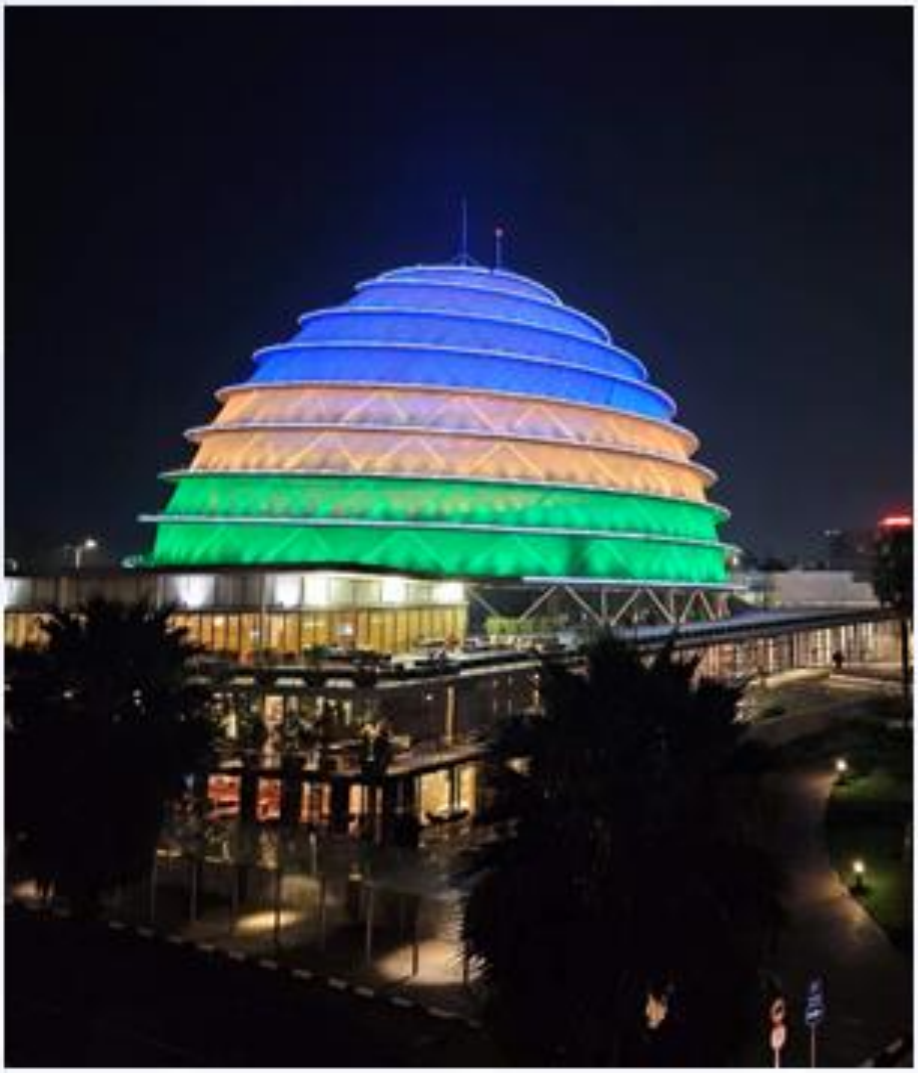
VALUE CHAIN DIAGNOSTICS

Upgrading Rwandan Exports:
Opportunities for Value-added Diversification



International Trade Centre

UN-OHRLLS

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About the paper

This diagnostic study was prepared as part of the project titled "Strengthening the capacity of LDCs to formulate policies on trade diversification for resilient recovery from the COVID-19 pandemic and implementation of the Doha Programme of Action through South-South cooperation and multi-stakeholder partnerships". The project aims to enhance the capacity of participating LDCs to formulate policies on export diversification and achieve trade related goals and targets of the Doha Programme of Action for the LDCs (DPoA).

Funded by the UN Peace and Development Fund, the project identifies three pilot countries, Bangladesh, Rwanda, and Uganda, to conduct diagnostic studies on export diversification. LDCs face significant challenges in achieving sustained and resilient economic development. While a few LDCs have succeeded in making some progress in economic structural transformation, the majority of them urgently need to build productive sectors with high export potential and increase export diversification in order to achieve sustained and resilient development and withstand external shocks. The DPoA addresses these needs by setting ambitious targets in the decade of action for LDCs to increase their trade competitiveness and export diversification.

Despite significant export growth over the past two decades, Rwanda remains dependent on a limited range of minimally processed commodities. This report explores Rwanda's potential to diversify its exports and enhance value addition through targeted development of high-potential value chains. The analysis identifies key value chains—processed foods, footwear, and beauty and personal care products—that offer opportunities for value-added growth. To address the barriers that hinder the realization of this potential, the report recommends policy actions focusing on enhancing financial inclusion, strengthening domestic supply chains, and facilitating compliance and market access. Additionally, e-commerce, regional integration, particularly through AfCFTA, and Sout-South cooperation are highlighted as critical to sustainable export diversification. The strategies put forward by the diagnostic study aim to promote long-term economic growth, address external vulnerabilities, and achieve greater resilience in Rwanda in a dynamic global trade landscape.

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For more information on ITC NTM surveys, see: www.ntmsurvey.org

For more information on the ITC export potential methodology, see: https://exportpotential.intracen.org

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Acronyms

AfCFTA	African Continental Free Trade Area
AIF	Africa Improved Foods
B2B	Business-to-Business
BRI	Belt and Road Initiative
BSOs	Business Support Organizations
CBSD	Cassava Brown Streak Virus Disease
CDP	Committee for Development Policy
COMESA	Common Market of Eastern and Southern Africa
DFIs	Development Finance Institutions
DTIS	Diagnostic Trade and Integration Study
EAC	East African Community
EAMU	East African Monetary Union
ECSC	E-Commerce Service Centre
EIA	Environmental Impact Assessment
EIF	Enhanced Integrated Framework
EU	European Union
EUDR	European Union Deforestation Regulation
EVI	Economic and Environmental Vulnerability Index
FDA	Food and Drugs Authority
FDI	Foreign Direct Investment
GDP	Gross Domestic Product
GNI	Gross National Income
GSP	Global System of Preferences
HAI	Human Assets Index
HHI	Herfindahl-Hirschman Index
HS	Harmonized System
ICT	Information and Communications Technology
IoT	Internet of Things
ITC	International Trade Centre
LDC	Least Developed Country
LLDC	Landlocked Developing Country
LPI	Logistics Performance Index
MFN	Most-Favoured Nation

MINICOM	Ministry of Trade and Industry
MRAs	Mutual Recognition Agreements
MSMEs	Ministry of Micro, Small and Medium Enterprises
MTNC	Multilateral Trade Negotiation Categories
NAEB	National Agricultural Export Development Board
NIRDA	National Industrial Research and Development Agency
NST	National Strategy for Transformation
NTMs	Non-Tariff Measures
POs	Procedural Obstacles
PSDYE	Private Sector Development and Youth Employment
PSDYES	Private Sector Development and Youth Employment Strategy
PSF	Private Sector Federation
RDB	Rwanda Development Board
REMA	Rwanda Environment Management Authority
RFDA	Rwanda Food and Drugs Authority
RNPS	Rwanda National Payment System
RRA	Rwanda Revenue Authority
R&D	Research and Development
SACCO	Savings and Credit Cooperative Organizations
SADC	Southern African Development Community
SMEs	Small and Medium Enterprises
SPS	Sanitary and Phytosanitary Measures
TBT	Technical Barriers to Trade
TVET	Technical and Vocational Education Training
WTO	World Trade Organization

Executive summary

Diversification through the promotion of value-added exports and structural transformation is critical for countries to reduce vulnerability to external shocks, enhance resilience, and foster sustainable growth. This is particularly important for least developed countries (LDCs) and landlocked developing countries (LLDCs), which despite progress in expanding their export baskets over the past two decades, often remain heavily dependent on commodity exports.

Recognizing this, the Doha Programme of Action (DPoA) highlights structural transformation and integration into international markets to empower LDCs to transition from resource-dependent economies to diversified, value-added, and competitive participants in global trade. Similarly, the Programme of Action for Landlocked Developing Countries (2024–2034) complements these efforts by focusing on fostering economic diversification and enhancing trade through industrialization, innovation, and technology adoption. This program of action also prioritizes regional integration to overcome geographic challenges and unlock new trade opportunities for LLDCs.

As both an LDC and an LLDC, Rwanda faces unique challenges related to its geography and structural development that underscore the urgency of diversification. This is a crucial moment for Rwanda to intensify its diversification efforts. The renewed support reflected in the DPoA and the Programme of Action for Landlocked Developing Countries (2024-2034) provides a strong foundation in this regard. Furthermore, the ongoing implementation of the African Continental Free Trade Area (AfCFTA) offers a timely opportunity for Rwanda to integrate into a larger market, boosting its competitiveness and potentially expanding its export base. Additionally, Rwanda's progress towards LDC graduation—having met the criteria for the first time in March 2024—highlights the importance of developing diversified exports that can navigate potential changes in trade preferences and maintain economic momentum.

This study, "*Upgrading Rwandan Exports: Opportunities for value-added diversification*", outlines key pathways for Rwanda to enhance value-added exports in high-potential sectors, with a focus on three primary areas: beauty and personal care products, footwear and processed foods and beverages. Through targeted policy measures and strategic investment, Rwanda can reduce its dependence on commodity exports, minimize exposure to global price fluctuations, generate employment opportunities, capitalize on emerging global markets, and foster long-term sustainable economic growth.

Rwanda's export diversification trends

Over the past two decades, trade has played an increasingly significant role in Rwanda's economy, with its share in GDP growing from 14% in 2001 to 30% in 2022. During this period, exports grew more than 16-fold, accompanied by an increase in both the variety of distinct products exported and the number of markets reached. However, exports have remained concentrated in a limited range of products, with limited processing, and directed to a few key markets. This trend has been driven by a surge in gold exports in recent years, particularly to the Middle East, and the continued prominence of coffee and tea exports to Europe and Asia. In contrast, exports to neighbouring countries in Eastern and Central Africa have stood out for their greater diversification and higher proportion of processed goods, for example food preparations for infant use and sanitary products. These regional exports grew to account for over a third of Rwanda's exports between 2018 and 2022. This shift highlights the growing significance of intra-regional trade as a vital avenue to foster structural transformation through value-added exports.

Opportunities and challenges in promising value chains: a data-driven approach

The International Trade Centre (ITC) employed a comprehensive data-driven methodology to pinpoint high-potential value chains in Rwanda that hold promise for increasing exports and fostering domestic value addition. This involved assessing their feasibility and desirability based on the local input availability, transformation capabilities, and demand prospects. Among several high-potential value chains, three were identified for further analysis: processed foods, footwear, and beauty and personal care products. This focus aligns with Rwanda's need to diversify its exports and move up the value chain, potentially reducing its reliance on raw commodity exports and enhancing its economic resilience.

To better understand any existing impediments to realising the potential of the three selected value chains, ITC conducted surveys and workshop consultations with businesses along them. These engagements revealed both sector-specific issues and cross-cutting challenges. Irregular access to high quality raw materials and inputs drives up production costs and erodes competitiveness, while restricted access to affordable credit and stringent collateral requirements hinder technology adoption, investment and growth. Skill gaps in areas like quality control and product formulation limit businesses' capacity to diversify products and markets. Addressing these challenges is crucial to

enhance competitiveness and unlock the full potential of Rwanda's value chains. Concerted efforts are essential to overcome these challenges, to enhance competitiveness and unlock the full potential of Rwanda's value chains.

Policy areas to unlock Rwanda's value-added export potential

Building on the analysis of key value chains and the challenges identified, the following policy actions are proposed to address critical bottlenecks and foster export diversification and value addition in Rwanda:

	Short-term Goals	Long-term Goals
Financial Access	• Targeted low-interest loans • Reduced collateral requirements • Simplify loan application procedures • Financial literacy programs	• Integrated funding mechanisms • Regional financial infrastructure • Sustainable funding programs • Digital lending expansion
Technology & Skills	• TVET program expansion • Equipment leasing models • Digital skills training	• Innovative centers development • Advanced manufacturing hubs • Regional technology transfer • Digitalization of export data
Infrastructure	• Raw material hubs • Local storage facilities • E-commerce centers	• Integrated transport networks • Modern testing laboratories • Regional logistics corridors
Market Access	• SME export promotion programs • AfCFTA compliance support • Market intelligence data	• Regional value chain integration • South-South trade partnership • Leverage Belt and Road Initiative
Sustainability	• Eco-friendly packaging support • Waste reduction programs • Green certification subsidies	• Circular economy framework • Sustainable value chains • Green technology adoption
E-Commerce	• Expand digital infrastructure • Scale e-commerce hubs • Improve payment systems	• Establish regulatory authority • Develop data ecosystem • Harmonize regional policies

This comprehensive approach to support export diversification can balance immediate market opportunities and long-term structural development. In the short term, focused interventions could significantly enhance market access for Rwandan businesses. This might involve developing targeted financial products that support SMEs, creating industry-specific associations to foster collaboration, and establishing e-commerce support centres to help businesses navigate digital marketplaces. These initiatives would provide practical support to emerging exporters, reducing barriers to entry, and providing critical infrastructure for economic expansion.

Looking toward long-term objectives, the recommendations emphasize structural transformation through strategic regional integration, investing in testing and certification infrastructure, and establishing Rwanda as a potential e-commerce hub. This focuses on building comprehensive economic capabilities that can adapt to changing global economic landscapes.

Successful implementation will require coordinated action across multiple stakeholders, conducting regular progress reviews and making data-driven adjustments. Collaboration among government agencies, private sector entities, and international development partners will be crucial in translating these priorities into tangible economic progress.

