Understanding Rwanda's Agribusiness and Manufacturing Sectors

Sachin Gathani and
Dimitri Stoelinga

With a Foreword by François Kanimba, Minister of Trade and Industry, and an Introduction by Professor Måns Söderbom

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FOREWORD

Rwanda, after more than a decade of sustained high growth, is embarking on a new phase of its development. The transition from a least developed country to middle-income status targeted by Vision 2020 will require higher growth rates based upon a more diversified and productive economic base fuelled by private investment. In the future, growth will increasingly emanate not only from increases in productivity in agriculture but also from new investment in industry, services and export diversification.

This book focuses on one of the foundation stones of the coming growth – industry – and it provides us with detailed information on the dynamics and the structure of Rwanda's manufacturing and agro-processing sectors today. It will also provide policymakers as well as investors interested in our industrial development with a clear view of the history of Rwanda's industrial sector, including its recent performance and a description of the leading enterprises. It highlights policies that have helped promote the sector's development over the past decade. Most importantly, it conveys a sense of the sector's considerable potential for further growth in the context of the wider regional economic integration.

This book is part of a larger project undertaken by the Brookings Institution with support from the African Development Bank and UNU-WIDER. This project, called Learning to Compete, is a comparative study of several African countries that focuses on export development, skills, foreign investment and economic clusters, all with the aim of understanding recent trends in productivity growth and ways to improve competitiveness. When the International Growth Centre proposed including Rwanda among countries covered by this project, we were pleased to endorse that effort because we wanted to learn from their experience and share with other countries the findings and recommendations of the study.

Laterite Ltd., a Kigali-based research firm that was contracted by the International Growth Centre to conduct this work, has – through its rigorous yet practical approach – brought an innovative and analytical voice to the ongoing review of trade and industrial policies in Rwanda. Through interviews with the top management of our most prominent companies, this book maps out the present state of Rwanda's leading industrial performers,

singling out both challenges and the underlying opportunities. This analysis will go a long way towards informing Rwanda's strategic thinking to enhance trade and industrial policies and reforms. It highlights important issues such as the emerging role of the construction materials and agro-processing sectors, opportunities to expand significantly into neighbouring markets and the importance of facilitating investment from large national and regional investment groups and industrial conglomerates. At the same time, however, it provides a reality check on real constraints in the sector, including historically low export orientation, complications in sourcing raw materials, cost of transport and unstable demand, issues that we need to take into account when we design our industrial and trade policies.

Those interested in Rwanda's development – policymakers, academics, businesspeople and prospective investors – will, I am confident, find this book essential to understanding Rwanda's industrial sector. It is a milestone in marking the next phase of Rwanda's journey toward becoming a middle-income country.

François Kanimba
Minister of Trade and Industry

PREFACE

Rwanda achieved independence on 1 July 1962. This book marks the 50th anniversary of the country's independence and tells the story of its manufacturing and agribusiness sectors by systematically looking at the evolution of firms in these sectors since the 1930s. These more than other sectors have followed the ups and downs of Rwanda's history. Tracing their evolution allows us to understand in rich detail the current state and future potential of these sectors, which will be critical in Rwanda's journey to achieving middle-income status.

The backbone of this book is an enterprise map of Rwanda's manufacturing and agribusiness firms, tracing their origins and evolution, as well as current firm capabilities and how they were formed.

This mapping exercise was conducted in 2012 and involved profiling leading firms in Rwanda's manufacturing and agribusiness sectors through one-on-one structured interviews with their senior management. The book contains 43 firm profiles that detail each company's origins, products, systems and resources. Given the small size of Rwanda's economy, with only a handful of firms that qualify as large enterprises, this exercise provides a comprehensive assessment of the country's industrial capabilities base.

This book will provide the first ever comprehensive overview of firms in the manufacturing and agribusiness sectors. In doing this, we hope to provide academics and policy-makers with insights on the structure and existing capabilities of industrial firms, enabling them to design targeted interventions that are based on an understanding of the key constraints to industrial development in Rwanda. We also hope that this book will provide inspiration to entrepreneurs and investors looking to start new firms, or expand existing ones, in the manufacturing and agribusiness sectors in Rwanda.

June 2013

ACKNOWLEDGEMENTS

The Laterite team would like to thank the 43 firms and their representatives for agreeing to be part of this study and for sitting through the interviews with our research team, often for hours on end. Their insights have been key to making this a valuable exercise. In particular, several of Rwanda's inspiring managers and CEOs who reviewed and debated the findings have made a significant contribution to this book.

Government institutions and organizations have also played an important part in making this book possible. They provided us with guidance, relevant data, contacts, the necessary permissions and invaluable insights. We thank in particular the Ministry of Trade and Industry (MINICOM), the Rwanda Development Board (RDB), the National Institute of Statistics (NISR), the Rwanda Revenue Authority (RRA), the Ministry of Agriculture and Natural Resources (MINAGRI), the National Agriculture and Export Board (NAEB) and the National Bank of Rwanda (BNR).

Special thanks goes to the many people who have helped us write, edit and proofread this book. We would like to thank in particular Nick Buckley, Jean Baptiste Gasigwa, Maria Paula Gomez, Garron Hansen, Simon Jones, Sophia Kamaruddin, Peninah Njuguna, Nupur Parikh, Leonard Rugwabiza and Nina Stochniol for their time, thoughts and incredible support.

A final word of thanks goes to the International Growth Centre (IGC). The research for this book would not have been possible without the financial, logistical and, most importantly, technical support from the Rwanda Country team: Jonathan Argent, Richard Newfarmer and in particular Michele Savini and Professor Måns Söderbom. We thank them for their support and advice throughout this project.

ABOUT THE AUTHORS

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Sachin Gathani is a Co-Founder and Partner at Laterite Ltd. Prior to establishing Laterite, Sachin worked for the World Bank Group in Kenya. He has several years' experience as a management consultant for US state governments and the government of South Sudan, and has led competitiveness strategies in Colombia and Djibouti. Sachin has undergraduate degrees in political economy and business from the University of California, Berkeley, and a masters in international affairs from Columbia University.

Laterite Ltd. (www.laterite-africa.com) is a research-consulting firm based in Rwanda, Burundi and Malawi. We offer a variety of research services clustered around economic and social research, policy development and market research. Laterite is committed to bringing world-class research services to African markets with a high growth potential but little advisory service infrastructure.

The International Growth Centre (www.theigc.org) promotes sustainable growth in developing countries by providing demand-led policy advice based on frontier research. The IGC is directed and organized from hubs at the London School of Economics and the University of Oxford and comprises country offices across the developing world. The IGC was initiated and is funded by the Department for International Development (DFID).

Professor **Måns Söderbom** was formerly the lead academic for the IGC Rwanda country office and is currently professor of economics at the University of Gothenburg, Sweden. Most of his research is empirical, and focuses on the microeconomics of productivity, exports, investment and labour markets in Africa. Much of his recent work in this area has focused on Ethiopia. He has done theoretical research on the effects of financial constraints on company investment. He has also worked on civil conflicts. Prior to joining the faculty in Gothenburg in 2008, he was a Research Fellow at the Centre for the Study of African Economies in Oxford.

INTRODUCTION

By Måns Söderbom

In this book Sachin Gathani and Dimitri Stoelinga present the results from their studies of manufacturing and agribusiness in Rwanda. These studies are based on in-depth interviews with leading businessmen and -women in the country. The work is also based on careful statistical analysis of a wide range of data on Rwandan companies. By combining case studies of individual companies with careful quantitative analysis, the study offers a uniquely comprehensive and informative picture of the industrial sector. I very much hope and believe that the study should be of great interest to policy makers, members of the business community and academics.

The research is part of a series of studies of industrial development in Africa and Asia, which are to be published jointly by the two top development think-tanks in the world, namely the Africa Growth Initiative at the Brookings Institution in Washington, DC, and the United Nations University–World Institute for Development Economics Research (UNU-WIDER). The involvement of these institutions ensures that the findings of the studies will resonate far beyond the borders of Rwanda. The overarching theme of the research is Learning to Compete. The starting point for the research project is the simple observation that there is very little industry in Africa. Lessons from Asia are that industrial growth and exports can be very potent drivers of economic development, poverty reduction and job creation. But this has not yet happened in Africa or Rwanda. It is true that there has been tremendous growth in much of Africa – and certainly in Rwanda – over the past decade. But insufficient job creation and poverty remain problematic. Why is there so little industry in Africa? That is the question to which the researchers have set out to find answers.

The present study documents the origins, capabilities and potentials of firms in Rwandan manufacturing and agribusiness. The book provides general analysis, as well as detailed profiles of individual firms and sectors. The authors focus on the leading firms in the country, i.e. firms that are large in terms of output, employment and exports. Large firms account for most of Rwanda's industrial output and exports, hence a better

understanding of the decisions and performance of these firms automatically implies a better understanding of the overall growth potential of the industrial sector in Rwanda. This should not be interpreted as implying that smaller firms are somehow less important in general. Micro and small firms offer jobs and they sometimes provide an entry point, in particular, for women into the labour market. Occasionally – though not as frequently as one would wish – small firms also grow to become large. The constraints and opportunities of small firms certainly warrant careful analysis too.

Gathani and Stoelinga bring us many findings. Some of them are relatively general and broad. For example, their work confirms that many of the best-performing firms in Rwanda have some foreign ownership, or are run by managers or entrepreneurs with a background in trading. Similar findings have been reported for many other African countries. This book carefully explains why and how this fact is informative about the relevant capabilities for running a successful business in Rwanda. Other results are more specific to the Rwandan context. Sourcing inputs and raw materials is a key constraint for many manufacturing firms, and arguably an important reason as to why few Rwandan manufacturing firms are able to compete internationally.

The study also establishes that large regional conglomerates have performed well in Rwanda recently. They have brought to the Rwandan market large capital investments, skills and know-how. Some of them find Rwanda a strategic location to target the Rwanda–Burundi–DRC markets. There are also domestic investment and holding groups that control significant portions of the Rwandan industrial sector. Small, domestic enterprises, in contrast, often struggle to raise capital and have a hard time finding skilled staff. This is one reason the manufacturing sector has not been able to generate a lot of jobs over the past decade.

Several questions related to policy arise as a direct result of the research presented in this study. For example, what policies would be most effective at facilitating firms to source inputs, e.g. raw materials? How should policies towards international investors be tailored so as to maximize the benefits for ordinary Rwandans? How should competition regulation be designed? Finding answers to questions such as these is generally very difficult, and readers will not find here cookbook-style recipes for policy. But they will find a wealth of facts and results that provide a good basis for advancing the policy discussion further.

Working with Sachin Gathani and Dimitri Stoelinga on this project has been a true pleasure for me. They have enormous knowledge about the industrial sector in Rwanda, and I hope you will find this book as inspiring as I do. The authors would agree that it would not have been possible to

write the book without the help of a large number of people in Rwanda. I would like to take the opportunity to thank in particular the entrepreneurs and managers who agreed to be interviewed and who shared with us their stories. In many ways, this book belongs to them.

ACRONYMS AND ABBREVIATIONS

AFDB	African Development Bank
ASSOPTHE	Association of Rwanda Tea Growers
BNR	Banque Nationale du Rwanda (National Bank of Rwanda)
BRD	Banque Rwandaise de Développement (Rwandan Development Bank)
CEO	Chief Executive Officer
CIP	Crop Intensification Programme
COMESA	Common Market for Eastern and Southern Africa
COO	Chief Operating Officer
CSR	Corporate Social Responsibility
CTC	Curl-Tear-Crush
DRC	Democratic Republic of Congo
EAC	East African Community
ERP	Enterprise Resource Planning
FMCG	Fast Moving Consumer Goods
FTE	Full-Time Employee
GDP	Gross Domestic Product
GNU	Government of National Unity
GOR	Government of Rwanda
IBRD	International Bank for Reconstruction and Development
IFAD	International Fund for Agricultural Development
ILO	International Labor Organization
IMF	International Monetary Fund
INEAC	Institut National d'Etudes Agronomiques du Congo (National Institute of Agronomical Research in the Congo)

IPO	Initial Public Offering
ISO	International Organization for Standardization
JV	Joint Venture
KSEZ	Kigali Special Economic Zone
LGP	Liquid Petroleum Gas
MCC	Milk Collection Centre
MINAGRI	Ministry of Agriculture and Animal Resources
MINECOFIN	Ministry of Finance and Economic Planning
MINICOM	Ministry of Trade and Industry
MIS	Management Information System
NBR	National Bank of Rwanda
NGO	Non-Governmental Organization
NISR	National Institute of Statistics Rwanda
NPK	Nitrogen, Phosphorus and Potassium fertilizer
NSC	National Sericulture Centre
NUR	National University of Rwanda
OCIR-Café	Office des Cultures Industrielles du Rwanda Café (Office for Industrial Crops of Rwanda Coffee)
OCIR-Thé	Office des Cultures Industrielles du Rwanda Thé (Office for Industrial Crops of Rwanda Tea)
OCIRU	Office des Cultures Industrielles du Rwanda-Urundi (Office for Industrial Crops of Rwanda-Urundi)
Opyrwa	Office du Pyrèthre du Rwanda (Office of Pyrethrum Rwanda)
PEARL	Partnership for Enhancing Agriculture in Rwanda through Linkages
PPC	Portland Pozzolana Cement
PSF	Private Sector Federation
PVC	Polyvinyl Chloride
QC	Quality Control
RBS	Rwanda Bureau of Standards
RDB	Rwanda Development Board
RDF	Rwanda Defence Force
RIG	Rwanda Investment Group

RRA	Rwanda Revenue Authority
RSSB	Rwanda Social Security Board
Rwf	Rwandan Francs
SADC	Southern African Development Community
SKU	Stock-Keeping Unit
SPREAD	Sustaining Partnerships to Enhance Rural Enterprise and Agribusiness Development
UHT	Ultra-High Temperature
UNIDO	United Nations Industrial Development Organization
USAID	United States Agency for International Development
USD	United States Dollar
VAT	Value-Added Tax
WFP	World Food Programme

Chapter 1

ORIGINS AND EVOLUTION

1.1 Industrial Development in Rwanda: An Overview

Over the past decade, Rwanda's manufacturing sector has experienced a rapid comeback.[1] In 2011, manufacturing output reached its highest level since 1994 and, at US$223m in real terms, was on par with the average output of US$216 achieved between 1986 and 1990 (measured in constant USD, see Figure 1.1). If current growth rates persist, output is expected to reach US$303m in 2015, surpassing the pre-genocide maximum. By the end of the 1994 genocide, the output of the manufacturing sector was only 37% of what it had been at its peak, and so the genocide will have cost the country 20 years of industrialization – more or less a generation. The current comeback has been achieved following a decade of sustained growth in the manufacturing sector, with a compounded annual aggregate growth rate of 6.5% in real terms between 2001 and 2011, a remarkable feat.

However, there is another way of looking at the figures, which presents a more sobering picture. In per capita terms, the cost of the 1994 genocide was much higher (see Figure 1.2). At US$20.4, real manufacturing output per capita in 2011 was only about half of what it had been at the end of the 1980s, in part reflecting the exceptionally rapid growth of the population itself.[2] Projecting growth in the manufacturing sector using recent growth trends (in particular, the compounded growth rate of the manufacturing sector between 2001 and 2011, which was about 5.2% per capita), Rwanda would only achieve its pre-genocide maximum of US$41 per capita around 2025.[3] This reflects the real extent of the impact of the 1994 crisis on Rwanda's industrialization process.

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[1] In this section, "manufacturing" refers to all manufacturing activities, including agribusiness but excluding mining.

[2] In constant US dollars 2000.

[3] This is a potential scenario based on current trends. Reality could turn out to be very different.

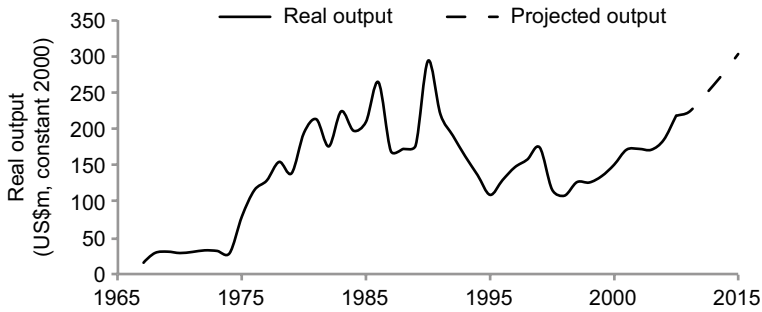

FIGURE 1.1 Manufacturing, value added (constant US dollars 2000).
Sources: World Development Indicators (2011); NISR (2011).

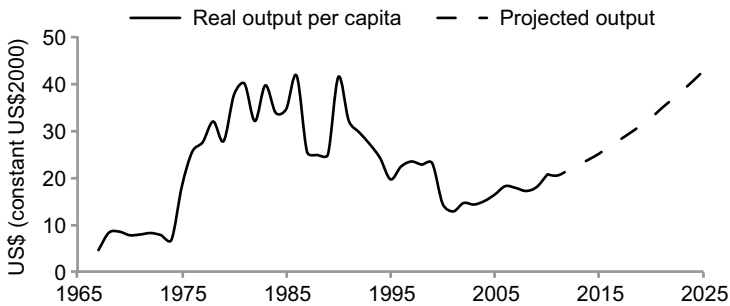

FIGURE 1.2 Manufacturing in Rwanda (value added per capita).
Sources: World Development Indicators (2011); NISR (2011).

While Rwanda's economic growth since the late 1990s has been a major success story – Rwanda is one of the world's 10 fastest growing economies – its manufacturing sector has not kept up with the growth pace of the agriculture and services sectors. The output of these sectors in Rwanda has more than doubled compared with the late 1980s, whereas output in the manufacturing sector still remains below pre-crisis levels. In part this was to be expected: agriculture could recover much more quickly because in the early stages it benefited from productivity gains associated with the return to peace and stability and so grew much faster. Services also grew rapidly, having benefited from the inflow of donor assistance and investment in much needed basic infrastructure, spurring construction around the country, as well as private investment in telecommunications, finance and tourism.

The drop in the output of Rwanda's manufacturing sector started towards the end of the 1980s, a few years before the drop in the output of the services and agriculture sectors that took place in 1994 (see Figure 1.3). Moreover, while the services and agriculture sectors returned to growth

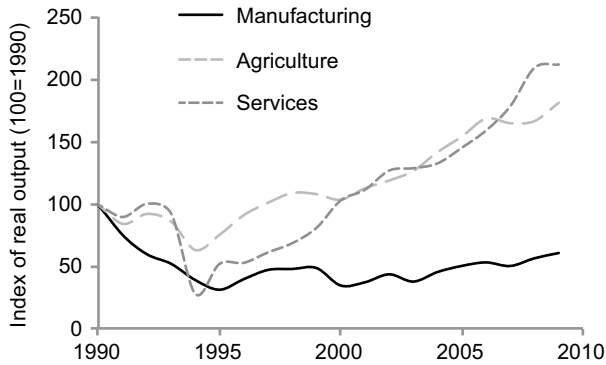

FIGURE 1.3 Manufacturing versus services and agriculture (1990–2009).
Sources: World Development Indicators (2011); NISR (2011).

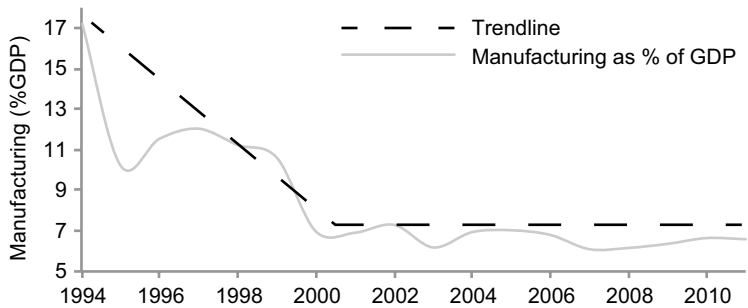

FIGURE 1.4 Manufacturing as a percentage of GDP (1994–2011).
Sources: World Development Indicators (2011); NISR (2011).

immediately after the genocide, it took the manufacturing sector five years to return to a sustainable growth path. As a result, the contribution of Rwanda's manufacturing sector to GDP has dropped from 17% in 1994 to around 6.5% since 2000 (see Figure 1.4), with the services and agriculture sectors returning to growth five years before the manufacturing sector.

The crisis affected the manufacturing and agribusiness sectors disproportionately for several reasons: (i) it is more embedded as a sector, depending on well-functioning supply chains (both local and international), infrastructure networks, utilities and financial markets to support capital investments; (ii) it is capital intensive and capital is very fearful when crises break out, and timid when they end; (iii) it relies on heavy equipment and machinery, much of which was damaged during the crisis and takes a long time to restore and rehabilitate; and (iv) it requires very specific technical production skills, often relying on foreign expertise which left the country in the period leading to the genocide.

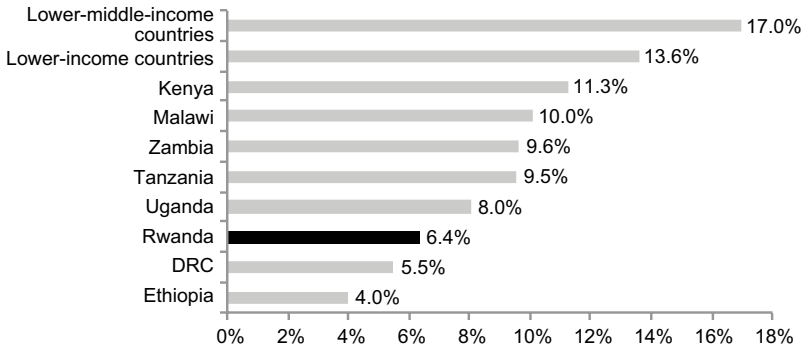

FIGURE 1.5 Manufacturing in Rwanda and other countries in the region (%GDP, 2009). Source: World Development Indicators (2011).

As a result, the contribution of Rwanda's manufacturing sector to GDP is low relative to both regional and international comparisons. Manufacturing accounted for about 6.4% of GDP in Rwanda in 2009, compared to 8% for Uganda, 9.5% for Tanzania and 11.5% for Kenya (see Figure 1.5). The gap with neighbouring countries is not very large, however, as East Africa's economies are mostly service driven with stagnating manufacturing sectors in terms of share of GDP per capita. The gap is much larger when comparing with the global averages for low-income countries and lower-middle-income countries, which are 13.6% and 17% respectively.

Another key characteristic of manufacturing sector growth in Rwanda is that it has followed a stop-and-go pattern since independence (see Figure 1.6). Almost invariably, good years of economic growth in the sector have been followed by bad years. Such patterns of growth are quite common in low-income countries. In Rwanda, possible explanations are the small size of the manufacturing sector, the overvaluation of the Rwandan franc (which was pegged to the dollar until 1990), the reliance of the Rwandan economy on the terms of trade and in particular its reliance on the exports of coffee, which follows a cyclical production pattern (coffee trees alternate between high- and low-yield years). An interesting statistic to illustrate this fact is that the manufacturing sector's longest spell of positive economic growth since the mid 1970s lasted for four years, between 1996 and 1999. This came in the immediate aftermath of the genocide, reflecting a period of economic catch-up rather than growth per se. Typically, two or three years of positive growth in the manufacturing sector have been bounded by one year of negative growth. Despite recent growth, this persistent trend of stop-and-go behaviour shows that the manufacturing and agribusiness sectors have yet to settle on a path of sustained economic growth.

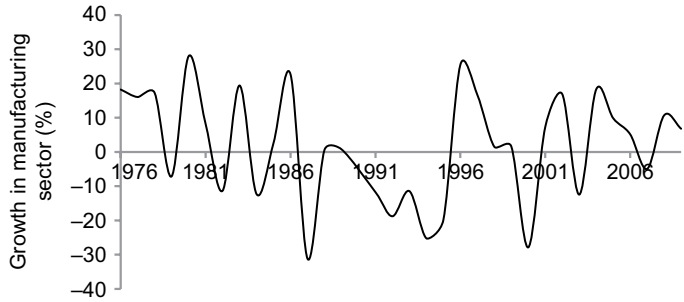

FIGURE 1.6 Growth in Rwanda's manufacturing sector (WDI, 1976–2009, excluding 1990). Source: World Development Indicators (2011).

A central takeaway message from this overview is that one of the reasons Rwanda's manufacturing sector is small and only accounts for a small share of GDP is because Rwanda's manufacturing sector took longer to recover from the 1994 genocide. As we will show in the following sections, Rwanda's manufacturing sector remains very young, with the majority of firms still in the start-up or growth phase and still in the process of developing optimal systems and organizational structures. However, the rapid growth in the agriculture and services sectors, coupled with a decade or more of investment in infrastructure, have created the necessary linkages in the economy to position this young manufacturing and agribusiness sector for new growth.

1.2 The Origins of Industry in Rwanda

Plotting the creation date of 125 medium to large manufacturing firms for which we have found documentation since independence reveals some interesting insights into the pattern of industrial development in Rwanda (see Figure 1.7). Rwanda's manufacturing sector has gone through three distinct phases: (i) in the 1960s, in the immediate aftermath of independence, with relatively open policies hampered by simmering social conflicts and weak integration; (ii) between 1973 and 1994, a period of import-substitution; and (iii) since 1995, with rapid regional integration based on an improving investment climate which is still ongoing today.[4]

The breaks between periods are marked crises and dips in the levels of new firm creation in the manufacturing sector, namely in the early 1970s,

[4]Note that in Figure 1.7 we are interested in the trends, not the exact number of firms created per se as it is not possible to check how exhaustive this list is.

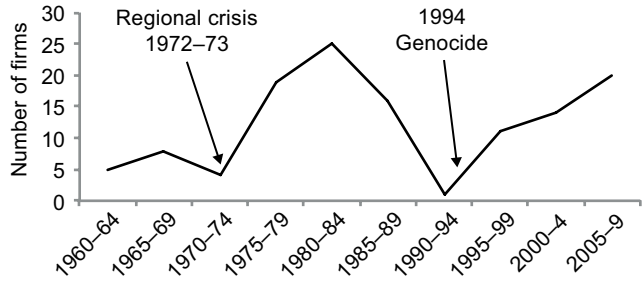

FIGURE 1.7 Date of creation of manufacturing firms.

following ethnic violence in Burundi and the military takeover by Juvénal Habyarimana in 1973, and during the 1994 crisis. As can be seen in Figure 1.7, growth in the manufacturing sector was limited during the first period from independence to 1973, while the policy of import-substitution led to a peak of new firm creation in the early 1980s, before slowing down in the lead up to the 1994 genocide. The analysis also shows that the rate of company formation from 1995 onwards is the fastest since the 1970s.

We use the remainder of the chapter to provide a detailed description of the evolution of Rwanda's agribusiness and manufacturing sectors from independence to 1994, before focusing on the different development phases these sectors have gone through since 1995.

1.2.1 Before Independence: The Long Shadow of Colonial Rule

The Belgian colonial administration played a key role in defining the landscape of Rwanda's industrial sector as we observe it today. On the one hand, the Belgian administration's investment policies focused investment in the Burundi part of Rwanda–Urundi, thereby depriving Rwanda of an industrial base, while, on the other hand, introducing strategic mandates that developed the agribusiness sector, particularly coffee.

Context

Rwanda's industrial sector was almost non-existent at the time of independence in 1962. The aggregate output of the manufacturing and agribusiness sectors in 1962 amounted to a mere US$3m and accounted for only 2% of GDP (World Bank 1985). This was because the socioeconomic fabric of the country had been destroyed in the revolution of 1959–61, manifesting widespread violence and a huge exodus of parts of the population to neighbouring countries.

Perhaps more important was the history of colonial rule. The Belgian administration had channelled the majority of investment for economic

and industrial development on the Burundian side of the border in what was then Rwanda–Urundi (World Bank 1985). Bujumbura, Burundi's capital today, was also the capital of Rwanda–Urundi and as a result received the vast majority of public investments at the time.5 The colonial administration, comprising the entire administrative infrastructure and links to Brussels, was also based in Bujumbura. Moreover, while bordering towns in Rwanda such as Gisenyi and Cyangugu had some economic potential, the Belgian administration preferred to target the development of cities on the opposite side of the Rwanda–DRC border, namely Bukavu, opposite Cyangugu, and Goma, opposite the Gisenyi border (Bézy 1990). Given its small scale in the 1950s and an estimated urbanization rate of about 1% in 1956 (Baeck 1956), Rwanda was much less of a priority for the Belgian administration than neighbouring Burundi and the DRC. A fact that puts this asymmetry within the Rwanda–Urundi region into context is that just before independence in 1962 there were an estimated 152 registered companies in the Rwanda–Urundi region, out of which only 24 were based in Rwanda.[6] The only manufacturing firm started under the Belgian administration that survived independence and that remains active today was a wheat flour processor, Etiru (Sotiru today), created in 1948.

Policies

While the Belgian administration did not leave Rwanda with much of an industrial base, a number of strategic decisions that were taken in the first half of the 20th century have had a lasting impact on the geography and nature of Rwanda's agribusiness sector. Following regular famines in the region, in particular, the Gakwege famine in 1928–29, which led to widespread international condemnation of Belgium's management of its colonies, the colonial administration decided to introduce mandatory food crop production. Every family had to maintain 15 acres of land, 5 of which were dedicated to the production of cassava; it was compulsory to drain swampland and start cultivating it; and several new plants and varieties, such as the Irish potato and a new variety of maize, were introduced with the support of INEAC (the National Institute of Agronomical Research in the Congo) (Chrétien 2000, pp. 240–45). Part of the objective of this new approach was to improve food security in the region. The Belgian administration also saw an opportunity to introduce cash crops as a way to increase the profitability of the land, the incomes of farmers and tax receipts. The move towards increasing revenues from farmers was particularly important in the context of the global economic crisis in the 1930s.

[5] Bujumbura was called Usumbura at the time.

[6] Rapport aux chambres 1960, p. 436 (Bézy 1990).

Coffee was the main cash crop introduced by the Belgian administration during the 1930s, which also became the core of the administration's economic programme in Rwanda–Urundi. Coffee was based on a variety of arabica coffee that the Germans had brought to the region before World War I. Conversion to coffee production was mandatory, something the recently established International Labor Organization and the League of Nations were very much against, and was carried out in five large waves between 1931 and 1938, during which millions of coffee trees were planted. While coffee production in the region was estimated at 11 tons in 1930, it reached 10,000 tons by 1942 (Chrétien 2000, pp. 240–45). In 1946, a regulator for the coffee sector was created with the objective of checking the quality of the coffee which at the time was exported to the United States. The Office for the Industrial Crops of Rwanda–Urundi or Office des Cultures Industrielles du Rwanda–Urundi (OCIRU) was the precursor of today's OCIR-Café and the geographical distribution of coffee planting, starting with Cyangugu on the Rwanda side of the border, effectively determined the geography of today's coffee sector.

Another cash crop that was introduced in 1936 in the areas of Byumba, Ruhengeri and Gisenyi was pyrethrum. Pyrethrum, a natural insecticide, was meant to be "the export crop [...] that grows where coffee doesn't" (UNIDO 1976). In 1945, a decade after the crop was introduced, Rwanda was already producing an estimated 360 tons of pyrethrum. By 1949, a small facility was started in Ruhengeri that had capacity to dry up to 135 tons of pyrethrum a year. Not surprisingly, Ruhengeri is also where today's Horizon Sopyrwa, Rwanda's sole pyrethrum processor and exporter, is based. By 1955, pyrethrum production in Rwanda had tripled to about 1,200 tons per year, which made the country the fourth largest pyrethrum producer in the world; and by 1959, when Belgium's grip on the region started to unravel, Rwanda was growing pyrethrum on an estimated 1,200 ha (UNIDO 1976). Besides coffee and tea, which was first introduced by private investors in 1954 and further developed after independence, pyrethrum is Rwanda's largest export crop today (Bézy 1990).

In addition to coffee and pyrethrum, another major decision of the Belgian administration in the 1930s that has shaped Rwanda's industrial sector today was investment in mining, focusing in particular on tin, gold and silver, wolfram, niobium and tantalum. While Burundi was the recipient of the bulk of investment targeted at the development of the manufacturing sector, Rwanda received comparatively more investment targeted at mining: 85% of the region's 269 mining sites in 1955 were in Rwanda (Bézy 1990). The main mining regions were located in central Rwanda for cassterite and the northwest of the country for wolfram (IBRD 1957), which remains the case today.

1.2.2 Independence to 1973: Early Wave of Industrialization Supported by Foreign Capital

The period from independence to 1973 was characterized by an early wave of industrialization driven mainly by foreign investors and donors, including Belgium and China.

Context

The foundations of Rwanda's contemporary manufacturing sector were laid in the immediate aftermath of independence. This early wave of industrialization was mostly supported by foreign private and public investments, with Belgian interests still very present in the local economy. Bralirwa, for example, was an extension of Belgian-owned Bralima based in the DRC. In 1957, Bralima had decided to invest in a new brewery on the eastern shores of Lake Kivu, which became operational for the first time in 1959. After the turbulent period leading to independence, this factory eventually became Bralirwa in 1963. Belgian investors also started Rwandex (now RTC, it was Rwanda's largest coffee processor and exporter until very recently) in 1964, as well as Manumetal (which remains one of Rwanda's largest local manufacturers of furniture products today) in 1967. Belgian aid also largely financed investments in the tea sector.

Rwanda's young tea sector, which private foreign investors had launched a decade earlier, was also boosted during this period with public investments and donor support targeted at the development of tea plantations in the Mulindi, Pfunda and Cyangugu areas, which remain major centres of production today. Mulindi was the main priority region at the time. A tea factory with a capacity of 800 tons was set up in Mulindi in 1962, the management of which was assigned to a German company, AGRAR und Hydrotechnik (IBRD 1957). This factory was the precursor of today's Mulindi tea factory. The national agency overseeing the coffee and tea sectors, Office des Cultures Industrielles du Rwanda (OCIR), which over the years has been a very active player in these markets, was also established during this first wave of industrialization in 1964.

A less-talked-about actor, which has had an important role in the development and geography of Rwanda's agribusiness sector is China. It is with the support of Chinese development aid and technical expertise that rice and sugar cane production were introduced in Rwanda in the late 1960s. Both rice and sugar cane production were first started in 1967–68 in the marshland of the Nyabugogo valley north of Kigali and the Bugarama valley for rice. On the grounds of what is today Kabuye Sugar Works, a multimillion-dollar business, China set up a small experimental sugar-processing plant with an initial capital investment of approximately

US$200,000 around 1969 (IBRD 1957). The company was called Sucrerie Rwandaise de Kabuye. China also supported the development of the Rizerie de Bugarama, which today is owned by ICM Rwanda, also a multimillion-dollar business.

Other private foreign investments came from investors of Indian origin in the region, starting companies such as Sulfo and Bata (the latter is a large multinational shoe manufacturer). Sulfo Industries, the country's largest producer of FMCG such as soaps, cleaning detergents, personal care products, food items, etc., was started in 1962.

Almost 60 years later, these companies still exist and have become the backbone of Rwanda's manufacturing and agribusiness sectors. In 2010, Bralirwa and Sulfo alone accounted for an aggregate turnover of about US$150m (more than one-third of the output of Rwanda's manufacturing sector) and provided full-time employment to about 1,300 people.

Policies

Foreign investment at the time was supported by a very favourable Investment Code, promulgated in 1964, offering foreign investors benefits such as guaranteed repatriation of interest earnings, dividends and the original capital invested; exemption from import duties on imported inputs and capital investment; a tax holiday for five years followed by two years of reduced taxation; and alternative benefits, such as restriction on competing imports. Rwandan investors did not benefit from these provisions, which is one of the reasons there was little local private sector investment at the time. Only two large privately owned Rwandan businesses – still existing today – were created during that period: Amagerwa in 1965 (which was originally an import–export firm, but eventually started producing construction materials), and Rwanda Paints in 1968, a paint manufacturer.

By 1970, at the end of Rwanda's first Five-Year Plan (1966–70) period, which identified coffee, tea, pyrethrum and textile processing as priority sectors, Rwanda's agribusiness and manufacturing sectors accounted for about 4% of GDP and employed 2,300 people, distributed across 20 large processing firms (see Table 1.1) (World Bank 2012).

1.2.3 1973 to 1994: Rapid Diversification Supported by Public Sector Intervention

The period from 1973 to 1994 is characterized by a rapid diversification of Rwanda's agribusiness and manufacturing base, with many new entrants and increased public sector intervention, which contributed to growth but also large inefficiencies in the sector.

Table 1.1 List of major processing firms in 1970.

Sector	Number of firms	Firm name
Coffee	4	Four mills in Butare, Gisenyi, Kigali, Ruhengeri
Tea	3	Mulindi, Shagasha, Ntendezi (Cyangugu)
Beverages (brewery)	1	Bralirwa
Wheat milling	1	Etiru
Sugar milling	1	Sucrerie Rwandaise de Kabuye
Rice milling	1	Rizerie de Bugarama
Preserves	1	Konfigi
Textile	2	Sirwa
Footwear	1	BATA
Soaps	1	Sulfo
Paints	1	Rwanda Paints
Pyrethrum (drying)	1	Drying facility based in Ruhengeri
Furniture	1	Manumetal
Electronics (radio manufacturer)	1	Mera
Total number of firms	20	

Source: adapted from Commission des Communautés Européennes, *Les conditions d'installation d'entreprises industrielles: Rwanda*, December 1972.

Context

After a period of stagnation between 1970 and 1975 – a period of socio-political turmoil in Burundi in 1972 with significant repercussions for Rwanda, a military takeover in Rwanda in 1973, and adverse weather conditions, which affected agricultural output – Rwanda's manufacturing and agribusiness sectors grew rapidly between 1975 and the late 1980s. From the start of Rwanda's Second Development Plan (1977–81) to the end of its Third Plan (1982–86), the manufacturing sector grew at an estimated compounded annual rate of 6.7% in nominal terms (World Bank 2012). As a result of this growth rate and the collapse in agricultural production due to the weather conditions and the collapse of global coffee prices in the 1980s, the contribution of the manufacturing sector to GDP grew from a base of about 3.6% of GDP in 1970 to 15.9% in 1986 (World Bank 2012).

During this period, sectors that had started in the 1960s were strengthened and Rwanda's manufacturing sector entered new and more sophisticated production areas.

Tea sector. The period from 1972 to 1986 was critical for the tea sector (see Table 1.2). In the space of 14 years, the Rwandan government – through OCIR (which was split into OCIR-Café and OCIR-Thé in 1978) and joint ventures (JVs) with foreign investors – constructed 8 tea factories, bringing the total number of tea factories in the country to 11 in 1986. These 11 tea factories are still operational and account for the vast majority of tea production today.

Construction materials. Rwanda's construction materials sector started in the early 1970s. By 1990, Rwanda had more than 10 firms operating in the construction materials sector, and was producing roofing sheets, lime, cement, tubes (both metallic and PVC), bricks, tiles, nails, wire, as well as paints. The firms that started during this period account for about half of the output of Rwanda's construction materials sector today. Half of these companies were either publicly owned or had mixed ownership, such as Sonatubes, PPCT, Cimerwa and Briqueterie Rwandaise Ruliba (today Ruliba Clays). The latter produced products such as cement, lime, clay bricks or papyrus-based sheets. Firms in metal processing for the construction sector were all privately owned and included companies such as Prometal, Sofar, Uprotur and Tolirwa.

Agro-processing and beverages. The agro-processing sector (excluding tea and coffee, including beverages) grew significantly during this period with many new entrants. Government funding was specifically targeted at sectors viewed as strategic for food security, and included a maize mill called Maisserie de Mukamira, a new rice mill called Rizerie de Rwamagana (now owned by ICM Rwanda), Sopar, which processed animal feed, Opyrwa the pyrethrum processor, two dairies (Laiterie de Rubirizi and Laiterie de Gishwati) and a banana beer processor (Ovibar), which is Rwanda's national alcoholic drink. The government also acquired a 30% stake in Bralirwa in 1976, two years after the company obtained the license to produce Coca-Cola products in the country, and five years after the Heineken group bought a 70% stake in the company. The reason Bralirwa was so strategic is that it was and remains today Rwanda's largest company, and due to excise taxes on beer products was and is the country's largest taxpayer. By one estimate, Bralirwa accounted for 23% of Rwanda's tax revenue in 1982 (World Bank 1985). Meanwhile, the private sector focused on more commercial food products such as tomato paste, pasta, biscuits, passion fruit juice and cigarettes.

Fast-moving consumer goods (FMCG), textiles, footwear and furniture. During the period from 1975 to 1990 many new firms targeting the domestic consumer market for products such as soaps, toothpaste, toilet paper, matches, candles, batteries, mattresses, furniture (both wood and metallic), shoes (leather and plastic) as well as textile products emerged. All of these were privately owned except for Sodeparal, a leather shoe processor, and Usine d'Allumettes and Sorwal, a producer of matches, which received public investments. It is possible that because of the non-strategic nature of FMCG and the small size of the sector at the time, fewer of these companies survived the 1994 genocide, and those that did are having significant challenges in terms of capacity utilization.

From a private sector perspective, two interesting facts are worth noting. The first is that from 1975 to 1990 growth in the manufacturing sector was increasingly driven by Rwandan investors, whereas in the 1960s the vast majority of investment in the manufacturing sector had come from foreign investors or donors. Examples of manufacturing firms set up by Rwandan investors include Sonafruits, Mironko Plastics, Uprotur, Sorwatom, Ameki Meubles and Ameki Color, Société Rwandaise de Batteries; Rwandan investors also entered into JVs with foreign investors, including investments in Tabarwanda (48%), Tolirwa (27%) and Sonatubes (10%). One of the reasons this might have been the case was Rwanda's new investment code in 1977, which extended to local investors benefits that had previously only been available to foreign investors. These included exemptions from import duties, tax holidays and alternative benefits, such as protection from imported products.

A second feature of these investments is that many of the entrepreneurs that entered the manufacturing sector began as traders (World Bank 1985):

> A distinguishing characteristic of Rwanda's industrial sector is close links with commerce. Some traders entered manufacturing to diversify their activities, others because their import business had become less profitable as a result of competition from substitute products manufactured locally. This passage is often successful as exposure to commerce has developed many of the skills necessary to thrive in manufacturing, marketing and distribution, book keeping, pricing, managing employees, etc.

Examples of traders that subsequently entered the manufacturing sector include the founders of Tolirwa, Uprotur, Société Rwandaise de Batteries, Rwanda Foam/Amagerwa, Ameki and Utexrwa, all interviewed as part of this study.

This pattern of traders entering manufacturing echoed the history of other countries. For example, Sutton and Kellow describe a similar process in Ethiopia. As markets integrate and deepen, traders are well positioned to see market opportunities less evident to other prospective investors. In

Ethiopia, half of the leading firms find their origins in the trading sector, as this is where "the deepest and most acute knowledge of local and international markets is already at hand" (Sutton and Kellow 2010, p. 5). Sutton reiterates the importance of the trading sector on the manufacturing sector (Sutton and Kellow 2010, pp. 5–6):

> A common and unfortunate tendency among observers of developing economies to see the trading sector as 'separate' from and irrelevant to the growth of manufacturing industry is a mistake: the role of import–export businesses as the seed corn of manufacturing firms is fundamental.

Policies

Public sector involvement in the manufacturing sector had both positive and negative consequences under Rwanda's Second and Third Development Plans. Positive outcomes included new firm creation and increased diversification in the manufacturing and agribusiness sectors. These were counterbalanced by structural inefficiencies and underperformance at the firm level that led to a progressive decline of these sectors from 1986 to 1994. Public sector involvement came in three forms.

(i) *Public ownership or JVs in selected strategic sectors of the economy.* The public sector had full ownership of the coffee (OCIR-Café), tea (OCIR-Thé), pyrethrum (Opyrwa) and staple crop sectors (wheat, maize, rice and sugar milling), as well as manufacturing firms viewed as strategic such as Ovibar (banana wine) and Usine d'Allumettes (matches). The government also had a majority stake in Rwandex (51%), a coffee processor, and Rwandexco, a textile firm. To attract foreign investment, the government took a minority stake in companies such as Bralirwa (30%), Sonatubes (20%), a tannery (30%) and Manumetal (15%).

(ii) *New policies targeted at promoting investment and protecting selected industries from imports.* This included import licensing after 1983, price controls, import duties, increased capital for the Rwandan Development Bank (BRD) created in 1968 and a new investment code in 1977. The government's policy at the time can be characterized as one of increased protectionism and import substitution. All imports required a license, which became difficult to obtain after 1983 for products manufactured locally. These import restrictions were enhanced by high import tariffs for protected products: examples include fruit juice with an import tariff of 150% in 1985, cigarettes (150%), metal furniture (100%), soap (80%) and paint (80%) (World Bank 1985). Additionally, importers were required to place a 100% local currency deposit with the Central Bank when they received the import license; this deposit was kept

until the item of interest was imported, which could take several months, affecting the cash flow of these companies. Price controls on all goods sold in the country were also introduced, although they were not applied strictly. All prices had to be approved by the Ministry of Finance, with the objective of controlling inflationary pressures and limiting price competition from imported products.

(iii) *Procurement favouring the local manufacturing sector.* The government supported the development of the local manufacturing sector by purchasing in bulk from companies such as Sodeparal (leather boots to the army), Utexrwa (socks for the army), Sonatubes (PVC tubes for water supply), as well as from Manumetal, Rwanda Furniture Works and Namdhari Furniture (office furniture for the central administration and home furniture for high-ranking officials) (Ngirabatware et al. 1988). Through local procurement the government also helped to solve one of the main constraints of Rwanda's manufacturing sector at the time: low demand.

Path dependency

The pre-genocide period is key to understanding the state and geography of Rwanda's manufacturing sector today. What the period leading to the 1990s can teach us is that many decisions, even decisions that were taken in the 1930s under colonial rule, have created path dependency – in other words, "history matters" – the decisions of the past will influence the set of decisions that are faced today. Under the pressure of the global economic crisis in the 1930s and following regular famines in the Rwanda–Urundi region, the Belgian administration decided to introduce mandatory farming (for crops such as cassava and Irish potatoes) as well as export crops such as coffee and pyrethrum in Rwanda. The latter remain Rwanda's main export crops, along with tea, which was introduced in 1954. Chinese experiments with rice and sugar in the Kabuye and Bugarama areas led to the development of Rwanda's sugar and rice industries. The first entrants that developed quasi-monopolies in the lucrative beer and soap markets in the 1960s – Bralirwa (between 1959 and 1963) and Sulfo (1962) – are still among the country's largest firms and in 2012 accounted for about one-third of the output of Rwanda's manufacturing and agribusiness sectors. Strategic public investment in the agribusiness sector such as the Rizerie de Rwamagana have seeded the development of major actors in Rwanda's agribusiness sector today such as ICM Agribusiness Rwanda. Similarly, the big push in the tea sector, between 1972 and 1986, has defined the current geography and production capacity of Rwanda's tea sector.

Another feature of Rwanda's agribusiness and manufacturing sectors that could have been carried over from the pre-genocide period is low

Table 1.2 New entrants between 1970 and 1990.

Sector	Year	Firm/factory name	Main product	Ownership
Tea	1972	Pfunda	Tea	Public
	1975	Gisakura	Tea	Public
	1977	Kitabi	Tea	Public
	1979	Rubaya	Tea	Public
	1980	Nyabihu	Tea	Public
	1981	Mata	Tea	Public
	1983	Gisovu	Tea	Public
	1986	Sorwathé	Tea	Public
Construction materials	1973	Sebulikoro	Tiles	Private
	1978	Sonatubes	PVC tubes	Mixed
	1979	Tolirwa	Roofing sheets	Private
	1981	PPCT	Lime	Public
	1984	Cimerwa	Cement	Public
	1985	Prometal	Nails, wire-nets	Private
	N/A	Sofar	Wire fencing	Private
	1987	Uprotur	Metallic tubes	Private
	1988	Briqueterie Rwandaise Ruliba	Clay bricks	Public
	1988	Guttanit Rwanda	Papyrus sheets	Public
Agro-processing	1972–78	Usinex, then Opyrwa	Pyrethrum	Public
	1978	Rizerie de Rwamagana	Rice	Public
	1979	Sonafruits	Passion fruit juice	Public
	1981	Cookirwa	Biscuits	Private
	1980–84	CODERVAM	Rice	Public
	1980–84	Shiramaka	Pasta	Private
	1985	Laiterie de Rubirizi	Milk	Mixed
	1985–88	Byumba Flour Mill	Wheat flour	Public
	1986	Sorwatom	Tomato paste	Private
	1987	Maisserie de Mukamira	Maize flour	Public
	1988	Laiterie de Gishwati	Milk	Public
	1988	Sopab	Livestock feed	Public

Sector	Year	Firm/factory name	Main product	Ownership
FMCG	1980–88	Usine d'Allumettes Sorwal	Matches	Mixed/ Public
	1981	Sakirwa	Soaps	Private
	1983	Rwanda Foam	Mattresses	Private
	1983	Somirex	Toothpaste	Private
	1985	Socobico	Toilet paper	Private
	1986	Anik	Candles	Private
	1988	SRB	Batteries	Private
Other metals	1984	Chillington	Hoes	Private
Chemicals	1978	Mironko Plastics	Plastic products	Private
	1983	Rwakina	Quinine	Private
	1982	Ramco	Paints	Private
	1984	Oxyrwa	Acetylene cylinders	Private
	1984	Ameki Color	Paints	Private
Rubber	1976	Bandag	Tyre retreading	Private
Beverages	1977	Ovibar	Banana wine	Public
	1981	Sobolirwa	Soft drinks	Private
Tobacco	1979	Tabarwanda	Cigarettes	Private
Textiles	1973	Rwandexco	Blankets	Mixed
	1984	Utexrwa	Clothes	Private
Footwear	N/A	Sodeparal	Leather shoes	Public
	N/A	Ecomirwa	Plastic sandals	Private
Packaging	1985	Petrolgaz	Packaging units	Private
Paper	1978	Papeteries du Rwanda	Paper products	Public
Pharma-ceuticals	1980	Cuphmetra	Medicine	Public
Furniture	1982	Ameki Meubles	Wooden furniture	Private
	N/A	Rwanda Furniture Works	Wooden furniture	Private
	N/A	Harjit Singh ETS	Furniture	Private

Source: IMF document, MINECOFIN Study, World Bank manufacturing sector study (1988) (World Bank 1985).

export orientation. The estimated share of sales that came from exports for firms in the manufacturing sector in the late 1980s was approximately 3.6% (Ngirabatware et al. 1988). This is remarkably similar to the export orientation of non-commodity exporting firms in 2010 at 4.5% (i.e. firms outside the coffee, tea and mineral sectors) (Gathani and Stoelinga 2012). While low exports could have stemmed from a variety of factors at the time (including low capacity utilization, the low productivity of manufacturing firms or the low quality of products, etc.), one of the most cited factors in the literature pre 1990 is a systemic overvaluation of the exchange rate due to a peg to the dollar (see Figure 1.8). The consensus among macroeconomists is that overvaluation hurts economic growth in developing countries (Rodrik 2008). It is associated with several macroeconomic imbalances: low exports, stop-and-go macroeconomic cycles, high current account deficits, foreign currency shortages, balance of payments crisis, corruption and rent seeking.

A potential takeaway message, which reinforces the idea of path dependency, is that the low export orientation of the manufacturing sector in the late 1980s might be one of the causes of the current low export orientation. This is because two types of manufacturing firms exist in Rwanda today.

(i) Firms that were created before the 1990s that have been refurbished and reconstructed since the 1994 genocide, and that had a very low export orientation to start with. This low export orientation means that these companies had very little export infrastructure in place before the genocide, such as trade offices in neighbouring countries, links with traders in foreign countries or a good understanding of demand and market dynamics in foreign countries, etc. This inherent low export orientation is likely to have affected the ability of these firms to export today.

(ii) Firms created after 1995, which are either still in the growth phase, just entering new export markets or are too small to export. Given the low export orientation of incumbents, these new manufacturing firms could not rely on existing export distribution networks and on existing knowledge about foreign markets to grow their exports base. They have to invest time to build their own knowledge and establish their own networks, which takes time to put in place.

To summarize, history has played an important role in shaping the structure and output of Rwanda's agribusiness and manufacturing today. The impact of the policies of the Belgian colonial administration and the subsequent actions of the post-colonial government and investors has had a significant role in determining the current state of Rwanda's agribusiness and manufacturing sectors.

1.3 The Foundations of Modern Rwandan Industry

Rwanda's manufacturing sector was severely damaged during the period from 1990 to 1994. At US$109m in constant terms, aggregate production in 1995 was the lowest level of production recorded since 1975 and about half of average production during the 1980s. New firm creation in the manufacturing sector came to a complete halt, with the creation of only one manufacturing firm during the period from 1990 to 1994: Urwibutso (a food-processing company) in 1993. In this section we describe how Rwanda's manufacturing sector has gone from reconstruction to renewed growth and from a state-driven system to greater liberalization and privatization.

These economic policies have contributed to two main phases in the development of Rwanda's manufacturing and agribusiness sectors since 1994: (i) a reconstruction phase from 1994 to 2005, and (ii) a growth and consolidation phase, which started in 1999, but picked up in 2006–7 at the time of Rwanda's entry into the East African Community (see Table 1.3).

Policies: liberalization and privatization

The gradual liberalization of the economy followed by a series of privatizations led to a resurgence of manufacturing firms and exports.

The ending of the genocide in 1994 marked not only a major break in Rwanda's history and socioeconomic development but also a significant shift in economic policies for the manufacturing and agribusiness sectors: from import substitution and state-driven growth towards increased liberalization and privatization.

Before the 1994 crisis, the deterioration of global commodity prices in the early 1990s forced the government to take steps towards gradual and increased liberalization. To unlock international support, the Habyarimana administration had adopted "structural adjustment" policies, winning financial assistance from multilateral institutions (in particular, the World Bank, the African Development Bank and the International Monetary Fund).[7] These policies included successive devaluations of the Rwandan franc, which went from 83 Rwf per USD in 1990 to 144 Rwf per USD in 1993 (i.e. an aggregate devaluation of about 73%); the elimination of quantitative restrictions on currency transfers in 1992; and the adoption of the

[7] Structural adjustment initiatives between 1990 and 1994 included the World Bank–funded Structural Adjustment Credit (SAC), the IMF-funded Structural Adjustment Facility (ESAF), the World Bank–funded "Public Enterprise Reform Project" (started in 1990, closed in 1996) and the AfDB- and World Bank Group–funded "Structural Adjustment Programme" or SAP I (started in 1991, closed in 1993).

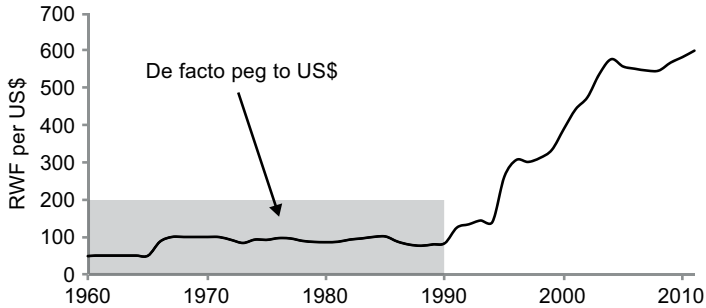

FIGURE 1.8 Official exchange rate (Rwf per US$).

"core" measures agreed to at the summit for the Cross-Border Initiative in Eastern and Southern Africa in 1993, which targeted significantly reduced import tariffs in the region. A new policy for the divestment from – and restructuring of – public enterprises was approved by parliament in 1993, but was blocked by Rwanda's constitutional court due to inconsistencies with some of the clauses in the 1993 Arusha Peace agreement (World Bank 1993). In the lead-up to the development of this public enterprise policy, the government had also started divesting from public enterprises, as the example of Sonatubes in 1992 reveals.

The Government of National Unity that took over following the genocide quickly accelerated this incipient liberalization and reversed protectionist policies to support economic recovery. Between 1995 and 1996, the government introduced several measures that permanently redefined the role of the public sector in Rwanda's economic development and, in particular, in the development of the country's manufacturing and agribusiness sectors. These included:

- Market-determined exchange rates.
- The removal of price controls.
- The liberalization of domestic marketing as well as marketing for the tea and coffee sectors.
- Removal of interest rate controls for the banking sector.
- Reduced tariffs as part of the implementation of the Cross Border Initiative. Tariffs were reduced from an average of 35% in 1993 to 19.7% in 1995–97 (and reduced further down to 8.6% in 1999).
- The liberalization of the coffee sector, allowing for competition at all stages of the production process.
- The 1996 Privatization and Public Investment Law, which gave the new administration the authority to liquidate, restructure, disinvest from or lease out public enterprises.

(For more details, see IMF (2000).)

While removing protectionist measures in the context of the reconstruction of the manufacturing sector was a necessary step, in the short term the increased competition resulting from cheaper imports made it more difficult for local manufacturers to compete, and probably contributed to the slow pace of the recovery of the manufacturing sector. According to the IMF (2000) report: "the increased external competition … led to reductions in, or even cessation of, production in several industries, including corrugated iron-sheets, soaps and cosmetics."

The 1996 Privatization and Public Investment Law and the gradual liberalization of the coffee and tea sectors have had a significant impact on the composition and performance of Rwanda's manufacturing sector today. In the immediate aftermath of the genocide, the government of Rwanda had full ownership or a majority stake in more than 20 manufacturing or agribusiness firms, 11 tea factories through OCIR-Thé, three coffee factories (Nkora, Gikondo and Masaka) and Rwandex, which had a de facto monopoly on the coffee export sector. Public enterprises included Laiterie Gashwati (dairy), Laiterie Nyabisindu (dairy), Laiterie Nyagatare (dairy), Rizerie de Bugarama (rice), Rizerie de Butare (rice), Rizerie de Rwamagana (rice), Soproriz (rice), Maisserie de Mukamira (maize flour), Etiru (wheat flour), Minoterie de Gatare (wheat flour), Sucrerie de Kabuye (sugar), Ovibar (banana beer), Rwandexco (textile), Sodeparal (leather footwear), Sonafruits (fruits processing), Sopab (animal feed), Sorwal (manufacturer of matches), Briqueterie de Ruliba (clay construction materials), and Cimerwa (the country's largest cement manufacturer). The government also had a minority stake in Tabarwanda (cigarettes) and Bralirwa (beer).

