is landlocked and over 1,000 kilometers separate it from the eastern ports. It is also vital to stimulate employment in the sector.

Burundian performance in commodity markets would improve if owned and managed by private investors with the knowledge, business conduct, and financial capacity to increase sector competitiveness. Such investors would not only bring cash, but also promote best

practices to manage costs, define sales strategies, and improve yields to produce larger volumes. Given the high volatility of commodity markets, it is essential that these investors are able to use the wide range of contracts available on these markets either directly or through the different types of brokers, traders, and other intermediaries.

Demand in niche markets is narrower and requires developing market intelligence and efforts to improve quality and transparency. It is crucial to target these markets because they offer a more favorable price to producers and don't entail severe cost-competitiveness. This strategy is also a way of seizing opportunities offered by the development of fair trade, which values producers from fragile states. Burundi's history could become an asset in accessing these markets. Finally, the country benefits from optimal agro-ecological conditions for the production of high-quality coffee that is in high demand in fair trade and other niche markets.

Tea. Tea is produced in five regions by estates and smallholders. Most production, transformation, trade, marketing, and regulatory aspects of the industry are handled by the parastatal Office du Thé du Burundi.

Between 2001 and 2006, average tea production amounted to 7,500 tons. Two thirds were produced by the smallholders and the remainder by the state's companies. Average green leaf yields were about 4.0 tons per hectare for the smallholders compared to 4.8 tons per hectare for the factory estates. The average earning for a Burundian tea grower in 2006 was about $46.

Despite changing world market conditions such as declining prices, demand for quality differentiation, and competition from man-made beverages (especially soft drinks), the structure of Burundi's tea industry has remained largely unchanged since its inception. The sector faces numerous constraints, including structural inefficiencies of the tea factories and plantations, poor incentives to smallholders and estate laborers, limited use of inputs and extension services, and non-existent research. In addition to their sub-standard equipment, Burundi's tea factories are using only 41 percent of their installed capacity versus 70 percent for best practices. Yields of made tea (the finished product) of one ton per hectare are less than half of the regional well run plantations. Incentives to smallholders and estate laborers are very poor while the use of inputs (especially fertilizer) is very limited. Research and extension services are non-existent. These constraints have led to a considerable decline in the quality and the price of Burundian tea. For example, during 2005 and 2006, Burundian tea was traded with a 30 percent discount over Kenyan tea at the Mombasa tea auction where most East African tea is traded. These constraints need to be addressed if the sector is to avoid facing further difficulties that could lead to its demise.

Government needs to commit to deep policy reforms and targeted investments to reverse the industry's deteriorating state. In the very short run, the management of the tea factories should be contracted out to professional entities and an agency should be set up to undertake regulatory responsibilities. Then, the property of the tea factories should be transferred to private companies with the ability to bring cash, better management and privileged access to know-how, technologies and equipment.

Horticulture. The horticulture sector remains weakly developed to this day. Horticulture exports, which managed to reach 1,100 tons in 1993, have since been hovering at less than 100 tons per year and are confined to passion fruit, roses and other ornamental plants.

Three obstacles impede the development of this sector: (i) lack of market intelligence, which has led to a weak strategic positioning on horticulture markets. For instance, Burundi

exports a small amount of manioc leaves, apple-bananas, or okras, despite the high value-added of these products on some fair-trade, organic, or ethnic markets; (ii) low awareness of international norms and standards related to quality and hygiene and to the difficulties Burundi is experiencing in conforming to them; (iii) weakness of infrastructure—air transport. To export perishables to European or Middle-Eastern markets it is essential to command the means of delivering these products in a timely manner while preserving their freshness. However, the currently available option of resorting to passenger flights to transport horticulture produce is ill-adapted. Air companies allocate cargo space to passengers' needs first and will only devote remaining room to commercial products. Moreover, they do not have the required equipment for handling and storing perishables to preserve their freshness and appearance.

In the medium-run, Burundi has the potential to become a key actor in the high value-added fair-trade, organic, and ethnic markets. To achieve this, the above constraints need to be lifted. The implementation of capacity-reinforcement programs could help develop market intelligence and stimulate the diffusion and adoption of Good Agricultural and Manufacturing Practices. Burundi also needs to adopt international norms and standards that are a binding constraint to accessing these markets. Finally, the development of charter flights especially dedicated to horticulture freight would solve the air transportation issue. However, high-value horticulture exports will need to reach a critical volume in order to profit from such a costly strategy.

The development strategy of the horticulture sector in the short and medium-run should: (i) foster market intelligence and related skills in Burundi; (ii) target close markets with more flexible norms and standards, such as those of the Middle-East or of the East African sub-region; (iii) focus on goods such as apple-bananas, passion fruit, or cherimoya, which have already reached a certain level of production so as to cover charter costs.

Setting up solid support institutions will be indispensable to the development of the horticulture sector. They should foster circulation of information throughout the value-chain and facilitate the design, at the industry-level, of future strategies.

Privatization of the Coffee and Tea Subsectors. Coffee and tea production concern nearly 850,000 households in Burundi. Therefore, in the short run, it is very important to stimulate these subsectors to become much better contributors to growth. Recent evolutions in market trends suggest that these industries could actually become significant contributors to growth provided radical changes are undertaken in management and infrastructures. Given Burundi's scarce resources, large investments would have to be undertaken by the private sector.

The privatization processes of the coffee and tea subsectors should not solely encompass a transfer of property from the public to the private sector, but ensure that this property transfer is a means of improving the sector's competitiveness and of contributing to shared growth. The privatization of each subsector will therefore require to:

- identify the market structure that will lead to the greatest efficiency;
- specify competition rules that will govern the organization of the market structure and the deregulation process that will lead to this market structure;
- detail the modalities of the property transfer from State to private investors.

International best practices also suggest that privatization should be schemed on a case-by-case basis. Coffee and tea in Burundi seem to have high potential on both the com-

modity and specialty markets. A discriminatory approach enabling the full benefit of the potential of these two markets would suggest bringing in investors with different profiles. In the case of coffee, for instance, the development of a specialty market could be undertaken by small entrepreneurs or producer organizations, while penetrating the commodity market may entail much larger investors. Indeed, specialty-coffee buyers value putting a face on producers, whereas the commodity market is mainly driven by cost-effectiveness.

The privatization agenda of tea is not as advanced as that of coffee, where implementation already provides interesting lessons, including on the prevention of conflict. It is now clear that privatization processes must be designed in a way to mitigate risks of rent-seeking. Their efficient implementation requires the creation of forums of discussion that would enable the Government to hear all stakeholders' preoccupations and to address them through the promotion of processes likely to gather the assent of the majority. It is particularly important to ensure that equity principles are respected and that the long-flouted rights of coffee growers are heard and taken into consideration. While the objective is clear, developing these processes of consultation has not been seen as a priority action by the Government. Yet, our work suggests it to be a precondition, which should be initiated from the outset for successful privatization.

Developing Small Entrepreneurship in Horticulture. Increasing the contribution of horticulture to growth will involves a much different approach, as there is no public asset to privatize. The objective here will be to foster small entrepreneurship by improving the business climate and access to rural finance.

Burundi is ranked 166 out of 175 countries in terms of the business climate (Doing Business 2007), and major reforms are required to improve this environment. To improve the judiciary and regulatory framework, the country needs to: (i) clarify business law and administration regulation in order to avoid provisions open to interpretations or discretionary decisions; (ii) reform the judiciary system to reduce excessive procedure delays in commercial courts and promote mediation as a means of settling trade-related disputes; and (iii) simplify formalities and diminish the costs of setting up a business.

Incentives to invest will be enhanced by: (i) guarantees provided to domestic and foreign investments; (ii) a restricted access to fiscal privileges, which should be granted on objective and non-discretionary criteria; and (iii) the shortening of agreement timeframes. Reshaping the fiscal system to foster the creation of small businesses (or to attract them out of the informal sector) is also a key strategy in trying to reinforce the contribution of the rural sector to growth. In addition to improving access to credit, such a policy can generate a significant employment increase. Finally, more efficient support institutions to the private sector could be achieved through the introduction of elements of private sector management models (such as linking part of the staff's remuneration to performances), which is likely to generate rapid results in the effort to stimulate the private sector.

Improving access to rural finance would imply strengthening microfinance institutions (reinforce accountancy, financial management, procedures, etc) as well as the microfinance supervision department at the Bank of the Republic of Burundi (BRB).

Recommended Interventions. Looking forward, the Government needs to establish a framework to develop the private sector. In the coffee subsector, Government does also needs to develop options to rapidly bring in private actors with the ability to realize the investment in human and physical capital needed to turn the sector into a better contrib-

utor to growth. In the tea subsector, the short-term objective would rather be to outsource the management of the four factories to increase investor willingness to pay for future privatization. In both cases, the use of MIGA guarantees could help to reduce risks perceived by foreign investors and increase their appetite to enter the markets.[2] To be effective, such guarantees should be advertised early in the tender process.

Horticulture presents very different issues because the subsector is growing and there are no assets to transfer to the private sector. The Government could use financial support from International Financial Institutions to develop small entrepreneurship through pilot programs in the coffee, tea, and horticulture subsectors. These programs could involve investing in small infrastructure, market intelligence, and transfer of knowledge and skills.

Doing business remains costly and risky in Burundi. It is important to improve the legal and regulatory framework and reduce costs while increasing availability of production factors. Government of Burundi could require assistance to carry out a comprehensive analysis of its financial sector and identify main vulnerabilities and needed reforms.

2. MIGA is eager to promote its products in post-conflict countries. In Burundi, MIGA has not been doing any business yet. Therefore, it could provide guarantees for foreign investments for over 400 million dollars. Such guarantees could be offered to any international investor with no minimum requirement on the size of investments. Importantly, local investors are not eligible for these guarantees.

CHAPTER 2

Burundi's Growth

The Need for Long-lasting and Stable Performance

By Jean-Pascal Nguessa Nganou, Quentin Wodon, Jean-Paul Zoyem, Eric Mabushi, and Ephraim Kebede

In the 40 years of cyclical violence, economic growth has remained well below the SSA average, and Burundi is now the third poorest country in the world. In 2005, real per capita GDP dropped to $105, a level that had not been recorded since the mid-1960s.[3] If trends persist, Burundi will need 225 years to reduce its poverty by one-half. The status quo is unacceptable, and it is essential that the Government drive the changes needed to achieve sustainable growth.

This chapter provides an overview of past and current macro growth trends and describes how the poverty profile should influence policy reforms. The macroeconomic analysis identifies past sources of growth, binding constraints, and the way forward, while the poverty analysis discusses the relationship between agriculture—the main contributor to growth—and poverty alleviation. It is widely acknowledged that unless policies are explicitly pro-poor, they benefit mostly the elite.

The weakness and volatility of Burundian growth can be partly attributed to the very high dependence on coffee. Although the subsector benefited from most of the public investments, its performance has been mediocre. The country's economic development was also strongly hampered by recurrent conflicts that had devastating consequences on national resources, human capital, and social cohesion. These problems were further worsened by the State's fragility, political instability, and the administration's weak capacity to manage and develop the domestic economy. This chapter suggests that full attention should be given to the need and means to reinforce and diversify sectors contributing to growth in a way likely to mitigate the risk of conflict.

3. All dollar figures are in US dollars.

Understanding Burundian Growth Patterns[4]

With a population of about 6 million distributed over 27,834 square kilometers, Burundi has one of the highest population densities in Africa. The country is landlocked and thus depends on the extremely degraded road and rail infrastructure of its neighbors to conduct international trade. Since independence in 1962, ethnic and political feuds and a number of other factors have led to five wars (in 1965, 1972, 1988, 1991, and 1993) involving the two main ethnic groups. Estimates suggest that over the last four decades, over 500,000 lives have been lost, and hundreds of thousands of Burundians have been uprooted by the violence, fleeing to neighboring countries. Against this challenging background, the real GDP growth rate in Burundi has followed a downward trend. Moreover, growth has been quite volatile, and the average level has fallen well below that needed to reach the Millennium Development Goals (MDG).

Despite the sporadic civil unrest of the 1970s and 1980s, GDP grew at a higher rate during these two periods. However, Burundi's recent economic performance has been sluggish and unstable. GDP growth averaged 4.3 percent and 4.5 percent, respectively in the 1970s and 1980s, but declined in the 1990s by an average of 1.4 percent. From 2000 to 2005, annual GDP growth was only 1.7 percent—far too low to improve living standards for a population that has been expanding at an annual rate of 2.8 percent during the same period. Per capita income today is at a level 17 percent lower than the level in the 1970s, having declined from an average of $130 in during the 1970 to 1979 period, to $108 during the 2000 to 2005 period.[5]

Burundi's growth and agricultural performances have been dismal compared to other African countries. Despite agriculture's large share in terms of GDP and employment, agricultural productivity has been volatile and the lowest when compared with the G-11 and SSA countries. In 2000, per capita agricultural productivity stood at $97 in Burundi and averaged $317 in SSA. While Chapters 2 and 3 identify sector-specific factors in low weak agricultural productivity in Burundi, it must be noted that political instability and rainfall dependency also play an important role.

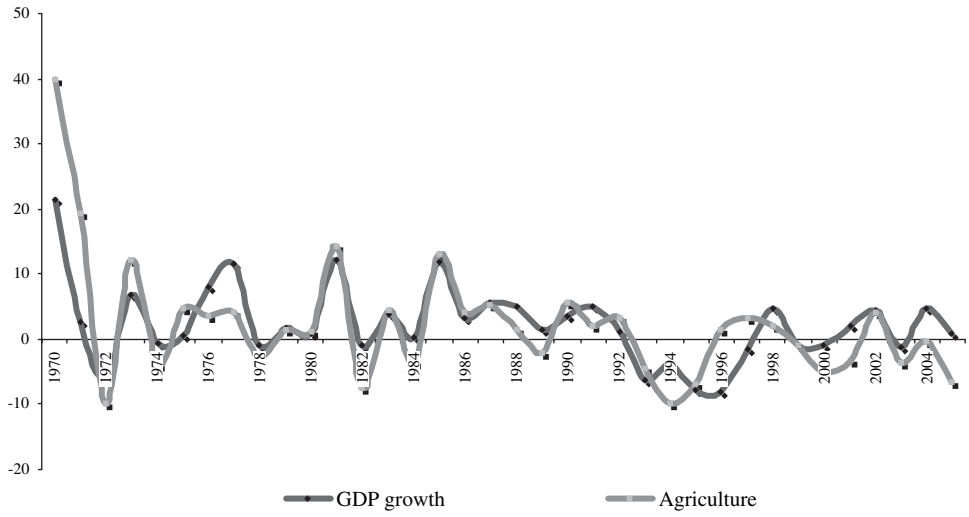
Burundi's growth potential has yet to be explored and is mired by dynamics that limit the country to low and transient growth equilibrium. Accelerating growth and engaging in a structural transformation process will necessitate unraveling these self-reinforcing mechanisms. This could be done by changing the composition and level of public investment and by providing public services that will enhance performance. Diversification into new sources of growth within the agricultural sector and across sectors (industrial and services) would also play a key role. While this remains a big challenge given the country's lack of physical and human capital, expanding sources of growth will be essential in enhancing the export sector.

Investment in infrastructure should create the conditions necessary to improve market integration and spur higher rates of growth. A growth strategy in Burundi will also require addressing issues with potential to enhance the private sector. Three areas are noted here—better understanding of the dynamics that will create development in the agricultural sector (including risks to farmers); improving the environment for private sector development; and

4. This section summarizes a background report by Jean-Pascal Nguessa-Nganou (Economist, AFTP3, World Bank), Eric Mabushi (Economist, AFTP3, World Bank) and Ephraim Kebede (Economist, AFTP3, World Bank). Sources of Growth in Burundi: A Macroeconomic Perspective. June 2007.

5. All dollar figures are US dollars.

Figure 2.1. Agriculture and Real GDP (annual growth rates, 1970 to 2005)



Source: World Bank, World Development indicators

tapping high-potential areas through major investments. Increasing the effects of a growth strategy can be attained through sound macroeconomic policy reform. In the initial stage of a long-term growth strategy, given the limited resources available, scaling-up foreign aid will have a significant role, as will strong partnerships with the private sector Burundi's economic performance since 1960.

Burundi's economy and performance can be categorized into four periods driven largely by politics.

1962 to 1972—Initial Progress until the 1970s. Burundi's economic performance was noteworthy at the beginning of its independence, but began to weaken as political instability spread in the early 1970s. After Burundi gained its independence in 1962, real GDP grew by an annual average of 6.4 percent until 1971. During the 1962 to 1972 period, per capita income growth averaged only 2 percent per year, with the biggest decline (minus 7.1 percent) observed in 1972. The sluggish growth during this period was mainly due to a drop of value-added agriculture and poor productivity in other sectors. In 1972, devastating civil strife that claimed up to 300,000 lives drove the economy down by about 7 percent. The loss of lives followed by massive displacement of people could have been the major factors that lowered productivity and output, particularly in the agricultural sector. Lack of adequate capital inflows (probably due to conditions following the departure of the Belgians) could also be sited as one of the constraints to investment and growth.

1973 to 1991—Less Political Tension and Modest Economic Growth. The period from 1973 to 1991 was somewhat serene despite the fatal domestic conflict in 1988. This period was mainly characterized by increased investments, which doubled from an average of 6.3 percent of GDP in 1962 to 1972 to an average of 13.8 percent of GDP in 1973 to 1991. Most of this investment was financed by external resources because ODA also increased from an aver-

age of 3.3 percent of GDP to 17 percent and average gross domestic savings were only 2.6 percent of GDP. Although Burundi's economy grew at an average rate of 4.1 percent, this period (particularly the mid-1980s) was marked by increasing debt and resource mismanagement. For instance, in 1972 external debt as share of GDP was only 2.8 percent, but in 1991 it reached 82.5 percent. Burundi adopted a Structural Adjustment Program (SAP) in the late 1980s to try and manage its high external debt. In 1988, the conflict between the army and Hutus left 5,000 to 20,000 people dead and 60,000 more fled to Rwanda, leaving the economy, particularly the agricultural sector, unstable and frail.

1992 to 1999—Overt Civil War and Low Economic Performance. Armed conflict after the assassination of President Ndadaye in 1993 left tens of thousands massacred and close to 2 million displaced or fleeing to Rwanda. In 1995, sabotage caused protracted power cuts in Bujumbura and other urban areas of the country. This had severe consequences for the economy. Due to the power shortage, several industries were disrupted or stopped production. In 1995 alone, industrial output fell by 16.6 percent, agriculture by 6.8 percent, and services by 3.6 percent, while aggregate GDP fell by 7.9 percent. The government was severely affected because it was earning a large share of its tax revenue from the industrial sector.

The second coup staged by Pierre Buyoya in 1996 prompted the international community to impose an economic embargo on Burundi. GDP fell by about 8 percent following a about a 17 percent decline in service sector output. Between 1992 and 1999, Burundi's franc plummeted by an average of 15.6 percent, and inflation rose to an average of 22.9 percent (with the highest rate of 31 percent in 1997), while GDP fell by an average of 5.3 percent. In 1999, external debt reached 140.4 percent of GDP, which is about 23 times higher than its level in 1970 or about eight times higher than its level in 1980. Poverty reached a peak. The continued sanctions, civil war, internal population displacement, a military budget that consumed about one-half of government spending, and the absence of foreign aid, (which in the past was the main means for tackling Burundi's balance of payments), were the main factors that severely harmed the Burundian economy during 1992 to 1999. During the sanctions period, Government instituted fuel rationing. The considerable rise in oil prices led to irrepressible expansion of illicit trade.

The exchange rate was overvalued by about 80 percent, and the gap between the official and parallel market was larger in the 1990s than at any other time. In the absence of a well-established and regulated financial system, this created opportunities for arbitrage and rampant corruption.

2000 to 2006—Transition, Reform, and Rehabilitation. Major conflicts subsided in 2000, following the peace agreement signed in Arusha, and the country entered a period of transition, reform, and rehabilitation, both politically and economically. Since then, the government has carried out a number of policy reforms, among which stabilizing the economy and promoting recovery were the main priorities.[6] In 2004, real GDP grew at a relatively

6. The World Bank supported the government's initiative and provided a $35 million emergency economic recovery credit, the main objectives of which were to improve access to foreign exchange for the private sector and provide counterpart funds to support increased social sector expenditures. Privatization was another objective of the Government, and the companies that it considered selling are the telecommunications company (Onatel), the cotton manufacturer (Cotebu), the energy parastatal (Regideso), and the tea marketing board (OTB)

stronger of 4.8 percent, driven solely by the service sector (which grew by 14.4 percent) as both the agricultural and industrial sectors fell by 0.2 percent and 6.2 percent, respectively.[7] Once the economic embargo was lifted in 2001, donor-funded reconstruction activities increased significantly. While Bujumbura (which has an historic position as a regional trading hub) and other urban areas benefited from peace, the wholesale and retail subsectors expanded considerably. Although Burundi has been more or less politically stable since 2000, agriculture performance continued to be unimpressive and fell by 6.6 percent in 2005, partly because of the adverse weather conditions for food crops but also because of structural constraints, including highly fragmented land ownership, declining soil productivity, and a lack of inputs. It is, therefore lack of improvements in the agricultural sector that constrained real GDP to grow to a mere 0.9 percent in 2005, despite improvements in the manufacturing, construction, and trade subsectors.

Determinants of and Constraints to Growth

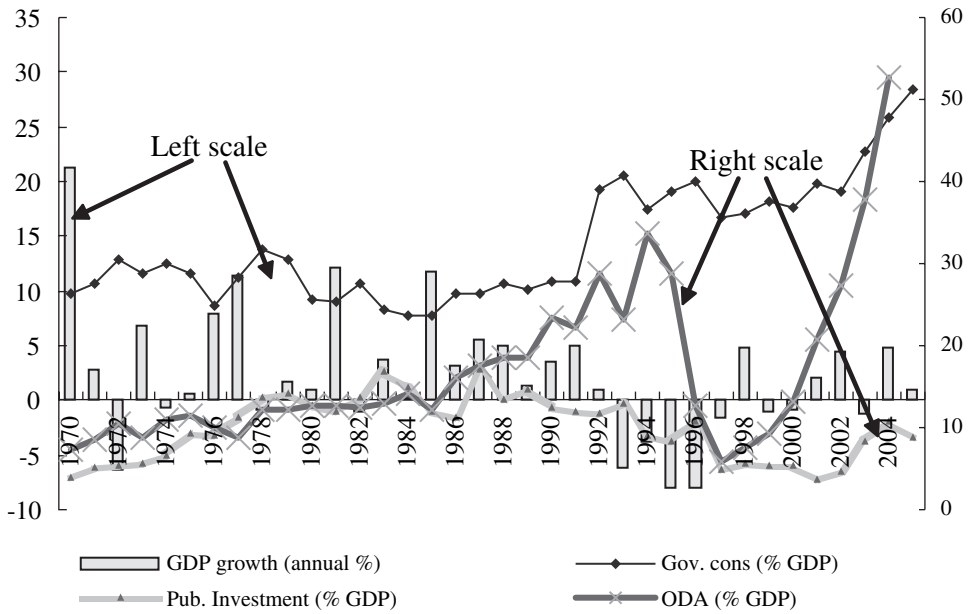
Burundi's experience in the 1970s and 1980s suggests that the country is capable of attaining accelerated economic growth. Nevertheless, this economic activity was not sustained and was even very volatile during the same decade due to political instability and poor economic policies, characterized by restrictive fiscal and trade policies, monopolistic public enterprises, and improper public expenditures that failed to increase the country's productive or absorptive capacity (Figure 2.2). A donor-imposed embargo should also be noted as one of the factors that affected Burundi's economic performance. In the first few years of the 2000s, Burundi experienced short-lived economic growth boosted by a significant increase in external aid, yet per capita GDP growth was extremely low and even dropped to negative in more recent years.

Savings and Investment Rates in Burundi Are Very Low. Gross investment in Burundi has averaged around 9 percent of GDP, while savings stood at minus 10 percent of GDP. The dismal savings rate indicates that the recent expansion of investment was to a large extent driven by external financing, possibly in the form of aid. Burundi's investments are entirely driven by the public sector. Movement of public investments drove the entire pattern of total investments during the 1980 to 2005 period, while investments in the private sector stayed sluggish. It is, however, important to note that the past few years have witnessed an increasing trend in the private sector investments, from about 6 percent of GDP in 2000 to 12 percent in 2005. This is an encouraging indicator, albeit still very low. In 2005, gross fixed investment in Burundi stood at 11.8 percent of GDP. For the private sector alone, in 2005 gross fixed investment was only 3 percent of GDP, while in Rwanda and Uganda it was 12.2 and 17.3 percent of GDP, respectively. This indicates that government investment has been four times higher than private sector investment.

To sustain even moderate growth, Burundi requires gross fixed investment rates comparable to those in Rwanda and Uganda (21 and 22.3 percent of GDP, respectively). The comparative figures for Asian countries with high and sustainable economic growth rates are 42.3 percent for China, 28.1 for India, and 33.1 for Vietnam. Foreign direct investment, on the other hand, has been disappointing. FDI inflow to Burundi has never exceeded 2 percent

7. It is also clear that the peace agreement between the Government and the main faction of the CNDD-FDD has contributed significantly.

Figure 2.2. GDP Growth, Government Expenditures, and ODA, 1970 to 2005



Source: World Bank, World Development indicators

of GDP, suggesting that the business climate that is vital for structural transformation needs substantial enhancement. In addition to political and macroeconomic instabilities, lack of adequate human capital accompanied by poor infrastructure is a major constraint in deterring FDI inflows.

Investment productivity has been very poor in Burundi. During the past few years the incremental capital output ratio (or ICOR)[8] for Burundi varied widely from year to year. For instance, in 2005 the ICOR for Burundi was in the range 14 to 15 while in the previous year it was in the range 2 to 3.[9] The ICOR of 14.8 for 2005 indicates that about $15 of gross investment has been needed per $1 of extra output. This is almost triple the investment required in Rwanda and Uganda, with corresponding figures of 3.2 and 4, respectively. The worrisome aspect is that this number has been rising, which means that capital efficiency is falling and therefore Burundi has to employ more capital to generate the same level of growth. One of the reasons for this decline could be the increasingly dilapidated nature of Burundi's infrastructure that makes it harder for businesses to operate efficiently.

8. ICOR measures the incremental capital investment required to generate an extra unit of output. It measures the capital efficiency of new capital investments. It is the ratio of the investment rate to the growth rate. For example, if the investment rate is 24 percent and the ICOR is 4, then the economy will grow at 6 percent. However, if the economy makes more efficient use of capital and has an ICOR of 3, then it takes only an 18 percent rate of investment to achieve 6 percent growth. ICOR can be thought of as a measure of the inefficiency with which capital is used. In most countries ICOR is in the neighborhood of 3.

9. For good performing countries, the (ICOR) number is generally in the 3 to 4 range.

A second reason could be mismanagement in the system. If we assume an ICOR of 4, it implies that for Burundi to grow at a significant level, say 8 percent a year, the country needs gross capital formation (GCF) to be approximately 32 percent every year. The number for Burundi in 2005 was 12 percent—a shortfall of 20 percent of GDP every year. In other words, Burundi lacks capital formation by about $160 million every year. Another interesting point is that the gross national savings in 2004 and 2005 were 5.2 and 0.4 percent of GDP, respectively. The public sector, which should have been the most aggressive driving force of Burundi's capital formation, is actually showing a lack of saving of 3.4 in both years. In 2005, Burundi received about $208 million (26 percent of GDP) of external flows in the form of grants and loans to the government and private sector. However, given the scale of the shortfall, these flows will simply not plug the requirement of the economy. It is also important to note that a significant share of the inflow goes to recurrent expenditures and does not contribute to filling the gap. Although external sources play a significant role in financing part of the investment in Burundi and are one of the preferred sources, the main funding should come from within the country. This could be done by promoting savings and adopting better capital utilization by the government, a reduction in fiscal deficits through increased profitability and higher savings among public sector units, and improving the country's revenue base.

Doing Business in Burundi Is Not Easy. According to the World Bank's Doing Business 2007 survey, Burundi is ranked 166 out of 175 countries.[10] The survey also reveals that starting a business in Burundi is relatively less complex, with the country ranked at 109. Burundi's worst performance is in dealing with licenses, for which requirements are much more arduous, taking an average of 302 days, placing the country at 164. The other worst scenario, according to the survey, is that getting credit is also difficult, mainly due to the unfavorable legal framework and the inadequate number of institutions offering the service. Businesses in Burundi are liable for 40 different taxes, with a total tax rate of 286.7 percent, placing Burundi at 123 in the world in terms of tax evasion. Burundi's external trade stance is the worst category of all, ranking the country at 171. While exporters need to have 12 documents before they can send their goods, 14 documents are required for imports. On average, it takes 80 days to export and 124 days to import. In such cumbersome procedures and costs, illegal trade across the border is inevitable.

Government Consumption in Burundi Is the Highest by International Standards. Public consumption, which stood at an average of 11.5 percent of GDP in the 1970s, has slightly declined in the 1980s to an average of 9.3 percent; it then increased by about 7 percentage points to 17 percent of GDP, and in the period 2000 to 2005 it further increased to 22 percent of GDP. Government consumption as a share of GDP in Burundi is the highest when compared to G-11 and SSA countries. In the past few years, public expenditures increased while revenue remained almost constant. This indicates the need to increase public resources as government revenues have come under pressure and have even decreased as a proportion of GDP. This is not only because of the decline in ODA and the uncertain and often volatile nature of external capital flows, but because macroeconomic and trade policy reforms in Burundi may tend to reduce tax revenues.

10. The world's worst place for business is the Democratic Republic of Congo (DRC).

Aid Flows and Economic Growth in Burundi. The past few years have witnessed unprecedented levels of aid flows to Burundi, an increase from 156 percent of gross capital formation (GCF) in 1999 to 387 percent in 2004. Foreign aid dropped slightly in recent years, both as a share of GDP and investment. For instance, in 2005 ODA as a share of GDP was 45.6 percent, while in the previous year it was 54.4 percent (down by about 10 percent of GDP or $80 million). Nevertheless, ODA is still the main source to finance a significant proportion of the government deficit or even the balance of payments deficit. ODA can reduce three gaps that keep domestic investment and growth below potential—savings, foreign exchange, and the fiscal gap. Foreign aid that fills the gaps can be very important for Burundi, especially when private investment is very low and public investment is intended to generate higher aggregate economic growth in a stable way; otherwise, such investment could lead to balance of payments problems or cause domestic inflation where there are domestic supply constraints. It effectively amounts to an addition to domestic savings and allows government to spend more than the revenues raised through taxation and other means. Thus, it allows for more accumulation through public investment in critical areas, including infrastructure and social sector spending with future social productivity implications, such as in health and education.

Aid and Dutch Disease in Burundi. Aid inflows can also create problems such as putting upward pressure on exchange rates, which can then shift domestic incentives away from tradeables to non-tradeables if domestic relative prices move in response. Therefore, if ODA is used to increase public investments in important areas to ease supply constraints and improve aggregate productivity, it will not be inflationary and can have expansionary effects. These effects could spill over into positive balance of payments effects through more exports or reduced imports. It is important to ensure that ODA translates into higher public investments, preferably in areas where there are shortages or which constrain production, or in areas where existing levels of provision are socially sub-optimal.[11]

The so-called Dutch disease is when real exchange rates appreciate in relation to their effect on the market of tradeables. Our analysis indicates that the government now needs to be vigilant about the potential consequences of aid inflows related to macroeconomic management associated with the appreciation of aid and an increased inflation rate.

Burundi Has a Higher Debt-to-GDP Ratio than the SSA Average. Burundi owes about $1.4 billion to its external creditors. External debt rose at an average of 36.4 percent per year during the 1973 to 1988 period, while in more recent years (2000 to 2005) it grew by only 4.3 percent. High external debt depresses Burundi's investments and lowers economic growth. In 2005, the external debt-to-export ratio stood at 1,422.8 percent. Even with the help of debt relief, it is difficult to suggest that Burundi will reach its global poverty reduction goals. Burundi is one of the Highly Indebted Poor Countries in the world—its external debt has changed significantly in magnitude, structure, and composition over the last few decades. In 1970, it stood at about $15 million, equivalent to 6.2 percent of GDP, and $166 million in 1980. At the beginning of the 1990s, this figure had increased to $907 million, which is equivalent to about 80 percent of GDP. In 2005, Burundi's external debt reached its highest ever level of $1.4 billion, an equivalent of 208.6 percent of GDP.

11. The upcoming PER will address some of the issues that are related to aid efficiency and social expenditures.

Credit Availability to the Private Sector Has Been Relatively Good Compared to Other African Countries. Furthermore, despite the recent surge of aid, provision of credit to the private sector has been increasing, from an average of 18 percent of GDP during the 1995 to 1999 period to 25 percent of GDP during the 2000 to 2005 period. The increase in domestic credit to the private sector has also been reflected in the development of private investments. Meanwhile, credit access to the private sector seems to be unevenly distributed among various sectors. In fact, as reported in the recently published Government poverty reduction strategy, lack of access to credit remains as one of the main obstacles to agriculture growth. The government's commitment to improve farmer access to credit is worth mentioning. During his end of the year address to the nation, the Head of State said the government's immediate plan to move ahead with privatization of several state corporations and radical reforms in the banking subsector is a deliberate effort to promote microfinance and give greater loan access to disadvantaged groups. In the context of the Burundian economy, such moves or policies need to focus on promoting development of a range of financial intermediaries to meet the specific demands of a broad spectrum of clients such as farmers, agribusiness industrialists, and other rural sector businesses.