Embracing opportunities for sustainable growth

While persistent challenges related to infrastructure, financing, skills, and regulatory compliance need to be addressed, the opportunities for value-added growth are substantial. The proposed policy actions aim to address these obstacles while integrating broader critical priorities, including e-commerce and climate action, and leveraging intraregional and South-South trade opportunities and cooperation. As Rwanda advances towards LDC graduation, these actions provide a strategic roadmap for enhanced public-private collaboration that fosters evidence-based policymaking, and targeted investments and technical assistance that can support ongoing efforts to promote export diversification and value addition—key drivers for achieving long-term economic growth and enhancing Rwanda's resilience in the global marketplace.

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CHAPTER 1

The export diversification landscape in Rwanda

CHAPTER 1
THE EXPORT DIVERSIFICATION LANDSCAPE IN RWANDA

While the efficiency benefits of specialization cannot be overlooked, diversification is critical for countries to enhance their resilience, foster sustainable growth, and reduce vulnerability to external shocks. This is particularly important for least developed countries (LDCs) and landlocked developing countries (LLDCs) like Rwanda, which often rely heavily on commodity exports.[1]

Heavy reliance on a narrow export base exposes economies to significant risks, including fluctuations in export earnings due to price volatility, the imposition of unexpected trade barriers, and the emergence of more cost-effective foreign suppliers. Since commodity prices and their global demands are generally more volatile than those of other goods, the reliance on commodity exports intensifies the vulnerability to shocks brought on by the concentration of exports.[2] Additionally, the concentration on commodity exports can make countries more prone to Dutch disease phenomena, and the limited linkages of commodities with other sectors of the economy make their potential for beneficial spillovers, value-addition and generalized growth, limited.[3]

Diversification, on the other hand, spreads these risks, making economies more resilient to external shocks and fostering more stable terms of trade, export and government revenues, and gross domestic product (GDP). This stability is crucial to sustain economic growth, boost employment rates, and manage macroeconomic challenges such as investment planning, foreign exchange reserves, inflation, and debt repayment. In line with this, export diversification has been shown to mitigate the possible adverse effects of economic openness, and to be positively correlated with economic growth, particularly in developing economies. Export diversification is also closely linked to structural transformation and long-term economic development.[4] Shifting towards higher value-added or more processed goods can significantly increase export revenues, driving economic development and raising per capita income, especially in LDCs. This shift also encourages investments in technological advancements and skill development, strengthens economic linkages, fosters knowledge spillovers, and improves productivity and efficiency and ultimately higher long-term growth.

Over the last two decades, LDCs have made progress in expanding their export baskets, yet they remain highly concentrated in exports with limited processing, and increasingly in less markets as well. Diversification through the promotion of higher value-added exports, structural transformation and broader market reach is crucial to reduce the risks they face and support their long-term economic development.[5] In line with this, the *Doha Programme of Action* (DPoA) highlights the importance of empowering LDCs to transition from resource-dependent economies to diversified, value-added, and competitive participants in global trade, emphasizing structural transformation and integration into international markets. Similarly, the *Programme of Action for Landlocked Developing Countries (2024–2034)* complements these efforts by focusing on fostering economic diversification and enhancing trade

[1] See https://www.un.org/ohrlls/content/list-ldcs and https://www.un.org/ohrlls/content/list-lldcs for full lists of LDCs and LLDCs, respectively.

[2] The theoretical foundations and empirical evidence supporting these links have been extensively examined in the literature. See, for example, Samen (2010) for an overview of the theoretical underpinnings of export diversification, UNDP (2011) for an analysis on the risks of export concentration in commodities, UNCTAD (2022) for an overview of diversification in Africa, McIntyre, Li, et al. (2018) for the benefits of diversification in small states, Haddad, Lim, and Saborowski (2010) for the link between diversification and volatility from openness, and Agosin (2009), Al-Marhubi, F. (2000), and Calen, Cherif, et al. (2014) for evidence on the link between diversification and growth in emerging economies,.

[3] Dutch disease is an economic phenomenon that occurs when a country experiences a large influx of foreign currency, typically due to the discovery of natural resources like oil or gas, but also applicable to other sectors. This influx causes the domestic currency to appreciate, making the country's other exports more expensive and less competitive in global markets. As a result, other sectors suffer, leading to a decline in other industries and potential long-term economic stagnation or instability.

[4] For empirical evidence on these links, see for example Lederman and Maloney (2009) and Pineres and Ferrantino (2000).

[5] Events of recent years, in particular the COVID-19 pandemic and the conflict in Ukraine, have come to highlight additionally the importance of the diversification of import suppliers.

through industrialization, innovation, and technology adoption. Its goals include doubling manufacturing value-added to GDP, expanding medium- and high-tech industries, improving agricultural value chains, and increasing service and digital trade. Regional integration is also prioritized to mitigate geographic challenges and unlock trade opportunities.

Rwanda, as both an LDC and a landlocked developing country (LLDC), faces unique challenges, such as high transport costs and limited integration into regional and global value chains, that underscore the urgency of diversification. With commodities dominating its exports, diversification and value addition are not just important but essential.

Despite remaining challenges related to its geography and structural development, it is now a momentous time for Rwanda to reinforce its diversification efforts and leverage existing and emerging opportunities. In addition to the renewed vigour and support for these efforts reflected in the *DPoA* and the *Programme of Action Landlocked for Developing Countries (2024-2034)*, the ongoing implementation of the African Continental Free Trade Area (AfCFTA) presents a timely opportunity for Rwanda to integrate into a larger market, boosting its competitiveness and possibly expanding its export base. Moreover, Rwanda's recent progress toward graduating from LDC status—having met the criteria for the first time in March 2024—highlights the urgency of developing a diversified export strategy to navigate potential changes in trade preferences and maintain economic momentum.

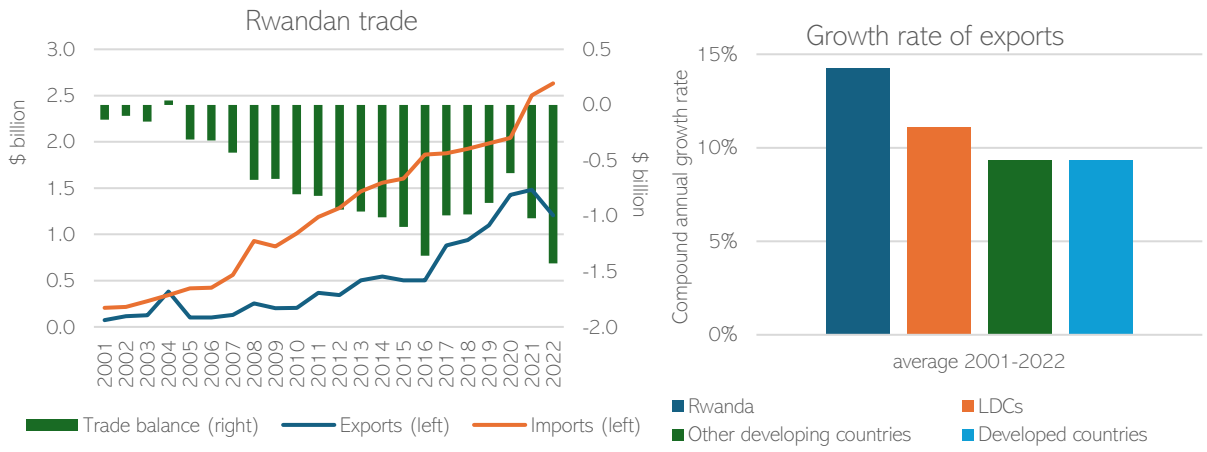
In this context, this report begins with an overview of the export diversification landscape in Rwanda (Chapter 1). It then presents a selection of value chains that offer opportunities for more processed and higher value-added exports, identified through a dedicated ITC methodology (Chapter 2). The subsequent chapters (3-6) explore the specific challenges faced by businesses within some of these value chains to realize their potential. Chapter 7 discusses policy options to address those challenges and support Rwanda's continued diversification efforts.

Overview of Rwanda's export diversification landscape

Over the past two decades, trade has played an increasingly significant role in Rwanda's economy. The share of trade in GDP has more than doubled, from 14% in 2001 to 30% in 2022, reflecting greater openness to global markets. During this period, Rwanda experienced a positive trend in both exports and imports, as illustrated in (Figure 1, left).

Between 2001 and 2016, exports from Rwanda grew at an average annual rate of 14%. However, imports slightly outpaced this growth, increasing by 16% annually. This disparity resulted in a growing trade deficit, which expanded from $133 million in 2001 to $1.4 billion in 2016.[6]

Figure 1 Evolution of Rwandan trade in the last two decades



Source: Authors' calculations based on ITC Trade Map (2023).

The dynamics of Rwanda's trade shifted between 2016 and 2020, with exports accelerating to a 24% growth rate—largely driven by a surge in gold exports—while imports grew at a slower pace of 2% annually. This shift led to a reduction in the trade deficit, which narrowed down to $616 million by 2020. However, post-pandemic, Rwandan

[6] Growth rates refer to compound annual growth rates.

exports struggled to regain momentum, even declining in 2022. As a result, the trade deficit widened once more, exceeding $1 billion in 2021 and 2022.

Overall, Rwanda's export performance over the past two decades has been remarkable compared to other country groups, with exports increasing more than 16-fold. This growth far outpaced that of LDCs, which saw a 9-fold increase, as well as other developing countries (7-fold) and developed countries (3-fold). Expressed on an annual basis, Rwanda's exports grew by a yearly average rate of 14%, compared to 11% for LDCs, 9% for other developing countries, and 5% for developed countries (Figure 1, right).

However, the outstanding growth of Rwandan exports was accompanied by greater volatility compared to other country groups. The high volatility in exports, measured by the coefficient of variation of the growth rate, could be linked, among other drivers, to Rwanda's export structure, which continues to be concentrated in a narrow range of products.

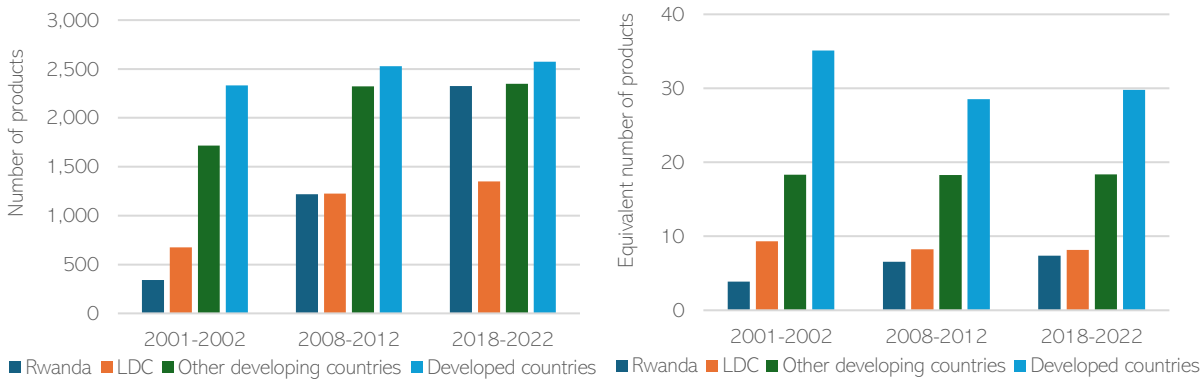
This can be linked to Rwanda's export structure, which remains concentrated in a narrow range of products and markets, and the recent surge in gold exports (Box 1)—a key factor in Rwanda's success but also a contributor to heightened vulnerability to commodity price shocks.

Rwandan exports have gained variety, but concentration remains an issue

When considering the number of products exported as an indicator of export diversification (Figure 2, left), we observe that over the past two decades, LDCs have significantly expanded their export baskets—from an average of 675 distinct products in the early 2000s to 1,224 a decade later and 1,351 more recently. [7] However, a substantial gap remains compared to other developing and developed countries, which exported an average of 2,347 and 2,575 products, respectively, between 2018 and 2022.

Rwanda's export diversification lagged behind that of other LDCs, developing and developed countries in the early 2000s. However, Rwanda has seen a significant increase in the number of products it exports, from under 350 in 2001-2002 to more than 2,300 in 2018-2022 (Figure 2, left). This variety is comparable to that of other developing and developed countries, and above the figures for LDCs, which have, on average, exported a narrower range of products.

Figure 2 Product diversification of exports of Rwanda and other country groups



Note: Products are counted at the 6-digit level of the Harmonised System. The equivalent number of products is computed as the reciprocal of the Herfindahl-Hirschman index (HHI) that measures the concentration of the export basket with respect to products. The higher the concentration in a few products, the lower the equivalent number of products, and consequently the lower the diversification.

Source: Authors' calculations based on ITC Trade Map (2023).

[7] Throughout this chapter, the evolution of various indicators from 2001 to 2022 will be analysed using three key data points: the averages for the periods 2001-2002, 2008-2012, and 2018-2022, representing the starting, midpoint, and endpoint of the two decades under consideration. Note that the starting point average includes only two years due to data availability, while the midpoint and endpoint averages cover five years each.

More importantly, the sheer number of products cannot fully capture export concentration, which is more accurately reflected by the equivalent number of products exported (Figure 2, right).[8] According to this measure, LDC exports are not only more concentrated on average than those of other developing and developed countries, but they have also remained as concentrated—or even slightly more so—than they were two decades ago.

In Rwanda, in spite of the increase in the number of products exported, exports have remained concentrated, as indicated by the low equivalent number of exported products—4 in 2001-2002 and 7 later on (Figure 2, right). While the most recent count is similar to the average for LDCs, it remains significantly lower than the averages for other developing countries (18) and developed countries (30). This suggests that, despite some progress, Rwanda's export basket remains relatively concentrated compared to other developing and developed countries, which show a higher equivalent number of products exported, reflecting less concentration.