As the example of the liberalization and privatization of Rwanda's coffee sector reveals (see Box 1.1), managing the transition from a state-controlled market to a fully private and competitive market is a delicate process that takes time to implement and time to reach maturity and equilibrium. The pace of privatization and the form it has taken has varied from sector to sector, based on the state of public enterprises at the end of the war, interest from the private sector, the quality of private sector bids and government priorities. While the process of divestment from public enterprises in the manufacturing and agribusiness sectors started immediately after 1994 with a series of liquidations (including Cuphmetra, Laiterie de Gishwati, Laiterie de Nyagatare, Soproriz, Sopar and Sodeparal), the privatization process of public enterprises only gathered traction a decade later, starting in 2005.

Phase 1: The reconstruction effort (1994–2004)

The decade from 1995 to 2004 was a period focused on recovery and reconstruction, with the key characteristics being the initial restoration of production capacity and the entry of a limited number of new firms.

Table 1.3 Phases of industrial development from 1995 to 2012.

	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Policies	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
Phase 1	■	■	■	■	■	■	■	■	■	■	■							
Phase 2											■	■	■	■	■	■	■	■
Phase 3												■	■	■	■	■	■	■

In the first column, phases of industrial development:
Policies: liberalization and privatization.
Phase 1: reconstruction.
Phase 2: rapid privatization.
Phase 3: growth, consolidation and entry into the EAC.

After 1994, the task of rebuilding Rwanda's manufacturing and agribusiness sectors was exceptionally difficult owing to several factors: the depletion of human resources; the destruction of facilities, equipment and production lines; the disruption of key public services, in particular, the supply of electricity, which did not return to pre-1994 levels until 1998 (IMF 1998–2002); the state of the local banking sector, which was overburdened with non-performing loans and was not in a position to support the reconstruction of a capital intensive sector in the immediate aftermath of the crisis; and low demand from a strife-impoverished citizenry.

Although the manufacturing and agribusiness sectors collapsed in 1994–95 to about half the production levels of the 1980s, production in the immediate aftermath of the crisis did not come to a complete halt. One of the main reasons was the policy decision by the incoming Government of National Unity to recognize existing property rights for all Rwandans, including the estimated 2 million Rwandan refugees that had fled the country in 1994, and foreigners alike (UNCTAD 2006). Many businessmen, who had taken refuge in neighbouring countries during the war, returned to Rwanda as soon as the conflict had come to an end to reclaim their factories and start the process of rebuilding their businesses. Based on a sample of 55 manufacturing or agribusiness firms for which we have information – both from the interviews conducted as part of this exercise and alternative sources – about 29% of manufacturing firms had started production again by the end of 1994, and 62% by the end of 1995 (IMF 1998–2002). There was even some new firm creation during this period, including Mutara Enterprises (furniture).

Nonetheless, the production capacity of the economy had suffered badly. Even firms that had managed to restart operations without too much damage to their equipment and facilities in the first few years after the genocide faced significant challenges scaling up production: Bralirwa's beer production levels in 1998 were only 65% of what they were before the

war; Sulfo's output of soap products in 1998 was 70% of 1993 levels; that same year, Tolirwa (corrugated sheets) was at 47% of 1993 levels; Prometal (nails and wire) at 12%; Rwandex (coffee exporter) at 27%, etc. (IMF 1998–2002). Factories that had sustained damage often needed years to become operational again. Examples include Anik Industries, which restarted operations in 1996–97 but completely lost its mirrors and shoe polish production lines; Kabuye Sugar Works (previously Sucrerie Rwandaise de Kabuye), which only managed to restart operations in 1999 after significant repairs to pre-war equipment; Sopyrwa (previously Opyrwa, pyrethrum processor) only started operations after privatization and the revamping of equipment in 2000; Sorwatom (tomato paste), which opened its doors again after significant capital investments in 2003–4; the Maisserie de Mukamira (maize mill), which was destroyed during the war, privatized in 2004, rehabilitated in 2006, before becoming operational again in 2007; and the Minoterie de Byumba (wheat mill), which was defunct until Pembe Flour Mills took over in 2007 (USAID 2009). Finally, numerous companies went out of business altogether or were liquidated in the aftermath of the genocide. Examples include Somirex (toothpaste and soap), Cuphmetra (pharmaceuticals), Laiterie de Gishwati (milk), Laiterie de Nyagatare (milk), Soproriz (rice), Sopab (animal feed), Sodeparal (leather shoes), Guttanit (papyrus sheets), PPCT (lime), among others.

The pace of recovery varied significantly by sector (see Figure 1.9). Not surprisingly, the first sector to return to pre-war levels in 1997 was the cement sector, buoyed by high demand and a significant influx of foreign aid. By 1995, Cimerwa was back at 80% of 1993 production levels, and at 100% by 1997. Demand for cement outpaced supply significantly, forcing the government of Rwanda to double the capacity at Cimerwa in 2001 to 100,000 tons per year. However, not all construction materials firms benefited from this early boom in the construction sector. The production of corrugated roofing sheets remained significantly below pre-war levels in 2002 (Figure 1.9), with companies such as Tolirwa and Prometal operating below 50% of their pre-war output in 1998. The reason for this, as we discuss in the section on liberalization and privatization, was competition from imported products following the gradual liberalization of the trade sector, but also a price hike in raw material imports from Europe in 1997,[8] forcing companies to identify new suppliers in Asia. Despite these new challenges, the immediate aftermath of the genocide was a period of investment and diversification for firms in Rwanda's construction sector. Examples include Uprotur, which was back to pre-war production levels in 1998 and invested in a new production line for low-cost galvanized roofing sheets in 1996–97.

[8] Interviews with construction material firms, Tolirwa and Uprotur.

The only other sector to return to pre-war production levels quickly was the tea sector; this was in complete contrast to the coffee sector, which suffered disproportionately from the crisis. Supported by European Commission funding between 1994 and 1997, almost all companies in the tea sector – 10 out of 11 factories at the time were publicly owned – had returned to pre-war production levels by 1998 (IMF 2000). The quick recovery allowed the tea sector to catch up with the coffee sector, which had previously been the country's largest foreign-exchange income earner. Since 1998, tea and coffee have been on a par in terms of their export potential; one year, tea is the largest export crop, the next, coffee. This change in the relative importance of both sectors for the Rwandan economy was the result not only of the genocide but also of large fluctuations in global coffee prices, which severely affected production. As a result, the production of coffee (in volume) in 2002 was only 70% of what it was in 1993 and 50% of what it was in the late 1980s.

In the early reconstruction of Rwanda's manufacturing and agro-processing sectors immediately after 1994, entrepreneurs invested very little new capital. Only as demand picked up and with it capacity utilization after about 1998 did capital investment in machinery and new facilities increase significantly. Figures 1.10 and 1.11 show that before 1999 the manufacturing and agro-processing sectors hardly received any long-term credits (a tenure greater than five years) from the local commercial banking sector. In 1998, for example, aggregate long-term credits to the manufacturing and agro-processing sectors amounted to a mere 0.92% of total long-term credits contributed by the domestic commercial banking sector that year, or US$270,000. This increased to an average of US$7m per year between 1999 and 2003.

These statistics suggest that during the 1994–98 period firms focused mostly on low-cost repairs and getting the required working capital to restart operations in stalled factories. Only after 1998 did firms start to replace expensive machinery and restore damaged facilities. This period of new capital investment has shaped Rwanda's manufacturing and agribusiness sectors today. It also corresponds to the beginnings of the privatization process of large manufacturing and agro-processing firms and the early days of a renewed high growth and investment phase in Rwanda's manufacturing and agro-processing sectors, coinciding with the entry of Rwanda into the EAC.

Phase 2: Acceleration of the privatization of state enterprises in the manufacturing and agribusiness sectors (2005–12)

Due to the state of the economy in the immediate aftermath of the genocide and the complications involved in the process, the implementation of the 1996 Privatization and Public Investment Law only gathered traction

Box 1.1 Liberalization and privatization of Rwanda's coffee sector.

In January 1995 one of the first major economic policy decisions of the incoming government was to open the coffee export business to private investors. In practice, this meant gradually withdrawing OCIR-Café from commercial activities, ending the state's monopoly on the marketing of coffee, liberalizing producer prices and putting in place a policy of free entry into the market. The immediate outcome of this new policy was a wave of new entrants into the coffee sector, including Salama Café, Kagera Coffee, Al Café, Caferwa, Coffex and Rwacof. Within two to three years, however, all of these new processors/exporters were out of business, except for Rwacof and the state-owned Rwandex.

One of the reasons so many new entrants failed – in addition to volatility in global coffee prices – is that the sector-specific policy mix was still evolving and being fine-tuned. Examples of this fine-tuning, which had a direct impact on the profitability and incentive structure for firms, included (see IMF 2000):

- Evolving measures to control producer prices: the coffee stabilization fund, which enabled OCIR-Café to control producer prices, was discontinued in 1995 and replaced with a progressive export tax on coffee in that same year; this export tax, which had to be adjusted based on world prices, was then replaced with an ad valorem export tax of 16% in 1998, before being abolished altogether in 1999.
- Evolving measures to finance OCIR-Café: in 1995 OCIR-Café charged a handling fee of US$48 per ton; this was replaced with a fee of 3% of the final freight on board price at the port of Mombasa, although there were many discussions about how this price was calculated.
- Evolving regulations on surrender requirements on export proceeds: in 1995, 90% of export proceeds had to be surrendered; this was reduced to 50% in December 1996, with the requirement being abolished in 1997.

It is only during the 2002–5 period, almost a decade later, that major new investors/coffee processors entered the coffee market, including companies such as the Coffee-Business Center in 2002, Rwanda's second largest exporter today, as well as the Kivu Arabica Coffee Company and Rwashoscco in 2005.

The privatization of the coffee sector started in 1997 with the sale of the Gikondo coffee factory to Rwacof, but it was not until 2007 that the privatization process of Rwandex – in which the government had a 51% stake – was completed. The delay in implementing the privatization of Rwandex was due to complex negotiations between government and the shareholders on the modalities of the privatization process and lingering corporate tax arrears and debt issues. Facing a huge debt burden after privatization, the company filed for bankruptcy and was liquidated quickly thereafter. The assets of what used to be Rwandex were bought by Westrock EA Holdings – a US-owned holding company based in Mauritius – for US$1.6m in 2009, which set up the Rwanda Trading Company (RTC), today one of the largest players in Rwanda's coffee market.

after 2005. It has played a key role in attracting private investment and large players – both domestic and foreign – to the manufacturing and agribusiness sectors. Throughout the process, starting in 1997 and even

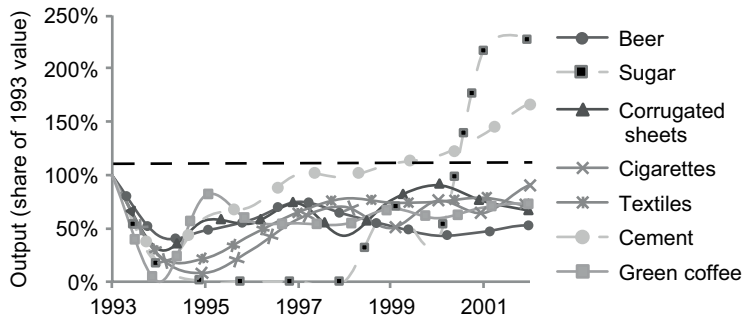

FIGURE 1.9 Performance of selected sectors (1993–2002).
Source: IMF Statistical Annexes (1998–2004).

more so after 2005, the privatization of government-owned construction materials and agribusiness firms has attracted large private domestic investors, such as Crystal Ventures, the Rwanda Investment Group (RIG), the Horizon Group and Rwanda Mountain Tea, and institutional investors such as the Rwanda Social Security Board, as well as foreign investors, from Kenya, Uganda, Belgium, Australia and the United States. The main privatizations since the promulgation of the privatization law are listed in Table 1.4.

At the time of transfer, many of these firms were still in the reconstruction phase. For some firms, the impact of the privatization process will have been to fast-track the reconstruction and scaling of their operations. Examples include:

- Uganda's largest sugar processor, the Madhvani Group, took over Kabuye Sugar Works in 1997. The Madhvani Group gradually increased the capacity of the factory with new machinery from an estimated 210 tons per day in 1997 to 275 in 2001, 325 in 2003, 475 in 2005–6 and 600 in 2007.
- ICM Rwanda Agribusiness took a majority stake in three rice mills previously owned by government in 2006 and 2008 (Rwamagana, Gikondo and Bugarama). It has invested heavily in new machinery and expanded rice production areas and it is today the largest player in Rwanda's rice processing sector.
- Pembe Flour Mills, which took over the defunct Minoterie de Byumba in 2007 and has become Rwanda's second largest agribusiness firm behind Bralirwa in the space of five years, investing US$6m to improve facilities and production capacity at the flour mill.

In the case of other state-owned enterprises, the initial sale was not always very successful, but subsequent changes in ownership succeeded in turning these companies around, for example:

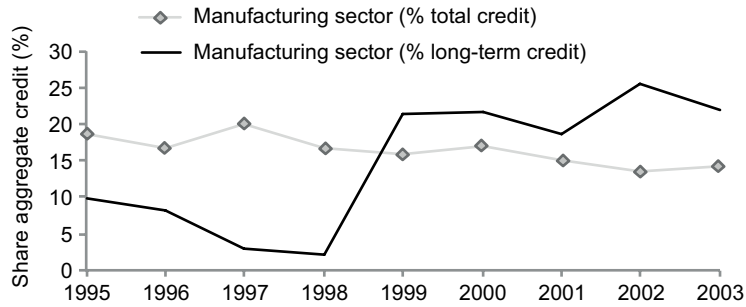

FIGURE 1.10 Commercial credit to the manufacturing sector (1995–2003). Source: IMF Statistical Annexes (1998–2004).

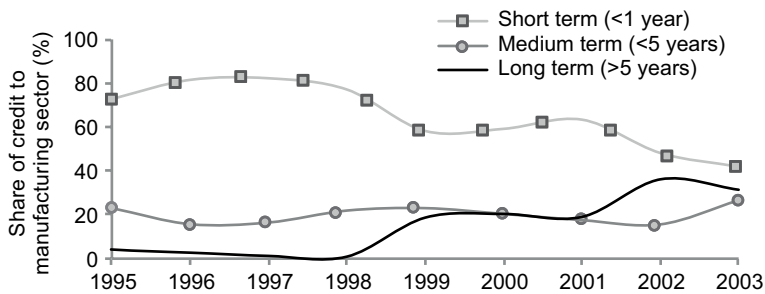

FIGURE 1.11 Tenure of bank credit to manufacturing sector (1995–2003). Source: IMF Statistical Annexes (1998–2004).

- Briqueterie Rwandaise Ruliba (a manufacturer of clay products) was first privatized in 2002. While the new shareholders refurbished machinery, restarted operations and introduced new clay products, the company quickly ran into operational and financial difficulties with time-to-delivery lags of about six months, which was unsustainable. It was not until 2009, when the company was taken over by Building Material Investments Limited (BMI) – a JV by the Social Security Fund of Rwanda and Crystal Ventures Limited – that significant investment was made to increase production capacity (which has doubled in the space of three years) and resolve managerial and operational constraints.
- Horizon Sopyrwa (previously Opyrwa, the pyrethrum processor), which was privatized in 2000. While operations at the company had restarted, by 2008 Sopyrwa had run into financial difficulties, lacking adequate funds to pay staff and farmers, with no regular buyers for its products. In that same year the company was taken over by the Horizon Group, which has invested significant resources in restructuring the company and revamping machinery.

Table 1.4 Key privatizations since 1997.

Year of privatization	Company	Buyer
1997	Usine à Café de Gikondo	Rwacof
	Kabuye Sugar Works	Madhvani Group (Uganda)
1998	Ovibar	Rwanda Investment Company (RICO)
	Laiterie de Nyagatare	KOABOMO co-op
1999	Usine à Café de Nkora	UPROCA co-op
	Rubirizi dairy	Rwandan investor
2000	Sorwal (29.5%)	Development and Business Prospects (Debupro)
	Etiru	Public auction
	Opyrwa	Rwandan investor
2001	Sonafruits	Ecomeki
	Minoterie de Gatara	Kabandana Venant
	Tabarwanda	British American Tobacco (through Tabacofina) VanderElst
2002	Briqueterie Rwandaise Ruliba	Rwandan investor
	Usine à Café de Nkora	Seven Lakes Trading
	Maisserie de Mukamira	Diocese Catholique de Ruhengeri, Association pour le Développement Rural
2003	Sorwathé (23.5%)	Sorwathé and Assopthe
2004	Pfunda	Lab International
2006	Bugarama Rice Mill	ICM (Australia) + co-ops
	Gikondo Rice Mill	ICM (Australia) + co-ops
	Cimerwa	Rwanda Investment Group
	Laiterie de Nyabisindu	Horizon Group
	Rubaya-Nyabihu Tea Estates	Rwanda Mountain Tea (RMT)
2007	Minoterie de Byumba (defunct)	Pembe Flour Mills Group
2007–9	Rwandex	Belgian investor Westrock EA Holdings
2008	Rwamagana Rice Mill	ICM (Australia)
2009	Kitabi Tea Factory	RMT

Year of privatization	Company	Buyer
2011	Mata Tea Factory	Tea Group Investment Company Ltd, JV between RMT and Jay Shree Tea & Industries (India)
2012	Bralirwa (30%)	Public IPO

Sources: Privatization secretariat (2004), interviews.

- Cimerwa, which was privatized in 2006 but required a new round of capital injection from the Rwanda Social Security Board in late 2011 to consolidate operations and expand production (*The New Times*, Government repossesses Cimerwa, 19 October 2011).
- Rwandex (coffee processor), which was privatized in 2007 before running into unsustainable debt problems. Rwandex was liquidated in 2009 and its assets sold to US-owned Westrock EA Holdings. The new coffee processor resulting from this acquisition – the Rwanda Trading Company – invested about US$5m to upgrade machinery, purchase new equipment and increase capital.

While it is still too early to gauge the success of the privatization policy and its lasting impact on the manufacturing and agribusiness sectors, the policy did result in the entry of a number of large groups – both regional and international – into the Rwandan market, and has succeeded in transferring ownership of the vast majority of production in these sectors from government to the private sector.

Phase 3: Growth, consolidation and entry into the East African Community (2006–12)

Towards the end of the decade, new business creation and investment in growth took over from reconstruction as the main driver of growth in Rwanda's manufacturing and agribusiness sectors. There are signs that things started to change in 1999, when long-term credit (greater than five years) to the private sector increased substantially from less than US$0.3m in 1998 to more than US$6m in 1999 (Figures 1.10 and 1.11) and when investment over GDP reached the pre-war maximum of 17% of GDP that same year (Figure 1.12). As can be seen in both Figures 1.12 and 1.13, however, the big acceleration in investment activity came in 2006–7, as evidenced by the tripling of machinery imports in 2007 from US$20m to US$60m and by the increase of investment over GDP from 15% in 2006 to 22–23% in 2009. This period of growth corresponded to new firm creation in the manufacturing and agribusiness sectors; significant capital investment to increase production capacity in existing firms; the consolidation

of the sector, with large groups playing an increasingly important role; and Rwanda's entry into the East African Community in 2007, which led to a wave of new investments in the manufacturing and agribusiness sectors from large East African groups.

The period from 1999 to 2005 saw many new private investors entering the local manufacturing and agribusiness sectors. Between 1999 and 2005 we estimate that about 20 new manufacturing firms were created (Table 1.5). Among these are some important companies for Rwanda's economy today, including the Coffee Business Center, one of the largest coffee processors and exporters; Société Rwandaise des Chaussures, one of the most export-oriented firms in the manufacturing sector; Premier Tobacco Company, producer of popular and well-established cigarette brands in Rwanda such as Filter Star King and Premier Filter; Minimex, the country's largest maize processor; ICM Rwanda Agribusiness, the largest rice processor in the country; and Master Steel, one of the largest manufacturers of construction materials. During this period significant capital investment was also targeted at expanding the production capacity of existing large firms. Examples include Cimerwa, which at the time was still publicly owned, and where production capacity was doubled to 100,000 tons per year in 2001; Inyange, the country's largest dairy processor today – established in 1997 – which introduced a water production line in 2001 and a juice production line in 2004; and Kabuye Sugar Works, which continued to invest in the expansion of production capacity at the plant throughout the entire period.

Although this amounted to significant investment, many of the companies started during this period remained small and only took off after 2005. Minimex, for example, only started processing in 2005–6; ICM Rwanda purchased its first rice mills in 2006; Premier Tobacco Company installed its first leaves-processing line in 2005.

The 2006–12 period was marked by the creation of even larger firms and increasing investment in existing firms, in particular, in firms that were first registered between 1999 and 2005. Large firms created during this period include Rwanda Mountain Tea, the country's largest tea processor today with an annual turnover of more than US$16m; Pembe Flour Mills and Bakhresa Grain Milling, the two largest wheat flour producers, which have a joint turnover of about US$50m, thereby making them the two largest manufacturing firms after Bralirwa; SteelRwa, a rebars producer for the construction sector, which in its first year of operations had already achieved a turnover of more than US$8m; Safintra, the largest roofing sheets producer in the country with a turnover of about US$11–12m; and in 2012 Granite East Africa, with capital investments of more than US$10m. Large investments in increasing capacity during this period included:

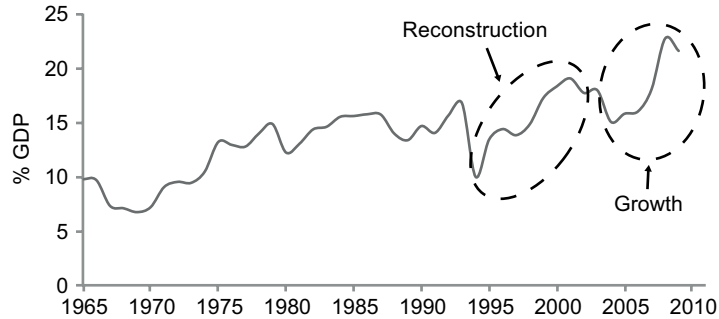

FIGURE 1.12 Gross fixed capital formation (% GDP).

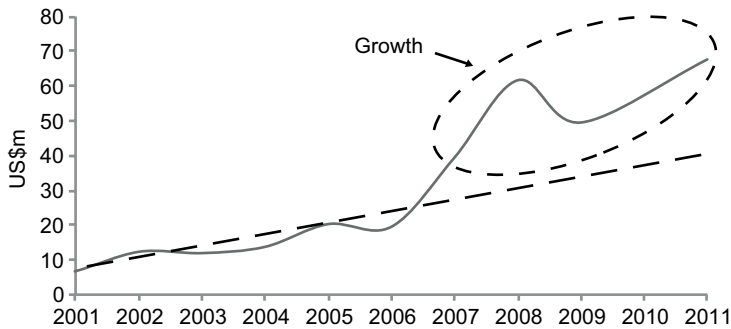

FIGURE 1.13 Imports of machinery (US$m).

- Inyange (beverages), which in 2005 embarked on a multi-year US$35m project to increase its capacity tenfold. Today, Inyange has some of the most modern bottling and packaging equipment in the region, with the capacity to produce 5,000 litres of milk per hour, 5,500 litres of juice per hour and another 5,000 litres of water.
- Minimex (maize milling), which saw its production capacity increase significantly over the period, leading to an increase in production levels from 890 tons of maize in 2006 to 8,750 tons in 2011, a tenfold increase.
- Mutara Enterprises (furniture), which is, at the time of writing, in the process of finalizing a US$7.5m plant in the newly established Kigali Special Economic Zone (KSEZ).
- The Rwanda Trading Company (coffee), which took over the assets of Rwandex in 2009, and invested an estimated US$5m to not only upgrade and repair machinery but also install new capacity.
- Brasserie des Mille Collines (beer), which is, at the time of writing, undergoing a multi-million dollar expansion plan that comprises a new waste water treatment plant and the doubling of production capacity in the brewery.

TABLE 1.5 Manufacturing and agribusiness firms created between 1995 and 2012.

Year	Firm / factory name	Sector	Main product
1995	Mutara	Furniture	Furniture
1995	Caferwa	Coffee	Coffee
1996	Rwacof	Coffee	Coffee
1997	Inyange Industries	Beverages	Milk, yogurt, water, juice
1997	Kabuye Sugar Works	Staple crops	Sugar and sugar molasses
1998	Saban Sarl	Leather products	Leather products
1998	Shema Fruits	Food processing	Processed fruit
1999	Société Rwandaise de Chaussures	Footwear	Plastic shoes
2000	Roto Tanks	Plastic products	Plastic tanks
2000	Kigali Steel & Aluminium Works	Metal products	Kitchen utensils
2000	Electromax	Beverages	Water
2000	Agro Coffee Industries	Coffee	Coffee
2000	Rubirizi Dairy	Dairy	Milk
2001	Ufametal	Construction materials	Roofing sheets
2002	Coffee Business Center	Coffee	Coffee
2002	Premier Tobacco Company	Tobacco	Cigarettes
2002	Minimex	Staple crops	Maize bran, grit and flour
2002	Rwanda Plastic Industries	Plastic products	Various plastic products (e.g. chairs)
2003	Aqua-San	Plastic products	Plastic tanks
2003	Suku Paper Works	Paper products	Toilet paper and sanitary pads
2003	Adma International	Food processing	Biscuits
2003	Simaco	Construction materials	Roofing sheets, hollow section tubes
2004	Rubaya-Nyabihu Tea Factory	Tea	Tea

Year	Firm / factory name	Sector	Main product
2005	Kivu Arabica Coffee Company	Coffee	Coffee
2005	Rwashoscco	Coffee	Coffee
2005	ICM Rwanda Agribusiness	Staple crops	Rice
2005	Master Steel	Construction materials	Metallic construction materials
2005	Rwanda Leather Industries	Leather products	Leather products
2005	Ikirezi Natural Products	Specialty plants	Essential oils
2006	Rwanda Mountain Tea	Tea	Tea
2006	Uprofoam	FMCG	Mattresses
2006	Afrifoam	FMCG	Mattresses
2007	Kigali Cement Company	Construction materials	Cement
2007	Pembe Flour Mills	Staple crops	Wheat flour
2007	Safintra	Construction materials	Roofing sheets
2008	Shekina Enterprises	Food processing	Cassava flour, dried cassava
2008	Trust Industries	FMCG	Cleaning products, toilet paper
2008	Nshikili Tea Factory	Tea	Tea
2008	Sosoma Industries	Food processing	Maize meal
2009	Rwanda Trading Company	Coffee	Coffee
2009	Bakhresa Grain Milling	Staple crops	Wheat flour
2009	Savannah Dairy	Milk	Milk
2009	Kitabi Tea	Tea	Tea
2010	Brasserie des Mille Collines	Beverages	Beer
2011	SteelRwa	Construction materials	Rebars
2012	Granite East Africa	Construction materials	Granite

- Kigali Cement, which is in the process of increasing production capacity with the construction of a new grinding mill.

A trend that has contributed to these high investment levels is consolidation in the manufacturing and agribusiness sectors. Increasingly, output in the latter is clustered around large industrial groups or investment holding groups, which have the capacity to raise the required financial resources and human capital to turn manufacturing and agribusiness firms around and invest in increasing production capacity. The largest local investment group is the Crystal Ventures Group, which has a majority stake in Inyange (beverages), Mutara Enterprises (furniture) and a managing stake in Ruliba Clays (clay products) and East Africa Granite (granite for the construction sector) through Building Materials Investments Limited (BMI). BMI is a JV between Crystal Ventures, the Rwanda Social Security Fund and the Horizon Group, and took over ownership of Ruliba Clays, which was in financial difficulty in 2009, before creating East Africa Granite in 2012. The Horizon Group is another significant player in Rwanda's manufacturing and agribusiness sector. The Horizon Group, which has investments in the construction and logistics sector, as well as BMI, also took over full ownership of Sopyrwa – the country's pyrethrum processor – in 2008. Sopyrwa was edging towards bankruptcy when the Horizon Group took over, resulting in new investments in capacity as well as a management and systems overhaul. Another significant player is the Rwanda Investment Group (RIG), which has investments in the energy business but has also had a minority stake in Rwanda's largest cement factory, Cimerwa, since 2006.

Other groups are also forming around individual investors. The largest such group comprises Petrocom (petrol), Ufametal (construction materials), Kagugu Dairy and Rwanda Mountain Tea (tea), which includes one of the largest players in Rwanda's petrol market, the largest tea processor in the country as well as one of the largest construction material firms. Since its inception in 2006, Rwanda Mountain Tea has been growing into the largest player in the local tea market, taking majority ownership stakes in the Rubaya, Nyabihu, Kitabi, Mata and Gisakura tea factories previously owned by the government. On a smaller scale, the owners of existing manufacturing firms have also been investing in new manufacturing businesses or taking over companies in trouble. Examples include construction companies that also own mattress manufacturers, such as Simaco and Afrifoam since 2003, Uprotur and Uprofoam since 2006, as well as Trust Industries (detergents) that bought the assets of Socobico (toilet paper), which had run into financial difficulties.

An equally important trend is the entry of large manufacturing groups from Kenya and Tanzania into the Rwandan market, following the country's entry into the East African Community (EAC) in 2007. In

the immediate aftermath of Rwanda's entry into the EAC, large regional groups started investing in Rwanda: the Pembe Flour Mills Group owned by the Kenyan Bajaber Group of Companies in 2007, Safintra owned by the Kenyan Safar group in 2007, the Tanzania-based Bakhresa Group in 2009–10, the Manji Family which has interests in the entire region and invested in SteelRwa in 2007–11, the Kenya-based Athi River Mining company – the largest cement manufacturer in the region – which took a minority stake in the Kigali Cement Company, and the Kenya-based East African Growers group, which is, at the time of writing, investing in commercial avocado production. The commercial impact of these investments has been very large: Pembe Flour Mills and Bakhresa Grain Milling are, after only five years of operation, the second and third largest manufacturing firms in the country; Safintra is the market leader in roofing sheets; and SteelRwa is already, after only one year of operation, the country's largest exporter of construction material products. Successful investments share the characteristics of having the significant financial and human resource backing of large groups and business models based on investing in Rwanda with a view to accessing not just the Rwandan but also the Burundi and eastern DRC markets, which are difficult to service from Uganda, Tanzania and Kenya.

Does this increased dynamism we observe since 2006 signal a shift in the economic fortunes of Rwanda's manufacturing and agribusiness sectors? Are these sectors now poised to grow, based on a different set of fundamentals, characterized by a more stable business environment, more private involvement, regionalization within the East African Community and the entry of large groups and investors into the Rwandan market? We try to give some partial answers to these questions by studying the largest firms in Rwanda's manufacturing and agribusiness sectors, focusing on their origins, capabilities and key themes such as products, systems and resources.

Chapter 2

MAIN FINDINGS

2.1 Our Framework

The objective of this deep dive into Rwanda's manufacturing and agribusiness sectors – or what Sutton and Kellow (2010) refer to as enterprise mapping[1] – is to provide policymakers, investors and academics with a better understanding of the history and current capabilities of Rwanda's leading agribusiness and manufacturing firms. The study is based on the premise that to understand why firms are different – why some succeed and others fail, why some diversify and others specialize, why some export and others do not – one needs to study their origins and evolution (i.e. what brought them to where they are) as well as their capabilities and how these capabilities came to be.

To map Rwanda's agribusiness and manufacturing sectors, we selected 43 representative firms based on a number of key criteria, including revenue and employment. The vast majority of the firms profiled have revenues over US$1m and more than 30 full-time employees. Our sample includes 42 of Rwanda's 47 identified manufacturing firms with more than US$1m in annual revenues. We also included three firms with less than US$1m in revenues because they provided an interesting story and some insights that have added value to the study. We excluded from this exercise all firms engaged in extractive or service-oriented activities such as mining and construction, since firms in these sectors use very different technologies compared with the manufacturing sector. A list of the profiled firms, including key statistics, is located in Appendix 1.

Our approach to profiling these firms is derived from our understanding of the prolific literature on firm-level capabilities. There appears to be

[1] The concept of enterprise mapping was first developed by Professor John Sutton, tested and implemented for the first time in Ethiopia.

a consensus among academics and management professionals on three points[2]:

1. First, one can conceptualize a firm's capabilities as its ability to effectively deploy, combine, develop and change its resources.
2. Second, there is a dynamic aspect to a firm's capabilities:
   - firms hold specific capabilities that are linked to their origins and history and condition their evolution (i.e. there is a certain path dependency); and
   - a key aspect of a firm's capabilities is its ability to break free from this path dependency and reconfigure its competencies to address changes in the market and the business environment.
3. Finally, some capabilities are more important than others and form a firm's "core competencies"; these can include its products, systems and resources, which ultimately determine the firm's ability to compete in export markets.

To capture these different aspects of firm-level capabilities, we structure our analysis around five key themes (see Figure 2.1):

1. **Company origins**: to understand how firms started, who started them, and what motivated them to enter the industry.
2. **Products**: to understand the dynamics of innovation and diversification and to increase sophistication at the firm level.
3. **Systems**: to understand strategic management structures, product development systems, manufacturing processes, available technology, sourcing and supply chain strategies, marketing and sales, and human resources management systems.
4. **Resources**: to get a better understanding of the tangible (financial and physical), intangible (knowledge and reputation) and human resources of Rwandan manufacturing and agribusiness firms.
5. **Exports**: which are related to a firm's competitive advantage, measured by cost leadership, differentiation and resilience to new entrants/substitutes.

Firm and sector profiles, structured along these five dimensions, are presented in Chapters 3–9. This chapter provides insights from the 43 firm interviews to draw a map of Rwanda's agribusiness and manufacturing sectors, in terms of ownership, products, systems, resources and exports. We start this chapter with a brief discussion of the size of firms, as this is key to understanding Rwanda's agribusiness and manufacturing sectors.

[2]See Porter (2004), Prahalad and Hamel (1990), Chandler (1992), Dosi and Marengo (1994), Clark and Iansiti (1994), Leonard (1995), Teece and Pisano (1994), Quelin (1997), Makadok (2001), Sutton (2005) and Grant (2009).

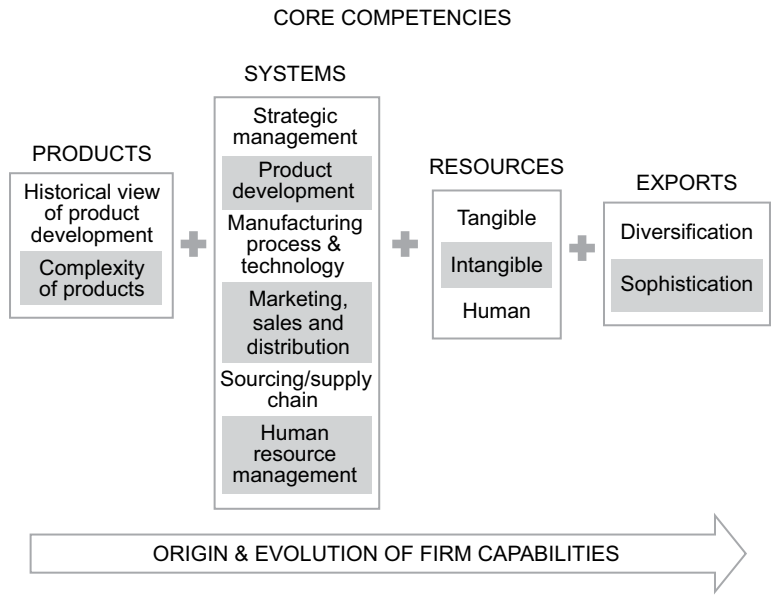

FIGURE 2.1 Framework for analysing firm-level capabilities.

2.2 Size of Firms in Rwanda's Manufacturing and Agribusiness Sectors

As we will see throughout this chapter, be it in terms of ownership structure, products, systems, resources or exports, size matters. In addition to providing an overview of the size of firms in Rwanda's manufacturing and agribusiness sectors, we highlight two interesting points: (i) the case of Bralirwa, which is a clear outlier; and (ii) a change in the structure of the manufacturing and agribusiness sector at the US$5m mark.

In 2011, we identify 47 firms in Rwanda's agribusiness and manufacturing sectors with more than US$1m in annual revenues. The combined output of these 47 firms was approximately US$437m (current USD).[3] Out of these 47 firms:

- 4 had annual revenues of more than US$20m;
- 12 had annual revenues of more than US$10m;
- 24 had annual revenues of more than US$5m.

Moving forward, we refer to companies that have more than US$5m in annual revenues as large firms. This divides our sample into two, with about

[3] As a point of comparison with the introduction, this corresponds to US$214m in constant US$ 2000.

Table 2.1 Rwanda's 10 largest manufacturing and agribusiness firms by turnover.

Rank	Company	Year incorporated	Main product	Reported turnover (2010–11)
1	Bralirwa	1963	Beer and soft drinks	US$130–135m
2	Pembe Flour Mills	2007	Wheat flour	US$25–30m
3	Bakhresa Grain Mills	2009	Wheat flour	US$20–25m
4	Cimerwa	1984/2006*	Cement	US$20–25m
5	Rwanda Mountain Tea	2006	Black and green tea	US$14–16m
6	Sulfo Industries	1962	Soaps, detergents, etc.	US$14–16m
7	Rwacof	1997	Coffee	US$12–15m
8	ICM Rwanda Agribusiness	2005	Rice	US$11–15m
9	Coffee Business Center	2003	Coffee	US$11–13m
10	Safintra	2007	Roofing sheets	US$10–12m

* Year of privatization.

half being large firms and half smaller firms. Rwanda's largest 10 firms in the manufacturing and agribusiness sectors are listed in Table 2.1.

As can be seen in Table 2.1, Bralirwa is a clear outlier. Bralirwa currently has an annual turnover of more than US$130m, compared with less than US$30m for the second-largest manufacturing or agribusiness firm, Pembe Flour Mills. That means that Bralirwa contributes to about one-third of the total output of Rwanda's manufacturing and agribusiness sectors. Bralirwa is an exception because it has had a de facto monopoly in two sectors for 40–50 years: (i) the local beer sector from the 1960s through to 2010 when Brasserie des Mille Collines, its only local competitor, started; and (ii) the soft drinks sector since 1974, when Bralirwa signed a licensing agreement with the Coca-Cola Group. Bralirwa is also an exception because it is – along with Sulfo and Sotiru – the oldest company in Rwanda. It has had 50 years of in-country experience, which has enabled it to develop effective supply and distribution channels, supported by one of the world's largest beer producers, the Heineken Group.

While the case of Bralirwa is unique, we will see throughout this chapter that fundamental differences exist between large and small firms. To

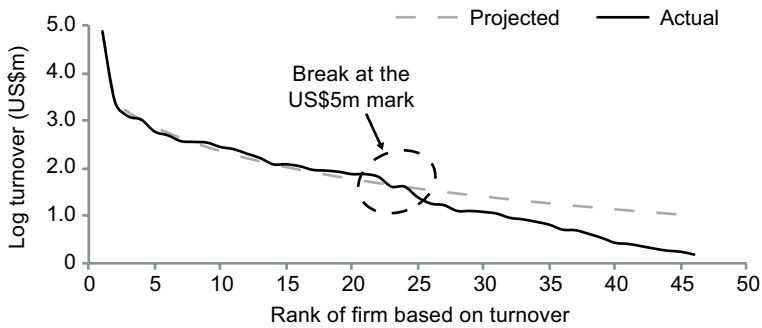

FIGURE 2.2 Actual versus projected size of manufacturing firms.

highlight the fact that something changes in the composition of Rwanda's manufacturing sector at the US$5m mark, we project the relationship between the size of a firm (in terms of turnover) and its ranking (again in terms of turnover) using a simple formula inspired by size-rank power laws.[4] As can be seen in Figure 2.2, while our projections perfectly predict the relationship between size and ranking until the US$5m mark (the last firm with a turnover of more than US$5m is ranked 24), the actual and projected curves deviate thereafter. This implies that firms below the US$5m mark decline in size much faster than we would have expected them to based on this formula; another way of interpreting this is that there are fewer firms below the US$5m mark than we would expect. This break at the US$5m mark could signal that firms that are smaller than US$5m face different or more binding constraints than larger firms. We explore this possibility in more detail in the ensuing sections, focusing on ownership structures, products, systems, resources and exports.

2.3 Main Findings: Ownership Structure

Defining a large group as any holding group, investment group or individual investor that has business interests in more than three companies (revenues over US$1m) either domestically or internationally, we estimate that 80% of output in Rwanda's 47 largest manufacturing and agribusiness firms is controlled by large groups, about 70% by foreign capital and 20% by individual Rwandan entrepreneurs (see Figure 2.3). Large groups

[4] The formula we use is $\text{rank}_i = (\text{turnover}_{\text{Bralirwa}} / \text{turnover}_i) - 2.51$, where rank_i is the turnover ranking of firm i, turnover_i the actual turnover of firm i, and $\text{turnover}_{\text{Bralirwa}}$ the turnover of Bralirwa. We have also included a constant (2.51) to adjust for the size differential for Bralirwa and the second-largest firm. For more information on size-rank power laws, see, for example, Reed (2001).

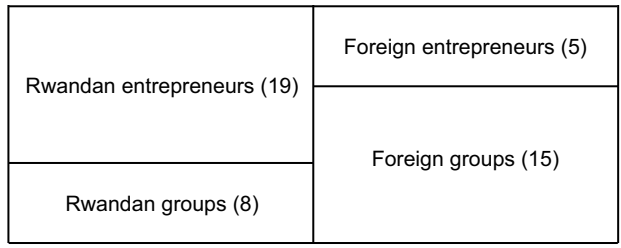

FIGURE 2.3 Decomposition of ownership in sample of 47 firms.

also tend to control the largest firms in Rwanda's agribusiness and manufacturing sectors: 90% of the output of firms with more than US$5m in annual revenues are owned by large groups; only 20% of the output of companies with revenues less than US$5m are owned by large groups. Ownership is one of the key distinctions between large and smaller firms as defined above. We first focus on (i) individual Rwandan investors and family-run businesses, before analysing (ii) foreign investments, (iii) the role, performance and implications of large groups, including (iv) domestic investment groups.

(i) Individual and family-run business in the manufacturing and agribusiness sectors

Based on available data, individual and family-run businesses contribute approximately 20% of the output of the manufacturing and agribusiness sectors. The largest individual and family-run businesses in Rwanda's manufacturing sector today are listed in Table 2.2 and include manufacturers of construction materials, textiles, paper products and mattresses, as well as coffee and food processors.

Although the origins of individual and family-owned firms in the manufacturing sector vary significantly both between firms and over time, some common characteristics can be observed: (i) particularly in the pre-1990 period, the trading profession was a key source of training for entrepreneurs, (ii) mobility within the region (due to both push and pull factors) contributed and continues to contribute valuable expertise to Rwandan businesses, and (iii) the professional origins of firms appear to be becoming more diverse over time.

From trade to manufacturing

Many of the individual or family-run businesses that started before the 1990s were created by entrepreneurs who had been traders for many years. Their trade gave them better knowledge of markets and local preferences and enabled them to establish relationships with suppliers, distributors

Table 2.2 Top 10 individual and family-run manufacturing and agribusiness firms.

Rank	Firm	Turnover, US$ (2011)	Full-time employees	Year of creation
1	Coffee Business Center	10–15m	26	2003
2	Master Steel	7–9m	56	2005
3	Ameki	6–8m	380	1982
4	Tolirwa	5–7m	100	1979
5	Utexrwa	4–6m	600	1984
6	Suku Paper Works	4–6m	50	2003
7	Minimex	3–5m	80	2002
8	Urwibutso	3–5m	239	1993
9	Rwanda Foam	3–5m	80	1983
10	Kivu Arabica Coffee Company	2–4m	17	2005

Note that we define individual and family-run firms as firms that either have an individual or (one or more) members of a family with significant ownership and commitments towards the business. However, firms that have business interests in more than three companies (revenues greater than US$1m) either domestically or internationally have been classified as "large groups". For example, Pembe Flour, Sulfo Industries, Bakhresa Grain and SteelRwa have been classified as large groups even though individual families are the controlling shareholders.

and the local banking sector. Examples of traders who established successful businesses include Mr Tadjin Jaffer, who was born in 1932 in Uganda and moved to Rwanda in the early 1950s while supporting his father and uncle's general trading business in Uganda. By 1995, Mr Jaffer had opened a small trading business as well as a petrol station. At the time, he also supported a soap-manufacturing unit that his uncle had started in Burundi in 1961, where he learned the art of manufacturing soap. It is this experience and the in-country knowledge he had acquired over the years that enabled Mr Jaffer and his wife, Mrs Khatun Jaffer, to start a soap-manufacturing unit in Kigali in 1962, just after independence. Today, Sulfo Industries has a turnover of US$13–15m in Rwanda alone – with a product portfolio of about 150 items – as well as business interests in the Democratic Republic of Congo, Kenya and Uganda. It is one of the few examples of a family-run business that has turned into a large group, based on our definition.[5] Other

[5] This pattern is observed in several EAC countries and is documented extensively in the case of Ethiopia (Sutton and Kellow 2010).

companies that were started by ex-traders in the pre-1990s period include Ameki, Tolirwa, Rwanda Foam, Utexrwa and Uprotur.[6]

Although the pattern in the post-1990s period is weaker, there continue to be some examples of traders establishing successful manufacturing firms, including Mr Assinapol Rwigara, who was a distributor of cigarettes for more than 30 years before starting the Premier Tobacco Company (cigarettes manufacturer) in 2002 and Mr Kalisa, who owned a trading business in Burundi before starting Afrifoam in Rwanda in 1999.

Regional mobility of entrepreneurs

In a recent paper, Bahar et al. (2012) found that the probability that a product is added to a country's export basket is on average 65% larger if a neighbouring country is a successful exporter of that product as well, and they interpret this result as evidence of international intra-industry knowledge diffusion. This pattern is increasingly evident with Rwanda's entry into the East African Community, but is not new and has been at play since independence through the movement of the Asian community and other expatriates in East Africa. Examples include Mr Jobanputra, whose family had business interests in the textile subsector in Uganda and played an important role in him starting Utexrwa in Rwanda.

Regional crises have played an important role as push factors in regional mobility. For example, the founder of Anik Industries, Mr Patel, moved to Rwanda after being expelled from Uganda in 1972 during the Idi Amin regime and the persecution of Uganda's Asian community.

Conversely, the end of the war in Rwanda in 1994 was an important pull factor that attracted regional investors to (or back to) Rwanda and led to the creation of some new business. Examples include Mr Kalisa, who originally owned a trading business in Burundi from 1983 to 1993 but returned to Rwanda in 1994 before creating Afrifoam in 1999 and Simaco in 2003; Mr Alphonse Sano, who started Société Rwandaise des Chaussures in 1999, bringing with him 32 years of experience working for the

[6] Ameki was started by Mr Jacques Rusirare of Ameki, who used to run a transport and hardware trading company; the family that runs Tolirwa (construction materials), which started in 1979, had been running an electronics goods trading firm and a small auto-repair garage in Kigali since 1973; Mr Makuza, who started Rwanda Foam in 1983 (mattresses) and Amagerwa (construction materials) in 1965, and had first started as a trader of hardware materials; Mr Kishor Jobanputra, who set up Utexrwa in 1984, had started as trader in Kigali dealing in a variety of goods such as hardware items, groceries and textiles; the owners of Uprotur (construction materials), which was created in 1987, had started off as importers/exporters of cement, tubes and other construction material products in 1975, a decade before starting the company.

Bata shoe factory in Burundi, where he was the general manager; and Mr Gasamagera, who returned to Rwanda from Switzerland after the war to establish a logistics firm in 1998, called Safari Center, and then Suku Paper Works (a paper products manufacturer) in 2003.

The new Rwandan entrepreneur

While the experience of many entrepreneurs who started manufacturing or agribusiness enterprises before the 1990s was trading oriented, the profiles of more recent entrepreneurs are more varied, with backgrounds that include trained professionals such as lawyers and accountants, entrepreneurs with specific sector expertise, as well as self-made entrepreneurs.

Minimex was started in 2002 by Felicien Mutalikanwa, a lawyer who had a background in the mining sector; Jean-Bosco Seminega, who founded the Kivu Arabica Coffee Company in 2005, was a consultant for Chemonics (a US-based consultancy) and the Rwanda Development Bank (BRD) before starting his own coffee business; Mr Mugabo started Trust Industries in 2008 having been in the cleaning business for many years before deciding to experiment with producing his own detergents and soaps; and Mr Mbatezimana, founder of Shekina Enterprises, is an accountant by training.

Alongside these professionals, several self-made businessmen have shown a remarkable capacity for innovation and creativity. The best known of these is Sina Gérard of Urwibutso, who has grown his business from being a small bakery and vegetable retail shop halfway between Kigali and Ruhengeri in 1993 to one of Rwanda's most diversified companies, with some of the best-recognized products in the country, a turnover of US$3–4m and about 200 full-time employees. Other entrepreneurs that fit the self-made businessman description include Mr Rwagasana, the founder of the Coffee Business Center in 2003, who had worked for 17 years in the coffee sector before starting his own coffee processor with self-fabricated machinery, and Mr Mugabo of Trust Industries (see above).

(ii) Foreign investment in Rwanda's manufacturing and agribusiness sectors

Foreign ownership is relatively prevalent in Rwanda's manufacturing and agribusiness sectors, a fact that is masked by low Foreign Direct Investment (FDI) numbers, which between 2000 and 2010 averaged about 0.84% of total GDP in terms of the FDI flow (World Bank 2011a). In our sample of Rwanda's 47 largest manufacturing and agribusiness firms, we estimate that firms that are either fully owned by foreign capital or in which foreign investors hold a majority stake accounted for about 70% of the total output in 2011, with an estimated aggregate output of US$280–290m. The sectors

Table 2.3 List of largest foreign investments in Rwanda's manufacturing sector today.

No.	Sector	Firm	Year of investment	Foreign investor	Nationality	Ownership
1	Beverages	Bralirwa	1971	Heineken Group	The Netherlands	Majority
2		Brasserie des Mille Collines	2009	Unibra	Belgium	Majority
3	Staple crops	Kabuye Sugar Works	1997	Madhvani Group	Uganda	Full
4		ICM Agribusiness Rwanda	2005	ICM Agribusiness	Australia	Full
5		Pembe Flour Mills	2007	Pembe Flour Mills / Bajaber Group	Kenya	Full
6		Bakhresa Grain Milling	2009	Bakhresa Group	Tanzania	Full
7		Minimex	2011	Mr Mansell	The Netherlands	N/A
8	Food processing	Adma International	2003	Mr Dakik	Lebanon	Full
9		Sorwatom	2011	Dillux	Kenya	Majority
10	Construction materials	Safintra	2007	Safal group	Tanzania	Full
11		Kigali Cement	2011	Athi River Mining	Kenya	Minority
12		SteelRwa	2007–11	Manji Family	Canada / East Africa	Full
13	Plastics	Roto Tanks	2001	Flametree Group	Kenya	Full
14		Aqua-San	2003	Aqua-San Tech Group	Kenya	Full

where foreign investment is more prominent include coffee, tea, staple crops, alcoholic beverages and construction materials. Regional investors are very active in the light manufacturing and staple crop sectors, whereas European and American investors are more present in the tea, coffee and alcoholic beverages sectors. As can be seen in Table 2.3, foreign investment is relatively diverse in terms of its origins, and includes investors from

No.	Sector	Firm	Year of investment	Foreign investor	Nationality	Ownership
15	FMCG	Kigali Steel & Aluminium Works	2001	Shumuk Group	Uganda	Full
16		Anik Industries	1986	Mr Patel	Uganda	Full
17	Textile	Utexrwa	1984	Mr Jobanputra	Uganda	Full
18	Coffee	Rwacof	1997	Sucafina	Switzerland	Full
19		Rwanda Trading Company	2009	Westrock EA Holdings	United States / Mauritius	Full
20	Tea	Sorwathé	1986	Tea Importers Inc.	United States	Majority
21		Pfunda	2004	Imporient Tea	United Kingdom	Full
22		Gisovu	2008	McLeod Russel	India	Majority
23		Tea Group Investment Company (Mata and Gisakura tea factories)	2011	Jay Shree Tea & Industries via Birla Holdings	India (via Dubai)	Equal stake

Kenya, Tanzania, Uganda, India, Lebanon, Switzerland, the Netherlands, Belgium, the United Kingdom, the United States, Canada and Australia.

There are three possible interpretations of this large contribution of firms controlled by foreign investors to the output of Rwanda's manufacturing and agribusiness sectors:

(i) Foreign investment in the manufacturing and agribusiness sectors is actually quite high and the manufacturing and agribusiness sectors are priority sectors for FDI in Rwanda.
(ii) FDI has targeted the largest and most successful firms in Rwanda's manufacturing and agribusiness sectors over the years, which would explain why firms controlled by foreign investors account for such a large share of total output.
(iii) Firms controlled by foreign investors have performed better and grown faster than other firms.

The most likely explanation is the third option, as the manufacturing and agribusiness sectors have not been priority sectors for FDI, which has flowed mostly to Rwanda's banking and telecom sectors, and the majority of foreign investments have not targeted the most successful companies but have either involved greenfield investments or the takeover of firms that had run into financial difficulty. Examples of greenfield investments over the past few years include Safintra (2007), SteelRwa (2007–11) and Bakhresa Grain Milling (2009); examples of takeovers include the cases of Kabuye Sugar Works, which took over Sucrerie Rwandaise in 1997, Pembe Flour Mills, which took over the defunct Byumba Flour Mill in 2007, ICM Rwanda Agribusiness, which took over three underperforming government rice mills in 2006 and 2008, the Rwanda Trading Company, which bought the assets of what used to be Rwandex in 2009, Sorwatom, which was taken over by Dillux in 2011, and Minimex, which underwent an in-depth restructuring when it received foreign equity investments in 2011.

One of the main arguments supporting the hypothesis that foreign investment has performed comparatively better is that the vast majority of these investments have been made by larger groups, which have significant capital and human resources and extensive experience in their respective areas of operation. Out of the 22 foreign investments listed in Table 2.3, large foreign industrial groups conducted 18, and we estimate that these comprise approximately 80% of the aggregate output of firms owned by larger groups. We discuss this issue of the comparative performance of companies owned by large groups and companies owned by individuals in more detail in the next section.

(iii) Large groups in Rwanda's manufacturing and agribusiness sectors and implications for future growth

One of the main takeaway messages from this book is that firms owned by large groups are driving growth in Rwanda's manufacturing and agribusiness sectors and have been outperforming firms owned by individual investors. The two indicators on which we base this assessment are size and profitability. On the first point, firms owned by groups have been able to scale much faster than other firms. Groups own 17 of Rwanda's largest 20 manufacturing and agribusiness firms. Examples that illustrate how quickly firms have come to scale include the recent takeovers by large groups of underperforming firms owned by individual investors. For example, Sopyrwa has grown from a US$1m business in 2009 – one year after it was taken over by the Horizon Group – into a US$6–8m business today, just three years later; the ex-Byumba Mill, which was at a complete standstill in 2007, has grown into a US$27m business today under the watch of Pembe Flour Mills; Brasserie des Mille Collines, which was taken over by Unibra in 2009, had achieved sales of about US$10m by 2011.

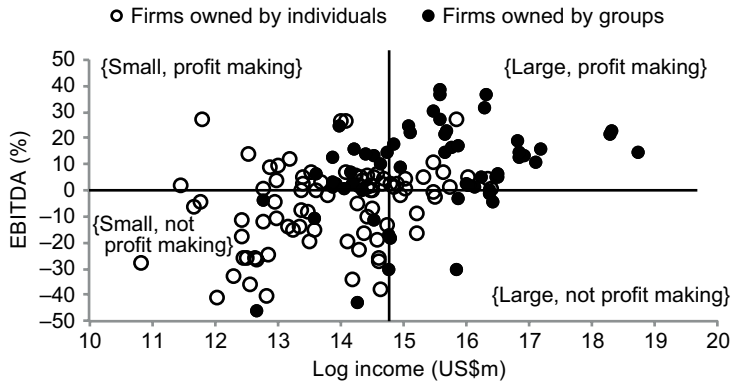

FIGURE 2.4 Firm profitability and size (2008–10). Source: Own calculations based on 2008–10 Rwanda Revenue Authority Tax Data.

Not only do groups own firms that are significantly larger on average, but they also tend to perform better. As can be seen in Figure 2.4, available data on profitability levels in Rwanda's manufacturing and agribusiness sectors during the 2008–10 period seem to suggest that (i) larger companies in Rwanda's manufacturing sector tend to be more profitable than smaller firms, and (ii) firms owned by groups tend to perform better than firms owned by individual investors. 46% of firms that had revenues of less than US$5m between 2008 and 2010 were profit making, compared with 85% for firms with revenues greater than US$5m. Similarly, 45% of firms owned by individuals were profit making compared with 73% for firms owned by larger groups. Size and ownership, which are intricately related, matter in Rwanda's manufacturing sector.

Our hypothesis as to why this might be the case is that large groups have the capacity to overcome several constraints that might be binding for individual investors, including:

Access to long-term finance. This is a prerequisite for achieving scale. Firms owned by larger groups benefit from greater internal financial resources and are in a much better position to raise capital. To give the reader a sense of scale, the Tanzania-based Bakhresa Group of Companies, for example, which between 2009 and 2011 invested US$24m to set up a new flour mill in Rwanda, is part of a US$300m plus conglomerate. That equates to about three-quarters of the size of Rwanda's entire manufacturing sector. Given its sheer size, the Bakhresa Group was able to secure financing from the IFC for this project, including financing for the land acquisition, the construction of the mill, machinery, warehouses and the purchase of transportation trucks, which is something not many companies owned by individual investors would have been in a position to do. Many firms owned

by large groups have made large upfront investments to either upgrade facilities or set up new factories from scratch (see, for example, the cases of Pembe Flour Mills, Inyange Industries, Mutara Enterprises, Sopyrwa, Ruliba Clays, SteelRwa, Safintra, Cimerwa, Brasserie des Mille Collines and the Rwanda Trading Company).

The ability to attract qualified management staff and technical experts. Firms owned by large groups have been able to attract experienced managers and technicians, often with many years of experience in their respective sectors. Given the scarcity of skills for very specific operational and technical tasks domestically, firms owned by larger groups have hired foreign experts for key management and technical positions (we will come back to these points in the section on resources).