Changes in Growth Structure

The Sare of Agriculture in GDP Has Dropped Significantly Since 1970. In recent years, the service sector has become one of the mainstays of the economy, accounting for about 45 percent of GDP in 2005. The sector has continued its impressive growth since 2000, recording growth of 14.4 percent in 2004 and 10.6 percent in 2005. The service sector contribution doubled during the 1970 to 1979 and 2000 to 2005 periods, from 21 to 42 percent of GDP, respectively (Table 2.1). On the other hand, the share of agriculture in GDP has fallen by more than 26 percentage points. The industrial sector's contribution has also improved slightly by about 6 percentage points.[12] On average, however, over the entire study period (1970 to 2005), agriculture remained the dominant sector both in terms of its contribution to GDP and size of employment. The decline in agriculture's contribution to GDP is due to poor productivity, an effect of weather and periodic civil strife.[13] It is not plausible at this point to suggest that Burundi's apparent structural change will be sustainable. Although the service sector grew by an average of 11 percent during 2000 to 2005 (while the other two sectors performed poorly), the increase was largely due to a rise in public services and to a much lesser extent due to the transport and trade subsectors. Furthermore, the increase in service sector value-added could be driven both by relatively higher employment income and higher profits than those registered in the previous years.

12. Data on the sectoral share of GDP were obtained from the World Bank's World Development Indicators (2007), and computed by disaggregating the value-added by sector. Value-added was computed separately for each industrial sector, and the sums were then added to obtain the GDP figure. Thus, the figures for sectoral share of GDP may differ from other similar studies such as IMF (2006).

13. Undoubtedly, this results from a productivity decline in the sector, a direct consequence of a prolonged period of ethnic conflicts and military coups (1976, 1987, and 1993). The 1976 to 1989 period was marked by two military coups—in 1976 Micumbero, who came to power in 1966, was overthrown by J-B Bagaza, and the latter was removed by Pierre Buyoya in 1987. Moreover, 1988 was marked by ethnic clashes, resulting in several deaths in both main ethnic groups.

Table 2.1. Contribution of Three Sectors to the Economy, 1970–2005

Parameter	Agriculture	Industry	Services	Overall
Percent of GDP				
1970–1979	65.5	13.1	21.5	100
1980–1989	58.1	15.1	26.8	100
1990–1999	50.8	18.7	30.5	100
2000–2005	39.2	19.1	41.7	100
1970–2005	**53.4**	**16.5**	**30.1**	100
Growth rate (%)				
1970–1979	6.8	6.3	2.2	4.5
1980–1989	3.0	5.3	1.8	4.3
1990–1999	–0.4	–1.0	4.1	–1.4
2000–2005	–2.5	–6.2	2.8	1.7
1970–2005	**1.7**	**1.1**	**2.7**	**2.3**

Source: World Bank staff estimates using *World Development Indicators.*

Understanding Poverty to Better Design Reforms[14]

Throughout the past 40 years of cyclical violence, economic development in Burundi has been used to favor one group over another, leading to devastating consequences for national resources, human capital, and social cohesion. While designing a new growth strategy, full attention must be given to the county's poverty profile, which identifies specific vulnerabilities and potential opportunities that need to be considered to soundly tailor sector reforms. In this section, we review the main findings of Burundi's poverty profile and discuss the relationship between agricultural growth and poverty alleviation. A special emphasis is given to the analysis of farmers' main income sources, including coffee production.

For many years conflicts have displaced a large portion of the rural population and made it difficult to access seeds and other inputs, as well as destroyed important economic and social infrastructure. Livestock were looted or killed and crops were burned. Other factors also contributed to lower productivity, including land fragmentation, soil erosion as a result of overgrazing, chemical contamination (many fields are contaminated by high levels of iron and aluminum-based toxins), expansion to marginal lands, limited access to credit and financial services, and use of basic agricultural techniques. Some provinces have been hit by droughts in recent years. As a result, poverty is massive in Burundi and particularly widespread in rural areas, which account for more than 90 percent of the population according to survey-based estimates. Importantly, people in Burundi consider that maintaining peace is the number one priority for reducing poverty.

Broad Characteristics of Poverty

Poverty in Burundi Is Massive. New estimates of poverty based on the 2006 QUIBB survey suggest that nationally, some 66.9 percent of the population is poor, a very high level even in comparison to other post-conflict countries in Sub-Saharan Africa. On the basis of changes in per capita GDP over time, it is fair to say that today's share of the population in poverty is much higher than before the start of the conflict in 1993. According to a 2004 perceptions

14. This chapter draws from Quentin Wodon (Lead Poverty Economist, AFTPM, World Bank) and Jean-Paul Zoyem (Consultant, Casafrique) in Burundi's poverty profile, 2006.

survey, most individuals actually believed that poverty had increased over the previous five years, a feeling that was especially strong among the poor. For the future, perceptions were more balanced, but a large share of the population still remained pessimistic. These perceptions suggest that despite progress over the last few years in economic stabilization and recovery, this turn-around has not yet succeeded in making a large difference in the expectations of the population. Finally, growth scenarios considered for the next three to five years suggest that even with a growth rate in per capita GDP of more than 5 percent per year, which would be very difficult to achieve, Burundi would not be able to halve poverty by 2015.

Poverty Intensity Varies among Groups. Households living in urban areas whose head or spouse has a better education and who benefit from better employment are less likely to be poor or feel poor. There are also important geographic differences in poverty, with temporary migration associated with consumption gains, and much higher rates of poverty (and food insecurity) in the northern part of the country. In addition, when confronted with poverty or a shock, most individuals aim to increase their revenue by working more and also reduce their expenditures while trying at the same time to protect their few assets. But for some segments of the population, these coping strategies are not readily available. Even if a majority of the population can be considered as vulnerable in one way or another, special attention should be placed on: (a) children in difficult circumstances, including orphans, street children, children associated armed groups, and children in trouble with the law; (b) women in difficult circumstances, including teenage mothers, female-headed households with young children, and women who have been victims of the war and have lost most of their possessions; (c) people affected by HIV/AIDS; (d) the disabled, including physical, sensory, and mentally handicapped, and possibly the old who live alone; and (e) people who are internally displaced due to conflict.

The Lack of Employment for Youth Is an Important Issue in Burundi. Data from the QUIBB 2006 survey suggest that at the national level 23 percent of youth (individuals aged 15 to 24) have a job (see table 2.2). Among those working and living in a household in the bottom quintile of the distribution of consumption, three fourths (76 percent) are employed in agriculture (excluding export crops), while that proportion is 46 percent for those youth working and belonging to the top quintile of consumption. The second source of employment for youth is export crops, but only for 7 percent of the workers. In urban areas however, some 36 percent of the youth are working as domestics, nurses, drivers, and other similar low-skilled occupations. Virtually none of the youths that are employed benefit from a work contract, suggesting that youth employment takes place almost entirely in the informal sector. About a third of youths who are working are also studying, and the proportion is about half in urban areas. Yet there are also a large number of youths who seem to be inactive. Table 2.2 provides the shares of youths according to occupational status at the national level, in urban areas as well as in rural areas, and by quintile. As youths can combine work and study, the proportions add up to more than 100 percent. Yet the inactive category is defined as those youths who do not belong to any of the other three categories in the table. Thus, while about one fourth of all youths are working, and about one third are studying, the largest group is composed of individuals, who neither work, nor study (and who also do not actively seek work). Furthermore, only 6.2 percent of youths are heads of households, which suggests that probably in part due to a lack of resources due to limited employment oppor-

tunities, most youths cannot start a family and make it on their own without the support of their elders. Given the demographic transition taking place in Burundi, whereby the share of youths in the population is expected to grow in the future, policies to improve employment opportunities for this category of the population are thus extremely important.

Table 2.2. Occupational Status of Youths in Burundi, 2006 (percent)

	National	Urban	Rural	Q1	Q2	Q3	Q4	Q5
Studying	34,5	51,7	31,6	32,2	34,0	34,8	36,7	34,6
Working with paid job	23,2	15,5	24,5	26,2	24,1	24,8	20,4	21,4
Looking for work	6,7	8,7	6,3	9,5	6,5	7,1	5,6	5,2
Inactive (not in any of the above categories)	40,4	27,7	42,6	38,2	41,0	38,5	42,0	41,8

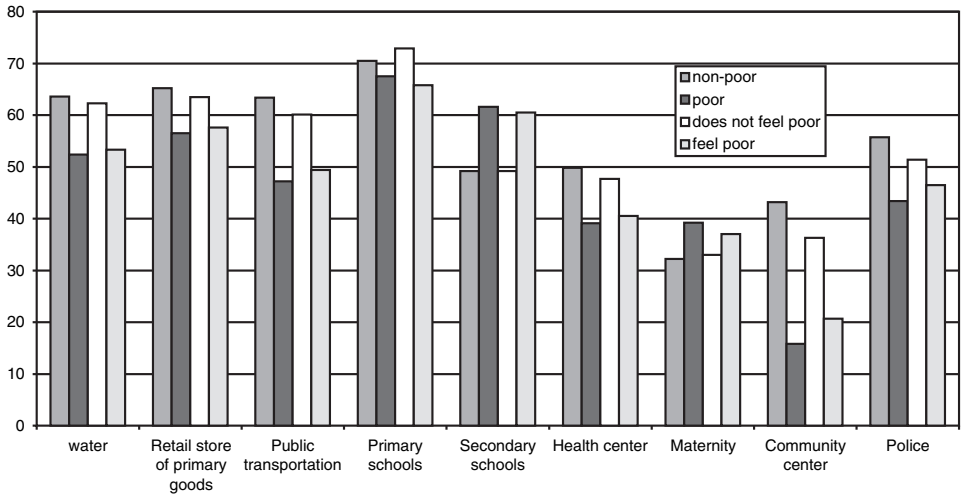
Source: World Bank staff using QUIBB 2006.

Satisfaction with Public Services Is Low. According to results from a 2004 perception survey, satisfaction rates with the quality of public services are low and lower among the poor than among the population as a whole (Figure 2.3). It is unlikely that this has changed significantly over the last three years. The only public services for which users express moderately high levels of satisfaction are primary schools, basic needs retail stores, drinking water, and public transportation. Satisfaction rates are low (below 50 percent), especially with respect to maternity, health centers, and community centers. Satisfaction rates among non-poor individuals are systematically higher than those among poor individuals by 5 to 15 percentage points on average, and satisfaction among individuals who do not feel poor is 5 to 10 percentage points higher than among individuals who feel poor. Part of the lack of satisfaction may be due to the high costs of using public services in most areas, including education and health. Affordability was cited as a key reason for not sending children to school, for example, and it is striking that the decision in 2005 to make primary public schools free has resulted in a dramatic enrollment increase. Apart from the issue of affordability, important questions should also be raised about quality, but for those who are excluded from the system, affordability is key. The findings for healthcare are similar to those obtained for education. Affordability also limits the demand for healthcare, especially because public funding for the sector is very low.

Ending the Conflict and Maintaining Peace Is the Number One Priority for Reducing Poverty. The various sources of evidence indicate that the population has been severely affected by the war, both in terms of past economic, social, and health effects, but also in terms of current psychological well being and perceptions of the future. The end of the war is one of the most frequently cited ways poverty can be reduced, and increasing security is one of the more frequently cited priorities for the state. Apart from providing security, the state should also devote its attention to education and health. The fact that communal and parliamentary elections were successfully held in June and July 2005, and that the presidential transition was also successfully completed in August 2005 with a new post-transition

Government taking office on September 1, 2005, are all positive outcomes that are very encouraging for the future stability of the country.

Figure 2.3. Satisfaction with Public Services Among Users, Burundi 2004



Source: World Bank staff based on 2004 Burundi perception survey.

Individuals Prefer that Their Communities Focus More on Encouraging Productive Activities than on Service Delivery (Figure 2.4). The provision of health, education, and security services is seen as the responsibility of the state. The population maintains that these priorities should be first and foremost to promote income-generating activities. This is in contrast to the actual priorities of communities as perceived by the population, where local authorities may place a higher weight on service delivery, especially water.

The Crisis in Agriculture Is Related to the Emphasis on Income-generating Activities. Many factors are at the root of the difficulties encountered by the agricultural sector, including the displacement of farmers, difficulties in accessing seeds and other inputs, destruction of important infrastructure, loss of livestock in the conflict, low productivity and land fragmentation, limited access to credit and financial services, use of basic agricultural techniques, and the fact that some provinces have been hit by droughts. Another major difficulty is the crisis affecting the coffee subsector, which is in need of reform. While the liberalization of the subsector is expected to increase the price paid to producers, it will also increase their risks. The following section discusses in a bit more detail the link between coffee production and the poverty status of households.

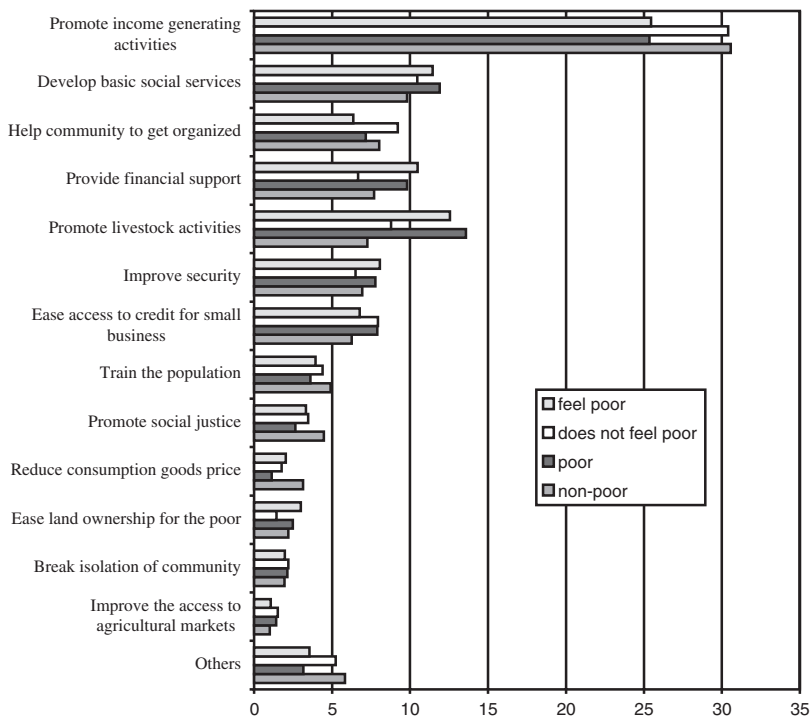
Agricultural Sector, Income Sources, and Poverty

While identifying ways to strengthen and diversify rural sources of growth, it is important to know poverty rates for different socioeconomic households. According to data from the 2006

QUIBB survey, more than 90 percent of the population in Burundi remains rural. This means that a majority of the households that belong to these various socioeconomic groups are in rural areas, except for skilled workers in the private formal and public sectors. Skilled workers represent less than 5 percent of the population and have the lowest poverty rate.

Overall, the poorest group is also the largest, households whose main source of income is food crops (poverty rate of 72.5 percent, with a population share of close to 40 percent). Households considered as inactive (no identified main income source) also have a very high probability of being poor (71.5 percent). Other households involved in agriculture have slightly lower probabilities of being poor—68.3 percent for households involved mainly in livestock and 68.2 percent for households involved mainly in export crops (especially coffee). The next group is households that derive their main source of income from unskilled labor in the public or private sector, as well as in the informal service sector, with poverty rates slightly above 50 percent. Thus, broadly speaking, three large groups emerge from this analysis—households in agriculture, with seven out of 10 individuals in poverty; unskilled and informal service workers, with one in two individuals in poverty; and skilled private and public sector workers, with much lower poverty rates.

Figure 2.4. What Should Be the Priorities of Your Community? Burundi 2004



Source: World Bank staff based on 2004 Burundi perception survey.

CHAPTER 3

Agricultural Recovery

Food Security and Beyond

By Quentin Wodon, Michael Morris, Vincent Glaesener, Jean-Paul Zoyem, Patricia Larbouret, Marc Moens, Evalyne Dianga, Ba Mdaye, and Alexandre Kavalec

Burundi is still experiencing a major food crisis. One important element that will help to avoid new episodes of violence is revised agricultural policies that support sustainable food security. Food crops and livestock supply 91 percent of agricultural GDP and the major livelihood for most households, thus it is essential to promote production and commercialization of subsistence crops and livestock. These subsectors currently perform poorly and foster a chronic food deficit, a condition that underlines the extreme vulnerability of the population to production-related risks.

With food demand increasing at an annual rate of 3 to 6 percent, it is urgent to improve the contribution of the subsistence crops and livestock subsectors. The potential for improvement is great, and beyond the need for reforms that will benefit all sectors, improvements will require public investments to enhance productivity and better market access. Necessary changes in the short-run include fostering the use of high-quality seed and fertilizer, and improving the management of small livestock. In the long run, research-extension links should be strengthened, producer organizations should be encouraged and supported, and sustainable land and water management practices should be promoted. Investments in infrastructure and market intelligence will need to meet demands generated by the development of urban centers and foster competitiveness of Burundian agricultural commodities relative to those from the region.

This chapter explains the food security issue in Burundi and identifies priority actions that will help overcome the major obstacles that prevent growth and improvement of the subsistence crops and livestock subsectors.

Food Security and Food Aid[15]

The food situation in Burundi remains a matter of great concern. For several years, food crises have been rife in certain parts of the country, a result of several factors. First is the impact from the conflict in certain regions of the country that lasted until 2005. A second factor is insufficient food production, not only during the period of conflict, but also as a result of successive droughts from 2000 onward and illnesses and parasites that suffocate cassava and banana crops. A third factor is the rapid population growth resulting from high birth rates and the return of refuges that generated increased food needs and reduced the area of farmland per inhabitant. Based on a study conducted by Dianga, Wodon, and Zoyem (2007) using data from the QUIBB household survey of 2006, the aim of this note is to assess food insecurity in Burundi and then analyze the impact and performance of food aid, and especially the World Food Programme (WFP), on the situation.

Ranking Burundi According to the Global Hunger Index

Burundi is among countries where food insecurity is most widespread, a problem that can be illustrated by the Global Hunger Index (GHI), the arithmetic mean of three indicators:

- Proportion of the population undernourished (the population that does not have the minimum caloric intake required for good health, PU);
- Percentage of children under five-years-old who are underweight (UWC); and
- Rate of infant mortality (IM).

Of the 119 developing countries for which the GHI has been calculated, Burundi ranks last. Burundi's GHI rose from 27.7 percent in 1981 to 32.3 percent in 1992, 39.7 percent in 1997, and 42.7 percent in 2003. Figure 3.1 presents the GHI values for other countries in Sub-Saharan Africa ranked in decreasing order for 2003. As illustrated in Figure 3.2, the increase in the GHI in Burundi is primarily due to an increase in the proportion of the population that is undernourished, a consequence of an inadequate food supply, whether produced locally or imported.

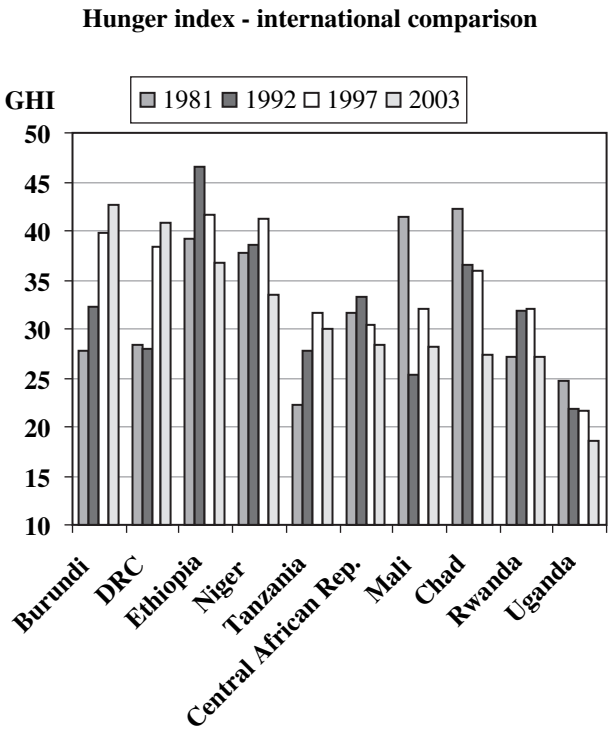
It may be that national food production has been underestimated in the GHI calculations for Burundi, in particular because household self-consumption may be underestimated. Nevertheless, the available data on national food production suggest a collapse. In 2005, the indicator of production per inhabitant (in kilograms of cereal equivalent) measured only 55 percent of its 1993 level (the pre-war level).

Typology of Households Suffering from Food Insecurity

In 2004, the WFP office for Burundi conducted a study on food insecurity. The results from the QUIBB household survey of 2006 can be used to update and improve previous work in this area, among others by constructing a typology using Multiple Correspondence Factorial Analysis. Seven categories of households (including a 'category 0' for the capital) have

15. This section was written by Quentin Wodon (Lead Poverty Economist, AFTPM, World Bank) and Jean-Paul Zoyem (Consultant, Casafrique).

Figure 3.1. Hunger Index, International Comparison



Source: IFPRI.

been identified using this technique. Figure 3.3 gives the population share per category. Categories 3 and 4 (29 percent of the population) suffer from severe food insecurity. Categories 2 and 5 (39 percent of the population) are at risk of food insecurity. We focus here on the main characteristics of categories 4 and 3 (the most vulnerable).

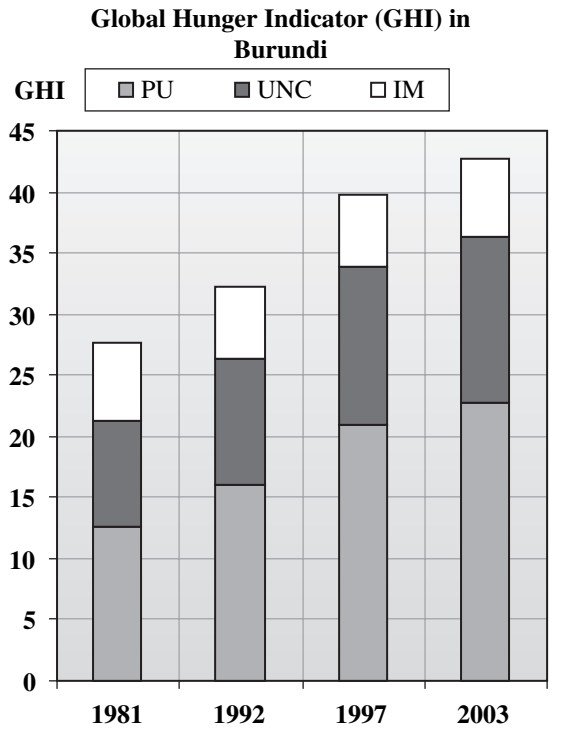
Category 4 has the lowest caloric intake level (1,563 kcal per adult equivalent and per day, well below the required minimum, which varies between 1,900 kcal and 2,100 kcal) and one of the lowest food diversity scores (low variety of foodstuffs consumed). This category suffers from low human capital and 52 percent of the constituent households count at least one handicapped person—a rate four times higher than the national rate. The rate of employment is low, with two households in three claiming that neither the head of the household nor his/her wife/husband is employed. At the same time, the head of one household in four is unmarried and responsible for the well-being of more than three other people. Indeed, category 4 comprises a great many female heads of household who are both old and widowed, but with children. The advanced age of the heads of household in this category also explains the low level of schooling observed.

Individuals in category 3 have an average caloric intake of 1,714 kcal per adult equivalent per day. Unlike category 4, we observed a low proportion of handicapped individuals, however, persons suffering from long-term illnesses are particularly present. Category 3 is also marked by the presence of large families—two in three people live in a household with at least six members. The employment rate of heads of household is high, but income is insufficient to satisfy household needs. This category is marked by a low level of physical capital, in part resulting from the difficulties experienced by former refugees and displaced persons as they resettle. The latter are over-represented in category 3—nine of 10 heads of household are former refugees, with many only recently resettled. The population in the areas of Murmirwa and Imbo, including the province of rural Bujumbura, is over-represented in this category.

Household Food Consumption and Caloric Intake

In order to measure the capacity of the households to satisfy their food needs, the caloric intake of food consumption was estimated using the QUIBB 2006 data. At the national level, the average caloric intake is 2,086 kcal per adult equivalent per day, with these specific categories: (a) very low caloric intake (less than 1,400 kcal), 34 percent; (b) low caloric intake (1,400–1,900 kcal), 22 percent; (c) moderate caloric intake (1,900–2,100 kcal), 7 percent; (d) acceptable caloric intake (2,100–2,900 kcal), 18 percent; and a high caloric intake (more than 2,900 kcal), 19 percent. Thus more than one-half (56 percent) of the population has a caloric intake of less than 1,900 kcal.

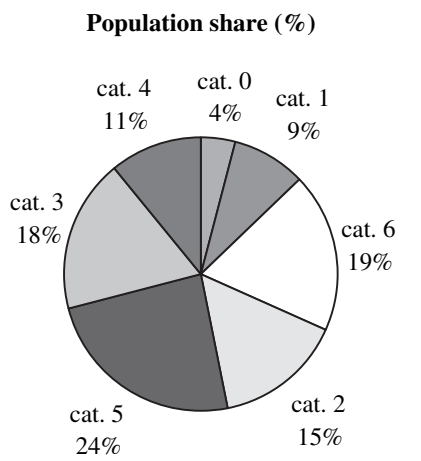
Figure 3.2. Global Hunger Indicator (GHI), Burundi



Source: IFPRI.

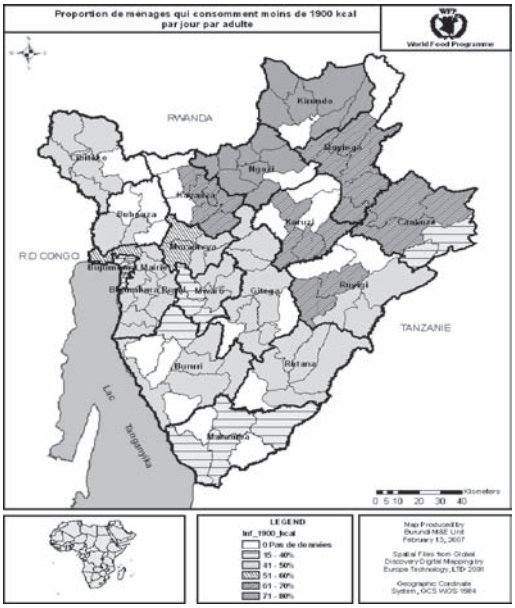
Caloric intake varies by location. The share of the population with a very low caloric intake is twice as large in rural compared to urban areas. In the northern region of the country, almost one-half of the population has a daily caloric intake of 1,400 kcal. In the south, less than one-fifth of the population lives in a household with a very low caloric intake. These observations are very similar if a threshold of 1,900 kcal is used to identify food insecurity. The map in Figure 3.4 illustrates the proportion of individuals living in households with a daily caloric intake per adult equivalent below 1,900 kcal. Caloric intake is lower when the household is large and the level of schooling is low, varying from 1,713 kcal for households with more than six members to 3,028 kcal for those with fewer than four members. Caloric intake is higher when the

Figure 3.3. Population Share (percent)



Source: Diagna, Wodon, and Zoyem (2007).

Figure 3.4. Proportion of Individuals Living in Households with a Daily Caloric Intake per Adult Equivalent Below 1,900 kcal



Source: Diagna, Wodon, and Zoyem (2007).

head of the household is single and employed (in particular with a salary). Caloric intake is lower for those households having fled abroad (refugees or displaced persons), measuring 1,953 kcal as compared to 2,174 kcal for those who never left their homes during the war.

Impact of Food Aid on Poverty and Food Insecurity

In 2005, the WFP distributed food to 1.8 million Burundian (25 percent of the population) victims of food shortages resulting from the depletion of local food crops. The activities of the WFP primarily involved emergency actions to: (a) distribute rations to vulnerable groups, including poor farming families and people living in refugee camps; (b) satisfy the needs of children and adults suffering from malnutrition; and (c) accompany refugees, displaced persons, and returnees for their cultural and professional return to their original communities. The QUIBB 2006 data enable us to measure the level of food donations (primarily from the WFP) and private transfers between households both in terms of caloric intake and monetary value. The donations were 3.4 percent of the food consumption value of households and private transfers were 2.3 percent.

In order to measure the impact of the WFP on the population, we can initially adopt a 'naïve' approach—calculating monetary poverty and food insecurity by subtracting WFP donations from the monetary consumption or the caloric intake of the household and then recalculating the poverty and food insecurity measurements using these new data. Table 3.1 shows that this naïve approach suggests that, at a national level, WFP donations reduce monetary poverty by 1 percentage point and food insecurity by 2 percentage points. These impacts are probably overestimated because they do not take into account behavioral changes by the households following receipt of the donations, but they offer a general idea of the potential impact of the program at the national level.

A more appropriate approach to estimating the impact of WFP food donations uses econometric matching techniques—to measure WFP impact, we compared households that benefited from WFP donations to similar households that did not benefit from them. The advantage of these techniques is that they implicitly consider behavioral changes by households such as a substitution effect within household spending toward non-food needs when

Table 3.1. Impact of WFP on the Population (naïve statistical approach)

	Total population			Beneficiaries		
Parameter	Without donations	With donations	Difference	Without donations	With donations	Difference
Spending per adult equivalent (FBu)	528.08	536.3	8.22	400.93	508.9	107.97
Calories per adult equivalent (kcal)	2,016.20	2,076.91	60.71	1,547.71	2,345.43	797.72
Rate of monetary poverty (percent)	67.91	66.85	–1.06	77.07	63.05	–14.02
Rate of extreme poverty (percent)	48.59	47.36	–1.23	61.62	45.45	–16.17
Rate of food insecurity (%, 1,900 cal)	58.11	56.3	–1.81	73.97	50.19	–23.78
Rate of extensive food insecurity (%, 1,400 cal)	36.57	34.35	–2.22	58.17	28.89	–29.28

Source: Diagna, Wodon, and Zoyem (2007).

the household receives a large food donation, incentives to resell food aid, or other behavioral changes (for example, household labor supply) that can reduce the impact of donations. Table 3.2 shows that the impact as estimated by the matching method is lower than the impact as estimated by the naïve approach, although they remain significant for the households benefiting from WFP rations.

WFP Targeting Performance

Qualitative studies of WFP targeting performance in Burundi revealed that numerous obstacles tend to restrict targeting performance, a fact which is hardly surprising in a coun-

Table 3.2. Impact of the WFP on the Populations (econometric approach)

	Naïve approach		Matching approach[a]	
Parameter	Estimated impact	Estimated impact	Lower impact limit	Upper impact limit
Spending per adult equivalent (FBu)	107.97	67.4	36.2	98.7
Calories per adult equivalent (kcal)	797.72	420.4	228.6	612.2
Rate of monetary poverty (%)	–14.02	–10.1	–16.4	–3.8
Rate of extreme poverty (%)	–16.17	–8.6	–14.5	–2.8
Rate of food insecurity (%, 1,900 cal)	–23.78	–9.7	–15.7	–3.8
Rate of extensive. food insecurity (%, 1,400 cal)	–29.28	–7.0	–12.5	–1.6

a. The results of the matching method include a statistical measurement of the upper and lower limits of the impact (confidence interval at 95 percent of the estimated impact).

Source: Diagna, Wodon, and Zoyem (2007).

try emerging from a prolonged conflict. To reduce these obstacles, since 2000 the WFP has introduced local food distribution committees intended to make the targeting methodology more participatory and ensure better targeting of the poor. The introduction of these committees seems to have improved targeting in 2000 and 2001, but in 2002 once again observers saw vulnerable members of the population complain that they were omitted from the program. Moreover, the sale of WFP provisions had apparently again become widespread in 2002, especially close to towns.

As a result, the WFP took additional measures, including: (a) increased sensitization of administrative authorities and communities to improve targeting of aid and obtain the assistance of the administration to discourage sale of rations; (b) institutionalization of public approval of beneficiary lists to enable local communities to identify non-vulnerable persons mistakenly or fraudulently targeted; (c) increased role for charity organizations in the targeting process following the food crisis witnessed in the north of the country in 2004/05; and (d) review of the distribution methodology to encourage "scooping" (rations given individually to households) rather than "grouping" (rations allocated to groups) to reduce sale of WFP rations on the market. In addition to these measures, the budget and resources allocated to the distribution partners have been reviewed upward since 2005 so that these partners can better assist local committees during the targeting process and find it easier to perform the scooping procedure, in particular in zones recognized by the WFP as "difficult zones." Despite these initiatives, according to certain observers, targeting beneficiaries remains problematic in Burundi.

The QUIBB data 2006 enabled us to measure the WFP targeting performance. Two indicators were used. The first, omega (Ω), is the share of donations allocated to the poor divided by the proportion of the poor in the total population. A value of 1 for this indicator suggests that targeting is neutral. A value greater than 1 implies that, on average, the poor receive more donations than the population as a whole, while a value less than 1 implies that the poor receive fewer donations than the population as a whole. The second parameter, gamma (γ), is the share of subsidies received by the poor, which depends on the poverty rate (the smaller the number of poor, the smaller the share of subsidies they receive). The values of the parameters omega and gamma as they relate to WFP were compared to the values obtained for other types of subsides.

Table 3.3 shows that the value of omega fluctuates between 0.84 and 0.93 depending on the criteria used to identify the poor. Four criteria were used: (a) monetary poverty; (b) extreme monetary poverty; (c) food insecurity (threshold of 1,900 kcal per day per adult equivalent); and (d) severe food insecurity (threshold of 1,400 kcal per day per adult equivalent). Whatever the criteria considered, the poor received slightly less in terms of WFP donations than the population as a whole because omega is slightly lower than 1. This result is disappointing because we hoped that the WFP targeted the poorest as a priority. Nevertheless, it is not surprising considering the targeting difficulties experienced in a country such as Burundi. As for the share of WFP resources benefiting people living in poverty or extreme poverty and people suffering from food insecurity or severe food insecurity, it fluctuates more than the omega parameter because the population shares in these categories also fluctuate. It should be noted that the value of omega lower than one is also due to the fact that at the time of the survey, the aid provided by the WFP was focused in large part on rations designed to avoid that farmers eat the seeds that they should use instead for the next cropping season. This means that some landless households who are

highly vulnerable may not have benefited from the program at the time of the survey, while they may have benefited from a different component of the program at another time. Also, while the targeting performance of the program is not necessarily pro-poor as measured at the time of the survey, the share of the beneficiaries of the aid that are poor (or food insecure) is higher than the share of the aid that is going to the poor (or food insecure). More details on the results obtained for the beneficiary incidence (as opposed to the benefit incidence) of the program are available in Diang'a, Wodon and Zoyem (2007).