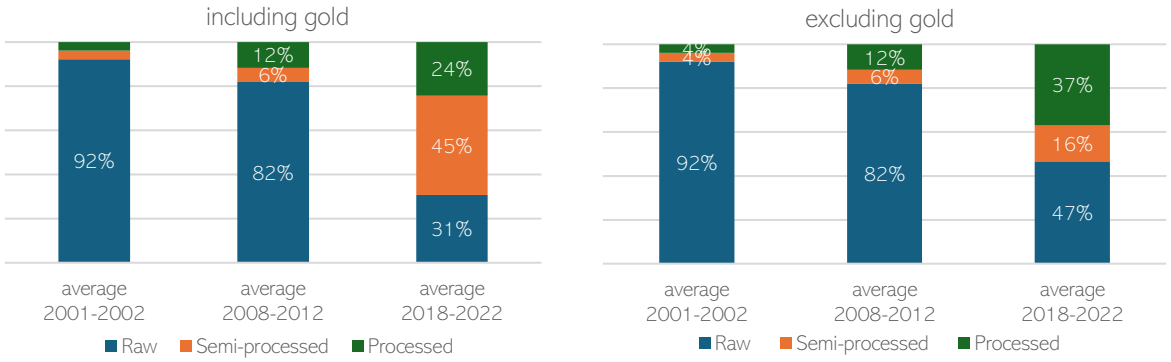
Persistent commodity dependence despite a shifting export basket

In addition to being more concentrated, exports from LDCs are more often predominantly commodities. From 2018 to 2022, commodities represented on average 63% of LDC exports.[9] In contrast, commodities were on average 35% and 27% of exports from other developing countries and developed countries in the same period, respectively.[10]

As is the case for other LDCs, not only are Rwanda's exports concentrated in a limited range of products, but they are also heavily dependent on commodities. Since 2011, commodities have consistently accounted for between 85% and 91% of Rwanda's total exports.

When examining the level of processing within Rwanda's exports, we observe a remarkable shift over the past two decades (Figure 3, left). The share of raw materials in exports has declined significantly, from 92% in 2001-2002 to 31% in 2018-2022. This reduction aligns with trends observed in other LDCs, though Rwanda's share of raw material exports still remains higher than that of other developing and developed countries (Figure A. 2).

Figure 3 Rwandan exports by processing stage



Note: 'Gold' corresponds to HS heading 7108.

Source: Authors' calculations based on ITC Trade Map (2023).

This change in composition was counterbalanced by a marked increase in semi-processed exports, from 4% to 45%, and to a lesser extent in processed ones, from 4% to 24%. However, this shift towards semi-processed exports is

[8] The equivalent number of products is computed as the reciprocal of the Herfindahl-Hirschman index (HHI) that measures the concentration of the export basket with respect to products. It is interpreted as a normalized number of products, i.e. the number of products that would generate the current concentration of exports, if they all had the same share in exports.

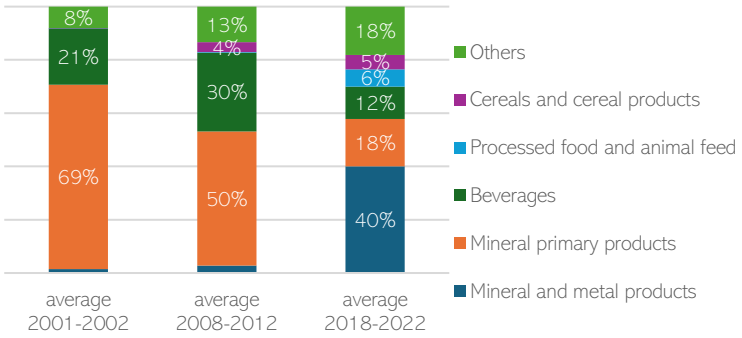
[9] ITC Trade Tracker (2024), Commodities are defined as sections 0,1,2,3,4 division 68 and groups 667 and 971 of the SITC Revision 4 classification. The average share of commodities in LDC exports stood consistently close to 75% for many years before 2014 but has stabilised closer to 60% ever since.

[10] Additionally, over the past two decades exports of raw and semi-processed products have represented between 58% and 75% of LDC exports, while never surpassing 45% for other developing countries or 30% for other developed countries (Figure A. 2), signalling limited domestic value addition.

largely attributable to a surge in the exports of semi-manufactured gold in recent years.[11] When gold is excluded from the analysis, the share of raw exports is still close to half in recent years (Figure 3, right), highlighting the continuing reliance on unprocessed goods in Rwanda's export basket. For additional analysis on Rwanda's gold exports, see Box 1.

To better understand the evolving composition of Rwandan exports, Figure 4 breaks down exports by sector. The most notable change over the past decades is the drastic decrease in the share of mineral primary products, counterbalanced by the surge in non-primary mineral and metal products. While exports of mineral primary products—largely tantalum, tin and tungsten ores, and petroleum oils—more than tripled in the past two decades, they did not match the surge in exports of mineral and metal products, driven almost entirely by gold exports (Box 1) and to a lesser extent exports of cement. Despite a decreasing share, the continued importance of beverages in Rwanda's export portfolio underscores the ongoing significance of coffee and tea exports. Other increasingly key contributors to the export basket are processed food, largely preparations for infant food and flour of roots and tubers, and cereal products, in particular wheat flour and milled rice.

Figure 4 Rwanda exports, top 5 sectors



Note: 'Others' includes sectors that have not held more than 5% of exports between 2001 and 2022. N.e.s. stands for 'not elsewhere specified'.
Source: Authors' calculations based on ITC Trade Map (2023).

Two key points emerge from Figure 4. First, while exports remain heavily concentrated in five sectors, the 'Others' category—which includes sectors that have not surpassed a 5% share over the past two decades—has grown significantly, from 8% in 2001-2002 to 18% in 2018-2022. This suggests a broadening of Rwanda's export base into previously less prominent or emerging sectors, indicating some degree of diversification within the export portfolio.[12] Second, it is also noteworthy that, while the five dominant export sectors are all based on agriculture or minerals, the product composition has shifted to some extent to semi-processed and processed products within those sectors, in line with what was observed in Figure 3.

Mixed trends in market diversification

Importantly, the exposure to terms-of-trade shocks through exports need not stem only from the concentration on commodity exports but may also be affected by the concentration in few trading partners. If a significant partner is affected by a country-specific shock, exports may in time be redirected to other partners, but this may be costly and take time. Geographical diversification of exports is therefore also important to minimize exposure to external shocks.[13]

Data indicates that over the past two decades, LDCs have expanded their reach to an increasing number of markets, now approaching the range served by other developing and developed countries (Figure 5, left). However, their exports remain slightly more concentrated (Figure 5, right), and notably, this concentration has increased over the same period, indicating that certain trade partners capture increasing shares of LDC exports.

Over the past two decades, Rwanda has expanded its reach to more markets, matching or surpassing the average number of export destinations of other country groups (Figure 5, left). However, the market diversification of Rwanda's

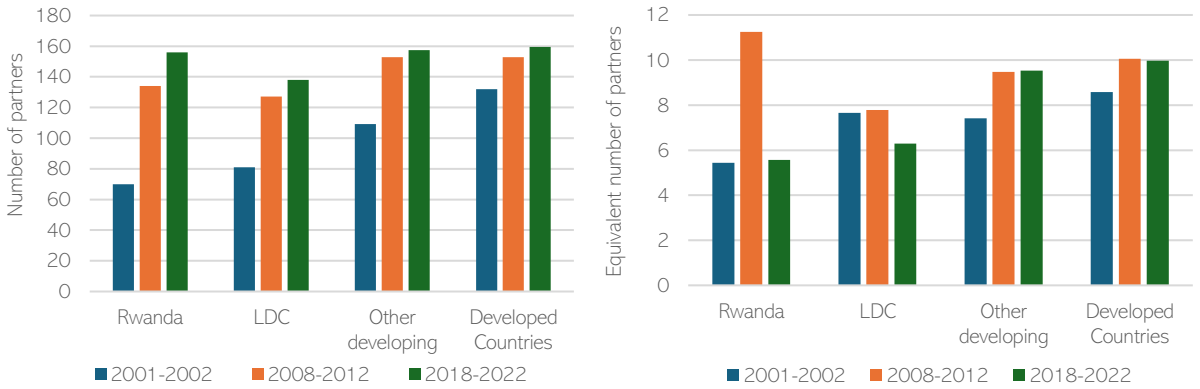
[11] While exports of processed petroleum oil to the Democratic Republic of the Congo were a key driver of the increase in the share of processed exports, there were also several other processed products whose dynamic export growth during the period drove the observed share shift, among them refined palm oil, food preparations for infants, flour of roots or tubers, malt extract, etc.

[12] For example, vegetable products, in particular palm oil and sugar, started being exported in substantial amounts after 2014.

[13] Bacchetta, et. al (2009).

exports, as reflected in the equivalent number of markets (Figure 5, right), remains lower than the average for other economies, even if it is currently similar to the average for LDCs.

Figure 5 Partner diversification of exports of Rwanda and other country groups



Note: The equivalent number of partners is computed as the reciprocal of the Herfindahl-Hirschman index (HHI) that measures the concentration of the export basket with respect to markets. The higher the concentration in a few markets, the lower the equivalent number of markets, and consequently the lower the diversification.

Source: Authors' calculations based on ITC Trade Map (2023).

The trends in market diversification and concentration of the past two decades captured in Figure 5 reflect significant changes in the geographical distribution of Rwanda's export destinations (Figure 7) , which occurred alongside shifts in its export basket during this period.

In the early 2000s, Rwanda's export landscape was heavily dominated by trade with the European Union and China, which together accounted for 65% of the country's exports. At that time, nearly all of Rwanda's exports to Europe consisted of coffee beans, and to a lesser but growing extent, tea. Exports to China and Hong Kong were almost entirely tantalum ores. Other major trading partners received similar exports: Rwanda's exports to Southeast Asia, mainly Malaysia and Thailand, were mostly tin, while exports to the United States consisted largely of coffee, tantalum, and later also tungsten. Exports to Africa accounted only for 10% of Rwanda's exports during this period and consisted primarily of coffee, tea, tantalum, tin, other metal ores and processed petroleum oils. Exports to other regions, including the Middle East, made up only a minimal share of the total.

A decade later, Rwanda's export landscape had diversified to some extent, as seen in Figure 5, with notable shifts in regional trade dynamics. By the 2010s, Europe accounted for 21% of Rwanda's exports, still primarily consisting of coffee and tea. China and Hong Kong continued to play a significant role, representing 23% of exports, with tantalum ores remaining dominant, but with a growing share of tungsten. Exports to the United States made up 9%, still focused on coffee and tungsten. Southeast Asia, now accounting for 19%, remained a key destination for Rwanda's tin exports. Trade with Africa saw a significant rise, climbing to 22%, largely driven by increased exports to Central African countries, particularly the Democratic Republic of the Congo and Burundi. Notably, Rwanda's exports to Africa still included coffee, tea, tin, tantalum, and processed petroleum oils, but now also featured new products such as bottled waters and some vehicle parts. Exports to other regions, continued to account for minimal shares of the country's overall trade.

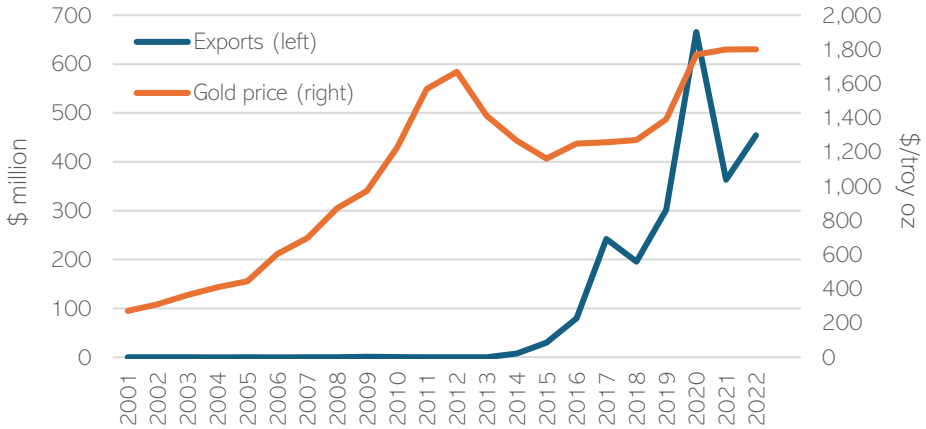
Box 1

The rise of Rwanda's gold exports

Gold mining in Rwanda has a relatively short history compared to other countries in the region. Traditionally, Rwanda's mining sector was dominated by minerals like tin, tungsten, and tantalum (the "3Ts"). Gold mining in Rwanda was mostly limited to artisanal and small-scale operations, with local miners extracting small amounts of gold from shallow deposits. This sector, while essential for supporting local livelihoods, lacked formal organization and significant investment for many years.

However, over the past decade, rising global demand and the establishment of additional gold refining facilities led to a dramatic surge in Rwandan gold exports (Figure 6), positioning the country as a hub for gold trading and refining in the region, processing not only local artisanal gold but largely gold sourced from other countries.