Access to raw materials and packaging. Firms owned by large groups, in particular, groups within the region, have been able to benefit from intra-group synergies that have facilitated the supply of raw materials. An example of a company that has developed a significant domestic advantage because of this is Safintra. Safintra, which is owned by the Safal Group (registered in Mauritius, but originally from Tanzania), imports its raw materials from sister companies in Kenya and Tanzania. Safintra is able to supply its raw materials for the roofing sheets it produces within two days, compared with more than ten days for competitors, giving it a significant market advantage. Other companies that benefit from intra-group bulk sourcing include Roto Tanks, which imports its LLDP (linear low density polyethylene) from its sister company in Uganda, Kigali Cement, which imports its clinker and gypsum from the Athi River Mining Group in Kenya, and Kigali Steel and Aluminium Works, which sources its raw materials from Shumuk Aluminium Industries in Uganda. Firms that are part of more diversified groups, such as Bakhresa, for example, can also import other types of inputs from sister companies. Bakhresa has four different packaging companies, one of which supplies Bakhresa Grain Milling in Rwanda. Bakhresa Grain Milling has even managed to lower its transportation costs by using its own transport and logistics firms operating out of Tanzania.

Product quality. Anecdotal evidence suggests that firms owned by large groups also tend to invest more in product quality control and research and development, be it in the coffee, tea or construction sectors. In the tea sector, Sorwathé, for example – in which an American group has a majority stake – has a laboratory on site and was the first company in Rwanda's tea sector to diversify into green tea, organic tea, white tea and silver-tips tea. As a result of investments in quality control, both from a product and process perspective, Sorwathé has achieved ISO 9001:2008 and ISO

22000:2005 standards certification, as well as being Fairtrade, Rainforest Alliance, Ethical Tea Partnership and RBS (Rwanda Bureau of Standards) certified. Sorwathé's equivalent in the coffee sector is Rwacof, owned by the Swiss group Sucafina. Rwacof has a modern laboratory on site to control a certain number of quality parameters, a lab that is supported by an experienced team of cuppers. Rwacof has already achieved the Starbuck's Coffee and Farmer Equity (CAFE) certification and the 4C certification, and, at the time of writing, was expected to receive the Fair Trade certification by mid 2012. In the construction sector, SteelRwa is a good example. The company has a chemical lab and a physical lab on site, including a fully automatic 60 ton machine which analyses yield strength, tensile strength and elongation for its rebars.

Surviving uncertainty and volatility in demand, particularly during the start-up phase. Given their financial advantage, firms owned by larger groups are also more likely to survive during times of difficulty and in particular during the start-up phase. A good example is again Bakhresa Grain Milling, which experienced more than a year of delays before operations could start due to a variety of external factors. Bakhresa Grain Milling was able to survive this phase and meet its financial obligations towards lenders because of support from its parent company; companies that do not have this financial buffer might not have survived. The same is true for Kabuye Sugar Works, which is owned by the Uganda-based Madhvani Group of Companies (a group with a turnover of more than US$100m) and survived two years of flooding that severely damaged the sugar cane crops and led to a large reduction in aggregate output.

This implies that in the current business environment of Rwanda's manufacturing and agribusiness sectors, smaller firms owned by individual investors find it difficult to compete. As long as long-term finance, skills, sourcing and transportation constraints remain binding, smaller firms in the manufacturing sector are likely to be outperformed by firms owned by larger groups. While investments aimed at resolving these constraints are firmly on the government of Rwanda's agenda, these are medium- to long-term investments that take time to materialize and even longer to bear fruit.

In the short term, these results suggest that ensuring high growth rates in the manufacturing and agribusiness sectors will require policies that facilitate the emergence and operations of large groups and make it attractive for large foreign groups to enter the Rwandan market. However, it is imperative to keep in mind that the successful attraction of large groups will require the regulatory authorities to remain vigilant with respect to potential anti-competitive behaviour to ensure that the smaller companies are still able to compete in such an environment.

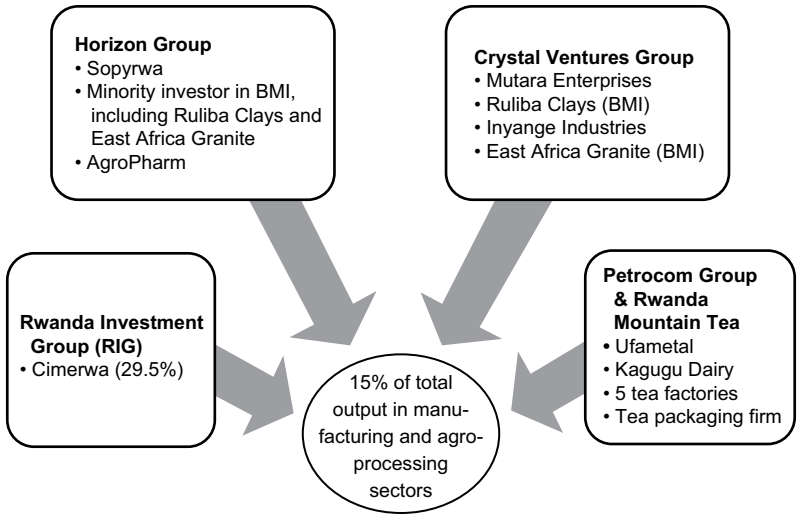

FIGURE 2.5 Manufacturing firms owned by domestic private investment groups in 2012.

(iv) Domestic investment groups

The main domestic groups in Rwanda's manufacturing and agribusiness sectors account for about 15% of aggregate production. They are summarized in Figure 2.5; the main foreign groups are listed in Table 2.3.

The domestic groups operating in these sectors are relatively young and highly diversified. Their interests in the manufacturing and agribusiness sectors are currently only second to other larger investment areas. This is in contrast to regional groups such as the Madhvani Group, Athi River Mining, the Bakhresa Group of Companies, the Safal Group, the Flame Tree Group, the Shumuk Group and Pembe Flour Mills, which have origins going back several decades and have developed expertise in specific industrial sectors.

The three main domestic investment groups are Crystal Ventures, Horizon and Rwanda Investment Group. The Crystal Ventures Group, the largest investment group in Rwanda, started in 2009, building on the assets of another local investment company that had started in 1995. Besides investments in four manufacturing firms, Crystal Ventures currently has investments in NPD Contraco (one of the largest construction companies in Rwanda), MTN (the largest mobile phone operator), Real Contractor (construction and real estate development), Intersec (security services), Graphic Print Solutions (printing and publishing), Media Systems Group Limited (media) and Bourbon Coffee (a coffee chain). The Horizon Group was started in 2007 by the Ministry of Defence and is currently owned

by Zigama CSS, a microfinance cooperative bank, and MMI, the Military Medical Insurance. Its main investment areas, besides Sopyrwa, include construction (Horizon Construction) and logistics (Horizon Logistics), but the company also has stakes in real estate development through Gaculiro Property Developers and fibre-optic infrastructure and maintenance through Green Horizon. The Rwanda Investment Group (RIG), another major domestic investor, was created in 2006. Its main investment area, besides Cimerwa, is in the energy sector through the Peat Energy Company (PEC) and the Rwanda Energy Company (REC).

The fact that domestic investment groups are young and have only recently entered the manufacturing sector suggests that they have yet to realize the full potential of intra-group synergies. As recent restructuring efforts reveal, these companies are still in the process of developing and putting in place effective management systems to leverage and centralize various functions – such as marketing, human resource management and management information systems – that can lead to economies of scale across the group. Moreover, given their limited experience in manufacturing, domestic groups are not yet in a position to draw on internal resources and technical expertise in the same way regional or international groups do. This explains why they have had to attract external expertise for their operations, in particular, foreign managers and technicians.

To leverage financing, share the burden of risk, deepen ties within certain value chains or attract foreign investment, groups in Rwanda's manufacturing and agribusiness sectors have also entered joint-ventures or joint-ownership agreements. These initiatives have taken a variety of forms and have involved many players, from cooperatives to domestic groups, foreign investors and institutional investors. Examples of some of these joint initiatives, which highlight the increasingly important role of institutional investors such as the Rwanda Social Security Fund, are listed in Table 2.4.

2.4 Main Findings: Products

Despite their small size, Rwanda's manufacturing and agribusiness sectors are relatively diverse from a products perspective. Diversity is the result of (i) path dependency and economic decisions that were taken decades ago; (ii) the structure and scattered nature of production in these sectors; and (iii) the fact that, to survive, smaller firms in particular have had to diversify their product range and production lines. While product diversity is relatively high (see Figure 2.6), the products Rwanda manufactures are not very complex in terms of the specific competencies, inputs, machinery and infrastructure they require. As can be seen in Table 2.5, these include products in the light manufacturing sector (basic construction

Table 2.4 Examples of joint ownership by groups in Rwanda's manufacturing and agribusiness sectors.

Investment	Year	Shareholders	Main objective
Bugarama, Gikondo, Rwamagana rice mills	2006 2008	ICM Agribusiness Rwanda (60%), Rice cooperatives (40%)	The purchase of three rice mills and the strengthening of integration in the rice value chain
Building Materials Investments	2009	Rwanda Social Security Fund, Crystal Ventures Group and the Horizon Group	Leverage funding and pooling risk for new ventures in the construction materials sector, based on locally available raw materials
Cimerwa	2011	Government of Rwanda (30.6%), Rwanda Social Security Fund (37.5%), Rwanda Development Bank (8.5%) and RIG (21.2%)	Secure US$135m loan from the African Development Bank to fund new cement plant
Tea Group Investment Company	2011	Rwanda Mountain Tea (50%), Jay Shree Tea & Industries (50%)	Leverage funding and expertise to purchase and manage tea factories in Rwanda

materials, furniture, textiles and other basic fast moving consumer goods) and low-value-added activities in the agribusiness sectors (mostly milling activities for staple crops and export crops, dairy and beverages). Currently there is no manufacturing of confectionery products (Sulfo Industries and Adma International have stopped their confectionery activities in Rwanda), frozen food products, processed and packaged meat, rubber products, glass, pharmaceutical products, chemical products (other than paints), electronics, machinery or transportation vehicles.

2.4.1 The Dynamics of Diversification in Rwanda's Manufacturing and Agribusiness Sectors

History. As described earlier, history has played an important role in shaping the output of Rwanda's manufacturing sector today. Coffee and pyrethrum, for example, were introduced in the late 1930s by the colonial administration; tea in the 1950s by European and Asian investors; beer at the time of independence following investments by the Belgian-owned Bralima; and sugar and rice in the 1960s, supported by loans and technical expertise from China. The import substitution strategy adopted by

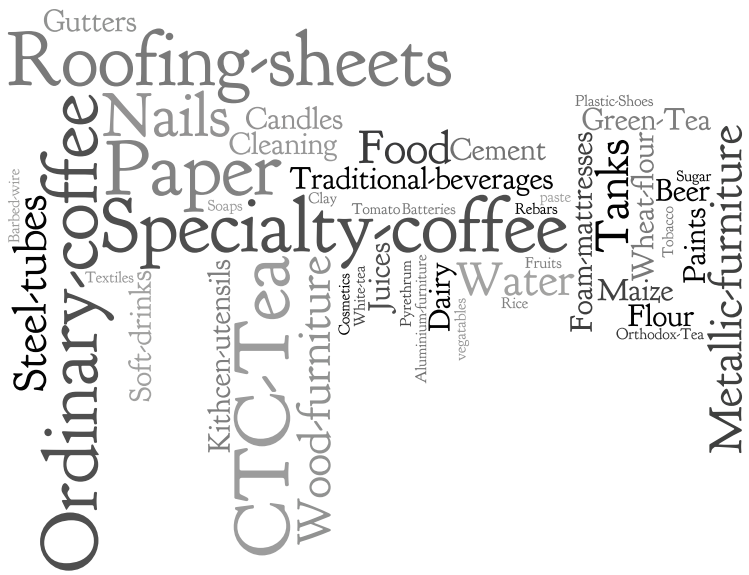

FIGURE 2.6 Word cloud representing the products of Rwanda's agribusiness and manufacturing sectors.

government in the 1970s and 1980s also played an important role. While public enterprises in the manufacturing and agribusiness sectors might have lacked efficiency, they did mark the very beginning of Rwanda's milling, export crop and construction sectors. The majority of facilities that were set up at the time are still in use today. Lastly, the success of East Africa's Asian community in the manufacturing sector, crises in neighbouring countries and the end of the 1994 genocide led to the transfer of knowledge and new inbound investments into Rwanda from the region.

Structure of the manufacturing and agribusiness sectors. Diversification is also a function of the current structure of the manufacturing and agribusiness sectors, in which production is scattered across products, with little or only nascent competition within certain product categories. New entrants have focused on products with no incumbents, thereby becoming "pioneers" in their specific sector. Sugar, textiles, shoes (at an industrial scale), soaps, cosmetics, batteries, tobacco, pyrethrum, granite and reinforced steel for the construction sector (rebars) are examples of product categories where there is, at the time of writing, only one domestic producer. In several other subsectors, increased competition is very recent, for example, Brasserie des Mille Collines, Bralirwa's only competitor in the beer market, started in 2009; Bakhresa Grain Milling, which is Pembe Flour Mills's only real domestic competitor in the wheat flour market,

Table 2.5 The products of Rwanda's manufacturing and agribusiness sectors.

Sector	Products
Coffee	Specialty arabica coffee, ordinary arabica coffee
Tea	CTC black tea, green tea, white tea, silver-tip tea, organic tea, orthodox tea
Staple crops	Flour (wheat, maize, cassava, sorghum), sugar, rice, by-products of the milling industry (wheat pollard, maize bran, maize grits, sugar molasses), maize-based porridges
Dairy products	Milk, yogurt, cream and cheese
Other food processing	Chilli-pepper sauce, tomato paste, dried fruits and vegetables, packaged nuts, biscuits, packaged bakery products (bread, doughnuts, etc.)
Specialty plants	Refined pyrethrum extracts, pyrethrum-based crude oleo-resin, pyrethrum marc, processed tobacco/cigarettes, essential oils
Beverages	Beer, traditional alcoholic beverages (e.g. banana wine), soft-drinks, fruit juices, drinking water
Construction materials	Cement, galvanized and corrugated roofing sheets, metal tubes, PVC tubes, metallic frames, gutters, nails, wire, clay bricks and tiles, granite, rebars for the construction sector, paints
Plastic products	Tanks, mobile toilets, septic tanks, drums, chairs, shoes
Fast moving consumer goods	Batteries, hand-wash, soaps, cosmetic products, cleaning detergents, napkins, toilet paper, sanitary pads, candles, kitchen utensils, tin containers, corrugated cartons
Furniture and mattresses	Wood furniture, metallic furniture, aluminium furniture, foam mattresses, blackboards
Textiles	Finished garments, finished fabrics

started activities in 2011; the Kigali Cement Company, which is Cimerwa's only domestic competitor in the cement market, started in 2007; Trust Industries, the only domestic competitor to Sulfo Industries in the detergents market, started in 2008. While this is an important development for Rwanda's manufacturing and agribusiness sectors, incumbents in these markets continue to hold a significant market advantage; Bralirwa's share of the beer market is estimated to be about 90%, compared with 95% for Cimerwa in the cement market (excluding imports) and an estimated 75% for Pembe Flour Mills in the wheat flour market. This lack of competition in several product markets suggests that one of the main drivers of diversification in Rwanda's manufacturing and agribusiness sectors has been new product discovery towards new production areas where there were no incumbents.

In the few markets where domestic competition is greater – namely, in the steel-based construction materials, paints, paper products, furniture and water-tanks markets – diversification has happened organically or by default to ensure survival. A good example of organic diversification is the case of Ameki, which operates across the paints, furniture and water-tanks sectors. Ameki started as a producer of wooden furniture products in 1982. To offer a more complete range of products to clients, the company decided to explore the possibility of also selling varnishes and wood glue. Given that varnishes and paints are intricately related – both in the production methods and the inputs they require – Ameki also started producing paints, leading to the establishment of Ameki Color in 1984. Furthermore, given that the raw material used to manufacture paints (polyester resin) can also be used to make fibreglass products, the company eventually acquired the expertise and machinery to manufacture fibreglass tanks and sheets and subsequently established Ameki Tanks in 1995.

This organic diversification is only possible in products that are closely linked in terms of the technology, expertise and the inputs they require. Firms in the coffee, tea, and staple crop sectors, which require very specific expertise and machinery that are not easily transferable to other products, tend to be less diverse. The raw material for tea production, for example, is tea, and the machinery used to process tea only suits tea production; the same goes for coffee, rice, sugar, wheat flour and maize flour. Firms in Rwanda's tea, coffee, sugar, wheat, maize and rice sectors only make one product.

Diversification as a means of survival. For many firms, especially smaller firms in competitive markets, diversification has also been a means of survival. This survival happens in two ways: (i) by upgrading products and keeping up with competition; and (ii) by diversifying risk. A good example that illustrates both of these dynamics at play is Uprotur. Uprotur started producing simple galvanized roofing sheets in 1996. Following the entry of Ufametal into the market in 2001, Uprotur decided to introduce Pre-Painted Galvanized Iron (PPGI) sheets in 2003. Furthermore, Uprotur enhanced its simple galvanized sheets by introducing a new production line to manufacture corrugated sheets to combat competition from an incumbent, Tolirwa, and the new entrant, Ufametal. Through this competitive diversification process, Uprotur's initial product – simple galvanized sheets – had acquired two more attributes: colour and corrugation. This enabled Uprotur to offer a more complete range of products and to compete with its competitors on the thickness of the roofing sheets, their shape and colour.

As the example of the roofing sheets sector and Uprotur suggests, risk mitigation is also a key driver of diversification. The roofing sheets market suffers from two major problems: the seasonality of demand (roofs tend to

be installed in the dry season only) and difficult access to raw materials, in particular, cold-rolled coils, which take months to import and are extremely costly to transport. Due to low demand and/or delays in sourcing the raw material, the machinery is often at a standstill, which results in low capacity utilization and burdensome fixed costs. To overcome this problem, Uprotur decided to further invest in diversifying its product base: the company introduced PVC tubes in 2001, purchased a foam factory in 2006, started producing nails in 2007 and installed a production line for metallic wiring in 2008. This has enabled Uprotur to avoid standing idle even when demand for a certain product was low.

Many firms in Rwanda's manufacturing sector follow a similar approach. In the construction sector, firms such as Tolirwa, Ufametal and Simaco are also highly diversified in similar product areas (nails, barbed wire, gutters, etc.). The owners of Ufametal, Simaco and Amagerwa (all construction materials firms) even own foam mattress companies, just like Uprotur. Small firms in the food-processing and beverages sectors, such as Urwibutso, Agro-Processing Industries and Shekina Enterprises, are also highly diversified: Urwibutso makes everything from juices, wines, water, chilli pepper, peanuts, to flour and bricks; Agro-Processing Industries deals with dairy, crops (maize, soya, cassava, pineapples, mangoes), coffee and sericulture; Shekina Enterprises, despite its small size, makes dried fruits and vegetables, cassava flour and traditional drinks. Trust Industries, which competes with Sulfo Industries on detergents, started producing paper products (toilet paper) just a couple of years after beginning operations. Another recent entrant into the paper products industry is Afrifoam, a foam mattress manufacturer owned by Simaco, the construction materials firm mentioned above. Anik Industries, another relatively small-scale manufacturing firm with a turnover of US$1–2m, also competes in the paper market. It also produces napkins, candles and nails.

Firms owned by larger groups do not need to diversify as much as smaller Rwandan firms to mitigate risk (as they are supported by large and often very diversified groups). Instead they have more leeway to invest in increased specialization and sophistication. In the construction sector, for example, the only firms that are not highly diversified are owned by larger groups and include Safintra, SteelRwa, Cimerwa, the Kigali Cement Company and most recently East Africa Granite. Safintra, which is owned by the Safal Group of companies, is able to offer a better service and higher-quality roofing sheets as a result of this specialization; its order-to-delivery time is significantly lower than competitors as it sources its raw materials from sister companies in the region, and its roofing sheets product range includes Dumusaz, roofing sheets with a mixed coating of aluminium and zinc alloy that are much more durable than the normal galvanized sheets in the market. While most firms owned by larger groups in Rwanda are highly specialized, low diversification in these firms is also

the consequence of the sectors they tend to operate in, namely tea, coffee and staple crops, which as discussed above are not very diverse.

2.4.2 The Dynamics of Increased Value Addition and Sophistication in Rwanda's Manufacturing and Agribusiness Sectors

Although the current level of product sophistication in Rwanda is comparatively low, firms have been actively investing in gradual – and sometimes radical – improvements in the quality and complexity of their manufactured products. Increased value addition in Rwanda's manufacturing and agribusiness sectors has taken several forms.

Packaging. In some cases, the innovation that led to increased value addition has simply been packaging. A good example is the case of Sorwatom, producer of one of the most straightforward products on the market, tomato paste, for which the only ingredients are tomato, water and salt. Sorwatom used to package its tomato paste in tins, but shifted to small 70 g aluminium packets, which are more practical for consumers (smaller quantities, easier to conserve), upgrade the feel and aesthetic of the product and are cheaper to produce. All this entailed was the purchase of new packaging equipment, a pasteurizing machine and a cooling and drying unit. Another example is Inyange Industries, which recently purchased state-of-the art packaging equipment from Tetra Pak and Krones, enabling it to conduct all packaging in-house, provide better protection and much more flexibility with the shape and size of its packaging, which can be better tailored to the needs of customers.

Design. Improved design has also been the source of value addition. A good example is Ruliba Clays. Clay products for the construction sector, blocks, bricks, roofing tiles, etc., are not yet very well embedded in Rwanda due to low customer awareness about the costs and benefits of clay construction materials. Ruliba Clays is investing significant resources to change this, focusing in particular on increasing the variety of shapes, sizes and designs available to customers, as well as increasing the practical value of these products, which can be used for decoration, ventilation and partitioning. Ruliba Clays offers multiple designs for each of its main products, including blocks, bricks, roofing tiles, pavers, maxpans/hourdis and floor tiles.

Materials. The use of better or different materials has also been a driver of innovation in some sectors. A good example to illustrate this point is Manumetal, Rwanda's oldest furniture manufacturer, which started in 1967. While Manumetal had a dominant position in the metal furniture market until the early 1990s, its position gradually started to erode with the entry of new players and high competition from imports. Manumetal then moved into the production of wood furniture, but again faced steep

competition from established companies and cheap imports. In 2000, following a change of ownership, it purchased an aluminium unit, which enabled it to diversify into aluminium furniture but also aluminium frames for windows, doors, partitions and, most recently, blackboards. As a result, the move to aluminium has positioned Manumetal as a strong player in Rwanda's growing office furniture market.

Quality control and certifications. Improved quality control, often motivated by tighter oversight by the Rwanda Bureau of Standards (established in 2002) and the quest to qualify for certain quality certifications (e.g. ISO), is having a very significant impact on Rwanda's manufacturing and agribusiness sectors today. An increasing number of companies are receiving ISO certifications, either for Quality Management or Food & Safety Management Systems. Examples of ISO-qualified companies include Bralirwa, Inyange Industries, Sulfo, Sorwathé and Utexrwa. In the coffee and tea sectors, in particular, companies are quickly moving towards receiving quality, sustainability or organic production certifications. The companies with more certifications are Sorwathé in the tea sector (ISO, Fairtrade, Rainforest Alliance, Ethical Tea Partnership and Rwanda Bureau of Standards certified) and Rwacof (CAFE, 4C, Fairtrade – forthcoming at the time of writing). As discussed in the section on firms owned by large groups, the latter have also been investing in labs to test the quality of their products.

Technological leaps. Improvements in value addition have also come from technological leaps, which often come at the start-up stage or when companies are taken over, leading to new capital investments. An example of a company that has undertaken such a leap is SteelRwa, which arguably produces the most complex product in Rwanda today. SteelRwa's reinforced bars for the construction sector (or rebars) are produced using a thermomechanically treated (TMT) process. It is an intensive process that requires careful monitoring as it involves extremely high temperatures followed by intense water pressure, and results in a steel bar that has a strong external layer and a ductile core. This gives TMT bars a certain number of advantages, including better corrosion resistance, better ductility and bendability, good wieldability and as a result increased safety.

Branding. A factor not related to production that has had an impact on increased value addition is branding. A good illustration is Urwibutso, a food-processing company. Urwibutso has developed famous brands that convey sentiments and symbols that are widely recognized throughout the country. Examples include urwibutso, which means "a memory"; agashya, which means "innovation"; akarusho, for all its alcoholic products, which means "better than the rest"; and finally, akabanga, for the famous chilli-pepper sauce, which means "small secret".

2.5 Main Findings: Systems

In the absence of detailed financial information and production data, a useful aggregate indicator of firm-level performance is the level of capacity utilization. Based on the interviews conducted as part of this study, low capacity utilization seems to be a systemic issue within Rwanda's manufacturing and agribusiness sectors, with about half of the firms interviewed operating at below 50% of their installed capacity. While excess capacity is a common feature for manufacturing firms even in the most developed nations – for example, in the United States current capacity utilization is about 79% (Federal Reserve, July 2012), in Canada 81% (Statistics Canada, 1st quarter 2012) and 80% in the Eurozone (European Commission, June 2012) – the significantly lower levels of capacity utilization in Rwanda's manufacturing and agribusiness sectors signal that industrial production is likely to be hampered by many underlying and potentially binding constraints. Constraints that can lead to low capacity utilization include issues related to the sourcing of raw materials, losses due to faulty machinery or the unreliable provision of electricity or water, high factor costs, demand-related issues (low demand, seasonal demand or the volatility of demand), management shortcomings, skills shortages and low access to finance (for skills and finance, please see section on resources below).

In this section we argue that the most binding constraint for firms in Rwanda's manufacturing and agribusiness sectors today is access to raw materials both domestically and from abroad. Our reasoning is that (i) many firms face real supply issues that have had a significant impact on capacity utilization; (ii) firms are increasingly investing in upstream activities, which is reflective of the fact that they are actively trying to alleviate their supply constraints; and lastly (iii) there is sufficient reason to believe that other constraints are comparatively less binding, although it is not possible to formally exclude or favour one constraint over another based on existing available data on the manufacturing and agribusiness sectors.

2.5.1 Many Firms Face Real Supply Constraints Leading to Low Capacity Utilization

Based on available data, the supply of raw materials is a challenge for manufacturing and agribusiness firms across the board, but in particular in the staple crops, specialty plants, food-processing, dairy and construction materials subsectors. The type of supply constraints firms face are subsector – and firm – specific, but can be grouped into the following categories.

Supply shortages in the domestic market. Low supply has been a major constraint for firms such as Kabuye Sugar Works (sugar), Minimex

(maize), Inyange Industries (dairy), Sopyrwa (pyrethrum), Sorwatom (tomato paste), the Premier Tobacco Company (cigarettes), SteelRwa (rebars) as well as processors in the rice, tea and coffee sectors. Supply shortages arise due to a variety of factors: in the coffee sector, for example, the problem is excess demand combined with natural cyclical fluctuations; in the sugar sector, limited land availability combined with high vulnerability to flooding; in the tea sector, low productivity in areas surrounding industrial blocks; in the scrap-metal sector, which is the key input for reinforced steel bars for the construction sector (rebars), the problem is excess demand in East Africa. To overcome domestic shortages some firms have permanently or temporarily switched to imports. Sorwatom, for example, which until recently could only rely on sufficient fresh tomatoes during one out of three annual harvests, temporarily switched to importing semi-processed tomato paste from China as a stop-gap solution. In other sectors, where the raw material cannot be transported over long distances, such as the sugar, rice, pyrethrum, tea and dairy sectors, supply shortages directly translate into reduced capacity utilization.

The low and irregular quality of domestic supply. The quality of domestic supply is particularly problematic for crops such as wheat, maize, tomatoes, coffee and tea. These crops are very vulnerable to variations in climatic conditions, pests, diseases, the lack of fertilizer, and pre- and post-harvest handling. Examples of how the low quality of raw materials has affected firms include the cases of Pembe Flour Mills and Bakhresa Grain Milling, which cannot use domestic (or regional) wheat for their flour milling operations as it lacks sufficient quantities of protein and wet gluten; Sorwatom, which loses a large share of its tomato supply because the fresh tomatoes have been damaged by bad post-harvest handling and transport; or Minimex, which has had to import maize from Uganda to supply quality maize grits to Bralirwa, for which it is the sole domestic supplier.

Inadequate domestic supply. Related to the issue of quality, one could argue that the lack of certain "export-grade" varieties of crops, fruits and vegetables has prevented some industries with high potential from developing altogether. One good example is the avocado-packaging sector. While Rwanda is a relatively large producer of very high quality avocadoes for which it has the perfect agro-climatic conditions, the avocadoes Rwanda produces do not suit the preferences of European and American consumers, who prefer the Hass and Fuerte varieties. The seedlings for these "export grade" varieties are more costly and not readily available on the domestic market, leading to little uptake from smallholder farmers (Monitor Group 2012).

The structure of domestic supply markets (or lack thereof). The structure of domestic supply markets has led to supply shortages or irregular supply

in several sectors, including, for example, the milk and clay products sectors. In the dairy sector, the vast majority of milk produced by farmers makes its way to the final consumer (without being pasteurized) through informal vendors rather than through the more structured process involving equipped milk collection centres (MCCs), which test and cool the milk, and milk processors such as Inyange Industries, Masaka Farms and Nyanza Dairy. One of the main constraints preventing the development of a more structured process is the lack of MCCs, shortcomings in the management of MCCs and competition from the informal sector, which is well established and offers a cheaper, albeit raw, product to the customer. For Rwanda's largest milk processor, Inyange Industries, this has meant systemic low capacity utilization over the years, even though the company is now actively investing in alleviating its supply constraint. Another sector that has been constrained by the structure of domestic supply markets is the clay products sector (bricks, tiles, etc.). According to Ruliba Clays, the largest manufacturer of clay products for the manufacturing sector in the country, the geographical disparity of raw material sources (namely, kaolin and clay) and the absence of structured supply chains in the sector is leading to supply shortages which have the potential of disrupting future growth.

The high cost of imported raw materials. The high cost of imported raw materials can lead to low capacity utilization and low productivity through (i) delays in delivery; (ii) high transportation costs; and (iii) high upfront payments. Costs associated with importing raw materials disproportionately affect Rwanda's steel-based construction materials, which relies on the imports of heavy cold-rolled coils for the production of roofing sheets, tiles and gutters. It typically takes three to four months, if not more, to import the coils, often leading to lengthy delays in delivery and idle machine time. Rwanda's geographic isolation, the lack of a railway link between Kigali and the port cities of Mombasa or Dar es Salaam and limits on the maximum permissible truck-load are also contributing to high transportation costs that significantly reduce the sector's ability to compete with finished imported products from the region and overseas. Delays and high transportation costs also come with high upfront costs and payments to satisfy the import guarantees and demands of foreign trading partners (see, for example, Société Rwandaise de Chaussures).

2.5.2 Firms Are Actively Investing in Overcoming Their Supply Constraints

According to the growth diagnostics literature, one way of verifying whether a constraint is potentially binding or not is to look for evidence that firms are investing significant resources towards overcoming or

circumventing the constraint (Hausmann et al. 2008). We see this happening in Rwanda's manufacturing and agribusiness sectors in relation to the supply of raw materials. One of the most notable trends transpiring from our interviews is that firms are increasingly investing in upstream activities to alleviate their supply constraints.

Coffee. In the coffee sector, for example, coffee processors and exporters are actively broadening the scope of their activities, moving from their core activities of dry milling and marketing processed coffee to also managing wet mills (the majority of which are, at the time of writing, owned by farmer cooperatives) and providing extension services to farmers and cooperatives. By moving upstream, coffee processors are trying to solve two key problems: low capacity utilization in wet mills and shortcomings in pre- and post-harvest handling methods. Coffee Business Center (CBC), for example, one of the largest exporters in the country, fully owns two wet mills, with an equity stake in another four, and is planning to expand its network of wet mills to eight by the end of the year. Rwanda Trading Company (RTC), the third-largest exporter in the sector today, is also moving upstream by (i) entering into exclusive supply contracts with approximately forty wet mills in return for financial, technical and marketing assistance; and (ii) by purchasing a wet mill of its own. Firms, with the support of NGOs such as TechnoServe, are also exploring new business models targeted at creating the right incentives for farmers and cooperatives to produce high quality coffee. One example of this is Kivu Arabica Coffee Company, which is trying to promote a service delivery model to farmers and cooperatives that consists of providing a service to cooperatives in exchange for a fee. Typically, these services would include a line of working capital for farmers at the beginning of the coffee season, management support at the wet mill, dry milling, quality control and the marketing and exporting of the final product.

Maize. Another sector where firms are actively exploring ways to engage in upstream activities is the staple crops sector. A good example is Minimex, which has set up two innovative new ventures aimed at alleviating its supply constraint. The first, started in 2005, is called BraMin and is a JV between Bralirwa and Minimex. The objective of BraMin is to develop high quality maize production in experimental mechanized farms and extend the benefits to neighbouring areas through an out-grower scheme. 500 farmers are currently supported by BraMin on the use of high yield varieties, the lease of modern equipment, training and sales guarantees. Minimex's second subsidiary is called ProDev. ProDev runs a modern maize drying and storage facility and sells a service to farmers, which is to dry and store their grain at a certain cost, or to sell directly to Minimex. This service brings Minimex closer to maize farmers and cooperatives.

Lastly, Minimex is currently experimenting with what is called a "warrantage system" in the Nyagatare district. Under this system, farmers safely store their produce in a warehouse and wait for the right time to sell their produce on the market. Because the maize is stored, financial institutions are willing to give loans to farmers at attractive rates using the grains as collateral. Securing buyers is not a problem for the farmers, as demand outstrips supply and because Minimex and the World Food Programme (WFP) are cooperating with the farmers participating in this scheme.

Rice. ICM Rwanda Agribusiness has opted for joint factory ownership with producer cooperatives. The three rice mills owned by ICM Rwanda Agribusiness are JVs between ICM Rwanda and rice cooperatives, with ICM taking a 60% stake and the cooperatives a 40% stake. This setup creates strong incentives for cooperatives to ensure the mills are successful and gives them a stake in strategic decision-making.

Dairy. To alleviate supply constraints, Inyange Industries has signed a supply contract with the Nyagatare Farmers' Union for a minimum of 35,000 litres a day, while simultaneously purchasing the Savannah Dairy located in Nyagatare District (March 2012). By bringing facilities closer to production areas and by working in direct relationship with farmer unions, Inyange Industries is aiming to secure more reliable sourcing systems.

Pyrethrum. After being taken over by the Horizon Group in 2008, one of the main focus areas of Horizon Sopyrwa has been to re-establish firm–farmer relationships, notably by organizing pyrethrum farmers into cooperatives, eliminating middle men and by providing various support services to farmers (including training, improved clones and free seedlings). One of the main constraints the firm was facing beforehand was low capacity utilization due to raw material shortages, amplified by the fact that farmers had been moving away from pyrethrum to other crops.

Construction materials. An example of a firm that is actively seeking upstream solutions domestically is the Kigali Cement Company (KCC). KCC is currently trying to identify limestone deposits in Rwanda to manufacture clinker, which is one of the main ingredients in cement. This would enable the company to reduce its dependency on imported clinker and significantly reduce production costs.

Other ways in which firms have been adapting to sourcing constraints is by purchasing raw materials in bulk and storing them for future use (e.g. Sulfo Industries), diversifying and regularly rotating suppliers (e.g. Rwanda Foam), building lasting relationships with trusted suppliers (e.g. Uprotur) and in the case of firms owned by large regional groups, pooling raw material purchases with sister firms in the region (e.g. Roto Tanks).

Table 2.6 Cost of electricity in Rwanda and other comparators (2009).

Country	Cost of electricity
Rwanda	US$0.24 per kWh
Kenya, Uganda, Tanzania	US$0.1–0.12 per kWh
South Africa	US$0.04 per kWh

Source: MINICOM (2011).

2.5.3 Evidence Seems to Suggests That Other Constraints Are Less Binding

In addition to evidence that firms face very real supply issues and are actively investing to overcome them, there is sufficient evidence to suggest that other constraints are less binding.

Electricity supply and the cost of electricity

Rwanda faces a significant energy constraint, in terms of installed capacity, geographic coverage and unit costs, which in 2009 were twice those in neighbouring Kenya, Uganda and Tanzania (Table 2.6). Although firms in Rwanda benefit from a more reliable supply of electricity than firms in the region, it is not surprising that the high cost and limited availability of electricity have been a major issue for energy-intensive manufacturing and agribusiness firms, in particular, firms in the construction materials sector that are large consumers of electricity.

The high cost of electricity has impacted production and capacity utilization throughout the sector by raising the minimum production level at which running machines is justified and becomes profit making, i.e. economies of scale only start to kick in once a certain production level can be guaranteed based on available raw materials or demand. The cost of electricity therefore exacerbates underlying sourcing or demand constraints, with firms having to delay production until they can secure the required amount of raw materials or a minimum order size. In some cases, for example, Uprotur's PVC tubes production line, the cost of electricity makes production unviable altogether. By raising what we refer to as "minimum viable production levels", the cost of electricity has contributed to making Rwanda's business environment difficult for smaller manufacturing firms.

The limited supply of electricity – resulting from the fact that installed capacity in the country remains low – has also led to low capacity utilization and limits expansion opportunities for companies with high electricity consumption. Firms with multiple production lines, such as companies in Rwanda's steel-based construction materials sector, often need to rotate production lines as they do not have enough allocated electricity capacity to run all the machines at the same time. This leads to idle machine time.

The insufficient allocation of electricity for companies such as SteelRwa, which runs energy-intensive activities, also limits future expansion opportunities. SteelRwa, which is Rwanda's third-largest electricity consumer, has an allocated capacity of 3.5 MW, but would require approximately 4.5 MW to run at full capacity.

Rwanda's electricity constraint has been binding for the manufacturing and agribusiness sector in several ways:

- it has put clear boundaries on the geographic distribution of industry in the country, due to limited geographic coverage of electricity;
- it has made energy-intensive manufacturing or agribusiness activities difficult to implement in Rwanda, even though the example of SteelRwa, which entered the market in 2011, suggests that it is possible;
- it has contributed to making the business environment difficult for smaller firms that have not achieved sufficient scale to overcome fixed electricity costs; and
- it has exacerbated demand constraints by increasing the minimum required order size for viable production, as well as supply-related issues.

Nevertheless, in our firm-level interviews, the cost of electricity did not come across as the main constraint to growth in Rwanda's manufacturing and agribusiness sectors at this point in time. Potential explanations include that (i) as a result of the electricity constraint, firms in Rwanda's manufacturing and agribusiness sector are operating in sectors that are comparatively non-energy intensive; (ii) while costs in Rwanda's electricity sector are high, losses due to irregular supply and power outages are lower compared with neighbouring countries; (iii) even though higher electricity costs are passed on to the consumer and reduce the competitiveness of Rwanda's products on the domestic market, imports of finished products face high transportation costs and import duty fees that protect domestic producers and offset the cost of electricity.

Defective and outdated machinery

While there are examples of firms that had faulty machinery at the time of the interviews, leading to idle machine time or increased spoilage rates, ageing and defective machinery are not a binding constraint in Rwanda's manufacturing and agribusiness sectors today. The reason is that the vast majority of equipment and machinery is relatively modern, as large parts of the country's industrial sector were rebuilt from scratch following the 1994 genocide. Moreover, as described in the section on ownership, firms supported by large groups have benefited from significant capital investments over the past two years, aimed at increasing capacity and upgrading

machinery. Nevertheless, maintaining machinery is costly in Rwanda given the lack of qualified technicians domestically. When machines break down, foreign technicians have to be brought in and spare parts imported. This takes time and can lead to lower capacity utilization rates in the meantime.

Demand-related constraints

Based on the interviews conducted as part of this exercise as well as market size estimates derived from production and imports data, demand is not the most binding constraint for Rwanda's manufacturing and agribusiness sectors today. Rwanda is one of the fastest growing economies in the world, with a growing middle class and high imports of manufactured products that directly compete with locally manufactured products. Back-of-the-envelope calculations based on current production and import data suggest that Rwanda's manufacturing and agribusiness sectors currently underserve local demand by a significant margin (see Table 2.7). A testament to the latent demand in the domestic market is the quick rise of Pembe Flour Mills and Bakhresa Grain Milling, both wheat flour mills, which in the space of five years became the second and third-largest manufacturing firms in the country, with an aggregate output of more than US$50m in 2011.

While market size is not what is holding Rwanda's manufacturing sector back, demand-related constraints do impact performance in a number of ways:

- Low consumer awareness about the comparative benefits of certain products, such as clay products for the construction sector (see Ruliba Clays) or processed animal feed (for which Sopar is the only domestic manufacturer), are difficult to overcome and require significant investments in customer education and advertising.
- The seasonality of demand for some products (e.g. roofing sheets), means that machines stand idle for long periods of time, leading to low capacity utilization.
- The unpredictable nature of demand for firms which deal with large orders, such as the construction materials sector or in the water and sanitation sector (see Aqua-San and Roto Tanks), lead to peaks and dips in production, which make the management of sourcing raw materials and human resources difficult.
- Most firms do not have an established presence in smaller towns outside Kigali and have to rely on wholesalers for distribution. This implies that many firms are not aware of customer behaviour and preferences in these markets, thereby missing out on potential demand for their products.

Table 2.7 Estimated size of market demand in key sectors (estimates are based on size of domestic production, imports for domestic consumption, exports and re-exports).

Product	Estimated market size	Estimated domestic production	Domestic production (% market size)
Sugar	US$100m	US$10–15m	15
Cement	US$90m	US$20–25m	28
Bars and rods in non-alloy steel for the construction sector	US$50m	US$10m	25
Soaps and cleaning products	US$50m	US$15–20m	40
Rice	US$40m	US$10m	25
Cereal flour (e.g. maize, rye)	US$30m	US$5m	17
Furniture	US$25m	US$5–10m	40
Garments	US$25m	US$5m	25
Footwear	US$20m	US$2m	10

Weak management practices

The cost of weak management practices or the suboptimal organization of systems and processes is difficult to isolate and quantify. Nevertheless, recent corporate restructuring efforts in many manufacturing and agribusiness firms signal that suboptimal management practice may have borne significant costs for Rwanda's manufacturing and agribusiness sectors. Firms that underwent restructuring efforts between 2008 and today include: Sopyrwa (2008–9), Ruliba Clays (2009), Manumetal (2010), Utexrwa (2010), Mutara Enterprises (2011), Minimex (2011), Kigali Cement Company (2011), Inyange Industries (2011) and Cimerwa (2011). This wave of restructuring, combined with the recent entry of firms supported by large groups such as ICM Agribusiness Rwanda, Safintra, SteelRwa, Pembe Flour Mills, Bakhresa Grain Milling and Brasserie des Mille Collines, suggests that professionalization in these sectors is increasing rapidly. Increased professionalization has taken the form of:

- more experienced staff in management and technical positions, often hired from abroad (see section on resources);
- a rapid increase in the use of management information systems, which are becoming increasingly embedded in Rwanda's manufacturing and agribusiness sectors (see Table 2.8);
- better quality-control systems, with investments in lab facilities and certification;
- a greater focus on marketing, consumer research and design.

TABLE 2.8 Examples of firms that currently use management information systems (non-exhaustive).

Management information system / Accounting software	Examples of firms
SAP	Inyange Industries, Ruliba Clays, Safintra
Tally	Tolirwa, Aqua-San, Roto Ltd
Sage	Rwanda Mountain Tea, Pembe Flour Mills, Premier Tobacco Company
Navision	Bralirwa
Orian	Bakhresa Grain Milling
Intact	Rwanda Trading Company
Attache	ICM Rwanda Agribusiness
Other customized systems	Rwanda Foam, Sulfo Industries

Source: National Bank of Rwanda (BNR) Annual Reports.

2.6 Main Findings: Resources

In this section we focus on three key findings on resources: (i) the fact that aggregate employment is comparatively low in Rwanda's manufacturing sector; (ii) that skills shortages are a significant constraint for firms, but that firms are adapting to this problem by hiring foreign staff for management and technical positions; and (iii) that access to finance is potentially a binding constraint for smaller firms in Rwanda's manufacturing sector.

2.6.1 Human Resources: Aggregate Employment Levels

In terms of employment, we estimate that the 47 manufacturing and agribusiness firms with revenues greater than US$1m contributed about 7,150 full-time factory jobs to the economy in 2011, which corresponds to an average of about 160 per company.[7] While we do not have full data on casual employment, anecdotal evidence from 21 firms suggests that the ratio of casual to full-time employees varies a lot by firm, ranging from 0:1 to about 11:1 depending on the company, with a median of 0.92:1 and an average of 1.34:1. If this average ratio is accurate, total employment in Rwanda's largest manufacturing firms would amount to about 17,500 factory jobs (this does not take into account spillover effects on employment in agriculture). As a point of reference, this corresponds to just 0.34% of

[7]Note that we can only account for full-time factory jobs as we do not have reliable data on the number of casual labourers employed at the factory.

Table 2.9 Largest employers in Rwanda's manufacturing and agribusiness sectors.

Rank	Company	Year incorporated	Main product	Reported full-time employees (2011)
1	Sulfo	1962	FMCG: soaps, cosmetics, detergents, etc.	700
2	Utexrwa	1984	Textile	600
3	Kabuye Sugar Works	1969/1997*	Sugar	550
4	Bralirwa	1963	Beer and soft drinks	528
5	Sorwathé	1986	Black and green tea	520
6	Ameki	1982	Paints, furniture, tanks	380
7	Cimerwa	1984/2006*	Cement	262
8	SteelRwa	2011	Rebars	240
9	Ruliba Clays	1988/2002*	Clay tiles, bricks, etc.	210
10	Inyange Industries	1997	Dairy products and beverages	195

* Year of privatization.

Rwanda's labour force. These numbers suggest that Rwanda's manufacturing and agribusiness sectors have significantly higher labour productivity than the rest of the economy and that, conversely, the industries Rwanda currently operates in are not very labour intensive.

Out of Rwanda's 47 largest manufacturing firms in terms of turnover, there are no companies with more than 1,000 full-time employees, five companies with more than 500 employees, 18 companies with more than 100 employees, 37 with 50 or more, and 45 with 20 or more (see Table 2.9).

2.6.2 Human Resources: The Skills Gap

From a resource perspective, one of the main constraints firms in Rwanda's manufacturing and agribusiness firms face is a skills shortage for technical, operational and managerial functions. The scale of the problem is exemplified by the fact that approximately three-quarters of the firms interviewed as part of this exercise have brought in expatriates for senior technical or operational positions. Most of the firms that do not have foreign technical

staff, such as, for example, Uprotur, tend to call on foreign technicians when problems arise with the installed machinery. Approximately half of all firms surveyed have foreign general managers, managing directors or CEOs.

There is an increasing trend to hire East African nationals for management and technical positions, with Kenyan managers and accountants in high demand. This migration is taking place largely as a result of the EAC Common Market Protocol (signed by Rwanda in 2007) that facilitates the movement of labour within the five EAC countries by waiving work permit fees for EAC citizens. Another key factor for EAC labour migration is that firms with parent companies based in Kenya, Uganda or Tanzania tend to bring in their technical and management staff to help set up operations in Rwanda, bringing with them years of industry experience and a deep understanding of operating within the EAC context.

Interestingly, firms that do not have any foreign expatriates on the payroll are typically industry stalwarts and experts themselves. One example is Mr Rwagasana of Coffee Business Center, who worked in the coffee industry for 17 years before starting a coffee-processing company that has become the second-largest coffee processor in the country.

While human resources are a constraint in the sector, the immediate recourse has been to hire foreign experts to bridge the gap, albeit at an increased labour cost. This additional human capital cost puts smaller manufacturing firms at a disadvantage.

2.6.3 Financial Resources: Possibly Binding for Smaller Firms

Financial resources and access to finance are one of the main dividers in Rwanda's manufacturing and agribusiness sectors, with firms owned by large groups on the one side of the spectrum, and firms owned by individual investors and entrepreneurs on the other. Firms owned by large groups, which in some cases are US$100m-plus groups, not only have access to significant internal resources but also have easier access to credit from the banking sector and alternative sources of financing (e.g. multilateral institutions such as the International Finance Corporation). On the other hand, anecdotal evidence suggests that firms owned by individual businessmen in Rwanda's manufacturing and agribusiness sectors, which tend to be smaller on average, have difficulties securing long-term financing for capital investments and growth. This is partly a supply side problem, with the banking sector still reluctant to provide loans to SMEs in the manufacturing sector; but it is also a reflection of the fact that smaller firms in Rwanda's manufacturing sector are less profitable and face steeper management, human capital, electricity, demand and quality constraints.

A quick look at total domestic bank credits to the manufacturing sector reveals a striking trend: on average, the share of total credit from the

domestic banking sector flowing towards the manufacturing sector has been steadily decreasing since 1995, from an average of about 18–19% of total credits in 1995 to about 8% today (see Figure 2.7). This hints at several potential dynamics at play: better business opportunities in other sectors, which have succeeded in attracting a greater share of credits; lower growth in demand for credit in the manufacturing and agribusiness sectors compared with other sectors; and/or an increasing reliance on internal financing in firms in the manufacturing and agribusiness sectors. It also suggests that (i) overall, growth in the manufacturing sector has not been tied to credit growth; and (ii) if access to credit is a binding constraint for smaller firms in Rwanda's manufacturing sector, then this constraint is likely to have been amplified since 1995 rather than diminished. We do not have detailed financial data on the credit status of firms in the manufacturing sector, so cannot formally confirm or reject this hypothesis.

2.7 Main Findings: Exports

2.7.1 Manufactured Product Exports (Excluding Export Crops: Tea, Coffee and Pyrethrum)

Firms in Rwanda's manufacturing and agribusiness sectors are not export oriented, with only a small share of sales coming from exports: 9.1% in 2011 (when excluding export crops). This corresponds to total exports in these sectors of about US$32.2m, which equates to just 0.5% of GDP or 17.4% of Rwanda's total exports of merchandise products (i.e. non-service exports). Manufactured product exports are nascent in Rwanda, possibly due to (i) the historically low export orientation of the sector; (ii) the fact that there is a lot of unmet demand domestically, which means that for many firms exporting is not yet a priority; and (iii) the fact that many firms in Rwanda's manufacturing and agro-processing sectors might not yet be in a position to compete in regional and international export markets.

The main products exported by Rwanda's manufacturing and agribusiness sectors in 2011 were products of the wheat milling industry (estimated US$13.2m), beer and other beverages (estimated US$9.5m), steel-based construction materials and cement (estimated US$5.6m), FMCG such as cosmetics and soaps (estimated US$1.5m), plastic products (estimated US$0.7m), textiles and furniture (estimated at about US$0.2m each).

At the moment, only four firms in Rwanda's manufacturing and agribusiness sectors have an export orientation of more than 25%, and 10 firms have an export orientation of more than 10% (excluding export crops). The most export-oriented firm in these sectors is Société Rwandaise de Chaussures (SRC), which exports the vast majority of its plastic shoes to Burundi. One of the reasons a company like SRC is able to export about 70% of its

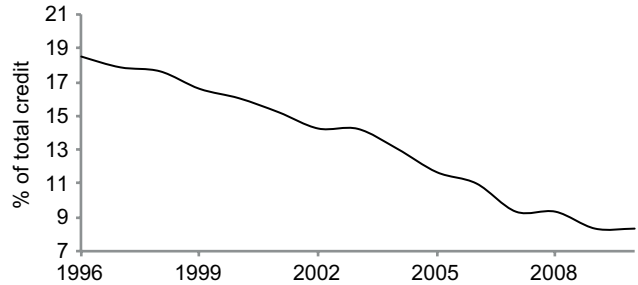

FIGURE 2.7 Credit to the manufacturing sector (% total credit, 3-year moving average). Source: National Bank of Rwanda (BNR) Annual Reports.

output to Burundi is because its founder – Mr Sano – spent 32 years working in the shoe sector in Burundi before moving to Rwanda. This experience enabled him to get to know the shoe market in Burundi inside-out and to establish relationships with distributors in the country. It is not a mere coincidence that out of all the firms in Rwanda's manufacturing sector, SRC is the one with the highest export orientation (see Figure 2.8). While the story of SRC is just a one-off example, it does underline one very important fact: that knowledge of the market in destination countries and relationships with established distributors matter.

Excluding export crops, there were only eight firms in the manufacturing and agribusiness sectors that exported more than US$1m in 2011 (see Table 2.10). The largest among these was Bakhresa Grain Milling, followed by Bralirwa, SteelRwa, Pembe Flour Mills and Brasserie des Mille Collines. We estimate that

- 88% of manufactured product exports were made by firms owned by large groups;
- 54% by firms owned by regional groups;
- 92% by firms with an annual turnover of more than US$5m; and
- 86% by firms that are specialized in their area of operation (i.e. operate within one or two product categories only).

These figures confirm the big divide between larger and smaller firms in Rwanda's manufacturing and agribusiness sectors, even though the examples of SRC or other exporters such as Rwanda Plastic Industries, suggest that smaller firms can also participate in the exports market.

One fact that illustrates just how important these large firms are for Rwanda's manufactured-product exports sector is that according to available data manufactured-product exports increased by more than 60% between 2010 and 2011 after the entry of two regional firms into Rwanda's exports sector, namely SteelRwa and Bakhresa Grain Milling. In the space

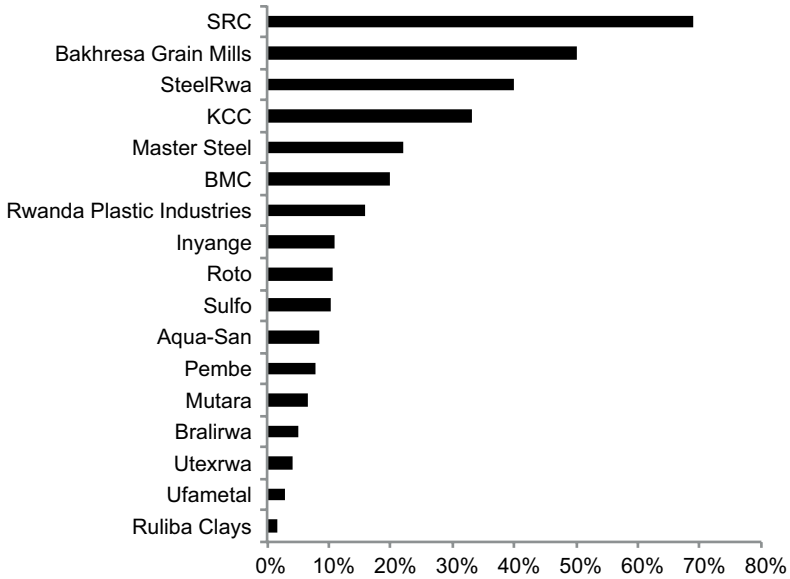

FIGURE 2.8 Export orientation of manufacturing firms (2011). Source: interviews.

of a year, Bakhresa Grain Milling has become Rwanda's largest exporter, while SteelRwa has become the third largest, contributing a combined US$14m to Rwanda's export package. Before SteelRwa and Bakhresa Grain Milling started operations, the average export orientation of the sector was just 4.5% (2010), compared with 9.1% today (Gathani and Stoelinga 2012). The examples of SteelRwa and Bakhresa Grain Milling also underline an important fact for policy makers to take into consideration, which is that large East African groups invest in Rwanda with an eye on exports to the region, as well as the domestic market.

One of the most defining features about Rwanda's manufacturing and agribusiness exports sector today (excluding export crops) is that an estimated 99% of exports go to the DRC and EAC regions according to 2010 data. On average, between 2008 and 2010, 53% of manufactured exports went to the DRC, 23% to Burundi, 8% to Kenya, 3% to Uganda, 1% to Tanzania and another 1% to other destinations (Gathani and Stoelinga 2012). With the entry of Bakhresa Grain Milling and SteelRwa, the balance is likely to have shifted even more in favour of the DRC. Back-of-the-envelope calculations suggest that in 2011 an estimated 75% of manufactured export went to the DRC (estimated US$22.2m), compared with 16% for Burundi (estimated US$4.9m) and a total of 9% for Kenya, Uganda and Tanzania combined (estimated US$2.5m).

These findings suggest (i) that at this point in time the eastern DRC and Burundi markets are the only markets where the products of Rwanda's manufacturing and agribusiness sectors can compete (excluding export crops); and (ii) that there is a significant opportunity to expand exports to these two markets, as highlighted by the doubling of aggregate exports to the DRC after the entry of Bakhresa and the fact that many of the firms interviewed expressed a keen interest in expanding exports to Burundi and the DRC (e.g. Mutara Enterprises, Cimerwa, Ufametal, Kigali Steel & Aluminium Works, Manumetal, among others).

2.7.2 Exports in the Tea, Coffee and Pyrethrum Subsectors

Exports in the tea, coffee and pyrethrum subsectors, which account for about 50% of Rwanda's total exports of merchandise products, are very different in nature to other manufactured products, which account for only 17.4% of total merchandise exports. While 99% of manufactured product exports are exported to neighbouring countries, 99% of tea, coffee and pyrethrum exports are destined for the European and American markets (Gathani and Stoelinga 2012). Global markets for tea, coffee and pyrethrum are much more structured than regional markets for manufactured products:

- they are driven by large international buyers, whereas regional exports for manufactured products tend to be driven by more personal relationships with distributors that operate across borders;
- searching costs are lower given that trading happens in organized commodity exchanges, such as the Mombasa Tea Auction;
- they are much more sensitive to variations in quality, whereas markets for other manufacturing products are more price sensitive;
- they are more specialized, while markets for other manufactured products are much more diverse.

Given the more international orientation of the tea and coffee sectors in particular, it is not surprising that foreign buyers are much more involved in local production, marketing and exporting. In the same way that local coffee and tea processors have moved upstream to solve their own raw material sourcing problems, international buyers have moved upstream by investing in the local production and marketing of coffee and tea. Rwacof, for example, is owned by the Swiss Group Sucafina; the Rwanda Trading Company is owned by Westrock EA Holdings (US owned); Sorwathé by Tea Importers Inc. (US owned); Pfunda by Imporient (UK owned); Gisovu by McLeod Russel (from India); the Tea Group Investment Company is 50% owned by Jay Shree Tea and Industries (India). Larger investments by foreign actors means these sectors are much better placed to compete

Table 2.10 Largest exporters in the manufacturing and agro-processing sectors excluding export crops (2011–12).