Finally, although the WFP resources are not particularly well targeted, the performance of the program is nevertheless better than a number of other public spending programs. Table 3.3 gives the values of parameters omega and gamma as they relate to education in state schools (primary, secondary, and higher education), healthcare in public structures, and implicit subsides in the water and electricity tariff structure. The WFP distributional impact is similar to that of the health services and falls between the performances of primary and secondary education. It is much better than that of higher education and the implicit subsidies for basic infrastructure services In this last case, the very low values of the parameters are because a very small proportion of the population has access to the electricity and running water networks. A more detailed analysis of the WFP targeting performance suggests that one of the limits of the program is that in 2006 the WFP did

Table 3.3. Performance of WFP Targeting and Other Public Transfers in 2006

	Monetary poverty		Extreme monetary poverty		Food insecurity (1,900 kcal)		Food insecurity (1,400 kcal)	
Parameter	Ω^a	γ^b	Ω^a	γ^b	Ω^a	γ^b	Ω^a	γ^b
Food transfers								
Private transfers	0.82	0.56	0.75	0.37	0.92	0.54	0.97	0.36
WFP transfers	0.89	0.60	0.84	0.41	0.87	0.51	0.93	0.34
Education								
All cycles	1.08	0.72	0.77	0.51	0.90	0.60	0.55	0.37
Primary	1.10	0.73	0.79	0.53	0.91	0.61	0.55	0.37
Secondary	0.79	0.53	0.52	0.35	0.71	0.48	0.45	0.30
Higher	0.49	0.32	0.13	0.09	0.66	0.44	0.66	0.44
Health								
All consultations	0.89	0.60	0.60	0.40	0.78	0.52	0.47	0.32
Public hospital	0.81	0.54	0.54	0.36	0.70	0.47	0.40	0.27
Public dispensary	0.91	0.61	0.62	0.41	0.79	0.53	0.49	0.33
Infrastructure								
Electricity subsidies	0.10	0.06	0.06	0.03	0.24	0.12	0.16	0.05
Water subsidies	0.15	0.09	0.12	0.05	0.28	0.14	0.19	0.05

a. Share of donations allocated to the poor divided by the proportion of the poor in the total population
b. Share of subsidies received by the poor
Source: Authors' estimates using the QUIBB survey 2006.

not seem to specifically target areas in the country where food insecurity was most severe. In the new WFP program document for 2007–2008, the geographic targeting mechanism of the WFP is to be improved and we can therefore hope that the targeting performance is better today.

New Direction for Food Aid in Burundi—From Emergency to Recovery

The WFP and its targeting performance in February/March 2006 had a significant impact on its beneficiaries, but the poorest members of the population did not necessarily benefit more than the rest of the population. We next describe new directions for the program in 2007 and 2008, illustrating how these new orientations are appropriate in light of changing needs in the country and the results presented above.

According to WFP documents, the program will provide a total of 145,948 tonnes of food provisions in 2007 and 2008 at a cost of $118 million, including $50 million to purchase the provisions. The objectives of the program are to: (a) provide humanitarian aid to victims of drought and conflicts, as required; (b) protect and strengthen subsistence resources and increase the resistance of vulnerable households to crises in the areas suffering most from food insecurity; (c) improve the nutritional and health status of children, mothers, HIV/AIDS groups, and other vulnerable groups; and (d) promote access to education, in particular for girls. In general, the objective is to progressively move from emergency actions to recovery, and thereby provide a more significant contribution to the medium- and long-term development of the country and its population.

Given that emergency needs will not disappear overnight, the first area of intervention will remain aid programs targeting vulnerable households by means of targeted distribution of rations (70 percent of food aid) in the northern and northeastern provinces, which suffer the most from food insecurity. This geographic targeting should help to improve program performance. Distribution of rations will take place during the lean seasons, October to December and March to May. These rations will relieve hunger until the next harvest, presumably helping households to avoid consumption of their seeds and preventing acts of survival with negative long-term consequences such as the hasty sale of family assets and production goods.

A second line of intervention will involve "recovery" programs in the zones suffering from food insecurity. These activities will provide a safety net for the populations suffering from chronic food insecurity, in particular by means of "food for work" (FFW) projects, school meals, and nutritional activities. FFW activities will preserve and create productive assets by increasing productivity, improving the land, protecting the environment, and repairing rural roads. Pilot schemes will be introduced to demonstrate the advantages of generally upgrading and preserving the land. The zones of activity will be selected at a local level according to social, agro-ecological, and landscape criteria.

A third section of WFP activity will involve health and nutritional programs. The WFP will distribute rations to children under five-years-old suffering from malnutrition and to their mothers in 200 complementary food centers and 20 therapeutic food centers managed by international NGOs. This aid will complement targeted distribution implemented in the northern and northeastern provinces, which suffer from severe food insecurity, and is also intended to combat moderate to serious malnutrition in vulnerable households in

other regions. The WFP will also support the gradual transfer of responsibility for these centers to the provincial health authorities.

A fourth aspect of the WFP activity will involve humanitarian aid to refugees and returnees (food aid represents the main source of food for refugees). The WFP will also provide food rations to asylum seekers registered by the Refugee High Commission, which forecasts that 70,000 Burundian refugees living in Tanzania will return to their country in 2007 and a further 55,000 in 2008. A fifth aspect of the program will target food for education programs (FFE). Some 20,000 pupils in 180 primary schools already benefit from this activity (providing one hot meal per day), and the figure should reach 320,000 pupils in 250 primary schools in 2007 and 2008.

With the return of peace, food security will gradually gain ground, and it is quite natural that the WFP should place a lower emphasis on emergency operations to the benefit of food crisis prevention programs and national recovery schemes. This reasoning has led the WFP to also set up food programs in teaching establishments and professional or traditional training centers, as well as introducing the FFW projects. The aim of the WFP is henceforth to introduce an increased number of social reinsertion schemes that will help break the poverty and hunger cycles rather than continuing to rely mostly on emergency operations.

The new directions of the WFP are most welcome in light of the changing needs of the population and the results described in this paper about the impact of the program and its targeting performance. The risks of poor targeting are less significant in FFW programs or when the distribution of food targets the poorest areas of the country. The risks of misappropriation are also lessened when the aid targets schools or health and nutritional centers. At the same time, diversifying WFP operating methods will require careful consideration to reduce transport and administrative costs, for example, by testing pilot programs to provide cash donations in place of food donations when the capacity will be there to test such a pilot program. It will also be necessary to rethink the targeting and impact improvement procedures that would be appropriate for each sub-program introduced (programs for school canteens are very different than FFW distribution schemes). Finally, it will be necessary to collect new household survey data to evaluate whether the new directions proposed by the WFP for its programs will indeed increase program impact on the well-being of the populations, in particular, appropriate targeting of the neediest groups.

Food Crop Subsector[16]

Agriculture in Burundi is dominated by small-scale, subsistence-oriented family farming units. Between 90 and 95 percent of the country's 1.2 million households live in rural areas and produce most of the food they consume. Virtually every household grows a mix of food crops, sometimes associated with cash crops, and virtually every household keeps some animals. The emphasis on diversification and self-reliance is a rational strategy that has emerged in response to the concurrent pressures of intensification (caused by the shortage of agricultural land), the unreliability of food markets (a legacy of the recent

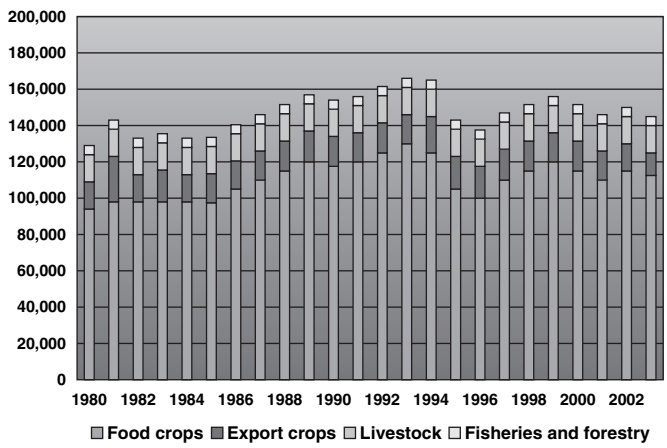
16. The section was written by Michael Morris (Lead Agriculture Economist, AFTS3) with the participation of Vincent Glaesener (FAO), Patricia Larbouret (FAO), and Alexander Kavalec (FAO).

period of civil conflict), and lack of opportunities to earn income outside of agriculture (resulting from the underdeveloped nature of the non-farm rural economy).

Food crops occupy a large proportion of agricultural land in Burundi (28 percent of the total land area and 85 percent of the total cultivated surface). The leading food crop categories, ranked in terms of production, are bananas, roots and tubers, legumes, cereals, vegetables and fruits, and oilseeds. The importance of food crops to the national economy is enormous (Figure 3.5). Food crops contribute 46 percent of GDP and 80 percent of agricultural GDP. In comparison, export crops contribute only 4 percent of GDP, although cash crops generate 90 percent of export earnings. Livestock contribute 5 percent of GDP, and fisheries contribute 2–3 percent. The economic importance of food crops at the national level is mirrored at the household level. With approximately 95 percent of the population living in rural areas and engaged in subsistence farming, it follows that food crops are the main source of employment and rural household income. Food crops and livestock produced for home consumption account for approximately 73 percent of total revenue earned by rural households, with the other 27 percent coming from sale of cash crops and labor.

Most food crops produced in Burundi are consumed by members of the household that produced them. The share of production that is home consumed varies from one commodity to another, but for all food crops combined it ranges between 70 and 80 percent. Home-consumed food crops account for about 70 percent of total food intake in rural areas, but only 1 percent in urban areas. Food crops contribute 40 percent of total protein consumption, 22 percent of lipid consumption, and 100 percent of carbohydrate consumption.

Figure 3.5. Composition of Agricultural GDP, 1980–2003



Performance of the Food Crop Subsector

Production Systems. Food crop production systems in Burundi have evolved in response to the high population density and associated acute scarcity of agricultural land. With the land frontier having long ago been exhausted, production gains recorded in recent years have been achieved through intensification of production on land already

being exploited. The intensification process typically involves: (a) introduction of new short-duration cultivars to cropping rotations so as to effectively increase total cultivated area; (b) adoption of agro-forestry practices to facilitate exploitation of steep slopes, permit diversification of income sources, provide protection against soil erosion, and contribute to restoration of soil fertility; (c) increasing use of roots and tubers that are less demanding on soil fertility, less susceptible to insect pests and diseases, and that can be left in the ground for longer periods and harvested outside the normal harvesting periods; and (d) systematically practicing multi-level associated cropping, which optimizes the use of the limited area and workforce. The characteristics associated with different stages of intensification are summarized in Table 3.4.

Yields. Yields of most major food crops grown in Burundi have changed very little during the past 40 years. Productivity gains resulting from the uptake of improved cropping practices have thus apparently been offset by soil fertility losses. Food crop yields in Burundi are low. When yields in Burundi are compared to yields in other countries, it is

Table 3.4. Simplified Typology of Production Systems Based on Soil Fertility Management Practices

Parameter	Farms located in areas of medium population density (100–400 inhabitants/km^2)	Farms located in areas of high population density (400–800 inhabitants/km^2)	Farms located in areas of very high population density (> 800 inhabitants/km^2)
Cropping systems	Extensive cropping of: cereals, legumes, roots and tubers	Intensive cropping using complex associations: banana, cereals, roots and tubers, legumes, Development of marshlands	Multilevel permanent cropping: fruit trees, banana, roots and tubers, legumes, cereals Development of marshlands
Livestock systems	Pasture readily available Animals allowed to graze free during the day and returned to the farm at night	Pasture increasingly scarce Limited free grazing Most animals tethered or kept in stalls	Pasture no longer available Animals kept in stalls Forage and water brought to animals
Fertility management practices	Lateral fertility transfers from pastures to cropland via livestock No use of mineral fertilizer Limited use of fallowing	Decreasing lateral fertility transfers from pastures to cropland via livestock Increasing role of bananas and other trees in soil protection and fertility management (agro-forestry) Some use of mineral fertilizer	Major importance of banana and other tree species trees in fertility improvement Use of legumes to fix nitrogen Use of mineral fertilizer
Management of trees and agro-forestry	Land cleared Trees minimally integrated into the farming system	Use of live hedges Planting of fruit trees	Three-level cropping: forest trees, fruit trees, associated crops

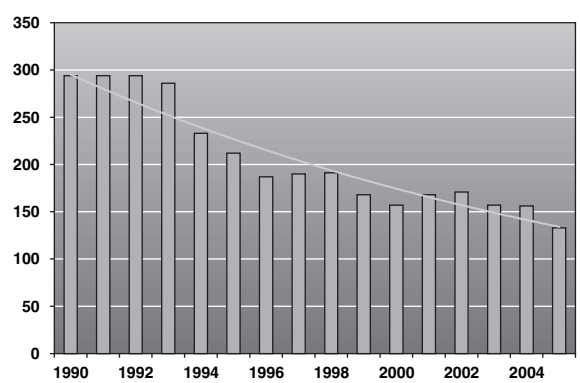
clear that Burundian agriculture is facing a productivity crisis. Using FAOSTAT data to make comparisons more consistent, average yields achieved in Burundi for most major food crops lag behind Sub-Saharan Africa averages.

Production. Production of food crops in Burundi has decreased significantly since the onset of the latest period of civil unrest (Figure 3.6). Expressed in terms of cereal-equivalents (CE) to facilitate comparison of nutritional values, food crop production in 2005 was only about 62 percent of the pre-conflict level. When considered on a per capita basis, the decrease was even more dramatic—per capita food crop production in 2005 was only 45 percent of the 1993 level.

Agricultural Inputs. Data on the use of agricultural inputs are scarce. The withdrawal of the Government from the fertilizer sector has led to a fall in the use of fertilizer on all crops, including food crops. Adjusting for inflation, the price of fertilizer has roughly doubled during the past 10 years. Given the low purchasing power of most rural households and the high cost and limited availability of fertilizer in rural areas, fertilizer today is out of reach for many farmers. The little fertilizer that is used is applied mainly to cash crops, especially cotton and tea. Production and distribution of improved seed more or less ceased during the conflict. The production of foundation seed has partly recovered, but a severe shortage of capacity to multiply foundation seed means that commercial seed for most crops remains unavailable to farmers.

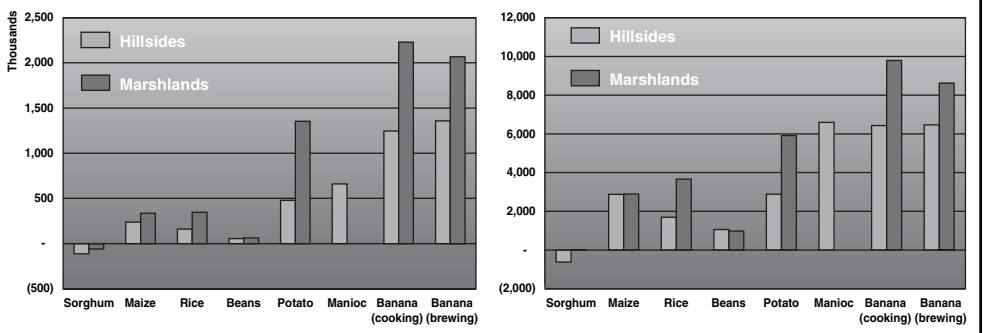
Profitability. The profitability of food crop production under alternative levels of management (traditional vs. improved) was analyzed in detail in the background paper on food crops (Figure 3.7). Banana is currently the most profitable crop, followed by potato, cassava, rice, maize, and beans. Analysis of the profitability of individual crops provides insights into farmer decisions, but it is risky to draw simplistic conclusions about likely crop choices because farmers determine their cropping rotations based on the complex interaction of many considerations, including production objectives, resource endowments, labor availability, risk, and uncertainty.

Figure 3.6. Trends in Food Crop Production per Capita, 1990–2005



Storage. Traditionally, most rural households in Burundi store food crops to ensure a food supply throughout the year. During the recent civil conflict, however, many households reduced the food stocks retained at home or even stopped storing food altogether for fear of losing it to combatants. Today, planting (and harvesting) activities are planned so that most food crops can be consumed

Figure 3.7. Profitability of Principal Food Crops in Burundi (returns to land, labor)



within a relatively brief period after the harvest. Storage—mostly cereals and beans—is undertaken mainly by traders, especially wholesalers in the major cities.

Processing. Most food crops are consumed with little or no processing. A limited amount of processing takes place mainly at the household level with the objective of improving consumption quality (hulling rice), enhancing storability (converting cassava into flour and starch), or adding value (brewing of banana and sorghum). Household-level processing using traditional methods is time consuming and tedious, however, and does not lead to a substantial increase in the storability of most crops. Industrial processing of food crops is almost totally non-existent at present following the total breakdown of the agro-processing sector during the conflict and the continuing absence of demand for processed products because purchasing power is limited.

Marketing. Food markets in Burundi are underdeveloped. Marketing chains for locally-produced food are informal and often fragmented, with produce typically changing hands several times as it moves from the farm gate to the final consumer. The length of the marketing chains depends on how perishable the products are. Most food crops are marketed at a very local level. Many local markets are dominated by a small number of relatively large traders who are organized into networks, wield significant market power, and dispose of important storage facilities. Most rural households pursue a subsistence strategy, so quantities of food crops that are marketed are modest (Figure 3.8). Small quantities of food crops may be marketed on an irregular basis in response to specific opportunities or be motivated by a need to generate cash. Farmers are poorly organized and tend to have limited bargaining power. They possess limited information on prices and market opportunities.

Trade. Food crops are actively traded between Burundi and its neighbors, but the precise quantities that cross the border are unknown because this trade is almost entirely unrecorded. Burundi currently has a structural food deficit, so it is safe to say that the country as a whole is a net food importer. Exports of food crops can be considered negligible. Judging from the difference between food demand (calculated as the notional consumption requirements of the national population) and food supply (domestic food produc-

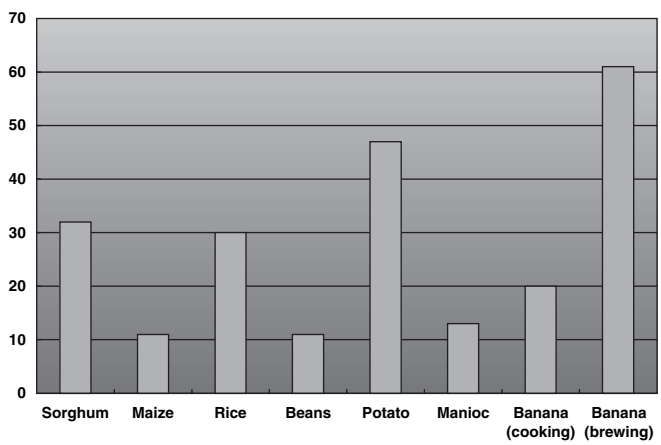
tion), the net national net food deficit after food aid has been provided is estimated, depending on the calculation method, to range between 100,000 and 350,000 tons of CE, which presumably is being covered through imports. Road traffic at the major crossing points suggests that this consists mainly of maize, beans, and rice from Uganda, Kenya, and Tanzania, as well as potatoes from Rwanda. Significant numbers of cattle also are walked into the country from Tanzania. The only food crops imported in substantial quantities from outside the region are wheat and rice.

Challenges Facing the Food Crop Subsector

Growth in Burundi's food crop subsector is affected by a number of key constraints, all of which contribute to low profitability at both the farm level and the post-harvest level. Low profitability discourages investment in improved technology, which perpetuates low and stagnant productivity and prevents the subsector from evolving in dynamic fashion with the help of productivity-driven growth.

Limited Use of Improved Management Practices. Burundi's agricultural sector has considerable potential for growth, but its potential is not being realized. Productivity is low and stagnant. Farming systems are still predominantly subsistence-based and for the most part depend on the vagaries of the weather. The country's irrigation potential remains largely unexploited. Most rural households produce mainly food crops using traditional extensive cultivation methods, while commercial agriculture based on modern technologies and purchased inputs remains underdeveloped. The capacity of the agricultural research and extension systems has eroded in recent years, so even when improved technologies are available, they often they fail to reach farmers.

Figure 3.8. Proportion of Marketed Food Crops, Burundi, Early 2000s



Limited Use of Purchased Inputs. Deficiencies in input distribution systems limit the timely availability of improved seed, fertilizer, crop chemicals, and machinery. Where these inputs are available, farmers' ability to use them is often compromised by a lack of

credit because rural financial institutions are in general poorly developed. Inadequate supply of purchased inputs combined with weak demand is reflected in very limited use of these vital inputs. Less than 5 percent of the area planted to food crops is planted to improved varieties. Food crops receive an estimated 10–15 kg/ha of fertilizer on average, compared with optimal rates in the 250–300 kg/ha range. Use of crop chemicals is negligible on food crops.

Uncertain Water Supply. Burundi receives more rainfall than most other African countries, but the agricultural sector in Burundi suffers frequent disruptions caused by variable water supplies. Localized droughts are common, including some that last for several years at a time, and flooding in low-lying marshlands and catchment areas frequently decimates maturing crops. Crop losses caused by variable water supplies could be reduced with the help of irrigation, but the country's considerable irrigation potential remains largely unexploited. Less than 10 percent, or less than 5,000 hectares, of the country's potentially irrigable area is under irrigation.

High Input Prices. The low use of purchased inputs can be explained not only by their limited availability, but also by their high cost.

- Prices of purchased inputs (seed, fertilizer, crop chemicals) are high mainly because in the absence of local manufacturing capacity, these products must be imported. Transport and handling costs make up more than 50 percent of the final retail price of fertilizer, which is unusually high by global standards. In addition, procurement and distribution of fertilizer are characterized by economies of scale, but these are not captured because the domestic market is small.
- The price of land used for agriculture is also rising steadily in the face of increasing population pressure on an already overexploited resource. Formal land rental markets are relatively uncommon in Burundi so this cost is difficult to observe directly, but many rural households report that the time and effort (and informal payments) made to secure and maintain access to land continue to rise.
- The price of capital is high mainly because few formal credit programs target the agricultural sector. In cases where formal credit is available, it is almost always directed at cash crops—coffee, tea, palm oil, fruits, and vegetables. Lacking access to a formal credit sector, many households producing food crops finance their variable production costs by borrowing in the informal lending sector, where interest rates are extremely high.

Low and Variable Output Prices. While input prices may be high, prices received by farmers for their outputs are low and variable.

- Food crop producers in Burundi face a challenge in dealing with the country's underdeveloped marketing system. Most food crops are characterized by low value-to-weight ratios, making it unprofitable to transport them over large distances because transport costs quickly eat into profit margins. Producers therefore must sell their output in the immediate area where demand may be weak and unpredictable. The lack of long-term storage facilities for food crops combined in some

cases with their perishability means that many farmers are forced to sell during the post-harvest period when prices are at their lowest.

- The seasonality of food crop prices in Burundi appears to be unusually high by global standards. Food price variability is generally higher in rural areas because any available surpluses usually move to urban areas where demand is stronger and prices are higher. As a result, after harvest, prices in rural areas generally drop well below prices in urban areas, but during the pre-harvest 'hungry season' this relationship can reverse and prices in rural areas may rise above those in urban areas where residual food stocks remain.

Post-harvest Constraints. Factors contributing to low profitability at the post-harvest level in the food crop subsector include an unfavorable business environment, weak demand for processed foods, and unreliability in the supply of raw materials.

- *Unfavorable business environment.* Burundi's unfavorable business environment undermines the profitability by raising the cost of doing business and jeopardizing the ability of entrepreneurs to capture returns from their investments.
- *Weak demand for processed foods.* The generally low income level of the population limits its effective purchasing power.
- *Unreliable raw materials.* To be profitable, food processing enterprises must be able to count on a reliable supply of high-quality raw materials, preferably at attractive and affordable prices. In Burundi, where food crop production is mainly rainfed and where markets are thin and underdeveloped, the availability and cost is highly variable.

Sector-specific factors contributing to low profitability at the post-harvest level include the limited availability and high cost of infrastructure-related services, inadequate financial services, and lack of human capacity and technical know-how.

- *High cost of infrastructure-related services.* The rural road network is poorly developed, making the assembly and movement of primary commodities and their transfer to centralized processing facilities expensive. The rural power grid has limited coverage, restricting the ability of food processors to locate facilities within production zones, and urban power grids are unreliable, leading to frequent disruptions affecting processing facilities located in urban areas. The country's information and communications technology (ICT) capacity remains underdeveloped, with telephone charges high even by regional standards and internet coverage extremely limited.
- *Costly financial services.* Financial services available to agri-business firms are limited in number and costly in comparison to those offered in other sectors of the economy.
- *Lack of human capacity and technical know-how.* Not surprisingly, given the underdeveloped state of the food processing industry, there are few experienced entrepreneurs who possess the technical knowledge and business skills needed to launch and maintain viable agri-business enterprises.

Future Prospects for the Food Crop Subsector

How is the strength and composition of demand for food crops likely to evolve in coming years, and what are the implications for Burundi's agricultural sector? Future demand will be shaped by three main factors: (a) population growth, (b) income gains, and (c) changes in consumer tastes and preferences. The population of Burundi is projected to grow at about 3 percent per year through 2015. Demand for food can be expected to grow at least at the same rate. Meanwhile, rising incomes will trigger shifts in the strength and composition of demand for food. As incomes rise, consumers can be expected to shift away from some root crops (sweet potato, cassava), coarse cereals (sorghum, maize), bananas, and beans into rice, wheat, and Irish potato. Consumption of fruits and vegetables will increase as well.

Separate from changes in food demand associated with population growth and income gains, the composition of demand is likely to evolve with changes in consumer tastes and preferences. The most important of these will be associated with urbanization as increasing numbers of people move from the countryside to towns and cities in search of employment. This demographic shift will fuel increased demand for convenience foods, especially wheat-based breads and pasta products, rice, and snack foods. At the same time, consumers will also become more concerned with quality, and consumption choices will increasingly be influenced by health and safety considerations, nutritional aspects, taste, and appearance.

What are the main forces that will affect the ability of the food crop subsector to respond to these projected changes in the strength and composition of demand? On the bright side, Burundi is endowed with favorable agro-climatic conditions—fertile and well-drained soils, abundant and widely distributed rainfall, and moderate temperatures—that permit production of a wide range of food crops. Given the small size of the country, rural production zones are generally located fairly close to urban consumption centers, leaving producers well placed to access markets.

Less positively, the shortage of agricultural land will only get worse as the population continues to grow, putting additional pressure on a critical resource that is already over-exploited. Although the land resource can be extended further by developing additional marshlands for irrigation, it is unrealistic to think that cropped area can be expanded by more than about 1 percent per year. In the case of food crops, planted area is likely to decrease as farmers shift into more profitable high-value crops such as fruits and vegetables, oilseeds, and industrial specialty crops. One notable exception is rice, which can generate attractive returns, especially when grown under irrigation using improved practices and optimal levels of fertilizer.

The continuing shortage of agricultural land means that future growth in food crop production must derive from intensification. Prospects for successful intensification of food crop systems appear bright given the extremely low current yields and the large scope for increasing yields through increased use of improved inputs (seed, fertilizer, crop chemicals) and more widespread adoption of improved crop, soil, and water management practices. Uptake of improved technology will have to be supported by strategic investments to improve the resource base on which agriculture depends (e.g., development of irrigation and drainage systems, terracing of hillsides, restoration of degraded lands).

How will the future evolution of demand for, and supply of, food crops in Burundi be affected by developments taking place outside the country? The fact that Burundi is land-locked with relatively poor links to external markets has both positive and negative impli-

cations for the food crop subsector. On the positive side, the country's geographical isolation, coupled with its predominantly mountainous terrain, confers a natural level of protection for Burundian producers in the domestic market because high transport costs make prices of imported commodities very high within the country. On the negative side, the same factors that confer natural protection to Burundian producers in domestic markets pose a major challenge to producers looking to sell in regional or global markets. The high cost of transporting Burundian commodities to regional or global markets must be absorbed in order for those commodities to be competitive outside the country.

The natural protection long enjoyed by Burundi's food crop subsector may soon be eroded. The Government has begun to foster greater regional integration, unilaterally reducing tariffs on many categories of imports, entering into the COMESA and EAC free trade zones, and adopting the common external tariff system of the EAC. These moves are expected to reduce the protection long enjoyed by the agricultural sector, although in the near term protection will continue for certain products deemed strategic (e.g., milk, maize, wheat and wheat flour, rice, tobacco, cotton). Over the longer term, the impacts of lower trade barriers are likely to differ by commodity group. The impacts are likely to be minimal for high-volume, low-value food staples, including roots and tubers and bananas, because these have always been traded informally, so they have rarely been subject to formal trade regulations. In contrast, the impacts could be significant for cereals (wheat, rice, maize) and beans, which are already imported in significant quantities from international markets outside the region and which tend to move in formal channels where they are subject to trade regulations.

Will food crop producers in Burundi be able to remain competitive in the face of increasingly open borders? Comparative advantage analysis undertaken as part of the SoRG study for rice, maize, wheat, and beans concluded that Burundian producers of these commodities will come under severe competitive pressure from producers in neighboring countries. The major difficulty that Burundi faces in competing with Tanzania, Uganda, and Kenya is that these countries have underused land that can be brought into production at relatively low cost. In contrast, if producers in Burundi are to remain competitive, they will have to lower unit production costs by raising productivity using intensified cropping systems, which will be challenging in view of the high cost of fertilizer and other imported inputs. Even if Burundi manages to pursue a successful intensification strategy, it is unlikely to remain competitive in the production of low-value cereals that can be produced at lower cost through extensive systems.

Priority Interventions Needed in the Food Crop Subsector

The Government has set a target of sustained growth in agriculture of 6 percent. Based on the analysis carried out for the SoRG study, and recognizing the constraints identified above, the Government's immediate priorities should focus on both *sector-specific constraints* and *cross-cutting interventions.*

Rapid and sustainable growth in Burundi's food crop subsector can be achieved only if the productivity, profitability, and competitiveness of the subsector can be improved. The following interventions should be targeted for immediate attention.

Strengthening Input Distribution Systems. Sustainable intensification of Burundi's food crop subsector will not be possible without significant increases in the use by farmers

of purchased inputs, especially seed of improved varieties, chemical fertilizer, and crop protection chemicals including pesticides, herbicides, and fungicides. These inputs will not be available in a timely fashion and at affordable prices unless input markets are working well. Strengthening input supply systems therefore must be an important priority. Efforts to strengthen input distribution systems should focus initially on two areas.

Seed and planting materials. Private firms have limited incentives to invest in plant breeding research and seed multiplication for food crops, so public investment is justified. The Government should take the lead in revitalizing local plant breeding capacity, which in most cases should focus not on breeding new varieties but rather on importing and screening varieties developed outside the country. Government research stations should also assume responsibility for multiplying seed and planting materials and making them available to farmers at prices that farmers are willing and able to pay. Opportunities should be identified to cede selected activities to private firms (for example, production of hybrid seed).

Fertilizer. An urgent priority for the Government should be to stimulate the development of a viable fertilizer industry by strengthening demand and increasing supplies. Fertilizer is currently very expensive, not only because of the very high costs involved in importing small quantities, but also because the limited number of market participants concentrates market power. The Government should develop a national fertilizer strategy to encourage the emergence of a sustainable fertilizer distribution industry led by the private sector. During the initial stages of implementation, targeted support may be needed to assist fertilizer distributors and make fertilizer more accessible and more affordable to farmers. Support should not be provided through across-the-board subsidies designed to reduce the retail price of fertilizer, but rather in the form of "market-smart" subsidies targeted at key nodes in the market.

Improving Soil and Water Conservation and Management. Sustainable intensification of Burundi's food crop subsector will not be possible without improvements to the natural resource base on which food crop production depends. In view of the current high rate of land degradation, accelerating soil fertility losses, limited area under irrigation, and low use of improved water management practices, there is an urgent need to scale up investment in the conservation and management of land and water resources. Efforts should focus initially in three areas.

Soil conservation and management. Improved soil conservation and management practices will slow and eventually reverse losses of soil and declines in soil fertility, for example, contour ridging, use of mulches and cover crops, use of green manure and organic manure, adoption of improved cropping rotations and associations, integration of cropping, and agro-forestry activities. On steeper hillside slopes where cultural practices may be inadequate for preventing soil losses, investment in terracing should be considered.

Water conservation and management. Practices that will slow and eventually reverse water losses include contour bunding and tied ridging, use of simple water diversion and retention structures such as check dams and mini-reservoirs, and use of water harvesting practices. Many of these practices are labor intensive, but relatively few require extensive capital investment, so most can be undertaken by farmers working singly or in groups, without the need for extensive public investment.

Irrigation and drainage. There is room for considerable expansion of irrigation in Burundi. Experience shows, however, that just because irrigation is technically feasible does not mean that it is economically profitable or institutionally sustainable. In under-

taking the development of Burundi's irrigation potential, investments in irrigation must be appropriately targeted in terms of location and scale. In addition, policies and procedures must ensure that water is managed efficiently and equitably, and officials, water user associations, and farmers trained to implement these policies and procedures effectively. A comprehensive national water policy must be enacted that can set overall priorities for irrigation development, coordinate the activities of the many players in the subsector, ensure a proper enabling environment, and address the provision of public goods and services needed for successful development.

Reinforcing Technology Development and Transfer. Technology-driven increases in productivity are needed to drive growth in Burundi's food crop subsector. Currently, improved technology is not being adopted at the farm level, resulting in stagnating yields of most major crops and low levels of profitability. While quite a lot of new technology can be imported from outside the country and adapted to local circumstances, for this to happen, the national research and extension systems will have to be reformed. Efforts should focus initially in two areas.