Figure 6 Rwandan exports of gold and gold prices



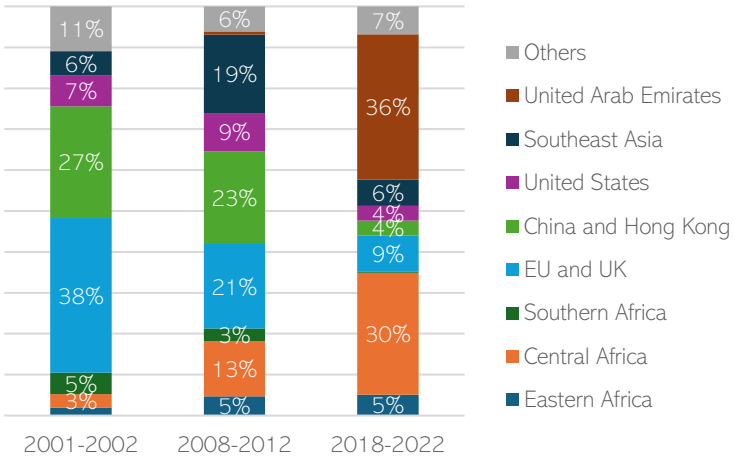
Source: ITC Trade Map (2023) and World Bank Pink Sheet Data (August 2024).

While Rwanda's growing gold exports have generated economic benefits, including increased foreign exchange earnings, the boom in gold exports has not come without challenges. Despite government efforts to promote transparency, traceability and responsible sourcing, concerns over the possibility of illicit trade of conflict gold, in particular from the Democratic Republic of Congo, have drawn scrutiny from international bodies and organizations advocating for responsible sourcing of minerals.

Another downside to the gold boom can be its environmental and social impact. Both locally and in neighbouring supplying countries, gold mining—especially in artisanal operations—has at times caused deforestation, soil erosion, and water pollution, threatening local ecosystems and communities. Additionally, mining activities can increase the vulnerability of local communities, who often lack proper safety equipment and protections.

Importantly, the increasing significance of gold exports for Rwanda's economy also exposes the country to global gold price fluctuations, creating economic vulnerability. The potential for economic gains is high, but the need for regulation, sustainable mining practices, and transparent trade processes is essential to ensure that the benefits of Rwanda's gold sector are realized.

Figure 7 Partner composition of Rwandan exports



Note: For a definition of the partner regions, see Appendix I.

Source: Authors' calculations based on ITC Trade Map (2023).

Recent years saw further reshaping of Rwanda's export landscape, with traditional markets experiencing a decline in their shares. The European Union and the United Kingdom now account for just 9% of Rwanda's exports, with coffee and tea still playing a role but significantly less so, making up only half of exports to this destination. The remainder includes budding exports of apparel, various vegetables and legumes, and cut flowers. China and Hong Kong's share dropped to 4%, still dominated by minerals but now also including coffee and tea. The United States also saw its share reduced to 4%, with coffee and tantalum remaining key products, though vegetable extracts, basketwork, and some types of luggage and cases have been added to the mix. Southeast Asia's share similarly dropped to 4%, with a decline in tin exports and an increase in tantalum, but with trade still almost exclusively in these minerals.

Notably, there has been a dramatic rise in exports to the United Arab Emirates, now making up 35% of Rwanda's total exports, driven entirely by gold. Equally important is the rise of Africa, which now represents 35% of Rwanda's total exports. This growth is fuelled by a significant increase in exports to Central Africa, particularly the Democratic Republic of Congo, even as trade with Burundi has declined. While tea exports to Africa remain important, they have decreased in prominence, giving way to new top products such as sanitary towels, baby napkins, malt extract, cement, wheat flour, and some iron and steel products—among many others.

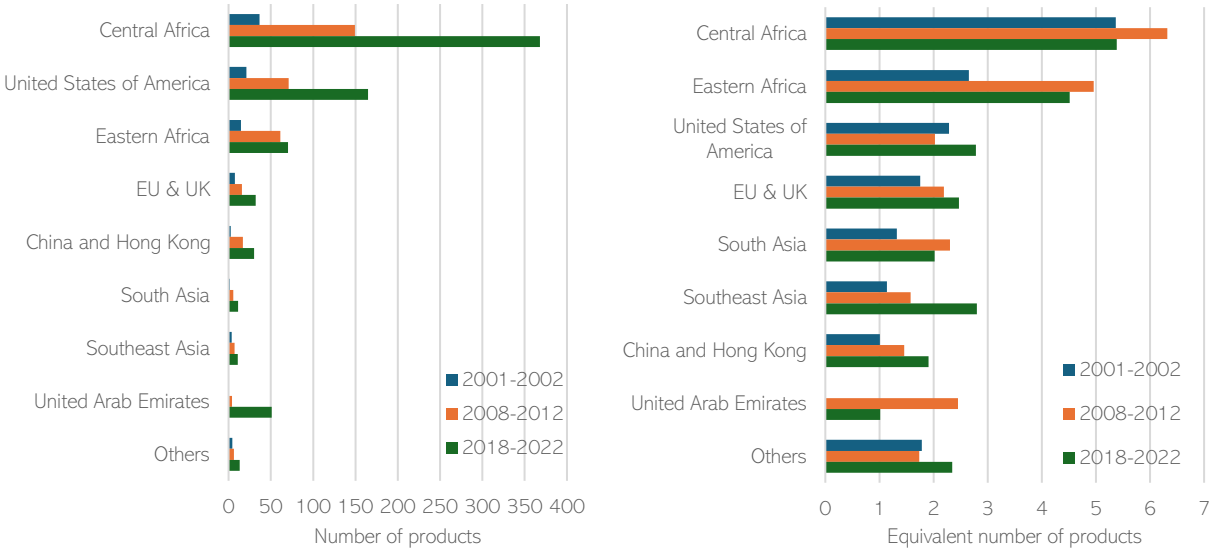
Overall, two opposing trends are observed in Rwanda's export dynamics over the last two decades. On one hand, the growing reliance on gold exports to the United Arab Emirates presents potential risks. This heavy concentration, particularly in gold, leaves Rwanda vulnerable to fluctuations in commodity prices and unforeseen shifts in demand from that market. On the other hand, the evolution of Rwanda's export market composition highlights encouraging diversification, both in terms of markets and products. The increasing importance of African markets, along with the expansion of export products beyond traditional items like coffee, tea, tin, tantalum, and tungsten, signifies positive progress. Despite these gains, there remain regions, even within Africa, that are still largely untapped, and could offer further opportunities for market and higher value-added diversification.

The importance of intra-regional trade for diversification

Notably, as part of the shifting patterns described alongside Figure 7, Rwanda's trade with neighbouring countries, in particular countries in Eastern and Central Africa, stands out for its product diversification (Figure 8, right) and the inclusion of more processed goods (Figure 9)—in contrast with the more concentrated, and commodity-focused exports to other regions.

Figure 8 illustrates the diversification of Rwanda's exports by partner region. Exports to Eastern and Central Africa have consistently included a higher and increasing number of products (left), and significantly have been significantly less concentrated than to other regions (right). For other regions, while the number of products exported has increased over time, the equivalent number of products remains lower, suggesting that exports to these regions continue to be concentrated in fewer products.

Figure 8 Product diversification of exports of Rwanda, by partner region



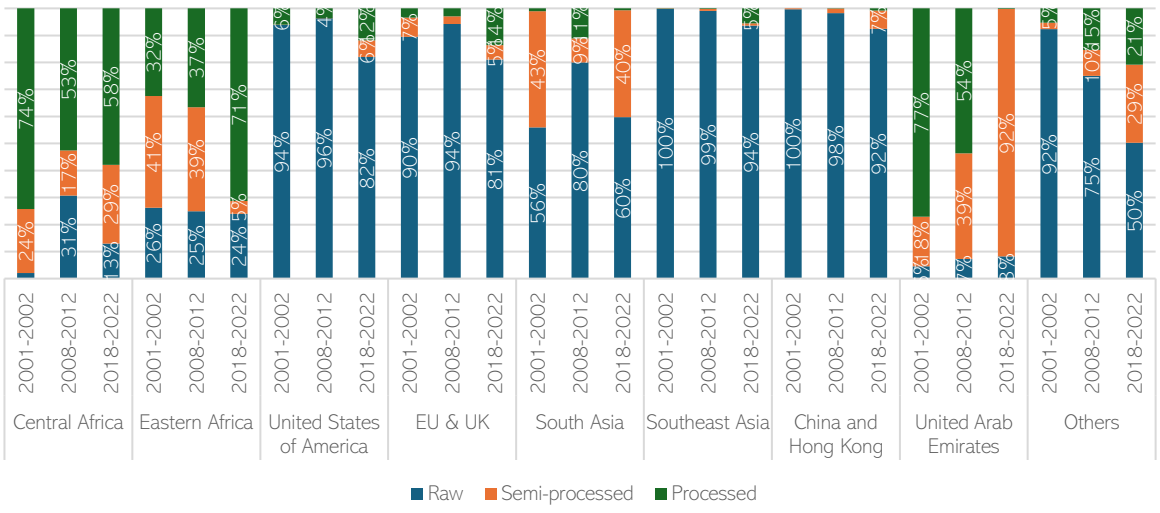
Note: Products are counted at the 6-digit level of the Harmonised System. The equivalent number of products is computed as the reciprocal of the Herfindahl-Hirschman index (HHI) that measures the concentration of the export basket with respect to products. The higher the concentration in a few products, the lower the equivalent number of products, and consequently the lower the diversification.

Source: Authors' calculations based on ITC Trade Map (2023).

Figure 9 shows the breakdown of Rwanda's exports by stage of processing. The share of processed exports to Eastern and Central Africa fluctuated, but remained high over the past decades, between 53% and 74% in Central Africa and between 32% and 71% in Eastern Africa. Exports of raw materials have never exceeded one-third of the of the total.

Conversely, exports to most other main destinations, except for the United Arab Emirates, are predominantly of raw goods. For the United Arab Emirates, exports are currently largely (92%) of semi-processed exports, driven by exports of refined gold.

Figure 9 Product diversification of exports of Rwanda, by partner



Note: The classification of products into raw, semi-processed and processed is based on the Multilateral Trade Negotiation Categories (MTNC) of the Wordl Trade Organization (WTO).

Source: Authors' calculations based on ITC Trade Map (2023).

In total, Rwanda's export diversification efforts have seen mixed success across different regions. There has been an increase in the number of products exported to neighbouring regions, in particular Eastern and Central Africa,

accompanied by an increasing share of processed goods exported. However, the concentration of exports remains a challenge for all other markets, with a limited number of products exported and a high reliance on raw materials.

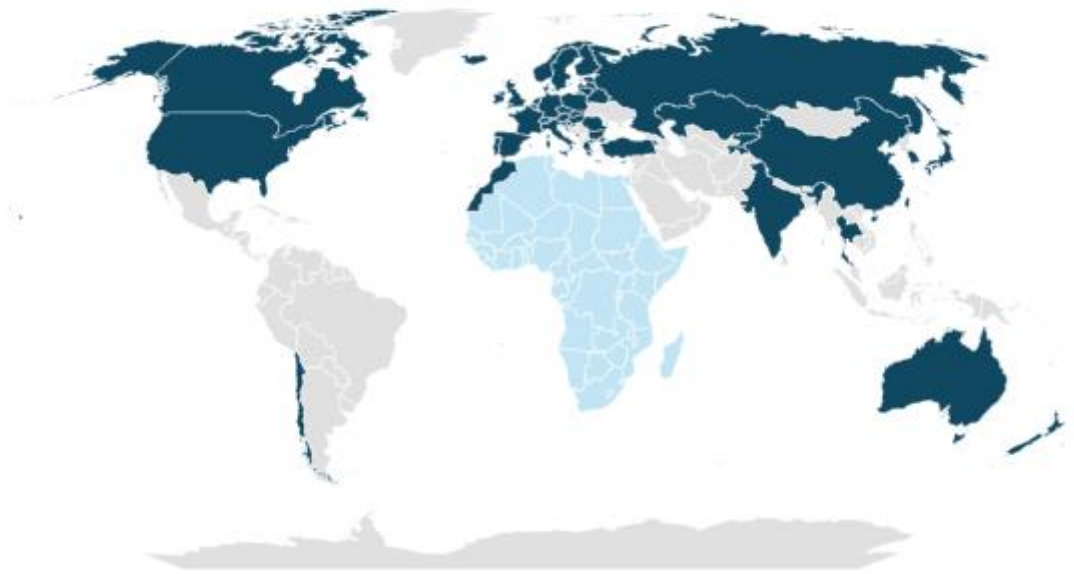
This highlights the importance of intra-regional trade to foster structural transformation through the export of value-added products, and the need for targeted strategies to promote value addition in exports across all regions.

Rwanda's market access conditions

To better understand the conditions that shape Rwanda's export diversification, it is key to explore the market access conditions it faces. Rwanda has been a member of the World Trade Organization (WTO) since 1996. As a WTO member, Rwanda is granted Most-Favoured Nation (MFN) tariffs by all other members of the organization. In addition, Rwanda enjoys preferential access to multiple markets, as a result of unilateral schemes for LDCs and regional agreements (Figure 10).

Given its LDC status, some developed and developing countries unilaterally grant Rwanda duty-free or reduced-tariff access. These countries are Armenia, Australia, Belarus, Canada, Chile, China, the European Union, Iceland, India, Japan, Kazakhstan, Kyrgyzstan, New Zealand, Montenegro, Morocco, Norway, Republic of Korea, the Russian Federation, Switzerland, Tajikistan, Thailand, Türkiye, the United Kingdom and the United States.[14] Should Rwanda graduate out of the LDC category, these preferences would eventually revert to the next best tariff regime, among them tariffs under the Global System of Preferences (GSP), tariffs under alternative agreements, or MFN tariffs. For additional information on LDC graduation, see Box 2.

Figure 10 Markets with preferential access for Rwandan exports



Note: Dark blue indicates LDC preferences, while light blue represents other agreements.

Source: Authors' calculations based on ITC Market Access Map (2023).