Rank	Firms	Products	Destinations	Est. exports (US$m)	Cum. share of exports (%)
1	Bakhresa Grain Milling	Wheat flour	DRC	10–12	34.0
2	Bralirwa	Beer	DRC, Burundi, Uganda	6–7	54.4
3	SteelRwa	Rebars	Burundi, Kenya, Uganda, South Sudan and DRC	3–4	64.4
4	Pembe Flour Mills	Wheat bran	Kenya	2–3	71.5
5	Brasserie des Mille Collines	Beer	Burundi	1.5–2.5	77.7
6	Sulfo Industries	Cosmetics, soaps	DRC, Uganda, Burundi	1–2	82.3
7	Master Steel	Con-struction materials	Burundi, DRC	1–2	87.0
8	Société Rwandaise de Chaussures	Plastic shoes	Burundi	1–2	91.0
9	Inyange Industries	Juices and water	Burundi, DRC, Uganda, Tanzania, South Sudan, Congo-Brazzaville	0.5–1	93.6
10	Rwanda Plastics	Plastic products	DRC	0.3–0.5	94.6

Source: interviews.

in global markets, even though – as we see in the sector and firm profiles – the constraints coffee and tea factories face are very similar to the constraints firms in other agribusinesses have to deal with.

2.8 Summary of Main Findings

The objective of this study is more descriptive than it is prescriptive: it is to provide policy makers and investors with a detailed understanding of

the structure and capabilities of Rwanda's manufacturing and agribusiness sectors to support the development of more targeted industrial policies and investments. While many findings and insights in the preceding sections concern ownership, products, systems, resources and exports, we choose to highlight three general trends in particular that stand out and that could prove useful in framing and targeting future industrial policies. These include (i) the issue of firm size and ownership, and how they impact firm performance; (ii) access to raw materials; and (iii) export potential in the Burundi and DRC markets.

Firm size and ownership. What transpires from this entire section is that firm size matters a lot. Smaller firms in Rwanda's manufacturing and agribusiness sectors (which we classify as firms with income levels of US$1–5m) face a set of very different constraints to larger firms: they have lower access to long-term finance, are less specialized, face bigger skills constraints and they do not benefit from economies of scale, which amplifies problems related to high electricity costs, high transportation costs, irregular demand and low access to raw materials. These resource- and cost-related constraints have translated into lower profitability and lower firm survival rates, which is one explanation as to why there appear to be as many US$1–5m firms as there are firms with annual turnovers above US$5m, which is surprising given the small size of Rwanda's manufacturing and agribusiness sectors. The main difference between the two groups of firms is ownership, with the vast majority of larger firms owned by large groups (both domestic and international). Support from large groups has significantly alleviated the finance and human capital constraint for these firms (in terms of management and technical capacity) and has helped them specialize, improve quality-control systems and find alternative solutions to supply side issues. While these firms still face many systemic constraints to growth, in particular, low access to raw materials, they are in a much better position to compete than smaller firms.

This has important implications for policy makers. Finding solutions to the type of problems smaller firms face – namely, resource constraints and high factor costs – requires long-term investments that often take years to bear fruit. To ensure high growth in the short term, while at the same time tackling these long-term problems, policy makers will have to focus on maintaining an enabling environment for these large firms to operate in and attracting new large groups into the country.

Access to raw materials. For both smaller and larger firms, access to raw materials is likely, on aggregate, to be the most binding constraint. Evidence of this problem in most sectors ranges from staple crops, specialty plants, food processing and dairy to construction materials. Low or difficult access to raw materials has had a direct impact on firm performance,

leading to low capacity utilization and increasing production costs. While certain firms have sought innovative methods to overcome these constraints, this supply chain constraint is more binding than other factors – such as energy, technology, access to finance, demand, skills gap or management shortcomings – and should be a key priority area for the government of Rwanda to focus its efforts on.

Exporting to Burundi and the DRC. On average, firms in Rwanda's agribusiness and manufacturing sectors are not export-oriented: only two firms in the country "produce to export" – Bakhresa Grain Milling and Société Rwandaise de Chaussures – which both export 50% of their output or more. However, manufactured-product exports have been increasing very rapidly over the past few years (by more than 40% in 2011 alone), largely due to two interrelated factors: (i) higher demand for Rwandan products in Burundi and DRC, which today receive about 75–90% of Rwanda's manufactured-product exports; and (ii) an increase in investments by large East African Groups in the country (e.g. Safintra, Bakhresa Grain Milling, Athi River Mining and SteelRwa), which invest in Rwanda with an eye on exports to the region and, in particular, Burundi and the DRC, which are more difficult to service out of Tanzania or Uganda. Facilitating trade between Burundi and the DRC and increasingly attracting large groups from the East African Community will be critical to the future growth of the Rwanda's manufacturing and agribusiness exports sector.

Chapter 3

COFFEE

3.1 Sector Profile

3.1.1 Background and Overview

Alongside tea, coffee is Rwanda's largest agricultural export and second only to minerals as the country's largest export, contributing US$68m in export earnings in 2011 (NAEB 2011). Rwanda is increasingly recognized as a premium origin among specialty coffee buyers, with growing sales to the international market, particularly, Europe and the United States. Coffee is grown in all provinces of Rwanda, but coffee farmers are primarily concentrated in the western and southern provinces (OCIR-Café 2009). The main coffee-harvesting season takes place between February and June.

The coffee sector in Rwanda today is considered a major success story given its bedevilled past. In the late 1980s, global coffee prices crashed and in 1994 war devastated the coffee sector infrastructure, wiping out what was left of the faltering industry. Nearly two decades later, the coffee sector has rebounded, with Rwandan coffee winning international competitions and attracting the likes of premium coffee houses such as Starbucks, Peet's Coffee & Tea and Intelligentsia. Several factors have been behind the rebirth of the Rwandan coffee industry, including privatization of the industry in the late 1990s, the lowering of trade barriers in the sector, the lifting of restrictions on coffee farmers, encouraging a shift towards fully washed coffee, international donor funding and technical assistance such as USAID's SPREAD programme (Sustaining Partnerships to Enhance Rural Enterprise and Agribusiness Development) and the Bill & Melinda Gates–funded TechnoServe Coffee Initiative.[1] Following the privatization process in the late 1990s, over 12 coffee processors and exporters exist today (owned by cooperatives, Rwandan entrepreneurs and foreign

[1] For a detailed analysis of the transformation of Rwanda's coffee sector, see Boudreaux (2010).

Table 3.1 Largest coffee exporters (2010).

Company	2010 weight (kg)	% of fully washed coffee	% of semi-washed coffee	% of total 2010 exports
Rwacof	4,746,660	13%	87%	24%
Coffee Business Center (CBC)	4,495,200	2%	98%	23%
Rwanda Trading Company (RTC)	2,934,360	16%	84%	15%
ENAS	1,536,000	29%	71%	8%
Coopac	1,019,400	26%	74%	5%
Kivu Arabica Coffee Company (KCC)	914,040	33%	67%	5%
KayCo	532,800	36%	64%	3%
Gatare	375,180	21%	79%	2%
Impexcor	300,000	0%	100%	2%
Bufcoffee	277,980	40%	60%	1%

Source: NAEB 2010 Statistics.

investors), and approximately 200 coffee washing stations dotted across the country.

Products

Arabica coffee comprises 98% of Rwanda's total production, while robusta beans represent the remaining 2% of coffee produced. Rwanda produces both semi-washed (ordinary) and fully washed (specialty) coffee. Semi-washed coffee is produced when farmers manually process cherries using hand pulpers, which can result in inconsistent or inferior quality coffee. Fully washed coffee is processed through centralized coffee wet mills or washing stations that have the potential to produce very high-quality coffee. Approximately 2% of total coffee produced is roasted and packaged for local consumption.

In 2010, Rwanda exported nearly 20,000 metric tonnes of green coffee beans, 78% of which was sold as semi-washed coffee (NAEB 2010). The share of specialty coffee has increased substantially in the last decade, rising from less than 1% in 2002 to 22% in 2010 and 29% in 2011. In 2010–11, Rwandan fully washed coffee sold at a premium of 30–35 cents per pound over the benchmark NY-C futures market, while ordinary Rwandan coffee sold at a 19–22 cent discount.[2] As such, the move towards specialty coffee

[2] TechnoServe analysis using NAEB export data for 2010 and 2011.

led to a 50% increase in the average price of Rwandan coffee between 2006 and 2010.

Furthermore, roasted coffee production has increased from 32 metric tonnes in 2006 to 330 metric tonnes in 2010, for a total market value of US$2m, reinforcing the trend towards higher value-added production. The top 10 coffee exporters are listed in Table 3.1. The majority of exporters own their own dry milling facilities and several own wet mills as well.

While the overall trend within Rwanda, encouraged by the National Agricultural Export Development Board (NAEB), is to move towards higher-value fully washed coffee, the shift towards fully washed coffee has faced some challenges. As a commodity product, semi-washed coffee has the advantage that it enjoys a more liquid market with frequent trading. While fully washed coffee has the potential for higher returns, it involves more sophisticated sales efforts and is subject to greater risks that hinge on effective quality control, capacity utilization and costly management. Consequently, some exporters have been reluctant to pursue fully washed coffees. At the farmer level, inefficiency or mismanagement at wet mills in the past has resulted in weak price incentives for selling cherries to wet mills, slowing down the shift towards fully washing.

Systems

The supply chain for coffee varies based on the type of coffee. For semi-washed (ordinary) coffee, exporters buy home-processed coffee parchment from farmers via local dealers and traders, and then dry mill and export green coffee. In the case of fully washed specialty coffee, exporters rely on a combination of two strategies: (i) they buy cherries from smallholder farmers, process them through the wet mill (if they own it), then dry mill and finally export green coffee; and/or (ii) they buy fully washed parchment from third-party wet mills, dry mill it and export green coffee. More recently, a Coffee Service Provider model has emerged in Rwanda with exporters providing dry milling, marketing, financing and/or price risk management services to cooperatives and privately owned wet mills.

Models that exist in the market include:

- Rwacof: the largest coffee processor, owned by a Swiss multinational, buys and processes cherry, and dry mills and exports green coffee. Rwacof also acts as a service provider for those cooperatives/farmers who do not have dry milling facilities.
- Coffee Business Center: a Rwandan-owned coffee processor that sells the majority of its production to one buyer and also offers dry milling services.
- Rwashoscco: a cooperative-led processing company that dry mills the parchment of its cooperative wet-mill members to export or roast for local consumption.

- Kivu Arabica Coffee Company: a service provider model that provides dry milling, marketing and financing services to cooperatives and privately owned wet mills for a fee, or buys the coffee from the farmers and exports it under its own brand name.

Rwanda has now developed sufficient capacity to wash almost two-thirds of all coffee cherry harvested. The number of coffee washing stations has grown from two in 2002 to nearly 200 in 2011. However, many of the coffee washing stations that have entered the market are in financial distress and there is an increasing trend for exporters to move upstream by purchasing washing stations to compensate for the inefficiencies at that level. Recently, several private investors and coffee exporters have taken over unprofitable washing stations with the intention of turning these businesses around (e.g. Kaizen Venture Partners, Dormans and Rwanda Trading Company).

Ongoing issues in the coffee sector include the volatility of production due to the natural cycle of the coffee trees, limited farmer access to fertilizers, the ensuing underutilization of washing station capacity and the lack of consistency in the quality of specialty coffee.

Resources

Rwanda's economy is increasingly diversified but the agriculture sector continues to be the primary source of livelihood for 90% of the population. It is estimated that less than 10–15% of the farmers farm coffee but the crop remains a significant source of export revenue and jobs. The coffee sector provides livelihoods to approximately 400,000 coffee farming households (based on the 2009 coffee census) and many more jobs at washing stations, dry mills and processing and export facilities.

Companies have also been investing significant resources towards hiring cupping specialists, investing in cupping labs and building the capacity of coffee farmers and cooperatives from pre-harvesting through to washing. Furthermore, several coffee exporters are applying for certification programmes such as Starbuck's Coffee and Farmer Equity (CAFE) certification, 4C certification and Fair Trade certification, highlighting the increased competition in the global market for coffee and the need to develop a stronger knowledge base through trained specialists and certification programmes.

Exports

98% of Rwanda's coffee production is exported to international markets. Switzerland is the largest buyer of Rwandan coffee. Coffee exports to Switzerland in 2010 totalled US$26.3m or 46% of aggregate coffee exports that same year (Gathani and Stoelinga 2012). Current buyers of Rwandan

coffee include large Swiss firms (Sucafina, Schluter, Bernhard Rothfos Intercafé), Belgian firms (Supremo, Rucquoy Freres, N.V. Coffeeteam S.A., WBP, Koffie F. Rombouts N.V.), German firms (Hambourg Coffee Company, Roland Gerken), British firms (Twin Trading Ltd, Falcon Commodities Ltd, Taylors of Harrogate) and American firms (Intelligentsia Coffee). The majority of these buyers are coffee importers that sell the coffee on to coffee roasters, often in other destinations. Rwandan specialty coffee is sold by roasters and/or retailers such as Starbucks, Rogers Family Co., Costco, Peet's Coffee & Tea, Sweet Marias and Sainsbury's in the United States and the United Kingdom.

3.2 Coffee Business Center (CBC)

The country's largest Rwandan-owned coffee-processing company.

Year established	2002
Latest annual turnover (2010–11)	US$13–14m
Number of employees (FTE)	26
Main business activity	Semi- and fully washed arabica coffee
Export markets	Belgium, USA, Japan and Australia

Company Origins

Coffee Business Center (CBC) was started in 2002 by its current managing director, Mr Jean Paul Rwagasana. Before CBC, Mr Rwagasana had worked in the coffee industry for 17 years, including 11 years initially in Burundi, followed by four years as the managing director at the Rwandan coffee exporter, SICAF, and a year with AgroCoffee. Initially, Mr Rwagasana rented a factory and fabricated his own machinery for dry milling but subsequently he bought machines from Brazil. In 2004, he moved the factory to Gikondo and fabricated his own dry mill. Today, CBC owns two washing stations and has shares in another four. At the time of writing, it is planning on having eight washing stations in total by 2012, and is negotiating to purchase two other existing stations.

In its first year, CBC exported 29 containers of 320 bags of coffee (556 tons). Peak production occurred in 2006 when it exported 6,300 tons. Current production is approximately 4,600 tons. CBC employs approximately 26 full-time staff, several casual workers and generated approximately US$12–13m in annual revenues in 2010.

Products

CBC produces both semi- and fully washed coffee. It uses a dry milling process for its semi-washed coffee, which entails sorting parchment coffee

by size, density and colour, and then removing the pulp to reach the final product, green coffee.

Semi-washed coffee makes up about 90% of CBC's production (~4,300 tons), while fully washed makes up only about 10% of production (~300 tons). Many washing stations and exporters, including CBC, struggle to obtain sufficient supply to run their operations at full capacity. The phasing out of subsidies for fertilizer, pesticides and technical assistance in recent years by NAEB has compounded significant challenges along the supply chain, especially for the washing stations. Competition among washing stations remains limited, however, as the official policy is that a washing station can only collect coffee within a 6 km radius.

CBC's installed capacity is about five tons per hour (for both fully or semi-washed) or 100 tons per day. Production usually peaks in June and July, and then diminishes to 30–40 tons by September and 20–30 tons by December.

CBC's main buyer in recent years has been the Belgian company Supremo, which until recently took 100% of CBC's semi-washed coffee (70% of overall exports). However, in 2012 CBC is going to sell 30% of its semi-washed production to another buyer to diversify clients, achieve a better price and lower its demand side risks. In addition, CBC sells fully washed at a premium to buyers in the USA, Japan and Australia. Mr Rwagasana knew Supremo from his prior work in other companies, and met the other buyers at the NAEB Cup of Excellence Conference.

CBC also engages in limited domestic sales of roasted coffee at select hotels and restaurants; it does not sell in the local supermarkets, as that market seems oversupplied relative to the demand. CBC has a small roasting plant that has been operational for one year and can produce 20 kg of roasted coffee per hour. It imports packaging for the finished product from the UK, and sells it under the brand "Pedro's Coffee".

Systems

CBC's organizational structure is as follows: the CEO, Mr Rwagasana, oversees departments of finance, quality control, production, and technical and maintenance. CBC installed Sage software in 2005 as its management information system (MIS).

For its operations, CBC has automated sorters (to remove impurities and bad coffee), automated huskers and four dryers – two fabricated by the company and two imported from Brazil. CBC also has coffee silos for storing processed coffee. Additionally, CBC provides dry milling services for other coffee processors that do not have their own facilities for a fee.

Each washing station supplying CBC has at least 2,000 farmers supplying it. CBC supports the washing stations by giving cash advances,

supplying fertilizer on credit and providing transport. CBC receives supply from its own washing stations as well as buying additional supply from other washing stations. In general Mr Rwagasana sees a lack of financial management skills at the washing station level and therefore believes that investing in more washing stations will help to reduce CBC's supply side risks. CBC uses two shipping companies to export, with 80% of production passing through Tanzania (Dar es Salaam) and 20% through Kenya (Mombasa).

CBC has three cupping specialists in the quality-control area, who each acquired training from NAEB. Its maintenance manager trained in Brazil on the machines and Mr Rwagasana has also travelled extensively for training and study tours.

Resources

CBC employs 26 permanent full-time Rwandan workers, as well as hiring casual labour during peak periods.

The company has one main plant in Gikondo, ownership of two washing stations, shares in an additional four washing stations, and is negotiating for another two washing stations. The washing stations are located in Gitarama (one), Cyangugu (one), Byumba (two) and Gikongoro (four).

CBC does not currently have any certifications but would like to acquire UTZ certification if it can obtain financing. Certifications can cost up to US$80,000 per washing station but are increasingly necessary especially when doing business with European buyers.

CBC's main advantages include Mr Rwagasana's extensive experience in the industry (over 27 years), including a strong understanding of the production side as well as long-standing relationships with buyers. His plans to integrate upstream by acquiring additional washing stations should help the company grow in future years as it increases output and secures more supply. In terms of challenges, CBC faces a lack of long-term financing and constraints along the supply chain that will lead to diminished supply.

3.3 Kivu Arabica Coffee Company (KCC)

Implemented a new service-provider model in the coffee sector.

Year established	2005
Latest annual turnover (2010–11)	US$3–4m
Number of employees (FTE)	17
Main business activity	Semi- and fully washed arabica coffee
Export markets	USA, Europe

Company Origins

The Kivu Arabica Coffee Company (KCC) Ltd was registered in 2005 by Jean-Bosco Seminega. Before starting KCC, Mr Seminega worked in the coffee sector for several years, in various roles at Chemonics (a US-based development consultancy) and the Rwandan Development Bank (BRD). Motivated by the idea of introducing a new model for coffee processing, Mr Seminega started KCC Ltd by bringing the drying mill closer to the washing stations owned by farmer cooperatives and individuals and putting in place a service-provider model. Through a joint investment together with a friend, Mr Anecto Kayitare, and a bank loan of about US$140,000, KCC built a drying mill near Cyangugu and started operations in 2005.

Today, KCC has 17 employees, annual revenues of US$3–4m, and works with 11 different coffee cooperatives and five privately owned coffee businesses.

Products

Initially, KCC was designed to only provide a service to coffee farmers by milling their semi- and fully washed coffee, providing working capital credit and support in marketing/exporting. Due to low volumes, however, KCC also started purchasing ordinary and specialty coffee from farmer cooperatives, milling it and exporting it under its own brand name.

Currently, KCC exports 65% of ordinary coffee and about 35% of specialty coffee. Its main clients comprise ordinary coffee buyers including Schluter, Sucafina and Louis Dreyfus Coffee Group. For the specialty coffee, KCC has built long-term relationships with clients such as Stumptown Roasters, Intelligentsia, Sweet Maria, Peet's Coffee and Peter Rogers Family. TechnoServe, an NGO that supports coffee cooperatives in Rwanda, was instrumental in creating some of these links (e.g. Peet's Coffee).

KCC processes in total around 2,000 tons per season with the service delivery share comprising between 35 and 40% of production. KCC is increasing the share of service delivery because some private coffee companies are interested in the model and they have approached KCC about partnering during coffee season operations.

Systems

The model KCC is trying to promote is one of service delivery to coffee farmer cooperatives, in cooperation with NGOs such as TechnoServe. KCC provides four types of services to farmers/cooperatives: (i) a line of working capital credit at the beginning of the coffee season and management support; (ii) dry milling; (iii) quality control, with the support of qualified cupping specialists; and (iv) marketing and exporting the coffee. In practice, this means that cooperatives and individuals bring their

semi-washed or fully washed coffee to KCC. KCC mills it, stores it in the NAEB warehouse, exports it on behalf of the farmers and retains a fee for the service provided (from milling through to exporting).

KCC has a strong working relationship with the coffee farmers. Before the beginning of the coffee season, KCC organizes meeting with leaders of farmer cooperatives where they plan together the partnership in the coming season. Training (technical and management) for the technical staff at the cooperatives is organized and pre-financed by KCC. For participating cooperatives, KCC facilitates access to fertilizer from NAEB. KCC technicians also supervise the cooperatives' wet mill operations before the start of the coffee season. A credit (working capital) and marketing contract is signed annually and if the operations are proceeding well, KCC provides first disbursement of the working capital. Technical assistance (through a monitoring process) is provided throughout the season. KCC also benefits from the institutional support provided by supporting NGOs such as TechnoServe that facilitates the partnership between farmers and coffee service providers.

The benefit of this model for farmers is that they retain a larger share of the gains from any improvements in the quality of the coffee. The spread between ordinary and specialty coffee in 2010, for example, was US$1/kg. A premium of +30 cents per pound was paid for good quality coffee, while the difference in the cost of producing semi-washed versus fully washed coffee was ±US$0.06/kg. This gives an incentive for farmer cooperatives to produce better quality coffee and retain a larger share of the value added. The downside to this model, however, is that the cooperatives also bear the risk if global coffee prices drop. Rwacof and RTC also have similar service delivery models in place.

The advantage for companies like KCC, Rwacof and RTC of providing both models – service delivery and direct purchases of coffee parchments from farmer cooperatives – is that farmers have the choice of one or the other model and can make their own decisions on how to manage risk. This is also true for coffee processors/exporters.

KCC's future plan is to continue developing professional partnerships with coffee farmer groups and individuals interested in the model on the production side, and with buyers on selling side. Within the next two years, KCC expects to shift its total export volumes of semi-washed and specialty coffee to 50–50% and eventually, would like to arrive at a export share of 60–70% of specialty and 30–40 % semi-washed.

Resources

KCC has 17 full-time employees, including one foreigner from the DRC. Most management tasks are carried out by Mr Seminega (including finance, administration and operations). Quality control is ensured by a certified cupping specialist.

KCC assets, estimated at about US$1m, include a dry mill in Cyangugu, with specialized machinery: hullers, grader, gravity separator colour sorters, pulping machine and dryers. Machines were purchased in Brazil, Uganda and Colombia.

3.4 Rwacof

The country's largest Rwandan coffee-processing company.

Year established	1996
Latest annual turnover (2010–11)	US$12–15m
Number of employees (FTE)	45
Main business activity	Semi- and fully washed arabica coffee
Export markets	USA, Europe

Company Origins

Rwacof, one of Rwanda's top two coffee processors and exporters, was started in 1996 by the Swiss-based Sucafina Group of Companies. During the first two years of operation, the land and warehouses were leased from OCIR-Café (the Rwanda Coffee Authority). In 1998, through the privatization process, Rwacof bought the property from OCIR-Café. Sucafina Group has established a network of coffee processors and exporters in a number of countries, with a very strong presence in East Africa. Sucafina owns Ugacof Ltd, which has been one of Uganda's largest coffee exporters since 1994, Tancof, which has been based in Tanzania since 1998, Bucafe, which has been in Burundi since 2008, as well as other coffee processors and exporters in Serbia, Vietnam and Brazil.

Today Rwacof exports about US$12–15m worth of coffee per year and provides employment to about 200 people in its wet and dry mills (including casual workers) and during the coffee-harvesting season it also provides work to about 500 women for handpicking and sorting.

Products

Rwacof processes and exports ordinary and specialty arabica coffee. The company has a processing capacity of 120 metric tonnes per day. Out of their total exports, 75% is the mainstream ordinary washed arabica coffee and the balance of 25% is fully washed or specialty arabica coffee. Rwacof holds a market share of about 25% of Rwanda's total coffee production. Rwacof started producing specialty coffee in 2005 – following the government of Rwanda's initiative to encourage coffee processors to focus on the specialty coffee market – by investing in washing stations which today have about 40 employees. The washing stations were set up in Karenge on Lake Mugesera in the Rwamagana district. With coffee sourced from

TechnoServe-trained cooperatives and three other privately owned coffee washing stations, Rwacof aims to increase the share of specialty coffee to 50% of its total exports over the next couple of years.

Rwacof's coffee is sold directly to Sucafina. 100% of the processed coffee is currently exported, with no roasting for the local market. As a rule of thumb, 75% of the ordinary coffee ends up in Europe and 75% of the specialty coffee in the United States. The main clients for the specialty coffee are Starbucks, Pete Rogers, Peet's Coffee and Sweet Maria's.

The plant is operating below capacity – due to a shortage of coffee driven by number of processors in the local coffee market – Rwacof has also put in place a service delivery model, working with cooperatives supported by TechnoServe. Similarly to Kivu Arabica Coffee Company, cooperatives and farmers can get their coffee dry milled and exported for a certain service fee and also receive working capital credit.

Systems

Rwacof's trading and marketing functions are handled by Sucafina. Sucafina pre-finances the coffee purchases and deals with the downstream marketing and trading of the coffee in Europe and the United States. Sucafina has a very strong network of coffee suppliers and buyers and maintains strong relationships with companies such as Starbucks that are major clients for their specialty coffee. Rwacof itself is responsible for all the processing, quality control and logistics.

With the support of Sucafina, Rwacof has also developed comparatively strong quality-control functions across the value chain. Rwacof has a modern laboratory to control certain quality parameters and has a very experienced and qualified team of cuppers. Rwacof has also achieved a certain number of quality and process certifications: (i) Starbuck's Coffee and Farmer Equity (CAFE) certification, which rewards producers of high quality sustainably grown coffee; (ii) 4C certification – common code for the coffee community association, which aims to increase sustainability in the mainstream coffee sector; and (iii) Rwacof is expected, at the time of writing, to have received the Fair Trade certification by mid 2012.

Resources

Rwacof's main resources are (i) financial management and marketing support from a multinational with more than 35 years of experience in the coffee business; (ii) certifications from Starbucks, 4Cs and in a few months also Fair Trade; and (iii) a modern plant on a 5 ha plot, including a 5,000 m^2 warehouse. The machinery imported from Brazil and Colombia (the standard in the business) is modern and expanding, with Rwacof investing in new colour sorters and washing stations to increase the supply of specialty coffee.

Rwacof employs 45 full-time staff at the plant in Kigali. During the coffee season, the company brings on board 30–40 casual workers at the plant, another 30–40 people at the washing station and employs up to 500 handpickers. Only three expats are employed at the firm, all in managerial positions: a managing director and financial manager from India and a plant manager from Uganda.

3.5 Rwanda Trading Company (RTC)

A new entrant in the coffee sector.

Year established	2009
Latest annual turnover (2010–11)	US$8–9m
Number of employees (FTE)	75
Main business activity	Semi- and fully washed arabica coffee
Export markets	USA, Europe

Company Origins

In 2004 Scott Ford, the former CEO of Alltel Corporation, met President Paul Kagame and decided to start a social venture in Rwanda to focus on the coffee sector. Five years later, following several visits to Rwanda, the Rwanda Trading Company (RTC) was born in 2009 as a social for-profit venture under a parent company, Westrock EA Holdings, based in Mauritius and 100% owned by US investors. In the same year, Ford purchased a central Arkansas coffee roaster to integrate downstream into the coffee value chain. Renamed Westrock Coffee (formerly Coffee Legends), this had a 56,000 square foot roasting facility in North Little Rock, Arkansas.

Although Ford lacked prior coffee experience, he was attracted to the idea due to (i) the low competition in the local coffee market (especially limited knowledge regarding international trading) and (ii) the opportunity to have significant social impact as more than 400,000 farmers are involved in coffee business in Rwanda.

Following formation of the company, RTC acquired a coffee plant from Rwandex, a former coffee exporting company, for US$1.6m.[3] RTC subsequently invested US$500,000 in machinery upgrades, US$2.1m in new equipment and US$1.3m in additional equity for a total investment of US$5m. Recently, RTC has also purchased a coffee washing station to supplement its supply chain.

[3] Rwandex was previously owned 50% by the government of Rwanda and 50% by a British investor, and enjoyed a monopoly until 1994, after which it filed for bankruptcy.

Today RTC owns and operates a state-of-the-art milling and export facility in Kigali, Rwanda, with an installed capacity of 3,000 tons per year. RTC exported 6.3 million pounds of green coffee in 2010, 15% of Rwanda's total production (1.7 million pounds or 12% in 2009). In 2010, RTC's annual turnover was US$8–9m. RTC employs approximately 75 full-time employees.

Products

RTC processes and exports semi- and fully washed arabica coffee. 90% of RTC coffee is traded on the international commodity market (and goes mostly to European buyers, although some of it passes over to the North American market) and 10% is used for roasting at the US plant. The US-based coffee roasting plant does not purchase more Rwandan coffee due to its previously established links with, and preference for, South American coffee producers.

RTC currently only operates at 60% capacity – 1,800 tons per year (out of a possible 3,000 tons). This is due to limited supply and competition from other Rwandan companies, as well as systemic inefficiencies and regulation that recommends fully washed coffee processing. The advantage with fully washed (specialty) coffee is that prices are more stable; nevertheless, producing high quality specialty coffee is labour intensive and a very delicate process that requires investment, time and a lot of capacity building.

An additional challenge to the supply chain is that wet mills for fully washed coffee currently only run at 10% capacity and as a result consume the full premium from fully washing the coffee, leaving no marginal incentive to farmers who sell to them. Eventually, RTC predicts exporters such as themselves will move upstream and take control of these inefficient mills and thereby improve their financial, technical and marketing management. They currently own two washing stations.

Systems

To hedge against supply risk, RTC has entered into contracts with approximately 40 wet mills. In return for financial, technical and marketing assistance, these wet mills exclusively supply RTC. In addition, RTC enters into the open market and buys semi-washed coffee from aggregators as well as fully washed coffee from other private wet mills. The goal in 2012 is to move to a 25%/75% split for fully and semi-washed coffee, and to reach 90% capacity by operating two to three shifts.

RTC's management structure has the managing director, Matt Smith, overseeing four departments: sourcing and procurement; finance and human resources; production; and quality control.

Internally, RTC uses "Intact", a multi-currency accounting and business software (implemented in 2012). For inventory management, they use a proprietary system based on FileMaker Pro, which gives them a competitive advantage over less technically sophisticated competitors. Also they monitor data from TechnoServe-supervised wet mills using software developed by TechnoServe to increase transparency (in terms of labour costs and quality), which is available to all exporters.

Three-quarters of RTC's machinery was imported from Brazil, Colombia and Germany (bought in 2009) and uses recent technology. The remaining quarter was recycled from Rwandex's former operations.

Staff training is generally on-the-job and includes technical areas such as agronomy and processing. RTC also works with NGOs such as TechnoServe to provide further training. Originally, RTC hired coffee consultants to help set up their processes and they have since hired very experienced local staff but their operation is still a trial-and-error process.

To ensure quality control RTC employs three cupping specialists in their lab who have been trained by several NGOs. A sample from every export/purchase is analysed in their lab. RTC does not currently have any certifications, although they plan to acquire them for their washing stations (wet mills). In the future they are also seeking to enter into more direct sales with international buyers.

Resources

RTC's physical resources include one plant and two washing stations. They also have strong financial resources, split 50/50 debt equity, with 70% coming from their parent company and 30% from local banks.

RTC employs 75 full-time employees. Their senior management team comprises two Americans, one Filipino, one Rwandan and one Burundian. The remaining 70 employees are all Rwandan.

The use of the latest machinery and MISs gives RTC a competitive edge in the local market. However, RTC continues to struggle with additional challenges along the supply chain, including low fertilizer utilization by farmers and accessing potential supply from the DRC. In addition, working with other wet mills and aggregators in Rwanda is a challenge due to the unenforceability of RTC's supply contracts.

3.6 Rwashoscco

Rwanda's largest farmer-owned coffee exporter and roaster.

Year established	2005
Latest annual turnover (2010–11)	US$3–4m
Number of employees (FTE)	40
Main business activity	Semi- and fully washed arabica coffee
Export markets	USA, UK and Japan

Company Origins

Rwashoscco – the Rwanda Small Holder Specialty Coffee Company – was established in 2005 and is Rwanda's largest farmer-owned coffee exporter and roaster. Rwashoscco was created to assist the cooperatives that were being supported by USAID's PEARL project (Partnership for Enhancing Agriculture in Rwanda through Linkages), which organized and trained farmer associations and cooperatives. The project ended in 2005 and consequently, Rwashoscco was created as a JV by four cooperatives with PEARL bearing the initial set-up costs. After seven years of operations, Rwashoscco has reached US$3–4 in annual revenues. It is now owned by six cooperatives that represent approximately 13,000 farmers.

Products

Rwashoscco exports fully washed arabica specialty coffee to three different continents and sells roasted coffee locally under the brand name "Café de Maraba", Maraba being one of the cooperative shareholders of Rwashoscco and the area where the coffee originates from. About 87% of the company's sales comes from exports (about US$2.5m), while the remaining 13% (about US$400,000) comes from local sales of Café de Maraba. Rwashoscco's biggest exports market, not surprisingly, is the United States, where the company has eight buyers. This link with the US market was facilitated by PEARL in early 2005. Other markets include the United Kingdom (five buyers) and Japan (two buyers). In terms of volume, Rwashoscco's exports currently amount to about 25 containers a year, or 450,000 tons of coffee.

The local clients for Rwashoscco's Café de Maraba are mainly supermarkets, hotels and restaurants.

Systems

As we explain in the next few paragraphs, the management and ownership structure of Rwashoscco is both a major strength and weakness. The company is currently owned by six cooperatives. Each cooperative has a management team as well as permanent staff to operate the washing stations. The president of each cooperative sits on Rwashoscco's board of directors, which is in charge of all major strategic decisions.

Rwashoscco's structure has evolved over time. Rwashoscco started as a group of four cooperatives. This number eventually increased to 16, which was both a testament to the success of the model, but also made decision making very difficult and stretched the company's ability to effectively support and train the cooperatives. Among the 16 cooperatives there were also many that failed to meet certain management and quality standards, which forced Rwashoscco to rethink its membership policy.

Today Rwashoscco has stricter membership conditions. These include (i) membership fees; (ii) ownership of at least one washing station; and

(iii) production of at least one container – 18,000 kg – of coffee per season. In line with these requirements, all picking, sorting, re-sorting and washing operations are done at the level of the cooperative with the help of Rwashoscco, which provides training on best practices. Cooperatives are also responsible for related expenses. Some cooperatives also have their own drying mills and roasting plants (i.e. Maraba and Bufcoffee).

Rwashoscco itself is responsible for (i) quality control using trained cuppers; (ii) marketing all the coffee from six cooperative shareholders; (iii) linkages to organizations that have drying mills for cooperatives that do not have their own; (iv) encourage local consumption by promoting, packaging and selling roasted coffee; and (v) training and supporting the cooperatives through partnerships with various NGOs and development programmes. To sustain operations, Rwashoscco levies a fee of 5% of sales for overhead costs.

Resources

Rwashoscco's main resources are (i) six established and well-equipped cooperatives, representing over 13,000 farmers; (ii) highly skilled cupping specialists, supported by a cupping lab in Kigali, and another one located in the southern province; (iii) a warehouse and dry mill, which will soon be equipped with new machines, and a roasting plant facility, all located in Kigali; and finally, (iv) strong relationships with buyers in the US, Europe and Japan.

Rwashoscco has 13 staff and each of the cooperatives also have managers, coffee washing station managers, accountant and cashiers, which brings the total administrative staff from 13 to 40, all of whom are Rwandan.

Chapter 4

TEA

4.1 Background and Overview

Tea production in Rwanda was started by European and Asian investors in the mid 1950s. However, until the early 1970s, the output of the tea sector remained limited; in 1970 there were only three factories (Mulindi, Shagasha and Ntendezi) operating in the country. Tea became a priority sector in the late 1970s with the launch of the Second Development Plan and the subsequent establishment of OCIR-Thé in 1978. During the late 1970s and 1980s the government of Rwanda, supported by donor funding, constructed 8 tea factories, bringing the total number of factories in the country to 11 by 1986. These 11 factories still account for 100% of the output of Rwanda's tea sector today.

Since the end of the genocide and in particular over the past few years, Rwanda's tea sector has undergone significant changes that have transformed it into one of the country's largest export sectors, alongside mining and coffee. Implementation of the National Tea Strategy (2009), which focused on finalizing the privatization of the tea sector, is now almost complete. 75% of total production today comes from private tea factories, with production increasing by 14% per year between 2006 and 2010 (World Bank 2011b). Tea exports totalled approximately US$55.7m in 2010 and US$61.9m in 2011.

There are currently 11 tea factories (see Table 4.1) located primarily in the western, northern and southern provinces of the country. New entrants in the past 10–15 years include Birla Tea via Jay Shree Tea & Industries (Mata/Gisakura), McLeod Russel India (Gisovu), Imporient (Pfunda), Nshili-Kivu and Rwanda Mountain Tea (RMT has JV agreements with Jay Shree for Mata and Gisakura and JVs for Rubaya, Nyabihu and Kitabi). The last two government-owned tea factories, Mulindi and Shagasha, are currently being auctioned.

Table 4.1 Rwanda tea factories and production data (2011).

Company	Green leaf production (000s kg)	Made tea production (000s kg)	Export sales (000s US$)
Mulindi	15,749	3,508	7,796
Gisovu	9,408	2,254	7,129
Sorwathé	14,129	3,295	7,096
Rwanda Mountain Tea (RMT) – Rubaya	8,970	2,207	6,857
Pfunda Tea Company	9,447	2,274	6,539
Kitabi Tea Company	8,248	1,988	6,320
Gisakura	10,084	2,373	5,425
Mata	9,133	2,136	5,187
Shagasha	9,418	2,047	3,878
Nshili-Kivu	3,720	978	3,030
Rwanda Mountain Tea (RMT) – Nyabihu	4,226	1,005	2,645
Total	102,531	24,066	61,911

Source: NAEB 2011 Statistics.

Products

The most common variety of tea produced in Rwanda is the bulk black tea known as CTC (curl-tear-crush) tea, the majority of which is sold at auction with small quantities retained for local consumption (packaged teas). As local production is limited, companies cannot compete on volume with international producers so there has been an increasing trend to compete based on (i) quality (evidenced by investment in tea labs, cupping specialists, certification programmes and best practice trainings) and (ii) focus on the high-end market (evidenced by the move towards specialty tea).

Several of Rwanda's tea companies have introduced higher-value-added specialty teas such as organic, green, orthodox and even white-tips tea that are geared towards the high-end international markets. Four tea companies sell packaged tea for both local consumption and export, including Rwanda Tea Packers, Highland Tea, Pfunda Tea Company and Sorwathé. High quality teas are sold directly to retail stores in Europe and elsewhere. It is estimated that specialty teas such as orthodox teas can fetch a premium of up to 75% over black CTC teas. However, it is important to note that the market for value addition and specialty teas is still unproven. To increase value addition, the ongoing focus of Rwanda's tea sector continues

to be (i) boosting smallholder yields and (ii) improving quality through better husbandry, plucking and factory operations.

Despite low yield issues with husbandry, plucking and factory operations, Rwanda's tea is considered to be one of the world's best, and regularly fetches premium prices at Mombasa's tea auction. At the first African Tea Convention in Mombasa in July 2011, the Gisovu Tea Company from Rwanda was nominated the best tea company among 35 companies from the East African region, with another Rwandan tea company (Kitabi) coming third.

Systems

Rwanda primarily produces bulk CTC black tea (cut-tear-curl), which is handpicked and brought to the tea factories for processing. Packaging is typically sourced from Uganda or Kenya and is then sent to the weekly Mombasa tea auction (the second largest black tea auction in the world), where it is re-exported to international markets.

The major systemic issue affecting the tea sector today is the undercapacity of tea factories, primarily due to the limited supply and poor quality of green leaf production. As a result, several of the private tea factories have invested significant resources in improving farming practices to increase the green leaf yield. According to IFAD (2005), yields are low in Rwanda compared with Asia and also in neighbouring African countries. Average production in public sector plantations is about 1,400 kg/ha, whereas private plantations now produce yields of up to 3,500 kg/ha by applying improved farming practices, especially adequate fertilizers. A further reason is that there is a high dependence on smallholder leaf, which has much smaller yields than estate leaf.

Tea cultivation tends to be clustered around factories, as the harvest must be processed within a few hours of picking (IFAD 2005). Typically, a factory will control a factory estate or *bloc industriel* of a few hundred hectares in the immediate vicinity of the factory. This plantation, which employs a few hundred people on a wage contract, will be surrounded by plots organized into cooperatives, associations (e.g. ASSOPTHE) or smallholder tea plots of about 0.25 ha each on average.

Two different structures have taken root in Rwanda's tea sector today:

- *Tea investment groups.* The largest player in Rwanda's tea sector today, Rwanda Mountain Tea (RMT), is an investment group with multiple subsidiaries and investments in the tea sector. RMT's subsidiaries, such as the Rubaya-Nyabihu Tea Company and the Kitabi Tea Company, manage production. Each factory has its own ownership and management structure. The group has also started a tea packaging company in Rwanda, called Rwanda Tea Packers.

- *The embedded tea factory.* This is exemplified by Sorwathé, which is 86.7% owned by American investors and 13.3% owned by a local cooperative (all tea companies have ceded at least 10% of shares to the local cooperatives, with a few having more). Most tea factories follow this structure.

Resources

The tea sector currently provides direct employment for about 70,000 people and several thousand more are hired as casual workers during the tea season. Unlike coffee, tea is harvested all year but production peaks during the two rainy seasons. Due to capacity gaps in key positions, several of the private tea companies have leveraged the expertise of tea-growing countries such as Kenya and Sri Lanka by employing expatriate staff in senior management and technical positions. As in the coffee sector, several private tea companies are also in the process of seeking international certifications from organizations such as Fairtrade, Rainforest Alliance, Ethical Tea Partnership, among others, in order to compete in the global market.

Exports

Tea is exported primarily to international markets via the Mombasa auction and then re-exported to other destinations, mainly Europe and the United States. The larger tea companies sell at least 15% of their made tea directly to countries such as the United Kingdom, Pakistan, Egypt, the United States, Canada, Ireland, South Africa, Japan, France, China and Kenya. In 2011, Rwanda exported 22.9m kg of tea at a value of US$61.9m: 77% sold at the auction and 23% sold directly to buyers in international markets (NAEB 2011). However, it is important to keep in mind that several tea factories tend to sell to their own sister companies, which are accounted for as direct sales.

4.2 Rwanda Mountain Tea (RMT)

The country's largest Rwandan-owned investor in the tea sector.

Year established	2006
Latest annual turnover (2010–11)	US$15–16m
Number of employees (FTE)	155
Main business activity	CTC black tea
Export markets	UK, Pakistan, Egypt, etc.

Company Origins

Rwanda Mountain Tea (RMT) was formed in 2006 by Mr Egide Gatera (a prominent Rwandan businessman who also is a majority shareholder at Petrocom), his family and the Grand Lacs Trading Company. RMT's first purchase was the Rubaya-Nyabihu tea estates located in the northwestern region of Rwanda, 90% of which were privatized in 2006 (the remaining 10% continues to be held by local tea cooperatives) as part of the government of Rwanda's privatization policy (enacted in 2000).

The Rubaya-Nyabihu plantations and factories were developed in the late 1960s in northern Rwanda and comprise approximately 1,300 hectares. In addition to the initial acquisition, RMT invested approximately US$6.5m in upgrades to the machinery and infrastructure.

In 2009 RMT acquired 60% of another tea estate, Kitabi Tea Company, a tea estate in the south of the country (the government of Rwanda and local tea cooperatives retained 40%). Following this acquisition, RMT decided to become more of an investor in the tea value chain rather than a tea production company; to this end, RMT formed a subsidiary company, Rubaya-Nyabihu Tea Company, to oversee the daily operations of the Rubaya and Nyabihu tea estates. RMT then focused on providing common services of procurement, finance, marketing, etc., for the Kitabi Tea Company and the Rubaya-Nyabihu Tea Company.

In August 2009 RMT also started Rwanda Tea Packers, which focuses on value addition by producing end-market, retail quality tea products for local and regional markets. The government of Rwanda, through NAEB, supported the venture by taking a 40% minority stake.

In January 2011 RMT also entered into a 50/50 JV with the Indian tea company, Jay Shree Tea & Industries, through their Dubai-based offshore investment arm, Birla Holdings Ltd. This consortium created Tea Group Investment Company Ltd., which acquired a 60% stake in the Mata and Gisakura tea plantations located in the south west region of Rwanda (with 40% remaining with the government of Rwanda and the factories' respective cooperatives).

All of RMT's acquisitions required significant upgrading, which can be categorized as follows:

- *Skills upgrading.* RMT imported skills by recruiting Sri Lankan tea experts as well as many experts from Kenya.
- *Capital investment.* RMT invested significantly in upgrading the machinery and factory infrastructure in all of its acquisitions.
- *Sales and marketing.* RMT restarted bulk exports to Mombasa (85% of sales) and started direct sales to Pakistan, Egypt and the United Kingdom (RMT has an ongoing two-year relationship with Taylor's). Although direct sales are more profitable, only 15% of total sales are

currently direct, due to the challenges of forming good relationships with buyers and consistently needing to meet their demands for high-quality tea.
- *Local sales.* RMT, through Rwandan Tea Packers, has increased its efforts to sell locally through value-addition and has started producing loose tea and teabags for the Rwandan market (currently less than 3% of total sales).

RMT has the capacity in its factories to process more than 16,000 tons/year of tea but it currently achieves only 60% utilization (~10,000 tons/year). RMT had an annual turnover of US$15–16m in 2011.

Products

RMT's major product is bulk CTC tea, 85% of which is exported in bulk 50 kg bags to the Mombasa auction. The remaining 15% is mostly sold directly to the United Kingdom, Pakistan and Egypt. Less than 3% is sold domestically. In 2008 new management began exploring green tea, which has a similar production process; however, so far RMT has only been producing small amounts for local consumption. In the event that demand increases RMT is prepared to increase supply.

As well as exploring green tea, RMT has been conducting a feasibility study on the potential to expand its product lines through orthodox, white and flavoured teas. Through attending international tea conventions it is trying to determine what varieties are demanded by the market and adjust its product mix accordingly. However, it is also mindful of the need for new capital investment required for new product lines. Furthermore, since local consumption is small and the company cannot compete on volume with international producers, it plans to compete on quality, focusing on the high-end market when the time is right.

In terms of upstream supply constraints, RMT focuses on increasing green leaf yields through improved farming practices. It hopes in the future that the areas under tea production can be expanded to ensure adequate supply. RMT inherited a relationship with the local cooperative at each of its three initial factories and continues to work with these cooperatives to upgrade the quantity and quality of the green leaf they produce.

Systems

RMT's management structure has the managing director, Ephraim Turahirwa, overseeing five departments: finance and administration; procurement; IT; marketing; and legal and human resources. The overall technical manager is Sri Lankan and the rest of the management team are Rwandan nationals. RMT centralizes services such as procurement, finance and marketing for all the tea plantations.

RMT's board of directors, where Jean Karekezi is the chairman, does not play a strong role in the day-to-day management of the firm, only in monitoring targets and providing direction and strategy. In 2006 RMT implemented Sage accounting software for the finance and accounting in its factories as well as headquarters.

RMT's machinery came from India (Vikram Ltd), Kenya and South Africa. Experts came to install and provide training during the initial phase. The chief maintenance managers in Kitabi and Rubaya are Indian and in Nyabihu the chief maintenance manager is Kenyan.

For training, RMT sends some staff to Kenya, where they have an informal relationship with the Tea Research Foundation to provide six months of training on the whole spectrum of production, from plucking to withering and fermenting. Farmers and cooperatives are also provided with training on best farm practices. RMT is currently working on formalizing the training so that it can be provided on a quarterly basis.

Resources

Each of RMT's factories has between 45 and 70 full-time employees. In addition, between approximately 8,000 and 10,000 people work in the plantations during the growing season. RMT employs experienced Indian, Kenyan and Sri Lankan expatriates for many of the senior positions in the factories and on the plantations; in total, they have six expatriates in Rubaya, five in Nyabihu and four in Kitabi.

For financial resources, RMT uses long-term financing with a 60/40 debt-to-equity ratio. RMT is in the process of acquiring certifications from Rainforest Alliance and ISO (through the assistance of UNIDO).

RMT's assets include three tea factories and three warehouses, which are each located at a factory and capable of storing up to 120 tons of tea. Its headquarters in Kigali are leased. A tea factory project is also planned to be constructed in 2012 in the Rutsiro District in the west of Rwanda.

In the future, RMT plans to construct a mini hydropower plant on the River Giciye near Nyabihu, worth US$12 million. This plant will produce 4 MW of electricity for the national grid and will be the first of its kind for a local company. The power generated from the plant will be used to power RMT's tea factories, while the surplus will be sold into the national energy grid and to the water utility, EWSA. RMT has signed a contract with Horizon Group to construct the plant.

RMT continues to face challenges in terms of increasing supply to match increased demand. It would like to increase sensitization and awareness around tea production in the western part of the country, as the factories are currently limited by the quantity produced in their areas. Another challenge is the feeder road infrastructure from plantation to factories, which sometime reduces the quality of tea received.

RMT continues to benefit from the capital and management expertise of the Grand Lacs Trading Group. The company's efforts have shifted RMT from a business model focused on individual factory production to one focused on longer-term investment across the industry, and thereby allowed it to achieve critical economies of scale.

4.3 Sorwathé (Société Rwandaise de Thé)

One of the oldest tea growing and processing companies in Rwanda; a pioneer in introducing new varieties of tea.

Year established	1975
Latest annual turnover (2010–11)	US$7–8m
Number of employees (FTE)	521
Main business activity	Black, green, orthodox, white and silver tips tea
Export markets	US, UK, Canada, Ireland, South Africa, Japan, Pakistan France, China and Kenya

Company Origins

Sorwathé is a tea-growing and tea-processing company in Rwanda and was established in 1975. The tea factory is located in Kinihira, a small town 70 km north of Kigali. Sorwathé was the first private tea factory in Rwanda.

The major shareholder of Sorwathé is Tea Importers Inc, an American company that has been involved in Rwanda's tea sector since the early 1960s. At the time, its founder – Mr Joe Wertheim – was advising OCIR-Thé on the marketing of Rwandan tea. In 1972, the Ministry of Commerce of Rwanda invited Tea Importers to establish a factory in the Cyohoha/Rukeri area (around Kinihira). This was an area where donor agencies – FED (the French development fund) and USAID – had invested in draining swampland and planting tea. The closest tea factory to the planted tea area was located 80 km away. This made transportation very costly. Tea Importers Inc agreed and in 1975 Sorwathé was created as a JV between the government of Rwanda and Tea Importers Inc. As part of this agreement, Sorwathé was given a lease of 300 hectares of land for planting and building a tea factory, the construction of which was completed in 1978 along with supporting infrastructure.

Today Sorwathé produces about 3,200 tons of made tea per year (about 14% of Rwanda's annual production). It employs over 2,500 workers, of which around 500 are full time. In 2009 Sorwathé granted shares to the tea cooperative, Assopthe, the shares of which it now owns 13.33%. Its turnover in 2011 was over US$8m. The company is a prime mover in Rwanda's tea production sector in terms of variety as well as quality, machinery and certifications.

Products

Sorwathé currently produces black and green tea, including orthodox and CTC varieties. It also produces organic tea and specialty tea such as white tea and silver tips tea. Sorwathé was the first factory in Rwanda to produce orthodox tea, green tea, specialty tea and organic tea.

The bulk of its production is black CTC tea, which accounts for about 85% of production, followed by orthodox and green tea. The production of CTC black tea was started in 1978. The CTC process shreds leaves into very small particles to be used mainly for tea bags that brew very quickly.

Sorwathé started producing green tea in 1996, a process based on a minimal oxidation of the tea leaf, maintaining it close to the natural state of the leaf. In 2008 Sorwathé invested in a new production line and started the production of orthodox tea, which is the traditional type of making tea rolled in seasoned timber roller tables (similar to hand rolling). Over the past two years, the company has also introduced white tea and silver tips, which are specialty teas that are lightly manufactured using natural methods that involve very specific ways of plucking and processing.

Another facet of the company's diversification process was the introduction of organic growing practices. Sorwathé was organic certified in January 2012, whereby cultivation is done without the use of any chemical pesticides or fertilizer. Each of these new processes has led to higher value addition and Sorwathé is able to supply the customer with a number of tea varieties.

Most (95%) of Sorwathé's tea is exported, with only 5% sold for local consumption. The main export markets are the United States, the United Kingdom, Canada, Ireland, South Africa, Japan, Pakistan, France, China and Kenya.

Systems

Sorwathé has the capacity to process 3,800 tons of CTC black tea per year, but current production levels average about 3,200 tons per year (about 80% capacity), due to a shortage of raw materials. Sorwathé grows its own tea on 280 ha of land but also purchases tea from neighbouring outgrowers. The productivity levels of outgrowers are around 30% lower than the company-owned tea land. Sorwathé continues to work with the tea cooperatives through training programmes that share best practices with a common objective of improving the productivity of the smallholders.

Sorwathé's management structure is based on a two-tier system: (i) a senior management committee that meets once a month to discuss strategy and production performance; and (ii) a worker delegates committee, which also meets monthly to discuss issues related to plantation and factory operations. This direct and systematic involvement of worker delegates in firm-level operational decisions is unique in the Rwandan context. The

connection with workers is also reflected in the company's contribution in the local community, through initiatives such as a literacy programme for adults in Kinihira, which has benefited 15,000 people; the introduction of rocket stoves, which have led to a large reduction in the local consumption of firewood for cooking; support to establish a health centre in Kinihira; a water project for the local population; the maintenance of local roads; and support to the local authorities to implement projects and organize festivities.

Sorwathé continues to develop its employees by training them in a planned and structured basis. Training is mostly conducted internally but Sorwathé has also hired external trainers in the past and encourages study tours to other cooperatives.

Sorwathé is currently ISO 9001:2008 and ISO 22000:2005 certified. These certifications ensure the effectiveness of their quality management and food safety management systems, respectively. Sorwathé is also Fairtrade, Rainforest Alliance, Ethical Tea Partnership and Rwanda Bureau of Standards (RBS) certified. Furthermore, 116 ha of their plantation is organic tea certified.

Resources

The physical resources of Sorwathé include 280 ha of tea land and 500 ha of eucalyptus forest. The plant and equipment at Sorwathé's disposal and its ability to produce a wide variety of tea makes Sorwathé a leader in the tea sector in Rwanda. Over the years, Sorwathé has introduced a range of sophisticated machinery such as fluid bed driers, continuous fermenting units, electrostatic stalk extractors, computerized drier temperature equipment and withering monitors, etc.

In terms of human resources, Sorwathé currently employs 2,500 people (including farmers and pluckers), with 521 workers employed on a full-time basis. Through their outgrower programme with the tea cooperative, ASSOPTHE, Sorwathé indirectly provides employment to an additional 4,500 farmers and their families.

The experience of the management committee and the systems they have put in place have largely contributed to the company's success and its continuous quality improvements over the past 35 years.

Chapter 5

STAPLE CROPS

5.1 Background and Overview

Rwanda's main staple crops include maize, rice, Irish potato, wheat, cassava and beans. Although these crops are critical for food security, few of them are currently being processed on an industrial scale. Those that are being processed on a large scale – maize, rice, wheat and sugar – are the focus of this chapter. The processing of these staple crops is one of the largest agribusiness sectors in Rwanda and the five companies that are profiled in this chapter generated in excess of US$75m in annual revenues in 2010 and provide employment to approximately 950 people.

Maize. Both the public and private sectors view maize as a priority staple crop and as a result it has seen extensive investment and intervention. Although the crop was introduced relatively recently, maize is the *fourth* largest crop in Rwanda based on cultivation area, covering an estimated 10% of cultivated land (behind beans and bananas) (MINAGRI 2012). Prior to 1996, maize farming was limited to the highlands but soon expanded to other topographical settings. Since 2007, there has been a strong push by the government of Rwanda to increase maize production through the Crop Intensification Program, given its importance as a cereal reserve. Based on official data, maize production increased by 5.1% between 2004 and 2007 and by 61.6% from 2007 to 2010, driven mainly by the use of improved seeds (World Bank 2011b).

At the time of writing, only two large maize mills exist in the country: Minimex and Maisserie Mukamira (which is currently in financial difficulties). Sosoma Industries is the only large company further downstream in the value chain that uses the milled maize to create value-added products such as fortified foods for infants and family porridges.

Wheat. Wheat was introduced in Rwanda in the 1920s by the INEAC (Institut National d'Etudes Agronomiques du Congo) but was later abandoned due to the limited market and unfavourable varieties. It was later grown at higher altitudes (greater than 1,900 m) and is used for either milling or direct consumption. However, given the small quantities, high prices and poor quality of the local wheat, the largest millers in the country, Pembe Flour and Bakhresa Grain, import the majority of the wheat they use to produce flour from destinations such as Australia.