Agricultural research. Burundi's national agricultural research system is beginning to rebuild following the damage suffered during the recent civil conflict, but much remains to be done. Priority needs include not only rebuilding physical facilities, but also developing a cadre of trained researchers. Research on food crops is unlikely to attract private-sector investment, so the Government needs to make a long-term commitment to food crop research, and should move swiftly to develop a comprehensive long-term national agricultural research strategy. It will be particularly important to strike an appropriate balance between basic research and applied research. Given the small size of the country, basic research will often be difficult to justify, and the most cost-effective strategy will be to import and possibly modify technologies developed elsewhere in the region. Also important will be to ensure that food crop research remains demand driven, with demand defined not only in terms of the preferences of food crop producers, but also in terms of food crop marketers and final consumers.

Agricultural extension. An effective extension service is needed in Burundi not only to ensure transmission of knowledge and technology from the research system to farmers, but also to ensure that the needs of farmers and consumers are effectively channeled back to researchers. Although the Government has initiated steps to reestablish the former system under which responsibility for technology transfer was entrusted to local 'agricultural monitors,' if these monitors are to be effective, they will need significantly more training, operational support, and access to more information than they received in the past. Equally important, they will have to stop serving as conduits for top-down directives about what to plant and what practices to use and start acting as resources who can provide information and advice designed to empower farmers to make better decisions about their cropping activities. A major issue is how the agricultural extension service should be funded. While it may be possible to privatize the delivery of extension services for crops such as coffee and tea, continuing public support is likely to be needed in the food crop subsectors in the short run.

Investing in Human Capital at the Farm Level and Beyond. Adequate human capital must be in place to permit the emergence of a dynamic and vibrant food crop subsector. Capacity building efforts should focus on three areas.

Reinforcing producer organizations. Strong producer organizations will be needed if food crop production is to move away from its traditional subsistence orientation toward more a more market-oriented orientation. Achieving a successful transformation will depend on farmers' ability to identify actual and potential market opportunities, access cutting-edge technology, procure essential production inputs, produce high-quality products that meet the requirements of an increasingly quality-conscious market, and negotiate effectively with input suppliers as well as buyers. Efforts must be made to directly strengthen the technical skills of farmers (for example by establishing demonstration plots in all districts and through funding of learning events in the national agricultural show). Efforts must also be made to strengthen the institutional foundations of producer organizations by funding projects designed to launch farmer associations, producer cooperatives, and other communal bodies and equip them with the knowledge, resources (including financing), technical capabilities, and management skills needed to operate effectively.

Creating a skillful and motivated labor force. Skilled labor is a prerequisite for the adoption of new technology that leads to reduced labor costs, higher productivity, and increased competitiveness. While private firms can be expected to provide training in specialized technical skills needed for particular applications, the basic education of the work force will continue to be the responsibility of the State due to its public goods nature. Further efforts are needed to extend the reach of public education programs, especially increasing the number of girls, to improve the quality of instruction, widen the range of educational choices for students, including the addition of courses focusing on vocational skills.

Creating a skilled managerial class. Entrepreneurial and management skills are not widely developed in Burundi, in part due to the legacy of the past dominance by public and parastatal marketing organizations, as well as the past concentration of trade in unprocessed commodities. Programs are needed to provide training and technical assistance to strengthen business development skills that can help firms improve the quality of their processes, reduce costs, and expand operations.

Building Local Capacity for Policy Analysis. A dynamic and vibrant food crop subsector is unlikely to emerge in Burundi without continued support from the Government in the form of well conceived, properly designed, and effectively implemented agricultural sector policies. Such policies will not be forthcoming unless there is adequate capacity within the Government to carry out the solid empirically-based research on which sound policies must be grounded. Building local capacity for policy analysis will require interventions in two main areas.

Analytical capacity. The Government, with support from development partners, should move quickly to make the investments needed to reinforce the analytical capacity in the Ministry of Agriculture and other relevant public agencies and organizations. This will mean upgrading the skills of existing staff by providing in-service training, as well as attracting new staff with the skills needed to fill existing gaps. A related challenge will be to retain skilled staff by offering them adequate incentives, not only in the form of competitive salary and benefits, but also an attractive and stimulating working environment and the resources need to perform.

Information and statistics. Collection and reporting of agricultural statistics was severely disrupted during the civil conflict, thus policymakers find themselves in the

uncomfortable position of having to base decisions on an extremely limited set of information. Rebuilding statistical collection and reporting systems in the agricultural sector is urgent. The goal should be to move toward a system under which regular periodic agricultural censuses (conducted, for example, every five or 10 years) and regular annual agricultural surveys can be complemented by one-off targeted surveys implemented in response to specific topical issues.

Cross-cutting Interventions. In addition to sector-specific interventions, important actions are also needed to improve infrastructure services, access to finance, and the business climate. This section touches upon these cross-cutting constraints that will be further analyzed in Chapter 4.

Investing in rural infrastructure. Surveys of the business community consistently point to weak infrastructure as one of the most critical factors constraining growth.

- *Transport.* The most important intervention to develop the food crops subsector is strengthening rural roads to facilitate access to markets for inputs and outputs.
- *Energy.* Access to electricity is not a major problem for food crop production, which consumes very little power, but lack of, or an unreliable, electricity supply prevents development of food processing.
- *Information and communication technology.* Specialized radio broadcasts could be organized to serve the needs of food crop producers (such as market information, extension advice).

Improving the delivery of financial services to the rural sector. Many investments designed to enhance agricultural productivity—at both the farm level and the post-harvest level—depend on access to appropriate financial services. Strengthening rural financial systems is important for agriculture in Burundi.

Improving the business climate A final priority for government must be creation of a predictable and stable business climate that will allow individuals and firms to operate with certainty and confidence as they invest in productivity improvements, search new markets, and pursue activities that add value throughout the value chain.

Livestock Subsector[17]

Animals are an important feature of the rural landscape in Burundi. Between 40 percent and 60 percent of the country's 1.2 million rural households own and raise livestock. Among these households, 10–20 percent raise cattle, 40–60 percent raise goats and/or sheep, 5–10 percent raise pigs, and about 25 percent raise poultry. Livestock production tends to be tightly linked to crop production, reflecting the emphasis in rural livelihood strategies on diversification and self-reliance. In addition to playing an important role as a source of income, food, and manure, livestock are also important for social reasons.

17. The section was written by Michael Morris (Senior Economist, AFTS3) and Marc Moens (FAO).

Livestock production makes a significant contribution to the rural economy, but this contribution is not always recognized or appreciated because most livestock products are sold in local markets or consumed at home. The livestock subsector accounts for about 8 percent of total GDP and 17–23 percent of agricultural GDP. In terms of economic importance, livestock rank second behind food crops but ahead of cash crops. Within the livestock subsector, value-added activity is concentrated at the primary production end of the value chain. The livestock processing and marketing industries are relatively underdeveloped and account for only about one-third of value added.

Livestock production is a multi-functional activity that serves economic, financial, and social purposes. Animals, especially cattle, are valued for different reasons:

- *Income.* Most households that keep livestock earn income from the sale of milk, eggs, and occasionally meat. Sale of livestock products is generally not the main source of household income, but provides a regular source of that can supplement other more important income-earning activities. The fact that livestock products can be sold throughout the year means that the income buffers rural households against the seasonality in other sources of income.
- *Food.* Livestock are an important source of food for the households that own them. While most rural households consume milk and eggs on a regular basis, consumption of meat remains modest, and only about 5 percent of rural households consume meat weekly or more often.
- *Manure.* By generating manure that can be applied to cropped fields, livestock make an important contribution toward helping to maintain the productivity of cropping systems. Livestock can be fed a range of agricultural by-products (straw, hay, chaff, bran, peelings) that contribute to the overall sustainability of integrated crop-livestock systems.
- *Wealth.* In an economy where few rural households make use of formal financial services, including savings accounts, livestock serve as a convenient and highly liquid store of wealth. Savings accumulated by rural households are often invested in animals that are sold during times when cash is needed. Animals have the additional advantage of being highly mobile, which is important in an economy that has been characterized by civil conflict and in which rural households have frequently been displaced.
- *Social status.* Traditionally in Burundian society, animals—especially cattle—were an important symbol of social status. While this aspect of livestock ownership is perhaps less important today than in the past, ownership continues to confer prestige, and gifts of animals retain symbolic importance on certain social occasions, especially weddings.

Livestock production systems in Burundi can be distinguished according to type of animal and the intensity of production methods. At the household level, livestock ownership patterns are correlated with wealth, which in turn is often linked to land ownership and access. Poor households, to the extent that they own livestock at all, tend to favor small animals such as poultry, rabbits, and guinea pigs. Households of modest means keep the same species, along with goats, pigs, and sheep. The wealthiest 10–15 percent of households own cattle, generally in addition to the other species.

Livestock production methods depend very much on the availability of land. In rural areas where the population density is relatively low, cattle, goats, and sheep are raised using extensive production methods where they graze in open fields. In peri-urban and suburban areas where the population density is higher, these animals are raised using semi-intensive production methods, i.e., they are put out to graze for part of the day, but the rest of the time they are kept in stalls and given cut fodder, silage, and grain. Semi-intensive production methods are used by some progressive farmers even in rural areas where pasture is available. Farmers who use semi-intensive production methods are generally better integrated into the market system: they purchase fodder, manufactured feed, and other inputs (including veterinary products and services), and sell most of their production. The genetic characteristics of their animals also tend to be better. The most intensive production methods are used in and around urban areas where the population density is highest and pasture land has completely disappeared. Here, producers behave like small-scale entrepreneurs, using hired labor, purchasing all inputs, and selling virtually 100 percent of their production. These production systems mainly focus on dairy production, eggs, and fattening cattle and pigs.

Table 3.5 summarizes the characteristics of the most common livestock production systems found in Burundi.

Performance of the Livestock Subsector

Production and Productivity. In the absence of a formal livestock census, reliable data on the size and composition of the national herd are lacking. But even if exact numbers are not available, the general trends are well known. During the recent period of civil conflict, populations of most major animal species—cattle, goats, sheep, pigs, and poultry—suffered precipitous declines as animals were killed and eaten, either by combatants or by displaced rural populations whose cropping activities had been interrupted. More recently, herds appear to have recovered strongly, and by 2005 numbers of most species had substantially grown and in some cases even surpassed 1999 levels (Figure 3.9).

Official data on livestock production published by the Ministry of Agriculture and Livestock were reviewed and judged to be overly conservative due to the use of outdated parameters to estimate reproductive rates and milk and meat productivity. The official data were updated using more plausible parameters more in line with currently accepted industry norms (for details, see Moens 2007). The resulting adjusted livestock production figures are higher than those being reported by the Ministry. For example, while official production statistics indicate that 9,700 tonnes of meat and 16.5 million liters of milk were produced in 2005, the adjusted figures suggest that production was more likely around 16,000 tonnes of meat and 48 million liters of milk.

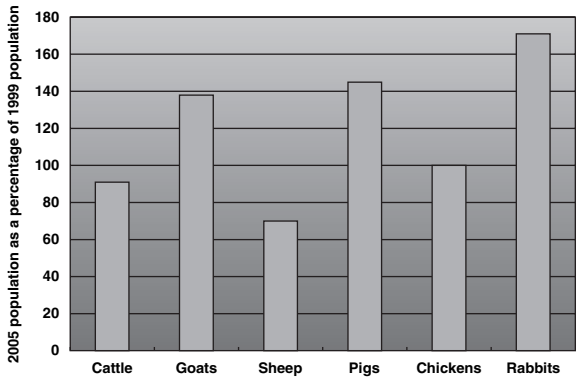
Profitability. As part of the background study prepared for SoRG on the livestock subsector, representative budgets were prepared for a number of common livestock production systems. With the help of these budgets, the profitability of the different livestock production systems was assessed and compared. Several alternative measures of profitability were calculated, including internal rate of return, annual net returns per reproductive female, and net returns per day of labor (Table 3.5). The profitability measures appearing in the last three columns of Table 3.5 provide different perspectives on the finan-

Table 3.5. Characteristics of Livestock Production Systems Found in Burundi

				Productivity indicators			Profitability indicators			
Species	Breed	Herd size (number)	Herd composition (%)	Meat (kg)	Milk (l/year)	Manure (tonnes)	Feed cost / total cost (%)	Annual net return (000 BIF)	Daily net return (BIF)	IRR (%)
Cattle		395,741					18	74	1,860	19
Extensive	Local race [Ankole]	178,083	45	32	149	0.4	19	131	2,631	29
Extensive	Crossbreed [Ankole × Sahiwal]	118,722	30	42	294	0.9	68	228	1,897	31
Integrated crop-livestock	Crossbreed 1/2 blood [Ankole × Sahiwal] × exotic	79,148	20	53	891	5.9	69	359	599	31
Semi-intensive dairy	Crossbreed ≥7/8 [Ankole × Sahiwal] × exotic	19,787	5	90	1,871	6.2				
Goats		1,245,680					0	11	2,223	67
Extensive	Local breeds	242,933	100	5.0		0.3				
Sheep		169,572					0	19	2,341	86
Extensive	Local breeds		100	10		0.4				
Pigs							39	128	3,895	75
Traditional	Local breeds	168,724	99.5	238		0.5	67	510	8,780	34
Semi-intensive	Improved breed [Local × imported]	0	0.0	702		1,7				
Intensive	Imported breed	848	0.5	1,691		3.8				
Rabbit								26	1,050	40
Extensive	Local breed	316,351	100	11		0.7				
Poultry		901,496			Eggs (n)		0	11	—	327
Traditional	Local breed	860,929	95.5	4. 6	35	0.00	50	3.9	2,231	18
Domestic w/layers	Mixed breeds	9,015	1.0	0.7	104	0.03	69	4.1	4,817	25
Intensive w/layers	Imported breed type "layer"	31,552	3.5	0.7	128	0.03				

Source: Herd size (ISTEEBU). Productivity: calculations of the mission.

Figure 3.9. Livestock Numbers, 2005 as Percentage of 1999



cial attractiveness of livestock production activities.

- *Annual net returns per reproductive female* is the most relevant profitability measure from the perspective of most rural households in Burundi because they reflect what is often the limiting factor of production—capital. More intensive production systems are the most profitable according to this measure.
- *Net returns per day of labor* is the profitability measure that will be of greatest relevance to households facing labor constraints. Extensive production systems are the most profitable according to this measure.
- *Internal rates of return are higher for enterprises* involving small ruminants, pigs, and poultry, and they are also higher among the more extensive production systems despite the generally low levels of productivity because initial investments and recurrent costs are low.

Sensitivity analysis revealed that the more intensive production systems generate returns that are much lower than their effective potential because producers use sub-optimal production practices. Sensitivity also revealed that extensive and intensive livestock production systems are characterized by different levels of risk. More intensive production systems that generate the highest internal rates of return tend also to be the most susceptible to changes in the quantities used and prices paid for purchased inputs.

Feed Resources. Burundi's livestock subsector faces a looming crisis in the form of a dwindling feed resource. Population growth has fueled an expansion in the area planted to crops that has been achieved mainly through conversion of pasture land. Between 1991 and 2002, pasture land decreased at an average annual rate of 6 percent. As a result, the so-called pastoral balance has been broken, and the amount of available pasture is now too small to support the nation's animal population through extensive grazing alone. The pressure being placed on the nation's land resource is reshaping the livestock subsector by altering the availability and cost of feed. Lacking sufficient high-quality pasture land to maintain their herds, livestock producers are reacting rationally by turning to intensive production methods. They are confining their animals to stalls and electing to grow fodder (only 5 percent as much land is needed to support a stall-fed animal than is needed to support an animal that is put out to pasture). The move toward intensification is also affecting the composition of the national herd. In recent years, many producers have started turning away from cattle (which require large amounts of high-quality feed) in favor of small ruminants (which consume less and lower quality feed).

Intensification of production practices will support continued growth in the livestock subsector, at least in the short to medium term, because it not only saves land but also allows a wider range of feed sources to be exploited. The supply side of the global feed balance can be significantly augmented through the addition of agricultural and agro-industrial by-products, forage derived from agro-forestry, and manufactured feeds. Calculations carried out as part of the background study suggest that if 30 percent of the agricultural and agro-industrial by-products available in the country can be directed into the feed chain for livestock, the nutritional requirements of the national livestock herd can be met. The resulting amount of nitrogenous digestible material, the most limiting factor, would be sufficient to feed about 80,000 additional genetically improved dairy cows (corresponding to annual milk production of 300 million liters).

Marketing. Livestock markets in Burundi, while relatively small, appear to be well organized and extremely dynamic. The dynamism appears to be attributable to the small size of the country, the fairly dense network of primary roads, and the small number of major livestock markets. More than two-thirds of all livestock transactions are concentrated in six major markets. The two most important markets, Cankuzo and Kayanza, are located close the border, which facilitates participation by foreign traders. The livestock marketing system in Burundi has two major channels:

- *Long marketing channels* deliver animals (mainly cattle, goats, pigs, and sheep) to the Bujumbura slaughterhouse. Four major wholesale markets are involved as intermediaries: Gitega, Matana, Rwibaga, and Ngozi.
- *Short marketing channels* dominate trade in milk, eggs, poultry, and rabbit meat. These products generally pass from the producer straight to the butcher-retailer who slaughters the animal and sells the meat to the final consumer.

The number of intermediaries, even in the long channels, is limited relative to the numbers found in most other countries. These intermediaries tend to be specialized in the products they carry. Relations among and between intermediaries tend to be traditional and informal, and because traders tend to do business with the same small set of business partners, newcomers face considerable barriers to entry.

The marketing system for skins and hides is distinct and specialized. Those of cattle, sheep, and goats are collected by individual tanneries from nearby livestock producers who are encouraged to deliver them to local collection centers. Hide and skin exports currently total approximately 400 tonnes per year, down from nearly 1,500 tonnes prior to the recent civil conflict. Over 90 percent of Burundi's hide and skin exports are low-value dry leather; less than 10 percent are higher-value wet blue leather. The leading destinations are Hong Kong, Pakistan, Kenya, and Italy.

Slaughtering and Processing. Burundi's slaughtering facilities are in need of upgrading and most slaughtering is done using traditional methods. Only three cities are equipped with modern slaughterhouses, which are publicly owned and operated because the law forbids private ownership of slaughterhouses. The public slaughterhouses are functional, but they are run-down and unhygienic. In the many parts of the country that lack slaughter-

houses, animals are slaughtered in the open, with little attention to hygiene standards. The sanitary risks are therefore very high.

Industrial processing of meat and milk is uncommon in Burundi. Aside from the slaughterhouses, a small number of 'modern' butchers, one tanning factory, and a handful of local dairies, there are no industrial processing facilities in the country. Because of the lack of processing capacity, most livestock products (meat and milk) must be sold quickly to avoid spoilage. This reduces the profitability of livestock production by restricting the ability of producers and traders to time sales to coincide with favorable market prices.

Cross-border Trade. Cross-border trade in livestock and livestock products is difficult to quantify because official trade data are scarce. The available data suggest a number of points:

- Imports of livestock and livestock products exceed exports by a wide margin.
- Milk imports are more important than meat imports. Milk imports are about 62 percent of all livestock imports, with live animals and meat as the remaining 38 percent.
- Official imports of meat are negligible, accounting for less than 2 percent of total meat supply from July 2005 to September 2006, the most recent period for which data are available.
- Very little milk or meat is exported. The only livestock product exported in significant quantities is skins and hides.

Challenges Facing the Livestock Subsector

Growth in Burundi's livestock subsector is being held back by five key constraints, all of which contribute to low productivity and low profitability.

Poor Genetic Quality. The animal resource base in Burundi is characterized by poor genetic quality. Use of genetically improved breeds is very limited, and improved animals are both hard to find and extremely expensive. There are no producers of genetically improved animals within the country, and the absence of direct flights from Europe makes importing animals cumbersome and expensive. A few companies have started to offer artificial insemination services, mainly for cattle, but these services are still costly and unreliable.

Growing Shortages of Feed and Water. Livestock producers in Burundi face a growing threat in the form of increasing shortages of high-quality feed. The amount of available pasture is now too small to support the nation's cattle, goat, and sheep populations through extensive grazing, which is forcing producers of these three species to look for alternative feed sources. Competition for alternative feed sources is intensifying, however, which is driving up feed prices and eroding profitability throughout the livestock sector.

Livestock producers in Burundi also face increasing difficulty in accessing sufficient water for their animals. The dwindling availability of pasture is forcing many livestock producers to adopt intensive production methods, yet confining animals to stalls imposes an additional burden because water must be brought to the animals. Water is not always easily accessible, and considerable resources must often be invested in transporting water from distant sources.

Animal Health Problems. The livestock subsector in Burundi is plagued by widespread animal health problems. Disease is common among all species and mortality rates are high, resulting in significant economic losses and undermining profitability. High disease and mortality rates are caused by many factors, including the near absence of veterinarians in the country; the lack of legislation specific to veterinary activities; the limited availability, poor quality, and high cost of phytosanitary products; the lack of monitoring, control, and surveillance of pests and sanitary conditions all along the value chain; the use of overcrowded, outdated, and often unsanitary facilities for rearing, transporting, and marketing live animals; and the use of unhygienic slaughtering and processing facilities.

Increasing Labor Requirements. Intensification of livestock production systems will significantly increase labor requirements. For example, stall-raised cattle consume about 50–60 liters of water per day, which in many cases has to be hand carried from remote water sources. Carrying water is traditionally women's work in Burundi, thus intensive livestock production could impose a heavy burden on women. Households facing cash constraints may not be able to acquire all of the needed purchased inputs, and those facing labor constraints may not be able to perform all of the activities associated with intensification.

Bottlenecks in Processing and Marketing. Bottlenecks in slaughtering and processing undermine the profitability of livestock production enterprises in Burundi by reducing the quantity and quality of marketed products. In the absence of modern, well-equipped slaughterhouses and dairy processing plants, animals are slaughtered under unhygienic conditions and sold quickly on the local market to avoid losses from spoilage, and milk is sold unprocessed. Producers generally have little or no opportunity to add value by processing their products into forms that can be targeted at specific market niches where they can command higher prices. They are rarely able to preserve products for extended periods in order to capitalize on favorable price movements in the market.

Future Prospects for the Livestock Subsector

How is the strength and composition of demand for livestock products likely to evolve in coming years, and what are the implications for Burundi's livestock subsector? Future demand for food in general will be shaped by three main factors: (a) population growth, (b) income gains, and (c) changes in consumer tastes and preferences. While the same three factors that will shape future demand for food in general will also shape future demand for livestock products in particular, it is important to note the importance for the livestock subsector of the second growth driver—income gains. Livestock products are superior goods with very high income demand elasticity, so income growth can be expected to stimulate much larger increases in demand for livestock products than for most other food categories.

What are the main forces that will affect the ability of the livestock subsector to respond to changes in the strength and composition of demand? The single most important factor will be increasing land scarcity—adding further pressure to intensify livestock production systems—which will mean reducing the number of animals and increasing their productivity through genetic improvement, improved nutrition, and improved veterinary care. Intensification may also be accompanied by a change in the composition of the national herd, with a shift away from cattle toward smaller species.

Intensification will also be accompanied by increased specialization as livestock producers will rely increasingly on dedicated feed producers. In order for this specialization to succeed, the subsector will become much more market oriented. The increasing specialization and commercialization will lead to the emergence of new economic opportunities for producers of feed and young animals (feeder calves, kid goats, chicks, piglets); providers of extension advice, veterinary services, and marketing assistance; and those offering specialized operations such as fattening and finishing.

The future competitiveness of Burundi's livestock will depend partly on developments in trade policies. The recent entry of Burundi into the EAC has exposed producers to increased competition from within the region, but has also provided some added protection from international (non-regional) competitors. This added protection could be particularly important for the dairy sector because many OECD countries produce chronic surpluses of dairy products (milk, butter, cheese) that are often dumped on global markets or distributed as food aid.

Priority Interventions Needed in the Livestock Subsector

Enabling Burundi to reach the growth target of 6 percent in agriculture necessitates the following actions.

Improving and Securing Feed and Water Resources. Effective management of feed and water will be a major challenge because increased competition for these critical resources can be expected to intensify in the face of growing population pressure and dwindling availability of land. The government can play an important role by:

- Introducing, implementing, and effectively enforcing appropriate policies that promote efficient, equitable, and sustainable use of crop land and pasture land;
- Funding research to improve the productivity of pastures;
- Funding extension activities to ensure that improved technologies are efficiently transferred to producers; and
- Increasing the number of watering points for livestock.

Promoting and Supporting Intensive Production Methods. Unlocking growth in Burundi's livestock subsector will depend on the ability of livestock producers to shift from their current extensive production methods to more intensive production methods. The government can play an important role to support this transition by:

- *Increasing availability and affordability of genetically improved breeds.* Researchers have identified improved breeds that are well adapted to local conditions, but these breeds are not widely available, and when available they tend to be very expensive. The public sector has a role to play in supporting the production of improved breeds. These functions would not have to be performed directly by state agencies but could be contracted to private service providers.
- *Increasing availability and affordability of purchased inputs.* Public support is needed to encourage the emergence of vibrant and sustainable market-led input distribution systems. This support could include provision of enterprise management

training for distributors, provision of business and financial services, and provision of credit guarantees to input distributors. Government may also need to regulate the distribution of some inputs to ensure quality control.

- *Increasing availability and affordability of veterinary services.* Intensification will inevitably generate increased demand for veterinary services. Public support will be needed to ensure that these services are readily available, affordable, and safe. Government will need to regulate the distribution of phytosanitary products to ensure quality control.

Improving the Processing and Marketing Stages in the Livestock Value Chain. Burundi's livestock subsector will not be able to achieve its full growth potential if improvements at the primary production stage are not complemented by improvements further downstream in the value chain (processing and marketing). The government can play an important role in supporting these complementary improvements by:

- *Improving market access for livestock producers.* The ability of livestock producers to capture returns from their livestock enterprises is constrained by low rates of market participation. Improving market access will require investments in physical market facilities as well as transport-related infrastructure.
- *Improving market information systems for livestock.* Livestock producers have difficulty obtaining market information, which prevents them from targeting markets where prices are most favorable. Recent advances in information and communications technology (ICT) have dramatically lowered the cost of collecting, storing, and disseminating information, so this function could be undertaken by government at relatively low cost.
- *Upgrading slaughtering and processing facilities.* Investment is urgently needed in modern, efficient, and hygienic slaughtering and processing facilities to improve the quality and safety of meat and dairy products. In principle, these are activities that should attract private capital, particularly in urban areas where a strong and reliable demand for meat and dairy products is assured. In smaller towns and rural areas that are less able to attract private investment, community-owned facilities supported through payment of user fees would be an alternative.

Reinforcing Institutional Support for the Livestock Subsector. The DGE has suffered a severe decline in capacity and today is able to provide very few of the services that normally would be expected of an agency of such potential importance. Action is urgently needed on several fronts to rectify this situation.

- *Refocusing livestock research.* The focus of livestock research should be shifted to place greater emphasis on species other than cattle, and the scope should be broadened to include not only technical issues but also social, economic, and environmental issues. The research agenda should be more demand-driven to ensure that the needs of producers are being addressed, and it should be more closely linked to the extension service.
- *Rebuilding capacity for policy analysis.* The focus of livestock policy analysis must extend beyond the recurring topic of health regulations and embrace a much broader

agenda. Policy analysts need to interact much more extensively with industry participants to ensure that the policy research agenda is properly demand-driven and responsive to client needs.

- *Reinforcing livestock extension services.* Livestock extension services are in need of reinforcement, not only by hiring locally recruited 'agricultural monitors,' but also through deployment of properly trained and closely supervised technical specialists. Livestock extension activities should be much more demand-responsive than in the past, when they featured an inefficient top-down approach oriented around the delivery of packages of standard recommendations that often turned out to be inappropriate.
- *Improving delivery of veterinary and animal health care services.* Successful development of Burundi's livestock subsector will not be possible without major improvements in veterinary and animal healthcare services. Provision of these services can often be privatized or entrusted to private-public partnerships, but a strong regulatory framework will be needed to ensure quality and safety.
- *Improving information and statistics.* A national livestock census is necessary to provide updated information about the numbers and types of animals, the characteristics of households that raise animals, prevailing types of livestock production systems, livestock marketing activities, livestock consumption patterns, etc.

Cross-cutting Interventions. The development of the livestock subsector would benefit from the same cross-cutting interventions that would enhance the food crop subsector.

CHAPTER 4

Export Crops

Toward a Significant Contribution to Growth

By Dan Clay, Anne Ottawa, Luis Flores, Paul Delucco, Eric Kacou, James Foster, John Baffes, and Tania Rajadel

The mediocre performance of the coffee subsector has been largely responsible for the weak and volatile growth of the Burundian economy, even though it benefited substantially from public investments. Any future growth strategy should strengthen and diversify agricultural exports. While the country benefits from optimal agro-ecological conditions for the production of high-quality export crops, reinforcing their contribution to growth will require radically improving management of the main agricultural industries and efficiently accessing value-added markets.

Export crops would become more competitive by promoting best practices to manage costs and defining sales strategies. Potential improvements include increasing yields, reducing costs, increasing production reliability, and enhancing revenues. The latter can be achieved by implementing sales strategies based on protecting break-even costs and either maximizing returns above them or minimizing losses below them, depending on market conditions. This would entail adopting a wide range of contracts available for all commodity markets and new sales techniques. More fundamentally, enhancing sales revenues implies targeting markets and exploiting opportunities presented in new markets. Significant amounts of coffee, tea, and horticulture production could reach fair trade and other niche markets that highly value production from fragile countries. Burundi's history could become an asset in accessing these markets.

This chapter focuses on how coffee, tea, and horticulture could penetrate high-value niche markets. While other export crops could also contribute to growth, the team considers these areas for improvement give data availability, time constraints, and the importance of these three subsectors.

Coffee Subsector[18]

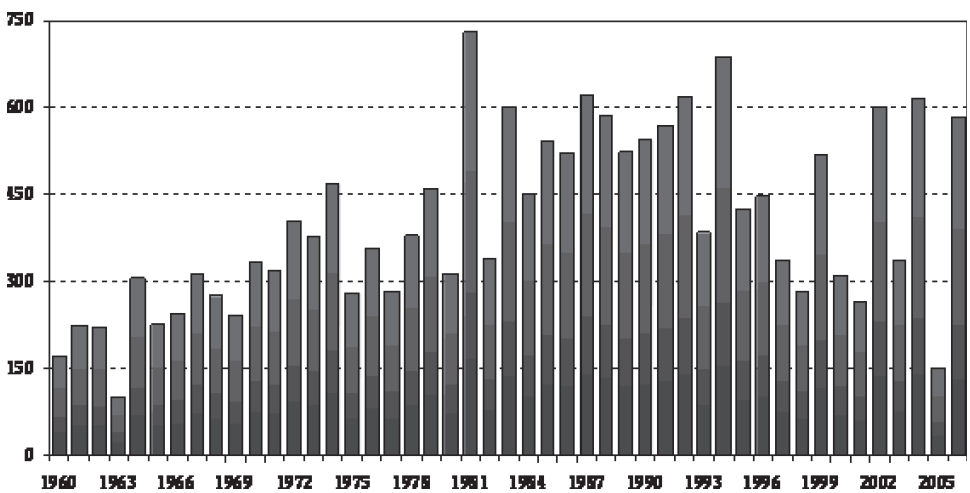
Brief History

Coffee is produced by about 800,000 households and accounts for 85 percent of the country's export revenues. It became the dominant cash crop, the main industry, and the prime source of export revenue very early in Burundi's history. While this dependence carries significant risks for the country today, it made sense for Burundi to rely on coffee when export prices were set by international agreements and thus generated high and predictable revenues. Moreover, the welfare of the State's ruling elite relied so much on coffee that the sector attracted most investments and efforts. The creation and management of State corporations have been instrumental in distributing rents among the ruling elite.

In this context, the State dramatically pushed for increasing the area under coffee and forced planting across the country. The most significant expansion of coffee cultivation was undertaken in the 1980s with a program of massive tree planting meant to increase annual production from 30,000 to 50,000 tonnes by the early 1990s (Figure 4.1). From 1980 to the early 1990s, the number of coffee trees increased from 90 million to over 220 million, and the area under coffee grew from 40,000 hectares to more than 85,000 hectares. Coffee is one of the most labor intensive crops, so this expansion relied on coercion, and farmers were forced to plant and look after trees that they were strictly forbidden to uproot. Despite these radical interventions, production hovered below 35,000 tonnes in the early 1990s and declined severely thereafter. The dramatic decrease in yield reflects an authoritarian policy that provided poor incentives. Planting trees on soils deemed inappropriate for coffee is one of many illustrations of this deficient policy.

The weak competitiveness of the Burundian coffee sector became a major concern when the International Coffee Agreement was suspended in 1989, and prices declined sig-

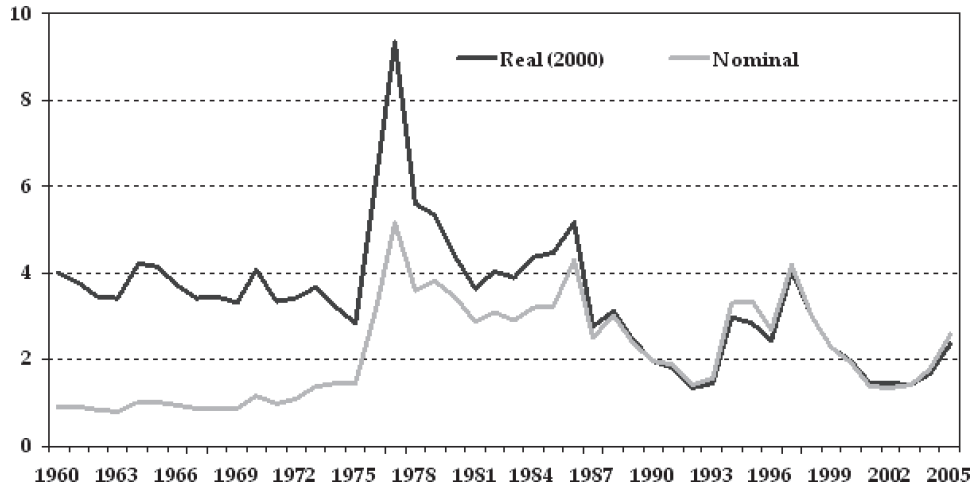
Figure 4.1. Burundi Coffee Production ('000 60 kg bags)



18. The section was written by Dan Clay (MSU) with the collaboration of Anne Ottawa (MSU), Ilhem Baghdadli (Economist, TTL, AFTS3), Paul Deluco (MSU) and Tania Rajadel (Economist, AFTS3).

nificantly (Figure 4.2).[19] To overcome some of the major weaknesses of the subsector, the emphasis shifted to enhancing management and the quality of coffee in the early 1990s. Setting a minimum guaranteed price for producers was intended to stimulate production, while introduction of an auction system was intended to foster transparent and efficient sales practices. While restructuring and reorganizing the coffee subsector were acknowledged to be key in addressing these issues, reform schemes were ill-suited and failed to improve performance. This policy was also unsuccessful—quality declined steadily, producer prices remained among the lowest in the world, and the auction system fostered major collusion because there were few licensed bidders. The devastating conflict in 1993 halted the reform attempts as insecurity prevented proper care of the trees. In addition, in some regions farmers rebelled against rent-seeking by the ruling elite and destroyed coffee trees. While reform attempts resumed after the Arusha agreements, the competitiveness of the Burundian coffee subsector remains extremely weak and much remains to be done to make it an effective contributor to shared growth.