Besides MFN tariffs and unilateral preferences, Rwanda enjoys preferential access to many African markets through regional economic communities: the Common Market of Eastern and Southern Africa (COMESA) and the East African Community (EAC).[15] In addition to trade preferences, the regional economic communities cover other aspects of

[14] Rwanda is also a beneficiary of the African Growth and Opportunity Act (AGOA), a preference scheme for sub-Saharan African countries instated in 2000 that does not depend on LDC status. However, Rwanda's AGOA benefits under the act for apparel exports have been suspended since 2018, when the country instated restrictions on imports of second-hand clothing.

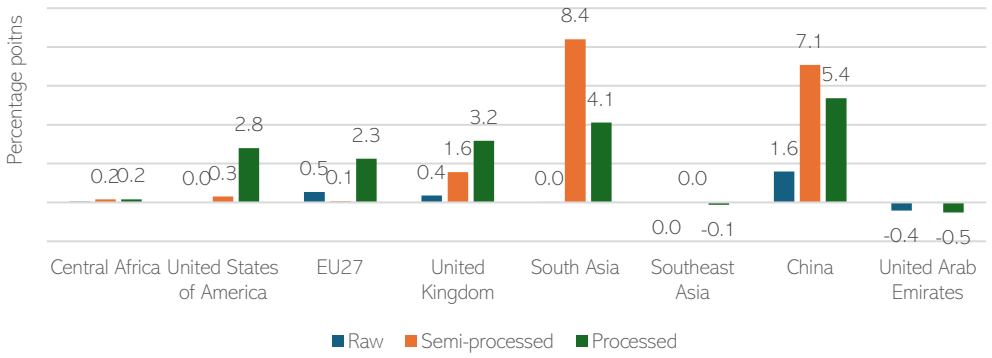
[15] Members of COMESA: Burundi, Comoros, Democratic Republic of the Congo, Djibouti, Egypt, Eswatini, Eritrea, Ethiopia, Kenya, Libya, Madagascar, Malawi, Mauritius, Rwanda, Seychelles, Somalia, Sudan, Tunisia, Uganda, Zambia, Zimbabwe. Members EAC: Burundi, Democratic Republic of the Congo, Kenya, Rwanda, Somalia, South Sudan, United Republic of Tanzania, and Uganda.

regional integration, such as infrastructure development, industrialization, or agriculture. Notably, the East African Monetary Union (EAMU), planned to implement a single currency by 2024 under the umbrella of the EAC, has been postponed, as the prerequisites for its establishment were not attained.

Importantly, Rwanda is also part of the African Continental Free Trade Area (AfCFTA), which came into force officially on May 30, 2019, with trading under the AfCFTA starting on January 1, 2021. The AfCFTA aims to create a single continental market for goods and services, with free movement of businesspersons and investments. This ambitious economic integration agenda involves all 55 member states of the African Union (AU), making it the largest free trade area in the world in terms of the number of participating countries. The implementation of the AfCFTA is ongoing, with member states continuing to negotiate specific aspects like tariff schedules, rules of origin, and various protocols to ensure smooth and comprehensive integration across the continent.

As a result of the variety of regimes Rwandan trade is subject to, exports face a mix of duty free, preferential and MFN tariffs around the world that grants them a tariff advantage in many instances (Figure 11). —notably for non-raw exports to South Asia and China.

Figure 11 Average advantage in tariffs faced by Rwanda, by processing level for selected partners



Note: The tariff advantage is the percentage point difference between the average tariff faced by Rwandan exporters and the one faced by exporters from other countries. Averages are simple across countries and weighted by Rwandan exports across products. Results for Eastern Africa not featured: 21.5 (raw), 34.6 (semi-processed), 11.8 (processed)

Source: Authors' calculations based on ITC Trade Map (2023) and ITC Market Access Map (2023).

In addition to agreements already in force, a number of additional plurilateral agreements are in negotiation or consultation stages: China-EAC, COMESDA-EAC-SADC, COMESA-India, EAC-Indonesia, EAC-EU, and EAC-Türkiye.

Transportation and logistics costs

Similarly to tariffs, transportation and logistics costs can play a key role in driving Rwanda's export diversification. These costs are widely acknowledged as a crucial factor influencing trade flows, often posing a greater burden than tariffs, and impacting trade competitiveness. Several elements can determine differences in transportation and logistics costs across regions, including the distance to trading partners, the modes of transport employed, the nature of the goods being traded, economies of scale, infrastructure availability and quality, the market structure and regulation of logistics services, and the efficiency of customs procedures.

For landlocked developing countries (LLDCs), such as Rwanda, transportation and logistics costs are even more critical. Without direct access to seaports, LLDCs rely on their neighbouring coastal countries for import and export routes, leading to higher transportation and logistics expenses and longer transit times. These increased costs hinder the ability of LLDCs to participate fully in global markets, making their goods less competitive due to higher final prices and delays. Additionally, the reliance on overland transport through often inadequate infrastructure and sometimes complex border procedures exacerbates delays and costs.

Box 2

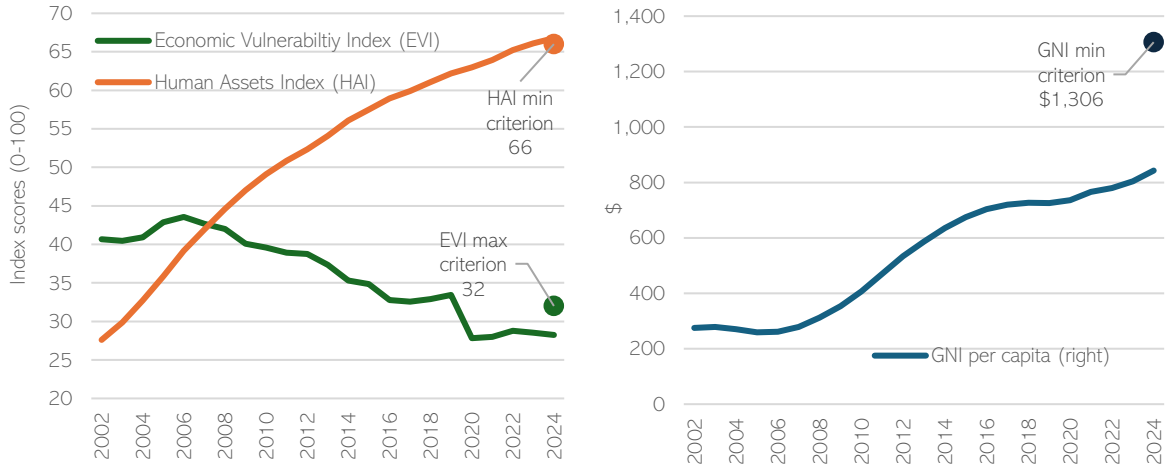
Rwanda's path to LDC graduation

The Least Developed Countries (LDC) category was established by the United Nations General Assembly in 1971 to provide targeted support to countries facing severe structural impediments to sustainable development. These countries benefit from special international support measures (ISMs) to aid their development efforts, such as preferential trade access, development financing, technical assistance, capacity building initiatives, and support for participation in international forums.

The process of inclusion in and graduation from the LDC category involves meeting specific criteria across three dimensions: Gross National Income (GNI) per capita, the Human Assets Index (HAI), and the Economic and Environmental Vulnerability Index (EVI). To be classified as an LDC, a country must satisfy all three criteria and agree to the classification. To be eligible for graduation, a country must meet the threshold for at least two of these criteria in two consecutive triennial reviews by the Committee for Development Policy (CDP). Alternatively, a country may graduate based on the income-only criterion. However, the process of graduation is not automatic: it depends on several elements, among them a thorough assessment of the potential impact of graduation and of the country's vulnerabilities, and the presentations and statements of the country itself. Together with the recommendation to graduate, a preparatory period is suggested, between three and six years or more. This period is for the country to prepare for graduation and establish a smooth transition strategy out of the LDC category.

Rwanda has been part of the LDC category since its creation, benefiting from various support measures, including duty-free and quota-free, or preferential, access to several markets (Figure 10). Rwanda met the LDC graduation criteria for the first time in March 2024 (Figure 12), in particular the HAI and EVI criteria, marking a significant milestone in its development journey. This achievement triggers the start of a graduation timeline, which, if all steps are realized, could lead to Rwanda's graduation from the LDC category in six years (eight under a five-year transition period).

Figure 12 Rwanda's progress towards the LDC graduation



Note: Dos represent the graduation thresholds for 2024 (32 or below for EVI, 66 or above for HAI and $1,306 or above for GNI per capita).

Source: Based on United Nations Committee for Development Policy Secretariat (2024).

Upon graduation, Rwanda will gradually lose the benefits associated with LDC status. This includes the phasing out of LDC trade preferences, and reduction in trade-related capacity building and technical assistance, which could have an impact on the country's exports of some products to the markets currently granting LDC preferences.

To ensure a smooth transition and continued progress post-graduation, it is crucial for Rwanda to develop a comprehensive transition strategy. This strategy should focus on diversifying the economy, building resilience to external shocks, and ensuring that the gains made during Rwanda's time as an LDC are sustained. Engaging with development partners and leveraging international support will be key to navigating the challenges ahead of graduation and in turn securing a stable post-graduation development path for Rwanda.

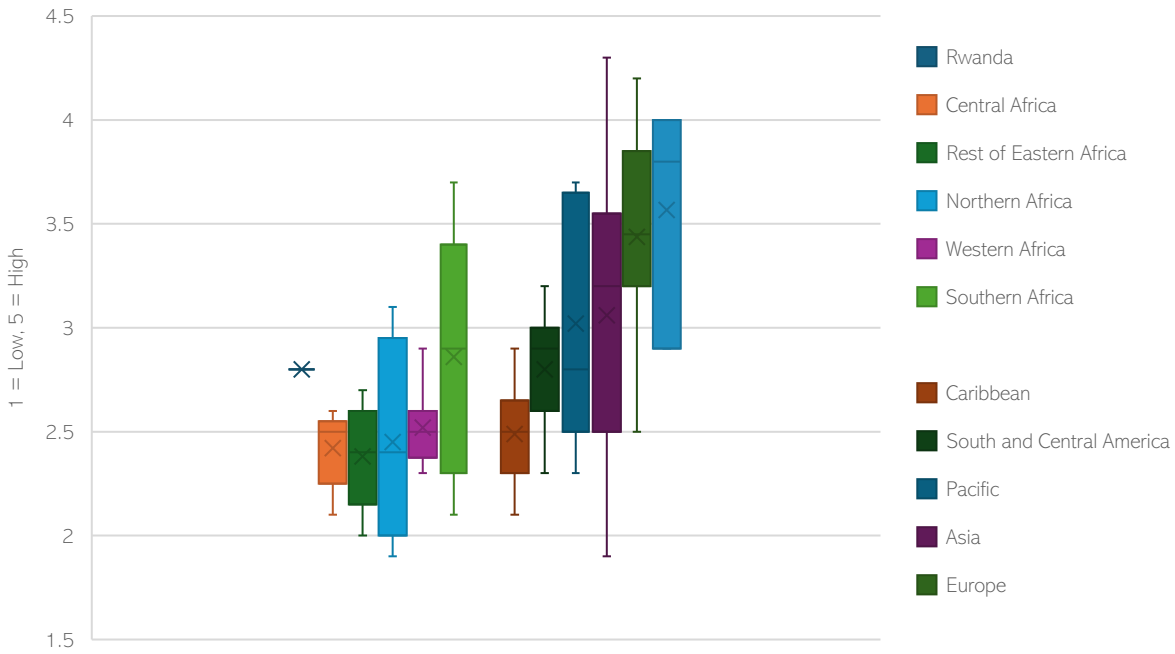
For resources and information on LDC graduation, see the LDC portal, http://www.un.org/ldcportal.

Historically, African LLDCs have faced significant challenges in this area. Traditionally low volumes of trade in some regions have contributed to higher transportation and logistics costs through several mechanisms. Smaller trade volumes beget higher freight and port charges, imbalances in cargo occupancy and lower incentives to investment in infrastructure. Port efficiency and equipment, port security and customs procedures and delay have also been at times identified as hurdles for trade on the continent. However, for African LLDCs shortcomings in land freight take centre stage. Despite the need to transport goods over vast distances to reach ports, the rail network has hardly developed away from the extractive model linking mines to ports. Most cargo is transported by road, but roads are scarce, road rehabilitation and maintenance is under-funded and they are not strategically located.

The combination of shortcomings and hurdles in transportation for African LLDCs briefly described above is well reflected in the World Bank Logistics Performance Index (LPI) presented in Figure 13.[16] The LPI captures different aspects of trade logistics, among them the quality of trade- and transport-related infrastructure, the quality of logistics services, the ease of arranging competitively priced shipments, the efficiency and timeliness of customs, etc.

Remarkably, Rwanda outperforms all other countries in Eastern and Central Africa in terms of LPI, as well as the majority of countries in Northern and Western Africa (Figure 13). This performance is the result of significant improvements made over the past decade. In 2007, when the first wave of LPI scores was calculated, Rwanda's overall score was 1.77, placing it 148th out of 150 countries.[17] By 2023, Rwanda's LPI score had risen to 2.8, ranking 73rd out of 139 countries, marking a substantial enhancement in the country's logistics capabilities. This progress has been driven by investments in both hard infrastructure, such as roads, and soft infrastructure, including customs reforms that have streamlined clearance processes and reduced delays. Rwanda's increased collaboration with the private sector has improved logistics competence and service quality, while its participation in regional trade facilitation initiatives as part of the EAC has further bolstered its logistics performance.

Figure 13 Logistics performance index 2023, by region



Note: The middle line of the box represents the median index score in a region, the x in the box represents the mean. The bottom line of the box represents the first quartile. The top line of the box represents the third quartile. The vertical lines extend from the ends of the box to the minimum and maximum values.

Source: Authors' calculations based on the Logistics Performance Index of the World Bank (lpi.worldbank.org).

[16] The LPI is an index developed and published by the World Bank, available at lpi.worldbank.org

[17] For historical LPI scores from 2007 onwards, see Figure A. 3.