Rice. Rice was introduced in Rwanda in the 1960s given the ideal agro-climatic conditions for rice production (i.e. abundant rainfall and the possibility of two harvests a year). Given the country's hilly topography, which limits the available area for cultivation, most rice paddies are located in several river valleys. There are approximately 19 rice mills in Rwanda, 16 of which are privately owned. Rwanda is nevertheless a net importer of rice, as these mills only meet 30% of aggregate rice consumption. Imports of rice in 2010 amounted to US$16.5m.[1]

Sugar. Sugar was introduced in Rwanda for the first time in the late 1950s in the Rusizi valley. It was not until the early 1960s, however, with the support of Chinese development aid and technical expertise, that the areas under cultivation were expanded, leading to the construction of a small experimental sugar factory in the Kabuye area in 1969–70. This led to the establishment of Sucrerie Rwandaise in 1976, which was later privatized in 1997 to become Kabuye Sugar Works, the only sugar processor in the country. The company's main constraint is access to land and the vulnerability of allocated land to flooding, which leads to shortages in the raw material, sugar cane. Limited production means that Rwanda faces significant sugar shortages, forcing it to rely on imports through special duty-free waivers for sugar imports outside the EAC.

Products

Maize. Three types of product are produced: (i) maize flour for consumption by the general public; (ii) maize grits used in beer production; and (iii) maize bran, which is used as animal feed. All products are sold locally with limited exports to the eastern DRC.

Wheat. The main products are wheat flour and its by-product, wheat pollard, which is used for the production of animal feed. Most animal feed (produced by Pembe and Bakhresa Grain) is exported to the region due to the lack of large-scale demand for animal feed in Rwanda. The wheat flour is consumed locally with few exports to the DRC (by Bakhresa Grain).

[1] RRA data on imports, 2010.

Table 5.1 Staple crop agro-processing firms (2011).

Sector	Agro-processing firm involved in marketing of finished product*
Maize	Minimex
	Coamiv
	Maisserie de Mukamira
	Sopar
	RDI
	Isimbi Super Maize Mill
	Top Solution Company
Wheat	Bakhresa Grain
	Pembe Flour
Tomatoes	Sorwatom
Sugar	Kabuye Sugar Works
Rice	Rwamagana Rice
	Gikondo Rice
	Bugarama Rice
	Kabuye Rice
	Rwabuye Rice
	Soproriz
	Cavecuvi
	CPCRB
	Cooperative Dukorerehamwe

Source: MINAGRI 2011 data. *Note that this list is not exhaustive.

Rice. The main product is white rice, which is consumed locally with no exports. The by-products of rice are used in animal stock feed and are also sold for domestic consumption.

Sugar. The main products are raw sugar and molasses. By-products include bagasse (used for fuel for the boilers) and the final molasses (used as cattle feed and fertilizer).

Systems

A key constraint in the staple crops processing industry is the shortage of raw materials and access to land. Anecdotal evidence from the firm interviews indicate that most processing facilities are running below capacity due to the limited supply and poor quality of the available raw materials.

As a result, the wheat milling and maize industries rely on imports for their raw materials. This is not an option in the sugar and rice industries as paddy rice and sugar cane are not transportable over long distances. Capacity utilization levels in the sector range from 65% and 62.5% at Kabuye Sugar Works and Pembe Flour, respectively, to 46% at ICM Rwanda and 20% at Minimex.

Given that processors – with the exception of Kabuye Sugar Works – do not grow the crops themselves, the quality and quantity of domestically produced crop inputs is highly contingent on the performance of farmer cooperatives, and, in particular, issues such as cooperative management, as well as pre- and post-harvesting methods, the use of fertilizer and available storage and transport facilities in the vicinity of smallholder farms. This constraint has forced processors to move upstream and explore ways of better engaging with cooperatives and smallholder farmers. Innovative models have included JVs with cooperatives (e.g. ICM Agribusiness Rwanda), service delivery models to smallholder farmers (e.g. ProDev, owned by Minimex), mechanized farming supported by outgrower schemes (e.g. BraMin, a JV by Bralirwa and Minimex), farmer demonstration research plots, support in the procurement of chemicals and fertilizers and innovative finance models (e.g. the warrantage system introduced in the Nyagatare district).

A distinguishing feature of this sector is the presence of large multinationals. The wheat-milling sector is dominated by the Tanzanian conglomerate, Bakhresa Grain, and the Kenyan multinational, Pembe Flour; the largest private player in the rice industry is owned by an Australian agribusiness firm, while Kabuye Sugar Works is owned by the Madhvani Group, one of the largest companies in Uganda with several regional interests. The only company that is Rwandan owned is Minimex, the maize miller, but it has also benefited from a capital infusion and management skills from a Dutch investor.

The staple crops sector is still in the growth phase with numerous opportunities to expand the product range, especially higher-value-added products to satisfy the needs of Rwanda's growing middle class. A few small processors like Sosoma Industries, which produces a highly nutritional food product, also called sosoma (soya, sorghum and maize), has ventured into this space but overall production is still limited. Processing for Irish potato, cassava and beans is non-existent despite these staples being among the most cultivated crops.

Resources

The staple crop processing industry comprises a few large players in each sector, with direct employment numbers ranging from 80 to over 500 employees per company. All of the processing factories employ a much larger

number of casual workers during the harvesting season and work with cooperatives, each thereby providing direct and indirect employment to several thousand Rwandans.

Operating in the staple crop processing sector requires significant financial and technical resources, particularly for investment in machinery and storage, which the aforementioned companies can leverage through their parent firms based in the EAC or internationally.

Exports

Exports in the staple crop processing sector are minimal with only the wheat sector exporting its by-products to Kenya and Uganda and limited maize flour sales to the DRC and Burundi. This is partly driven by the fact that strong demand for processed staple crops far outstrips supply in Rwanda.

5.2 Bakhresa Grain Milling

The country's second largest wheat milling company.

Year established	2010
Latest annual turnover (2010–11)	US$21–22m
Number of employees (FTE)	100
Main business activity	Wheat flour
Export markets	DRC

Company Origins

Bakhresa Grain Milling was incorporated in Rwanda in January 2009 and began operations as a wheat mill in Rwanda in May 2011 after a year of construction.

Bakhresa's Rwandan operations are part of the Bakhresa Group, a family business based in Tanzania and started by Said Salim Bakhresa in 1983 as a small restaurant/bakery in Dar es Salaam. Over time the company moved into producing flour to meet the growing shortages in Tanzania. Today Bakhresa is one of the largest industrial groups in the region, with operations in Tanzania, Zanzibar, Uganda, Kenya, Malawi, Mozambique, Rwanda and Zambia. 70% of the Bakhresa Group's business derives from wheat flour production, while other business interests include fruit juices, ice cream, drinking water, carbonated soft drinks, bread, biscuits, confectioneries, polyethylene sacks, laminated bags, packaging, printing, paper bags, petroleum trading, services provision (in transportation/logistics), ferry services and satellite telephones.

Bakhresa used to export to Rwanda so it already knew the market well when it decided to purchase land in the Kigali Special Economic Zone (the first company to do so) for its first Rwandan plant. Bakhresa decided to establish a plant in Rwanda to take advantage of the high cost of importing to Rwanda and the benefits of the EAC customs union. The company secured financing from the IFC for the land acquisition, mill construction, new machinery, infrastructure, warehouses and transport trucks. This followed similar financing arrangements for their grain storage facility in Mozambique and wheat production plant in Malawi.

Bakhresa plans to start a 360 metric tonnes (per day) mill in Burundi in mid-2012 and is exploring the possibility of establishing operations in the Lubumbashi, DRC. However, obstacles to continued expansion include transportation/logistics issues, high-energy costs, energy quality and taxation rates.

The Rwanda plant produces wheat flour to cater for the Rwandan market and the excess capacity will be supplied to eastern DRC. The plant has a milling capacity of 250 metric tonnes per day and a storage capacity of 12,000 metric tonnes. The modern facility was built using all new state-of-the-art machinery purchased from a company in Switzerland. In total the company spent about US$24m to start the plant. The plant also has its own fleet of trucks to transport raw materials and distribute finished products. It also performs a trading function for other Bakhresa products. If sufficient demand existed in Rwanda and costs could be brought within an acceptable range, Bakhresa could potentially move into manufacturing an extended range of products.

Bakhresa is one of two wheat flour producers in the country, vying with Pembe Flour Mills as the largest wheat producer. Bakhresa generated US$21–22m in 2011 and employs approximately 100 full-time workers (and another 60 indirect labourers).

Products

Bakhresa's Rwanda plant produces wheat flour under the popular brand name "Azam". Its raw materials come primarily from Australia due to the low quality and high prices of EAC wheat. Australian wheat is more competitive than EAC inputs due to superior mechanization, lower costs of energy and better subsidies along the supply chain.

The milling process entails several key steps: Bakhresa receives its raw materials, i.e. the harvested wheat, by trucks, which are offloaded at their intake facility. The offloaded wheat is pre-cleaned by an automated process and is stored in the silos. Based on the production plan, wheat is drawn from silos and put in tempering/conditioning bins. During this process, all the screenings are removed and water is added to the bins to remove the husk. After the conditioning is finished, the wheat is milled and supplements to improve the milled wheat are added. The finished product, i.e.

wheat flour, and by-products (wheat bran and wheat pollard) are separated automatically and stored in separate bins. Millers within the control room, using advanced software, control all the above processes. From the finished flour bins, the flour is packed in various packing sizes depending on the requirements. The packed flour is stored in the warehouse before being loaded in trucks for dispatch to various destinations.

Bakhresa is currently working with MINAGRI to assess the potential to grow wheat within Rwanda; it has already planted a crop and is analysing the results to determine the quality of the yield.

Bakhresa exports 50% of its production to eastern DRC.

Systems

The managing director of Bakhresa Grain Milling (Rwanda) is Mounir Bakhresa, nephew of the founder, Said Salim. He oversees the mill/production department, as well as finance, human resources and marketing. All of Bakhresa's company functions are conducted from Rwanda; it does not rely on the Bakhresa Group for any shared services aside from transport/logistics and packaging. The Rwanda company also has a separate board of directors.

Bakhresa Rwanda uses Orian, a customized software package from India, as its MIS for its production and financial management.

The human resources department ensures that senior managers and technicians are sent to Tanzania for training. Bakhresa also provides internal training with foreign experts. Since much of the machinery is new, many of the production and maintenance managers have been sent to Dar es Salaam for training.

To market its brand, Bakhresa employs various means, including T-shirts, painted distribution trucks, limited radio advertising and corporate social responsibility (CSR) efforts. For example, Bakhresa organized a football game between the Tanzania-based Azam Football Club and a local Rwandan team.

Bakhresa has a fully fledged laboratory on-site for checking the quality of its products which is overseen by the quality-control manager and his team at the QC department.

For distribution Bakhresa works with large wholesale distributors across the country. It also has its own fleet of 23 trucks to transport finished products. In addition, limited direct sales take place at the factory site.

Bakhresa's machinery was imported primarily from Switzerland, while a few parts came from other parts of Europe. The sourcing destination has not evolved over time despite the expensive costs associated with the Swiss machinery due to the desire for high quality. In addition, Bakhresa sources its packaging materials and trading finished products from its sister packaging company based in Tanzania.

Resources

Bakhresa employs 100 full-time individuals in Rwanda and 60 indirect contract workers. Fifteen of Bakhresa's employees are expatriates who occupy senior finance, production and technical roles. They come from India, Kenya, Tanzania and France.

Bakhresa has one large plant in the Kigali Special Economic Zone (KSEZ). It has also bought land to construct housing for its staff. Other physical assets include its fleet of trucks and a storage facility of 12,000 metric tonnes, located at the factory site.

Bakhresa's strengths include being part of one of the region's largest business groups, with nearly 30 years' experience in wheat flour milling. It can therefore leverage an established supply chain from various countries such as Australia, the United States, Russia, among others.

5.3 Pembe Flour Mills

The largest wheat milling company and the second largest manufacturing company in Rwanda.

Year established	2007
Latest annual turnover (2010–11)	US$28–29m
Number of employees (FTE)	40
Main business activity	Wheat flour
Export markets	N/A

Company Origins

Pembe Flour Mills was registered as a new business in Rwanda in 2007. Pembe Flour Mills Group, headquartered in Kenya and with operations also in Tanzania and Uganda, entered Rwanda at the invitation of the government of Rwanda, which was looking for potential bidders for a defunct wheat factory in Byumba.

Pembe Flour Mills Group is a family business and part of the Bajaber Group of Companies, which includes flour mills in Eldoret, Mombasa and Nairobi, as well as Tanzania and Uganda. In addition it owns a polythene/plastics company in Nairobi and a packaging factory in Tanzania. The founders are Mr Salim Ahmed Taib and Salim Abubaker Ahmed.

For Pembe, the Rwanda acquisition made good business sense, as Pembe was already exporting to Rwanda. The wheat market in Rwanda was not very competitive at the time, leaving an opportunity for Pembe to capture the vast majority of the Rwandan market. Following the purchase of the plant, Pembe undertook a huge restructuring of the factory and surroundings, investing more than US$7m in the land, buildings, machinery and infrastructure, which had become obsolete.

The key challenges at the time of the acquisition included inferior infrastructure (transport, water, logistics), a lack of skilled labour and erratic power sources.

Currently, Pembe Flour is the largest wheat milling company in Rwanda, generating US$28–29m in annual revenues. It provides employment for 60 full-time workers (another 80–90 casual labourers) and has installed capacity of 400 metric tonnes per day, of which 250 is utilized (62.5%).

Products

Pembe's main product is wheat flour, sold under the "Pembe" brand name. It also sells the by-products of production for animal feed.

Pembe's machinery was initially imported from Italy and more recently from Germany and Turkey. In December 2011, Pembe invested an additional US$3m to upgrade machinery and increase capacity to 400 metric tonnes per day. Although there is currently insufficient demand to operate at full capacity, Pembe anticipates that growth in local markets will require use of the additional capacity in the future.

Pembe imports 99% of its raw materials from the international market, due to the low protein and wet gluten content, low quantities and high costs of local production. Pembe does not see this changing in the near term given the topography of Rwanda, its smallholder farming structure, as well as the inclinations of its farmers. Although Byumba historically was a wheat-growing area, it has proved difficult to boost domestic production there. The products' packaging is also imported from its sister company in Kenya.

Pembe only exports the by-products of its wheat production process, which is used in Uganda and Kenya, because there is no large-scale demand for animal feed in Rwanda (due to lack of large-scale dairy or chicken farms). The company is considering commencing exports to Burundi and the DRC if it decides against setting up a factory in Burundi. However, the company sees significant challenges to exporting from Rwanda, including bureaucratic procedures, ability to source sufficient raw materials on a timely basis (it takes two to three months to receive raw materials) and regional competitive factors – Burundi is already being serviced from Tanzania. In addition, production costs are simply too high to commence exporting.

Systems

Pembe's managing director is Mr Taib, a member of the Bajaber family. He oversees the following departments: finance, production, sales and technical. Pembe uses Sage as its MIS for both accounting and inventory management.

Pembe ensures quality-control standards through an on-site, fully equipped laboratory to test the content and quality of the wheat flour. The Byumba factory also hosts a 3,500 ton silo storage and warehousing facility with an additional capacity of 7,000 tons if necessary.

In terms of distribution around the country, Pembe works with five exclusive distributors. It also owns and maintains its own fleet of trucks for transportation of finished products and raw materials. Marketing is conducted on a "need to" basis. Pembe regularly sends staff to Kenya and Uganda for training. The company also invites experts for training and has paid for staff to complete relevant university courses.

Resources

Pembe employs 40 full-time workers and subcontracts 80–90 casual labourers. The office includes three expatriates (from Kenya and Uganda), who hold senior management positions.

In terms of physical assets, the firm has a plant, machinery and other related infrastructure on 6 ha of land in Byumba, northern Rwanda. Its non-physical assets include the extensive resources of the Bajaber Group, including financial resources and management expertise.

Pembe's market share is estimated to be fairly high given their first-mover advantage following the bankruptcy of Sotiru. Today it is one of only two wheat producers in the country following the entry of the multinational Bakhresa Group in 2010.

5.4 ICM Rwanda Agribusiness

The country's largest rice-growing and rice-processing company.

Year established	2005
Latest annual turnover (2010–11)	US$11–15m
Number of employees (FTE)	160
Main business activity	Rice
Export markets	N/A

Company Origins

In 2005 the government of Rwanda invited ICM, an Australian agribusiness company, to identify viable investment opportunities in Rwanda's agriculture sector. ICM is Australia's largest privately owned agribusiness company with over 45 years of experience. It is led by Douglas Shears, the chairman and owner of ICM Australia. ICM has ongoing projects in North Africa, with ICM Rwanda Agribusiness being the company's only business interest in the EAC.

ICM decided to invest in rice milling in Rwanda on the basis that (i) Rwanda has the ideal agro-climatic conditions for rice production (i.e. abundant rainfall and the possibility of two harvests a year); (ii) demand for processed rice is high, given that rice is a key staple crop for the population; and (iii) there is a clear opportunity to invest in substituting the imports of processed rice (which in 2010, for example, amounted to US$16.5m[2]).

ICM put Australian experts on the ground for 15 months to analyse possibilities for productivity increments in the sector. The outcome of this effort was a decision to set up three JVs with rice cooperatives (two in 2006 and one in 2008 based in Rwamagana, Gikondo and Bugarama) to take over government-owned factories that were being privatized and to invest in extending rice production in surrounding areas.

Today, ICM Rwanda employs approximately 160 full-time staff and generates around US$11–15m in annual turnover.

Products

ICM produces white rice through a rice milling process, which involves removing the husk and bran layers to produce edible, white rice kernel that is free of impurities. The grain milling process at ICM Rwanda is not technologically sophisticated but it is fully automated. The company has 18 different stock-keeping units (SKUs) of rice products (i.e. different sizes and packaging) to meet consumer preferences. Aside from the rice products, the rice by-products are used in animal stock feed and sold commercially from the mills.

There is strong competition in the rice milling business with at least 19 rice mills located throughout the country. Sixteen are privately owned (three of which belong to ICM). However, the average capacity utilization of all the mills in the country is estimated at less than 35% due to shortages in the supply of rice.

The main source of competition for domestic producers is from imported products. Rwandan traders tend to import Pakistani rice via Mombasa, benefiting from preferential duty terms between Kenya and Pakistan.

ICM is currently not exporting but plans to export to Burundi and eastern DRC in the future. The main constraint to exports at this point in time is the scarce supply of paddy rice in Rwanda, which limits the quantities available for export.

Systems

The three JVs (each running one of the factories) are based on a 60/40 equity split between ICM and selected rice cooperatives. As part of the

[2] RRA data on imports, 2010.

agreement, ICM provides capital, agronomy training, technical advice, corporate governance, marketing and consumer advice. The cooperatives supply the factories with raw materials.

ICM's managing director in Rwanda oversees the finance, marketing, logistics and agronomy departments. There are also separate management structures for each of ICM's three mills. ICM operates and manages the mills on behalf of the JVs and charges a management fee in return.

The installed capacity at each of ICM's factories is 24,000 tons per annum, with current usage averaging approximately 11,000 tons. ICM's machinery was imported from Asia and Germany, although the company has increasingly been purchasing machinery from Asia due to improving quality and more competitive pricing. ICM's packaging is directly imported from Uganda.

ICM works with about 28,000 farmers spread over 14 rice-growing cooperatives that are managed by unions. It works alongside them to develop farmer demonstration and research plots. In addition, it is undertaking a rice seed multiplication scheme to ensure sufficient high quality disease-free seeds are available in the future. It also helps in negotiating arrangements with chemical and fertilizer suppliers to ensure appropriate logistics arrangements are in place.

In terms of distribution, ICM relies on 12 retail outlets located across the country, out of which 6 are in Kigali. The company also works with a wide range of distributors, supplying schools, hospitals and prisons, although competition is often strong due to low-priced imported products.

ICM currently uses Attache as its MIS but will soon migrate to a new customized ERP system that monitors mill production, the distribution system, productions needs, as well as a host of other key indicators.

Resources

ICM employs 160 full-time staff, two of which are expats (the chairman, Mr Shears, and the director of horticulture, Deidre Shears). In addition, ICM employs 40–50 casual workers during the high season. ICM invests significantly in training its staff, many of whom did not have inherent agribusiness skills when they joined the company. Several employees are in the process of getting degrees with support from the company.

In terms of physical assets the company owns 60% of the three rice mills and leases its 12 retail outlets.

In general, ICM believes that until the current government of Rwanda initiatives underway to construct and expand several additional irrigation areas come on-stream, there will be limited supplies of paddy rice, which will hamper the productive capacity of the many mills. In addition, one of the main challenge facing ICM and the Rwandan rice industry, in general, is the global rice surplus and the dumping of rice in Africa, which undermines domestic rice production.

5.5 Minimex

Rwanda's leading maize milling company.

Year established	2002
Latest annual turnover (2010–11)	US$4–5m
Number of employees (FTE)	80
Main business activity	Maize flour, bran and grits
Export markets	Eastern DRC

Company Origins

Minimex is Rwanda's largest maize mill and was established in 2002 by a Rwandan investor, Felicien Mutalikanwa, a lawyer by training who had previously invested in the mining sector. Despite a slow start to operations and an ongoing issue with the supply of high quality raw materials (i.e. maize), Minimex is today the undisputed market leader in Rwanda's maize processing sector. Its strength is built on four pillars: (i) a modern maize milling plant on the outskirts of Kigali; (ii) ProDev, its sister company, which in 2011 established a modern maize drying and storage facility in Rwamagana; (iii) its maize grits supply contract with Bralirwa (the largest beer manufacturer in Rwanda), for which Minimex is the sole supplier in the country; and (iv) BraMin, a JV with Bralirwa, aimed at operating a modern maize farm in the eastern region of the country. By 2011, Minimex's annual revenues had grown to above US$4m and the company was processing 8,750 tons of maize a year, compared with just 890 tons in 2006. While growth has been positive, in 2011 the plant only operated at approximately 20.4% capacity (annual capacity is 43,200 tons a year).

In December 2011, Minimex received a fresh injection of capital from a foreign investor, Claude Mansell, who was also the company's new managing director. Mr Mansell was Vice-President for Business Transformation at Capgemini before investing in Minimex. His discovery of Rwanda as an investment destination was the result of a four-month sabbatical from Capgemini, during which he was a Kiva Fellow in Rwanda. With new management and financial resources in place, Minimex expects to strengthen its growth over the coming years, building on an improved sourcing strategy and new capital investments aimed at increasing production capacity.

Products

Minimex produces three types of maize products targeted at very different markets: (i) maize flour for consumption by the general public; (ii) maize grits used in beer production; and (iii) maize bran, which is used as animal feed (around 50% of the ingredients of typical chicken feed).

Minimex's main line of business is currently maize flour (approximately 57–62% of sales), followed by grits (25–30% of sales), for which it is Bralirwa's sole supplier in Rwanda. The company recently improved its production of maize flour by producing finer flour that better meets the market demand. Minimex's factory currently produces Grade A maize flour and Minimex is the only maize mill in the country whose products and processes are certified by the Rwanda Bureau of Standards. Minimex's main clients for maize flour include the Ministries of Defence and Education, which use this flour for the army and schools. Maize bran (15% of total income) is sold directly to farmers at the factory and recently to buyers for large farms abroad (e.g. Kenya).

An additional service provided by Minimex via its sister company, ProDev, is the drying and storage of maize produce for farmers. Located at Rwamagana, the facility enables farmers to either directly sell their produce to Minimex or dry and store their produce at a fixed rate per kilogramme, and then resell to other buyers. The Rwamagana plant consists of 50,000 m^2 of land with two silos, a dryer, a weighbridge and several buildings.

The establishment of Minimex bridged a gap in Rwanda's maize market and value chain. In particular, prior to Minimex, there was no maize miller able to satisfy the needs of Bralirwa, Rwanda's largest company, for maize grits. The creation of Minimex bridged gaps in three markets: the beer processing market, the food processing market (maize flour) and the animal feed market, a good example of a company that strengthened the interconnectedness of the local economy.

In terms of product exports, Minimex currently exports some of its flour to the DRC, but only in limited quantities through one distributor, and some of the bran through direct sales to Kenya. However, the company plans to rapidly scale up its export activity as soon as some capacity upgrades are completed and sourcing issues resolved.

Systems

Although Minimex has been in operation for 10 years, it is still in the growth phase. The company is focusing on four key areas of growth in the coming years: (i) further improving its storage infrastructure (partly through its sister company, ProDev Rwanda); (ii) enhancing the milling production capacity to meet market demand; (iii) upgrading its machinery to allow for more flexibility in producing the three product types; and (iv) improving local sourcing of high quality maize.

The company's new management aims to double the milling plant's capacity from a current level of 144 tons per day to 288 tons by 2014. At the time of writing, Minimex only produces 12.7% of annual demand, which is estimated at about 70,000 tons. Minimex's target is to process 25,500 tons of maize in 2012, 39,000 tons in 2013 and 52,000 tons by 2016.

The main challenge in achieving this growth rate is not production capacity but sourcing. Minimex has been actively seeking solutions to improve its sourcing of local high quality maize produce, which currently falls short of requirements, meaning Minimex has to import a lot of its raw material from Uganda, Zambia and Tanzania. Currently, 60% of the maize is sourced locally, 40% regionally. This has significant cost implications, in particular, due to high transport costs. Three initiatives to ease Minimex's sourcing constraints stand out:

- BraMin, a JV between Minimex and Bralirwa, is a pilot project that introduced Rwanda's first mechanized/commercial soya and maize farm. The objective is to support high quality production of maize and extend the benefits to neighbouring areas, through an outgrower scheme. 500 outgrower farmers are currently being supported through (i) technology transfer (use of high yield varieties); (ii) farm equipment made available for use by outgrowers upon payment for service; (iii) post-harvest services (training); and (iv) guaranteed sales to BraMin. BraMin operates two farms: the first started in 2005, the second yielded its first maize in August 2011.
- ProDev, a subsidiary, runs a modern maize drying and storage facility, and enables farmers to dry and store their grain production at a certain cost, or sell directly to Minimex. ProDev currently has a storage capacity of 2,000 tons but is looking to increase this to over 10,000 tons in the near future. The facility has the capacity to clean 20 tons of maize per hour.
- A new warrantage system. To overcome supply constraints of good quality maize, Minimex is exploring new procurement options with cooperatives. One of these new procurement modalities is a warrantage system that has been set up in the Nyagatare district. Under the warrantage system, farmers safely store their produce in a warehouse and wait for the right time to enter the maize market (i.e. when prices are higher). Because the maize is safely stored and a marketable quality is guaranteed, financial institutions are willing to give loans to farmers at attractive interest rates (2%), using the grains as collateral. Moreover, given that local demand for high quality grain far outstrips supply, these farmer cooperatives are in a good position to secure buyers, such as Minimex and the WFP. While this system is still in the testing phase, it does appear to provide a win–win solution for both the farmers and the processors.

Minimex sells the flour directly to relevant institutions and indirectly to the local retail/wholesale market. It distributes its maize grits directly to Bralirwa and the maize bran directly to farmers at the factory.

Resources

Minimex has become a de facto group, comprising the milling factory itself, BraMin, ProDev and a small stake in the Rwanda Grains and Cereal Corporation, a public–private JV aimed at managing the grain trade in Rwanda. Its main assets include a modern milling plant (machines were purchased in bulk from Switzerland in 2008), a drying and storage facility (ProDev), a commercial farm (BraMin), two silos and several trucks.

The company has about 80 employees, of which four are senior managers. There are currently two foreigners at Minimex, including the general manager, Claude Mansell, and a Kenyan director in charge of milling. There has been significant turnover in the management staff, but that is now poised to stabilize with the arrival of Mr Mansell. The stabilization in the company's management also comes with new financial resources, which will enable it to reduce its reliance on debt financing and invest in Minimex's ambitious growth strategy.

In terms of knowledge/intangible resources, Minimex has two big advantages to offer: (i) its strong relationship with Bralirwa, through its sales of maize grits and its JV, BraMin; (ii) the knowledge and capacity to upgrade its products, for example, Minimex is in a good position to start fortifying its flour products, a requirement that became enforced by decree in early 2012 and that will be costly for smaller competitors.

Minimex's physical resources include a terrain of 50,000 m^2, a modern, fully automated mill and various pieces of equipment such as cars and forklift trucks.

5.6 Kabuye Sugar Works

The only sugar-processing company in Rwanda.

Year established	1976 (privatized in 1997)
Latest annual turnover (2010–11)	US$10–11m
Number of employees (FTE)	550
Main business activity	Sugar
Export markets	N/A

Company Origins

Kabuye Sugar Works (KSW), Rwanda's only sugar processor, was the first company to be privatized in post-conflict Rwanda. Called Sucrerie Rwandaise at the time, the company was started by Chinese investors in 1976 and taken over by the Rwandan government in 1978. Activities at the factory came to a halt in 1994. In 1997, KSW, which had a production capacity of 210 tons a day at the time, was bought by the Madhvani Group, a consortium which started in Uganda in 1914 and has been in the sugar

plantation and processing business for over 40 years (it is currently the largest private sector business group in Uganda). The government allocated 3,158 ha of land to the Madhvani Group for sugar cane farming and production and the factory started again in 1998.

Today KSW is one of Rwanda's largest processing plants, with sales of over US$10m and about 550 employees on a full-time basis. While capacity at KSW has grown steadily over the past decade, it remains a small processing plant by regional standards, with a processing capacity of 600 tons of sugar cane a day. Similar industries in the region have a daily processing capacity exceeding 4,000 tons a day in Uganda, 5,000 tons a day in Tanzania and 9,000 tons a day in Kenya. The main constraint to growth is not machinery, know-how, finance or the size of Rwanda's domestic market, but access to land and the raw material, which is in short supply, costly to import due to high transportation costs and very prone to weather fluctuations (in particular, flooding).

Products

KSW produces raw sugar and molasses, which is a viscous by-product of sugar cane processing (a bit like syrup or honey). By-products include bagasse, which is used as fuel for the boilers, final molasses, which is used as cattle feed, and filter cake, which is used as fertilizer. Intermediate products are primary juice, mixed juice and molasses of various natures.

KSW's sugar is sold in bulk to wholesalers in bags of 50 kg, rather than in smaller packages. Because of its proximity to the market and its distribution system (KSW works with approximately 71 distributors), KSW has price leadership in the Rwandan market although sugar prices fluctuate a lot depending on local market and climactic conditions.

We estimate Rwanda's sugar market in 2012 to be about US$80–90m, with KSW – the only local producer – controlling about 25% of that market. This means that there is definitely scope for local expansion in the sugar-processing sector. Currently, 75% of Rwanda's sugar is imported, including from KSW's sister company in Uganda – Kakira Sugar Works – which can build on KSW's distribution network.

Systems

KSW is still in the growth phase; since it started operations in 1998 it has continuously upgraded its processing capacity from 210 tons in 1997 to 275 tons in 2001, 325 tons in 2003, 475 tons in 2005–6 and 600 tons in 2007. Since 2007–8, however, investments have slowed down because of a shortage of the raw material, sugar cane. The KSW plant is currently running at about 65% capacity. This has made it difficult for KSW to generate any economies of scale, especially given the fact that the machinery is not highly automated and requires a lot of manual labour.

All of KSW's sugar cane is sourced locally and cannot be imported because of transport costs and the perishable nature of the crop. Therefore, cultivation needs to be near the processing plant. KSW sources the sugar cane from its own farm land and from neighbouring sugar cane producers (which it supports with technical assistance, seeds for the first planting and free transport to the processing plant). Out of 3,158 ha of the land leased to KSW at the time of the privatization, only 1,800 ha are cultivated, the rest being prone to flooding and under water for more than half of the year. 2011 was a particularly bad year, as floods wiped out 50% of the crop.

KSW is currently exploring alternative options with the government of Rwanda to increase sugar cane production. Options include (i) a new allotment of land as the present unused land is not suitable for sugar cane cultivation due to permanent water stagnation; (ii) desilting of river beds to control the flooding in the sugar cane farms and reduce crop damage due to water logging; and (iii) promoting sugar cane cultivation in upland areas through private farms or cooperatives. However, the time period required for growing and harvesting sugar cane after reclaiming the swamp is a minimum of three years, as the sugar cane crop typically matures at 21 months due to the climatic conditions in Rwanda.

KSW maintains an extensive quality-control laboratory on-site that conducts analysis of the cane in the factory yard as well as in the field for quantity and yield performance. Analysis of various intermediate products and by-products is also conducted at the laboratory, i.e. measuring the sucrose content of the materials, auditing the quality of sugar going into the bags, and the loss due to by-products.

Resources

KSW's main resource is the fact that it is part of the Madhvani Group. The Madhvani Group brings with it (i) more than 40 years of experience in the sugar-processing sector; (ii) stability, as it is a highly diversified group; (iii) experienced managers and technicians; and (iv) significant financial resources to support growth.

KSW's board sits in Uganda, where strategic and policy decisions are taken. The processing plant is managed by an Indian general manager and five department managers, which include administration, engineering, processing, finance and estate/plantation management. The company's management and highly skilled staff (e.g. plant manager, chief chemist) are mostly sourced from abroad. In total, there are 16 expats at KSW, mostly from Uganda and India. KSW's technical staff and semi-skilled factory staff are trained in Uganda.

KSW's physical assets include a large 50,180 m^2 plant on the Gatuna road, just outside Kigali, which comprises factory buildings, machinery, staff residences, sugar plantations, estate forest and an assortment of vehicles.

Chapter 6

HORTICULTURE AND SPECIALTY PLANTS

6.1 Background and Overview

Rwanda's horticulture sector comprises a large variety of fruits, vegetables, essential oils and speciality plants such as pyrethrum and tobacco. As can be seen in Figure 6.1, the largest crops in terms of cultivation area in 2010 were banana, beans and cassava, followed by maize, potatoes, sorghum and sweet potatoes. Smallholder farmers – within cooperatives – produce these crops for domestic consumption. Currently, there is very little processing, packaging or exporting of these products. Excluding tea, coffee, pyrethrum and processed foodstuffs, total agricultural/agribusiness exports of these products in 2010 amounted to a mere US$2.3m, 85% of which is accounted for by beans (US$1.3m) and maize (US$0.5m).

Over the past few years, there has been an increasing focus on diversifying from tea and coffee into horticulture and alternative high value export crops. Rwanda has the right climatic and soil conditions to produce a range of horticulture and floriculture products, including:

- fresh fruits (such as avocadoes, passion fruit, strawberries, tree tomatoes, gooseberries, pineapple, desert bananas, Japanese plums and mangoes);
- vegetables (mushrooms, soybeans);
- spices (capsicum: paprika, bird's eye chillies);
- nuts (macadamia, cashew nuts);
- cut flowers (roses, orchids);
- specialty plants (essential oils, such as petunia and geranium, pyrethrum, vanilla and silk).

Small-scale investments in these sectors have started to take hold: Sosoma Industries is a cooperative-based agro-processing firm that processes sorghum flour, soya flour, maize flour, etc.; East African Growers, a

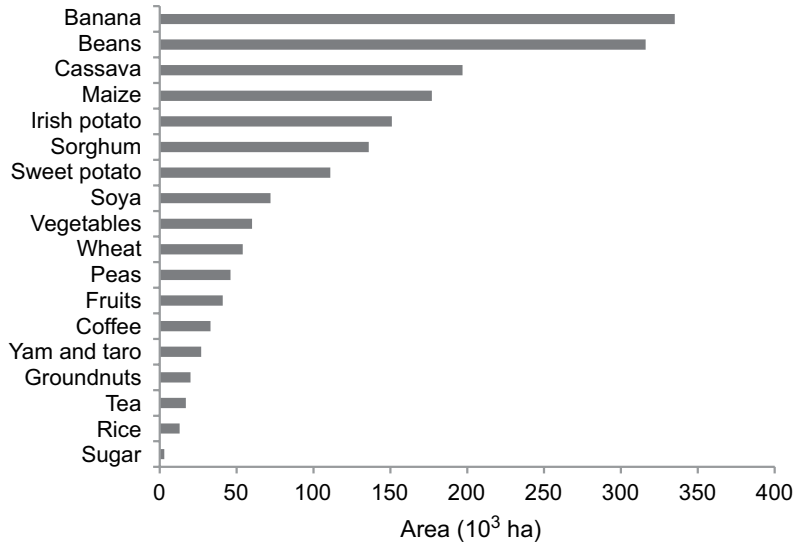

FIGURE 6.1 Area under cultivation (2010). Source: MINAGRI 2012.

leading Kenyan agribusiness group, has invested in commercial avocado production in Rwanda; FreshPack processes and exports avocados, apples, bananas, hot peppers, French beans and eggplants. There are also new entrants focusing on mushroom production (Kigali Farms), plant propagation for fruits and horticulture products (FAIM), essential oils (Ikirezi Natural Products), macadamia nuts (Norlega) and soybeans (Soyco Ltd. with the Mount Meru Group of Kenya). The Rwanda Development Board and MINAGRI are actively trying to promote the horticulture sector to larger investors.

In this chapter, we focus on two specialty plants, tobacco and pyrethrum, that are being processed at an industrial scale, as well as the processing of horticulture products such as tomatoes and dried fruits/vegetables.

Products

Tobacco. Tobacco is a small industry in Rwanda even though tobacco production and consumption is centuries old. In 1975, Tabarwanda, a government parastatal, was established to manufacture cigarettes. At the time, it was the sole tobacco processor and manufacturer of cigarettes. It was later privatized in 2002 when British American Tobacco bought the majority of shares. Following a corporate restructuring effort in 2006, BAT moved the production of cigarettes to Nairobi and maintained a distribution office in

Kigali. Currently, there is only one large domestic manufacturer of cigarettes in Rwanda, Premier Tobacco Company (PTC), which manufactures various brands of cigarettes targeted at the rural market.

Pyrethrum. Only a few countries in the world produce pyrethrum, a natural botanical insecticide. The country's sole pyrethrum processor is Sopyrwa, which produces refined pale extracts (used for aerosols and liquid insecticides), crude oleo resin (used in mosquito coils formulation) and pyrethrum marc (filler material for powder insecticides). Plans are afoot to produce aerosols, crop protection and public health insecticides for local consumption.

Dried fruits/vegetables. Numerous food-processing companies are based in Rwanda but most operate at a small scale and are considered artisanal. One of these companies is Shekina Enterprises, which has developed a reputation for commercializing traditional food products by drying and packaging horticulture products such as cassava, millet, sorghum, wheat, soya, fruits, etc. The small company has also ventured into manufacturing cassava flour and hopes to begin production of traditional beverages such as fermented sorghum.

Tomato processing. Tomatoes are grown in abundance in Rwanda for local consumption but there is only one company, Sorwatom, involved in processing tomatoes to make tomato paste. There is limited new product development and the domestic production of Sorwatom stalled when the company ran into financial difficulties. Operations have recently resumed production following a capital injection by a Kenyan investor.

Systems

The main issues transpiring from firm-level interviews with horticulture and specialty plant processors is that the supply of raw materials (in terms of quality and quantity) and the management of farmer/cooperative relationships are major constraints to growth. PTC, the sole tobacco processor, imports 98% of its raw material from the DRC and Uganda and relies strongly on the cooperatives working in tobacco plantations. Tomato supply for Sorwatom is unpredictable; they rely on production in one out of Rwanda's three harvesting seasons. Maintaining strong relationships with cooperatives is critical to the success of horticulture firms given that production of horticulture products is undertaken by small-scale farmers and cooperatives. In the case of the pyrethrum sector, the turnaround of Horizon Sopyrwa was contingent on the company's ability to restore the relationships with cooperatives to persuade them to resume growing pyrethrum.

Resources

While a majority of Rwandan farmers are involved in the cultivation of horticulture products, farming is primarily for personal consumption and direct employment in either large-scale cultivation of horticulture crops or processing horticulture crops is relatively small. The largest processing firms include Urwibutso, Sosoma Industries, FreshPack, Shekina Enterprises. In contrast, processing firms in the specialty plants sector provide direct employment to a large number of people, especially those engaged in the cultivation and processing of pyrethrum (200+ direct employees and 30,000 farmer families) and tobacco production (129 direct employees and 2,000 contracted farmers).

Interestingly, all the companies profiled in this chapter are Rwandan-owned, with the exception of Sorwatom, which recently had a capital injection from a Kenyan company. However, there are new foreign entrants in the horticulture-processing sector such as East African Growers (Kenyan), Kigali Farms (Belgium) and Soyco Group (Kenyan JV with Rwandan investors), among others, suggesting growing foreign interest in Rwanda's horticulture processing sector.

Exports

As indicated above, horticulture products are primarily exported in their raw form with limited processing. The exceptions to this are PTC, Horizon Sopyrwa and Shekina, which are profiled in this chapter. The most export-oriented firm within the sector is Horizon Sopyrwa, which exports 90% of its pyrethrum production, valued at more than US$4m in 2011.

6.2 Premier Tobacco Company (PTC)

The sole local processor of tobacco and cigarette manufacturer.

Year established	2000
Latest annual turnover (2010–11)	US$2–3m
Number of employees (FTE)	129
Main business activity	Tobacco processing
Export markets	DRC

Company Origins

Mr Assinapol Rwigara, the founder of Premier Tobacco Company, started his work in the tobacco sector in the 1970s as a distributor for various cigarette brands. In 1989, before the war broke out, he was importing cigarettes for British American Tobacco (BAT) through his distribution

company, Binter Impex. Distribution operations were halted due to the war but, following the genocide, Mr Rwigara restarted as a distributor for BAT and in 2000 began local production through a Secondary Processing Department. This department made the cigarette filler by inserting processed leaves into the cigarettes and then packaging the finished product.

In 1999 Mr Rwigara decided to leave BAT and started the Rwigass Cigarette Company, which changed names to Premier Tobacco Company (PTC) in 2002. In 2002, PTC began selling its two main brands – Filter Star King and Premier Filter – using imported processed leaves from Pakistan. In 2005 PTC started a Primary Processing Department (PPD), which would buy the tobacco leaves regionally and then crush them, separate stems and blend and moisturize the remaining leaves for the cigarettes.

Mr Rwigara has other business interests in Rwanda including the newly established Socaci Soaps, Cartons and Cosmetics Industries, previously known as Sakirwa, which manufactures various FMCG. He is also involved in real estate development, such as the construction of the Premier Hotel in Kigali.

PTC's turnover is approximately US$2–3m per year and its capacity is currently 6,000 boxes per month.

Products

PTC's initial brands in 2002 were Filter Star King and Premier Filter. Since then, PTC has introduced three new products: Filter Star Light, Super Filter Star Light and Premier Super. PTC's products vary based on the blending and level of nicotine to meet the different tastes of its consumers.

Because tobacco farming requires large tracts of land, nearly all of PTC's raw materials traditionally came from large plantations in eastern DRC. However, Uganda has recently become a significant supplier and the current split is approximately 70/30 between the DRC and Uganda. PTC has no issues sourcing adequate supplies from the DRC. The company contracts approximately 2,000 smallholders in Uganda and the DRC for its supply chain. Only 2% of PTC's raw material is sourced locally from Rwandan smallholders.

PTC's production process involves initially removing stems and veins, and cutting the leaves into strips. Various tobacco strains are then blended in rotating drums to get the desired cigarette flavour. For example, blends of bright, Burley and Flue-Cured tobaccos are used along with moisture-holding substances, such as apple juice or glycerine, and flavourings, such as honey, licorice or mint.

PTC's primary processing equipment was imported from India in 2005. Its secondary processing equipment came from Europe and China in 2000 and 2001, respectively. In 2010 the company invested in new machinery

including a green leaf threshing department that comprises machinery that automatically crushes leaves, separate the stem from leaves and moisturizes them; previously, this was done manually by several hundred casual labourers. When the green leaf threshers are in full operation, PTC plans to sell processed leaves to other African countries as well as to some European countries. PTC has also partnered with Newco Leaf, based out of Singapore, to help market the PTC tobacco leaf internationally.

PTC's main competitor domestically is BAT, as well as other imported cigarettes from Uganda and Burundi. PTC cigarettes are considered cheaper than BAT products and have stronger market share in the price-sensitive rural areas (BAT is stronger in the urban areas).

Systems

PTC is managed by its CEO, Mr Assinapol Rwigara, who oversees operations and production. Operations comprise finance, human resources, marketing, legal, and trade and logistics departments. Production includes departments focused on primary processing, secondary processing and green leaf threshing. Kenyan and DRC nationals oversee the production departments. In addition, PTC has separate directors for its Uganda and DRC operations. PTC has been using Sage software since 2006 as its MIS.

PTC's distribution network includes seven distributors who cover all the provinces of Rwanda. PTC exports intermittently to the DRC but has encountered difficulties working with distributors there. It is also exploring the possibility of exporting to South Sudan.

In terms of marketing, PTC is challenged by the fact that tobacco marketing was banned in Rwanda in 2007. Its distributors now build awareness through road shows to meet stores and potential clients. PTC meets regularly with distributors and holds an annual appreciation dinner to thank them for their support of its brand.

Resources

PTC employs 109 full-time staff, in addition to which there are approximately 20 expatriates from Kenya, the DRC and Burundi to oversee technical operations and maintenance.

Its main assets are a large 2 ha plant in Gikondo, which includes a warehouse and machinery.

As the only local manufacturer of cigarettes in Rwanda, PTC has built a thriving business and strong regional supply chain, and is now looking to further diversify its product line by exporting processed leaves to Kenya and Europe. It continues to face challenges due to the overall declining

demand for cigarettes in Rwanda as well as high VAT and excise duties levied on its products.

6.3 Shekina Enterprises

Innovative agro-processing company that introduced the popular "Akeza" cassava flour.

Year established	2008
Latest annual turnover (2010–11)	<US$1m
Number of employees (FTE)	41
Main business activity	Dry fruits and vegetables, traditional beverages
Export markets	Belgium, Canada, US, South Africa, DRC, Burundi

Company Origins

Shekina Enterprises, an agro-processing company, was started in 2008 by Mr Pierre-Damien Mbatezimana in Rulindo district, right next to Urwibutso. In the same vein as Mr Sina Gérard, Urwibutso's entrepreneurial founder (see Section 7.6), the story of Shekina Enterprises and Mbatezimana is one of entrepreneurship and creativity. Mr Mbatezimana started off his career working as an accountant in his family's trading business. However, Mr Mbatezimana was very interested in finding ways to add value to local crops, in particular, cassava leaves. He started carrying out research and experiments on his own on how to dry fruits and vegetables and in 2005 created a self-made drier for cassava leaves, which he tested at the National University of Rwanda's laboratories. In 2007 his dried cassava leaves were presented at an exhibition of Rwanda's Private Sector Federation, and received wide acclaim. In 2008 Mr Mbatezimana decided to start a company to process dried cassava leaves using his own drier.

After four years in operation, Shekina Enterprises has less than US$1m in total revenues and employs more than 41 people during the productive season. Shekina makes about 75% of its revenue from exports to regional and international markets.

Products

Shekina Enterprises is a pioneer firm in the dried cassava leaves market and after four years remains the only dried cassava leaf producer in the country. Today an estimated 70% of its sales come from dried cassava leaves. In

late 2008, Shekina Enterprises also started producing cassava flour under the brand name Akeza, which in Kinyarwanda means something "good / high quality". Akeza currently accounts for about 20% of Shekina's sales. Over the past few years Shekina has also started experimenting with other products, including the drying and/or milling of millet, sorghum, wheat, soya, and even the drying of fruits and vegetables such as pineapple, bananas, eggplant, amaranth, carrots and leeks.

The newest product Shekina Enterprises will be bringing to market in 2012 is Shela, a traditional drink made of fermented sorghum. The company's strategy is to sell these in branded fridges, in restaurants, shops, etc. Shekina Enterprises has already invested in 30 fridges and plans to diversify its juice range to include juice from pineapple rinds and tree-tomato juice. The target clients for these juice products are low-middle-income customers.

An interesting feature of Shekina Enterprises is that it has targeted the export market from the outset, even if volumes remain very small. Most agribusiness food processors (excluding commodities such as tea, coffee, pyrethrum) start by serving the needs of the local market before exporting. Shekina Enterprises found a niche market in the Rwandan diaspora in Belgium, and later added the United States, Canada, South Africa, Burundi and the DRC to the list. Dried cassava leaves, which are non-perishable, are quite popular among the diaspora. Other items that are exported include dried eggplants, cassava flour, millet flour, sorghum flour, fermented sorghum flour (for making the traditional sorghum drink), peanut flour and dried pineapples.

Systems

Shekina Enterprises, like Urwibutso, is positioning itself as a firm that commercializes and adds value to traditional Rwandan food products, targeting, in particular, the lower-middle-income market. The company works with traditional raw materials, which it sources directly from about 1,000 farmers in Rulindo district. Due to low volumes and its proximity to the production source, Shekina Enterprises has faced few problems in sourcing its raw material.

The main problem for Shekina Enterprises is keeping up with demand. The plant is currently running at full capacity and has the capacity to process about 1.5 tons of fresh produce per day, partly thanks to the purchase of a second drier from South Africa. Shekina's current machinery consists of one milling plant, two driers, crushers, a bottling machine, two pasteurizers, grainers and a centrifuge for the company's traditional drink production line. All the machines – except the mill, the newly purchased drier

and an industrial bottling machine that has been ordered from China – have been fabricated by Mr Mbatezimana himself.

Shekina Enterprises imports its packaging for Akeza flour from Kenya and the glass bottles for its traditional drinks from Tanzania. Sales are made directly to supermarkets and restaurants using a couple of vans and trucks, while exports are done through established distributors. Shekina is currently also opening a new retail outlet in Kigali's new city market and has plans to open an outlet in Brussels this year with the aim of distributing across Europe. This will allow them to export fresh produce too, such as avocados, sweet potatoes, cassava tubers, French beans, eggplants and bananas.

The company is currently seeking Rwanda Bureau of Standards certification for its Akeza and Shela brands, a step which will put the company in a better position to raise capital and grow.

Resources

In terms of human resources, Shekina Enterprises currently employs 41 staff full time and has up to an additional 65 workers during the production season. All staff are Rwandan. Mr Mbatezimana is the chairman; Shekina Enterprises has recently hired a CEO to oversee all production, finance and marketing operations. Given the small scale of the operation to date, other than the CEO Shekina Enterprises does not employ a highly qualified staff pool.

Current assets include the plant, machinery and a few transport vehicles. To date Shekina Enterprises has self-financed its investments.

6.4 Horizon Sopyrwa (Société de Pyrethre au Rwanda)

The country's only pyrethrum-processing company.

Year established	1972
Latest annual turnover (2010–11)	US$5–8m
Number of employees (FTE)	72
Main business activity	Pyrethrum
Export markets	US, Europe, Asia, South Africa and Ghana

Company Origins

Horizon Sopyrwa is a private company located in the northern province of Musanze. It produces pyrethrum, a natural botanical insecticide, derived from the chrysanthemum flower. Sopyrwa has the capacity to produce

3,000 tons of dry flowers a year and its factory contains a state-of-the-art refinery, which produces the best quality pale extract that is mainly sold to US clients. The production area "paysanat" of 14,000 ha of volcanic soils is currently distributed to 30,000 pyrethrum growers organized into 23 cooperatives.

Pyrethrum was originally introduced to Rwanda in 1936 by private growers on a small scale in the northwestern region of the country. Later in 1963, the government of Rwanda took an interest in the new cash crop and promoted pyrethrum growing on a large scale by making available a belt of 14,000 ha in the Virunga National Park area, a region with optimal conditions for pyrethrum growing (high elevation, volcanic soil and well-distributed rainfall). At least 7,000 farmers grouped together in a pyrethrum association were allotted two hectares each. They used the land on a contract basis for food production and pyrethrum growing on a rotational system.

In 1972 the government, supported by UNIDO, built a processing plant (Usinex) for crude extract production in Musanze near the pyrethrum farming community. Dry pyrethrum flowers, which were previously exported to Kenya to be processed, could now be processed in Rwanda, increasing the value addition of Rwanda's exports to the United States and South Africa. In 1978 the planters' association was merged with the processing plant (Usinex) to form Opyrwa (Office du Pyrethrum du Rwanda), a government-owned company.

During the following two decades, the pyrethrum industry in Rwanda faced ups and downs, as was the case for its peers in East Africa (Kenya and Tanzania). This was exacerbated by the 1994 genocide, which left the pyrethrum business at its lowest state, as the processing plant was looted and plantations abandoned. This hastened the privatization of the company, which was subsequently bought by a Rwandan investor in 2000. Following the privatization, the company was renamed Sopyrwa.

In 2008 the company faced multiple challenges, including (i) a lack of funds to pay staff and farmers; (ii) no ongoing research to diversify its product range; (iii) decreased plant yields; and (iv) an absence of consistent buyers for its product. The company was then bought by the Horizon Group, one of Rwanda's largest holding groups, owned by Military Medical Insurance (MMI) and Zigama Credit and Savings Society. The company was renamed Horizon Sopyrwa.

With the aim of turning the business around, Horizon undertook the following key changes from November 2008.

Farmers. Horizon began by organizing the farmers and their production again. They provided increased support to motivate the farmers to grow

more pyrethrum, conducted research to increase crop yield and drying processes (e.g. change from wood-burning drying to sun-drying and air circulation), and organized farmers into their own cooperatives to eliminate middlemen. Horizon also introduced good agricultural practices, training, improved clones, soil fertilization and free seedlings for farmers. Farmers are now also provided with additional incentives, such as cows, mattresses or cash, when they produce a high quality product.

Production and capacity utilization. Horizon's major intervention on production capacity was to introduce a two-season crop production cycle and expand into new areas. The aim of the company is now to increase the yield per hectare from 240 kg/ha to about 800 kg/ha by 2015.

Dryers. Eleven new dryers were bought that use more sophisticated technology and increase the quality of the pyrethrins in dry flowers from 1.2% to 1.5%. The company has plans to increase the number of these dryers from 11 to 24.

Land consolidation. In 2010, with government support, farmers undertook land consolidation for pyrethrum such that pyrethrum is no longer mixed with other crops such as maize or beans. As a result production has increased by nearly 100% from 378 tons a year to 700 tons a year and continues to grow. Ninety agronomists (ranging from university and high school graduates to farmers who underwent training) were hired on an ongoing basis to supervise this process.

Research. In 2011 Horizon Sopyrwa started conducting scientific research on 12 varieties to select high yielding varieties and eliminate certain viruses through in vitro fertilization and tissue culture methods. This has helped to improve production from a single crop.

Management. A corporate restructuring plan was implemented in 2011 that included an institutional audit to determine skills gaps, which led to replacement of some existing staff with qualified technicians. In addition, new departments such as legal, marketing and procurement were created to support the main business.

As a result of this turnaround plan, production has increased threefold since 2009.

Horizon Sopyrwa has an annual turnover of US$5–8m (2011) and employs approximately 72 full-time staff. The company has an installed capacity of 3,000 tons a year and a utilization rate of 29% (2011), which is considerably higher than the 6% pre-Horizon level (2009). The plan for 2012 is to increase capacity utilization to 50%.

Products

Horizon Sopyrwa has created a portfolio of three pyrethrum-based products: (i) refined extracts (pale), highly refined extract that is primarily used in the manufacture of aerosol products, vaporizing mats, liquid evaporating formulations and certain specialty veterinary and pharmaceutical preparations; (ii) crude oleo resin, a dark viscous liquid containing 25–33% pyrethrins used in the formulation of mosquito coils as well as space sprays and dusts; and (iii) pyrethrum marc, the vegetable remains after extraction used as a filler material in mosquito coils and in the formulation of the pyrethrum powder insecticides.

The process to obtain the pyrethrum product is complex, involving multiple stages of drying, extraction and refinement to remove any impurities. The pyrethrum daisy plant is first dried at the cooperative and then undergoes moisture and content analysis at the factory. The flowers are ground to powder and passed through extractors, which produce the pyrethrum liquid. This is in a semi-fine quality (i.e. 30% pyrethrum and 70% organic matter) and subsequently undergoes further refinement to remove the organic matter to obtain a pure pyrethrum liquid.

Currently, 90% of the Horizon Sopyrwa's product is exported to clients in the United States (four clients), Europe (five clients), Africa (two clients: South Africa and Ghana), and Australia and New Zealand (one client), with demand far outstripping supply. Other clients from Asian countries have recently begun contacting Horizon Sopyrwa to supply pyrethrum.

Ten percent of production is retained in Rwanda to be used by AgroPharm Africa (a company formed through a JV agreement with a UK-based firm, AgroPharm and Horizon) to produce aerosols, crop protection and public health insecticides for local consumption. One limiting factor to growth of the Rwandan business is the availability of packaging. Currently, the plastic containers are imported from Spain and other suppliers in the region. Installation of the machines began in December 2011 and, at the time of writing, is due to be completed by August 2012. Prior to the Rwandan operations of AgroPharm Africa, Horizon Sopyrwa would send the pyrethrum to the AgroPharm in the UK to formulate the product, which would then be sold to clients in West Africa.

Horizon Sopyrwa's pyrethrum has also been used domestically through a project with the Ministry of Health where the pyrethrum formula was used to lace mosquito nets.

Systems

Following the takeover of the Horizon investment group, Horizon Sopyrwa business is clearly in the growth stage, with management focusing on increasing the current production capability. Horizon Sopyrwa's

management structure includes the managing director, who oversees the factory production, laboratory, crop production and the finance and administration departments. The board of directors meets quarterly and consists of nine members from Kenya, Europe and Rwanda, and currently oversees various subcommittees on finance and administration. Horizon Sopyrwa is also, at the time of writing, undergoing an evaluation for the ISO 2001 certification, with the award expected this year.

The pyrethrum product is exported to its various destinations entirely by air. A key challenge to growth of the business in the future will be to negotiate affordable freight charges with Rwandair, Ethiopian Airlines, Qatar Airlines and Emirates to export destinations as the business continues to expand.

Very few competitors exist in the pyrethrum market, with the main sources being Kenya, Uganda, Australia, Papua New Guinea and China, although notably projects in Kenya and Uganda have stalled in recent years. As Horizon Sopyrwa cannot compete on quantity with these other nations, due to the limited land they have focused on improving the quality of the product (through an improved drying system and better climatic conditions). Rwandan pyrethrum is recognized as one of the best quality products in the world. This has created a competitive advantage for Horizon Sopyrwa and the chance of quickly becoming a key player on the world stage.

Resources

Horizon Sopyrwa has 72 full-time employees and hires approximately 140 seasonal workers depending on demand. It works with 23 cooperatives that comprise approximately 30,000 farmer families. Out of the 72 full-time workers, there are two foreign experts: a laboratory manager and a machine engineer, both of whom have several years experience in the pyrethrum business. The staff at Horizon Sopyrwa is fairly highly skilled, with at least two holding masters degrees and most staff with bachelors degrees and/or several years of work experience.