Figure 4.2. Annual Arabica Prices (US$/kg)



Past and Current Reforms

The 1992 reform entailed some restructuring and reorganizing of the industry. After harvesting, coffee cherries[20] were brought to one of the 136 washing stations managed by the Organization of Coffee Washing Stations (SOGESTALS, Sociètes de Gestion des Stations de Lavage), eventually becoming the fully washed Arabica. Some farmers still choose to do on-

19. All dollar figures are US dollars.

20. 'Cherry' is the fruit of the coffee tree, which is picked when it turns red. It normally contains two seeds, the 'beans' separately covered by thin membranes, called silverskins and parchment-like shells, enclosed in a thin mucilaginous substance. Immediately surrounding this is the skin of the fruit. Fruit skin and mucilaginous substance are removed in the pulping process. Pulped coffee in its parchment shell is called 'parchment coffee.' The parchment including the silverskin is removed by the curing process. 'Green coffee' is the internationally traded coffee before entering the roasting process.

site washing, which produced semi-washed Arabica. Typically, three-quarters of the production was of the fully-washed type, while the remaining one-quarter was semi-washed. Following washing, coffee was delivered to one of the coffee processing factories, two of which were operated by the parastatal SODECO (Sociète de Dèparcharge et de Conditionnement), while two others were privately owned (SONICOFF and SIVCA). Until May 2007, OCIBU (Office des Cultures Industrielles du Burundi), the parastatal that acts as the umbrella organization, sold the coffee to exporters through an auction established in 1992. Only licensed buyers belonging to the ABEC (Association Burundaise des exportateurs de café) were authorized to bid. Following its delivery to the SOGESTALs, OCIBU was the owner of coffee. Both the SODECO and SOGESTALs were paid fixed fees for their services. Coffee prices were pan-seasonal and pan-territorial. Coffee growers began delivering their coffee to the washing stations in March and received payment in July. On few occasions when prices were favorable, they could receive a second payment.

While the 1993 political crisis and the subsequent economic collapse halted the program, it is important to stress the major shortcomings and an inability to provide the incentives needed for better performance.

- The auction failed to improve transparency and enhance export prices. While the licensing system only authorized actors with reasonable counterpart risk, it limited the number of bidders so drastically that collusion was almost inevitable. It is also unclear whether risk management solely commanded the attribution of the licenses because authorized bidders were often reported to belong to the ruling elites. Moreover, the system channeled production only to commodity markets while specialty coffee markets that command a higher price premium were emerging.
- Coffee revenues were shared according to an ineffective pricing rule. The system of the Redevances Connues d'Avance (RCA) did not provide the actors of the value chain proper incentives to increase quality and volume.
- The reforms managed to foster neither competition nor development of private sector investment throughout the chain. State intervention remained too strong to attract private newcomers with the expertise and financial muscle to substantially improve the performance of the subsector.

Taking stock of these deficiencies, reforms resumed in 2005, with the issuance of a series of ordinances adopted as of January 14, 2005, to liberalize price setting and marketing activities all along the chain and suppress the tax on orchards. The following step included removal of the State guarantee for financing the subsector and the creation, on March 30, 2006, of the Coffee Reform Committee to pilot preparation of privatization. Attempts were made to improve the auction system, but the marketing structure remained clearly inefficient because considerable quantities of coffee were marketed outside the official OCIBU channel, reportedly through Rwanda. While opinions on the quantities of coffee that go to Rwanda differ, industry representatives put the figure somewhere between 10 and 15 percent. However, during the 2004/05 season, as much as one-half (or even two-thirds) of coffee output may have been marketed through Rwanda. The numbers are certainly consistent with this estimate. The official crop estimate of 150,000 bags was the lowest figure since 1963. Although part of the decline from the previous crop of 600,000 bags was due to its

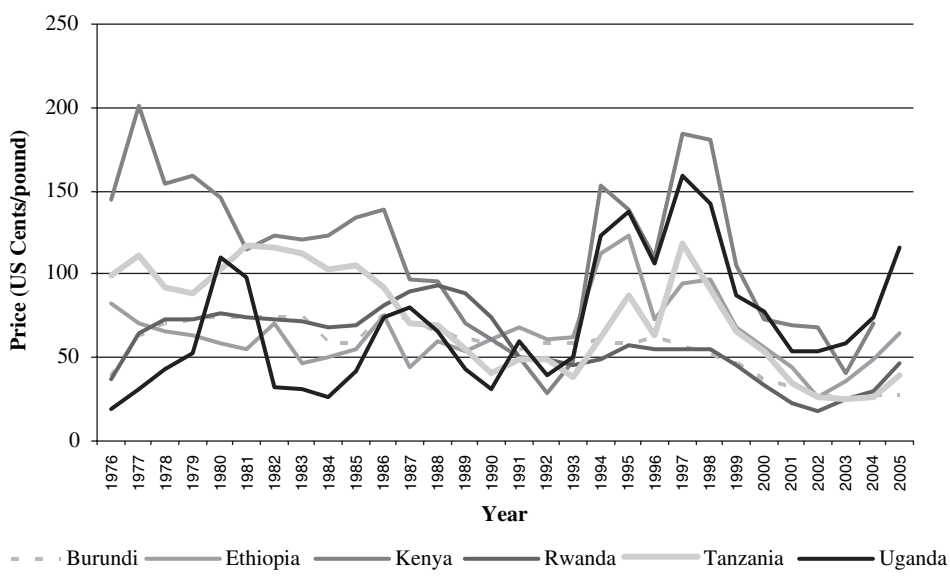
cyclical nature, even accounting for such behavior (comparing it to the earlier minimums), the actual crop should have been at least 300,000 (twice as high as the actual figure).

Current developments highlight further insufficiencies. There was no modification in the structure, organization, and property of the industry, so ordinances failed to reflect any actual changes or improvements. Recent visits by specialty coffee roasters showed a strong appetite to contract direct sales with Burundian coffee producers, however, the ordinance establishing direct sales was only theoretical because the property was still in the hands of OCIBU and direct sales therefore required State clearance! As a remedy, Pierre Nkurunziza, the President of Burundi, affirmed in a press release on May 1, 2007 that producers were now the owners of fully-washed and green coffee. Yet, such a change could not happen overnight, because it requires building capacity for producers to effectively market their coffee and a legal and regulatory framework properly defining duties and rights of all interests. In this confusing context, producers were led to contract the sale of all domestic production to a single broker based in New York, therefore lessening their expected revenue and jeopardizing their future access to specialty markets. An aggravating factor was lack of transparency in negotiating the contract, which was not cleared by an international lawyer.

Current Performance and Main Challenges

Further evidence of poor performance of the coffee subsector is provided by a comparison of prices paid to producers in East African countries (Figure 4.3). While the six producers bottom out in the four years after the end of the International Coffee Agreement in 1989, Kenya, Uganda, Ethiopia, and Tanzania show improved producer prices that correspond with the Brazilian frost of 1994 that saw higher coffee prices in all commodity markets.

Figure 4.3. Comparison of Prices Paid to Producers in East African Countries



Rwanda and Burundi, plagued by serious political difficulties, show no change in producer prices over the same period. In 1999, the producer prices in all six countries go into free-fall again and do not show signs of recovery until 2004. Rwanda and Burundi had the lowest producer prices in the region from 1994 to 2004. That distinction is now held exclusively by Burundi because of Rwanda's new found success in coffee with a jump in prices paid to farmers starting in 2003.

After 40 years of cyclical violence and political instability, Burundi must make important changes to its coffee subsector and develop the capacity to participate in rapidly changing global coffee markets. Growing in importance are specialty markets that depart from the traditional commodity-oriented coffee markets in that they are defined primarily in terms of their high product quality and other differentiating characteristics. This development is particularly encouraging for Burundi, whose agro-ecology and well-developed coffee infrastructure support the production of highly prized "mild Arabicas," and where the political will seems to create an institutional environment needed for the subsector to realize this remarkable potential.

Becoming a significant player in this new market environment will require a vision for where global market trends are headed and for the changes Burundi needs to make to become competitive with other coffee producing countries in the region and other continents that have a 10–15 year head start. A first step is to look forward 10 years or more with a vision for how producers, processors, exporters, and the various support institutions in Burundi will be organized to ensure successful entry and participation in these global markets. A second step is adopting a gradual but well-defined strategy for transforming the coffee subsector, including the priority questions about transfer of state-held assets.

While the state-owned infrastructure and restrictive regulatory framework that governs the coffee subsector in Burundi today may have been initially intended to protect the small farmer, in today's post-International Coffee Agreement (ICA) environment it has had the unintended consequence of stifling innovation and progress. With more than 140 washing stations throughout its coffee growing regions, Burundi is well positioned under privatization to capitalize on its comparative advantages and begin to directly access higher value specialty markets for a significant share of its coffees. An enormous plus for Burundi is the intense curiosity about coffee from Burundi expressed through the specialty coffee industry, as evidenced clearly in the 2000 SCAA success of its 'Ngoma Mild' coffee and recent visits of coffee specialty buyers in Burundi (February and April 2007). The specialty coffee concept offers small producing countries the greatest opportunities; the industry is prepared to work with Burundi as it has with Rwanda.

Vision of What the Sector Could Be in 10 Years

Privatization need to transfers property from the public to the private sector and ensure that the transfer will improve competitiveness and contribute to shared growth. The design of the privatization scheme should: (a) identify the market structure that will lead to the greatest efficiency; (b) specify competition rules that will govern organization of the market structure and the deregulation process, which will lead to this market structure; and (c) detail modalities of the property transfer from State to private investors.

Privatization will not cure poor sales management and subsequent fiscal risks unless the Government designs privatization schemes to attract solid long-term investors. Given that

such investors might not be found locally, it might be suitable to target regional investors who have the expertise and financial strength. These investors could introduce best available practices provided the Government establishes the right incentives to ensure that the optimization of local production and processing does not suffer from investors' global interests. One possible strategy to align foreign investors' incentives with those of the key domestic stakeholders could be a minority equity position for producer associations.

The Government's growth strategy should prevent conflict, thus the privatization process must be designed to mitigate the risk of rent-seeking. Creation of forums should enable the Government to hear all the concerns of all stakeholders and address them through processes likely to gather assent of the majority. It is particularly important to ensure that equity principles are respected and that the long-flouted rights of coffee growers are heard and considered. Reinforcing the investigation and bargaining capacity of coffee producer organizations will be key to achieving this objective.

Changes in Marketing, Production, and Processing

Develop a Focused Marketing Strategy and Implementation Capacity. Burundi should develop a comprehensive strategy for marketing its coffee, including marketing materials with a media kit presenting Burundi's history. A marketing specialist will be needed to cultivate appropriate contacts and potential coffee relationships in North America, Japan, Europe, and alternative markets, oversee the organization, dispatch coffee samples, arrange meetings and presentations, and develop and manage trade show exhibits and marketing materials.

Develop Capacity to Conduct Strategic Country Buyer/Roaster Tours. The ability to host prospective buyers in Burundi requires skilled coordination as well as cooperation among washing stations, dry mills, coffee producer associations/federations, the Ministry of Agriculture, and other government bodies. Buyers need to have the opportunity to visit coffee growing regions, observe washing station operations, meet growers and washing station owners/managers, view all aspects of coffee milling, and engage in cupping of select coffee samples.

In delegating this role Burundi may want to consider a team approach at the federation level, drawing upon representatives from various coffee regions who will organize and host tours for prospective coffee buyers. This would include preparation of brochures, maps, and fact sheets, together with a step-by-step itinerary for distribution to buyers upon their arrival. Also important is the planning and organization of presentations at washing stations and other receptions, making sure that key coffee and government officials attend. Representatives of the coffee subsector and the media should be invited to such events.

While this diagnostic assessment was performed, two visits by buyers were organized in Burundi this year, and follow-up is planned. The Government is preparing a statement for an important event that is to be held in Portland, Oregon (USA) for a large audience of specialty coffee buyers. Such a statement should help increase their awareness of Burundi's history, assure them of the Government's commitment to understand and address concerns that might be preventing them from buying Burundian coffee, and present to the media an action plan to tackle these issues. This action plan will reaffirm the liberalization of direct sales at all levels of the coffee commercialization chain as well as Burundi's dedication to move the current privatization process forward. The implementation of this process already provides valuable lessons to be shared with other sectors such as the tea industry.

Promote Quality of Burundi Coffee Through Cupper Training. Expanding Burundi's capacity nationally, regionally, and at the washing station level for quality control through the development of cupping skills is paramount. A logical first step is to act on observations by Coffee Corps cuppers who recently held cupper training sessions. The East Africa Fine Coffee Association works in concert with industry roasters to secure volunteer trainers for the Coffee Corps program and is an important organizational resource.

Cupping Laboratories—Improvements and Additions. Refinements are necessary at the national cupping lab (currently at OCIBU) to ensure a state-of-the-art level. Plans should also be explored to strategically place cupping labs in Burundi's coffee growing regions at the level of either the coffee producer federations or the SOGESTALs. As privatization occurs and growers are provided incentives for quality, the need for cupping labs to evaluate coffee quality attributes will increase. Eventually we expect that cupping labs will be established at each washing station. Opportunities for direct sales of high quality specialty coffees will require this level of competence and well-managed washing stations will quickly realize how it will benefit them.

In making these cupping labs available on a centralized (national or regional) level, Burundi will be able to support improved quality control on larger volumes of quality coffee and gain international recognition of the quality of Burundi's coffee.

Relationship Coffee Pilot Initiative. In order to demonstrate a relationship coffee model, Burundi could engage in a pilot project involving a private washing station and dry mill. The pilot initiative would start with a visit by a group of specialty coffee roasters and their importers.

The benefits of such a trial program are multiple. First, the pilot begins the necessary diversification of export marketing to include some leading coffee markets that are currently absent from Burundi's small mix of buyers. Second, the knowledge about how quality premiums are paid to growers in direct trading relationships will make very real the notion that 'quality pays.' Finally, study of the pilot project will help refine Burundi's overarching plan for privatizing its coffee infrastructure.

Given the history of the coffee sector, the selection of such a pilot should be carefully based on objective criteria and avoid strengthening and promoting the ruling elite.

Attention to Coffee Production and Processing. Burundi is much farther along on production and processing than it is on marketing, but there are numerous areas where special attention is required if coffee quality is to be improved to a point where it will attract a large and sustainable cadre of specialty coffee buyers/roasters. On the production side for instance, it would be important to use proper cultivation techniques during the growing season, especially mulching and application of fertilizers and pesticides. On the processing side, more attention needs to be given to progress of fermentation processes.

Policy Reforms and the Way Forward

How the coffee subsector is liberalized and privatized will have a clear impact on the country's ability to access high-value specialty markets and needs to be carefully considered.

Liberalization and privatization of the coffee subsector in Burundi should significantly reduce the flow of coffee through the "tender" (auction) in favor of developing direct mar-

ket links with buyers. Licensed millers should be able to freely process washed parchment coffee from any producer. Washing station owners and managers and their coordinating bodies should determine the quality of coffee lots that will be segregated for individual marketing and export.

To market their coffee, sellers in Burundi need to understand how to identify, present, and promote the quality of their coffee, as well as reward those growers who produce it. There is a need to license producers and millers; and warehouse, cup, and ship coffee samples to prospective buyers. Market development, cupper training, and the introduction of IT and other marketing improvements are also essential. The industry itself can address many of these activities through coffee producer federations. Others will require a level of public coordination, particularly in areas of industry regulation and policy. All of these responsibilities command attention in the debates surrounding reform of the coffee subsector.

Tea Subsector[21]

Brief History

Tea was introduced to Burundi in 1931 at the Gisozi research station. It gained importance when the agricultural research institute, ISABU (Institut des Sciences Agronomiques du Burundi) established the first tea plantations in Teza in 1963 and Rwegura in 1966. Smallholders began producing tea during the 1970s and 1980s following various donor-supported projects. Four tea factories were financed by the European Investment Bank, the investment arm of the European Union, while a fifth was financed by CCCE (Caisse Centrale de Coopération Economique), the French aid agency, predecessor of AFD (Agence Française Développement). Production grew steadily and exceeded 6,000 tonnes in the early 1990s, but experienced a hiatus in the two years following the civil conflict—a decline from 7,000 to 4,200 tons, with one-half of the decline accounted for by the Teza tea factory.

Tea is currently Burundi's second largest cash crop after coffee, contributing approximately $10 million to export earnings, or 12 percent of total merchandise exports. During the period 2001 to 2006, Burundi's annual tea output averaged 7,500 tons, roughly 30 percent of which was produced by four estates and the rest by over 50,000 smallholders. Smallholders account for 75 percent of the area allocated to tea but 71 percent of tea production. Average yields for smallholders are 4.0 t/ha of green leaf compared to 4.8 t/ha tons of green leaf for factory estates.[22] The typical Burundian tea grower produces 400 kg of made tea from a 0.1-ha plot, earning about $46 for the year 2006.

As tea is grown at high altitudes, often on mountainous areas with steep slopes, it seldom competes with food or other cash crops. There are five tea-producing areas in Burundi with individual factories—Teza, Rwegura, Tora, Ijenda, and Buhoro. With the exception of

21. This section was written by Eric Kacou (OTF) and James Foster (OTF).

22. Note, however, that these yields are not strictly comparable because the corresponding area may include land which is allocated to tea, in principle, but may have been abandoned. According to a World Bank (1993, p. 20) report, estates achieve higher yields compared to smallholders because they occupy the most productive soils of the tea areas. Perhaps a more likely reason is that factories pay less for green leaf from their own plantations and so stop or extend time between collection cycles to smallholders while continuing with collection from their plantations.

Ijenda, which is only smallholders, the other four tea factories receive tea supplies from both plantations and smallholders. The chief player in Burundi's tea industry is the parastatal Office du Thé du Burundi (OTB), which owns and manages these five tea factories and handles estate production, marketing, and trade, as well as industry regulation.

The European Union is currently promoting development of a sixth tea area in the province of Mwaro. The project, PROTHEM (Promotion de la théicultire en province de Mwaro), began in 2002 at a cost of about 1 million euros. It covers 845 hectares and will involve some 6,540 tea growers with an average tea plot of 0.13 hectares. A private company is constructing a tea processing factory at Gisozi that is expected to be operational by September 2007. This private factory is expected to produce 1,000 tonnes of made tea during its first year of operations. The business plan calls for production of made tea to reach 2,000 tonnes in the fourth year of operations after expansion.

Growers sell their green leaf to the nearby tea factories at a price set by OTB. The price is pan territorial, the same for all smallholders in all five tea producing regions. Despite considerable fluctuations in the price received for its tea, OTB changes tea leaf prices infrequently, for example, during the period 1993 to 1999 they changed only twice. Over the last three years smallholders have received about one-third of the price Burundian tea fetched at the tea auction in Mombassa. Almost all (95 percent) of Burundian tea is exported, with 70 percent going through the Mombassa tea auction and the remaining marketed through direct sales, a practice followed by most African tea producing counties. Burundi's annual tea production of about 7,500 tonnes is negligible considering that global and African tea production during the period 2001 to 2005 averaged 3.01 and 0.46 million tons, respectively.

Despite changing world market conditions such as declining prices, demand for quality differentiation, and competition from man-made beverages (especially soft drinks), the structure of Burundi's tea industry has remained largely unchanged since its inception. The sector faces numerous constraints, including structural inefficiencies of the tea factories and plantations, poor incentives to smallholders and estate laborers, limited use of inputs and extension services, and non-existent research. These constraints have led to a considerable decline in the quality of tea and consequently the prices at which Burundian tea is sold at the Mombassa tea auction. If these constraints are not addressed, the sector will face even more difficulties that are likely to lead to its demise.

Past and Current Reforms

Prior to 1981, each tea factory was autonomous to the extent that it bought, processed, and sold its own tea. This situation guaranteed a considerable level of autonomy to each factory. In 1980/81, the Tora factory experienced serious financial difficulties. In a bid to save this factory, the Government decided to centralize management of all factories. This decision allowed any profitable factory to cover the losses of any unprofitable one. Since that time, each tea factory is no longer autonomous. OTB controls all finances, and requires all management decisions to pass through the head office, a situation that has led to a lack of responsibility among managers and reduced incentives for managers to improve factory management.

Policy reforms, including privatization of Burundi's agricultural sector were first contemplated in 1988 as a result of a perceived shift in the government's role from producer and marketer to regulator. However, progress was very slow initially because the Govern-

ment's view of reforms was very narrow, not extending beyond restructuring management of the parastatals.

Deeper reforms, including privatization of the parastatals, were to be undertaken four years later under the $4.2 million Agribusiness Promotion Credit. In the tea sector, these reforms envisioned first breaking up the de facto monopoly of OTB in order to maximize returns of existing investments through: (a) better management of tea estates, including performance contracts; (b) developing contractual relations with smallholders and supporting development of associations; (c) reducing processing costs; (d) efficient management of the tea factories; and (e) improved marketing. Second a proposed study was to look at privatization of OTB as a whole or as individual factories, but because of the civil war, the reform process was derailed and the credit closed early, with only $0.3 million disbursed out of the estimated donor funding of $4.2 million.

Current Performance and Main Challenges

Burundi's tea industry is currently in a perilous state. A number of key pieces of equipment in all the factories are close to collapse and tea quality has declined dramatically since the early 1990s when Burundi received good prices. The average price received for Burundi tea at the auction in Mombassa was $0.20/kg below the average price from 2000 to 2006, and from 2001 to 2006 was sold at a discount of $0.25/kg to the average price of Rwandan tea, a country with very similar conditions.

Prosperity is more than natural resources—it also includes the enabling environment that provides the basis for a high level of productivity. When prosperity is considered in this broader context, it is useful to consider seven kinds of enabling capital that are intended, as Nobel Laureate Amartya Sen suggests,[23] "to give a better idea of a nation's ability to produce things in the future." Of these seven forms of capital, the first three represent tangible, physical capital—natural resources, infrastructure, and financing. The last four constitute higher, social forms of capital, and while more difficult to measure, have the greatest effect in creating prosperity.

Natural Resources Are Favorable to Production of High-Quality Tea. However, in Burundi they are not being maximized due to low productivity, with no focus on quality throughout the supply chain (Table 4.1). The low productivity is caused by a lack of fertilizer and the long collection cycle, normally around 10 days, but in Burundi it has been extended to avoid an oversupply of green leaf. For example, in Rwegura the collection cycle has reached 18 days and in Buhoro collection is occasionally completely halted to enable the backlog of green leaf to be processed. The lack of focus on quality means that tea farmers and pluckers in the plantations receive the same prices for green leaf regardless of its quality, hence discouraging the extra care needed to ensure quality leaf.

Wooded areas are not being sufficiently replanted to keep up with demand and so the majority of tea factories will be reliant on expensive private suppliers of wood over the next few years. If the current rate of replanting continues, not only will the cost of wood for

23. Fairbanks, Michael. 2000. Changing the Mind of a Nation: Elements in a Process for Creating Prosperity. In Culture Matters: How Values Shape Human Progress (Lawrence Harrison and Samuel Huntington, eds.). New York: Basic Books.

factories increase, leading to further deterioration of factory profitability, but Burundi's tea industry will also become a considerable factor in deforestation, with all the implied negative consequences for the nation. This must be avoided at all costs.

Infrastructure has Deteriorated Such That it Could Collapse at any Moment. The original installed lines in Burundi's tea factories have never been replaced and some are now unusable and require urgent rehabilitation. Only 41 percent of the installed capacity is being utilized. Similarly, parts of the rural road network are at times impassable, leading to high costs for local transport, long delays, and lower quality green leaf. Due to the quality of the roads, smallholder plots a long way from the factory that produce very small quantities of green leaf (averaging 400 kg per year) are likely to be economically unviable for a private industry to collect.

Table 4.1. Production of Made Tea in Burundi (tonnes)

Year	Teza	Rwegura	Tora	Ijenda	Buhoro	Total
1991	1,407	1,608	1,043	1,265	139	5,462
1992	1,392	1,995	1,063	1,451	48	5,949
1993	1,416	1,959	829	1,096	223	5,523
1994	1,647	2,313	1,052	1,480	372	6,864
1995	1,716	2,033	1,192	1,673	380	6,994
1996	998	1,761	1,128	1,712	116	5,715
1997	376	1,583	949	1,138	124	4,170
1998	1,378	2,081	1,183	1,628	399	6,669
1999	1,343	1,743	1,425	1,919	434	6,864
2000	1,403	2,213	1,447	1,589	467	7,119
2001	1,634	2,790	1,652	2,190	743	9,009
2002	1,603	1,789	1,156	1,485	604	6,637
2003	1,701	2,044	1,516	1,608	507	7,376
2004	1,759	2,140	1,516	1,544	711	7,670
2005	1,934	1,811	1,711	1,764	603	7,823
2006	1,593	1,704	1,109	1,521	435	6,362

Source: Office du Thé du Burundi

Transport of green leaf is expensive, irregular, and reduces quality. The transport of green leaf was privatized with the exception of Buhoro in 2004, but this has not improved efficiency. Trucks are regularly overloaded with resulting damage to green leaf from excessive pressure and factories have regularly interrupted the collection cycles so as not to receive a surplus of green leaf. Smallholders and the plantations do not continue to pluck leaves on a regular basis in order to maintain quality and apply the excess to the soil to trap humidity.

Electricity is a further problem with a lack of functioning generators and no use of invertors to reduce usage.

The Financial Position of OTB is Worsening and Smallholders Have Limited Access to Financing. The OTB faces large long-term debts in foreign currency, mainly attributed to the

two most inefficient factories, Buhoro and Ijenda. Between 2005 and 2006 these long-term debts increased by 14 percent, from FBu 5.6 billion to FBu 6.5 billion, with Buhoro responsible for 53 percent and Ijenda 35 percent of these debts. Local banks are unable to finance at the level necessary to build a tea factory, and smallholder farmers are unable to access credits due to a lack of formality and cooperation.

Not Only are Institutions Ineffective, but They Lack a Framework. The structure of the OTB is highly inefficient,[24] with no performance contracts for its managers, no targets against which to measure progress, and limited accountability for success or failure. The fixed price for green leaf reduces incentives for higher quality production. Other institutions are also ineffective. Tea farmers are not organized into associations and where these do exist they are weak. Only 29 percent of smallholders are party to associations. These associations are relatively new and do not have formalized legal status, hence they are unable to easily access financing and do not have strong systems of management or cooperation.

Furthermore, the formal private sector is of little help, especially with processing and marketing, however, the de facto liberalization of the tea industry will take place in 2007 without a regulatory body. The private tea factory in Gisozi will become operational in 2007 relying on production from new tea growers in the region, but also with the potential to process green leaf from Teza and Ijenda cultivation areas. This could result in conflicts if legal agreements are not reached before this date.

Technical and Market Knowledge is Lacking Throughout the Industry. Made tea yields of about 1,000 kg/ha are less than one-half that of well-run plantations and factories. The rate of transformation of green leaf into made tea of about 5:1 also highlights significant problems with factory processes. A normal transformation rate of 4.2:1 would reduce costs of green leaf purchases by almost 20 percent. All factories are using sub-standard practices and poorly maintained equipment, for example, if fire bars on the boilers were cleaned every half an hour instead of every week, productivity and life expectancy of the boilers should increase. The lack of such cleaning coupled with the lack of any simple tools for cleaning indicates a complete lack of knowledge of boiler maintenance.

Despite large numbers of extension workers (nine agronomists and 50 extension officers at Ijenda alone), limited training sessions are held each month with no visible impact on the quality or quantity of green leaf produced. No research is being funded to identify better varieties of tea or which fertilizers to use at what rate and at what time. Excellent research documents were produced by ISABU in the early 1990s about how to tend tea plants to maximize productivity and quality. Unfortunately OTB stopped funding this research after 2000 because they were dissatisfied and since 2004 no research has been conducted in the tea sector.

Knowledge of international buyers and their needs is also limited, with sales via the auction in Mombasa preferred to direct sales.

Availability of Plantation Workers is also a Problem. Plantations at Buhoro and Tora experience labor shortages, but there is a surplus of labor at the head office and in the factories (122 in the head office and 300 in Rwegura). An efficient factory processing 30,000 tonnes

24. Only 22 percent of stakeholders surveyed agreed that the OTB is efficient (OTF Group survey May 2007, n=84)

of green leaf per year (the total for the whole of Burundi in 2006) should use 100 workers, so there should be plenty of spare workers available from the factories. Low wages are the likely cause of labor shortages. The price paid to daily laborers in the factories and plantations is extremely low at FBu 350 for plantation laborers and FBu 400 for laborers on road maintenance. Pluckers generally do better because they receive on average FBu 900 per day (FBu 30/kg with an average of 30 kg plucked per day). Other causes include the dangers for women employees and the lack of available housing.[25]

Prevailing Stakeholder Attitudes Are Not Aligned with Competitiveness. For example, only 77 percent of stakeholders believe the government should subsidize the profitability of tea factories. Furthermore, 55 percent believe that cheap labor and natural resources are the key to competitiveness. Finally, while 53 percent of stakeholders believe privatization is important to industry success, only 22 percent believe the government is ready to supervise such a process for the industry. However, stakeholders are ready to cooperate and compete with each other, which is a very positive sign. It is paramount that these attitudes are addressed if the tea industry is going to be successfully reformed and privatized in the future. Migration of the industry to a sustainable and competitive value model would require such a shift in mindsets.

Vision of What the Sector Could Be in 10 Years

The pre-conditions for a turnaround of the Burundi tea industry are present. Tea stakeholders, the government, and the international community concur on the need for a different model. Burundi tea needs to regain its status as one of the world's highest quality teas. OTF Group believes this industry could achieve estimated revenues of over $32 million per year by 2016. Such a metamorphosis would require targeted investments in factories and extension services, professional management, and a focus on quality throughout the value chain, coupled with a direct sales strategy. Figure 4.4 shows the potential impact of these key actions on tea industry revenues.

Changes in Production and Processing

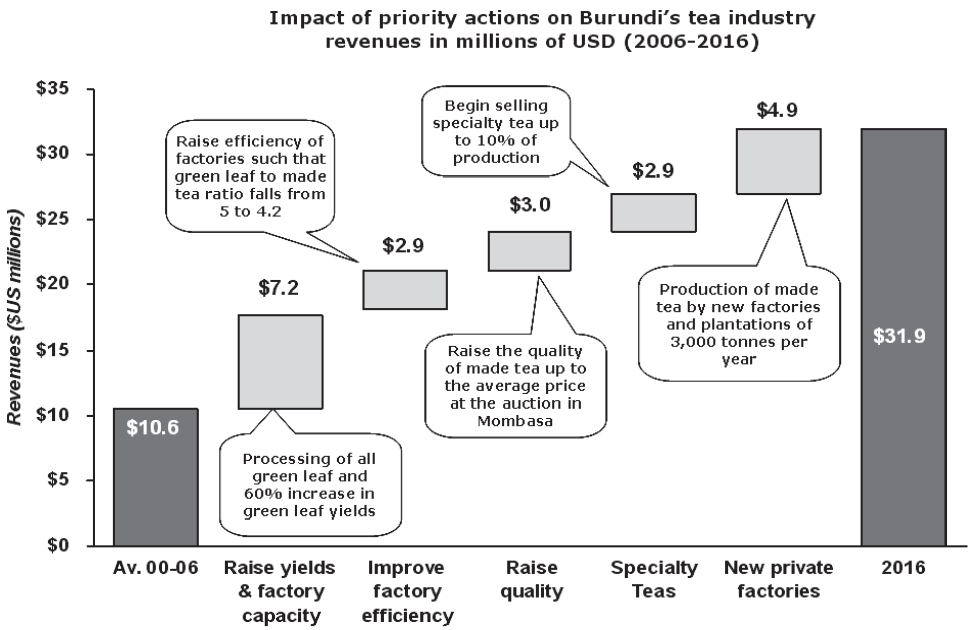
Figure 4.5 highlights the 12 key turnaround activities required to enhance the competitiveness of the tea industry in Burundi.

Strategic Pillar 1—Improved production of green leaf requires efforts to raise both quantity and quality.

- *Restructure factories to provide workers for plantations and raise their wages.* This action should ensure greater productivity in the plantations, for example in Buhoro where currently only 65 percent of the green leaf can be collected.
- *Undertake research and provide financial support for effective application of fertilizer by tea farmers.* With the correct application of fertilizer, productivity should increase dramatically.

25. John Baffes, Burundi's Tea Sector, January 2007.

Figure 4.4. Potential Impact of Key Actions on Tea Industry Revenue



Source: Estimations based on OTF Group Analysis, May 2007

- *Offer more regular and effective extension services on a local level.* Smallholders require more and regular training in how to maximize both the output and quality of their tea bushes. Existing extension services are not effective.
- *Ensure monitoring of quality and change the pricing system to provide the right incentives.* Currently there are no incentives for either pluckers on plantations or smallholders to provide high-quality tea leaves to factories. By instigating a system with minimum standards whereby poor leaf could be rejected and high quality rewarded, the quality of green leaf should improve.