Despite ongoing projects,[18] and significant improvements in transportation and logistics in Rwanda over the past decade, several challenges remain. The cost of logistics services in Rwanda is still relatively high, posing a burden to businesses and increasing the cost of trade. Economies of scale are hampered by a lack of vertical integration between transport, warehousing, and fulfilment, and an absence of supporting digital applications (e.g. for fleet management or inventory tracking).[19] At the borders, although customs clearance has improved, further streamlining could reduce delays and make the overall logistics environment more competitive. Another area that requires attention is the quality of logistics services, especially from small and medium enterprises involved in transport and warehousing. These companies would benefit from capacity building and professionalization to improve service standards.

Further development of road networks continues to be needed to enhance internal connectivity and improve transit routes to neighbouring countries. Although roads are generally adequate, last mile delivery is difficult in some areas due to a lack of accurate digital maps and a national addressing system.[20] Plans to extend the rail network through Uganda, Kenya, and Tanzania to the ports in Mombasa and Dar Es Salaam have been slow to materialize, raising costs and time for bulk transport of exports and imports. Rwanda's continued reliance on a limited number of international trade routes increases its vulnerability and diversifying its trade routes through regional or international partnerships could help reduce dependency and improve resilience in logistics.

It is important to note that, with the exception of the Caribbean, the African sub-regions that are the necessary transit ground for Rwandan exports are the ones with the lowest scores (Figure 13), and while some countries in Africa perform on par with other regions in terms of logistics, they are the exception rather than the norm. This underscores the importance of regional efforts to tackle logistics hurdles.

High transportation and logistics costs, delays and inadequate infrastructure have far-reaching implications for economic diversification and value addition in LLDCs like Rwanda. Elevated costs can reinforce export concentration by limiting the range of products that can be competitively traded and discourage investments in processing and value addition, which are crucial for economic development and integration into global value chains. Addressing these challenges requires continued concerted efforts to improve infrastructure, streamline logistics, and reduce inefficiencies, which are vital for enhancing the competitiveness and resilience of LLDCs.

Overview of Rwanda's export policy framework

Over the past two decades, Rwanda's export policy framework has undergone significant evolution, closely intertwined with the transformation of the country's trade landscape. This development is well captured by several key documents from different points in this journey, in particular: the 2005 Diagnostic Trade and Integration Study (DTIS), updated in 2014, the 2011 National Export Strategy, updated in 2015, and the 2020 joint study by the World Bank and the Government of Rwanda on the drivers of economic growth in the country. Understanding the policy shifts that have shaped Rwanda's trade strategies sets the stage for an analysis of the current export policy framework and, later on, the identification of possible areas for improvement.

Historical export policy framework

2005 Diagnostic Trade Integration Study

A Diagnostic Trade Integration Study (DTIS) is a comprehensive analysis conducted under the Enhanced Integrated Framework (EIF) for trade-related assistance for LDCs. The DTIS assesses the country's trade policies, infrastructure, institutional capacities, and other factors that influence its ability to participate effectively in the global trading system. The study provides a detailed understanding of the country's trade environment and offers recommendations for policy reforms, capacity building, and investments that can enhance trade performance and integration into the global economy. The findings from the DTIS are used to develop an Action Matrix, which outlines priority areas for intervention and guides donor support and national policy initiatives.

[18] For example, the continued expansion of the Kigali Logistics Platform (KLP), a 19-hectare bonded and non-bonded facility with an inland container terminal, warehousing capacity of 20,000 m^2, and associated services including customs inspections, tax payment, banking, maintenance, and repair (World Bank, 2023).

[19] UNCTAD (2023).

[20] UNCTAD (2023).

Rwanda's Diagnostic Trade Integration Study (DTIS) was conducted in 2005, and later updated in 2014.[21] It noted that, at the time, Rwandan exports were dominated by tea, coffee, and the "3 Ts" (tin, tungsten and tantalum), highlighting the need for Rwanda to diversify into higher value-added trade by strengthening traditional agricultural exports, diversifying into higher value-added agricultural commodities, such as horticultural products, and encouraging diversification into non-agricultural products.

The DTIS further noted that regional markets, which at the time only absorbed a small share of Rwanda's total exports due to the similarity in their export structures, could play an important role in export diversification, in particular as potential markets for horticulture and non-traditional agricultural products.

Critically, the DTIS found that at the time Rwanda's export promotion strategy was too general and failed to identify the main constraints facing exporters. Export promotion efforts were also uncoordinated, with activities spread between different agencies and organizations without an overall export promotion strategy. Furthermore, Rwanda lacked both sectoral strategies and an export diversification strategy, despite the fact that export diversification was a stated development priority.

Lastly, the DTIS listed the supply-side restrictions identified to be the main barriers to trade in Rwanda, as follows:

1. Barriers that directly raise the costs of trade and limit linkages with markets: including transport and communications costs, and customs procedures.
2. Constraints on the ability of households to move into commercial activities: including lack of access to credit, energy, and extension services, and poor organization of the rural sector.
3. Weakness in the climate for investment and for private sector development: due to high costs of doing business and the lack of reliable electricity supply.
4. Lack of institutional support for trade and export diversification: including lack of capacity for trade policy and standards and quality management, and fragmented, uncoordinated, and incomplete export promotion initiatives.

National Export Strategy I (2011) and II (2015)

The need for a more coordinated and strategic approach to export development led to the formulation of the first National Export Strategy (NES I) in 2011, which aimed to diversify exports, improve competitiveness, and increase Rwanda's integration into regional and global value chains, aligning export goals with Vision 2020 objectives and growth rates targeted in the Economic Development and Poverty Reduction Strategy (EDPRS I).

The 2011 NES I outlined ten cross-cutting policy areas aimed at addressing structural and institutional challenges that hindered Rwanda's export growth. These included expanding market access by leveraging regional and global trade agreements, simplifying export procedures, and improving trade facilitation infrastructure. The strategy also emphasized the need for monetary and fiscal alignment to reduce export disincentives, streamlining the business environment, and increasing access to finance and investment for export-oriented enterprises. Other crucial recommendations included upgrading logistics and ICT infrastructure, creating a unified "Made in Rwanda" brand, investing in technology and innovation, and developing human capital through technical and vocational education. Additionally, NES I advocated for inclusive and environmentally sustainable export development by integrating gender, youth, and climate considerations into trade policy.

The NES I identified eight priority export sectors categorized by their maturity and growth potential. Traditional sectors included tourism, tea, coffee, and mining—areas where Rwanda already had a presence but needed to improve value addition, branding, and market diversification. In contrast, the strategy also focused on non-traditional and emerging sectors such as horticulture, Business Process Outsourcing (BPO), home décor and fashion, and greenfield industries like biopesticides, in particular pyrethrum, and biotechnology. These sectors were selected based on their export potential, their potential for employment creation, market demand, opportunities for differentiation, the country's position in terms of existing firms and skill availability, and investment prospects. The strategy called for tailored interventions in each sector, including policy support, institutional strengthening, capacity building, and targeted promotion.

[21] DTIS (2005).

Building on lessons learned from NES I, the strategy was revised in 2015, in alignment with EDPRS II, NES II showed a stronger results-based approach, with specific, ambitious goals for export growth and targeted fewer, high-impact interventions based on data and execution capacity.

While NES I emphasized thematic development across eight sectors and promoted some emerging industries, NES II adopted a more targeted approach to sector prioritization. Government efforts and investment were to be focused on five strategic sectors: agro-processing, manufacturing, minerals, tourism, and ICT. Each sector selected was mapped to detailed export revenue targets—ranging from $133 million for ICT to $1.6 billion for manufacturing—intended to scale total exports from $1.2 billion in 2013 to $4.5 billion by 2018. Sub-sectors were also more clearly delineated, e.g. dairy and meat within agro-processing, or textiles and packaging within manufacturing, allowing for more targeted policy interventions and firm-level support.

In lieu of the cross-cutting policy issues highlighted in NES I, NES II embedded many of the same themes within a more integrated and execution-focused framework, emphasizing critical enablers such as improving trade finance and the investment climate, reducing transport and logistical barriers, and strengthening compliance with international standards to enhance market access. Additionally, institutional coordination was given greater prominence. NES II also prioritized firm-level capacity building, skills development, and targeted support to high-potential exporters.

Together, these strategies filled a gap noted in the 2005 DTIS: the absence of a coherent export strategy and coordinated implementation framework. They laid the foundation for the progress documented in the 2020 joint World Bank-Government of Rwanda report.

2020 World Bank and Government of Rwanda: Future drivers of growth in Rwanda

Rwanda's institutional framework, including its focus on export promotion and diversification, has changed significantly since 2005. A joint World Bank-Government of Rwanda report published in 2020 illustrated Rwandan's progress on many of the issues identified in the DTIS and offered policy recommendations for continued export growth and diversification.[22] The report highlights how Rwanda has experienced strong export growth since 2000 and connects it to the adoption of general and sector-specific trade policies that targeted priority sectors and improved coordination among ministries. The improved policy framework has enabled Rwanda to add value to traditional agricultural exports while also diversifying to some extent into non-agricultural products.

From the early 2000s to the time of the report, Rwanda's exports grew significantly and became less dependent on traditional exports. The contribution of tea, coffee, and minerals to total exports declined by half, while the value of these exports more than tripled. A concerted government effort to improve coffee quality led to a five-fold increase in the farm gate price for coffee between 2002 and 2015, partially offsetting declining international coffee prices between 2011 and 2015. Between 2005 and the publication of the report, the value of Rwanda's light manufacturing exports also increased significantly and agroprocessing exports rose from almost zero to represent a sizable share of exports.

Despite these achievements, the report also highlights that for Rwanda to reach its long-term growth objectives; namely achieving upper middle-income status by 2035 and high-income status by 2050, a considerable, sustained expansion of exports will be needed. However, Rwanda's export sector is currently too small and narrow to achieve its export goals: a small number of firms dominate exports, firms export fewer products than their regional peers, and a large share of exporters only carry a single product to a single market, accounting for around one third of total exports. Additionally, Rwanda's export diversification was largely driven by exports of existing products to new markets, sidelining the development of new exports. And, although private finance tripled between 2005 and the publication of the report, it was primarily destined to households and non-tradable sectors such as construction and real estate, and not to exports.

The report also underscored the intra-regional opportunities for value-added trade, diversification, and quality upgrading. Although Rwanda's intra-regional exports expanded after it joined the East African Community (EAC) in 2009, they could be further enhanced by developing regional economies of scale and by specializing production in terms of quality. Importantly, the EAC offers opportunities for exports of higher-quality, non-traditional goods, such as

[22] World Bank and Government of Rwanda (2020).

manufactures, leather goods and horticultural exports.[23] Although regional trade opportunities exist, few Rwandan firms export to the region, even a smaller share of firms than in neighbouring countries.

The report concluded that Rwanda should pursue a comprehensive export strategy covering services, industry, and agriculture that focuses on exporting high-quality agroprocessing and manufacturing products to the region, while developing less location-dependent exports such as tourism, professional services, and information and communications technology (ICT). The report suggests five policy priorities to help Rwanda achieve these goals, including:

1. Harnessing the EAC as a platform for transformation, by aligning regional incentives, harmonizing standards, and exploiting economies of scale,
2. Improving trade connectivity by lowering transport costs within and across the region,
3. Increasing service sector productivity, both as a critical input to other priority sectors and as a source of exports, capitalizing on regional competition and opportunities,
4. Stimulating foreign and domestic investment into tradable sectors by using selective and performance-driven incentives, and
5. Accelerating industrialization through diversification, value addition, and quality upgrading.

Current export policy framework

The recommendations of the 2020 joint World Bank-Government of Rwandan report informed the development of Rwanda's *Vision 2050,* which articulates the enabling pathways for the country to become an upper-middle income country by 2035 and a high-income country by 2050.[24] *Vision 2050* is Rwanda's overarching policy document that establishes the country's growth and development agenda. While it highlights certain export objectives, other policy documents at the ministerial level offer more detailed guidance on interventions and targets for specific priority sectors and markets.

Rwanda's National Strategy for Transformation (NST1), covering the period 2017-2024, operationalized *Vision 2050* by specifying objectives, key performance indicators, and targets, as well as the ministries responsible for implementation and reporting.[25] The NST1 stated that in order to promote industrialization, Rwanda would have to export higher-value goods and services, with the aim of increasing exports by 17% annually. Agroprocessing, construction materials, light manufacturing, meat and dairy, leather, textiles and garments, horticulture, tourism, knowledge-based services, logistics, and transport were highlighted as priority value chains that should be developed to achieve this goal. The NST1 also stated that Rwanda should increasingly focus on high-tech services exports such as financial services, fin-tech, e-payment, business process outsourcing, legal, security, and other professional services. The NST1 Monitoring and Evaluation Matrix designated the Ministry of Trade and Industry (MINICOM) and the Private Sector Development and Youth Employment (PSDYE) Sector as the primary reporting bodies for export growth targets.

Building on NST1's economic transformation goals, the Private Sector Development and Youth Employment Sector Strategic Plan (PSDYE SSP 2017–2024) provided the operational roadmap to support Rwanda's export and job creation ambitions. It sought to drive industrial-led growth, enhance productivity, and integrate youth into value chains, aligning directly with NST1's targeted value chains and sector growth objectives. It adopted a focused value-chain approach, prioritizing sectors based on their potential to generate jobs, increase exports, and stimulate private investment. Key value chains included agro-processing, textiles and leather, construction materials, light manufacturing, meat and dairy, horticulture, aviation services, logistics and transport, and knowledge-based services. These value chains were chosen using a data-driven and consultative methodology, applying selection criteria such as export or import substitution potential, existing anchor firms to support SMEs, the availability of domestic raw materials, and capacity for value addition. To operationalize the selected value chains, the strategy introduced four main pillars: promoting competitive value chains via the Growth Anchor Firm Initiative (GAFI) and Domestic Supplier Development Unit (DSDU), enhancing firm-level productivity through skills development, technology upgrades, and

[23] For example, interestingly, following the Covid-19 pandemic, Tanzania became a major importer of Rwandan medical, surgical and dental instruments (Raga, 2023).