The farmers with which Sopyrwa works currently own 14,000 hectares of land, which they use under a contract that stipulates that at least 40% of the land has to be utilized for pyrethrum and other rotational crops. Of the 14,000, only 3,000 hectares are being used as land for pyrethrum production. This creates an area of possible expansion for the pyrethrum production process.

The company is currently in talks with the Rwanda Development Bank (BRD) to increase capital investment to improve machinery and increase the utilization of capacity. In terms of intangible resources Horizon Sopyrwa currently has very strong client and customer relationships and also key management and financial support from the Horizon Group.

6.5 Sorwatom

Rwanda's only tomato paste manufacturer.

Year established	1986
Latest annual turnover (2010–11)	<US$1m
Number of employees (FTE)	32
Main business activity	Tomato paste
Export markets	N/A

Company Origins

Sorwatom is Rwanda's, and for a long time also East Africa's, only tomato paste manufacturer. It was created in 1986 by a group of 11 Rwandan investors who saw an opportunity to transform local fresh tomatoes into tomato paste, aiming to compete with tomato paste imports, which amounted to an average of about US$400,000 per year at the time. The investors purchased an Italian tomato paste production line (parts of which are still in use today) for an estimated initial capital investment of about US$1.8m. By 1988–89 the company had turned a profit, employed about 100 people, worked with over 1,000 farmers and had started exporting to neighbouring DRC (formerly Zaire).

Three key elements made this investment possible: (i) a loan from BRD (Banque Rwandaise de Développement); (ii) tax exemptions under the investor code at the time; and (iii) high tariffs on tomato paste imports, which all but stopped in 1988. Between 1988 and 1994 tomato paste imports amounted to a mere US$2,000–3,000 per year, compared with US$400,000 during the period to 1980 to 1988.

Sorwatom's history has been one of ups and downs. Production at Sorwatom came to a complete halt in 1994. The facilities were damaged during the genocide and the company closed its doors until 2004. Only in 2003–4 did the rehabilitation of the facilities and machinery start, with new capital investments amounting to US$1.5m. In 2004, with a domestic market for tomato paste estimated at about US$650,000, the factory was up and running again. This time, however, the company would run at a loss, facing both increased international competition from brands such as Salisa and Merisa and a very unreliable supply of fresh tomatoes. In 2011 Sorwatom went bankrupt, failing to pay back a US$1.5m loan to Access bank and accruing US$550,000 in arrears to farmers. The company was taken over by Access bank and sold to a Kenya-based investor consortium, Dillux.

Dillux is looking to inject new life into the company with a different sourcing strategy and a revamp of its corporate systems. At the time of writing this profile, production at Sorwatom had restarted.

Products

Since it started operation, Sorwatom has focused on the production of one product: tomato paste. Tomato paste is a simple product that requires only two ingredients: fresh tomatoes and salt. The fresh tomatoes are cleaned, sorted, crushed, softened, concentrated to about 28%, pasteurized and finally packaged. The packets are then sterilized, cooled and dried. The whole transformation process happens along a processing line, requiring very little human intervention, except the transporting of the fresh tomatoes to the entry point of the production line, the transfer of the tomato paste to the pasteurizing and packaging line and the disposal of processing waste, consisting mainly of tomato seeds and skins. The quality and taste of the final product is highly contingent on the quality of the fresh tomatoes at the entry point.

Product development at Sorwatom came in the form of new packaging and was introduced in 2006 at a time when factory facilities were being rehabilitated and upgraded and when major new investors came on board. Sorwatom used to package the tomato paste in tins, but shifted to small 70 g aluminium packets, which are both more practical for consumers (smaller quantities, easier to conserve) and cheaper to produce. The shift to aluminium, which upgraded the look and feel of the product, required the purchase of new packaging equipment, a pasteurizing machine and a cooling and drying unit. The packets themselves are currently imported from China, a connection that was made possible through a Chinese dealer based out of Kigali. Working at only 20% capacity, Sorwatom produced 2.9m sachets or 29,000 cartons in 2011, which according to back-of-the-envelope calculations amounted to a market share of about 30%.

New product development is not the immediate concern for the company, although Sorwatom could, in theory, diversify into other tomato derivatives, such as ketchup and tomato sauce. However, as operations pick up, product diversification is bound to be part of the corporate strategy.

Systems

Sorwatom's main asset and strength is its processing line, which, despite occasional breakdowns, is for the most part modern and in good condition. The processing line has the capacity to process 80 tons of tomatoes per day, more than enough to meet the demands of the local market and to export to neighbouring Burundi and DRC. The processing line is divided into two main sections: the first transforms the tomatoes into tomato concentrate; the second takes the tomato concentrate from pasteurization, through to packaging, cooling and drying. The challenge is to keep these machines in good condition. Sorwatom currently does not have the in-house capacity to make repairs, and instead calls in expensive external

expertise whenever machines are faulty. This can also lead to lengthy and costly delays, in particular, when spare parts are not readily available.

The biggest systemic problem Sorwatom faces is the supply of raw material and the management of the relationships with farmers and cooperatives. However, with the help of the government of Rwanda (through NAEB) farmers are being mobilized and provided with agricultural inputs such as seeds, fertilizers and chemicals. In addition to the unreliable quality of tomato supplies, scarcity has also been a major issue for the company. There is excess demand for fresh tomatoes on the market and since 2009 the company has only been able to rely on production in one out of Rwanda's three harvesting seasons, between the months of July and November. Due to heavy rains, 2011 was a particularly bad year. Given that the minimum input required to start the machines is 30 tons of tomatoes per day, Sorwatom has only operated for three to four months per year at 20% capacity over the past few years.

Due to low production, the company gradually accrued huge debts towards its suppliers, consisting of 14 different tomato producer cooperatives. These debts led the company to a de facto bankruptcy in 2010–11 and severely strained the trust relationship between the company and tomato farmers. Sorwatom had supplied farmers with various inputs, including fertilizer, pesticides and technical advice, but failed to make timely payments. Restoring supplier trust has been a key focus for the new investors.

Dillux is also strategically investing in new systems that should enable the company to qualify for key certifications, such as the Rwanda Bureau of Standards Quality Mark and ISO 22000:2005. This is expected to involve investments of over US$1m, the upgrading of facilities and the creation of a lab where microbiological quality tests on the product can be carried out. The company already has some quality-control systems in place, including temperature controls to ensure the pasteurization and cooling processes are effective and inspections are carried out at the cleaning phase. Dillux has purchased new computers to professionalize administrative procedures, and Sorwatom has been connected to the Internet for the very first time.

Resources

Sorwatom's main fixed assets are limited to the factory, storage space, movable property, office furniture, the compound and administrative units, which (apart from the processing line) need upgrading to meet the standards required for certification. Its financial situation up until late 2011 was in the negative but the company can now count on the financial backing and management experience of a Kenya-based investment consortium. Following a government bailout in March 2011, it could start with a clean slate.

Sorwatom's brand name, though widely recognized and established in Rwanda, is likely to have suffered from the fact that the product had virtually disappeared from the shelves due to limited production. From a knowledge perspective, the tomato paste Sorwatom produces is extremely simple and very similar to other products on the market – there is nothing in the ingredients or the mix that would set Sorwatom completely apart from its competition. Sorwatom's human resource base is currently limited to 32 full-time staff.

Chapter 7

DAIRY AND BEVERAGES

7.1 Background and Overview

The beverages sector is the largest agribusiness industry in the country, with annual revenues of more than US$150m. The formal beverages sector dates back to the establishment of Bralirwa on the shores of Lake Kivu in 1957. Today, Bralirwa remains the dominant player in this market. It is also the largest company, and one of the oldest, in Rwanda (with an annual turnover of US$130–140m in 2010). Bralirwa was the sole brewer and manufacturer of soft drinks for decades. However, with the growth of a consumer class in Rwanda, the sector has seen the entry of new players. A recent entrant in the beer sector is Brasserie des Mille Collines (BMC), which began operation in 2009 and markets the Skol brand. While BMC remains comparatively small in size (US$10–11m in 2010), the company is investing heavily in expanding production to serve both the Rwanda and Burundi markets. Other players include Inyange Industries (US$7–8m in 2010), which is the leading food-processing firm in Rwanda, producing fruit juices, drinking water and dairy products. Finally, one of the more innovative Rwandan companies in the food-processing sector, Enterprise Urwibutso, produces a wide variety of traditional drinks and mineral water.[1]

In contrast, the dairy sector is relatively informal. It is estimated that, in 2008, an astonishing 96% of milk marketed was in the informal market and at least half of all milk produced never reached the market due to supply chain challenges, on-farm consumption and the price differential between raw milk and processed milk (TechnoServe 2008). Following the 1994 genocide, which devastated the cattle population, the government of

[1] Urwibutso has been classified in the beverages/dairy sector as approximately 70% of its revenues are derived from fruit juices and alcoholic drinks, although it also produces a wide variety of processed foods.

Rwanda implemented several initiatives aimed at restocking cattle and improving dairy production, through the "one cow per poor family" or Girinka programme, importing exotic cattle breeds from abroad, and the Dairy Cattle Development Support Project (Projet d'Appui au Développement de l'Evage Bovin Laitier, PADEBL), which supported the construction of milk collection centres (MCCs) and milk processing plants.[2] As a result, the cattle population and dairy production have both increased. However, there is only a handful of processing plants in Rwanda, including Inyange Industries (the largest dairy-processing company), Masaka Farms, Nyanza Dairy (Laiterie de Nyanza) and Rubirizi Dairy (currently stalled operations).

Products

Beverages. Bralirwa and Brasserie de Mille Collines are the only domestic producers of beer and both actively compete with East Africa Breweries Ltd., which imports Kenyan and Ugandan beers. Sparkling or carbonated drinks are produced solely by Bralirwa, which has held the sole license for Coca-Cola products since 1974. Inyange Industries and Enterprise Urwibutso are the largest fruit juice manufacturers. Both face competition from Kenyan imports such as the Del Monte Group. The largest traditional drinks manufacturer is Enterprise Urwibutso (with their trademark banana wine), but the subsector also includes smaller players such as Shekina Enterprises (fermented sorghum drink) and cooperatives such as Coproviba (banana wine). Several companies produce mineral water, the largest of which is Inyange Industries, which vies with Sulfo Industries' Nil water brand, and other brands including Huye water.

Dairy. The only large dairy processors are Inyange, Masaka Farms and Nyanza Dairy. Inyange is the dominant leader in this sector producing pasteurized milk products such as fresh whole and skimmed milk, UHT milk, fresh cream and yogurt. Masaka Farms, a relatively small producer, produces a wide variety of yogurt, fresh cream, cheese and butter products. Laiterie de Nyanza is known for its curd milk, cheese and yogurts. The market is also awash with dairy product imports from Kenya and Uganda.

Systems

Beverages. The brewery sector relies on imports for most raw materials (e.g. sugar, malt, hops, etc.) and packaging. Given that foreign investors own the majority of the two breweries (Heineken and Unibra); these companies can leverage an extensive sourcing network in Europe and in East Africa. The larger-scale players in the market have established extensive

[2] The objective of the Girinka programme is to place dairy cows into the houses of the poorest households in Rwanda to improve livelihoods.

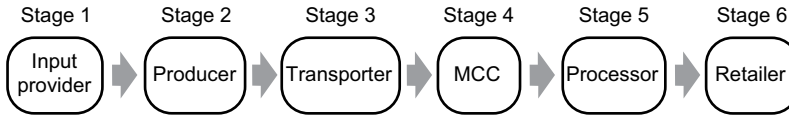

FIGURE 7.1 Standard dairy value chain. Adapted from TechnoServe (2008).

distribution networks in Rwanda to ensure that their products are delivered to all parts of the country in a quick and inexpensive way – something that the smaller players in the beverage sector and the dairy sector continue to struggle with. For example, Bralirwa maintains its own depots across the country and Inyange has been following suit with three depots servicing distributors and exporters. Further, as a testament to the scale of the sector, several small trading companies focus exclusively on the distribution of Bralirwa and Inyange products. Other firms, e.g. Urwibutso and Laiterie de Nyanza, dealing in beverages such as fruit juices and traditional drinks or in dairy products operate at a much smaller scale and rely on sales agents or conduct direct sales from their factory.

Dairy. The dairy industry has significant challenges with its supply chain in terms of receiving quality and quantity inputs from dairy farmers. Given its size, Inyange has been able to solve this problem by moving upstream in the value chain by acquiring Savannah Dairy in 2012 and establishing supply contracts with a farmer's union to reach its short-term production targets. With a view to the Longer term, Inyange has commenced expansion of their chilling and storage facilities. For other dairy processing companies that do not have Inyange's financial capacity, the supply chain remains a major challenge.

In a standard value chain (see Figure 7.1), farmers produce fresh milk on their farms that is moved by a transporter to a milk collection centre (MCC). The MCC chills the collected milk, preventing spoilage before selling it on to a processor. The processor adds value to the milk by extending its shelf life or producing by-products (TechnoServe 2008). The final product is purchased from the processor and sold by a retailer to the end customer.

In Rwanda's case, milk production is undertaken on a micro or small scale by farmers with a few cows. They bring the milk to the nearest town, where they are tasted for basic qualities such as acidity. If it passes the test, the milk is sold to informal roadside vendors. Very few channels exist to move the milk to the larger processors, which require it to be of consistent quality and quantity (TechnoServe 2008). Agricultural input for dairy farmers is very low given the limited knowledge, cost and the availability of the necessary animal feed. MCCs are typically run by cooperatives but are a relatively new concept and, as a result, are not well established. The investment required to set up an MCC is relatively high, especially when taking into account the cost of chilling tanks, and quality-control

equipment. However, there are some recent initiatives by the private sector, such as Kivu Dairy, the first private MCC in the country, which, if successful, has plans to expand throughout the country. Given the current state of the dairy sector, most dairy processing companies are currently running at between 35 and 50% capacity.

Resources

The beverages and diary sector is one of the largest direct employers in the country with over 1,000 workers. Bralirwa is by far the biggest employer in the sector, with 528 full-time employees, and several more casual labourers.

As an FMCG sector, this sector conducts some of the most extensive marketing outreach and it is no surprise to see that the branding and marketing of this sector's products are driven by nationalistic and emotional sentiments and symbols. A quick look at the array of product brands illustrates this clearly, from Bralirwa's Primus advertising that focuses on national pride, Inyange, which is the Kinyarwanda term for a national bird (the cattle egret), to Urwibutso's assortment of brand names that connote concepts that are recognized in the rural communities, e.g. Urwibutso, which means *a memory*. This ensures that the products in the Rwandan beverages and dairy sector are quite possibly some of the most recognizable brand names in the country.

Exports

The beverages sector is domestically oriented, with less than 2% of current production exported to neighbouring Burundi and DRC (an estimated US$3.1m), which points to a strong domestic market and a potential opportunity for expansion.[3] Nevertheless, the sheer size of the sector makes it one of the largest non-coffee/non-tea exporters in the country.

The dairy sector is currently unable to meet domestic demand and exports are non-existent.

7.2 Bralirwa

The largest manufacturing company in Rwanda and the largest brewery.

Year established	1963
Latest annual turnover (2010–11)	US$132–133m
Number of employees (FTE)	528
Main business activity	Beer and soft drinks
Export markets	DRC, Burundi and Uganda

[3] Based on 2010 export data (Comtrade).

Company Origins

Brasseries et Limonaderies du Rwanda (Bralirwa) is the largest company in Rwanda and leading producer of beer and sparkling beverages in the country. It was also the first company to ever have been publicly traded on the Rwandan stock exchange, following its successful IPO in 2010, in which the government of Rwanda sold a 25% stake to the Rwandan people. Prior to this, Bralirwa was owned 70% by Heineken and 30% by the government. At the time of the IPO, the government also sold a 5% stake to Heineken, making Bralirwa a fully privately owned company.

Bralirwa's history stems from the Belgian-owned company Bralima, which operated in the DRC and, in 1957, decided to set up a factory on the eastern shores of Lake Kivu to produce, distribute and sell beer and soft drinks. In 1963 Bralirwa was incorporated and began operations as a Rwandan company. In 1974 it obtained the license to be the sole producer and distributor of Coca-Cola products in Rwanda (Coke, Fanta, Sprite, etc.).

Today Bralirwa is 75% owned by Heineken, a leading global beer manufacturer, and 25% by the Rwandan people. It has two subsidiaries: BraMin, a maize-growing company (of which it owns 50%) and Cogelgas[4], a methane gas production company (of which it owns 62.4%). Bralirwa also has a minority stake in Banque Rwandaise de Développement (BRD).

Bralirwa contributes significantly to the Rwandan economy, as both a major employer and taxpayer. In 2010 the company's production volumes reached a record 1.3 million hectolitres (130 million litres) of beer and sparkling beverages. It is the largest taxpayer in Rwanda, providing approximately 12% of the domestic tax revenues. Today, Bralirwa employs over 528 full-time workers. In 2010, it generated US$132m in revenues.

Products

Bralirwa's alcoholic beverages include beer brands such as Primus, Mutzig, Amstel, Guinness (under license from Diageo) and Turbo King. Its sparkling beverages include Vitalo Eau Gazeuse (soda water) as well as Coca-Cola licensed products such as Coca-Cola, Fanta, Sprite and Krest Tonic. It also imports Heineken beer, Coke Zero and 50 cl PET bottles of Coca-Cola and Fanta. It has the sole Coca-Cola production license, which dates back to 1974.

Beer products.

- Primus, Rwanda's biggest beer brand and Bralirwa's first product was introduced in 1959 with the start of the Gisenyi operations. It

[4]Cogelgas has since ceased operations.

is a regional brand that is also produced in Burundi, the DRC and Congo-Brazzaville. The beer is bottled in 72 cl bottles and since 2007 also in 33 cl bottles to meet the changing market demand.
- Mutzig is the premium local beer, which was introduced in 1987 and is ranked second in terms of beer volumes after Primus. Mutzig Draught beer was also recently introduced to cater to a specific market.
- Amstel, like Mutzig, is also positioned as a premium beer brand and is one of the Heineken Group's international beer brands.
- Heineken is the flagship beer of the Heineken Group and is positioned as the top international premium beer.
- Guinness is bottled under license from Diageo in 33 cl bottles.
- Turbo King is a recently introduced dark beer, which is also sold in Nigeria, the DRC and Congo-Brazzaville.

The company has two production sites: a brewery and sparkling beverages plant in Gisenyi on Lake Kivu (Northern Province) and another sparkling beverages plant in Kicukiro, Kigali, where the company's head office is also located. The Gisenyi plant (consisting of a brew house, fermentation and lagering tanks, and two bottling lines) was set up in 1959 and has seen regular upgrading and investment to improve quality and extend capacity. In 2008 at least US$0.5m was invested to increase capacity and 2011 saw the installation of additional fermentation tanks and a capacity extension of the brew house. Today, the current production capacity of the Gisenyi plant is 1.1m hectolitres per year (approximately 130m bottles). The Kicukiro plant was constructed in 1974, had an initial capacity of 300,000 hectolitres per year and has also been upgraded over the years.

The company uses water, barley, malt, hops, yeast, maize and sugar as raw materials in the production process. These raw materials are sourced from Europe (malt and hops), Rwanda (maize and water) and Zambia (sugar). Crowns and labels are produced in Kenya and Egypt. Packaging materials, such as returnable glass bottles are imported from either Kenya or Tanzania. To lower its supply chain risks, Bralirwa and Minimex established a joint venture company, BraMin, which grows maize on 250 ha of land in Rwanda in the first industrial agriculture operation of its kind.

Currently, Bralirwa's beer market share is estimated at around 90% of the domestic market and 99% of the sparking beverages market, which Bralirwa hopes to maintain in the future. The Primus and Mutzig brands comprise 88% of the Rwandan beer market and are, consequently, the leading brands in the country. In 2010 a new domestic competitor emerged, Brasserie de Mille Collines, whose signature beverage is Skol. Bralirwa also faces competition from imported products from East Africa Breweries Ltd such as Bell, Tusker, Club & Nile Special. However, given the relatively high costs of importing beer from Kenya or Uganda due to costs of

freight, fuel and insurance, Bralirwa is well positioned to compete against imports.

Bralirwa currently exports to the DRC, Burundi and southwest Uganda. The volume exported to the DRC (mainly into Goma) and Uganda represent around 5% of Bralirwa's total sales.

Systems

The composition of the board of directors has changed since the listing of the company. The board recently appointed Mr Jonathan Hall as its new managing director. The senior management team consists of five directors, including finance, commercial, technical, human resources and logistics. The internal audit manager and the company secretary also report to the managing director.

In 2010 Bralirwa installed a fully integrated proprietary and customized MIS software called Navision, leveraging the licensing arrangements with the Heineken Group.

Bralirwa uses an extensive distribution network to reach all corners of Rwanda, which comprises professional distributors (who own their own warehouses) and third-party transporters. It also owns strategically located depots in Mukeri, Nyagatare, Musanze, Nyabibaha, Ngoma and Karubanda.

Bralirwa performs ongoing consumer research and continuously invests in marketing and raising brand awareness to build maximum consumer relevance and acceptance. It has positioned Mutzig as the leading high-quality beer in Rwanda and uses international advertising campaigns adapted to the Rwandan context for many of its products. Primus is positioned as a national brand and the advertising is based on national pride. Bralirwa envisions Primus as its major source of future growth as it is seen as an aspirational product, the advertising for which has been aimed at those with new sources of disposable income in Rwanda, including the growing urban population.

Quality management is encouraged through the company's total productive management (TPM) programme, a management efficiency and quality programme aimed at measuring and monitoring the progress of their key performance indicators (KPIs). This programme aims at translating the production process into higher-quality and quantity products, while minimizing losses. Bralirwa also has to adhere to the quality, safety and environmental policies of the Coca-Cola Group and Heineken.

Bralirwa actively engages in corporate social responsibility (CSR) activities, including HIV/AIDS and malaria awareness and prevention programmes. It also supports numerous local schools and charity groups. The company has its own health clinics in Gisenyi and in Kigali. All employees and family members are treated free of charge.

Resources

The company has over 1,000 employees, which includes 528 full-time staff and 45 managers. It employs five expatriates in senior positions, including human resources, finance, technical operations and overall management.

The company's assets include a beer and sparkling beverages plant on the shores of Lake Kivu capable of producing 1.1 million hectolitres per year. In addition it has a sparkling beverage plant in Kicukiro, Kigali. Adjacent to the Kicukiro plant is a waste-water treatment plant[5] with a capacity of 210 cubic metres per day to minimize environmental degradation from the plant wastage. The company also owns several of the depots that it uses around the country as well as its aforementioned stakes in BraMin, BRD and Cogelgas. In addition it owns two residential properties in Kigali, used for housing its staff.

In terms of non-tangible assets, the company has deep financial and technical resources[6] through its parent company, Heineken, and strong brand equity (built over nearly 50 years of business) in Rwanda.

7.3 Brasserie de Mille Collines

A new entrant in the beer sector and the country's second brewery.

Year established	2009
Latest annual turnover (2010–11)	US$10–11m
Number of employees (FTE)	75–80
Main business activity	Beer
Export markets	Burundi

Company Origins

Brasserie de Mille Collines (BMC) is a local brewery established in 2009 and owned by UNIBRA. UNIBRA is a Belgian-based company that operates in the beverages sector in several African countries.

In 1964 an international alliance – Skol International Limited – was formed by four international brewing companies, whose aims were to provide a worldwide service in technical and marketing fields for the promotion of Skol International beer.

Leading breweries in many different countries were licensed to brew Skol to a standard formula, brewing to perfection using only natural ingredients: pure water, a unique blend of hops and barley malt. This led to

[5] Bralirwa plans to invest in a new waste-water treatment plant in Gisenyi.

[6] This includes technology transfer and technical assistance agreements, trademark licensing agreements and distribution and bottling agreements.

an increasing popularity to rank among the top three to four beer brands by volume in the world.

Today, BMC is estimated to control 10% of the beer market share within a relatively short period of time and provides employment to at least 135 people, including casual labour. Approximately 20% of sales are exported to Burundi.

Products

BMC produces two beer brands: Skol Malt and the recently introduced Gatanu 5 Lager. Skol Malt is a 100% malt beer and is their flagship brand. Using only three ingredients (malt, water and hops), the brewer has won two international gold medals for its quality (in 2010 and 2012) from the Monde Selection International Institute for Quality Selection. Skol's rapid acquisition of market share reflects consumers' aspirations for high-quality beer. Gatanu 5 has recently been introduced into the market. Gatanu, which means *five* in Kinyarwanda, is also the most affordable beer on the market, selling for 600 Rwf for a 65 cl beer.

BMC is currently undergoing a US$15m expansion plan to grow its production capacity, which currently stands at 100,000 hectolitres.

Systems

BMC plans to grow both in capacity and efficiency. This means using technology for energy-efficient production methods such as their US$0.5m state-of-the-art waste-water treatment plant, which is remote-controlled via the Internet by its European supplier to ensure the treatment meets the highest standards. This has enabled the company to reduce its energy consumption by 18% in the past six months.

BMC carefully utilizes marketing to break into the premium beer market, dominated to date by the Mutzig and Primus brands. The main value proposition of the Skol beer is that it is a 100% malt beer with no sugar or sugar substitutes used in its production. This has resonated with the drinking population of Rwanda, who are becoming more health conscious and are reducing their sugar intake – a testament to Rwanda's growing middle class.

Other marketing channels include radio, direct promotional material (caps, T-shirts, branded fridges, etc.) distributed widely to point-of-sales and national promotion campaigns that enable consumers to win merchandise and luxury items such as mobile phones, laptops and cars.

BMC distributes through numerous sales agents and wholesale distributors located throughout the country. When it first began operations, the company decided to focus on one area to build up a distribution system and establish the brand. Distribution was concentrated in Kigali only, the core of the Rwanda beer market but gradually from September 2010,

distributors have been expanding all over the country and are looking at warehouses to achieve further coverage.

Training is another large component of BMC's operations. Internal training ranges from computer skills, sales to equipment installation and training. This is supplemented by regular training trips to Nairobi, especially to the bottling plants.

Resources

BMC is managed by Mr Weingarten, a stalwart of the brewing industry in Germany. The company employs approximately 135 staff, of which 75–80 are full-time employees.

7.4 Inyange Industries

Rwanda's leading food-processing company, including dairy and beverages.

Year established	1997
Latest annual turnover (2010–11)	US$10–11m
Number of employees (FTE)	195
Main business activity	Dairy products, drinking water, fruit juices
Export markets	Burundi, eastern DRC, Uganda, Tanzania, South Sudan and Congo-Brazzaville

Background

Inyange started in 1997, as part of Crystal Ventures Group[7], with the vision of becoming the leading food-processing company in Rwanda. In 1999 it began operation, which included processing and selling pasteurized milk and yogurt. Later the plant introduced bottled mineral water (in 2001) and fruit juices (in 2004). In 2005, realizing that domestic demand for all Inyange products was much higher than its facilities could supply, Inyange embarked on an ambitious US$35m project to increase its plant's capacity in Masaka tenfold. This increased capacity and more than fulfilled the local demand, while also giving Inyange the opportunity to expand its market to the neighbouring countries, thereby taking advantage of Rwanda's strategic position in the East African Community's customs union.

[7] Crystal Ventures Group is one of Rwanda's largest investment groups. The CVL Group of Companies portfolio consists of NPD Cotraco, Real Contractors, Bourbon Coffee, Intersec Security, Mutara Enterprises, Media Systems Group, BMI, GPS Rwanda and CVL Developers.

Today, Inyange Industries is Rwanda's leading food-processing company, with an annual turnover of US$10m, and it employs 195 full-time employees.

Products

Inyange's product lines focus on three main areas:

- *dairy*, which includes pasteurized milk products such as fresh whole and skimmed milk, UHT milk, fresh cream and yogurt (the company has plans to add higher-value products such as ice cream, butter and cheeses);
- *mineral water*, which includes bottled purified water in two sizes of (500 ml and 1 l); and
- *fruit juices*, which include nectars and juice drinks with a wide range of flavours.

Exports are currently 10–12% of Inyange's total sales. Inyange has relationships with distributors in Burundi, eastern DRC, Uganda, Tanzania, South Sudan and Congo-Brazzaville. The estimated market share of the company ranges from 80% in dairy to 75% in mineral water and 55–60% in juices. Inyange's main competitors include Nil and Huye for mineral water, foreign imported juices and Masaka Farms for yogurt.

Inyange's plant in Masaka (on the outskirts of Kigali) has a capacity to produce 5,000 litres per hour of mineral water, 5,000 litres per hour of milk, and 5,500 litres per hour of juices in the familiar Tetra Pak one-litre bricks. They also have a Krones production line for water and fruit juices with the capacity to produce 13,000 half litres per hour and 10,000 litres per hour. At the time of writing, it operated at only 35–40% capacity, although the company hoped to increase this to 50% by the end of 2012.

In March 2012 Inyange acquired Savannah Dairy located in Nyagatare, and began a US$2m plan to expand capacity of the chilling and storage facilities to 15,000 litres per hour and 40,000 litres, respectively. In addition, Inyange entered into a supply contract with the Nyagatare Farmers' Union for a minimum of 35,000 litres daily, which should help Inyange reach its short-term production target of 50,000 litres per day. In the longer term, Inyange hopes to reach its full capacity in dairy, which is approximately 100,000 litres per day.

For packaging, Inyange uses an aseptic filling process and does all the packaging internally. Inyange has the capacity to provide packaging for other customers but would need to import the raw materials. Also, it would need to find the right opportunity that is not in conflict with its other business interests.

Systems

Inyange employs current technologies from around the world. Its water and beverages machinery was brought from Germany; the milk line came from Australia, Denmark and the United States; and packaging equipment came from the leading global supplier of packaging solutions, Tetra Pak. The plant in Masaka also has a state-of-the-art waste and water-treatment plant on site. In term of food-processing facilities, the plant is considered to be on a par with regional competitors such as Del Monte. Inyange has employed SAP as an MIS since mid-2010.

The company uses three types of training to keep employees current on the latest systems and technologies: internal training by local experts; technical courses on installation and training by European experts brought in especially for that purpose; and external training opportunities such as study tours and courses, depending on the needs of the company.

For distribution, Inyange also works with accredited distributors for each of the provinces with sales targets per distributor. Inyange maintains three strategically located depots in Kigali (main warehouse), Rubavu and Rusizi to serve the distributors and exporters in neighbouring countries.

The company acquired ISO 22000-2005 in 2012. It also aims to achieve ISO 14000 certifications on its environmental systems. The Rwanda Bureau of Standards (RBS) has certified its quality standards, which allows it to export throughout the EAC.

Resources

Inyange has 195 full-time employees and 200 casual employees. In 2010 it increased shifts to three times per day to meet increasing demand. The company employs nine expats, including seven technicians from the EAC and two from outside the region.

To achieve strong brand recognition, Inyange engages in significant marketing around the country through billboards, radio and television advertising.

As part of CVL group, Inyange enjoys access to substantial managerial and financial resources. Inyange has plans to expand the supply chain and upgrade factory capacity. It also plans to diversify products to different customer segments by introducing new packaging that addresses middle customer segments, e.g. loose milk packages. In terms of exports, it would like to increase exports especially to Congo-Brazzaville. Inyange is considering divesting some of its assets to investors to raise funding for these expansions.

Inyange continues to try to overcome a number of challenges along the supply chain including achieving quantity and quality targets from farmers. It struggles with the cost of packaging and lack of human capital in Rwanda. Despite these challenges, in little over 10 years it has managed to achieve substantial market share in Rwanda and beyond.

7.5 Laiterie de Nyanza (Agro-Processing Industries)

One of the oldest dairy plants in Rwanda.

Year established	2010
Latest annual turnover (2010–11)	<US$1m
Number of employees (FTE)	60
Main business activity	Dairy products, coffee, horticulture/crop production, and sericulture
Export markets	N/A

Company Origins

The history of Laiterie de Nyanza (Nyanza Dairy) stretches back to pre-independence Rwanda in 1937 with the establishment of a dairy farm in the southern district. The dairy company had to stop activities during the political instability from 1957 to 1963 but restarted operations through funding by UNICEF in 1965. The management of the dairy farm was passed to the Ministry of Agriculture and in 1983 the name was changed for a period to Laiterie de Nyabisindu to reflect the name of the commune. The company stopped operations in 1994 and resumed them in 1995, but had limited activity until 1999.

In 1999 the company was handed over to the Ministry of Defence under the management of the Rwanda Defence Force (RDF) Production unit – the Rwandan national army's production arm. Significant areas of idle government land that were used as former military training grounds in eastern Rwanda were consequently transformed into agricultural farmland. RDF production started working in dairy (through the Nyanza Dairy processing plant and Songa Dairy Farm, which hosts the dairy cows), coffee and sericulture projects.

During the privatization era that followed the genocide, the company was partially bought by the Horizon Group and renamed Horizon Agro-Based Production in 2006, which brought together other agro-processing units that RDF Production would manage such as coffee and horticulture production under one company.

Desiring a clear break from the RDF Production unit, Horizon Agro-Based Production was formally registered in 2010 as a private company called Agro-Processing Industries (API) Ltd., which now operates independently of the RDF. The primary shareholders include 50% shareholding by the MMI (Military Medical Insurance) and 50% by Zigama Credit and Savings Society (CSS).

Nyanza Dairy plant is one of the oldest dairies in Rwanda, yet it is relatively modern thanks to a significant capital investment of about US$800,000 in 2010 to upgrade and invest in new pasteurizers, homogenizers and other stainless steel equipment. The API Group employs about

60 full-time workers, produces between 3,000 and 4,000 litres per day and generated less than US$1m in annual revenue in 2010.

Products

Dairy. Nyanza Dairy has processed curd milk and dairy products such as cheese and yogurt for local consumption since 2002. The company has plans to produce UHT milk and milk powder through its milk collection and processing centre in the south of the country. Today, Songa Dairy Farm owns over 500 Friesian cows to supply Nyanza Dairy and the plant also receives supplies from farmers within the area.

API has other interests in the agribusiness industry in Rwanda. The four strategic business units include coffee, dairy, crop/horticulture production (maize, soya, cassava, pineapple and mangoes) and they have recently initiated a sericulture project.

Coffee. API operates nine washing stations and one mini-station around the country. In 2011 API exported approximately 207.3 tons of green fully washed arabica coffee through the National Agricultural Export Board (NAEB).

Crop and horticulture production. API has cultivated 1,000 ha for cassava plantations, 800 ha for maize production, 74 ha for pineapple production, 5,000 mango tress and also grows soya beans. Most production is sold for domestic consumption but there are plans to develop the soya bean and sunflower crops to supply Mount Meru Soyco Ltd, which is building a plant for oil production at Kayonza in Eastern Province. The production areas are located in the eastern part of the country in the Gako and Gabiro, where the military camps are located.

Sericulture. API is a partner on the MINAGRI-led National Sericulture Centre with other stakeholders such as the sericulture cooperatives, the Rwanda Silk Farmers Federation (RSFF) and the textile firm, Utexrwa. The aim of the project is to enable technological transfer of multiplication and distribution of silk mulberry cuttings to farmers, which will be used to produce a wide variety of silk products. The NSC project operates 45 regional sericulture centres, including Kigali. While the plantation of the mulberry trees and training has commenced, production has not begun at the time of writing.

Systems

Nyanza Dairy plant currently operates at 50%, producing between 3,000 and 4,000 litres per day out of an installed capacity of 8,000 litres per day. The main constraint to full capacity utilization is the unpredictable demand for dairy products.

For its operations, the dairy plant imported machinery from Kenya in 2002 and regularly solicits technical assistance for packaging from Tetra Pak in Kenya. They also rely on Ugandan expertise for new product development, machine maintenance and marketing consultants.

They work with 10 distributors, 6 based in Kigali and 4 across the country, to distribute their dairy products. The company does not have any retail outlets but direct sales are conducted through the plant in Nyanza District only to the primary schools in the area. Nyanza Dairy's products are well known throughout Rwanda, especially their popular curd milk product, obviating the need for high marketing expenses. The company does not currently export and has no plans to commence in the near future.

The competitive landscape for dairy products is limited to the much larger Inyange Industries (which recently also bought Nyagatare/Savannah Dairy) and smaller players such as Masaka Farms. Another competitor, Rubirizi Dairy, has since closed operations.

Resources

API provides employment to at least 60 full-time workers. Nyanza Dairy directly employs 28 full-time workers; 30 are based in the coffee plantation and 4 workers are located in the sericulture project.

API operates out of its headquarters in Kigali city but has vast land assets for its horticulture/crop production, coffee and sericulture projects. Nyanza Dairy is located in the southern Nyanza District and consists of the dairy processing plant and Songa Farm, which hosts the dairy cows.

7.6 Enterprise Urwibutso (Sina Gérard)

Innovative pioneer of processing traditional foods and drinks.

Year established	1993
Latest annual turnover (2010–11)	US$3–4m
Number of employees (FTE)	More than 200
Main business activity	Food processing: fruit juice, traditional food products and beverages, flour, mineral water, etc.
Export markets	EAC (Uganda, Kenya), Middle East (Oman) and Europe (Belgium, UK, France)

Company Origins

Enterprise Urwibutso was started in 1983 as an informal company by Mr Sina Gérard, a visionary entrepreneur who remains at the company's helm over 30 years later. Urwibutso, which in Kinyarwanda means "a memory",

started as a small vegetable retail shop and bakery along the Kigali–Musanze road selling local produce. Its strategic location – in Nyirangara/Rulindo, almost exactly at the halfway mark between Kigali and Musanze – made it a regular stopover for travellers and customers. However, what differentiated Urwibutso from other little retail stores and bakeries at the time – and this is something that has become a hallmark of the company today – was innovation. Today Urwibutso is a highly diversified agribusiness firm, employing over 200 people with sales surpassing US$3.5m, with a very strong brand name, strong supplier networks and with exports to neighbouring countries, the Middle East, the United States and Europe. Its founder, Mr Sina Gérard, is the archetype of the successful self-made entrepreneur, who went from starting a small retail shop to managing a small business empire, and stands out as a source of inspiration for other entrepreneurs in Rwanda today. In his own words, he wants his company, Urwibutso, to serve as "a memory" of what is possible for future generations of entrepreneurs in Rwanda.

Products

According to the founder and the company's CEO, the main source of Urwibutso's growth and success has been continuous and consistent product innovation. Urwibutso's first breakthrough came in 1987, four years after its establishment, when the small shop/bakery introduced a new doughnut that quickly gained fame and remains popular to this day. In 1993 – at around the same time the company was officially registered for the first time – Urwibutso started producing passion fruit. This led to the introduction in 1998 of what is today Urwibutso's best-selling product, passion fruit juice. The move into passion fruit juice firmly shifted the company from pure agricultural production into the industrial transformation of agricultural products or agribusiness. Since then innovation at Urwibutso has come at a rapid pace, and has included banana wine in 2000, pineapple juice and strawberry juice in 2002, biscuits and the famous chilli pepper oil Akabanga in 2004, oil from passion fruit seeds in 2007, cereal-based flour in 2008, yogurt in 2009, packaged peanuts in 2010, wine in 2011 and mineral water in 2012.

While the core of its business remains the transformation of agricultural products and beverages, Urwibutso has also diversified into the flowers market (roma and antholium), livestock, catering/restaurants, tile production, construction, carpentry and ecotourism. What binds these activities together is their rural nature. Mr Gérard's vision was to bring traditionally homemade products to an industrial scale, be it food products or soil-based products such as tiles. Urwibutso's innovation has often been packaging or quality control as in the case of banana wine, flowers, peanuts, jam or the introduction of new varieties, such as strawberries and vines, hitherto not produced in Rwanda.

With Rwanda's entry into the East African Community in 2007 and growth in Rwanda's agribusiness sector, Urwibutso's products are facing increased competition. There are now multiple players in Rwanda's market for fruit juice (Inyange, Kenya's Del Monte), yogurt (Inyange, Masaka Farms, Kenya's Bio), flour (Pembe Flour, Bakhresa) and water (Nile, Inyange, Huye). Many of these players, in particular, Inyange in the local market, have much more sophisticated machinery, capital and expertise than Urwibutso. The challenge for Urwibutso is to respond to increased demand and better consumer awareness about taste and quality, in an ever more competitive and sophisticated consumer market.

One of Urwibutso's main assets in Rwanda's increasingly competitive markets is the strength and recognition of its product brand names. Urwibutso's products have names in Kinyarwanda that convey an idea and are recognized countrywide. The company's key brand names include:

- *Urwibutso* ("a memory") for its mandazi/doughnuts;
- *Agashya* ("innovation") for all its juice products;
- *Akarusho* ("better than the rest") for all its alcoholic products;
- *Akabanga* ("small secret") for the famous chilli pepper sauce;
- *Akashyoshye* ("the sweetest") for its yogurt;
- *Akanozo* ("the perfect") for its cereal flour;
- *Akandi* ("other innovation") for its mineral water.

The driver behind this innovation and ambition to expand into new product areas has undoubtedly been Mr Gérard himself:

> Given that I'm a totally independent man, my objective every year has been to put a new product on the market. Every year our clients, suppliers, and competitors are curious to discover what new product we will bring to market.

Systems

Urwibutso is organized into six different and autonomous entities: a factory for juices started in 2000 (about 60% of aggregate revenues), a bakery registered in 1993 (16% of revenues), a factory for alcoholic drinks started in 2000 (10% of revenues), a factory for Akabanga started in 2004 (8% of revenues), a workshop for woodworking started in 1998 (5% of revenues) and other activities (less than 7% of revenues). Each entity is managed independently and has its own budget and personnel. In terms of personnel, the bakery has the most staff – about 90 – compared with 80 in the juice, alcohol and Akabanga factories.

More than anything, the system that defines the company is participatory management and the management's relationship with the company's 200+ staff. According to the management, human resources management and maintaining the satisfaction level of employees has been the key to

Urwibutso's success; "our staff feel like family," claims the CEO. To maintain staff motivations levels, the company distributes livestock to its employees, provides free seeds and inputs (e.g. for passion fruit and strawberry), sources the produce of its staff, who for the most part are also farmers/landowners, and provides free education through a school that was set up by the founder, called Fondation Sina Gérard, which today has 279 students in kindergarten, primary and secondary.

A second strength is the network of farmers and cooperatives Urwibutso works with. Suppliers and partner cooperatives are all located in the vicinity of Urwibutso's factories. Proximity has enabled Urwibutso to develop trust relationships with these cooperatives, to train their management, provide extension services, closely monitor production and reduce transportation costs and losses. The outcome for Urwibutso has been a reliable and flexible sourcing system, which is something most agro-processing firms in Rwanda lack. This network of cooperative relationships has also enabled Urwibutso to experiment with new varieties and crops. When Urwibutso started processing passion fruit juice in the late 1990s, for example, passion fruit was not being grown at a commercial scale, while now it is. More recently, Urwibutso has started experimenting with strawberries and grapes. Working together with FAIM (a private plant nursery that was started in 2011), Urwibutso has recently been testing new varieties of strawberries and bananas.

There is strong nationwide demand for Urwibutso's main products, in particular, passion fruit juice, banana wine and Akabanga. The company distributes these products through Urwibutso outlets in Rulindo and Kigali, direct delivery, wholesalers and an online shop.

Resources

Urwibutso's main resources are its widely recognized brand names, its network of suppliers and its six production sites in the Rulindo area.

The company employs up to 400 staff, with about 200 permanent staff, of which about 90 work in the bakery, 45 in the Akarusho factory, 25 in the juice factory, 12 in the Akabanga factory, 12 in the woodworking facility and 8 in the brick production site. All employees are Rwandan, except for a German engineer who is responsible for the machinery. Urwibutso supports its employees with training opportunities; in 2012, for example, two workers were pursuing degrees in food science and biometrics in Egypt and India.

Chapter 8

CONSTRUCTION MATERIALS

8.1 Background and Overview

Today, the construction materials sector is the largest manufacturing sector in Rwanda, generating over US$70m in revenues. It is also one of the fastest growing sectors in terms of new firm creation.[1] In 2006, the share of construction materials/metals firms was only 2% of total firms; by 2010, this had increased to 16%, with over 60 new firms registered in the sector (Gathani and Stoelinga 2012).

The fate of the construction materials sector is closely tied with the 1994 genocide and the reconstruction effort that followed. Prior to 1994, there were a few pioneering firms in the sector, such as Tolirwa (Rwanda's first manufacturer of galvanized roofing sheets, established in 1979), Ameki (one of the oldest companies in the sector, which began a paints production line in 1984), Uprotur (manufacturer of various construction materials, established in 1987) and Ruliba Clays (established in 1985 to manufacture clay products). All of the above companies (with the exception of Ruliba Clays) were created by entrepreneurs who can trace their roots to the trading business. These traders would import the necessary construction materials from within the region and from abroad, and, having acquired more than a few years of knowledge about the industry and local demand, they moved into manufacturing.

The big influx of new construction firms, established by both Rwandan entrepreneurs and regional investors, first occurred after the 1994 genocide and especially during the past 10–15 years. The early companies in the sector in the post-1994 period were started by Rwandan entrepreneurs such as Jeremie Kalisa of Simaco (who also began as a trader) who were

[1] Please note that this sector does not include firms that are engaged in construction services.

encouraged by the post-genocide reconstruction demand and began producing steel roofing sheets. More recently, several Rwandan groups have entered the sector, including Ufametal, which was created in 2001 as a subsidiary of the Petrocom Group, and Master Steel (one of the largest Rwandan construction materials firms) in 2005. These have been closely followed by large regional conglomerates such as Safintra, part of Kenya's Safal Group, and SteelRwa, one of the largest rebar manufacturers, with business interests in several African countries. Both Safintra and SteelRwa were created in 2007. Rwanda's two cement companies, Cimerwa (owned by the Rwanda Investment Group and two institutional investors) and Kigali Cement Company (now partly owned by the Kenyan multinational Athi River Mining Company) were also created in the post-genocide period (2006 and 2007, respectively).

Products

At least 10 large construction materials firms exist in Rwanda. The main products manufactured locally are roofing sheets of various sizes, profiles and colours, clay products including bricks, tiles and blocks, cement, paints, steel tubes, steel reinforcement bars (rebars) and accessories such as wire, gutters, ridges and nails.

One of the key characteristics of the construction materials sector is the increasing level of diversification compared with the agribusiness sector. While the tea, coffee and mining sectors remain the backbone of the economy with a large share of the country's exports, there are limited opportunities for diversification in these sectors. In comparison, the manufacturing sector, and especially the construction and light-manufacturing sector, is already seeing a high level of diversification and should continue to be the source of new product development and diversification as there are many more products that firms specializing in construction materials can organically diversify into.

Systems

A significant systemic challenge for the construction materials sector, similar to most Rwandan industrial sectors, is the supply of raw materials. With the exception of Cimerwa and Ruliba Clays, which source their raw materials domestically (i.e. cement clinker, clay, kaolin), all other firms profiled in the construction materials sector report importing almost all their raw materials from abroad. A limited number of these companies are able to source from within the region such as Kigali Cement Company, which imports clinker from Kenya, and SteelRwa, which sources scrap metal from Burundi and the DRC. Given transportation lead times

and clearance issues with the ports of Mombasa and Dar es Salaam, some companies face lag times of up to three months to import raw materials. Compounded by the seasonality of demand for construction materials and high production costs (particularly due to energy costs), it is no surprise to see that capacity utilization rates are relatively low in the sector, ranging from less than 10% (Uprotur) to 25% (Tolirwa) to 42% (SteelRwa).

Strategies adopted by companies in the sector to mitigate challenges raised by the supply chain and low capacity utilization appear to be influenced by their ownership status. Companies that have the support of large groups are in an advantageous position as they are able to leverage the supplier network of the parent companies to source raw materials. For example, Safintra imports the processed raw material from its parent companies in the EAC region, meaning that it drastically reduced the time it takes to complete an order. Similarly, Kigali Cement sources its clinker and gypsum from Athi River Mining Company in Kenya. Rwandan companies that cannot rely on the support of large regional groups have diversified their products to avoid relying on a single production line and the possibility of the absence of a single raw material halting production altogether. For example, Uprotur has diversified into several product lines, including nails and wire, and Tolirwa now has seven different production lines. In addition to mitigating the supply chain risks, this level of diversification also helps to mitigate market demand risk; however, paradoxically, it also exacerbates the issues of capacity underutilization in the sector as most companies do not run all of their production lines at the same time.

Resources

The manufacturing sector, in general, is not a significant employer compared with the agribusiness sector. The 10 companies profiled in this chapter provide employment to fewer than 1,500 people. As is the trend in the economy in general, foreign experts, from the region or from further afield, fill most of the senior management and technical positions.

We also observe that a key criterion of firms in the construction industry is that they have each developed a strong knowledge base before establishing themselves in the sector. For Rwandan firms, this has been developed organically over time as several firms began with trading operations before gradually learning the system over a 5–10-year period and moving into manufacturing. Similarly, companies that are part of large regional groups such as Safintra, SteelRwa and Ufametal leverage the knowledge base of their parent companies in the region to succeed in this competitive market.

Exports

In general, Rwanda is not a large exporter of manufactured products relative to the agribusiness sectors (with the key exceptions of Kigali Cement, SteelRwa and Master Steel, which export more than 10% of their production). However, the number of exporting firms is gradually increasing. In 2006, only two firms were exporting construction materials, Simaco and Kigali Steel & Aluminium Works (KSAW); by 2010, there were about 64 exporting firms including Tolirwa, Master Steel and Safintra (Gathani and Stoelinga 2012). Exports are targeted at the DRC and Burundi markets. In fact, 15% of the total DRC/Burundi export basket comprises construction materials (Gathani and Stoelinga 2012).

8.2 Ameki Color

The country's largest domestic paints manufacturer.

Year established	1982
Latest annual turnover (2010–11)	US$6–7m
Number of employees (FTE)	380
Main business activity	Furniture, paints and fibreglass tanks and sheets
Export markets	DRC, Burundi, Uganda

Company Origins

In 1982, Ameki (Atelier de Meubles de Kigali) was started as a small furniture workshop in Kicukiro, Kigali, by Mr Jacques Rusirare, a Rwandan entrepreneur who, prior to starting the workshop, had a small transport and trading business dealing in hardware items. As the furniture business grew, the company decided to move upstream by manufacturing furniture varnishes and wood glue. In 1984, they registered these operations as Ameki Color and the product line progressed gradually with new products added to the portfolio year after year. By 1991, the production portfolio had increased to a large variety of paints, wood and office glue and window putty. The genocide in 1994 destroyed the entire factory, which was rebuilt from scratch with a new addition – Ameki Tanks. Given that the raw material used to manufacture paints (polyester resin) can also be used to make fibreglass tanks, the company further diversified into manufacturing fibreglass tanks and sheets. As a result, Ameki Tanks was incorporated in 1995, which capitalized on the need for additional construction materials.

Today, Ameki is one of Rwanda's largest manufacturing companies and Ameki Color is the largest paint manufacturer in the country. Ameki

Color is the company's most successful operation and comprises 70% of total sales, followed by Meubles (20%) and Tanks (10%). Paints are exported to Burundi, Uganda and the DRC but in limited quantities. The group provides employment for close to 400 people and generated a turnover of approximately US$6–7m in 2010.

Products

Ameki Meubles. Products include home and office interior furniture in wood and metal (steel) such as tables, sofas, beds, chairs, etc.

Ameki Color. Emulsion paints, water-based silk vinyl emulsion paints, acrylic emulsion paints, epoxy paints, wood and office glue, synthetic roofing paints and road marking paints. Current production is estimated at 60 tons per day and full capacity is 80 tons per day, which means that Ameki Color currently runs at an estimated capacity utilization rate of at least 75%.

Ameki Tanks. Fibreglass tanks, fibreglass sheets and most recently fibreglass auto parts such as bumpers and roofs. Given that the production process for fibreglass tanks takes a long time, production capacity is limited to one fibreglass tank per day.

Ameki has three separate production lines for each of its product categories with an extensive range of machinery for each production line. Ameki is currently exploring the possibility of producing a new line of automotive paints and is also looking into improving the quality of varnishes, which will improve the quality of the furniture items. Ameki is currently in the process of buying additional machinery for the wood and furniture production lines.

The main customers for these products are individual buyers, companies (especially construction firms for paints and tanks) and government agencies. In terms of competitors, the furniture market is dominated by Manumetal and Mutara Enterprise; Ameki Color is the largest paint manufacturer in the country and its main competition comes from imported paints such as Sadolin and Basco as opposed to other domestic manufacturers such as Sigma Coat, Shalom or Rwanda Color; and finally, in the plastic tanks sector, Ameki Tanks competes with Roto Tanks and Aqua-San.

Systems

Ameki employs a sophisticated sourcing strategy for their raw materials, with relationships developed with suppliers across 10 different countries. Most of the raw materials for their manufactured products are imported

and the company has made a conscious decision to ensure that most raw materials can be obtained from a variety of destinations. There has a been a gradual shift to Asian markets

For furniture, the wood is imported from the DRC and sourced locally, the metal and fabrics are imported from China, the leather is sourced locally from a small leather producer (Sodeparal), but some leather varieties are also procured from China. For paints, chemicals such as the resins and additives are sourced from Egypt, Turkey, Kenya, Europe, China, India, Uganda and South Africa. Kaolin, another key ingredient in the manufacture of paints is available in large quantities locally. Turkey, Egypt and South Africa are also key suppliers of resins for the manufacture of wood and office glue. Finally, the polyester resin that combines with fibreglass rolls to create the fibreglass sheets and tanks are sourced from Egypt, Kenya and China.

The machinery is primarily sourced from Germany though smaller machines have been fabricated locally at the factory. Experts from Europe were invited to install and provide regular training for the machinery but this trend has been diminishing with the gradual development of technical skills by the Ameki technicians.

In terms of product design, Ameki has also looked to Europe for inspiration, with a lot of the furniture designs based on recent product catalogues that highlight the latest trends. Increasingly, customers have been providing their own customized designs and Ameki also has a small team in place that focuses on internal designs to suit the local market.

Ameki has set up a distribution strategy with at least 400 distributors, ensuring that Ameki products have national exposure. The company does not maintain any retail outlet but has a small furniture showroom at the Gikondo plant. Ameki also works with distributors in Burundi and eastern DRC too. The widespread distribution network is supplemented by strong marketing outreach efforts relying on radio, television, billboards, trade fairs, magazine advertisements and the sponsorship of large events.

Resources

Ameki's strongest resource is its brand name, established over a 30-year period under the stewardship of Mr Rusirare. Its diverse product portfolio ensures the company can provide turnkey solutions to construction companies and individual buyers looking for interior furnishings, including paints and customized furniture.

Across the three companies, Ameki provides employment for 380 people, all of whom are Rwandans. It has one large 2 ha plant near the Gikondo Industrial Area but they are scheduled to move to the Kigali Special Economic Zone (KSEZ) soon.

8.3 Cimerwa

The country's largest construction materials and cement manufacturing company.

Year established	1984
Latest annual turnover (2010–11)	US$19–21m
Number of employees (FTE)	262
Main business activity	Cement
Export markets	Burundi and the DRC

Company Origins

Cimerwa, located in the western district of Rusizi, is one of Rwanda's largest manufacturing companies and the leading manufacturer of cement in Rwanda. Following the discovery of limestone, quartzite and clay in the Rusizi area and pozzolana in Gisenyi in the 1970s, the state-owned company commissioned a factory in 1982 and production commenced in 1984. The Cimerwa plant was constructed as part of a joint venture using a 30-year US$13m interest-free loan signed between the government of Rwanda and the Chinese government in July 1976. Upon commissioning in 1984, the plant was managed by CBMC, a Chinese company, under a Build, Own, Operate and Transfer (BOOT) agreement until expiry of the loan in July 2006 between the two parties. By 2001, the company had increased capacity to 100,000 tons per year by expanding the kiln capacity and installing a second cement grinder. After the loan from the Chinese government expired, the company was privatized at the end of 2006 when the government of Rwanda sold a 90% equity stake to Rwanda Investment Group (RIG), one of Rwanda's largest investment groups, and retained the 10% balance of shares.

Since RIG's acquisition, the company has been operating with an installed capacity of 100,000 tons per year to serve the domestic market, although the estimated domestic demand is approximately 370,000 tons (2012) and as much as 800,000 tons per year if Burundi, eastern Congo and southern Uganda are included. Cimerwa hopes to increase its production capacity through capital investment in a new plant.

In 2010, the African Development Bank (AFDB) approved a US$130m loan to Cimerwa for the construction of a new plant, which required Cimerwa to raise 40% of the initial funding. Following RIG's inability to raise this capital, the government of Rwanda stepped in through an equity investment that saw it increase its shareholding to 30.6%. The ownership structure of Cimerwa now comprises the Rwanda Social Security Board (37.5%), the Rwanda Development Bank (8.5%), RIG (21.2%), with the

remainder of the shares held by smaller investors. The change in ownership has seen a new management team brought in and plant construction was expected to commence in late 2012. The new plant capacity is expected to reach 700,000 tons per year and the plant will use a dry manufacturing process and a combination of peat and heavy fuel oil to substantially reduce fuel costs.

Products

Cimerwa is the only cement producer that maintains a full manufacturing process in Rwanda as it sources the raw materials locally and manufactures its own clinker. Raw materials include limestone (travertine), quartzite, gypsum, pozzolana and clay.

The raw materials are extracted from quarries (Cimerwa has its own quarries for limestone and quartzite) and crushed into a raw meal, which is blended and heated in a kiln at a temperature of about 1450 °C. The product leaves the kiln as a material called clinker. The clinker is then passed through a cement grinder with at least 3–4% of gypsum, which provides dampness to the concrete. The finished product is a powder that is stored in silos before it is packaged and sold. The new plant will employ a dry process technology compared with the wet process used currently, where raw materials are mixed with water and boiled to get clinker.

It is expected that the limestone, sandstone and pozzolana requirements for the new plant will be met by increased production from the existing mines and only one new clay quarry will need to be developed.

Cimerwa manufactures two products: Portland Pozzolana Cement (PPC) 32.5N and 42.5N. The difference in the two products relates to the composition of the main raw materials: the 42.5 variety comprises 85% clinker and 5% gypsum, whereas the 32.5 variety contains 65% clinker, 30% pozzolana and 5% gypsum.