Strategic Pillar 2—Improved processing demands rehabilitation and better factory management.

- *Privatizing factory management will be crucial to ensuring efficient and quality processing.* Without a major shift in the mindset at the top of factories and plantations, other suggested actions in the industry will not be fruitful. The managers of the factories need to be professional, have performance contracts, and have incentives to raise output and quality.
- *Repair old but serviceable machines and purchase new machines where necessary.* A large portion of factory machinery is old but could be serviceable if better maintained and repaired. For example, four new boilers would be a very large expense, but the existing boilers that are already installed but not working would be relatively inexpensive to repair and could be effective for a number of years. The repair of these machines should go hand-in-hand with training in maintenance and much more regular maintenance.

Changes in Marketing

Strategic Pillar 3—Marketing should focus on quality, and eventually specialty tea markets through direct sales.

- *Establish quality control systems to improve value throughout the value chain.* Quality in the cup begins at the bush. History proves that Burundi is capable of producing some of the best teas in the world, but quality control must return to ensure that its tea regains its past quality.
- *Establish market links and information systems.* Marketing Burundi's tea will require not only a solid understanding of customer needs but also specific ways to react to such needs in a dynamic fashion. This often requires knowledge of demands and relationships with buyers.
- *Develop a complete competitive strategy for the Burundi tea industry.* Current attitudes and business models require a complete overhaul if the industry is going to migrate toward high quality and high value tea. Although this analysis provides initial priority initiatives, a full strategy is important to realize the vision.

Investment Requirements to Implement the Vision

Privatization of the tea sector should attract investors with the pockets deep enough to undertake the changes in equipments, technologies and know how that are needed to unlock the sector's potential. As discussed previously, the sector needs substantial investments in processing, production and extension services. The radical changes required could discourage some potentially good investors, who would prefer entering easier sectors, regions or countries. In this context, it might make sense for government of Burundi to realize some limited investments to rehabilitate the basic equipment of the tea factories and develop some more production lines, which would enable processing more tea leaves. Large investments would be needed to improve infrastructure, especially rural roads and electricity supplies, including the need to assess the potential for micro-hydro plants. It is important to identify whether the state or the private sector would carry out these investments.

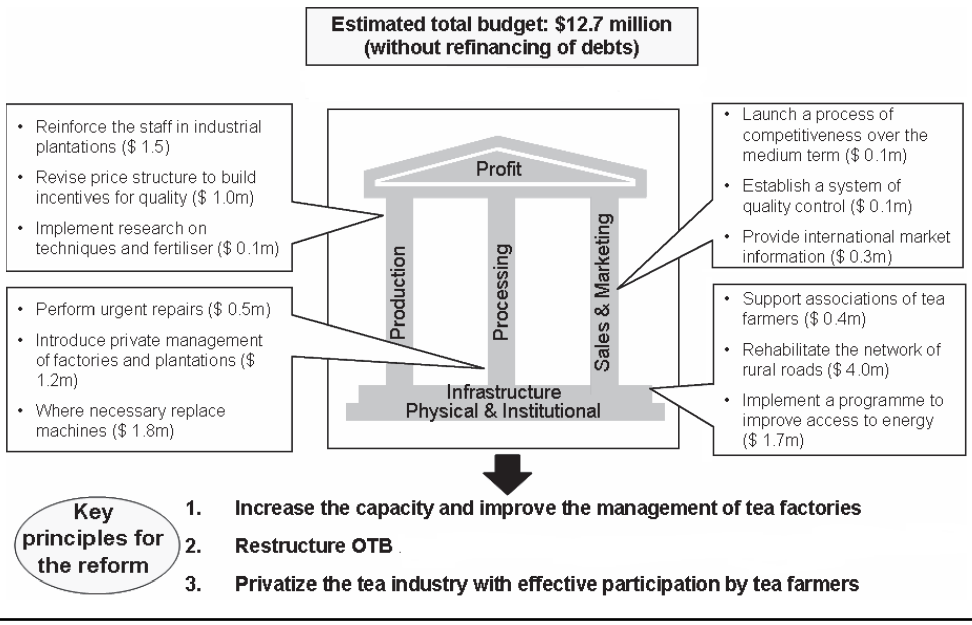
Figure 4.5 highlights how a 12.7 million budget could help put the tea sector back on the way for growth.

Policy Reforms and the Way Forward

Reforms in Burundi's tea industry must include its institutions, especially restructuring OTB, and privatization of factories after rehabilitation. These reforms form the fourth strategic pillar. Carrying out the activities set out above will require a new institutional structure—driven by the private sector, with regulation and support from the government. To achieve this new institutional structure, two aspects will be important: restructuring OTB; and creation of a more robust institutional framework. OTB currently monopolizes industry regulation, production, processing, and marketing—a situation clearly detrimental to the industry. It is critical that the mandate of OTB be redefined. An option could consist in refocusing OTB on regulation and support to smallholder farmers, but a newly created independent regulatory body could be just as effective. Second, to bridge the gap created by removing OTB from the

production, processing, and marketing links of the value chain, it will be important that the private sector and smallholder tea farmers develop in scope, skills, and reach. As demonstrated by current tea investors, it is possible to have entrepreneurs enter this industry if the right support, especially for financing, market access, and skills, is provided. As with smallholder tea farmers, the priority will be to provide these associations with much needed support.

Figure 4.5. Twelve Key Turnaround Activities Required to Upgrade the Competitiveness of the Tea Industry in Burundi



Note: The budgets are estimates in $ millions

In parallel with the restructuring of OTB, it is paramount that the privatization process be implemented in a gradual fashion. The first stage would transfer existing factories to semi-autonomous private management contracts. These contracts will not only help speed up rehabilitation but also prepare the assets for sale. We envision this stage to last an estimated three years. This transitional period will be important to ensure that smallholder tea farmers organize in stronger and financially able associations. It will also build the necessary momentum to demonstrate the impact private management can have on the performance of the industry and reinforce private sector involvement.

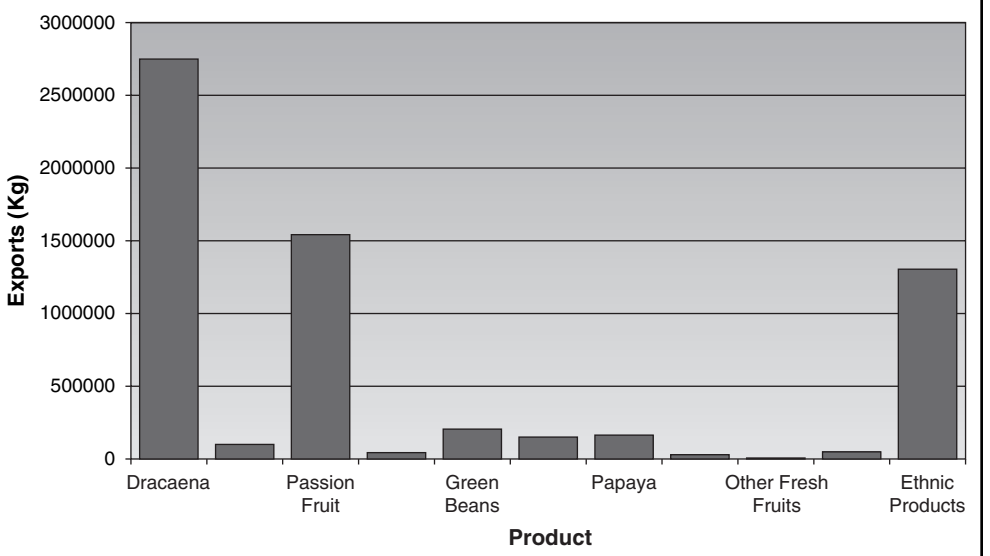
After this first stage set to last a maximum of three years, the tea factories will be fully privatized to attractive buyers. A small percentage of the shares could be earmarked for smallholder tea associations and factory personnel. We believe the upgraded factories stand a better chance of attracting the right kind of investors at a reasonable purchase price. Privatization should ultimately help the government pay off the existing debt of $17.4 million and spread ownership to rural areas. The delay in privatization should also enable the country as a whole to stabilize.

Horticulture Subsector[26]

During the post-conflict era Burundi has renewed efforts to strengthen horticulture by expanding fruit and vegetable value chains that serve both urban domestic markets and export markets (Figure 4.6). The country's long history of fruit and vegetable production for home consumption and local rural markets together are a vital foundation on which to launch future growth. While there is diverse horticultural production found on Burundi's 1.4 million smallholder farms, product quality as well as the on-farm mix of products is highly variable and almost always produced in small quantities.

Burundi's fresh vegetable production was estimated in 2005 at 250,000 tonnes, while fresh fruit production was estimated at 85,000 tonnes. Overall, horticulture products (excluding banana) are Burundi's fourth most valuable agricultural product, (more than $60 million in 2005), surpassed in value only by banana (cooking and beer banana), dry bean, and sweet potato.

Figure 4.6. Burundi Horticultural Exports, 1987–2002



Performance of the Subsector and Main Advantages and Challenges

Trends and Current Indicators. Horticulture exports from Burundi date from the mid-1980s and picked up momentum into the 1990s, peaking in 1993 at approximately 1,100 tonnes. The subsequent civil war and the regional embargo imposed in 1996 quickly reversed that trend, reducing the country's exports to less than 100 tonnes annually. More recently, an analysis of 2006/07 data from phytosanitary certificates shows that there has been a small but steady stream of exports, predominantly flowers and ornamental plants

26. This section was written by Dan Clay (MSU) and Luis Flores (MSU).

(dracaena), mostly to the Netherlands. These listings also show exports of passion fruit and ethnic products (including manioc leaves and apple banana).

An analysis of more recent exports based on phytosanitary certificates shows a possible shift in product focus as more and more cut flowers (mostly roses) leave Burundi on a weekly basis. For instance, roses now constitute the country's highest value plant product for export. Dracaena exports are also significant, but exports of fruits and vegetables have not rebounded since the 1996 embargo.

Comparing Burundi's horticulture exports since 1990 to other East African countries reinforces Kenya's dominance with exports in the range of 10,000 tonnes per year in 2004 and growing rapidly. Uganda holds a distant second to Kenya, followed by Ethiopia and Tanzania. Rwanda and Burundi occupy the bottom position in the comparison, partly because of their smaller size but more importantly because both countries were torn apart by civil strife during this period. As a result, Burundi has not had the opportunity to make the necessary investments to benefit from its comparative advantages, subsequently putting its horticulture subsector on a path to growth.

Comparative Advantages. Emerging from over a decade of civil war, Burundi's horticulture producers and exporters share a guarded optimism that their horticulture exports can be profitable. Burundi has the potential to become a highly competitive player in these increasingly lucrative markets. A number of important basic conditions allow Burundi to make this case—broad agro-ecological diversity that enables a wide range of horticulture products from lowlands to highlands, abundant rainfall and water sources, a paved road network connecting all production areas with airport facilities, short internal distances to shipping points, farmer experience with flexible payment terms from buyers (coffee and tea), easy transition to organic and fair trade production (due to low use of inputs), preferential treatment for EU and US market access, and support as a part of the Lomé Convention and the Africa Growth and Opportunity Act (AGOA). Collectively these conditions constitute a sizable up-side for horticulture exports from Burundi.

Challenges. Understanding Burundi's potential for horticulture exports today differs from 10 to 15 years ago. Market opportunities and food procurement systems have changed radically during this period. Markets have become global and expanded regionally in Africa, just as they have in Latin America and Asia. Not only have these markets grown exponentially in volume over the past two decades, but they are more diverse both in consumer demand and sources of supply.

There are far more competitors, especially in developed markets. The same evolution can be expected before long from today's emerging markets. In the Middle East, formidable competitors such as South Africa, Morocco, Egypt, Kenya, and even geographically distant Thailand and the Philippines are evaluating their horticulture market expansion strategies relative to emerging markets. In the midst of this multi-country battle for horticulture market share, the advantages provided by market proximity and climate diversity help, but are not sufficient to consolidate market penetration. Burundi has fallen back over the past decade and now needs to move fast to recover lost ground.

Elevating the country's competitiveness in these markets requires broad-based changes at multiple levels. From production to marketing, changes will be required in how horticulture producers are organized, the technologies they use, as well as how logistics and transport

systems for horticulture's highly perishable products. Another needed change is how marketing and market intelligence are conducted. This latter point is especially important given how radically fresh fruits and vegetable (FFV) markets have transformed over the past decade. An exclusive focus on European markets is no longer in Burundi's best interest. Today's FFV markets are bigger and more diversified geographically and in terms of products than ever before. In 10 years we can expect this market evolution to be even more pervasive. The demand for high value exotic tropicals—pre-washed, pre-cut, pre-packaged, ready-to-eat fresh fruits and vegetables—that we see now has just scratched the surface. They are on their way to becoming the mainstream for higher-end markets around the world. In light of these market dynamics, one of the steepest challenges facing Burundi's horticulture subsector lies in its ability to break from the traditional mindset and position itself for the markets of today and tomorrow.

The single most serious and immediate challenge to Burundi's horticulture exports can be described as a 'chicken and egg' dilemma of air transportation logistics. The dilemma must be solved before Burundi can become more than an occasional and small-time player in global markets for fruits, vegetables, flowers, and ornamental plants. The dilemma is that cargo space on passenger flights is limited and airlines will not make more space available because shipping volumes are low, but in turn, exporters and suppliers will not increase volumes because air cargo space is limited and carries the risks inherent in transporting perishable products on passenger flights.

Policy and Institutional Environment

Establishing a supportive business climate for horticulture exports is one of the areas where the Government can be proactive in strengthening the potential for growth in the subsector. Establishing an appropriate policy and regulatory environment is an important first step, including actions to address the need for financing horticulture investments at all levels. Improvements are also needed in critical publicly-financed support institutions for research, extension services, and establishing a pipeline of skilled technicians and managers required for proper functioning of the subsector.

Business Services. There is a need for business development services (some of which have been proposed by STABEX) that will include training farmers in how to export, taking them on field trips, organizing meetings with buyers, etc. These are much needed services in Burundi. Beyond such services is the establishment of a managerial and operational framework for exports—there needs to be a team of experienced professionals from field technicians to packing plant managers to organize and supervise production and export processes.

SPS Management Services. Looking to the future, the Government must be committed to build capacity for SPS needs identified by stakeholders in the sector. Achieving this objective will require strengthening at several levels, including: (a) a basic public awareness campaign aimed at building a 'culture of quality and safety' among horticulture stakeholders and understanding the requirements that are imposed on exporting countries if they are to become preferred trading partners; (b) promotion of Good Agricultural Practices (GAP) among producer groups and others in the value chain as they relate to plant health, especially pests and pesticides; and (c) developing a regulatory framework and system for imple-

mentation, including the capacity for in-plant risk analysis, surveillance, diagnostic services (pests, diseases, soils), quarantine and emergency management, all areas that will enable horticulture producer groups and agribusinesses to be successful in today's highly competitive export markets.

Vocational Training. Supporting infrastructure and services for export requires a steady pipeline of mechanics, greenhouse builders, carpenters, welders, refrigeration technicians, and an array of people with different vocational skills. They are frontline workers who will keep seedling production, packing, cooling, and other export facilities in serviceable condition.

Extension Services. A serious gap in the current extension system for horticulture and other new high-value products for export is a mechanism for compiling and disseminating information on markets, certification, new production, and post-harvest technologies (e.g., packaging and labeling), financing, and other business services. There has been little demand for these services in the past and as a result the government extension service is not well prepared to provide them to producers and associations eager to engage in these exports. Burundi must take action to ensure delivery of agricultural services, technologies, and improved practices not only for traditional food crops but for a very different set of high-value products for export. A high-value export orientation will undeniably require a delivery platform that will be responsive and effective and learn from the very best systems around the world. Alternative models for reaching producer groups and rural enterprises for horticulture and other high-value markets should be reviewed.

Research Services. Horticultural research is minimal and concentrated at ISABU, Burundi's primary agricultural research institution. Such research activities have been limited in Burundi due mostly to limited budgets. Research supplies and equipment are hard to come by and there is a need to train additional researchers. Presently, ISABU's researchers concentrate mostly on selecting good cultivars for targeted fruits and vegetables. They also participate in efforts to produce and distribute plant propagation material. Horticulture crops targeted by ISABU include passion fruit, apple banana, mango, and papaya. One of the top priorities is access to new plant material.

There is little available for producers in terms of demonstration plots, farmer field schools, and the like. One possibility for jumpstarting the horticulture subsector is to lease out some fraction of unused land at the five ISABU research stations to 'model farmers' as demonstration fields for designated horticultural crops.

Vision of Horticulture Subsector Potential in the Medium-term

Enormous benefits have accrued to countries that have embraced global food and agricultural markets and made the investments necessary to be successful. In the horticulture arena, Morocco, Egypt, Nicaragua, and Vietnam are good examples of countries that have recently and successfully entered global fruit and vegetable markets, competing head-to-head with countries with more than 20 years of experience in successful FFV market penetration such as Kenya, South Africa, Chile, Brazil, Mexico, Guatemala, and Peru. Burundi's producers and exporters hold a vision for becoming an emerging market player in the medium term.

Elevating Burundi's horticulture exports over the next 10–15 years so they can compete will require: (a) sustained investment in building market relationships and intelligence on those value chains where Burundi's production conditions provide the highest probability of success; (b) improving critical points in these key horticulture product value chains to meet increasingly stringent private standards for quality, cost, safety, volume, and reliability of fruit/vegetable production and processing; and (c) creating an environment supportive of exports in terms of government policy, SPS, and other regulatory systems, and strong support institutions for research, extension, and human capital.

Recent experience in other countries has proven that while working with small-scale farmers in developing the horticulture value chain can be difficult, successful and sustainable export initiatives can be achieved when appropriate steps are taken in the critical areas mentioned above. Burundi holds strong potential to achieve the same degree of success if strategic development planning in the horticulture subsector is endorsed at all levels and the investments required to implement that plan are put in place. In the medium term, Burundi has the potential to become a highly competitive player in these increasingly lucrative markets, ultimately competing head-to-head with rival Uganda and even with regional giant Kenya in the longer term.

Interventions Needed to Realize the Vision: An Action Approach

Overcoming the 'Logistical Gridlock.' For Burundi's exports to grow and achieve competitive volumes and economies of scale, it is first necessary to break the 'logistical gridlock' due to limited and inflexible cargo space and low shipping volumes. Information gathered in Burundi from freight forwarders, airlines, and exporters shows projections on the cost of chartering planes of different capacities (planes readily available in the chartering market), and compares the cost per kilogram of chartering vs. regularly scheduled passenger flights (assuming no back-haul leverage; Tables 4.2 and 4.3). These figures indicate that chartering is, by far, a more cost-effective solution for Burundi's exporters than shipping on regularly scheduled passenger flights. In effect, chartering has a significant potential to increase the competitive position and 'staying-in-the-market capacity' of exporters in Burundi. It would allow them to remain profitable even as product prices decline or to realize greater profits when prices remain steady.

Table 4.2. Projected Charter Capacity and Cost

Aircraft	Pallets[a]	Tonnes	Total US$	US$/kg
B747-400F/ERF (main deck)	30	149.5	120,000	0.803
DC 8	13	64.8	70,000	1.081
B727-200F	12	59.8	60,000	1.003

a. 1 pallet = 4,983 kg payload

Table 4.3. Comparison of Shipping Cost of Charter vs. Regularly Scheduled Passenger Flights (US$/kg)

Aircraft	Charter	Regular	Difference
B747-400F/ERF (main deck)	0.803	N/A	N/A
DC 8	1.081	1.80–2.00	0.72–0.92
B727-200F	1.003	1.80–2.00	0.80–1.00

Once this logistical gridlock is overcome, the export flood gates will open, further lowering shipping costs as economies of scale are created with increasingly large export

volumes. Investors will respond by initiating or increasing capital inflows into Burundi. A carefully implemented program of charter flights aimed at reducing the risk for producers, exporters, and freight forwarders is the fastest and most realistic strategy for breaking this logistical dilemma. This solution will result in the movement of horticultural products directly and quickly to targeted markets.

Identifying Potential Markets. The traditional thinking in a number of developing economies looking to expand their horticulture export markets has focused on developed economy markets such as North America or Western Europe, which were historically the only markets for high-value FFV exports. Such an approach may represent great opportunities, but at the same time it also brings special challenges and, in fact, may be a result of ignorance of the realities of today's global markets. Table 4.4 breaks out the major constraints and opportunities of developed economy markets, particularly European Union markets and emerging/regional markets, devoting special attention to potential market opportunities for Burundi in the Middle East. Its aim is to 'remove the blinders' and entertain a broader range of market opportunities for FFV exports from Burundi.

The recent wave of globalization for horticultural products was characterized by the commoditization of former niche products. Once products become commodities, consumption growth rates tend to stabilize or decrease at the expense of the growth of other niche products such as exotic tropical fruits and vegetables. However, it is difficult to develop an ambitious horticulture export strategy solely on niche products because volumes may only be supplied by a limited number of growers. A combination of medium-volume niche markets and careful selection of niche products that can quickly grow in volume in the near future is necessary. Using the specialty fruit category as an example, apple bananas or tree-ripened mangoes could stand out on supermarket shelves as a novelty item compared to the traditional bananas and hot-water-treated mangoes. At the same time, other lower-volume fruits such as cherimoya or Peruvian gooseberries could be promoted while volumes of the latter catch up and involve more farmers. Table 4.5 summarizes the advantages and disadvantages of targeting mainstream products vs. niche products as part of the Burundi horticulture expansion strategy.

Identifying Potential Market Initiators. A number of products can be identified as potential market initiators, or probable winners, for Burundi. They are identified based on: (a) volume potential of each product; (b) the degree of production experience already gained over the years by Burundi's producers; (c) the feasibility of transporting product to market by air within acceptable profitability thresholds; and (d) the immediate availability of targeted crops due to a short production cycle or available start-up volume already in the fields. Promising 'start up' products include:

- *Specialty vegetables* from temperate micro-climates such as green podded peas, baby vegetables (mini broccoli, baby and Chinese eggplants, carrots, cauliflower, sunburst, baby zucchini, etc.), leafy greens, and selected roots and tubers; and
- *Specialty fruits* such as apple bananas for export to Europe and the Middle East (Dubai); passion fruit to Uganda and elsewhere in the region and Europe; cherimoya for market window production in European and Middle East markets.

Action Plan. An action plan designed to jumpstart horticulture value chains in Burundi will include a broad range of steps and investments with special attention to the following.

Table 4.4. Markets, Constraints, and Opportunities for Burundi

Market	Constraints for Burundi	Opportunities for Burundi
Developed economy markets (particularly European Union)	Low tolerance for failure to compete on cost, quality, volume, timing, and flexibility Longer travel distance; requires higher standards for quality, safety, and packaging materials. EU markets are stricter on environmental regulations regarding packaging materials. Commoditization of mainstream horticulture products, e.g., mangoes, papayas High-quality standards difficult for Burundi to meet in the short term (e.g., Eurep-GAP regulations) Shrinking market windows for exporting countries of the same products	Massive market of millions of consumers. Large ethnic populations with higher demand for exotic goods. Organic and environmentally friendly products in high demand. Capacity to customize production of small orders (by comparison to other products) of specialties Retail industry organization highly focused on category management. This means preferring suppliers who provide several or all products under the same category (e.g. tropicals or leafy greens) as opposed to just one Direct access to supermarkets and major wholesalers
Emerging/regional markets (surrounding countries)	Cost-driven markets Feeder roads to trunk roads in Burundi are limited to gather/consolidate product across different production areas. Trucking availability is also limited, especially reefer containers necessary to reach sizable markets 2–10 days away such as Kigali, Mombassa, Kampala, Nairobi, etc. Products may compete with local production if no quality differentiation is attained	Relatively short travel distances within the country favor transportation of perishable products Higher tolerance for lower quality, volume, timing and flexibility The rise of supermarkets in several neighboring countries such as Kenya represents an incipient opportunity to establish long-term supply contracts. Incipient category management criteria
Emerging markets, the Middle East countries oriented toward free trade (Bahrain, Kuwait, Oman, Qatar and the United Arab Emirates)	Increasingly demanding on cost Sales programs must include supplying several products under one category as opposed to only one or two products Direct transport services lacking Difficult to negotiate pricing High quality demanded Buyers may not be trustworthy, requiring very close supervision and intensive management of accounts Difficult to find consistent wholesalers Neighboring countries such as Kenya have already started to develop these markets for temperate and tropical products. Afghanistan, with USAID support, has started an aggressive program exporting specialty vegetables and leafy greens	High potential to establish category management supply programs with supermarkets and the hospitality business sector Shorter flying time than to EU markets Food products face no quantitative restrictions on tariff or non-tariff barriers except for vegetable oils These countries import 90 percent of their food needs One-stop redistribution hub (Dubai) to other Middle Eastern nations More tolerance to quality, food safety, and packaging standards Payments are upon arrival and acceptance of shipments High demand for tropical and semi-tropical products Prices higher than in European markets

Table 4.5. Advantages and Disadvantages of Mainstream and Niche Markets

Market	Constraints	Opportunities
Main stream markets	Require large volumes of product; more quality, food safety and packaging awareness; lower pricing; demand large and very efficient packing facilities; require high-capacity hard infrastructure for shipping and logistics such as large roads, ports, airports, electricity and water, communications, etc.	Movement of large volumes rapidly to achieve dimension, economies of scale, and lower cost
Niche markets	Usually low-volume transition markets; specialized requirements for production, post-harvest, shipping, and distribution demanding higher technology levels along the supply chain	High demand for exotic, organic, environmentally friendly, Fair Trade products; higher prices

Horticulture subsector development strategy. Key to the strategy will be engagement of stakeholders including producer groups, exporters, freight forwarders, government officials, donors, and relevant support institutions that will provide research, extension, and business services. The strategy will enable progress in an organized step-by-step fashion and with the consensus and ownership of the stakeholders. Buy-in at all levels will be essential. The strategy will also identify specific markets and products that will serve as the target for stakeholder actions and investments. Another important component of the strategy will be elucidation of a collective vision for growth in the medium term.

Competitiveness assessment. A second immediate-term investment that will be instrumental to the development of a horticulture strategy for Burundi is implementation of a competitiveness assessment based on profitability thresholds in promising markets. The competitiveness assessment will serve as a component part of a platform from which to launch Burundi's export industry. It will focus not only on high-potential products recommended as 'market initiators' or probable winners, but also on fresh products with fast-growing demand, emphasizing high-value specialty fruits and vegetables and organic and fair trade products that bring additional benefits to Burundi.

Once a well thought out strategy and path to growth is in place, efforts can be focused without delay on breaking the existing transportation-production gridlock. This step will open the door to larger quantities of horticulture exports at competitive costs, particularly for products already established in Burundi and with secured external markets.

Horticulture production actions. Ramping up production to fill higher volume market demands, particularly as charter flights are initiated, will require a field-based supply program for targeted fruits, vegetables, flowers, and ornamental plants. This program will spearhead the export development effort through the following practical steps:

- Provide technical assistance aimed at the increasing volume of horticulture products for export and improving their quality and safety;
- Strengthen SPS management capacity;
- Develop management capacity of targeted producer cooperatives and horticulture exports enterprises; and

- Establish a small investment fund (SIF) to address producer/exporter 'seed capital' needs and lower risks associated with an emerging horticulture subsector.

Horticulture supply chain actions. Burundi presently faces a great challenge in the development of efficient supply chains that will connect the market with the production base through the smooth flow of horticulture products to regional and global distribution centers. Specific practical solutions to the most immediate challenges that will support and complement steps to break the transportation-production dilemma are:

- *Post-harvest, logistics, and transportation infrastructure.* Key steps include: (a) increased cold storage capacity at the airport by adding at least one 40-foot reefer container. This action will facilitate loading/servicing of aircraft supplying the increased cargo space by expanding a needed suitable staging area that will protect the shelf life of fresh products being exported. (b) Construct at least two product gathering/packing facilities that comply with IPPC SPS standards. One facility should be located in the highlands to service temperate products and the other in the lowland plains along Lake Tanganyika to service warm temperature products.
- *Agricultural inputs and packaging material availability.* Steps include: (a) use of charters flying (back-haul) to Burundi to transport sufficient quantities of agricultural inputs and packaging materials; (b) tapping regionally available but competitive sources of inputs (Kenya, Middle East); and (c) expanding and improving the existing plant propagation material handling and distribution effort to match market needs for crops and varieties and reach more farmers engaged in production for export.
- *Enabling environment for policies and institutions.* Actions are needed to create a favorable business climate that will facilitate and catalyze horticulture value chains. Initial actions to improve Burundi's export environment include: (a) improving SPS management systems aimed at instilling confidence in trading partners that products from Burundi are free of insect pests, diseases, and pesticide residues; (b) implementing export policy and export incentives (e.g., lower air freight landing costs, grant import tax relief on export-related inputs); (c) making more business services available through mechanisms such as the *Maison de l'Hortofruticulture* (STABEX initiative); (d) developing a pool of trained horticulture export managers; (e) strengthening horticulture support institutions (ISABU, extension system, etc.); and (f) strengthening credit markets and lowering the cost of financing.

Field-based value chain development program. Actions addressing many of these immediate and near-term needs can be implemented through a field-based program designed to make Burundi's horticulture exports a success story in the coming years. This is a program that must address the major elements of the horticulture strategy and action plan. Needed most is a market-led program that will provide market access to small- and medium-scale farmers and forge alliances with private sector companies in and outside of Burundi, producer groups, cooperatives, NGOs, government agencies, and international donors.

Essential components of the field-based program include: (a) a market-oriented export promotion framework; (b) a committed presence in the field to help growers and exporters; (c) a wide spectrum of horticulture products offered to local, regional, and export markets

based on sound business opportunity assessments; (d) customized training and capacity building on market penetration and supply chain development; (e) extensive alliances with different stakeholders involved in horticulture exports, including large multinational companies and regional supermarkets that are in a position to leverage resources, experience, and know-how; and (f) a small investment fund (SIF) that allows for risk sharing with producers and exporters, creating de facto commercial partnerships with the program.

CHAPTER 5

Overcoming the Main Obstacles to Growth

By Daniel Benitez, Antonio Estache, Elke Kreuzwieser, Vincent Fruchart, Tania Rajadel, Guillemette Jafrin, Susana Carillo, and Deo-Marcel Niyungeko

All constraints to rural growth in Burundi are not specific to agriculture—security of goods and people is a major impediment to economic recovery; inadequate infrastructure blocks competitiveness and job creation; and the poor investment climate reduces the attractiveness of the Burundian economy for both local and foreign investors. This chapter investigates how to overcome these three main obstacles to growth.

Ensuring security of goods and people is an essential condition for sustainable growth—security and justice must be improved while at the same time reducing inequalities and discrimination. Land tenure and security also need to be addressed urgently because they fuel social tensions, thus endangering peace, directly reduce productive investments, and affect incentives to improve competitiveness.

Inadequate infrastructure is a problem because requirements are huge and resources scarce. In particular, Burundi is mostly rural and depends largely on the transport systems of neighboring countries. The quality of infrastructure networks requires specific maintenance efforts given Burundi's geography and climate. The short-term priority is to strengthen the rural road network and develop physical capital at the community level, which has become particularly vulnerable after four decades of violence. Increasing food production is a main concern, and while processing is only burgeoning, it requires an emphasis on transport. Rationalizing energy production and distribution to better use existing facilities would support sustainable growth. Developing electricity generation and distribution could foster agricultural processing and increase value-added. Communication is vital to growth, but at present the country lacks an Internet backbone reaching all provinces and enabling connections to other countries of the region.

The investment climate affects risks and the cost of both investing in and running a business. Beyond security and infrastructure, important factors include laws and regulations

and their implementation, as well as the cost and availability of production factors, including access to finance, human capital, and the labor market. How public institutions support private businesses is another critical feature of the investment climate. By following best available practices, Burundi could significantly enhance the private sector's contribution to growth.

Ensuring Security of Goods and People[27]

Conflict is a natural social phenomenon occurring in all societies. It can be defined as a dynamic social and political process involving two or more groups that have divergent interests and are pursuing incompatible objectives. Political systems are built to deal with and arbitrate conflicts, but when the political system fails to bring about the necessary compromises, actors are tempted to revert to violence to try and obtain their preferred outcome. Violent conflicts are the result of a governance failure.

Conflict and Governance

In the absence of institutions and processes that can resolve conflicts in a peaceful manner, political elites in Burundi have used ethnic polarization, mistrust, and fear to further their own political and economic interests. Widespread poverty, inequalities among social groups, and competition over land in a small country with high population growth are key underlying sources of tension. Over the last 45 years the resulting conflicts have focused primarily on securing the state as the main avenue for power and wealth.

The main factors that still present a major risk in Burundi include:

- Poor governance, a patronage system, and pervasive corruption;
- Widespread poverty and population pressure on scarce productive land;
- Political exploitation of deep inter- and intra-ethnic divides among and within clans, regions, and political and economic elites;
- Weakened human, physical, and social capital from the ongoing conflict;
- Growing population of vulnerable persons and disenfranchised youth;
- History of violence and impunity; and
- Spillover effects from conflicts in the Great Lakes region through refugee migration, arms trade, availability of resources, and rebel bases.

To mitigate these conflict factors, and particularly their negative effects on rural development and growth, governance in Burundi needs to be strengthened, particularly the issues of security, justice, political stability, inequality and land tenure.

Security

In the case of rural growth, security is necessary specifically to protect crops, prevent or respond to violent conflicts triggered by local land disputes, maintain communication and transport systems, and ensure the safety of all related economic transactions.

27. This section was written by Vincent L. Fruchart (Specialist Conflicts, DVS) and Tania Rajadel (Economist, AFTS3).

The cost of insecurity is significant, from the direct cost of crime and violence (health expenditures, lost productivity, public expenditure for security) to the indirect socio-economic cost (lower human and social capital, reduced labor force participation, lower wages and incomes) that have negative multiplier effects on growth and poverty reduction. In Burundi, "the population has been begging for no more than security from their politicians, the minimum condition that will allow them to work" (Nkurunziza and Ngaruko 2002).