[24] *Vision 2050* is also aligned with regional and global development agendas including the Sustainable Development Goals (SDGs), the African Union Agenda 2063, the EAC Vision 2050, and the Paris declaration on climate change (Minecofin, 2020).

[25] NST1 (2017).

access to finance, adopting an ecosystem approach to exports, and streamlining regulation and information access—including trade facilitation, standards compliance, and investment climate reforms.

With the end of the NST1 period, Rwanda has transitioned into the next phase of its development strategy through the second National Strategy for Transformation (NST2), covering the period 2024–2029. Officially approved in August 2024, NST2 builds on the foundations laid by NST1, reinforcing Rwanda's long-term development trajectory as outlined in Vision 2050. It maintains the three-pillar structure first introduced in NST1—Economic Transformation, Social Transformation, and Transformational Governance—while placing heightened emphasis on productivity-led growth, regional value chain integration, and climate resilience. In the area of trade and exports, NST2 prioritizes accelerating structural transformation through high-value manufacturing, expanding services exports, and enhancing Rwanda's competitiveness in regional and global markets. NST2 sets an ambitious goal of doubling total exports from approximately $3.5 billion in 2023 to $7.3 billion by 2029, targeting an annual growth rate of about 13%. Specific sectors like mining are expected to play a pivotal role, with mineral exports projected to increase from $1.1 billion to $2.2 billion over the same period. In addition to introducing updated targets, NST2 deepens the role of private sector partnerships, and continues Rwanda's commitment to results-based implementation with strengthened monitoring and evaluation mechanisms.

In line with NST2's renewed focus on productivity-led growth and export competitiveness, the Government of Rwanda has also adopted the PSDYE SSP 2024–2029. This updated strategy outlines the key policy interventions and institutional responsibilities needed to support private sector–driven structural transformation, enhance job creation—especially for youth—and expand high-value exports. The PSDYE SSP serves as a critical implementation framework for NST2's Economic Transformation pillar, linking export growth targets with actionable priorities in investment promotion, SME upgrading, value chain development, and youth entrepreneurship.

The strategy builds on the lessons of the previous PSDYE SSP (2017–2024) and integrates new themes such as digital trade facilitation, climate-resilient business models, and regional market integration through the EAC and AfCFTA. It sets measurable targets for employment creation, firm productivity, and trade volume growth, while assigning specific roles to MINICOM, RDB, BRD, and the Private Sector Federation (PSF). Continuing the value-chain approach introduced in the previous plan, the PSDYE SSP 2024–2029 prioritizes specific value chains based on their potential for export growth, employment generation, and private sector investment. These include agro-processing, textiles and leather, construction materials, light manufacturing, ICT and knowledge-based services, tourism support services, and logistics and transport. The PSDYE SSP 2024–2029 functions as a core operational tool for advancing Rwanda's export ambitions under NST2, ensuring that institutional coordination and private sector support remain central to national transformation efforts.

While NST1and now NST2 outline broad export targets, sector-specific strategic plans provide more detailed implementation frameworks. For example, the National Agricultural Export Development Board's (NAEB) Strategic Plan for 2019–2024 and the Strategy for the Transformation of the Textile, Apparel, and Leather Sectors, detailed below, illustrate how national objectives are operationalized at the sector level.

Agricultural exports

Formed in 2011 through the merger of Rwanda's coffee, tea, and horticulture development authorities, the NAEB is a public commercial institution tasked with expanding Rwanda's agricultural exports by providing support to exporters on production, value addition, marketing and policy. NAEB's strategic plan for 2019 to 2024 delineated a plan for Rwanda to reach $1 billion in agricultural exports by 2024 through a combination of international export commodities and regional export crops.[26] NAEB's strategic plan identifies priority value chains as well as their opportunities and challenges. It also details interventions along nine programmatic areas designed to benefit all agricultural export commodities, including market linkage and export promotion, branding, attraction of global operators, business incubation, productivity and quality management, logistics and infrastructure coordination, financing, policy and regulation, and strategic analytics.

The NAEB's prioritized value chains were chosen based on two main criteria: their capacity to contribute to the $1 billion agricultural export target (i.e., their market opportunity), and Rwanda's ability to address the value chain's challenges. Challenges are categorized as either difficult or easy to address. Challenges that are difficult to address derive from natural or structural constraints such as Rwanda's landlocked nature and its hilly landscape. Challenges that are easy to address are those related to nascent value chains with limited financial, human, or knowledge-based

[26] NAEB (2019).

resources. Ultimately, the prioritized value chains are those with global market potential, agronomic viability for scale production, and the ability to generate high export revenues, whose existing challenges are also relatively easy to address.

Three types of value chains were identified through this process: 1) high potential value chains, 2) value chains with opportunities in specific segments, and 3) new growth value chains. High potential value chains included horticultural products, tea, and pyrethrum. Value chains with opportunities in specific segments included speciality and organic coffee, value-added cereals, and animal products. New growth value chains include essential oils, sericulture, and stevia. The strategic plan identifies target markets and product segments, as well as the challenges and development needs of each value chain.[27]

Textile, apparel, and leather exports

The Strategy for the Transformation of Textile, Apparels and Leather Sectors, published by MINICOM, is another sector strategic plan outlining objectives, indicators, interventions, and targets, covering the period 2022/23 to 2026/27.[28] The strategy outlines seven strategic objectives across the textile, apparel, and leather sectors. Among other points, the objectives mention promoting value addition of local hides and skins into finished leather, local manufacturing of textile and leather accessories, strengthening the capacity of operators in the leather value chain, including exporters, developing and operationalizing a leather industrial park, and capitalizing on regional trade opportunities.

The strategy highlights the importance of the African Continental Free Trade Area (AfCFTA) as a means to support Rwanda's textile, apparel, and leather industries and proposes two strategic interventions to capitalize on this opportunity: 1) promoting cotton imports from within the region, and 2) strengthening textile, apparel, and leather exports to the region and beyond. On the first intervention, the strategy proposes establishing contracts with African exporters, including in the EAC and West Africa, to supply raw materials to Rwanda's textile industry. The Private sector Federation (PSF) is designated as the lead on this intervention, while MINICOM and the Rwanda Development Board (RDB) are mentioned as other responsible institutions. On the second intervention, the strategy proposes conducting a market study for textile and apparel products and promoting Rwandan textile and apparel products regionally and globally. MINICOM is designated as the lead on this intervention, while the PSF and the RDB are mentioned as other responsible institutions. The strategy also emphasizes that Rwanda's National AfCFTA Implementation Strategy states that Rwanda could position itself at the high end of the textile value chain (e.g., garment manufacturing, and fashion), leaving other parts of the textile value chain to countries like Tanzania, Uganda, and West African countries. Finally, the strategy highlights the central African region as a potential market for Rwanda's textile exports.

[27] For additional details on the value chains prioritized under NAEB (2019), see Appendix II.

[28] The strategy builds on a previous strategic plan for the sector, which covered the period 2016-2020. The strategy is aligned with Vision 2050, NST1, the 2011 Industrial Policy, the 2018 Made in Rwanda Policy, the Private Sector Development and Youth Employment Strategy (PSDYES) 2018-2024, and the Regional Strategic Orientation by the East African Community, which all promote the textile and leather sectors.

CHAPTER 2

Identifying key export value chains

CHAPTER 2
IDENTIFYING KEY EXPORT VALUE CHAINS

To inform the design of trade support measures, avoid interventions driven by path dependencies, and channel limited aid-for-trade resources to sectors or value chains with the greatest impact potential, ITC has developed a data-driven approach to sector and value chain selection. The following section outlines this approach and presents the results of its application to the case of Rwanda, identifying key opportunities to diversify exports and enhance domestic value addition through the development of local value chains.

Selecting high-potential value chains

The ITC value chain selection methodology begins by defining the value chain behind each of the over 5,300 products of the Harmonized System (HS).[29]

This process starts with the use of sector-level input-output tables, which represent the trade across industries and indicate the value of inputs required to produce an output at the sector level. Since the input-output tables only exist at the sector level, they must first be `transformed' to the product level. This transformation involves several steps, including word matching techniques, insights from rules of origin in trade agreements, and expert assessments for various sectors. The resulting product-level input-output table identifies the relative importance of each input directly used in the production of any given product. By tracing the production of inputs through the table, the methodology can also uncover the relative importance of indirect inputs—those that contribute to the production of inputs further up the value chain.

The value chains defined through this process are then evaluated based on two criteria central to the ITC value chain selection approach, the feasibility and desirability of each value chain. Further details on these two assessments are provided below.

Feasibility assessment

The feasibility assessment aims to identify which value chains have export potential, based on current exports, existing capabilities, and the availability of necessary inputs. This assessment distinguishes between value chains where products are already being exported and those that are not yet part of the export basket.

Which sectors or value chains already exporting have potential for growth?

For value chains where products are already being exported, the TMI export potential methodology is applied. This methodology identifies the potential for export growth for each value chain based on an economic model that considers multiple factors, including:

- historical trade data for each product, market, and competitor,
- tariffs faced by all suppliers and imposed by all possible markets,
- projections for growth in all suppliers and markets, and
- the ease of trade between exporters and markets.

[29] For more details on the methodology, see Appendix III.

Using these data, the methodology estimates a potential level of trade by 2027 for each exporter-product-market combination, assuming no trade frictions and that investments are channelled to growing sectors.[30] The gap between the potential and current trade levels highlights opportunities for export growth, i.e., the unrealized export potential.

Which sectors or value chains not yet exporting can be developed?

For value chains where products are not yet being exported, the methodology follows three analytical steps to assess their feasibility:

a. Availability of inputs

Using trade data and information from the product-level input-output table, this step evaluates whether sufficient inputs are available within the country to produce a specific value chain output. For instance, if an input is projected to be exported in larger quantities than those of a relevant comparison group of countries, it is considered available. When a significant share of the required inputs is available domestically, it is assumed that the desired value chain output can be produced using locally sourced inputs.

b. Required capabilities

The second step assesses whether the country has the necessary capabilities to convert the available inputs into the desired output. This involves comparing the country's export basket to global trade patterns to determine if the country is already exporting products that are typically exported alongside the new value chain output under consideration. If this is the case, the country is deemed to have the capabilities needed to develop the value chain.

c. Demand prospects

If the inputs are sufficiently available and the country has the capability to transform them into the output, the next step involves evaluating the demand prospects for the new value chain. This analysis uses ease-of-trade and demand-side indicators to assess market prospects for the output being considered.

Desirability assessment

The feasibility assessment can produce a long list of value chains that show promise for export expansion or development. Yet, not all sectors or value chains that are feasible are necessarily also desirable, or some are more so than others. To assess the desirability of expanding or developing feasible value chains, a wide array of indicators can be considered, amongst them their ability to:

- create jobs, including for marginalized groups,
- raise the share of SMEs in the economy,
- foster food security,
- stimulate economic transformation and diversification,
- achieve environmental sustainability,
- leverage regional trade agreements,
- increase resilience to shocks.

Value chain selection in Rwanda

In this case, the methodology outlined above is applied to Rwanda's exports. When evaluating *the availability of inputs* for a product, several criteria are considered.[31] If none of the criteria are met, it is concluded that Rwanda lacks sufficient input availability to produce the product through local sourcing. Conversely, if all criteria are met, the input

[30] The export potential is estimated to reflect the *future* level exports could reach. This is to take into account expected growth trends, and to allow for any support measures that could be put in place to take effect. The results discussed here are for the year 2027 because that was the latest year for which forward-looking variables used in the methodology— such as GDP growth projections from the IMF World Economic Outlook— were available at the time of estimation. Additional details on the methodology can be found in Decreux and Spies (2023).

[31] For more details on the specific availability criteria applied, see Appendix III.

availability is deemed `very strong'. Cases where only the minimum criteria are met are classified as having `weak' input availability.

To assess Rwanda's *required capabilities* for a given product, the evaluation considers whether the product is already being exported or, if not, whether it is `similar' to other products that Rwanda currently exports.[32]

For *desirability*, the focus is initially on selecting processed products, as these hold the greatest potential to add value to Rwanda's exports and diversify its export structure away from raw commodities.

The selected products are, therefore, processed items—some already being exported, others new—for which Rwanda can supply a significant portion of the necessary inputs, and for which it has the capacity to transform the inputs into the output. These products are grouped into value chains and listed in Table 1 and Table 2. For each value chain, the tables indicate whether the input availability is, on average, weak, medium, strong, or very strong. The results also detail which products within each value chain offer opportunities to expand existing exports and which products show promise as potential new exports. It is important to note, however, that the results presented Table 1 and Table 2 in do not necessarily include value chains or products that currently have a strong export performance, but rather those with the greatest potential for export growth.

Table 1 presents agriculture-based manufactures identified as both *feasible* and *desirable* for export expansion or development, showcasing several value chains within the processed food and beverages sectors.