With the construction of the new plant, it is expected that Cimerwa will have enough production capacity to satisfy domestic demand and commence exports to Burundi, eastern DRC and southern Uganda in large quantities. Cimerwa's main competitors include domestic producers such as Kigali Cement Company and Great Lakes Ltd. and imported cement such as Tororo and Hima from Uganda.

Systems

Cimerwa benefits significantly by being able to source most of its raw materials locally. Furthermore, the nearby Njambwe River also meets their water supply needs. Cimerwa already operates a water treatment plant, which is located 3 km from the plant and supplies treated water to the plant and the surrounding communities through company-owned

pipelines. Since 1984, Cimerwa has been operating an on-site health centre that comprises a pharmacy, a 14-bed hospital and a laboratory, which is open to Cimerwa staff and the local population, who pay a subsidized fee to visit the clinic.

In terms of their distribution and sales strategy, Cimerwa focuses on five main groups: (i) home representatives, who are approved sales agents in various districts and towns of Rwanda; (ii) companies such as construction firms that buy directly from the factory; (iii) product importers in the DRC and Burundi; (iv) independent traders; and (v) Cimerwa employees, who are allowed to purchase the cement for their personal construction works.

Resources

Cimerwa employs 262 staff, the majority of whom are engaged in the production department, which includes manufacturing service, maintenance and quality control. Nearly 40 employees occupy management positions in different departments and are hierarchically organized.

In terms of physical resources, Cimerwa owns a large plant in Rusizi about 350 km away from Kigali and 50 km from the nearest town, Kamembe. Cimerwa's physical resources include land concessions covering a 13 ha area. The company also owns their own quarries where they extract the limestone and quartzite.

8.4 Kigali Cement Company

The latest entrant in the cement sector and the country's second largest domestic manufacturer of cement.

Year established	1999
Latest annual turnover (2010–11)	US$1–2m
Number of employees (FTE)	42
Main business activity	Cement
Export markets	Burundi and the DRC

Company Origins

The Kigali Cement Company (KCC) was established in 1999 by a Rwandan entrepreneur, Mr Ndayambaje Jean Damascene. In November 2011, Mr Damascene sold 35% of the company to Athi River Mining (ARM) Limited, a multinational company that is the largest cement manufacturer in East Africa. Between 2007 and 2011, KCC imported clinker (the main ingredient in the cement mix) from ARM for its production, allowing the two companies to build a relationship before the sale.

KCC is a relatively small operation producing 100–120 tons per day but it is currently constructing a second milling plant, which will expand capacity by 80–100 tons per day.

ARM is listed on the Nairobi Stock Exchange and in addition to cement it also manufactures NPK fertilizer, sodium silicate and other industrial minerals. Presently, ARM has four cement plants in East Africa: two plants in Kenya (Nairobi and Mombasa, each with a capacity of 2,000 tons per day) and another two plants in Tanzania (the first in Dar es Salaam, with a capacity of 2,500 tons per day, and a second plant, with a similar capacity, is being commissioned in Tanga).

ARM's investment in Rwanda was motivated by the desire to become the largest cement manufacturing company in Africa and the move to Rwanda was a logical step as the company seeks to consolidate its position in the region.

Today, KCC is the second largest cement manufacturing company in Rwanda after Cimerwa Ltd. After ARM acquired its stake in the company, KCC developed an ambitious expansion plan to meet the ever-increasing demand within the region. The company provides employment to 42 permanent employees and 70 casual employees. Following the acquisition by ARM, the company generated revenues of US$1–2m in the six-month period between December 2011 and May 2012.

Products

Since 1999, KCC has manufactured and sold PPC (Portland Pozzolana Cement) 32.5 cement under the brand name Digit. The main ingredients for the manufacture of cement are clinker (processed limestone), pozzalana and gypsum. Each of these materials provides strength to the cement and the proper composition of the ingredient materials is critical in determining the quality of the finished product. KCC has an on-site laboratory to examine the exact composition of inputs. The three ingredients are ground into powder and combined according to specific composition percentages in the grinding mill and are then packed into high-tensile paper bags. Grinding and packing are the two main processes in the production of cement at KCC.

KCC competes with Cimerwa and Great Lakes Ltd., as well as with imported cement such as Tororo and Hima from Uganda. However, currently these competitors do not appear to pose a major challenge to KCC as the demand for Digit outstrips supply, with the company often having no spare inventory of finished product and customers having to place advance orders for their cement. KCC supplies cement at a price lower than its competitors.

KCC is interested in exploring limestone deposits in Rwanda to manufacture the clinker in the country and reduce the dependency on imported

clinker, thereby reducing its production costs. KCC is also interested in exploring deposits of other raw materials in the country to diversify their current product portfolio.

The main customers include local construction companies and individual buyers. KCC began to export in January 2012 and exports account for 33% of its total sales. Export sales are made mainly to the DRC (95%), as well as Burundi (5%). However, exports are not a priority for KCC as it is currently focusing on meeting local demand for its products. Market demand is estimated at 1,000 tons per day.

Systems

ARM's investment into KCC has impacted the company in several ways. Current production capacity has increased from 40 tons per day to 100–120 tons per day. With the commissioning of the second grinding mill at an estimated cost of US$1m, capacity is expected to increase to 200–240 tons per day. The factory currently runs at around 75–80% capacity utilization as it operates 18–20 hours per day. Minor breakdowns and electricity cuts are the main reasons for underutilization of capacity.

In terms of sourcing, KCC imports all clinker and gypsum from its parent company in Kenya. The pozzalana is obtained from its own quarry located in the Ruhengeri area. Packaging materials are also imported from Kenya. For its existing plant, KCC has not imported new machinery as the existing machinery is performing satisfactorily. The company has also maintained the same packaging, brand and workforce. However, ARM has lent their technical expertise in adjusting and aligning the production process, which had led to the increase in production capacity since the turn of 2012.

Another key aspect that KCC leverages is the goodwill and reputation of ARM. Rhino Cement, ARM's flagship brand (not sold in Rwanda), is popular and recognized across the region for its quality, which has paid dividends for KCC's Digit.

KCC, with all sales taking place at the factory, does not utilize an extensive distribution strategy. Given that production is very small at this stage and that demand outstrips supply, there is no pressure on the company to establish a more sophisticated distribution network at this point. For the same reasons, the company has also refrained from large marketing outreach.

Quality control is a key value proposition for both ARM and KCC. Every two days, samples are sent to Nairobi for testing at ARM's state-of-the-art laboratory. KCC also regularly tests the cement quality at its own laboratory by constructing cement cubes and analysing their strength and drying time.

Resources

KCC currently employs 42 permanent employees and approximately 70 casual workers including two experienced Indian expats at senior management levels who are deputed from ARM, Kenya. At least half of the permanent workforce is highly skilled occupying positions in senior management positions in technical, machine maintenance, sales, logistic, HR and accounts functions.

In terms of physical resources, the company's factory has its own plant, machinery, buildings and land located on the outskirts of Kigali City. Other assets include a pozzalana quarry in Ruhengeri and a small fleet of trucks that transport the raw material to the factory.

To date, ARM has made significant investments in KCC that have turned the company into a major player in the domestic market. ARM's ambitious expansion plans are expected to raise KCC's profile, particularly with the completion of a second grinding mill and exploration of industrial minerals for new product development such as clinker, sodium silicate, etc.

8.5 Ruliba Clays

The country's largest clay-based construction materials manufacturer.

Year established	1985/2009 (privatized)
Latest annual turnover (2010–11)	US$1–2m
Number of employees (FTE)	210
Main business activity	Clay bricks, tiles and blocks
Export markets	N/A

Company Origins

Ruliba Clays, Rwanda's largest manufacturer of clay-based construction materials, was created in 1985 as a government enterprise. With the support of the Swiss Cooperation and government capital investments, the company purchased machinery and started production in 1988. After the 1994 genocide, Ruliba Clays (at the time called Briqueterie Rwandaise Ruliba SA) was privatized and ownership transferred to a consortium of private and institutional investors (about 40 of them). The new shareholders refurbished machinery and restarted operations, but the real impetus came when Ruliba was taken over by Building Material Investments Limited (BMI) in November 2009 – a joint venture by the Social Security Fund of Rwanda, Crystal Ventures Limited (Rwanda's largest investors) and the Horizon Group (another large Rwandan investment group).

BMI is an investment company, established in 2009, that aims to invest in the manufacture of construction materials using locally available raw

materials. In addition to Ruliba Clays, BMI currently owns East African Granite Industries (EAGI), which mines granite and produces a variety of granite-based tiles. Both clay and granite are locally available materials. With the backing of Rwanda's two largest investors, BMI has invested heavily in transforming Ruliba Clays through new capital investments, the introduction of new products and an overall organizational restructuring.

Today Ruliba Clays has about 210 employees. The company is in the growth phase and is currently undergoing an executive restructuring process.

Products

Ruliba Clays produces six types of clay product: (i) blocks; (ii) bricks; (iii) roofing tiles; (iv) pavers; (v) maxpans/hourdis; and (vi) floor tiles. These come in various shapes and sizes and serve different purposes, such as decoration, ventilation, partitioning, among others. Ruliba Clays currently offers 40 different designs for these products and is continually introducing new ones. Ruliba started with the production of clay blocks in the late 1980s and moved to bricks following the privatization in 2002 to producing tiles in 2003. Each step has required Ruliba Clays to introduce finer production techniques and better design.

The main customers of Ruliba Clays are large public and private institutions, real estate developers, but also individual buyers. Sales are made to customers directly, through two outlets: one in Kigali, the other in Gisenyi.

Ruliba has an estimated 70% of the local market share for clay construction materials; its main competitors in the market are Amagerwa Bricks and Tiles, and hand-making producers. Local production in the country is currently estimated at about 20,000 tons per year, while annual demand is estimated at about 45,000 tons. This means there is a large unsatisfied demand and a growing threat from substitute products such as cement and roofing sheets. The threat not only comes from the fact there is a production gap, but also lies in customer perceptions. Clay products are still seen as expensive and there is limited awareness about their benefits, such as their thermal and acoustic insulation, durability, resistance to fire and low water absorption.

The challenge for Ruliba Clays is to increase production and the diversity of the designs by investing in product development, such as the production of coloured products, which Ruliba Clays is currently looking into.

Systems

Since the takeover by BMI, Ruliba Clays has been undergoing a major restructuring process. BMI has (i) invested in human capital, by bringing on board highly qualified managers and ceramic experts; (ii) made new capital investments, refurbishing its machinery to increase production

capacity, resulting in reduced delivery time from six months to two weeks; (iii) increased quality control by investing in a lab to test the quality and weight of raw materials and finished products; (iv) increased its marketing effort to change the perception of both customers and suppliers; and (v) tried to target markets in Burundi, the DRC and potentially also western Uganda.

Despite recent improvements, including a doubling of output, Ruliba Clays is still running at 45% capacity. The company is now hoping to enter a rapid growth phase to address unsatisfied demand and increase capacity utilization.

The production of clay building materials requires three main inputs: clay, kaolin and water. Clay and kaolin are locally available and relatively cheap inputs, but the geographical disparity of raw material sources and the absence of structured supply chains could impede growth in the market. Ruliba Clays mainly sources its clay and kaolin from different owners of quarries 25–40 km outside Kigali.

One of the main changes BMI has promoted is a new marketing and distribution strategy. The company has changed its name (from Briqueterie Rwandaise Ruliba SA to Ruliba Clays Ltd) and its branding and logo. Ruliba Clays is very actively trying to drive a change in perceptions about clay products as a more accessible and attractive building material. Its customer service has improved, with a reduction in delivery time from six months to two weeks. Furthermore, with the new effort to improve quality and design, Ruliba Clays is actively trying to better understand and adapt to customer needs. One of the company's main challenges on the marketing front is a poor distribution network.

Finally, BMI has also revamped Ruliba's administrative management functions, in particular finance. Since 2010, a new accounting and resources management system (SAP) has been in place.

Resources

In terms of human resources, Ruliba Clays currently employs about 210 people, out of which 30 are in management positions. Out of the workforce of 210, only four are expatriates, including the general manager (from India), two ceramists from Uganda and a machine operator from Tanzania. Some training is conducted internally, but workers are regularly sent to Uganda Clays or other regional clay factories to learn about production techniques.

The fact that Ruliba Clays is now part of a bigger group has strengthened its financial position. Its debt-to-equity ratio has been reduced to 20:80 and the company is actively seeking additional capital investment.

The company's current asset base includes an upgraded production plant and two quarries covering 50 ha, and the company is in the process

of purchasing new land assets to hedge against future price increases for raw materials such as clay and kaolin.

8.6 Safintra

One of Rwanda's largest roofing sheets manufacturers.

Year established	2007
Latest annual turnover (2010–11)	US$11–12m
Number of employees (FTE)	40
Main business activity	Roofing sheets and profiles
Export markets	N/A

Company Origins

Safintra is a steel and roofing solutions provider based in Kigali and is a part of the Safal group of companies. The Safal Group[2] is the leading manufacturer of flat and long steel products in eastern South Africa. Headquartered in Mauritius, Safal was established to consolidate the operations of several allied companies in Kenya, Uganda, Tanzania, Ethiopia, South Africa, Zambia, Angola and Malawi.

Safintra was incorporated in Rwanda in 2007 and began operations in October 2008 after an initial capital investment of US$1.5m was deployed to lease land, machines and vehicles. Prior to beginning operations in Rwanda, Safintra's sister company in Uganda exported to Rwanda but they encountered long lead times for delivery (up to 15 days to export from Uganda). From 2005 onwards, the group decided to start roll-forming operations in Malawi, Zambia, Angola, Mozambique, Rwanda and South Africa. The objective was to be close to the customer and to provide an efficient service to increase their competitive advantage.

Safintra had a turnover of US$11m in 2011 and approximately 40 full-time employees. It does not currently export to neighbouring markets because of some unresolved customs issues.

Products

Safintra's three main manufacturing product lines are galvanized sheets, Dumusaz and coloured sheets. These products are roll formed into various shapes and customized lengths. It also trades in finished steel products

[2] The Safal Group has been operational for over 50 years in Africa. Headquartered in Mauritius, its origins began as early as 1960 with the founding of Alaf Ltd. in Tanzania. The current chairman is the prominent Kenyan industrialist Manu Chandaria.

such as construction steel. The galvanized sheets are a popular product for the low-income population in Rwanda and across Africa. The Safal Group has also embarked upon providing a technically superior product, Dumusaz, which are roofing sheets with a mixed coating of aluminium and zinc, making them more durable than the normal galvanized sheets (which only have a zinc coating).

The company sources the metal coils from its parent companies in Kenya, Uganda and Tanzania. The Kigali unit completes the upstream process of roll forming, which is where sheet metal is progressively shaped through a series of bending operations to form a sheet into a wide variety of profiles. There are no plans to move into the downstream operations as Safintra's larger operations in Kenya, Uganda and Tanzania are well placed to meet the demand of downstream operations and because metal coating plants are very capital intensive.

Systems

The main differentiator for Safintra is their sourcing and delivery time. While other competitors take 10–12 days to complete an order, Safintra is able to supply within two days because it imports the processed raw material from its parent companies. This also means that the company is able to run a leaner operation in terms of inventory.

Safintra works with about 20 distributors in the country, which stock the galvanized sheets and Dumusaz sheets. It also has a direct sales team, which concentrates primarily on customized products. A year after commencing operations, Safintra launched a large marketing campaign by advertising on billboards across Kigali City and through radio and print.

Currently, the plant is producing 700–800 tons per month, which equates to between 70 and 80% of total capacity, which is sufficient for the domestic market.

Resources

The company employs 40 full-time workers, including two expatriate experts from India and Ethiopia who occupy the managing director and finance/production manager roles and bring several years of experience working with other Safal Group companies to Safintra's operations. Safintra's daily operations are independent from its sister companies but group strategy meetings are held quarterly and key functions are centralized. For example, Safintra will soon be migrating to the SAP management information system in line with its Kenyan equivalent.

Safintra's current premises (960 m^2) are leased and located in Kicukiro but plans are afoot to move to the Kigali Special Economic Zone (KSEZ) towards the end of 2012, where they will expand into new product lines,

which will require additional capital investment in machinery. Safintra has already bought a 35,200 m² plot in the new KSEZ and intends to widen its current product basket and bring in state-of-the-art machines for manufacturing additional steel items.

8.7 Simaco/Afrifoam

One of the county's most diversified construction materials companies.

Year established	2003
Latest annual turnover (2010–11)	US$2–3m
Number of employees (FTE)	85
Main business activity	Foam mattresses, construction materials, drinking water, toilet paper
Export markets	Burundi

Company Origins

Afrifoam was started in 1999 after its founder, Jeremie Kalisa, and a close friend identified a gap in the foam market based on market research. Mr Kalisa originally owned a trading business in Burundi from 1983 to 1993 but following the Rwanda genocide in 1994 decided to return home and create Afrifoam. After approximately three years of manufacturing foam mattresses, the owners (Jeremie Kalisa and his daughter) decided that to succeed they needed to diversify the business. Consequently, in 2003 they started Simaco, a company that manufactures steel roofing sheets, in response to growing demand in the construction sector, buoyed by the post-genocide reconstruction of the country.

The respective businesses have continued to develop and diversify. Simaco recently introduced the manufacturing of black hollow tubes and paints and Afrifoam has moved into the production of toilet paper and bottling of mineral water under the brand name Gasabo. In terms of future diversification, Simaco now plans to begin the production of clay bricks.

Since their incorporation, the companies have faced several challenges:

- For Simaco, access to raw materials, which it imports from countries such as China, India and Belgium, has been a challenge. The company has had difficulties with logistics, delivery times (with an average wait time of three months from ordering to receiving goods) and transportation costs.
- For Afrifoam, low demand for Afrifoam products due to steep competition in the mattresses sector, in particular, from Uganda and to the general low purchasing capacity of the Rwandan population.

At the end of 2011 the turnover for the business was US$2–3m with 70% of total revenues derived from the hollow-section tube products.

Products

Afrifoam is primarily a manufacturer of foam mattresses. These are produced in a variety of sizes and tailored to the specific needs of the customer. Afrifoam sells approximately 60,000 mattresses per year, which corresponds to just below 30% of its production capacity.

Other products under the Afrifoam group include Gasabo mineral water (0.5, 1.0 and 1.5 litre varieties) and, most recently, toilet paper. Competitors for foam mattresses include RwandaFoam and Flexifoam. Gasabo mineral water is produced in small quantities and is still not a match for the bulk-produced Inyange, Nil (Sulfo Industries) or Huye bottled waters.

Simaco started as a producer of steel roofing sheets, which are processed in the Kigali factory using imported cold-rolled coils from China and India. Hollow-section tubes, introduced in 2008, are a key component of the business. Simaco is the sole manufacturer of these tubes in the country, with an estimated 40% of market share based on 55% of the sales comprising roofing sheets and 45% of hollow-section tubes. The main competitors for hollow-section tubes are Petrocom, Uprotur and Nova. Competitors for steel roofing sheets include Tolirwa, Safintra, Petrocom (Ufametal) and Uprotur. Simaco has recently started manufacturing paints and will shortly move into clay bricks.

Afrifoam and Simaco recently started exporting a selection of their products to Burundi, and are experiencing good sales in hollow-section tubes and roofing sheets. However, exports (10%) are still low compared with domestic sales (90%). The main challenge to exporting is obtaining the EAC Certificate of Origin, as well competition from cheaper Ugandan producers, who have the ability to buy cheaper raw materials in bulk.

Systems

Production is run out of three separate factories in Kigali: one for foam mattresses, one for paints and one for steel products. A fourth factory is currently under construction for the processing of clay bricks. The total investment in these factories is worth approximately US$200,000. The four factories have been located on separate sites due to the lack of space to host multiple production lines in one factory.

Afrifoam currently only operates at under 30% capacity for its foam products due to low demand in the market and high competition from Uganda; Simaco, on the other hand, is currently operating at a much healthier capacity utilization of about 70%. Simaco has plans to increase

capacity further by purchasing new machines for the tubing process. The machinery used in all the processes is primarily imported from China with a few pieces from India. The companies have now consolidated strong relationships with suppliers in these countries.

Both Afrifoam and Simaco currently source their raw materials from a diverse range of countries. For Afrifoam, the foam is imported primarily from South Korea (70% of imports) as well as Dubai, Germany, the United Kingdom and France. Raw materials for the toilet paper are imported from China. Simaco imports the cold-rolled coils for its sheets and tubes from China and India, while chemicals for paint manufacturing are sourced from Dubai. Sustaining supplier relationships in multiple destinations is key to ensuring both Afrifoam and Simaco have access to competitive prices for their raw materials.

The products manufactured by Afrifoam and Simaco are mostly sold directly to customers, although the companies have recently started working with distributors as well. At the moment, neither have a specific retail outlet, meaning sales are made directly at the factory. The companies undertake a fair amount of advertising for their products with the main forms being radio and television adverts and brochures.

Resources

Afrifoam and Simaco currently employ a total of about 80–90 people, including four managers, of which two are Indian expats. They also employ Chinese engineers, who are responsible for maintaining the machinery. The main management team consists of Mr Kalisa as the managing director and a general manager who oversees the commercial and production departments.

The main assets of Afrifoam and Simaco are the four factories, which are based in different areas of Kigali. The company is entirely family owned, with major shareholders including Mr Kalisa and his daughter.

8.8 SteelRwa

One of the few steel rebar manufacturers in the entire EAC region.

Year established	2007
Latest annual turnover (2010–11)	US$8–9m
Number of employees (FTE)	240
Main business activity	Steel reinforcement bars
Export markets	Burundi, Kenya, Uganda, South Sudan and eastern DRC

Company Origins

SteelRwa, which registered in 2007 and started operations in March 2011, is the only local manufacturer of high-tensile reinforcement steel bars (rebars) for the construction sector. The company was set up by the Manji family (Canadian–Indian origin), who have existing large-scale steel manufacturing companies in the DRC (Fameco) and Angola (Fabrimetal Angola) that were established during the mid 2000s. They decided to invest in Rwanda after considering three key factors: (i) with no rebar manufacturers in Burundi, Rwanda or neighbouring DRC and a rapidly expanding construction sector, there was a clear investment opportunity in the regional rebars market; (ii) although the Manji family was looking to invest in Burundi, the project was infeasible in Burundi due to significant power outages; and (iii) SteelRwa developed a strong working relationship with the Rwanda Development Board, which offered the company an attractive incentive package.

SteelRwa has an annual turnover of more than US$8m, making it one of the top five manufacturing firms in the country (excluding coffee producers). SteelRwa is currently the third largest consumer of electricity in the country, employs more than 240 staff and exports 40% of its output.

Products

SteelRwa manufactures high-tensile thermomechanically treated (TMT) steel bars, otherwise known as rebars, which are currently the most complex construction materials product manufactured in Rwanda. The rebars come in different grades and specifications, and vary in yield, tensile strength, chemical composition and percentage of elongation. SteelRwa has two laboratories on site to measure and test each of these characteristics. Rebars are used to reinforce concrete.

All rebars produced by SteelRwa are TMT. The two main processes to manufacture rebars include (i) cold twisted deformation and (ii) thermomechanical treatment. The thermomechanical treatment process involves rolling the bars at high temperatures (usually around 1,000–1,200 °C) and then passing them through a quenching line which applies intense water pressure on the outer layer of the bar while leaving the hot core unaffected. After the quenching process is over, the heat of the core tempers the quenched outer layer of the bar, resulting in a bar that has a strong external layer (called tempered martensite) and a ductile core (ferrite pearlite). This gives TMT bars a certain number of advantages, including better corrosion resistance, better ductility and bendability, good weldability and as a result increased safety. SteelRwa currently controls an estimated 30% of the local market and is already exporting to Burundi, Kenya, Uganda, South Sudan and eastern DRC (40% of revenues come

from exports). SteelRwa is currently one of the only manufacturing firms outside the coffee and tea sectors with exports to Kenya. The company's main competitor in the region is Tanzania due to lower power tariffs.

Systems

Despite the company's impressive entry into Rwanda's construction market, the plant is currently running below optimal capacity, at about 42%. The plant's capacity is 36,000 tons per year, with output at about 15,000 tons per year (we estimate annual demand for rebars in Rwanda to be about 45,000 tons per year). Two main reasons why the plant is running below capacity include (i) a shortage of raw material; (ii) a shortage of electricity (current allocation is 3 MW, but SteelRwa would need at least 4.5 MW to run at full capacity). Given that raw material and electricity are scarce, there is also an upward pressure on the price of the finished product.

The main raw material for rebars is scrap metal. 85% of the scrap metal is sourced locally and the remainder is sourced from the DRC and Burundi. Currently the two main problems with the sourcing of scrap metal include (i) the supply of scrap metal locally is tightly controlled by the scrap-metal association and (ii) scrap metal shortages in the whole of the EAC, with countries such as Kenya, Uganda and Tanzania having put in place export bans on scrap metal, to both EAC and non-EAC countries. SteelRwa, which is banned from importing scrap metal from Tanzania, has filed a complaint that is currently being reviewed by COMESA/EAC and SADC's Non-Trade-Barriers reporting mechanism (see www.tradebarriers.org).

One of the systems that distinguishes SteelRwa is that the company has two fully equipped laboratories on site: (i) a chemical lab (spectrometer), which conducts tests on the composition and parameters of elements such as carbon, sulphur, silicon, phosphorus and manganese; and (ii) a physical lab, which includes a fully automatic 60 ton UTM machine, which analyses yield strength, tensile strength and elongation. This is also one of the reasons why SteelRwa received RBS certification from the start of operations. SteelRwa will also seek ISO2008 certification in the near future; its sister companies in Angola and DRC are both ISO2008 certified.

Resources

SteelRwa's plant is currently located on 10 ha of land, of which 3 ha have been built up, in the Rwamagana district in the Eastern Province. SteelRwa's machinery, in particular, its semi-automatic rolling mills and TMT technology, is state of the art and considered the best in the industry.

In terms of human resources, the company employs 240 people of which 35 are expatriates in management positions (all Indian nationals). Senior managers in the company have 10–15 years of experience and expertise

from the sister plants in Angola and the DRC is often brought in, in particular, for training.

SteelRwa's main resources are assets in terms of (i) group experience in the manufacturing of rebars; (ii) a very experienced management team; and (iii) state-of-the-art machinery and laboratories.

8.9 Tolirwa (Tôlerie Industrielle du Rwanda)

Rwanda's first galvanized roofing sheets manufacturer.

Year established	1979
Latest annual turnover (2010–11)	US$6–7m
Number of employees (FTE)	110
Main business activity	Roofing sheets, wire-nets, binding wire, barbed wire, gutters, ridges and roofing nails
Export markets	N/A

Company Origins

Tolirwa, Rwanda's first manufacturer of galvanized roofing sheets, was established in 1979 as a family-owned business. The family had been running an electronics goods trading firm and a small auto-repair garage in Kigali since 1973. Seeing an opportunity to invest in locally produced construction materials, the family imported Japanese machinery and technical expertise, and started cutting and galvanizing cold-rolled coils to produce customized roofing sheets for the local market. Demand was high, and by 1984 Tolirwa had invested in a new plant.

Today, Tolirwa has over 110 employees and an annual turnover of approximately US$6–7m.

Products

Tolirwa started in 1979 with the production of simple galvanized roofing sheets. It has since both upgraded and diversified its product lines. In 1979, it introduced pre-painted roofing sheets, which are both aesthetically more appealing and have longer durability. In 1990 the company introduced corrugated and profiled roofing sheets. Today, Tolirwa offers four types of roofing sheets in six different colours: high profiled, super echo profile, tile-forming and corrugated. These upgrades required additions to the production line.

Tolirwa, like several other companies in the construction sector in Rwanda, has diversified into other products to deal with the seasonality of the roofing sheets business. These products include wire-nets, binding wire, barbed wire, gutters, ridges and roofing nails. They are all derived

from the same semi-processed raw material (cold coils). Most recently, in 2012, the company also started the production of iron tubes and pipes.

The main customers for Tolirwa's products are individual home-builders, construction companies, real estate developers and hardware distributors. Government projects are not a major source of income at this point in time, due to competition and tender conditions. Most sales are made directly at the plant, but Tolirwa has two outlets in Remera and Nyabugogo in Kigali. The minimum turnaround period from importing of raw materials to final product delivery is four months.

Tolirwa's competitors in the local market are Safintra, Rubungura and Master Steel. The main threat, however, comes from cheap imports of finished products, mainly from Uganda and Kenya, which (for major construction projects) are often VAT and duty exempt.

Systems

Tolirwa is still a family-run business. In addition to the family's decades of experience in the galvanized sheets business, the company is supported by an experienced management team consisting of expatriates and locals with experience in their respective fields.

Tolirwa has seven product lines, including roofing sheets, tubes, nails, steel bars, door frames and steel bottle sections. The machinery used for these products is mostly new, modern and efficient. A few product lines still use machines that were installed over 20 years ago.

As with all of Rwanda's steel product manufacturers, the plant is running at low capacity levels, currently about 25%. The main reason for this low capacity utilization is (i) high electricity costs, (ii) high labour costs, and, most importantly, (iii) insufficient market demand due to competition from cheap imports from Uganda and Kenya. Imports from Uganda and Kenya have increased in some product lines by over 100% during the last five years.

Tolirwa used to import all of its semi-processed raw material – cold-rolled coils – from Japan. But following a price hike in 1997, it diversified its sourcing to Taiwan, India and, most recently, South Africa. Establishing efficient sourcing systems is key for the construction materials business, as inputs tend to be heavy and very costly to transport.

Tolirwa has recently invested in improving management, in particular, by automating its accounting and stock management systems. This was made imperative by the diversification of Tolirwa's product range. The management software used by Tolirwa is Tally.

Resources

Tolirwa employs over 110 people, including 7 in management positions, 30 technicians with an average of five years' experience, over 50–60 casual

factory workers and 10 people in maintenance roles. Over the past 43 years, the company has acquired extensive knowledge in the production of steel-based construction materials.

Over the years, Tolirwa has established a strong brand name. The company tries to differentiate its products from competitors based on their quality, reflected by the thickness of the end product.

In terms of assets, Tolirwa's main resources are a very large plant in the Gikondo Industrial area (Kigali), modern equipment/machinery and two retail outlets in Remera and Nyabugogo (Kigali).

8.10 Ufametal

One of Rwanda's leading construction materials companies. It is part of the diversified activities of Petrocom Ltd.

Year established	2001
Latest annual turnover (2010–11)	US$8–9m
Number of employees (FTE)	20–25
Main business activity	Iron sheets, steel tubes and profiles
Export markets	Burundi, DRC

Company Origins

Ufametal is part of Petrocom Ltd., which was registered as a company in Rwanda in 1995, providing international transport and logistics services for petroleum. The success of Petrocom, in tandem with the damage to most of the construction material factories in Rwanda during the 1994 genocide and the anticipation of a huge boom in Rwandan development and construction, drove the owners to take advantage of the market gap and diversify their business interests into construction materials by creating Ufametal in 2001.

Petrocom Ltd. was created by a group of local businessmen through a holding company known as Grand Lacs Trading. The other sections under the Petrocom portfolio include Kagugu Dairy, a small dairy farm based in the Gasabo district of Kigali that was set up in 1995.[3] Other interests of the Grand Lacs Trading Group include Rwanda Mountain Tea Company, one of Rwanda's largest tea processing companies.

[3]Kagugu Dairy produces fresh milk that is supplied to Inyange Industries, Nyanza Dairy and also directly to certain schools. Attempts have recently been made to petition the Rwanda Development Board (RDB) for a license to enable Kagugu to begin processing and selling their milk directly. This is expected to be passed soon and commercial production to begin in 2013.

The turnover for Petrocom Ltd. is Rwf8bn (approximately US$13m), with 52% of sales from Ufametal (approximately US$8m), 40% from international transport and 8% from Kagugu Dairy. Ufametal exports limited quantities of construction materials (less than 3% of total production) to Burundi and eastern DRC.

Products

Ufametal is responsible for three different types of construction materials:

Iron sheets. Pre-painted iron sheets that are manufactured in various profiles and thicknesses for both commercial and home roofing.

Hollow section tubes. Various customizable sizes of tubes and pipes.

Profiles. Different shapes of steel that can be used for accessories such as gutters and ridges.

None of the company's main products are currently exported on a consistent basis. Some sales have been made to companies in Burundi and eastern DRC but these were one-off sales. Ufametal does have an interest in expanding its exports and at the time of writing planned to introduce representatives in these countries by the end of 2012.

Systems

Most corporate functions of Petrocom Ltd., such as legal, marketing, internal audit, administration and finance are centralized, thereby providing access to shared services for Ufametal and Kagugu Dairy too.

Currently, the Ufametal factory is running at 70% capacity. The main constraints for capacity are the cost of raw materials, the logistics of importing the materials and also strong competition. Ufametal works with both hot- and cold-rolled coils; hot-rolled coils are imported from the United States and cold-rolled coils from South Africa, India and China. The need to import such heavy raw materials, plus clearance issues at the port of Mombasa, makes this a costly process. The limited demand for Ufametal's products is linked to the number of competitors in the construction material field, in particular, from China, Kenya and Uganda, but also from Rwandan firms such as Tolirwa, Master Steel, Safintra and Simaco.

Ufametal has made a concerted effort to try and differentiate itself from the competition. It has done this by focusing on the quality and thickness of its roofing sheets and other steel products, and also by operating on a high-volume, low-margin model. Given the strong competition, Ufametal has engaged in extensive marketing efforts through adverts on radio, television, print and billboards.

The company's main customers are construction firms, schools, ministries and churches. Sales to these businesses are primarily made directly from its factory and the company has its own fleet of trucks for distribution.

Ufametal's machinery was originally imported from China and in 2011 the company invested over US$500,000 in upgrading and purchasing new machinery aimed at improving capacity and introducing new products.

Ufametal is focused on training and improving the skills of their employees. They have brought in experts from China and have hired permanent technicians to help operate the machinery. In addition to this, approximately US$33,000 is allocated to training needs every year, with heads of departments recommending training courses to their employees every fiscal year.

The company has undertaken research into new product development, with Ufametal examining the potential to manufacture screws for iron sheets. The products was at the time of writing expected to enter the market before the end of the year.

Resources

Ufametal leverages the resources of Petrocom Ltd. in several ways. Petrocom Ltd. employs 272 full-time employees: 20–25 employees at Ufametal, 25 at Kagugu Dairy and the remaining 220+ at Petrocom. The group employs 10 expatriates, including a Chinese engineer at Ufametal and a general manager at Kagugu Dairy from Burundi.

In terms of physical assets the firm has one large plant in Kigali, 150 ha for dairy farming and one workshop. The current land used for Kagugu Dairy is a wetland so the company is planning to move to Kigali Special Economic Zone (KSEZ) in Phase 1 of the development and has plans to construct a much larger factory.

Financially, the holding company has a low debt : equity ratio, which stands at 30:70, and has secured the majority of its debt funding from local and international banks. Petrocom Ltd. is planning to get ISO certification.

8.11 Uprotur

A family-owned construction materials company.

Year established	1987
Latest annual turnover (2010–11)	US$2–3m
Number of employees (FTE)	80–90
Main business activity	Construction materials
Export markets	N/A

Company Origins

Uprotur, a family-run construction materials manufacturer, was established in 1987. The Rwandan owners of Uprotur originally started off as importers/exporters of cement, tubes and other construction material products in 1975. Having acquired more than a decade of knowledge about the industry and domestic demand, the owners decided to import machines from Italy and start producing metallic tubes and hollow section frames domestically. At the time, Uprotur was the only domestic manufacturer of these products.

Following the 1994 genocide, and in response to the ensuing reconstruction boom, Uprotur quickly diversified, adding new production lines and new metallic and plastic construction materials to its product offering, with the objective of becoming a one-stop-shop solution for the construction sector. These included roofing sheets, PVC tubes, nails and wiring. Seeing an opportunity to further diversify into other sectors as well, the family took over a bankrupt foam-mattress manufacturing firm in 2006 that never restarted operations after the genocide. They quickly turned it around and by 2008 had set up Uprofoam, using new machinery from Italy. This move aligned Uprotur's operations with other domestically owned businesses such as Afrifoam/Simaco and RwandaFoam/Amagerwa that operate both in the construction materials sector and the mattress sector.

Competition in both markets is steep. The mattress market suffers from low-cost competition from Uganda, forcing the domestic market into the middle and higher-end market segments. Uprotur's competition in the construction sector comes from larger domestic construction material manufacturers such as Safintra and Master Steel, and from the imports of finished products from the region and Asia.

In this profile we focus exclusively on Uprotur.

Today Uprotur's turnover is estimated at US$2–3m and the company currently employs about 80 staff full time, 60 of which are factory workers.

Products

Uprotur is a highly diversified construction materials firm. Its current products include:

- hollow section frames and metallic tubes (since 1987);
- low-cost galvanized roofing sheets (1996–97);
- PVC tubes (2001);
- pre-painted roofing sheets (2003–4);
- corrugated roofing sheets (2007);
- nails (2007);
- metallic wiring (2008).

In terms of volume, Uprotur's main products are metallic tubes for roofs and galvanized roofing sheets.

As can be seen in the list above, the company has consistently increased the diversity of its product portfolio since 1987. Increased diversification has gone hand in hand with increased sophistication, e.g. roofing sheets. Initially, Uprotur imported pre-cut coils, which not only were more expensive but limited the company's flexibility to tailor its products to the specific demands of customers. In 1992 Uprotur purchased a cutting machine that enabled it to cut 10 ton cold-rolled coils. In 1996 the company invested in a slitting machine from Italy used to start the production of galvanized sheets. These were enhanced by new machinery from Italy, installed in 2003, geared towards the production of pre-painted galvanized iron (PPGI) sheets, for which there is high demand in the country. Finally, Uprotur installed a new production line in 2006–7 for the corrugation of galvanized sheets. Through this process the initial product – simple galvanized sheets – acquired two more attributes: colour and corrugation.

Competition for Uprotur's products is strong, with Rwandan manufacturers at a disadvantage due to high transportation costs for raw materials and comparatively high electricity costs. Uprotur estimates that it costs them about US$200 per ton to transport cold-rolled coils to Kigali from the ports of Mombasa or Dar es Salaam, compared with an estimated US$80 for companies operating in Uganda. Two other factors that, from Uprotur's perspective, put local companies at a disadvantage are VAT-free and duty-free imports of construction materials for large construction projects and the fact that companies feel there is not yet enough quality control from the Rwanda Bureau of Standards on imported construction materials (in particular, in terms of thickness, which in the steel market is one of the main quality attributes).

As a result of these constraints, Uprotur has focused on the housing market and smaller-scale construction projects, and is trying to position itself as a high-quality producer of roofing sheets. Rwandan customers are very sensitive to the quality of roofing sheets, so this is one market in particular where Uprotur can differentiate itself from international and local competition and build customer loyalty.

Systems

Uprotur's total production capacity is estimated at about 5,000 tons per month. This capacity is split between seven production lines: metallic tubes, hollow sections, galvanized roofing sheets (including pre-painted sheets), corrugated roofing sheets, PVC tubes, nails and lastly wiring. Monthly production currently ranges between 80 and 200 tons, which amounts to a capacity utilization of less than 10%.

Low capacity utilization is due to a number of factors: (i) demand is seasonal, especially for roofing sheets, which are only produced during the dry season (May to September); (ii) limited electricity availability means that machines need to be rotated (the company cannot run all its machines at the same time); (iii) high electricity costs mean that it is only cost efficient to run machines once a certain order size has been secured (Uprotur's PVC production line has been brought to a halt due to extremely high electricity consumption and associated costs); (iv) production is contingent on the availability of raw materials, which can take up to three months to be imported and are often subject to delays; and (v) Uprotur's most recent machine – a welding rod imported from China used for the production of wiring – was out of order in mid-2012, bringing the production line to a halt. However, low capacity utilization is also a self-perpetuating constraint: one of the reasons that Uprotur is so diversified is because the company believes that relying on a single production line – for which demand is uncertain – is too risky; investing in multiple production lines ensures production is almost always ongoing, even though this does exacerbate low capacity utilization.

Key to Uprotur's survival is the elaborate sourcing relationships the company has established over the past 25 years with its suppliers. Uprotur sources its raw material (mostly cold-rolled coils) from India, using traders with which it has strong relationships in Belgium, England, Dubai and South Africa. Operating through established traders and bulk buyers ensures better prices and quality for the raw material, which is very vulnerable to oxidation. To transport the cold-rolled coils from the ports of Dar es Salaam or Mombasa to Kigali, Uprotur uses Rwandan transporters, with which it has long-standing contracts.

In the past Uprotur used exclusive distributors, but now the company only works through wholesalers. The company has a sales point, which is currently being moved from the city centre of Kigali to Nyabugogo.

Resources

Uprotur's strategic resources include 25 years of know-how in Rwanda's construction sector, a trained team of technicians, and seven relatively modern production lines based in a factory in Kigali's industrial area.

The company employs about 80 workers, although employment levels vary based on production levels. All employees are Rwandan, although foreign technicians (in particular, from Italy) are sometimes called in to repair faulty machines. Every production line in the factory has a trained technician to operate it.

Chapter 9

OTHER LIGHT MANUFACTURING

9.1 Background and Overview

The light manufacturing industry in Rwanda can today be grouped into four main product categories: plastic products, FMCG, furniture and mattresses, and textiles. The manufacturing process for these products is typically less capital intensive than heavy industry (which does not exist in Rwanda) and is geared more towards consumers rather than businesses.

It is difficult to trace the history of the light manufacturing sector (excluding the construction materials sector) but firm registration data from 1970 to the 1990s (see Table 1.2) indicates that during the 1980s there were several new entrants in the FMCG and furniture/mattress sector, with established players such as FMCG manufacturer Sulfo Industries (1962) and furniture maker Manumetal (1967) having started much earlier. We observe around 10 new entrants during the 1980s that produced a variety of goods that are no longer produced today, such as matches, soaps, toothpaste and leather shoes. Today, the light manufacturing sector is dominated by one of its oldest and largest stalwarts, Sulfo Industries, which generates a wide variety of FMCG products and is the sector's biggest company (annual turnover: US$13-14) and employer (700 employees).

The origins of today's light manufacturing companies are in line with some of the general trends we observe in the industrial sector and comprise (i) companies established by traders that moved into manufacturing; (ii) companies that were established to contribute to the post-genocide reconstruction; and (iii) EAC regional groups expanding their reach to Kigali. The entrepreneurs behind the establishment of Sulfo Industries (1967), Utexrwa (1985) and Rwanda Foam (1983) all have their roots as traders before they ventured into the manufacturing business, having acquired several decades of experience and know-how. Following the 1994 genocide, Mutara Enterprises (1995), Société Rwandaise de Chaussures (1999), Suku Paper (2003) and Trust Industries (started in 2008 although

TABLE 9.1 List of key light industry firms in Rwanda.

Light industry product category	Companies	Products
Plastic products	Aqua-San Rwanda	Plastic water tanks, septic tanks, pond-liners and perma-well liners and sanitation solutions (mobile toilets, sanitation slabs, eco-toilet), etc.
	Roto Ltd.	Plastic water tanks, horizontal water tanks, plastic mobile toilets, plastic septic tanks, plastic drums and other plastic products
	Société Rwandaise de Chaussures	Plastic shoes
Furniture and mattresses	Manumetal	Metal, wood and aluminium furniture
	Mutara Enterprises	Office and home furniture
	Rwanda Foam / Amagerwa	Rwanda Foam: foam mattresses and other related foam products such as pillows, cushions, car seats, and insulation Amagerwa: furniture and construction materials
	Other manufacturers of mattresses: Afri-foam, Kigali Foam, Uprofoam, etc.	Foam mattresses
FMCG	Sulfo Industries	Soaps, cleaning detergents, personal care products, food items, packaged drinking water, plastic moulded items (e.g. jerry cans), corrugated cartons, candles, casseroles and tin containers
	Trust Industries	Chemical cleaning detergents and paper products (toilet paper, serviettes, kitchen/hand towels, medical towels, facial tissues and hand tissues)
	Suku Paper Works	Paper products: toilet paper, sanitary pads, napkins, pocket tissues
	KSAW	Kitchen utensils
	Anik Industries	Candles, napkins and nails
	Soft Group	Cleaning tissues and other products
Textiles and fabrics	Utexrwa	Finished garments and finished fabrics

the cleaning services company began in 2000) were all started by Rwandan entrepreneurs who returned to Rwanda from either the region or abroad and saw an opportunity to provide key household items – such as furniture, plastic shoes, paper products and cleaning detergents – for the recovering economy. Finally, in the early 2000s, several companies with roots in either Kenya or Uganda started companies in Rwanda including Aqua-San Rwanda (2003) under the Kenyan Aqua-San Tec Group, Roto Ltd. (2001) under the Kenyan Flame Tree Group and Kigali Steel & Aluminium Works (KSAW) (2001), a subsidiary of the Ugandan-owned Shumuk Group of Companies.

Products

The sector can be grouped into four main product categories. With the exception of the textiles sector that has only one manufacturer in the country, there are a number of firms operating in each product category. A summary of key manufacturing firms for each product category is provided in Table 9.1 (please note that the list is not exhaustive).

Systems

Two main trends observed in the light manufacturing sector mirror the challenges faced in the construction materials sector: supply chain and sourcing difficulties for raw materials and low capacity utilization. Almost all the companies profiled in this chapter import the basic raw materials from a diverse set of destinations in the region and globally. These include China, India, Iran, Ukraine, Turkey, Norway, South Korea, South Africa, Dubai, as well as EAC neighbours such as Kenya, Uganda and Tanzania. Long lead times, cost, demand seasonality and transportation difficulties mean that many of the firms operate under capacity (and many of these below 50%). There appears to be an increasing trend to source raw materials from the region to alleviate costs and lead times. For example, Manumetal sources most of its raw materials locally and imports metal and aluminium parts from Kenya, Uganda and South Africa; Mutara Enterprises plans to source all its raw materials from the region, including the DRC, Kenya and Uganda. Larger companies such as Sulfo Industries are able to store imported raw materials in warehouses located across the city of Kigali. Finally, companies that are part of regional groups rely on the parent companies to conduct the bulk sourcing agreements, e.g. Aqua-San, Roto, and Kigali Steel & Aluminium Works (KSAW).

A key challenge for light manufacturing industry in Rwanda is the increasing number of finished imported products from places such as China, Malaysia, Kenya and Uganda, which are sold in the Rwandan market at comparatively cheap prices. Often, these products are the biggest competitive threat to the domestic manufacturers, even more so than their local counterparts.

Resources

The aggregate light manufacturing industry is close to the construction materials sector in terms of revenue and employment generation. Based on the 12 companies profiled in this sector, estimated revenues (2010) total just under US$50m, with employment at approximately 1,900 people. As is the case for most sectors, foreign experts from the region or abroad frequently fill key management and technical positions.

Exports

Very few firms in this sector export and firms which do export focus almost exclusively on the Burundi and eastern DRC markets. The most export-oriented firm in the sector, in terms of percentage of the turnover that is generated from exports, is Société Rwandaise de Chaussures, generating a remarkable 80% of sales from exports, followed by Roto Tanks (30%), Sulfo Industries (10%) and Aqua-San (10%). The ability to export to Burundi and the DRC has been a key motivating factor for investment by companies that are part of regional groups (such as Aqua-San, Roto and KSAW), as they view Rwanda as an ideal base from which to export to those markets.

9.2 Anik Industries

One of the pioneers of manufacturing candles, shoe polish and mirrors.

Year established	1986
Latest annual turnover (2010–11)	US$1–2m
Number of employees (FTE)	30
Main business activity	Candles, nails and napkins
Export markets	N/A

Company Origins

In 1986, Mr Patel, an entrepreneur from Uganda, registered Anik Industries as a business in Rwanda. Originally from Uganda, Mr Patel's family owned a coffee factory but were expelled in 1972 during the reign of Idi Amin, and subsequently moved to Rwanda. Anik Industries was originally created as a candle manufacturing business, later diversifying its product range into the production of nails and then finally napkins.

The decision was made to enter into the manufacture of these items as Mr Patel saw a good market opportunity to be the first company in Rwanda to produce them. In addition to the current diversified portfolio, the company also used to manufacture mirrors and shoe polish. During the genocide of 1994 their production lines for these two products were

destroyed and it was not deemed financially viable to restart them. They restarted activities in 1996.

Anik Industries has faced multiple challenges over the years, specifically, a lack of skilled labour and technical knowledge in Rwanda.

Today Anik Industries has a turnover of US$1–2m and 30 full-time employees.

Products

Anik Industries has developed three main products since its inception in 1986 – candles, nails and napkins – which each comprise an equal share of sales.

The company currently imports all its raw materials as they are not available locally. Paraffin, wax and wicks for candles are imported from China and Iran; paper for napkins is brought from China, India and Norway; steel wire for the nails is imported from the Ukraine, Turkey and South Africa. This variety of import streams across multiple countries enables Anik Industries to minimize its exposure to supplier disruption. Conversely, it can also have the impact of driving up prices due to high transportation costs, thereby making the company's products less competitive in the Rwandan market.

Anik Industries' products are technically complex to manufacture but because of this the company has few local competitors. The company's major competitors have either moved out of candles or closed down. The main challenge for Anik Industries, as with other manufacturers in Rwanda, comes from cheap imports from the Chinese market, where products can be produced at lower prices due to lower labour costs and an abundance of raw materials. In particular, this has forced the company to consider whether it should continue to produce candles and to lobby the government of Rwanda to help protect local businesses.

Systems

To further develop the company over the coming years and improve profits, Anik Industries needs to improve the capacity of its production. Currently, the company is running at 50–60% capacity with the business conducting 8 hour shifts. The main reasons behind this have been identified as (i) seasonal demand (this varies for each of the products, making manufacturing requirements hard to predict); (ii) the cost of energy; (iii) periodic shortages of raw materials; and (iv) the lead time to import raw materials.

One option for growing the business is diversification into new products, either in the current product lines or by entering a new market entirely. In line with this, Anik Industries recently conducted feasibility studies into the establishment of a glass-manufacturing unit, given high demand

from construction companies and the lack of an existing local manufacturer. At the time of writing the new unit was expected to commence operations in early 2013, providing the company can secure required financing and credit arrangements.

The packaging used by Anik Industries is either purchased locally or imported from Uganda depending on the product. The customers are primarily individuals or hardware stores, with sales being either direct to retail units or individually from the factory in Kicukiro. To further enhance sales, Anik Industries markets its products either through radio commercials or advertising via brochures.

Resources

In addition to Mr Patel, who is the managing director, the company currently has 30 full-time staff, including 5 managers. The company has two expats in the roles of production manager and chief accountant. Twenty-five employees are responsible for the day-to-day working of the factory. The only skilled employees are those responsible for machinery repair and maintenance.

Anik Industries has one plant in Kicukiro, Kigali, and an office downtown, where a retail and wholesale showroom is located.

9.3 Aqua-San

Part of Kenya's Aqua-San Tech Group, one of the largest providers of water sanitation solutions in Rwanda.

Year established	2003
Latest annual turnover (2010–11)	US$1–2m
Number of employees (FTE)	25
Main business activity	Water tanks and sanitation solutions
Export markets	Burundi, eastern DRC

Company Origins

Aqua-San Rwanda is part of the Aqua-San Tec Group of companies. Operations in Rwanda commenced in 2003. Aqua-San is engaged in manufacturing water and sanitation solutions such as septic tanks, rainwater harvesting tanks, mobile toilets and sanitation slabs. The group was started in Kenya and Uganda 20 years ago by the Shah family, initially focusing on the production of water tanks before moving into an array of water and sanitation products. The group currently has operations in another seven countries including Kenya, Uganda, Tanzania, South Sudan, Ethiopia, Mauritius and Burundi.

Aqua-San's familiarity with the Rwandan market dates back to several years before it registered in Kigali, as the company was previously exporting to Rwanda from its operations in Uganda and Kenya. In addition to a promising local market, Aqua-San saw Rwanda as a promising base to export to eastern DRC, Burundi[1] and potentially even Lubumbashi in southern DRC.

In Rwanda, Aqua-San started as a manufacturer of water tanks but has gradually diversified its product portfolio to become a solution provider for water and sanitation. Having invested an initial US$200,000 to commence operations, Aqua-San Rwanda generated US$1–2m in 2010 revenues, 10% of which was generated from exports to Burundi and eastern DRC. Aqua-San has plans to start manufacturing facilities in Burundi and Lubumbashi, DRC, to replace the current distribution offices by the end of 2012.

Products

Aqua-San's product portfolio can be split into two main groups: water tanks and sanitation products.

Water tanks. Aqua-San's first products were standard water tanks with various holding capacities. The company later introduced its popular rainwater harvesting tanks, marketed in Rwanda under the brand name AquaTank. Other products within the water tank portfolio currently include septic tanks, pond-liners and perma-well liners (which are plastic liners for wells).

Sanitation. Products include the newly introduced injection-moulded mobile toilets, sanitation slabs and an innovative eco-toilet, which is fitted with urine-diverting mechanisms that enable the urine to be used as fertilizer.

Aqua-San Rwanda plans to manufacture new products such as high density polypropylene pipes (HDPE) pipes that serve as hot and cold pressure pipes, plastic furniture such as school furniture, and Biogaz units. Aqua-San has recently developed compact Biogaz units that can use a variety of feedstock including plant and food waste as well as animal dung to generate biogas for cooking and manure as a by-product. The unit is sufficiently compact to be used in urban as well as rural households.

At the time of writing, Aqua-San aimed to make 2012 a year of diversification as the company feels it has reached saturation point for its current

[1] The company has plans to begin full-fledged operations in Burundi too by the end of 2012.

product portfolio. Most of Aqua-San's customers are long-standing customers such as NGOs and government agencies. This has motivated the company to diversify its product portfolio and to move into unrelated products such as school furniture and energy products.

The manufacturing process is similar for most products and is based on rotational moulding technology. The imported raw materials (polypropylene granules) are pulverized into powder form, placed and heated in a customizable mould that is slowly rotated and later cooled to solidify. The entire manufacturing process can last between 45 minutes and one hour. Aqua-San's prices are higher than its competitors as it differentiates its products through two key attributes: (i) raw materials, which are 100% pure and not recycled, thereby providing more flexibility and preventing cracking in unpredictable weather conditions; and (ii) technology – the water tanks contain more than 2.3% carbon black melt which is compounded into the polyethylene to form a protective barrier against the harmful effects of the sun's UV rays, thereby increasing the lifespan of the tanks.

Aqua-San is trying to position itself as a one-stop solution for water, sanitation and energy products, through the introduction of package deals designed for its different customer segments, including institutions, farmers and families. An example of a farmer package might include rainwater harvesting tanks, sanitation slabs, Biogaz units, grain silos and a perma-well liner. These packages have proved to be highly successful.

Systems

Aqua-San Rwanda is a subsidiary of the larger Aqua-San Group, which is headquartered in Kenya. The Nairobi-based board of directors makes strategic decisions, while day-to-day operations are managed in-country. The company leverages technical and financial expertise from the Aqua-San group and shares the same suppliers. However, given the nature of the market and the fact that products often have to be tailored to the specific requirements of NGOs and government agencies, which buy in bulk, all product research and development for products sold in Rwanda is conducted in Kigali.

Despite its modern machinery and saturation in the local market, Aqua-San's current capacity utilization is only 25%. This relatively low level of utilization can be explained by the small size of the Rwandan market, the unpredictable nature of demand and by delays related to the sourcing of raw materials. Raw materials are imported from India via the port of Dar es Salaam, a process that can take up to three months. Aqua-San Rwanda's long-standing relationship with Indian suppliers can be attributed to the network developed by its sister companies in Kenya and Uganda. Given the limited availability in the country, the company also imports accessories (for example, taps) as well as spare parts for machinery from Uganda. The

bulk of the company's machinery was imported from Germany; smaller machines and tools are fabricated *in situ* as needed.

Aqua-San works with about 20 distributors that market their products across the country; the company employs a similar model for its exporting arm. The company currently maintains two retail outlets in Kigali (Kicukiro and Nyabugogo) and, at the time of writing in mid-2012, also planned to open a retail outlet in eastern DRC. Its main competitors in Rwanda are Roto Tanks, Ameki Tanks and Rotassairwa.

In terms of management information systems, Aqua-San has been using Tally, but the group plans to implement an ERP system throughout its subsidiaries.

Resources

Aqua-San's main resources are its ability to leverage the financial and technical resources of the Aqua-San Tech Group, which has been in operation for two decades.

The company also relies on its strong brand, which is well recognized in the country and can leverage the group's reputation that has been established all over East Africa and Ethiopia. The company also benefits from the knowledge and skills of its sister companies through regular visits by their experienced production managers.

The company employs 25 full-time workers, with four expatriates (three Indian and one Kenyan) in senior management positions such as the general manager, the admin/marketing manager, the financial controller and the plant engineer. The skill levels of the staff vary, with the most skilled personnel being in plant engineering and maintenance positions.

The company is currently leasing its facilities in the Gikondo Industrial Area but plans to move to the Kigali Special Economic Zone (KSEZ) in three to four years' time.

9.4 Kigali Steel & Aluminium Works

Primary manufacturer of kitchen utensils in Rwanda.

Year established	2001
Latest annual turnover (2010–11)	US$1–2m
Number of employees (FTE)	20
Main business activity	Steel and aluminium kitchen utensils
Export markets	Eastern DRC

Company Origins

Kigali Steel & Aluminium Works (KSAW) is Rwanda's primary manufacturer of aluminium kitchen pots commonly known as sufurias. The

company is part of the Ugandan-owned Shumuk Group of Companies. The Shumuk Group started in Uganda in 1984 and currently has a large portfolio of firms ranging from a forex bureau, property investments, a travel agency and a dairy plant to hotels, all based in Uganda. The company manufactures aluminium products in Kampala and used to distribute to Rwanda and Burundi. In 1995, after the genocide, the company saw an opportunity to take over a defunct factory in Kigali and slowly began to refurbish the facility and its existing machinery. In November 2001, they registered the company as Kigali Steel & Aluminium Works and began to test the market by producing small quantities of aluminium utensils (1 ton per month) but today have expanded production to over 30 tons per month.