Security has improved in Burundi since the end of the civil war, and greater ethnic integration of the defense and police forces has certainly helped bolster the confidence of the population with these groups. However, violent crime is still prevalent and the police continue to play a weak role in public protection. In turn, informal tolls on roads manned by corrupt police and security forces are a fact of life for anyone traveling or transporting goods.

Furthermore, in spite of some efforts, the very wide circulation of small weapons remains a prime security risk. The continuous easy access to weapons, given that mass mobilization is still possible, poses a continuous threat to peace, as well as results in increased acts of domestic banditry and criminal violence.

Improving security in the rural areas, which is crucial for their economic development, will require a profound reform of the security sector beyond the improvements that can already be observed. Security sector issues were a central feature of the Arusha Peace and Reconciliation Agreement for Burundi (2000). These included key elements of security reform including the disarmament, demobilization, and reintegration of ex-combatants and integration of former rebel groups into the security forces. International actors including the UN peacekeeping mission in Burundi (ONUB) and the World Bank,[28] have been supporting the implementation of these aspects of the agreement.

Even though a comprehensive reform strategy for the security sector has yet to be developed, the Government's Poverty Reduction Strategy[29] has identified objectives and actions for the security and justice sectors that would help foster economic development. The PRSP's first pillar on Improving Governance and Security contains objectives related to professionalizing the security services, including those undertaking rule of law functions, and establishing levels of personnel commensurate with the security needs and financial resources of the country.

The next step will require development of a careful and coherent implementation plan for the objectives proposed in the PRSP, including a monitoring framework.

Justice

Distrust in the judicial system in Burundi is profound and widespread, and justice is viewed by most Burundians and external observers as the most corrupt branch of government.[30] The formal judicial system is perceived as neither impartial nor efficient. Many citizens have lost confidence in the system's ability to provide even basic protection, and assume that the courts have always promoted the interests of the powerful.

28. Through the Multi-country Demobilization and Reintegration Program (MDRP)
29. The Poverty Reduction Strategy Paper was adopted in September 2006.
30. As observed during focus groups sessions organized in April 2007 in the context of a Governance Diagnostic being undertaken by the World Bank Institute, and as stated in a survey on The Phenomenon of Corruption in Burundi, by GRADIS with support from International Alert and DAI—May 2007.

Several major factors can be identified that feed the current distrust in the judicial system—impunity, corruption of justice personnel, lack of independence, complexity and length of procedures, and the unresolved status of the traditional justice system (Bashingantahe).

Impunity in Burundi presents two different aspects: (a) impunity for those crimes committed during armed conflict; and (b) impunity for crimes of corruption and other crimes. In the absence of rule of law, aggrieved parties often seek justice and redress by their own means, a phenomenon more dangerous due to the presence of small arms.

The traditional justice system (Bashingantahe) is closer to local communities than formal law, however, it has lost some of its legitimacy due to the politicization over the last decades. Also, because of widespread poverty in the country, the poor can no longer afford the traditional in-kind offering (local beer) that is necessary to have one's case heard, and allegations of corruption of the 'wise men' are becoming more common. Furthermore, the boundaries between the traditional and the modern systems of justice have become blurred as the Bashingantahe have stepped in to arbitrate conflicts that are expected to be treated by the official justice system.

In spite of the widely-held view that justice has failed in Burundi, little has been done until now to remedy the situation. The Government has yet to organize a thorough stock-taking exercise (États Généraux de la Justice), and only a few tentative steps, like the on-going reform of the Penal Code, have been taken toward identification and implementation of necessary reforms.

The Government has taken some initiatives to combat corruption such as the creation of an anti-corruption brigade and the transformation of the Inspection des Finances into an Inspection Générale de l'État. A more systemic effort is required because establishing the rule of law and credible institutions of justice are essential requirements for a durable peace in Burundi, as well as for providing the necessary institutional framework for socioeconomic development and growth.

Political Instability

Burundi's history of political assassinations, coups, and uprisings is testimony to failed governance and institutional weakness. Since independence, authoritarianism, corruption, and nepotism have shaped institutions and relations between government and citizens over a background of regions, clans, and politics as much as ethnic fault lines. While the current elected government is certainly a welcome change, the temptation to revert to authoritarianism is never very far below the surface, as exemplified by the political crisis of the fall of 2006 (ICG 2006).

There is a huge chasm between the country's national leaders and Burundi's grassroots. Decades of conflict and a brutal civil war that took a terrible toll on the civilian population have yielded a deeply alienated and cynical population that generally views its leaders as self-serving, corrupt, and unresponsive. The rebuilding of public confidence in the institutions of government will take time and considerable efforts, and will necessitate consistent and coherent political will.

One distinctly positive development has been the emergence over the past decade of a more vibrant civil society—human rights groups, dynamic youth and women's organizations, active church institutions, and grassroots non-governmental organizations focused on

reconciliation and community development. Further reinforcing this democratizing trend has been the emergence of new, relatively independent media outlets (particularly radio, such as the Radio Publique Africaine, which has advocated reconciliation and dialog).

In the context of rural growth, the creation of a federation of associations of coffee farmers is also a very hopeful sign. Ever since the introduction of coffee plants in Burundi, coffee farmers have been harshly exploited, first by the colonial system, and since independence, by the national government. The movement, which started with the emergence of groups of coffee farmers at the hill level in the late 1990s, represents the first occurrence of organized farmers asserting their economic rights against the entrenched interests of the central bureaucracy and other private economic agents.

Inequality and Discrimination

Even hardened by 40 years of organized violence that has used ethnicity as a justification, the Hutu-Tutsi divide remains one of several social and economic cleavages, most of which do not follow ethnic lines. There are: (a) deep divisions within each ethnic group along moderate/extremist lines; (b) clan divides; (c) long-standing regional divides (dominance of Bururi province since the 1960s, from which three presidents and the military intelligentsia originate), and poverty differentials (Karuzi province has three times the percentage of households under the poverty line as Cankuzo province); (d) elites vs. public divides, which not only includes rural vs. urban but also educated vs. uneducated; (e) women facing legal and societal discrimination, including discriminatory inheritance laws and credit practices, and widespread domestic violence; (f) in rural areas, there are tensions between returning IDPs and refugees and their communities of return, arising over land and housing issues; and (g) the Batwa minority have always been marginalized economically, socially, and politically (many live in isolation, without access to social services).

These social tensions and the economic disparities between groups have steadily exacerbated over the last decades by the abrupt economic decline of the country as estimated per capita GDP dropped from about $188 in the early 1990s to $90 in 2005. Government has become the primary way to capture power and wealth. Public investment has benefited areas where powerful elites have family (Beleli 2001). The population tends to resent those who seem to fare much better than others regardless of their ethnicity, and especially Bujumbura-based elites, while "a growing part of the peasantry (has) gradually realized that, through the system of export cash crops, it was caught in a situation which completely blocked the way of any social and economic promotion for its children. In turn, these children realized that they could not escape from an agricultural economy whose remuneration steadily decreased" (Ndarishikanye 1994).

In this highly charged social environment, the risk of aid being captured by the elites and increasing the already exceptional concentration of economic and political power is high. There is also some evidence that geographic areas that have better infrastructure and more experienced staff in place may be 'favored' locations for aid services.

Land Tenure and Economic Growth

Uncertain land tenure rights delay the resolution of land-related conflicts. The legal environment fosters uncertainty over land tenure rights. The first obstacle to the implementation of an efficient legal land system in Burundi stems from the coexistence of customary and statute

law. For instance, according to customary law, farmers who have cultivated and managed plots over a certain period of time earn ownership rights over them. This has led to harsh conflict over the status of some state-owned lands, in particular in swamp areas. Moreover, in some regions customary law separates property of the land from that of what stands on it, whereas statute law does not recognize such a distinction. This has fueled bitter disputes over coffee or oil palm tree plantations. Women's access to property is another matter of great concern because according to customary law, family land cannot be transmitted to daughters, although this is completely contradicted by statute law. Finally, issues pertaining to the resettlement of long-term refugees provide yet another striking illustration of contradictory legal frameworks. According to the Arusha Agreements, long-term refugees should be given the right to retrieve their property, or—should this be impossible—to receive fair compensation. However, statute law in Burundi stipulates that a 30-year prescription applies to land-related claims. The situation is further complicated by the somewhat unclear answers provided by customary law. It does not recognize the 30-year prescription, but it acknowledges that long-term occupants have earned some rights over the land they live on.

In addition, the efficiency of the judiciary and institutional systems is gravely affected by an unclear delineation of responsibilities and overlapping functions. The judiciary system intervening in land disputes relies on three entities—the Bashingantahe, local authorities who arbitrate conflicts using statue law as a reference, and local tribunals (*tribunaux de résidence*) who return verdicts based on statute law. The institutional level is as confused because at least four different ministries are involved in land-related issues, although functions and prerogatives are often ill-defined, which generates unnecessary confusion.[31] As a result, local authorities have been implementing ad hoc solutions to land disputes—especially where refugees were concerned—without prior consultation or coordination with governmental entities.

The plethora of organizations engaged in resettling refugees also raises legitimacy concerns. The creation of the CNRS (*Commission Nationale pour la Réhabilitation des Réfugiés*) was agreed upon by the Arusha Agreements to solve refugee-related issues and its subcommission *Terres et Autres Biens* is more specifically in charge of conflicts pertaining to land. But NGOs, religious organizations, and local institutions such as provincial authorities, local tribunals, and the Bashingantahe have each been arbitrating land disputes and sometimes even setting up programs to address these issues. These numerous approaches often offer flexible interpretations of conflicting laws and because their status does not always enable them to enforce the agreements they contributed to design, they might be put into question in the future.

Uncertain land tenure rights hamper productivity. Insecurity affects productivity at the farm level through two channels. First, it reduces incentives to invest in the property. The economic literature stresses the importance of tenure security (for example, Besley 1995) and land transferability rights for long-term investments (Deininger and Yamano 2006). Second, land titling is generally thought to foster access to financial services, although the extent and mechanisms through which it does so are not always well known (for example, de Soto 2000; Field 2005; Galiani and Schargrodsky 2005). Land ownership security should thus be given special attention to in Burundi today as the country is considering upgrading its agricultural

31. The Ministère de l'Aménagement du Territoire et de l'Environnement, the Ministère des Travaux Publics et de l'Equipement, the Ministère de la Solidarité Nationale, des Droits de la Personne Humaine et du Genre, and the Ministère de la Justice.

production through specialty coffee and tea, and horticulture. Moreover, land tenure insecurity reduces the attractiveness of the economy both for domestic and foreign investors because it involves higher risks and undermines the reliability and credibility of Burundian economic actors. Finally, the development of sustainable land management policies to fight against the dramatic land depletion in Burundi will include reinforcing land ownership rights. Sustainable land management is indeed a time consuming, costly, and long-term process that only farmers secure about their property rights will be willing to undertake.

Because of the intricacy of land issues and because they are likely to spark tensions in an already fragile society, thus endangering peace, ad hoc solutions are being implemented by local communities throughout the country on a day-to-day basis. The stance adopted by most actors seems to favor direct access to land ownership. However, an extensive redistribution of land appears to be somewhat short-sighted. Providing people with small plots of land on which they could mainly farm subsistence crops will not enhance economic growth and will thus endanger social cohesion in the medium to long-run. A global reflection on land issues is essential to determine how land tenure could better contribute to shared growth. It will in particular require thinking about ways to enhance wage labor to reduce tensions over access to land property, specifically by diversifying sources of growth outside the agricultural sector, which could be linked to the development of urban centers.

Fostering the Development of Infrastructure[32]

Fostering growth requires overcoming the most binding constraints. While economic development can not be envisioned without ensuring the security of goods and people, the effective provision of infrastructure services remains nonetheless essential. Indeed, infrastructure is but one part of the development challenge, but its effects are among the most important. Conversely, fueling growth through improved infrastructure requires large and effective expenditures. More specifically, to meet the Millennium Development Goals, Africa's expenditure must reach at least 9 percent of annual GDP between 2005 and 2015. The challenge is probably even more demanding for Burundi, which lags far behind the regional average. Infrastructure is a key enabler for shared growth, notably because it links producers to markets and is labor intensive. In a country like Burundi where agriculture is the main contributor to growth, infrastructure matters even more.

Transport is a predominant concern in landlocked Burundi because it is mostly rural and depends largely on the transport system of neighboring countries. Its provision shapes export prices through several channels including high transport costs and low quality, which is due to difficult access to inputs and markets. Transport costs represent on average 35 percent of import prices and 40 percent of export prices of agricultural products. Another illustration of the competitiveness issue is that coffee and tea, which are the main sources of export revenue, need to be processed a few hours after they are harvested. The country's geography and climate makes the challenge of transport even more difficult. The terrain is hilly and mountainous with an altitude of 772 to 2,670 meters dropping to a plateau in the

32. This section was written by Antonio Eustache (Senior Advisor, SDNVP) and Daniel Alberto Benitez (Economist, FEU).

east with some plains. It demands bridges to connect villages in the mountainous regions. Although rainfall is below the SSA average, rural roads are hardly accessible during the two rainfall seasons because only a small portion of the network is paved.

In Burundi, energy is a critical constraint to growth. The population suffers daily power outages. While the country is endowed with abundant water resources that could provide up to 250 megawatts, it now relies on fuel-based generators that are significantly underused because fuel prices are so high. So far the lack and unreliability of energy generation and distribution has prevented development of processing activities that would provide much needed added value to agricultural produce.

In post-conflict settings, increasing the spread and reliability of ITC networks also acts as a tool in favoring communication and mitigating risks. Restoring trust through increased transparency and continuous dialogue is an essential condition to remedy the fractured social capital. It is also critical in gathering people's consent and support for much needed reforms. Finally, the development of a quality telecom network would be key for accessing market intelligence that will be fundamental to reach the coveted specialty coffee, tea, and horticulture markets.

While infrastructure services require large investments and sensitive reforms, low and volatile per capita GDP make their provision very challenging. The cost of getting things wrong is high. In Burundi, where budget constraints are extremely severe and past investments funded by ODA are not deemed to have been efficient, it is very important to make sure government now has the capacity to absorb aid effectively. Indeed, infrastructure provision depends on the settings of a political story, which involves "a struggle over who captures the considerable benefits of infrastructure services and who bears the costs. Governments, consumers, and service providers (whether public or private) all have an interest."[33] Full attention should therefore be devoted to the respect of good governance principles because it is an essential guarantee of realizing productive investments. Tariffs should also be thought through carefully because they are a critical engine for the sustainable provision of infrastructure. Designing sound tariffs, striking a balance between ensuring financial viability and affordability, is the next challenge for policymakers in Burundi.

Importance of Infrastructure: Expenditures and Perceptions

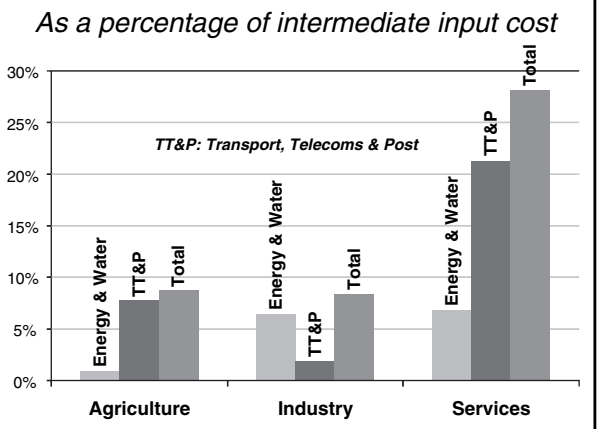
Infrastructure expenditures are very different from one sector to another.[34] In the agricultural sector, which is the main source of growth, the bulk of budget spending in infrastructure goes to transport, telecommunication, and post. In the services sector, TT&P is also the recipient for the largest part of infrastructure expenditures although energy, water, and mining expenses remain significant. The structure is radically different for the industrial sector, which allocates the greatest share of its expenditures to the latter.

Paradoxically, a recent investors' survey described electricity as one of the top 10 obstacles to investment in Burundi, while transport ranked only seventh. The sample of respondents was limited to manufacturing companies, so the prime importance of energy was

33. ADB, WB and JBIC, Connecting East Asia. A new framework for Infrastructure" 2005

34. There is no recent information about infrastructure consumption by economic sector. The bureau of statistics published in 1998 an input-output matrix including infrastructure (Institut de Statistiques et des Etudes Economiques du Burundi, ISTEEBU 1998). Importantly, the data only distinguish two groups of infrastructure services—energy, water, and mining; and transport, telecom, and post.

Figure 5.1. Infrastructure Expenditures by Sector



expected. It is also important to remember that the manufacturing sector is still burgeoning, while agricultural production is the cornerstone of the Burundian economy.

Infrastructure Diagnostics and Recommendations

Energy. Wood, peat, and charcoal provide 87 percent of Burundi's energy, while petroleum provides 11 percent and electricity only 2 percent of the total. These numbers reveal the serious misuse of the 250 MW hydropower capacity (BEN 2006) and the more global problem of deforestation that endangers sustainable growth (Global Forest Resources 2005).

The electricity and water sector is structured as a state-owned enterprise. The Régie de production et de distribution d'eau et d'électricité (Regideso) is the public agency that produces, transport and distributes electricity and water in urban areas. The Direction Générale de l'Hydrauliques et des Energies Rurales (DGHER) supplies electricity and water in rural areas. The water and energy authority (Direction Générale de l'Eau et de l'Energie), as a part of the Ministry of Energy and Mines, is the principal institution that regulates both activities.

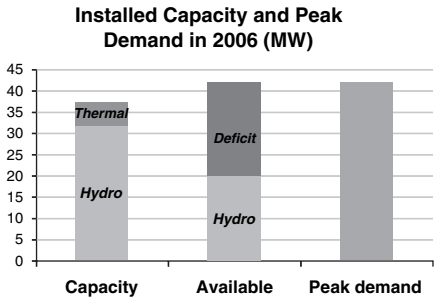
Regideso faces peak demands that exceed available generation capacity. For instance, in 2005/06, the actual capacity was about 20 MW while demand was peaking at 42 MW. The generation portfolio includes small hydropower units with a designed capacity of about 32 MW and a 5.5 MW thermal unit (Figure 5.2). The latter was almost never used due to high fuel prices.

Moreover, tariffs are below O&M costs and energy losses are very important. Indeed, the number of days without electricity (137 days per year) and the subsequent losses in sales to the manufacturing sector (9 percent) are above the world and SSA averages (52 days per year with power outages and 4.8 percent of losses in sales). Technical losses are also higher even for the standard in the region (28 percent in Burundi against 10 to 14 percent in developed countries) (Table 5.3).

The gap between tariff and cost has decreased in the past four years (Figure 5.4) as a result of the government's attempt to approach cost recovery.[35] However, tariffs are still below that of neighboring countries such as Rwanda and need to be redesigned more efficiently. To that end, two-part tariffs would be useful tools. Besides, the number of days needed to obtain a connection to the network is in line with world average but the lack of reliability and generating capacity drastically undermines this outcome.

35. These efforts have been strengthened recently as reflected by the complete tariff review commissioned by the Government of Burundi in 2005 and finally implemented in May 2007 (Note explicative de la méthode de calcul de la nouvelle grille tarifaire d'eau et d'électricité proposée pour application en 2006. Ministère de l'énergie et des mines et Regideso).

Figure 5.2. Electricity—Installed Capacity and Peak Demand (2006), and Production, Sales, and Losses (2002–2006)

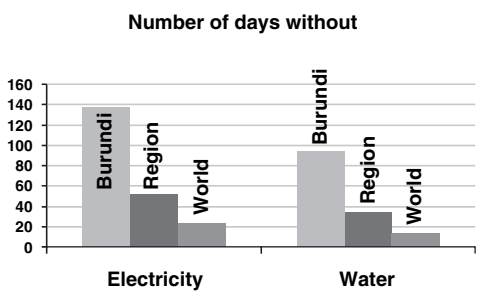


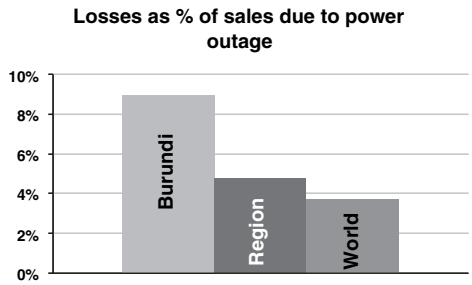
Production, Sales and Losses (GWh)

Plant	2002	2003	2004	2005	2006
Rwegura	67.7	48.5	43.5	49.2	49.2
Mugere	46.7	44.4	39.6	41.7	41.7
Ruvyironza	3.3	3.6	1.2	2.7	2.7
*Ruzizi II**	12.3	30.9	42.3	50.9	50.9
Ruzizi I	28.0	26.1	30.3	20.3	20.3
Isolated Generation	8.8	7.7	6.5	5.9	5.9
Production	**166.9**	**161.1**	**163.3**	**170.7**	**149.9**
Sales	**118.9**	**124.1**	**124.8**	**119.8**	**105.1**
Losses**	**28.8%**	**23.0%**	**23.6%**	**29.8%**	**29.9%**

Note
** It includes a large share of imports from SINELAC*
*** Commercial and technical losses*

Figure 5.3. How Investors Perceive Quality Infrastructure





Source: Enterprise Surveys–Exploring economies, IFC.

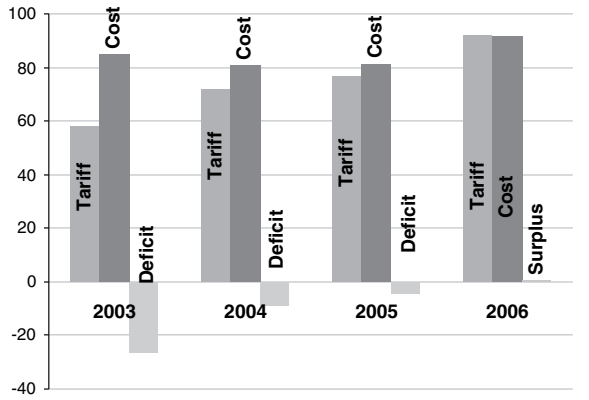
In 2006 the World Bank launched a project to revitalize the financial viability of Regideso by increasing generating capacity, rationalizing demand by encouraging a more efficient use of lighting, and improving overall management of the company.

Despite an increasing number of connections during the last 10 years, only 2 percent of the population has access to electricity, which is very unevenly distributed. Indeed, Bujumbura accounts for 62 percent of the total connections and its average consumption per customer is much higher than that of other regions. Large users consume one-third of the energy produced.

The high voltage network is more developed in the northwestern region and includes an interconnection with the Democratic Republic of Congo and Rwanda (SINELAC). There is a project to expand the transmission capacity with a high voltage link to the south of the country close to the border with Tanzania. The medium and low voltage networks reach the main urban area. If the gas methane project in Lake Kivu is finally implemented, the interconnection with Rwanda will overcome the lack of installed generating capacity.

There is a huge need to improve the efficiency of the energy sector in Burundi, including good management and a reduction of illegal connections. Decreasing technical losses and enhancing the dispatch system would provide further gains, but would

Figure 5.4. Electrical Tariffs
(US$/MW)



involve costly investments. A short-term solution to increase generating capacity would be to rehabilitate the 5.5 MW thermal unit and small hydro plants. In the long run, implementation of the $44 million Kabu 16 project could generate an extra 20 MW. More ambitious projects could be undertaken through regional cooperation. Strengthening the interconnection with DRC and Rwanda could reduce the risk of shortages while enabling a more efficient use of regional resources. Table 5.1 presents the result of a recent review of the energy sector in Burundi (BEN 2006).

Transport. While transportation includes roads, rail, lake, and air, roads are by far the most important.

Compared to eastern African countries, Burundi has a meshed system of roads, but out of the 11,300 kilometers, only 1,209 kilometers are paved (Table 5.2). The density of the road transportation network is among the highest of the sub-region, with 294 kilometers per thousand inhabitants (Table 5.3).

Road maintenance is a real challenge in Burundi because 90 percent of the network is not paved and therefore barely accessible during the two rainy seasons. The Office des Routes (OdR) uses the Road Maintenance Fund to maintain national roads, which is 50 percent funded by fuel taxes (Figure 5.5). In 2006, the fund could only cover a fraction of the needs estimated by OdR and GoB was therefore strongly encouraged to raise the tax rate until revenue and expenditures are expected to converge in 2012. Practically, the fund could cover $824/km, while needs ranged between $1,300/km and $2,500/km depending on road surfaces (Carruthers and Krishnamani 2006).[36] The annual maintenance deficit for national roads is $3.5 to 8.7 million. The African Bank for Development and the World Bank are working on a joint project that could help Burundi improve national roads maintenance.

Three main corridors link Burundi to Eastern African ports—north to Mombasa, south to Durban, and the central routes to Dar-es-Salaam. The Tanzanian capital is about 1,400 kilometers from Bujumbura and can be reached by three routes, two of which involve inter-modal transportation, including lake and rail carriage.

36. The $2,500/km is a theoretical exercise that leads to a high-quality road system assuming a unit cost of $2,000/km for paved inter-urban roads (1,209 km) and $3,000/km for earth/gravel inter-urban roads (3,521 km).

Table 5.1. Actions Required in the Energy Sector

	Urgent Actions	Short-term Actions	Long-term Actions
Wood and Coal	– *Survey of household consumption*	– *Survey of forest areas*	– *Research and promotion of substitutes for wood and coal*
	– *Production of coal derived from household waste*	– *Improve more efficient technologies*	
		– *Induce reforestation*	
Electricity	– Re start of the 5.5 MW thermal unit	– *New thermal unit (10MW)*	– *Rehabilitation of hydro plants*
		– *Analysis of sources of inefficient in the usage of electricity*	– *Energy imports from RDC (Bendera) through an interconnection line Bendera—Uvira—Bujumbura*
	– *Update of the "Plan Directeaur National d'Electrification*	– *Low consumption lamps*	– *New hydropower projects*
		– *Cash power meters*	– *Improve the regional cooperation (Rusumo Falls, Ruzizi III, Interconnection of Nile Basin, gas methane project lake Kivu)*
	– *Improve efficiency, reduction of electricity losses*	– *Complete review of the tariff scheme*	
Oil	– *Regulation of standard and pollution level*	– *Develop the research capacity in fuel in general and alternative fuels (biodiesel)*	– *Oil search and exploration in Lake Tanganyika and the plain of Imbo*
			– *Usage and analysis of ethanol production*
			– *Production and distribution of ethanol pump stations*

Source: adapted from BEN (2006)

Kigoma is the main port used for exports from Burundi, which is connected to the Tanzanian railroad. Transport cost to Dar es Salaam is low but the lack of a port facility and rail capacity adds to the many trade problems encountered in neighboring Tanzania, which can delay delivery for up to two months. This route cannot be used to transport perishable goods or to access markets where reliable delivery is important such as specialty cof-

Table 5.2. The Road Network in Burundi

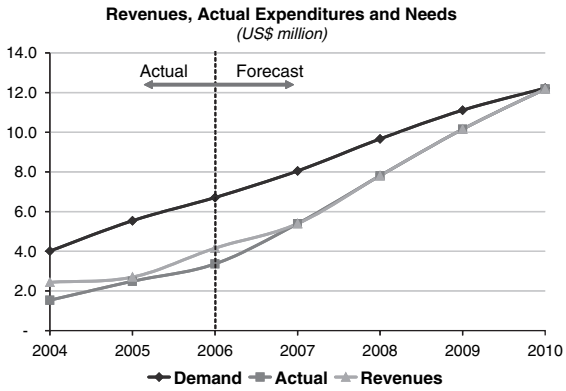
Km of roads	National Jurisdiction *(classé)*	Local Jurisdiction *(non classé)*	Total
National	2,418		**2,418**
– *Paved*	*1,209*		**1,209**
– *Unpaved*	*741*		**741**
Provincial	2,500		**2,500**
Communal	280		**280**
Total	**5,198**	**6,150**	**11,348**

Table 5.3. Access to the Road Network

	km per thousand of	
Country	**km2**	**inhab**
Burundi	565	294
Kenya	112	60
Uganda	137	146
Rwanda	486	366
Tanzania	100	43

Source: FAQ 2007

Figure 5.5. Road Maintenance Fund



Sources of Revenue

Year	Fuel tax	Vehicle tax	Toll roads	Driving permits	Total
2003	51.7%	18.3%	29.0%	1.0%	100.0%
2004	51.7%	16.3%	31.1%	0.9%	100.0%
2005	51.0%	14.3%	34.4%	0.3%	100.0%
2006	62.7%	9.9%	26.5%	0.9%	100.0%

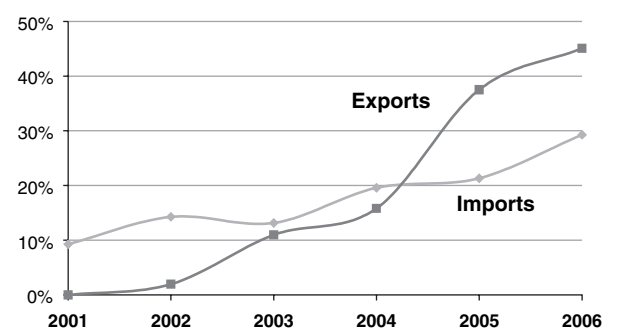
Source: Office de Routes

fee or tea. Increasing the effective use of the Kigoma-Dar es Salam corridor would involve improving maintenance of the port facilities that now allow only small vessels to operate. The number of wagons and locomotives is another bottleneck preventing further use of this multi-modal route (Table 5.4).

In this context, road transportation grew significantly relative to rail and lake (Figure 5.6). The route to Mombasa (Rwanda-Uganda-Kenya) has been used increasingly to diversify trade corridors even though it takes 14 days to reach this port and costs a lot given the high price of oil. The prospect of a new mining project could provide the incentives needed to improve an interconnection to Tanzanian rails (Table 5.4).

Unleashing the potential of high-value export crops such as specialty fruits and vegetables would necessitate dramatic improvements in air transportation. In April 2007, SN Brussels resumed its weekly flight connecting Brussels to Bujumbura directly. The SN Brussels Airbus 300 can handle up to five pallets of cargo (approximately 10 tonnes per pallet). However, the company allocates cargo space to passenger needs first and devotes only the remaining space to commercial products, an unreliable situation for producers of specialty fruits and vegetables. Moreover, air companies do not have the necessary equipment to handle and store perishables. As reported in Chapter 3, the development of charter flights especially dedicated to horticultural freight could unlock the production and sale of these high value export crops (Table 5.4).

Figure 5.6. Road Traffic as a Percentage of Ground Traffic



Another impediment to the further development of the transport network is multiple informal tolls that considerably increase already high transportation costs. It is cru-

Table 5.4. Actions Required by the Transport Sector

	Urgent actions	Short-term actions	Long-term actions
Policy strategy	– *Diagnostic of traffic per mode including neighbor countries* – *Consultation with neighbor countries for a common strategy in transport (NEPAD)* – *Needs of a strategic vision (long term)* – *Identification of the relevant options*	– *Identification of the most efficient road axes to reach eastern African ports (cost and time)* – *Analyze the diversification of main transport axes including Asia and Europe* – *Negotiation with main carriers*	– *Regional agreements to reduce the burden of administrative process* – *Negotiation to facilitates customs in neighbor countries*
Roads	– *Diagnostic of the quality of roads (on-going)* – *Identification of the main rural roads in syntony with rural growth*	– *Increment the revenues in the road maintenance fund* – *Increase in the fuel tax rate (on-going)* – *Rehabilitation of the main national and interregional axes* – *Rehabilitation of the main rural roads*	
Air, maritime and railroad transport	– *Analysis of the freight capacity (modal and intermodal)*	– *Improve the air freight capacity* – *Negotiation a reduction of stopover connection in air transport* – *Feasibility analysis of the usage of maritime transport in the Lake Tanganyika* – *Feasibility analysis of railroad interconnection with the Tanzanian system*	– *Integration of the different transport modes into a long term strategic vision*

cial to design a nationwide strategy to reduce corruption because it hinders development opportunities of the private sector.

Water and Sanitation. Water production, transport, and distribution are provided by Régideso in urban areas and by DGHER in rural areas. The water and energy directorate of the Ministry of Energy and Mines is in charge of sector regulation.

Burundi faces two challenges with its water supply. Performance of the parastatal in charge of the urban network needs to be improved and requires important reforms (to restructure the company and improve tariffs) and investments (to rehabilitate the network at least). Second, access to potable water in rural areas is below African standards and needs to be increased through significant investments (Figure 5.7).[37] Such investments would enable reducing the significant gap in access to piped water between rural and urban areas. This gap is made even more important by circumstances in rural areas where the increasing

37. Imports from SINELAC (Burund-RDC-Rwanda) reduce part of the gap. Regideso, Rapport Annuel d'activites, Exercice 2005 et 2006.

Figure 5.7. Production, Sales, and Losses of Potable Water

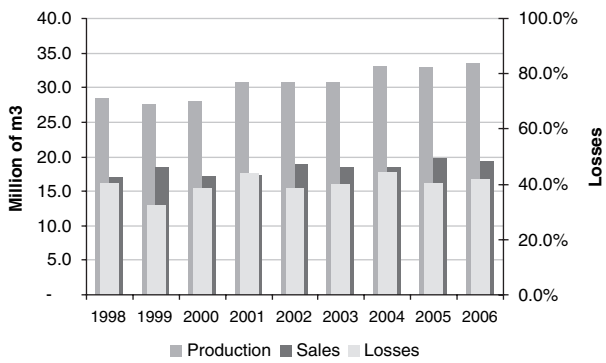
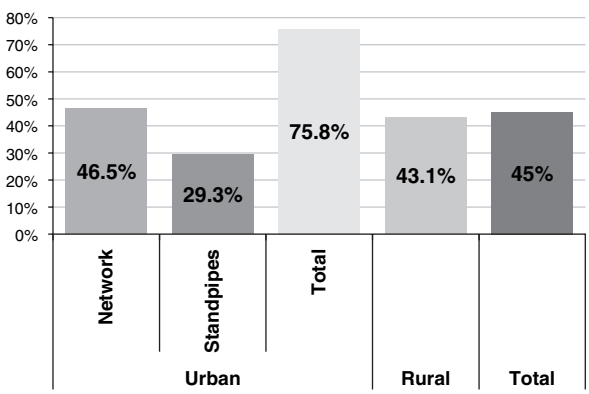


Figure 5.8. Access to Potable Water in Urban and Rural Areas, 2001



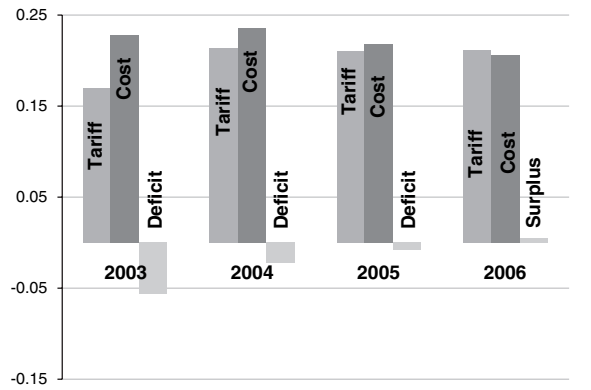
population density, pollution, and the dry weather of the past few years have reduced the quantity and quality of safe water traditionally available from natural sources.

In 2001, only one-half of the population had access to an improved source of water (network and standpipes), with significant differences between urban and rural areas—more than 75 percent of the urban population could access potable water (Figure 5.8). Despite Regideso's effort to increase connections, this figure may have dropped since then with return of refugees. In urban areas where communities refuse to pay (or to force their users to pay) for standpipe connections, Regideso does not develop its infrastructure. The company has limited resources to properly maintain the network. Losses are mostly due to technical deficiencies and account for 40 percent of the total production. Potable water is often disrupted—the number of days without access to potable water is about 94 days in Burundi while it is about 34 days on average in SSA. Electricity to pump water is unreliable and scarce, so the weakness of the electricity subsector dramatizes the problem of the water sector, which is clearly in need of improvements. Reforms would help move toward cost recovery. The gap between tariffs and O&M costs has already decreased during the last few years but more Government efforts are needed to improve tariff effectiveness (Figure 5.9).

Another source of efficiency could come from redesigning subsidies. Subsidizing access to standpipe water is a best practice that avoids financing consumption of high-income customers that already enjoy access. Consumers may refuse to pay if they do not value the service as in Rwanda.

Sanitation services are also low throughout the country, especially sewers in urban areas and wastewater treatment, which is non-existent. There are no reliable figures measuring the coverage of the sanitation network. About 70 percent of rural households have latrines that do not achieve a recommended threshold of hygiene and 10.6 percent of households do not

Figure 5.9. Water Tariff
(US$/m³)



have latrines (Table 5.5). In rural areas, the traditional pit latrines are poorly maintained, but most schools and health centers have adequate sanitation facilities.[38]

ICT. Burundi has poor telecommunication infrastructure. The national backbone is about 500 kilometers of PDH microwave links of relatively low capacity and all international traffic to Burundi is via satellite. There are a few low-capacity cross-border links to Rwanda and Tanzania but no significant traffic (Table 5.6).

Two companies operate both on the traditional and cell phone segments—the public provider ONATEL and the private Telecel. Africell, and Econet are two other private operators on the growing cell phone market. While Telecel is the largest operator, its tariffs are the highest (Table 5.7). A rational comes from the fact that consumers value coverage before pricing in choosing their provider. This is confirmed by a recent study undertaken in neighboring countries such as Rwanda and Tanzania (Gray).

While most African countries have three or four cellular operators, the size of the Burundian market does not enable the four operators to enjoy economies of scale. It is

Table 5.5. Actions Required in the Water and Sanitation Sectors

	Urgent Actions	Short-term Actions	Long-term Actions
Water	– Improve access in urban and peri-urban areas	– Ensure the access in new neighborhoods of urban areas according to the need of new consumers	– Long-term sustainability of Regideso
	– The financing of standpipe connection has to be reconsidered	– Ensure the viability of Regideso and the required tariff revision. Affordability and willingness to pay are key elements in the analysis	
	– Survey of coverage by region		
	– Estimation of the willingness to pay	– Reduction of technical losses	
Sanitation	– Survey of sanitation services and underground water sources (quantity and quality)	– Improve sewerage services and management	– More emphasis in access to sanitation systems

38. Based on Ventura Bengoechea (2007).

Table 5.6. Development of the Telecom Sector

Fixed	2001	2002	2003	2004
Switching capacity	27,836	31,384	31,834	39,136
Working lines	20,543	22,084	23,895	27,744
Working lines in Bujumbura	17,577	19,208	21,136	14,470
Working lines in urban areas	17,625	17,708		24,174
Public phones	10	10	10	3,277
Pending lines	4,692	6,627	10,000	15,000
Failures per 1000 lines and year		72.0	60.0	
Failure rate of international incoming calls (%)	39.1	28.2	20.0	50.0
Mobile	**2001**	**2002**	**2003**	**2004**
No. of direct international links	3	3	4	4
Countries with roaming agreements	5	69	69	69
African countries with roaming agreements	—	23	23	23

Table 5.7. Tariffs in US Dollar Cents/Minute and Number of Subscribers[39]

	To				
From	Africell	Econet	Telecel	Onatel Mobile	Subscribers
Africell	23.3	29.1	29.1	27.4	13,000
Econet	20.4	17.8	20.4	20.4	55,000
Telecel	43.3	43.3	27.1	30.5	103,000
Onatel Mobile	12.1	12.1	12.1	12.1	50,000

noteworthy that the target of three operators or more is set by anti-trust regulations, which stipulate that any company with more than 30 percent of a market share could take advantage of its dominant position. However, the market structure should be examined on a case-by-case basis provide the greatest efficiency. The domestic and regional markets are growing steadily, so competitiveness does not necessarily mean an increase in the number of operators.

The privatization of ONATEL is expected to boost the sector, in particular the Internet segment. Satellite connections are very expensive and a fiber optic link can be the solution if regional conflicts do not affect the connection. Connectivity to the global Internet is currently through VSAT, while direct access can be through WiFi, WiMAX, GSM or the phone network. Authorities are planning connection to a high-speed backbone in the eastern African region.

The government has also launched a public-private partnership to finance development of a high-speed Internet network. This project will significantly contribute to opening rural areas and more efficiently linking Burundi to the region. The main feature of this PPP is that the private sector initiates the investment and is in charge of financial and commercial man-

39. In the case of Telecel and Spacetel, tariffs are the (simple) average of prepaid and monthly plan paid.

Table 5.8. Investment Needs per Year

Sector	Per year (2007–2010) *as a % of 2005 GDP* Total expenditure	Existing financing	Needs of financing
Energy	**2.2%**	**1.0%**	**1.3%**
O&M	0.2%	0.0%	0.2%
Investment	2.0%	1.0%	1.1%
Transport	**5.7%**	**3.9%**	**1.8%**
O&M	2.2%	1.6%	0.5%
Investment	3.5%	2.3%	1.2%
ICT	**0.4%**	**0.0%**	**0.4%**
O&M	0.0%	0.0%	0.0%
Investment	0.4%	0.0%	0.4%
Water	**2.8%**	**2.4%**	**0.4%**
O&M	0.4%	0.3%	0.1%
Investment	2.3%	2.1%	0.3%
Total	**11.1%**	**7.2%**	**3.9%**
O&M	2.9%	2.0%	0.9%
Investment	8.2%	5.3%	3.0%

Source: Based on Programme d'Actions Prioritaires de mise en œuvre du CSLP 2007–2010

agement, while the government complements investments and ensures prices remain accessible to users. Other investments in the technologies of information and communication sector will be required, especially training.

Public and Private Investments and the PRSP Priority Action Plan

Major investments and reforms are needed to alleviate infrastructure constraints that hamper rural growth. While fostering public-private partnerships is critical to achieving this goal, the State will most likely undertake the largest share of investments in the very short term. To be an effective engine for growth, however, it will have to promote better management and reform tariffs.

The PRSP priority action plan established investment priorities in infrastructure for the period 2007 to 2010. This four-year program was at the core of the discussions during the last round table held in May 2007. It acknowledges that $355 million needs to be allocated to infrastructure (Table 5.8), of which 65 percent has already been secured. One-half of the budget is allocated to transport (roads) and the rest to water and energy. ICT remains marginal because the Government expects significant investments from the private sector.

One-quarter of the total budget is allocated to maintenance and rehabilitation, which is in line with the previous diagnostic. Investments in transport are largely dominated by road rehabilitation. Most funding for electricity is dedicated to increasing generating capacity and network coverage. Water interventions involve network rehabilitation and expansion.

Improving the Investment Climate[40]

In a country as densely settled as Burundi, the private sector in rural areas can provide good livelihoods in many activities beyond primary agricultural production. While Government has an important role to play in economic development, the private sector is the main engine of growth and job creation. It can only play that role in an environment conducive

40. This section was written by Elke U. Kreuzwieser (Senior Expert, DSP).

to business. Therefore, improving the investment climate would contribute to higher growth and reduced poverty.

Major reforms are needed to enhance the business climate. The judiciary and regulatory framework can be improved by: (a) clarifying business law and administrative regulations to avoid provisions open to interpretations or discretionary decisions; (b) reforming the judiciary system to reduce excessive delays in commercial courts and promote mediation as a means of settling trade-related disputes; and (c) simplifying formalities and diminish the cost of setting up a business.

Incentives to invest could be enhanced by: (a) guarantees provided to domestic and foreign investments; (b) restricted access to fiscal privileges that should be granted on objective and non-discretionary criteria; and (c) shortening of agreement time-frames. Reshaping the fiscal system to foster the creation of small businesses (or to attract them from the informal sector) is also key in trying to reinforce the contribution of the rural sector to growth. In addition to improving access to credit, such a policy can generate a significant employment increase. Finally, efficient support institutions for the private sector could be achieved by introducing elements of private sector management models (such as linking part of staff remuneration to performances). This is likely to generate rapid results in the effort to stimulate the private sector.

Legal and Regulatory Framework for Business

The Doing Business 2007 report ranks Burundi 166 out of 175, slipping from 2005 when it held position 160.[41] Table 5.9 gives Burundi's ranking for each of the 10 indicators from which the aggregate ranking is derived.

Table 5.9. Ranking of Burundi's Business Climate

Ease of . . .[a]	Rank out of 175
Starting a business	109
Dealing with licenses	164
Employing workers	132
Registering property	132
Getting credit	159
Protecting investors	. .
Paying taxes	123
Trading across borders	171
Enforcing contracts	137
Closing a business	121

a. Standardized assumptions to enable comparisons among countries. The methodology can be consulted on www.doingbusiness.org.

Each indicator is calculated from a series of sub-indicators, for example, the 'starting a business' indicator includes the number of steps necessary (11 in Burundi), the time required (43 days), and the cost as percentage of income per capita (222 percent or twice Burundi's per capita income).

Other sources further illustrate Burundi's poor performance in terms of doing business: a 2006 enterprise survey[42] indicates that a firm's senior management spends on average about 5.7 percent of their

41. In the initial publication, Doing Business in 2006 (2005 ranking, published in September 2005), Burundi held position 143 out of 155 countries. This 2005 ranking was later recalculated to reflect changes in methodology introduced in 2006 as well as the extension of coverage by adding 20 new countries. Subsequently, in the adjusted 2005 ranking, Burundi went from the initial 143/155 to 166 out of 175 countries.

42. http://www/enterprisesurvey.org

time dealing with requirements of government regulations; unofficial payments for a typical firm to 'get things done' amount on average to 4.5 percent of sales; and more specifically, 23 percent of firms indicate that they are expected to make such payments (or 'gifts') in meetings with tax inspectors.

Business Laws and the Commercial Court System. The level of legal security provided by a country affects investment decisions by foreign and local investors alike. These decisions take into account the existence of adequate business laws, but most importantly the functioning of the country's judiciary, specifically the commercial courts in charge of business cases.

Business laws. Legal practitioners find that the present state of business laws lack overall coherence and appropriate implementation texts. The 1993 Commercial Code is no longer adapted to the reality of business in a global economy and is purportedly in the process of being revised. Burundi's present patchwork approach to revising the business law could spread efforts too thinly considering the limited state capacity, and divert attention from the urgent measures needed to improve the functioning of the judiciary, most importantly the commercial court. The absence of a coherent, modern and internationally credible business law is likely to deter investments (especially foreign).

Burundi could benefit from a process—well prepared and documented, associating the Government, the legal community, and the private sector, including the banking sector—during which it would analyze the pros and cons of gradually adopting a set of modern African business laws that already have a solid track record and are in line with Burundi's legal tradition. This approach would have the additional benefit of providing the country with a substantial body of African case law that could significantly speed up legal proceedings.

Functioning of the commercial court. The only commercial court is in the capital of Bujumbura, but it lacks adequate facilities, equipment, and capacity. These shortcomings significantly affect the duration of the court proceedings—the average case takes four years before a sentence is rendered (purportedly one case has been pending for 25 years!). The productivity (in terms of sentences rendered and cases closed) of the commercial court magistrates is unequal and does not allow a significant reduction of the inventory of about 400 case files pending at any point, because the number of cases closed per year is roughly equivalent to the number of new cases opened. To make at least a dent in the number of pending cases, the Government intends introducing legislation against dilatory tactics in court procedures. Compounding this unsatisfactory state of affairs, several reports highlight a significant level of corruption in the judicial system, especially at the commercial court where stakes are financially higher. An additional problem arises with enforcement of sentences once they are finally rendered.

The government needs to make important changes to improve the judiciary environment. A significant salary increase for magistrates is a step forward. The Government now needs to hold the long-delayed '*assises de la justice*' and adopt a coherent action plan, including measures to curtail wide-spread corruption in the judiciary.

Burundi Arbitration Center (Centre burundais d'arbitrage et de conciliation). This center opened recently (December 2006) and is attached to the Burundi Chamber of Commerce and Industry (CCIB). It has a very lean structure (just a permanent secretariat), arbitration procedures, and a list of approved arbiters. For the time being, the center has not yet had to

solve a case, a situation which is easily explained by the lead time between the moment when an arbitration clause is included in a commercial agreement between contracting parties (or the contract is amended) and the time when a disagreement over the contract actually emerges.

Burundi should continue to encourage and support the promotion of arbitration as a means of conflict resolution in commercial matters. The government should also commit to ensure speedy enforcement of arbitration sentences through its judicial system *(exequatur)* in cases where it is required because enforcement is a condition for trust in the arbitration system.

Company Tax System. In surveys of African firms, the tax system is usually mentioned prominently as a major obstacle to private sector development. Reality is more complex, especially in international comparisons. Tax burdens vary considerably between firms that benefit from some various forms of special status (e.g., investment code and other tax exemptions) and those that pay statutory taxes, between large firms and SMEs, between formal companies, and semi-formal activities. Also, companies often complain more about tax control or even 'harassment' by tax inspectors and the extraction of informal payments, than about the tax level.

In Burundi, the fiscal basis is very small due to the preponderance of the informal sector. About 3,300 taxpayers were registered and given a NIF *(numéro d'immatriculation fiscale)* in 2006, of which 323 are classified as '*grandes entreprises,*' generating 92 percent of the country's fiscal revenue.

Profit tax (Impôt sur les bénéfices des sociétés). The profit tax rate was reduced from 45 percent to 35 percent in January 2004, long after most other African countries had lowered their profit tax rate to this level during the 1990s.[43] Further reduction to 25 percent is currently under discussion, in combination with an effective three-year tax holiday that could help compensate for the numerous handicaps jeopardizing Burundi's international competitiveness. Importantly, the tax holiday should not entail burdensome paperwork (feasibility studies, etc) because this discriminates against SMEs and prevents them from moving out of the informal sector.

Tax system for small firms. The Government should strive to curb the informal sector and broaden the tax base. It should provide small entrepreneurs with the incentives to register their businesses and thereafter comply with regulations (tax, labor, etc.) An effective intervention would raise awareness about the cost of informality, which entrepreneurs are rarely in a position to correctly assess.

Burundi's tax code includes a tax option called *forfait* for small registered firms. Eligible firms do not have to comply with accounting regulations. Moreover, the *forfait* is calculated as a percentage of a prior estimate of the turnover made by the tax inspector. This estimate is generally flawed and only finalized after much haggling and often after unofficial payments. A reform of the small enterprise tax system would promote a direct presumptive taxation based upon objective indicators. The introduction of presumptive taxation is usually combined with simplification of self-assessment systems

43. In other words, there was an inexplicable inertia by authorities and particularly the tax administration before admitting that the 45 percent rate was excessive in a post-conflict country engaged in reconstruction, and that such a rate was not conducive to attaining economic development objectives.

Minimum tax. The tax code imposes payment of a minimum tax of 1 percent of turnover for firms reporting deficits because the Government presumes fraud in such a case. The Government should reassess the appropriateness of this tax and which sectors it should apply to.

Tax system for exporters. Given Burundi's small domestic market, acceleration of economic growth will have to come from export markets, as demonstrated extensively in the sections on coffee, tea, and horticulture. Exporters of non-traditional products[44] benefit from a favorable tax system. The general tax code provides for a 10-year profit tax holiday for exporters, and a 50 percent reduction for subsequent years. The free-zone law also provides for a 10-year tax holiday to be followed by a 15 percent profit tax liability. With the existing profit tax rate of 35 percent, the free-zone status is slightly more advantageous than the statutory provisions of the tax code, but the free-zone status offers other benefits as well.

Other aspects of the tax reform. A tax procedures code (*Code des procedures fiscales*) that would set clear rules for governing the relationship between the tax administration and the taxpayer (including fiscal control, payment, etc) is being prepared and should pass shortly.

While there is some advocacy for postponing necessary reform measures pending harmonization with EAC legislation, it is important to stress that Burundi's recent membership in the East African Community (EAC) does not affect its sovereign power in domestic tax matters. Reducing the spread of indirect taxes like the VAT is by no means indispensable to achieving a customs union. The predecessor organization to the European Union—the biggest single market in the world—has been a full customs union since 1958, but EU members in 2007 still apply different VAT rates and corporate tax rates.

Management and accounting assistance centers (Centres de gestion agrees). Burundi has already created by decree the regulatory framework for such centers so they should be effectively implemented in parallel with tax reform. SMEs would benefit from access to accounting assistance due to less hassle with the tax administration as tax files are professionally prepared. SMESs would also get better access to credit and to government contracts that usually require a solid accounting track record. Such centers operate in several African countries; not all of them are a success, and, as always, implementation arrangements are crucial.

Customs Procedures

Customs tariff. With the accession of Burundi to the EAC effective July 1, 2007, the EAC's three-band tariff structure will be phased in over a period of three years—0 percent for raw materials, capital goods, agricultural inputs, certain medicines and certain medical equipment; 10 percent for intermediate goods and other essential industrial inputs; and 25 percent for finished goods.

Export taxes and tariffs on inputs used in exports. The eventual implementation of the EAC customs tariff with its zero rate on agricultural inputs and capital goods should make it easier for exporters to use imported inputs without having to resort to complex duty exemptions or reimbursement procedures. However, once the VAT has been introduced, the issue of VAT credits for exporters needs to be addressed in a satisfactory way unless agri-

44. The taxation of coffee and tea, the country's main export commodities, needs a more detailed assessment after the most important decisions on the liberalization of these sectors have been taken, but preferably before details are implemented so that private businesses can take them into account in their business models.

cultural inputs and capital goods are exempted from VAT. Burundi's customs code makes provision for duty reimbursement for customs duty paid on inputs used in exports. But the procedures are complex and should be simplified (e.g., by using fixed reimbursement coefficients) so as not to penalize new or occasional exporters.

Customs clearing and assessment of customs administration procedures. Efficient customs operations are crucial for a landlocked country like Burundi. Procedures have improved since the introduction of a computerized system but further improvements are needed to simplify and speed up procedures.

Incentive System—Investment Code and Free Zone Law. Burundi is in the process of revising its 1987 Investment Code.[45] The 1987 code is very much in line with the 1970s and 1980s generation of investment codes, however, much better practices have been introduced in the 1990s. They focus on general provisions of non-discrimination, investor protection (guarantees against expropriation), freedom of capital, and dividend transfers. Moreover, they should not include tax incentives that are left to the tax code and customs tariff. Incentives are transparent, automatic (based on clearly spelled out criteria), and non-derogatory. Approval procedures are simple and automatic for investments below a fixed ceiling upon presentation of standard information (no pre-feasibility study). For investments above a certain level, more detailed documentation and committee approval will be required.

Initial recommendations formulated for the revision of the 1987 code have called for the same principles. Unfortunately the existing draft version for revision of the Investment Code does not follow these recommendations. This draft is on hold to ensure compatibility with the EAC model investment code, so this should be an opportunity for stocktaking and extensive redrafting in line with best practices.

Starting a Business—Procedures and Cost. Burundi ranks 160 out of 175 countries in the 2007 Doing Business survey (2006 data) ranking for starting a business. A legal framework establishing a one-stop window (*Guichet Unique*) with representatives from the different ministries and agencies involved in the registration process was therefore created by decree.

Considerable reticence by ministries to fully delegate signature to the one-stop window turned the procedure into a one-more-stop window phenomenon. A more efficient way to facilitate business creation would imply simplifying the required steps needed to start a company in line with best practices.

Production Factors: Cost and Availability

Beyond the legal and regulatory environment, cost and availability of production factors determine to a large extent the competitiveness of enterprises. We will analyze here in more detail finance and labor/human capital, while land and infrastructure/utilities are discussed under separate headings.

Access to Rural Finance. The lack of access to financial services in rural areas, specifically for agriculture, is a major constraint to rural growth. Microfinance institutions (MFIs) pro-

45. Loi no 1/005 du 14 Janvier 1987 portant Code des Investissements.

vide their services to approximately 300,000 clients in Burundi. Contrary to banks, they focus on low-income households in urban and rural areas. MFIs could hence play an important role in financing the rural world and agriculture. They are, however, unable to carry through this potential. Only sustainable and well-managed MFIs will be able to supply a range of financial services adapted to the rural world and agriculture. The priority is thus to reinforce MFIs (reinforce accountancy, financial management, procedures, etc.) as well as the microfinance supervision department at the Bank of the Republic of Burundi (BRB). In the meantime, developing technical and financial assistance to enable MFIs to diversify their client base and design financial products adapted to the rural world and agriculture would prove useful.

Box 5.1. Highlights of New Microfinance Decree

The Microfinance Decree was approved in June 2006. It established three categories of MFIs:

Credit and savings cooperatives (Coopec). No minimum capital requirement, a minimum of 300 members is required Microfinance enterprises. Minimum capital is $200,000

Microfinance projects

Only MFIs belonging to Categories 1 and 2 are allowed to mobilize deposits. The deadline for MFIs to submit a request for a license was January 22, 2007. As of April 2007, 22 MFIs had received a license (three had been rejected and a number of applications are still being processed). The three rejected MFIs have not yet started their operations.

Commercial banks focus on wealthy urban clients and Burundian companies. They are currently involved in financing agriculture solely through the coffee industry (and to a lesser extent through the rice industry). Because of OTB's financial difficulties, banks have not been financing the tea industry since 2004. The agricultural sector is regarded as highly risky by banks (in particular because of weather- and price-related risks), and are therefore reluctant to finance this sector. Catalyzing rural growth needs strengthened access to finance.

Box 5.2. Are Interest Rates Too High?

Nominal interest rates in the banking sector are between 15 and 22 percent, which appear high and raise strong complaints from the private sector. The average interest rate stands at 18 percent (BRB data).

Real interest rates (the difference between effective interest rate and the inflation) were high in 2001, 2002, and 2004, but dropped significantly in 2005 (to reach 2.1 percent). Interest rate margins (the difference between lending and deposit rates) stand at around 10 percent, which is not unusual for African economies. However it reflects the current state of the financial sector in Burundi—its small size reduces economies of scale and adds to the high cost of credit, the high level of non performing loans also contributes to the relatively high nominal interest rates. A more developed financial sector with stronger competition would help interest rate margins decline.

Human Capital and the Labor Market

Technical training. Modern production techniques depend on the quality of human capital. Burundi is aware of this requirement and education is a high priority. But due to

the civil war, general and technical education and vocational training need to be upgraded urgently to keep pace with the requirements of more skill-intensive industries.

In the meantime, fortunately, the State has let the private sector fill the gaps in areas where it has not been able to provide adequate services. In technical education, private training facilities cater to about one-half of the total student population, but some courses are still almost exclusively the domain of public education.

The *Institut des techniques agricoles (ITAB)* provides training in agro-industrial and food technology for A2 level technicians. The *Institut Supérieur de l'Agriculture (ISA)* at university level trains industrial engineers. A workshop is planned in July 2007 with private sector participation to discuss the fit between technical education and industry requirements, and also to help organize internships in firms for graduates. Burundi will need assistance to bring the level of technical training, especially in food sciences, to the stringent levels required by exports to the world market. According to the 2006 enterprise survey, only about 11 percent of firms in Burundi offer formal vocational training compared to 35 percent on average in the Africa region.

Labor market. Burundi ranks 132 (out of 175) in the 2007 Doing Business survey in 'Employing Workers,' which measures the flexibility of labor regulations. On a scale of 1 to 100 (most rigid), the difficulty of hiring index is 78 in Burundi, the rigidity of working hours index is 60, and the difficulty of dismissing a redundant worker is 40. But dismissals are very costly for the employer—26 weeks of salary for each year worked in the job, unless professional misconduct by the employee can be proved. This provision needs to be reformed because it could deter potential investors. On the other hand, the non-wage labor cost is very low (6.9 percent of salary) because Burundi does not have compulsory health insurance for workers. Labor disputes brought before the labor tribunal (one magistrate and two deputies, representing the employers and trade unions) are said to be ruled in 90 percent of cases in favor of the employee. These rigidities of the labor market are partially offset by low salaries, which should make Burundi very competitive for labor-intensive productions if the most egregious shortcomings of the labor legislation are addressed.

Public Support Institutions and Private Sector Business Development Services

Quality, Standards, Testing, and Metrology (QSTM). Compliance with standards and quality control become increasingly important in international commerce, but an efficient and reliable QSTM system is lacking in Burundi. If Burundi is to diversify its exports and ultimately become less dependent on coffee and tea, it has to set up certified laboratories that can ensure compliance with increasingly stringent quality standards and traceability requirements.[46]

Trade Information Center. The new Investment and Export Agency to be set up needs to make available a trade information system to provide local businesses, foreign investors, and importers with data on technical and commercial standards, availability and quality of local products, a directory with relevant information on local firms by sector, a business opportunities site, etc. The trade information center should be well designed to be in a posi-

46. Traceability requirements for 'fair trade' coffee are mentioned in the appropriate section of this report, but traceability of origin for imports into the EU will also be increasingly required in the future.

tion to supply this information at the lowest cost possible so that it remains sustainable over time. Indeed, many trade information centers run out of funding after the start-up. As a consequence, the information is not updated on a real time basis and becomes quickly obsolete for business use.

The business model for the trade information center should include a mix of publicly available information services and more tailor-made information available to subscribers and/or as a fee-based service. Also, the business model should not be based on physical access to the center, but on remote access through users' computers. It should also be noted that the information made available need not be collected from scratch as far as foreign markets and standards are concerned because in most cases it is already available on the net. The Burundi trade information center will have to provide links or subscribe to external databases. On the other hand, the database on local products and suppliers will have to be newly created and maintained. It is clear that such a center cannot be self-sustaining in a country with a small private sector like Burundi, and would need public or donor funding during the initial years.

Investment and Export Promotion Institutions. Experience with such institutions is mixed at best in African countries, with some well-known exceptions. In a nutshell, they are only potentially useful in countries where the business climate is already reasonably favorable. Their performance is particularly poor if they are not appropriately funded. Successful institutions are often run by contract staff with performance targets and performance-based payments, rather than by civil servants. It would be in Burundi's best interest to seek assistance with the design and roll out of such an investment and export promotion institution, taking into account lessons learned (sometimes painfully) elsewhere in Africa to avoid costly mistakes and ineffectiveness at this crucial juncture in its economic development.

Availability and Quality of a Network of Suppliers of Business Services. Firms cannot operate efficiently without a network of business service providers, most importantly in the following areas:

- Logistics (transport, freight forwarders, customs clearing agents, etc);
- Lawyers, chartered accountants, auditors, management consultants;
- Marketing and export professionals;
- Information technology; and,
- Engineering, repair services etc.

While it has not been possible to make a detailed assessment of the availability, cost, and quality of these services in Burundi, it is important that the overall business environment be conducive to the establishment of such vital services, including through provisions in the tax code favorable to new formal small businesses in these areas.

APPENDIX

Methodology

The Source of Growth study is based on the main findings obtained during six visits to Burundi by the team and desk reviews of selected documents and strategy papers. During the country field visits, the team led extensive consultation with NGOs, civil society, the private sector, academia, and other stakeholders. In particular the team endeavored to hear directly from tea pickers, coffee producers, and other major actors of Burundian growth.

Based on those inputs, the team working on the study set out to:

- Assess current Government's strategies and initiatives related to agricultural development and the extent to which these initiatives are consistent with enabling increased agricultural productivity and stimulating poverty reduction; and
- Identify outstanding policy reforms and priority investments necessary for agricultural development such as coffee reform and privatization of the tea subsector.

Over the past 12 months this work enabled constructive and fruitful exchanges with the Coffee Reform Committee and other sectors that can use the Source of Growth team as a pool of ad-hoc expertise.

The following three aspects of the SORG process are worth noting.

1. *Government of Burundi supported and fully participated in the study throughout its duration*

Two workshops hosted by the President of State as well as the Second Vice-President were held in January 2007 and May 2007. These workshops, attended by line ministers, helped identify main obstacles to growth related to conflict prevention, agriculture, macroeconomic framework, poverty profile, infrastructure, and business climate. These workshops enabled

thorough communication with all Burundians. Indeed the two events were covered by all local radio stations, newspapers, and widely discussed within the country.

A key outcome of these workshops was to openly discuss governance issues pertaining to management of the main sources of income such as coffee and to acknowledge and promote the development and consultation processes that are indispensable to the fair and efficient implementation of reform and investment.

The Government appointed 12 technical committees to interact with the SoRG team on each background report and make sure that the work will build upon existing knowledge and help define the most relevant priorities. The committees review and comment extensively on the background reports prepared by the team.

In May 2007, the Government reaffirmed its intension to use this study as the framework for the preparation of the Etats Généraux de l'Agriculture, i.e., strategies and program formulation.

2. *The analysis fed directly into the coffee privatization process*

The team helped Government to engage important initiatives to develop production and sale of specialty coffee. Two visits to Burundi by buyers were organized this year and follow-up and strengthening of these commercial initiatives is planned. The Government is thus preparing a statement for an important event that will be held in Portland, Oregon USA (where most American specialty coffee buyers are located) and covered by the media in front of a large audience of specialty coffee buyers. Such a statement should help increase their awareness of Burundi's history, assure them of the Government's commitment to understand and address preoccupations that might be preventing them from buying Burundian coffee, and present the media with an action plan tackling these issues. This action plan will reaffirm the liberalization of direct sales at all levels of the coffee commercialization chain as well as Burundi's dedication to move the current privatization process forward. A media kit has been prepared to foster communication with international media and coffee specialty buyers. A website on Burundian coffee has been developed.

3. *The main work summarizes twelve original background reports*

The following reports have been discussed in workshop held in Burundi and in the context of brown bag lunches organized at the World Bank headquarter:

- Macroeconomic analysis led by Jean Pascal Nguanou, Country Economist for Burundi, Eric Mabushi, Economist and Ephraim Kebede, Economist.
- Poverty profile led by Quentin Wodon, Lead Poverty Specialist and Jean-Paul Zoyem, Consultant Case-d'Afrique
- Food Security led by Quentin Wodon, Lead Poverty Specialist, Jean-Paul Zoyem, Consultant Case-d'Afrique and Evaline Dianga Technical Specialist, World Food Program
- Food crops, led by Michael Morris, Lead Agriculture Economist and Vincent Glaesener, Agro-Economist (FAO)

- Livestock, led by Michael Morris, Lead Agriculture Economist and Marc Moens, Livestock Specialist (FAO)
- Fisheries, led by Ba Mbaye, Fisheries Specialist (FAO)
- Specialty coffee led by Daniel Clay, Professor (MSU)
- Horticulture led by Daniel Clay, Professor (MSU)
- Tea Sector Reform led by Eric Kacou, Director On the Frontier (OTF)
- Infrastructure led by Antonio Estache, Senior Adviser, Daniel Benitez and Déo-Marcel Niyungeko, Sr. Engineering Municipal Specialist
- Governance diagnostic led by Susan Carillo, Senior Governance specialist
- Investment Climate study led by Elke Kreuzwieser, Senior, Private Sector Specialist

The background reports on coffee, tea, and horticulture were funded by Government of Burundi though the Economic Management Support Project. The background reports on food crops, livestock, and fisheries were sponsored by FAO-CP Funds. Local consultants hired to support the FAO team were sponsored by Government of Burundi through the Agriculture Rehabilitation and Sustainable Land Management Project. The Belgium Poverty Reduction Partnership provided financial support for the design of both the poverty profile and food security analysis.

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Burundi is one of the poorest nations in the world. Beset by coups d'états, presidential assassinations, and genocide, the country has been caught in a cycle of violence and underdevelopment. The 2000 Arusha peace accords, the Pretoria agreement of late 2003, the peaceful elections of 2005, and the recent Dar es Salaam peace agreement with the Forces Nationales de Libération have ushered in a period of relative stability. This fragile political process, however, has not been matched by a parallel rebound in economic growth that has been observed in other post-conflict African countries.

This work aims to identify areas in Burundi's rural economy with the greatest immediate potential to stimulate growth and consolidate peace over the next years. This report takes stock of international best practices and Burundian history, and explores the development of a sound agricultural base as the critical foundation for sustainable growth. It identifies policy reforms and investments with potential to boost food supply and to strengthen export crop competitiveness, thereby expanding rural growth.

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