Another factor that encouraged the company to commence manufacturing operations in Rwanda was its desire to gain a dominant market share for aluminium products in Uganda, Burundi, Rwanda, South Sudan and eastern DRC. Rwanda would serve as an entry point into the eastern DRC market, into which KSAW has just started exporting. The company also has a distribution arm in Burundi but also plans to start manufacturing in Bujumbura.

Today, KSAW vies with Sulfo as the main producer of aluminium kitchen utensils in Rwanda. Its turnover in 2011 was US$1–2m and the company provides employment to over 20 workers.

Products

Currently, KSAW's sole product is aluminium kitchen pots referred to as sufurias. Production for these items is fairly basic with two main machines that mould the imported aluminium sheets into the shape of kitchen utensils. The sheets are sourced through KSAW's Ugandan sister company but the company also recycles aluminium scrap to increase cost efficiency. Some of the extra scrap metal is also sent back for the group's Ugandan operations.

By the end of the year, KSAW plans to begin manufacturing kettles, frying pans and aluminium cups. Most of the machinery is in place but the company is awaiting a few more pieces of equipment before production can start.

KSAW's main competitors are imports from Kenya and Dubai and local players such as Sulfo Industries and Harjit ETS.

Systems

KSAW currently produces approximately 50 tons per month, while full production capacity is estimated at between 60 and 65 tons per month. Accordingly, capacity utilization is estimated at 75%, due to inconsistent demand.

As with most companies that have origins in other East African countries such as Kenya or Uganda, KSAW relies heavily on the technical and financial expertise of its parent company. All raw materials and machinery sourcing is conducted from the head office in Kampala. Aluminium sheets are imported in bulk from India and China by Shumuk Aluminium Industry (Uganda) and then sent to KSAW as required. The only local input is the recycled scrap metal. Product development is also conducted in Uganda, with the utensils only differing from the Ugandan products in terms of the dyes used. Most of the existing machinery was refurbished but new equipment was imported, again via Uganda, from India and the United Kingdom.

KSAW's products are targeted at the low-income market and middle-class customers by virtue of their pricing and consequently have garnered a major share of market leadership in household utensils. Wholesale sales are conducted directly from the factory but the company has plans to develop a showroom on the premises.

Resources

The company currently employs approximately 20 full-time staff, with two expats from Uganda and India comprising the senior management. KSAW's factory is located near the Bralirwa operations in Kigali. Given the large space they have acquired, KSAW plans to build a showroom and flats for residential use.

In terms of knowledge resources, KSAW relies heavily on Shumuk Aluminium Industries Ltd., which also ensures that quality standards are maintained as the parent company holds an ISO 9001-2000 certification in Quality Management.

9.5 Manumetal

The country's oldest and largest furniture manufacturing company.

Year established	1967
Latest annual turnover (2010–11)	US$2–3m
Number of employees (FTE)	57
Main business activity	Furniture
Export markets	N/A

Company Origins

Manumetal is the oldest and largest furniture manufacturer in Rwanda. Established in 1967 by a Belgian consortium, the company has now been in existence for almost 50 years. Manumetal manufactures three types of furniture products – metallic, wooden and aluminium-based furniture

– targeted mostly at the rapidly expanding local office market. While furniture remains its core business, the company has, over the past decade, diversified into the production of aluminium-based structures, such as windows and doors. Today the company employs over 57 people and has an annual turnover of almost US$2–3m. Since 2000, Manumetal has been fully owned by two Rwandan investors: Mr Tribert Rujugiro, a prominent businessman with vast business interests in the country and internationally, and Mr Robert Bayigamba, an investor who had previously worked for the Belgian consortium.

Products

Manumetal started as a manufacturer of metal furniture and metal frames with equipment and machinery imported from Belgium (these machines, although upgraded, are still in use today). Manumetal was the only large manufacturer of metal furniture in Rwanda up to the late 1990s but as the years passed Manumetal's position as a market leader was slowly eroded due to the entrance of new players such as Mutara Enterprises and Prime Impex and imported finished goods from China, Dubai and Malaysia. A few years later, Manumetal entered the wood furniture industry, where there was significantly more competition, with companies such as Rwanda Furniture Works, Ameki, Namdhari Furniture and Economats. The transition to wood was motivated by a growing demand for more aesthetic wood products, and made possible by Manumetal's long expertise in furniture making and the fact that the production of metal and timber furniture requires much of the same machinery.

The big break for Manumetal came with the change of ownership in 2000, and significant capital investments aimed at the production of aluminium furniture. A major contract to furnish Kigali's first modern shopping centre – the Union Trade Center – made it possible for the company to make the move to aluminium. Today Manumetal is one of the manufacturers of aluminium furniture in Rwanda (other companies include Tomini, ESK and Union Trading); its main competitor, Mutara Enterprises, assembles imported aluminium products and has yet to start domestic production. This has made it possible for Manumetal to compete in the burgeoning local office market, with furniture products specifically targeted at offices, libraries, shops, hospitals and schools. Manumetal also produces furniture for the home interior market.

Manumetal's aluminium unit has enabled the company to diversify. The unit manufactures windows, doors, partitions and, most recently, blackboards supported by aluminium frames. In Rwanda's rapidly growing construction industry, this is a line of business with great potential, estimated to contribute 20% to the company's overall income. Manumetal also has plans to further diversify and invest in an electrical unit to

produce items such as solar water heaters (an untapped market that we estimate at about US$1m annually based on import figures) and, potentially, galvanized products.

Manumetal is aiming to position its furniture products as a high quality local alternative to imports from India, China or Malaysia, which are the biggest threat in the domestic market. The company has invested in product design by bringing in product design consultants, and has a team of 36 trained technicians. While the company planned, at the time of writing in mid-2012, to start exporting to neighbouring eastern DRC and Burundi, Manumetal did not at this point have the ability to compete in the broader EAC market due to high competition and the presence of very well established furniture manufacturers in Uganda and Kenya. In the domestic market, Manumetal's main competitor remains Mutara Enterprises and smaller furniture shops, which predominantly assemble knockdown furniture but do not manufacture on the scale of Manumetal.

Systems

To strengthen its position as a high quality local alternative to cheap furniture imports from Asia, Manumetal has been investing significant resources into strengthening its systems. In particular, in 2010, Manumetal underwent a corporate restructuring effort. This effort was supported by a specialized team of management consultants who helped the firm develop a new sales strategy, restructure loans and reorganize the management structure with the creation of a new position of a chief operating officer (COO) and changes in the board of directors. The creation of the COO position was aimed at strengthening the finance, HR, procurement, sales and production functions of the company to respond to the reduction in the company's capacity utilization (at 60%) and sales.

Manumetal has also adopted a more aggressive marketing strategy, hiring a brand consultant who supports product design, and launching a campaign to increase brand awareness. This marketing effort reflects a shift in the company's focus, from government tenders – for which it is not as price competitive as it used to be – to the wider office and domestic furniture market. This change in focus will require strengthening Manumetal's distribution network. Currently sales are handled directly by Manumetal's sales team and on-site showrooms, but Manumetal plans to develop a network of furniture distributors in the near future. In terms of systems enhancements, the firm has also put in place a more robust system to track the actual cost of inputs going into each product, adjusting product pricing accordingly. This has gone hand in hand with improvements to the management control function, the acquisition of a new accounting software system and the introduction of targeted staff training.

Manumetal's plant currently consists of three production lines: metal, timber and aluminium. The plant still retains the original metal processing machinery that was imported from Belgium when the firm started operations in the late 1960s, but these machines have been repaired and upgraded over time. For the production of metal and timber furniture, much of the same machinery and equipment can be used, the difference being that timber products take much longer to manufacture. A large investment was made in a more modern aluminium production line. The staff and technicians who operate these machines undergo regular training, and quality control is maintained at various stages of the production process by the finished goods team, which analyses products for any defects and conducts the final checks.

Manumetal sources most of its raw materials locally from a limited and trusted network of domestic suppliers. Metal panels and aluminium, however, are sourced from Uganda, Kenya and South Africa.

Resources

In terms of human resources, Manumetal currently has 57 employees with 8 management staff, 36 technicians and the remaining employees spread over administration and casual roles. Although the production of quality furniture requires highly skilled technicians, Manumetal has been able to meet its staffing needs locally and currently only has one foreign member of staff. Foreign consultants are nevertheless brought on board from time to time for very specific tasks, e.g. the management restructuring process, brand development, marketing and targeted training for technicians and administrative staff.

The firms' physical assets include one factory plant, three workshops and a showroom on the same premises. Manumetal is currently conducting a feasibility study on a second plant, which will focus on the production of solar heaters and, potentially, galvanized products.

Manumetal has access to the local debt market, with the Bank of Kigali providing most of the external debt financing. The firm's primary cost drivers are salaries (fixed) and raw materials (variable).

9.6 Mutara Enterprises

A large player in the furniture manufacturing industry in Rwanda.

Year established	1995
Latest annual turnover (2010–11)	US$3–4m
Number of employees (FTE)	85
Main business activity	Furniture
Export markets	Eastern DRC

Company Origins

Mutara Enterprises Ltd started operations in 1995 as a locally owned import/export firm by importing foodstuffs, furniture and general consumer goods. In 1996, with the local furniture industry still retooling after the 1994 genocide, Mutara Enterprises saw an opportunity to enter the furniture market, importing knockdown modular furniture from Malaysia and Korea and reassembling the furniture in Kigali. While the vast majority of Mutara Enterprises' sales still come from assembled furniture, the company has also started to manufacture furniture in the country. Plans to rapidly expand the local manufacturing of furniture include a new manufacturing plant expected at the time of writing to be set up by mid 2012 in Kigali's Industrial Economic Zone.

Today Mutara Enterprises, with a turnover of about US$3–4m and about 85 employees, is the largest player in Rwanda's furniture market. The company is owned by the Crystal Venture Ltd Group Holdings (CVL), which gives the company a significant advantage over competitors in terms of capital, management capacity and intra-group synergies. With a clay brick company, a real-estate construction company and a furniture company, the Crystal Venture Group can offer clients a complete package, from construction with locally produced materials through to furnishing.

Products

Mutara Enterprises is positioning itself as a one-stop-shop for office and home furniture. This also includes partitions, carpeting, ceilings, air-conditioning and all other interior furnishings. 75% of these products are currently imported as knockdown furniture from Asia and reassembled in Kigali. The remaining 25%, including lounge and rattan sofas, are manufactured in Kigali (small-scale local manufacturing started in mid 2006). In addition to furniture, Mutara Enterprises also distributes both Samsung and LG products, the idea being to sell these products along with the supporting furniture (e.g. plasma television units and display wall units). The target customers for these products are Rwanda's burgeoning office market, the growing middle class and also regional markets such as the DRC. While the company is in the process of diversifying its customer base, the majority of Mutara Enterprises' current sales come from public sector tenders.

With the furniture market split along the quality versus price spectrum, Mutara Enterprises currently operates in the high-end furniture market. Its only real local competitor is Manumetal. However, with its new manufacturing plant under construction, Mutara Enterprises also aims to move into the mid-level furniture market, targeting in particular Rwanda's growing class of middle-income households. Mutara Enterprises is well positioned to address the needs of this market: (i) its distribution network

with three showrooms in different cities (Butare, Rubavu and Kigali) is an advantage over local competitors; and (ii) its advantage over international competition is an in-depth knowledge of the Rwandan customer. One example of the idiosyncratic preferences of Rwandan customers is the seven-seater sofa, which is much preferred to the standard five-seater sofas that are easily available on international markets. It is largely on the design of these products that Mutara Enterprises plans to differentiate itself from the competition.

The expansion of manufacturing activities is also designed to increase exports. Mutara Enterprises started exporting furniture products to eastern DRC in 2011 and has plans to rapidly expand into the DRC market. Rwanda's furniture exports are currently extremely limited, totalling only about US$170,000 in 2011, with Mutara Enterprises being the only large furniture manufacturer to have entered the export market.

Systems

Mutara Enterprises is in the growth phase, an effort that has gone hand in hand with an overhaul in management structures and a new expansion strategy for production, sales and exports.

Both at the group and company levels, a significant restructuring effort is underway, supported by specialized restructuring consultants. The restructuring has led to three key changes: (i) a reduction in costs at Mutara Enterprises through a streamlining of production activities and a 20% reduction in staff levels; (ii) changes in senior management; and (iii) increased intra-group synergies. Mutara Enterprises has recently settled on a new managing director to turn around the company after a period of instability during which Mutara Enterprises changed its general manager three times in the space of one year. The company is also increasingly drawing key competencies from the Crystal Ventures Group, which is in the process of centralizing the HR and procurement functions group-wide. To this effect, a group-wide HR unit was created in mid 2011. Moreover, Mutara Enterprises and its sister firms are pooling resources to invest in growth: the company's new furniture manufacturing plant, for example, will be shared with Graphic Print Solutions (GPS), the Group's printing company.

It is worth noting that the move to manufacturing products, as opposed to local assembly, was not a natural evolution of Mutara Enterprises' capabilities as the skillset required to manufacture is very different from the simple tasks involved in assembly. Instead, it was a deliberate move which initially required Mutara Enterprises to import technical expertise from Burundi to help start rattan manufacturing activities and train staff.

The company's capacity to manufacture is limited by its machinery, which is now outdated and in need of replacement. To respond to this,

Mutara Enterprises is investing in a new modern plant, which will require an initial capital investment of US$7.5m and is expected to provide employment to 70 people. The move to manufacturing will also require the firm to alter its product mix in line with customer needs, for example, by decreasing the share of handmade solid furniture as this takes much longer to manufacture.

For its manufacturing activities, Mutara Enterprises plans to source raw materials regionally. Timber (Cyprus, pine and saligna) is found locally, with hardwoods being imported from the DRC; foam is sourced from Rwanda, fabrics from Rwanda and Uganda; only fittings are currently imported from Korea; local or regional sourcing of raw materials is one of the characteristics and strengths of Rwanda's furniture industry. The sourcing of these raw materials is again an area where Mutara Enterprises can benefit from the expertise of the Crystal Ventures Group.

Resources

Capital resources and, in the very near future, Mutara Enterprises' modern manufacturing plant are a key component of the company's competitive advantage over other players in Rwanda's furniture industry. As part of Rwanda's largest industrial holding group (Crystal Ventures Group Holdings), Mutara Enterprises has a stronger capital backbone and easier access to finance (both debt and equity) than its smaller local competitors. The new US$7.5m plant, which in terms of value is larger than the entire furniture market in Rwanda, is a testament to the firm's ability to raise capital. The plant is expected to be partly financed by the local banking sector and to share facilities with Graphic Print Solutions.

In terms of human resources, the company currently employs 85 people, of which 23 are in administration, sales and management. This number is expected to more than double when the manufacturing plant starts operations. Senior management roles are currently filled by experienced foreign nationals, including a Kenyan sales and marketing manager, a quantity surveyor from Uganda and a British general manager, who has had 24 years' exposure to furniture manufacturing in southern Africa. While the senior management of the company is stable and highly qualified, one of the main challenges for the company is acquiring the technical know-how to shift from assembly to manufacturing. To address this, Mutara Enterprises has sourced technical expertise in neighbouring Burundi to assist in the building of the technical knowledge required to manufacture rattan lounge suites.

Finally, Mutara Enterprises has a well-established brand name in Rwanda. The brand has been supported by a recent increase in marketing expenditures and by the company's distribution network (in particular, its three showrooms in Butare, Rubavu and Kigali).

9.7 Roto Ltd.

One of the country's largest plastic tanks and sanitation solutions manufacturers.

Year established	2001
Latest annual turnover (2010–11)	US$3–4m
Number of employees (FTE)	60
Main business activity	Rotational moulded products: plastic water tanks, horizontal water tanks, plastic mobile toilets, plastic septic tanks, plastic drums, and other plastic products
Export markets	Burundi, DRC

Company Origins

Roto Ltd. is a subsidiary of the Kenyan Flame Tree Group of Companies, which has been in the manufacturing industry (cosmetics, plastics and energy) for over 20 years. In addition to Rwanda, Flame Tree Group has manufacturing operations in Kenya, Ethiopia, Sudan, Rwanda, Mozambique, Malawi and distribution offices in the DRC and Burundi. Roto Rwanda was registered in 2000 and began operations in 2001. Initially, Roto Rwanda was set up as a trading office that imported plastic tanks from their Uganda sister company but they began manufacturing operations in 2006 following the burgeoning trade in the plastic tanks sector. The move to manufacturing in Rwanda was motivated in part by the potential to export directly to Burundi and eastern DRC from Rwanda, as opposed to from Uganda.

At the time, the only other manufacturers were Ameki and Rotassairwa. Today, Roto Rwanda is one of the major players in the plastic products sector (including a new entrant, Aqua-San), producing a variety of rotational-moulded products such as plastic water tanks, plastic mobile toilets, plastic septic tanks, plastic drums and other plastic products. Other business interests for Roto include distribution of Flame Tree Group's cosmetics products such as hand and body lotion, hair care products and nail polish.

Roto generated revenues of US$3–4m in 2011 and provides permanent employment to 60 people.

Products

Roto produces a variety of plastic products using the rotational moulding production process. This process entails pulverizing the linear low density polyethylene (LLDP) raw material to powder form, which is then placed in a customizable mould and rotated while heated at high temperatures.

Products include plastic water tanks, horizontal water tanks, plastic mobile toilets (eco-san toilet, flush type, eco-loo and mobile toilet–bathroom), plastic septic tanks, plastic drums and other plastic products such as eco-slabs, cattle troughs, washbasins and meat boxes. In 2011, Roto also began manufacturing PVC pipes, thereby diversifying its product range. There are no plans to introduce any new products in the immediate future.

Roto's primary customers include NGOs that are engaged in large-scale project work, construction firms, hardware stores and individual buyers. Half of Roto's sales are derived from domestic purchases, at least 20% is dedicated to large-scale project work in Rwanda, and 30% is exported to Burundi and eastern DRC, where the company has distribution offices. One challenge that the company faces is that the competitive landscape in these export destinations is aggressive as all the local manufacturers of plastic tanks also export to the same markets.

Systems

Similar to most companies that have East African origins, Roto's sourcing is handled by its sister company in Kenya, which contracts the bulk purchasing agreements. The LLDP raw material is sourced primarily from South Korea via an established supplier and the machinery was imported from Kenya, Uganda and India. Given the bulk sourcing agreements in place, Roto has managed to avoid the fate of many manufacturing firms by having adequate supplies of raw material.

Roto uses a mixed distribution strategy by conducting approximately 60% of direct sales from the company's offices in Kicukiro, Kigali, and 40% through selected distributors. In terms of marketing, Roto relies on posters and billboards across Kigali and through word-of-mouth sales, especially with their distributor network.

The Flame Tree Group is currently aiming for ISO certification in Quality Management Systems for all its subsidiaries in the near future. Roto has already applied for RBS certification. Roto has been using the popular Tally accounting system as an MIS, but the group plans to implement an ERP system throughout its subsidiaries.

Resources

Roto has over 60 employees, including five Indian expatriates who occupy senior management positions. In terms of financial and knowledge resources, Roto can rely on the multinational and extensive experience of the Flame Tree Group. As a result, Roto Tanks has an established brand presence in Rwanda and the region, despite being in a competitive domestic market with other players such as Aqua-San, Ameki and Rotassairwa.

9.8 Rwanda Foam

Rwanda's first and largest foam mattress company.

Year established	1983
Latest annual turnover (2010–11)	US$3–4m
Number of employees (FTE)	80
Main business activity	Foam mattresses
Export markets	N/A

Company Origins

Rwanda Foam was established in 1983 as the first foam mattress company in Rwanda. Mr Makuza started the company after he identified a gap in the market caused by a lack of local production. Mr Makuza has an extensive background in mechanical engineering and had started Amagerwa in 1965, which began as a mechanical workshop and hardware materials trading firm but now manufactures furniture and construction materials such as nails, clay bricks and tiles.

Following this successful venture and using capital from the Amagerwa business, Mr Makuza saw another opportunity in foam products in the early 1970s and visited the Vitafoam plant in Kenya to learn more about the process. From there he brought back an expert from Vitafoam to help him start the production process, using machinery he imported from Denmark. Initially, the firms faced significant challenges including political instability, difficulty in obtaining trading licenses, and government bureaucracy. Both factories were destroyed by the war in 1994 and required substantial rehabilitation afterwards. New machinery was purchased from England, with machinery experts flown in to oversee the installation and initial training.

Rwanda Foam (and Amagerwa) currently has eight shareholders that include the family members of Mr Makuza. In addition, the Makuza family has other business interests in MCS, a real estate development company. Today, Rwanda Foam is the oldest and longest established foam mattress manufacturing firm in Rwanda with an annual turnover of US$3–4m and approximately 80 full-time employees.

Products

Rwanda Foam manufactures foam mattresses and other related foam products such as pillows, cushions, car seats and insulation. Products such as mattresses can be ordered to different sizes and density to ensure the clients get exactly what they desire. The products are not technically complex. The major challenge is importing the raw materials and ensuring that they arrive on time at the agreed cost.

The main competitors for Rwanda Foam are Afrifoam, Uprofoam and Kigali Foam, as well as a new entrant from India. Given the increase in competition, as well as new cheaper products, the company has decided to focus on making better quality goods at a higher price to help differentiate itself. At the same time, the company has worked on creating economies of scale to help lower the price of the goods it produces. It is estimated that Rwanda Foam currently has a 70% share of the market in Rwanda. Quality control is undertaken on the final products by the production department. This is seen to be imperative to the success of the company, as mixing chemicals is a specialized task.

The main competitors for Amagerwa are furniture makers Mutara Enterprises and Manumetal, and in clay bricks and tiles they compete directly with Ruliba Clays and other construction materials firms.

Systems

Amagerwa and Rwanda Foam were established as family businesses. The board of directors is made up of family members and Mr Makuza's sons, Robert and Patrick, hold the positions of chairman and general manager respectively. Robert also manages Amagerwa. Both brothers studied abroad in Europe and have been the main leaders of the company since their return. The founder, Mr Bertin Makuza, has since retired.

The company has five main departments covering the following areas: technical, production, sales, administration and human resources, and logistics and procurement. Since 2008–9, the company has implemented a customized MIS for accounting, sales and inventory.

Rwanda Foam has two main production units made up mostly of automated machinery, including two cutting machines and two shredding machines. It has recently improved its internal waste management system so that waste is converted to condensed blocks that can be used as pillowcases and other products. In 2012 it made a large investment in a new recycling programme whereby the company recycles and retreats old foam mattresses and then resells them.

Rwanda Foam currently operates at full capacity with approximately 90,000 tons of foam produced per year.

Rwanda Foam uses a variety of suppliers for their key raw materials and has a strategy of changing suppliers on a regular basis. This is because the materials used in foam production are oil-based chemicals and so are open to wide fluctuations in prices depending on the oil taxes imposed by the corresponding governments. The oil-based, price-sensitive chemicals were previously imported from Germany and other European countries, however, they are now sourced more cheaply from Korea, China and South Africa. Rwanda Foam also imports fabric coverings for the foam from Pakistan and India, as well as procuring a small amount of fabric from

Utexrwa. Aside from the significant lead time required for procurement, Rwanda Foam faces no major obstacles obtaining raw materials.

For distribution the company works with several wholesale distribution companies in Kigali, but also completes retail sales from its four depots in Gakinjiro, Nyabugogo, Muhima and Kimironko. Rwanda Foam has also undertaken extensive marketing to advertise its products throughout the country, including through radio, television and billboards. In addition, its long-standing reputation as the first company to produce quality mattresses gives it an advantage over new entrants. Rwanda Foam does not currently export its goods and it has no plans to do so in the near future.

In terms of training, Rwanda Foam initially brought in technical experts from England when it installed its new machinery after 1994, and continues to perform on-the-job training to keep staff knowledgeable. In addition it hired consultants in 2011 to provide customer service training. Rwanda Foam has been certified by the Rwanda Bureau of Standards (RBS).

Resources

All 80 of Rwanda Foam's employees are Rwandan. Amagerwa has approximately 50 employees, all of whom are Rwandan too.

In addition, the company benefits from diversified business lines, which cushion against unforeseen shocks to any single product. The long family history in the business, as well as well-educated senior management, give it an added advantage.

Rwanda Foam's assets include one plant plus a warehouse and four retail outlets. It also has trucks for transporting raw materials from Dar es Salaam, which help reduce the price of their goods. Amagerwa's assets include two plants, machinery and a modern and sophisticated kiln to bake bricks and tiles.

In the future Rwanda Foam plans to relocate to the KSEZ. It faces strong price competition from imported products but hopes to maintain market share by offering superior quality and a trusted brand.

9.9 Société Rwandaise de Chaussures (SRC)

The only manufacturer of plastic shoes and the most export-oriented manufacturing firm in Rwanda.

Year established	1999
Latest annual turnover (2010–11)	US$2–3m
Number of employees (FTE)	100
Main business activity	Plastic shoes
Export markets	Burundi, eastern DRC

Company Origins

Société Rwandaise de Chaussures (SRC) is a home-grown shoe manufacturer that started operations in 1999–2000. Alphonse Sano, an entrepreneur with experience in the shoe business, and Tribert Rujugiro, one of Rwanda's wealthiest investors, started SRC. Mr Sano had been working for Bata Shoes in Burundi for over 32 years, starting his career as a factory worker and working his way up to general manager level, until operations were halted following the 1994 genocide and the ensuing instability in Burundi. Mr Sano moved to Rwanda in 1996 with the intention of starting a shoe business.

For a brief period, before setting up the manufacturing plant, Mr Sano imported shoes from Bata Uganda and Bata Kenya. This enabled him to test the demand for shoes in the local market and to identify potential clients and opportunities. One such opportunity was the supplying of gumboots for the Rwandan army, which was importing all of its footwear from Kenya at the time. With a loan from a local bank, investment capital from Mr Rujugiro and a contract with the Ministry of Defence to supply the army with gumboots, SRC was established, invested in a factory and started operations.

Today SRC is Rwanda's only large-scale shoe manufacturer, with a turnover of approximately US$2–3m and 100 full-time employees.

Products

SRC started with the production of plastic shoes, in particular, gumboots and slippers, with machinery imported from Taiwan. Its main client for this product was the Rwandan Ministry of Defence. After the army switched to leather boots, which SRC was not able to produce, SRC invested in new machinery from China and Taiwan to start the production of ethylene-vinyl-acetate (EVA) shoes. EVA is a polymer that provides softness and flexibility and is typically used as a shock absorber in sport shoes.

EVA shoes are shoes for the masses. Made in bright green, blue and red colours and sold for less than US$2 for a pair, they are cheap, comfortable and have a very simple design. The shoes have become a hallmark of the Rwandan countryside. SRC's shoes are also very popular in Burundi, where the company makes approximately 70% of its sales. Outside the tea, coffee and pyrethrum sectors, SRC is the most export-focused manufacturing firm in Rwanda. The company also has limited exports to the DRC.

There is significant competition in the local market, with cheap imports from Kenya and, in particular, China. We estimate annual imports of rubber and plastic shoes, which are SRC's direct competition, to average about US$5m per year, leaving SRC with a local market share of about 10–15%. However, with a well-established brand and design, as well as price

competitiveness, the main challenge for SRC is not the quality or price of imports, but rather its ability to keep up with demand.

Systems

SRC's main priority over the next few years is to increase production levels by fixing faulty machinery and, potentially, investing in increased capacity. Currently, the plant produces 1.8m pairs per year out of an installed capacity of 5.4m pairs per year. The low capacity utilization is due to faulty moulds in its plastic injection machine. To better maintain and run the equipment SRC is in the process of recruiting permanent technicians from Kenya. These are skills that are currently not available locally.

To maintain price competitiveness, SRC needs to have an efficient sourcing system in place. SRC sources its raw material from three countries: Kenya for the PVC that goes into the production of plastic shoes, Uganda for the whitening chemicals and South Korea for the EVA. While imports from Kenya and Uganda are not problematic, imports from South Korea come with very stringent conditions, including 50% payment of the order up front and the remaining 50% on receipt of the bill of lading. This leads to high upfront and administrative costs.

SRC runs an operation with few overhead costs. Its administrative staff comprises six people, including Mr Sano himself, as well as managers for production (from Kenya), finance, personnel, marketing and procurement. The marketing function does not involve advertising and publicity campaigns, but rather price monitoring and maintaining relationships with distributors in Rwanda, Burundi and the DRC. SRC owns several trucks and vans for direct distribution of the finished products to consumers.

Resources

SRC's main resources are (i) long-established knowledge of the footwear market in the region; and (ii) established distributors in Rwanda and Burundi. It is this knowledge and network that has enabled the company to survive in the very competitive business environment. In terms of physical assets, SRC has a large 6,590 m^2 factory located on the Gatuna Road a few kilometres from the city of Kigali.

The company has 100 employees, of which two are foreigners, a production manager from Kenya and a technician from the DRC. The main competencies gap, according to Mr Sano, is the lack of skilled technicians capable of repairing faulty machinery.

9.10 Suku Paper Works/Safari Center

One of the largest manufacturers of paper products.

Year established	2003
Latest annual turnover (2010–11)	US$5–6m
Number of employees (FTE)	50
Main business activity	Paper products: toilet paper, sanitary pads, napkins, pocket tissues
Export markets	N/A

Company Origins

Suku Paper Works – a manufacturer of paper products for personal hygiene – was started in 2003 by a Rwandan entrepreneur, Mr Benjamin Gasamagera. After returning to Rwanda from Europe following the 1994 genocide, Mr Gasamagera set up a logistics firm in Kigali in 1998, called Safari Center, building on his previous experience working for a Swiss International forwarding company. In addition to providing logistics services, Safari Center imported chemicals such as fungicides and pesticides and construction materials such as plywood. However, fascinated by the Chinese manufacturing sector and realizing that most products in Rwanda were imported, Mr Gasamagera was keen to start his own manufacturing firm. Although he failed to raise capital for several business plans in the early 2000s, he eventually succeeded with the paper products concept that became Suku Paper Works.

Mr Gasamagera developed the concept following a trip to Dubai during which a colleague remarked how difficult it was to obtain paper products in Rwanda. Mr Gasamagera's subsequent research revealed that the technology required to start production was not very sophisticated and required a relatively small amount of capital. A business plan was developed, the company identified suppliers and sourcing destinations for the raw materials and an initial capital investment of approximately US$100,000 was obtained from the banks. At the time of the company's establishment, the paper market for personal hygiene was dominated by one player, Socobico (now Trust Industries).

Suku has faced two key challenges since incorporation in 2003: a skills constraint and difficult access to raw materials. As a new company Suku had to import skills from China to start the production of various soft paper products and to train local staff. The logistical challenges that come with operating out of a landlocked country, coupled with the difficulty in anticipating demand for Suku's products, has forced the company to resort to sourcing raw materials several months in advance.

In 2011, Suku Paper Works had estimated revenues of about US$5–6m and employed approximately 50 full-time staff. Since 2003, a number of new entrants have started competing in the paper products market, including Soft Group, La Plume, BHS and, most recently, Afrifoam.

Products

Suku Paper Works manufactures paper products for personal hygiene, including the following.

Toilet paper. This was the first product the company started producing in 2003. The machinery required was originally imported from China and the installation of the machinery, as well as training of local staff, were provided by Chinese technicians. Toilet paper is not technically complex to make, as the vast majority of tasks are automatically performed by the machines. The product is the company's most successful and the 3–5m toilet paper rolls produced annually account for approximately 70% of total revenues.

Sanitary pads. Following the success of the toilet paper products, the company then moved into sanitary pads three years later, noting the shift from cotton-based pads to paper products. The process behind this involves importing semi-finished sanitary pads from China and completing the production in Rwanda. The company plans to invest more capital into its machinery to conduct the entire manufacturing process in Rwanda by 2013. For sanitary pads too, the only other domestic manufacturer at this point in time is Socobico/Trust Industries. Production capacity is about 500,000 pieces per year and comprises about 20% of revenues.

Napkins and pocket tissues. These products were also introduced by Suku in 2006 with production capacity at about 50,000 napkins and 100,000 pocket tissues. Each product accounts for 5% of total revenues.

Suku also has plans to begin manufacturing baby diapers and kitchen towels by the end of 2012.

Systems

Suku's business model focuses on paper products that are not technically complex to manufacture, with the bulk of the raw materials being imported and then processed locally to create the final product. Suku differentiates itself from its competition by offering a higher-quality product (as measured by the weight of paper in the toilet paper) priced at a premium. The capacity utilization rates for the toilet paper production line are between 70 and 80%, as compared with between 40 and 50% for napkins and pocket tissues (due to the low market demand for these products).

Currently, Suku sells directly from their factory and through a wholesale outlet in Kigali town. The company also has a small fleet of trucks to transport the goods to various locations as requested by customers. No goods are currently being exported due to problems experienced by the company in the past, such as corruption in eastern DRC and stiff

competition from other EAC companies in Burundi. Suku markets its products through television, radio and also through various distributors.

For raw material imports, the company has built up a range of contacts, initially in China but subsequently also in Kenya, Egypt and Tanzania. Due to the increasing costs of importing the raw material, Suku has started working with Chinese colleagues in Moshi, Tanzania, to recycle paper. Waste-paper collection in Kigali is outsourced to a separate firm, which then delivers it to Moshi, where the paper is recycled and brought back to Kigali. While this has helped to lower the cost of sourcing raw materials, the recycled paper quality is low, which means the company must still import raw materials from China. Suku currently imports approximately 60% of raw materials from China and 40% of recycled paper from Moshi, Tanzania.

Resources

Suku employs 50 full-time employees, all Rwandans. Chinese technicians were initially hired on a temporary basis to install the machinery and help train local staff. Technical capacity is still a constraining factor, with only two qualified technicians on the team.

A key asset to the business is the owner, Mr Gasamagera. He is an established entrepreneur with many years' experience in developing businesses. The structure of the business sees Mr Gasamagera taking the role of managing director and overseeing the finance and administration operations, including the factory production.

9.11 Sulfo Industries

Rwanda's oldest and largest FMCG manufacturer.

Year established	1962
Latest annual turnover (2010–11)	US$13–14m
Number of employees (FTE)	700
Main business activity	Soaps, cleaning detergents, personal care products, food items, packaged drinking water, plastic moulded items (e.g. jerry cans), corrugated cartons, candles, casseroles and tin containers
Export markets	Uganda, Burundi, eastern DRC

Company Origins

Sulfo Rwanda Industries is one of the oldest and largest companies in Rwanda. The company was established in 1962 by Mr Tajdin H. Jaffer and Mrs Khatun Jaffer.

Mr Jaffer, having come to Rwanda from Uganda in 1950, gained business experience by working for a trading business set up by his father and uncle. Having learned the trade, he soon opened his own small shop in Gatsibo and a petrol station in Kigali. He was also associated with a traditional soap-manufacturing unit started by his uncle in Burundi in 1961 where he learned the art of soap making. This laid the foundation for him to start a soap-manufacturing unit in Kigali, which culminated in the establishment of Sulfo Rwanda Industries in 1962. Sulfo was originally founded as a partnership and later converted to a public limited company. At the time of its establishment it was the only soap-manufacturing industry in Rwanda.

In 1970, Sulfo started manufacturing cosmetics and in the 1980s commenced manufacturing a selection of the products under franchise agreement licenses with leading multinationals such as Unilever–UK (Omo detergent powder), BDF–Germany (Nivea range of products), Bayer–Germany (Baygon insecticide) and Hoyu–Japan (Bigen Hair dye) till the mid 1990s. The association with such multinationals has been a rewarding experience from which Sulfo has learned best practices in manufacturing FMCG products.

Today, Sulfo Rwanda is the largest manufacturer of FMCG in Rwanda, with a product portfolio of over 150 products. In addition to manufacturing its own products, Sulfo has franchising agreements with Canadian Beverages Ltd. and Pearl Industries UK.

Sulfo Rwanda also has a trading division dealing in automobiles, auto spare parts, liquid petroleum gas, tyres, batteries, cooking utensils, refrigerators, imported FMCG items (such as the PZ Cussons range of products, Kakira Sweets and Bitez products). Finally, Sulfo also has a garage and machine shop for repair and maintenance of motor vehicles.

Sulfo's 2010 turnover was approximately US$13–14m, of which 10% is accounted for by exports to Uganda, Burundi and eastern DRC. Mr Jaffer is Sulfo's chairman and is supported by Mrs Khatun Jaffer, his wife, who has been actively involved in the company since its inception. The Jaffer family has other business interests in the DRC, Kenya and Uganda.

Products

Currently, Sulfo's product portfolio offers over 150 items, including:

- laundry and toilet soaps;
- powder and liquid detergents, scouring powder;
- personal care products, both hair care and body care;
- confectionery;
- pure drinking water;
- plastic moulding, novelty items;
- corrugated cartons;

- candles;
- casseroles and tin containers.

Sulfo began manufacturing its own packaging materials such as bottles, closures and corrugated cartons to avoid relying on imports, although label printing is still outsourced to Uganda, Kenya or India. The company also provides packaging materials to a few companies in Rwanda, albeit on a relatively small scale.

Sulfo's main brand names, which are widely recognized in the Great Lakes region, include Claire, Black Pearl, Nil, Tembo, Makasi, Sante, Malaika, Nina, Inyerneri, Safari and Beaute.

Sulfo used to manufacture confectionery products, candles and cooking oil, but has stopped these production lines. The company's confectionery production line was brought to a halt due to the competition from outside products, high cost and the ban on plastic packaging applied to local industries. Similarly, Sulfo has found the manufacturing of candles and cooking oil to be unviable due to cheap imports, in particular, from China and Uganda.

The main competitors to Sulfo's large production portfolio come from imports for most FMCG items such as soaps and cosmetics. For Nil water, Sulfo faces competition from locally manufactured products.

Sulfo's most successful export product line is its wide range of cosmetics. Sulfo's exports contribute in excess of 10% to total revenues and are concentrated on the Uganda, Burundi and the eastern DRC markets.

Systems

A unique feature of Sulfo when compared with other Rwandan companies in the agribusiness and manufacturing sectors is the diversity of its product portfolio. Maintaining such a large product portfolio requires a sophisticated and diverse supply chain system, which Sulfo has developed over its 50-year history. 99% of the raw materials are imported from destinations as diverse as Malaysia, Indonesia, India, South Korea, Europe, the United States, Iran and the Middle East. Due to the long lead time in importing, Sulfo stores over 600 varieties of imported raw materials in a number of warehouses across Kigali.

Sulfo's ability to import in bulk and store the imported raw materials ensures that the company does not face issues on account of timely availability of raw materials, which is a key challenge for Rwanda's manufacturing sector. The main challenge for Sulfo lies in dealing with the limited and fluctuating demand in the domestic market, especially when faced with steep competition from cheap imports. Currently, soap production has the lowest capacity utilization, estimated at 30%, mainly because of competition from outside products.

The company relies on direct sales, with 65–70% of sales from Kigali outlet and its two branches at Gisenyi and Cyangugu. Sulfo also maintains its own fleet for delivery in Rwanda. The company operates through distributors. The company has a strong brand presence in Kigali through posters, billboards and radio advertisements.

Given the scale of its operations, Sulfo has a dedicated asset management system and an IT department that maintains the server and manages customized software for the payroll, sales and inventory systems. Sulfo is currently in talks to migrate to a fully integrated ERP system by 2013.

As a result of 50 years of operations and franchising agreements, Sulfo has developed stringent processes for quality control, managed by several food safety experts and microbiologists. This is reinforced by the quality-control standards required as part of their ISO certifications for quality management and food safety management systems.

Resources

Sulfo provides employment to over 700 Rwandan workers, 16 Indian expatriates, three Kenyans and four Ugandans. Given the large scale of operations, Sulfo has four main manufacturing sites in the city of Kigali. Soaps, drinking water and confectionery are produced at the Rue de Lac Ihema plant; cosmetics, plastics and detergent are produced at the Rue de Marche factory, while carton, tin and casserole production is located in the Gikondo Industrial Area, which is also where the raw material depot and the LGP filling plant are.

Sulfo was one of the first companies in Rwanda to achieve ISO certification. All its facilities are certified for the ISO 9001:2008 quality management system. Sulfo is the first drinking water manufacturing company in the whole of Africa to obtain ISO 22000:2005, which certifies their food safety management systems.

In terms of new product development, Sulfo is further diversifying into a range of herbal products, such as herbal soaps, lotions and jelly, and is now looking at Kenya and Tanzania as potential destination markets.

9.12 Trust Industries

Manufacturer of cleaning and paper products.

Year established	2008
Latest annual turnover (2010–11)	US$1–2m
Number of employees (FTE)	50
Main business activity	Chemical cleaning and paper products
Export markets	N/A

Company Origins

Trust Industries Ltd. was established in 2008 by Mr Claver Mugabo. The company's business comprises manufacturing, supplying and exporting paper products, liquid detergents and cosmetics.

Prior to establishing Trust Industries, Mr Claver Mugabo established and ran a cleaning services company called TrustCo Rwanda Sarl (established in 2000) that provided cleaning services to a number of major clients such as banks, government agencies and other large institutions. The considerable cost of importing cleaning products motivated Mr Mugabo to manufacture his own cleaning products.

In 2008, Mr Mugabo secured a loan to buy machinery and raw materials and, working from a garage, began production. Initial products included cleaning detergents such as hand wash, dishwashing liquid, bleach and glass cleaners. Given the success of their cleaning services and products division, the company started a paper products division in 2009 to meet market demand. This division now manufactures toilet paper, pocket tissues, serviettes, kitchen towels and facial tissues. Trust Industries is now considered a total solutions provider in the hygiene sector.

To consolidate the paper products unit, in 2010 Trust Industries bought Socobico, a paper product company that started in 1975. Socobico had run into financial problems and its failure to pay back loans saw it auctioned off to Trust Industries Ltd. for about US$0.5m. Currently, Trust Industries has two main shareholders, Mr Claver Mugabo, who holds the majority share, and an additional partner, Mrs Chantal Mugabo. Trust Industries Ltd is one of Rwanda's largest manufacturers of paper products, alongside Suku Paper Works, with annual turnover of US$1–2m (2010) and approximately 50 full-time employees.

Products

Trust Industries has two main divisions, which produce over 50 different products, including cleaning products such as detergents, hand wash, body lotion, bleach, floor cleaner, tile cleaner, disinfectant and glass cleaner. These products are sold under the brand name Clear. The paper products division produces toilet paper, serviettes, kitchen and hand towels, medical towels, facial tissues and hand tissues. These products are sold under several different brands including Clear, Meditowel and Wonder Fresh.

Trust Industries plans to introduce shower gels, washing powder, bar soap, bleach powder, as well as a variety of glass-cleaning products and cosmetics by the end of 2012. Also by this year they will begin producing plastic jerry cans and other containers. No new paper products are planned but the company is currently conducting a feasibility study for a paper mill in Bugesera /Ntarama.

The raw materials for the company's cleaning products are imported from Kenya, Uganda, Dubai and China. This includes chemicals such as sulphuric acid, SLS[2] and caustic soda. The only inputs sourced locally from Rwanda are salt and water. The sourcing strategy has changed in recent years and the company is increasingly importing from Kenya, Dubai and Switzerland (due to price and quality factors), and less from Uganda. For the paper products, the company imports recycled paper materials from Kenya, Uganda and Dubai and has established suppliers in each of these markets. Similarly, Trust Industries also imports some of its plastic packaging from China.

Systems

The acquisition of Socobico in 2010 meant that Trust Industries Ltd. could consolidate its dominance in the paper products industry in Rwanda. It also allowed the company to leverage the skills and expertise of Socobico in its design and manufacturing process.

Trust Industries Ltd. is currently operating at 75% capacity, which is hampered only due to a shortage of raw materials and the lead time required to import raw materials. It takes the company about three months to import from China, two months from Dubai and about two weeks from Uganda. The company initially imported its machinery from Italy but has recently purchased machinery from China and Uganda.

The company has four exclusive distributors that service Kigali and the other provinces. It also conducts direct sales, both retail and wholesale, from the factory premises, where it has a showroom. A majority of its clients are drawn from TrustCo's client base and include universities, hospitals, ministries, restaurants, private companies and supermarkets.

The competitive landscape in chemical products is limited to Sulfo Industries and imported products from companies such as the Ugandan Mukwano Industries. In paper products, Trust Industries Ltd. vies with Suku Paper products (SUPA). Trust Industries Ltd does not currently export but plans to set up distributorships in Burundi and eastern DRC.

Resources

The company currently operates a plant near the city centre of Kigali but plans to move to a bigger site in Bugesera by the end of the year to expand production space. In terms of human capital resources, following the absorption of staff from Socobico, Trust Industries Ltd employs 50 full-time staff. Technical positions such as chemical production, accounting and sales are managed by experienced personnel.

[2]Sodium lauryl sulphate.

9.13 Utexrwa

The country's only textile manufacturer.

Year established	1984
Latest annual turnover (2010–11)	US$5–6m
Number of employees (FTE)	600
Main business activity	Textiles
Export markets	N/A

Company Origins

Utexrwa is a green manufacturer of an extensive line of garments and made-ups from cotton, synthetic and blended fabrics, and was the first textile manufacturer in Rwanda. Mr Kishor Jobanputra, a Ugandan Asian, whose family has extensive business interests in Uganda in the textile and paper products business, started the company in 1984. Mr Jobanputra started his career as a trader dealing in a variety of goods including hardware items, groceries and textiles. Through his trading business, he built an understanding of the local textile business and commenced a small operation that focused on spinning, weaving and the garment process and was later developed into a vertically integrated textile operation that is today known as Utexrwa.

The family's operations in the textiles sector in Uganda commenced when, in 1996, the Jobanputra family acquired the former Ugandan government parastatal, then known as Nyanza Textile Industries Limited (NYTIL), which later changed to Southern Range Nyanza Limited (SRNL). This Ugandan sister company has now developed to be four to five times larger than Utexrwa with the expert knowledge of the industry that the management brings. The family also has other considerable business interests in real estate in most EAC countries, Europe and the Middle East, a hotel chain in Belgium and a logistics company headquartered in Mombasa.

Despite the vast market experience Utexrwa has been facing difficult times during the past few years. A need to undergo corporate restructuring at both the management and investment level was identified as the correct way to move the company forward. The board of directors overhauled the senior management, in particular, placing an experienced textile technologist into the position of general manager to oversee the plant operations. This, along with US$1.35m of capital investment, helped to revive the plant, settling supplier payments, unpaid workers salaries and improving the availability of raw materials.

Utexrwa currently runs at 40% capacity, producing about 12,000 metres of fabric per year, and has a turnover of US$5–6m (2011).

Products

Utexrwa started out manufacturing kitenge cloth (a traditional African garment similar to a sarong) but has developed over the years and now offers two main product lines, finished garments and finished fabrics. The mass production of finished garments includes items such as security uniforms, industrial workwear, institutional garments, medical uniforms, hotel and restaurant clothing, infant garments, home furnishings, eco-friendly cotton bags and malaria nets. The finished fabrics include 30 different cotton, synthetic and blended finished fabrics.

Utexrwa is currently working in collaboration with MINAGRI on a sericulture project, which should lead to commercial production of silk within two years. Rwanda's silk sector is currently in its infancy with the country trying to establish mulberry farms, silk rearing and cocoon production activities. At the time of writing, over 33 cooperatives had been formed and about 300 hectares of mulberry had been planted. Utexrwa has initiated silk production, starting from silk reeling to finished products. The company currently has sufficient production capacity for almost a container load of silk products every month, with the first output of silk pyjamas recently being shipped to Canada. However, issues with the supply chain for cocoons limits production. The company believes that, if successful, the project could lead to a significant new revenue stream and create considerable export opportunities.

Systems

Mr Jobanputra is the chairman of the company and brings his vast years of experience in managing manufacturing firms from Uganda. In 2010, Utexrwa underwent a significant management and technical overhaul, which resulted in new board members and a capital injection to improve production. An experienced textile technologist was recently brought in as a general manager to improve operations. The general manager oversees the finance, spinning, weaving, processing and garment departments.

Due to the vast array of finished products that Utexrwa produces, a large network of suppliers is essential to ensure that goods are produced on time and to the desired standard. Utexrwa originally dealt only with cotton products but gradually moved to polyester and viscose materials to align itself with the main textile industry. The cotton raw materials are imported from Uganda, Burundi and Tanzania. Sourcing from East Africa lowers costs considerably relative to importing from outside of Africa. For polyester and viscose, the company uses a variety of suppliers from Indonesia, Taiwan, China and India. This range of suppliers helps to limit the company's exposure to a shortage of supply and should also contribute to lower prices of raw materials relative to the competition.

The raw materials are then processed using an extensive array of machines depending on the type of final product that is required. Although not technically complex, the final products are quite labour intensive to produce. Utexrwa recently invested US$120,000 in a new fabric-dyeing machine that improves the dyeing and printing quality of the plant and simultaneously reduces water and energy costs. This has also helped to reduce labour costs as it is fully automated and only requires one worker. Quality-control checks are undertaken by a special unit in the packing department on all final products.

Utexrwa's main customers are the Ministry of Defence (both army and police) and schools, both of which have long-standing contracts with the company for workwear and uniforms. These are established contracts that Utexrwa has been servicing for many years. The company believes that, with the brand being so well established in Rwanda, there is no need for any additional advertising to introduce new customers.

Although Utexrwa is the largest textile manufacturer in Rwanda, similarly to many other companies, the company faces increasing competition from cheaper imports from China, as well as from products from other EAC countries. Utexrwa noted that due to these cheaper imports, the factory is operating only at 40% capacity. The company does not currently export any of its products due to the high costs related to exporting, which would make them uncompetitive relative to Chinese imports in other markets. However, the company is considering plans to export some of its silk products to Canada.

Utexrwa is ISO 9001-2001 certified and their products are also certified by RBS. The company has used SAP since 2004 for financial and inventory management.

Resources

Utexrwa currently employs over 600 workers in its factories. The overall production process is very labour intensive, with 80% of activities requiring manual labour. Highly skilled workers are required primarily in the process and garment departments. Six expatriates hold senior management positions. The company undertakes regular internal training of its employees, including using experts from India and Kenya. In addition, site visits to other plants are often organized to demonstrate good manufacturing processes and gain experience from these businesses.

Utexrwa currently has one large plant and a warehouse facility in Kigali.

APPENDIX

Appendix 1: Summary of Profiled Companies

Sector	Company name	Year	Latest reported turnover (2010–11)	Employees
Coffee	Coffee Business Center (CBC)	2002	US$13–14m	26
	Kivu Arabica Coffee Company (KCC)	2005	US$3–4m	17
	Rwacof	1996	US$12–15m	45
	Rwanda Trading Company (RTC)	2009	US$8–9m	75
	Rwashoscco	2005	US$3–4m	41
Tea	Rwanda Mountain Tea (RMT)	2006	US$15–16	155
	Sorwathé (Société Rwandaise de Thé)	1975	US$7–8m	521
Staple crops	Bakhresa Grain Milling	2010	US$21–22	100
	Pembe Flour Mills	2007	US$28–29	40
	ICM Rwanda Agribusiness	2005	US$11–15m	160
	Minimex	2002	US$4–5m	80
	Kabuye Sugar Works	1997	US$10–11m	550
Horticulture and specialty plants	Premier Tobacco Company (PTC)	2000	US$2–3m	129
	Shekina Enterprises	2008	<US$1m	41
	Horizon Sopyrwa (Société de Pyrethre au Rwanda)	1972	US$5–8m	72
	Sorwatom	1996	<US$1m	32

Sector	Company name	Year	Latest reported turnover (2010–11)	Employees
Dairy and beverages	Bralirwa	1959/1963	US$132–133m	528
	Brasserie de Mille Collines	2009	US$10–11m	75–80
	Inyange Industries	1997	US$7–8m	195
	Laiterie de Nyanza (Agro-Processing Industries)	1937	<US$1m	60
	Enterprise Urwibutso (Sina Gérard)	1993	US$3–4m	~200
Construction materials	Ameki Color	1982	US$6–7m	380
	Cimerwa	1996	US$19–21m	262
	Kigali Cement Company	2007	US$1–2m	29
	Ruliba Clays	1988	US$1–2m	210
	Safintra	2007	US$11–12m	40
	Simaco/Afrifoam	2003	US$2–3m	85
	SteelRwa	2011	US$8–9m	240
	Tolirwa (Tôlerie Industrielle du Rwanda)	1979	US$6–7m	110
	Ufametal	2001	US$8–9m	25
	Uprotur	1987	US$2–3m	90
Other light manufacturing	Anik Industries	1986	US$1–2m	30
	Aqua-San Rwanda	2003	US$1–2m	25
	Kigali Steel & Aluminium Works	2001	US$1–2m	20
	Manumetal	1967	US$2–3m	70
	Mutara Enterprises	1995	US$3–4m	85
	Roto Ltd.	2001	US$3–4m	60
	Rwanda Foam	1983	US$3–4m	80
	Société Rwandaise de Chaussures (SRC)	1999	US$2–3m	100
	Suku Paper Works/Safari Center	2003	US$5–6m	50
	Sulfo Industries	1962	US$14–15m	700
	Trust Industries	2008	US$1–2m	50
	Utexrwa	1984	US$5–6m	600

Appendix 2: Agribusiness and Manufacturing Firm Creation (1962–2011)

No.	Company name	Year established
1	Sulfo Industries	1962
2	Mulindi Tea	1962
3	Bralirwa	1963
4	Rwandex	1964
5	Rwanda Paints	1964
6	Amagerwa	1965
7	Manumetal	1967
8	Sirwa	~1967
9	Shagasha	1968
10	Rizerie de Bugarama	1968
11	Sucrerie Rwandaise	1968
12	Konfigi	1968
13	Laiterie du Rwanda	1969
14	Pfunda Tea	1972
15	Usinex, then Opyrwa	1972
16	Sebulikoro	1973
17	Rwandexco	1973
18	Gisakura	1975
19	Bandag	1976
20	Bata	~1976
21	Gatagara	~1977
22	Mera	~1978
23	Cement company (name unknown)	~1979
24	Opyrwa	1976
25	Soap company (name unknown)	~1979
26	Bandag	1976
27	Kitabi	1977
28	Ovibar	1977
29	Papeteries du Rwanda	1978
30	Sonatubes	1978
31	Mironko Plastics	1978

No.	Company name	Year established
32	Rizerie de Rwamagana	1978
33	Rubaya	1979
34	Tolirwa	1979
35	Sonafruits	1979
36	Tabarwanda	1979
37	Nyabihu	1980
38	Cuphmetra	1980
39	Usine d'Allumettes	1980
40	Mata Tea	1981
41	PPCT	1981
42	Sobolirwa	1981
43	Cookirwa	1981
44	Sakirwa	1981
45	CODERVAM	1982
46	Ramco	1982
47	Ameki Meubles	1982
48	Gisovu	1983
49	Rwakina	1983
50	Rwanda Foam	1983
51	Somirex	1983
52	Cimerwa	1984
53	Sofar	1984
54	Chillington	1984
55	Oxyrwa	1984
56	Shiramaka	1984
57	Utexrwa	1984
58	Sodeparal	~1984
59	Ecomirwa	~1985
60	Rwanda Furniture Works	~1986
61	Harjit Singh ETC	~1987
62	Prometal	1985
63	Laiterie de Rubirizi	1985
64	Byumba Flour Mill	~1985

No.	Company name	Year established
65	Petrolgaz	1985
66	Socobico	1985
67	Sorwathé	1975
68	Sorwatom	1986
69	Anik Industries	1986
70	Uprotur	1987
71	Maisserie de Mukamira	1987
72	Briqueterie Rwandaise Ruliba (Ruliba Clays)	1988
73	Guttanit Rwanda	1988
74	Laiterie de Gishwati	1988
75	Sopar	1988
76	Société Rwandaise de Batteries	1988
77	Ameki Color	1989
78	Urwibutso	1993
79	Mutara Enterprises	1995
80	Caferwa	1995
81	Rwacof	1996
82	Cimerwa	1996
83	Inyange Industries	1997
84	Kabuye Sugar Works	1997
85	Saban Sarl	1998
86	Shema Fruits	1998
87	Simaco	1999
88	SRC	1999
89	Afrifoam	1999
90	Roto Tanks	2000
91	Kigali Steel & Aluminium Works (KSAW)	2000
92	Electromax	2000
93	Agro Coffee Industries	2000
94	Rubirizi Dairy	2000
95	Ufametal	2001
96	Coffee Business Center	2002
97	Premier Tobacco Company	2002

No.	Company name	Year established
98	Minimex	2002
99	Rwanda Plastic Industries	2002
100	Aqua-San Rwanda	2003
101	Adma International	2003
102	Suku Paper Works	2003
103	Rubaya-Nyabihu Tea Factory	2004
104	Kivu Arabica Coffee Company (KCC)	2005
105	Rwashoscco	2005
106	ICM Rwanda Agribusiness	2005
107	Master Steel	2005
108	Rwanda Leather Industries	2005
109	Ikirezi Natural Products	2005
110	Rwanda Mountain Tea	2006
111	Uprofoam	2006
112	Kigali Cement Company	2007
113	Pembe Flour	2007
114	Safintra	2007
115	Shekina Enterprise	2008
116	Trust Industries	2008
117	Nshikili Tea Factory	2008
118	Sonafi	2008
119	Sosoma Industries	2008
120	Rwanda Trading Company (RTC)	2009
121	Bakhresa	2009
122	Savannah Dairy	2009
123	Kitabi Tea	2009
124	Brasserie de Mille Collines	2010
125	SteelRwa	2011

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This book comes after the 50th anniversary of Rwanda's Independence and provides the first ever comprehensive overview of firms in the country's agribusiness and manufacturing sectors. *Understanding Rwanda's Agribusiness and Manufacturing Sectors* puts these sectors into context historically, explaining how decisions and initiatives going back to the 1930s have contributed to determining the shape and composition of agribusiness and manufacturing in Rwanda today. These sectors, more than any others, have followed the ups and downs of Rwanda's history. The book also provides an in-depth analysis of agribusiness and manufacturing in Rwanda today, with a focus on understanding the origins, evolution and capabilities of firms, and how these capabilities came to be. This overview, or "Enterprise Mapping", gives the reader a detailed understanding of the ownership structures, products, systems, resources and exports of leading firms in Rwanda's agribusiness and manufacturing sectors today. Finally, this book individually profiles forty-three of Rwanda's largest manufacturing and agribusiness firms.

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