Table 1 Selected processed products in new and existing agriculture-based exports

	Value chain	Average input availability	Opportunities to expand existing exports	Opportunities for new exports
Processed food	Food preparations for infant use	strong	Food for infants of cereals, flour, starch or milk, not containing cocoa	
	Cereal-based products	medium	Pasta, pre-cooked cereal grains or flakes, biscuits	
	Confectionery	medium	Chewing gum, sugar confectionery not containing cocoa	
	Sauces and soups	medium	Condiments and seasonings	
	Coffee and tea products	strong		Coffee or tea extracts, essences, or concentrates
	Fish products	strong		Prepared sardines ("Isambaza")
	Processed vegetables, fruits, legumes	medium		Prepared tomatoes, beans, pineapples, citrus fruit, preserved parts of plants, fruit jams and jellies
	Processed nuts	weak		Prepared or preserved nuts and other seeds
Beverages	Alcoholic beverages	medium	Beer, whisky	
	Fruit juice	medium	Juice of fruit or vegetables, other than: mixtures, citrus fruit, pineapples, tomatoes, grapes	Frozen orange juice, single citrus juices, pineapple juice, mixtures
	Non-alcoholic beverages	medium		Non-alcoholic beverages (excl. water, fruit or vegetable juices and milk)

Note: N.e.s. stands for `not elsewhere specified'. These results highlight, among products already exported, those with the highest potential for export growth ("Opportunities to expand existing exports"), and the products not exported yet with the most potential to start being exported ("Opportunities for new exports"). This may not include all products currently being exported.

Source: Authors' calculations based on ITC Export Potential Map (2023).

In the processed food sector, multiple value chains stand out as areas for expansion, supported by strong or medium input availability. For instance, food preparations for infant use are identified as having strong input availability, with the opportunity to expand exports of cereal-, flour- and dairy-based infant foods. This potential is linked to the meteoric

[32] The concept of `similarity' relies on the notion of *product space*, as developed in Hidalgo, et al. (2007). For more details on how this concept is used in the selection criteria, see Appendix III.

rise in exports of infant food from Rwanda to Ethiopia, Kenya and South Sudan in recent years, driven by Africa Improved Foods (AIF), a public-private partnership initiative that has scaled the local sourcing, processing and commercialisation of relief and commercial nutrition products, such as complementary porridges of the Super Cereal Plus series.

Based on the processing of similar inputs, in particular of maize and rice, there is potential for the expansion of cereal-based products such as pasta, pre-cooked cereals, and biscuits. Similarly, based on the processing of sugar, cereals and vegetable oils available in the country, among other ingredients, Rwanda has the potential to expand its confectionery exports, in particular of chewing gum and other sugar confectionery without cocoa. In the sauces and soups category, the local production of tomatoes, garlic, onions, spices and herbs, and vegetable oils, positions Rwanda to expand its exports of condiments and seasonings.

In terms of new agro-processed manufactures, a number of opportunities for exports are also identified. For starters, based on the well-reputed Rwandan coffee and tea industries, which are already very strong, additional processed products could be exported, such as extracts, essences and concentrates.

Despite being landlocked, Rwanda has access to several large lakes, among the Lake Kivu, Lake Muhazi and Lake Rweru, that serve local fish markets. Exports of fish products from Rwanda have increased in recent years, but have been limited to exports of frozen tilapia, mackerel and, to a lesser extent, catfish, to the Democratic Republic of Congo. Considering diversification and value addition in the fish products, the local input availability and transformative capacity could also be leveraged to start exporting prepared sardines ("Isambaza"), in particular to regional markets that have a significant demand for small, preserved fish.

Processed vegetables, fruits, legumes, and nuts also demonstrate medium to weak input availability, with opportunities to develop new export products. Prepared vegetables, fruit preserves, and processed nuts could become part of Rwanda's export basket.

Beverages, both alcoholic and non-alcoholic, also offer opportunities for export growth and diversification based on local inputs. There is potential to expand exports of locally produced beer, whisky, and some fruit juices, as well as to diversify into additional types, such as frozen orange juice, single citrus juices, and pineapple juice, flavoured waters, soft drinks, and others.

Overall, based on locally available inputs, and existing capabilities, Table 1 shows that agroprocessing, across several distinct value chains, offers a promising avenue for more value addition and diversification in Rwandan exports. In contrast, the landscape of opportunities for expansion and value addition in the manufacturing sector is more mixed (Table 2). While a few value chains show strong potential to develop processing from available inputs, many others are likely to face input availability challenges.

Rwanda's chemicals sector has the potential to expand exports of some beauty and personal care products, thanks to the local availability of natural ingredients like beeswax, honey, shea butter, essential oils, coffee, aloe vera, avocado oil, and sunflower oil, among others. However, the country continues to depend on imports for many chemical ingredients required in the value chain, including emulsifiers, stabilizers, preservatives, colour pigments, and synthetic fragrances.

In the leather and footwear sectors, Rwanda currently produces and exports shoes, as well as smaller quantities of travel bags and handbags, all of which have potential for export growth. Footwear production is primarily focused on shoes with outer soles and, in some cases, uppers made from rubber, plastics, or textile materials, with leather being used less frequently. Despite recent policy efforts to support local leather production, a significant portion of the country's hides and skins continue to be exported in raw or minimally processed forms, leaving manufacturers with limited local supplies for leather-based products.[33]

[33] For a comprehensive overview of the leather value chain in Rwanda, see NIRDA (2017) and COMESA-LLPI (2015).

Table 2 Opportunities for processed products in new and existing manufacturing exports

	Value chain	Average input availability	Opportunities to expand existing exports	Opportunities for new exports
Chemicals	Beauty and personal care products	medium	Beauty, make-up and skincare preparations, dentifrices	
Leather products and footwear	Footwear	medium	Footwear with rubber, plastic, or leather soles, varying upper materials	.
	Leather and fur skin articles	medium	Handbags, travelling bags	
Fabrics, apparel and textile products	Textile products made of synthetic fibres	weak	Apparel	Apparel, cordage and cables, floor coverings and swimwear
	Textile products made of textile materials	medium	Mattresses, tarpaulins, apparel, handbags, travelling bags	
	Textile products made of cotton	medium		Apparel, toilet and kitchen linen
	Textile products made of natural fibres	medium		Hand-woven tapestries
	Textile products made of wool/fine animal hair	weak		Floor coverings and apparel
	Personal protective equipment	medium		Rubberised garments
Wood, paper, rubber, plastics	Wood products	medium	Basketwork, wickerwork	
	Plastic household articles	weak	Tableware, kitchenware, toilet articles, furniture	
Mineral and metal products	Jewellery	medium		Imitation jewellery (not of base metals)
	Stone products	medium		setts, burb stones and flagstones, tiles and slates, monumental or building stones
	Tubes, pipes and fittings of metals	medium	Tubes and pipes or iron or steel	
	Household articles of metal products	medium	Household articles of iron or steel, or aluminium	
	Hand-operated tools and mechanical tools	weak	Mattocks, picks, hoes and rakes, with working parts of base metal	
	Wires	medium		Barbed wire of iron or steel
	Bridge, towers and structures	weak		Towers and lattice masts, of iron or steel
Machinery and electronic equipment	Electricity generators, transformers and capacitors	medium	Electric primary cells and primary batteries	Transformers, manganese dioxide cells and batteries
	Refrigerators, freezing equipment, and their furniture	medium		Household refrigerators, chest type freezers
	Household appliances	medium		Washing machines
	Construction and extraction machinery	weak		Self-propelled mechanical shovels, boring or sinking machinery
Manufactured products n.e.s	Lamps	weak	Electric lamps and lighting fittings	
	Cargo containers	medium		polycarbonate containers
	Glass articles	medium		household glassware
	Musical instruments	medium		String instruments
	Ceramic articles	medium		flags and tiles, sanitary fixtures, tableware and statuettes

Note: N.e.s. stands for `not elsewhere specified'.

Source: Authors' calculations based on ITC Export Potential Map (2023).

The textile and apparel value chains also show potential, for expansion of exports among the few garments and textile products already exported, and for new exports not only for apparel, but also of some types of floor coverings,

tapestries, linens, etc. Note however, that the availability of inputs remains limited, categorized as weak to medium in all instances, reflecting the constrained local supply of fibres.[34]

For wood products in general, few opportunities for export expansion or new product development have been identified. This aligns with existing assessments of the wood value chain in Rwanda, which highlight the continued use of unsustainable forest management practices, reliance on imported timber for a large portion of sawn wood production, and the use of outdated processing techniques and tools.[35] In this context, the newly instated EUDR, which mandates sustainable forest management and transparent, traceable supply chains, could pose a significant challenge. However, opportunities exist to increase exports of basketwork and wickerwork, building on Rwanda's well-established tradition of handcrafted baskets made from locally sourced materials such as sisal, papyrus, leaves, bamboo, and reeds.

Similarly, the plastics sector in Rwanda faces weak input availability. The production and exports of plastic household articles, including tableware, kitchenware, toilet articles and furniture, could be expanded but the value chain development can be limited by the need to import raw materials such as plastic resins such as polyethylene, polypropylene, and PVC. While Rwanda can produce these plastic goods, the sector is not self-sufficient and relies heavily on imports for key inputs.

Among mineral products, it is feasible to diversify exports to new jewellery and stone products. The country's mining sector provides access to a variety of minerals that can be used in producing imitation jewellery, for which there is already a tradition for artisanal handicrafts. For stone products, Rwanda has abundant natural stone resources, including granite, basalt, and volcanic stones, which are suitable for producing setts, curb stones, flagstones, and other building stones, with an existing stone quarrying and processing industry to match. However, for large-scale processing and exports, investment in modern cutting, polishing, and finishing facilities are likely to be needed.

The opportunities identified in Table 2 for the metal products sector include the expansion of exports for items such as iron or steel tubes and pipes, household articles made of iron, steel, or aluminium, as well as mattocks, picks, hoes, and rakes. Additionally, new export opportunities exist for iron or steel wire, towers, and lattice masts. Although Rwanda lacks the natural resources and large-scale facilities to produce raw steel or iron, the country does manufacture some steel-based products—particularly construction-related items like steel bars for reinforced concrete, metal roofing sheets, and metal pipes—using imported raw materials and recycled steel. While Rwanda has certain metalworking capabilities, the limited local production of steel and iron means that expanding exports in this sector will likely require significant investments in upstream production or continued reliance on imported inputs.

For the machinery and electronic equipment sector, Table 2 identifies the opportunity to expand exports of electric primary cells and batteries, as well as the potential to begin exporting transformers, manganese dioxide cells and batteries, household appliances such as refrigerators, freezers, and washing machines, and construction or extraction machinery like mechanical shovels and boring or sinking machinery. However, while some inputs necessary for producing these products are available locally, Rwanda lacks key materials such as steel, iron, copper, and specialized components like electric motors, compressors, and chemicals (e.g., refrigerants). Additionally, although assembly or small-scale manufacturing may be feasible using imported components, particularly for appliances, full-scale production and export would require substantial investment in industrial infrastructure, raw material sourcing, and technical expertise.

Lastly, among assorted manufactured products, the methodology identifies as feasible increased exports of electric lamps and lighting fittings, as well as new exports, among them polycarbonate containers, household glassware, some string instruments, and ceramic articles such as flags, tiles, sanitary fixtures, tableware and statuettes. As for ceramic articles, Rwanda has local clay and raw materials suitable for ceramic production, and there is some small-scale tile production, and an existing craft and pottery industry, all pointing to the feasibility of eventually exporting ceramic products. Rwanda has the local inputs and capabilities to produce and potentially expand exports of ceramic products, particularly in areas like tiles, tableware, and ornamental items. However, for products like glassware, transport containers, and musical instruments, even when the methodology finds that compared to other exporters, they are

[34] It is important to remember that the availability of inputs is assessed in comparison to other successful textile and apparel exporters. Some countries, like Bangladesh, have developed highly successful apparel value chains despite having limited local supplies of fibres. As a result, the input availability requirements for selection in this context may be relatively low.

[35] For a detailed analysis on the wood value chain in Rwanda, see Tsanga, et al. (2019).

feasible for the country, Rwanda lacks both the necessary raw materials and industrial capacity, making export potential in these categories very limited without substantial investment in infrastructure and technology.

Lastly, within the category of assorted manufactured products, the methodology identifies the potential for increased exports of electric lamps and lighting fittings, as well as the introduction of new exports, including polycarbonate containers, household glassware, string instruments, and ceramic items such as flags, tiles, sanitary fixtures, tableware, and statuettes. For ceramic products, Rwanda has locally available clay and raw materials suitable for production, along with small-scale tile production and an established craft and pottery industry, all indicating the potential to export ceramic goods, tiles, tableware, and ornamental items. However, for products such as glassware, transport containers, and musical instruments, while the methodology suggests they are feasible compared to other exporters, Rwanda currently lacks the necessary raw materials and industrial capacity, limiting export potential in these categories unless there is significant investment in infrastructure and technology.

All the value chains identified through the methodology and presented in Table 1 and Table 2 are considered feasible for Rwanda, both in terms of input availability and existing capabilities. Keep in mind that the input availability is initially assessed in comparison to a group of other exporting countries, but that key inputs maybe missing for some of the identified value chains even if the availability is marked as medium, as pointed out in several instances above. Additionally, these value chains are preliminarily deemed desirable, as they can contribute to diversifying Rwanda's export portfolio and enhancing value addition by increasing the share of processed goods in its exports.

Beyond the feasibility and desirability of value chains

This chapter has presented the findings of a statistical analysis aimed at identifying opportunities for Rwanda to expand its exports of processed goods. The analysis is based on a model that assessed the feasibility and desirability of various value chains by examining past trade data, trends, and patterns. While this approach provides valuable insights, it is important to recognize that such an exercise cannot fully capture the complexities of each value chain.

To validate the opportunities identified, accurately pinpoint the challenges that faced by Rwandan businesses, and to inform the design of matching support measures, the subsequent chapters will incorporate the experiences and perspectives of key stakeholders within these value chains. To facilitate this exercise, the selected value chains are furthered narrowed down following additional desirability criteria, in alignment with Rwanda's broader economic, social, and environmental goals, as follows.

In total, Table 1 shows that agroprocessing, through several distinct value chains, is a promising avenue for more value addition and diversification in Rwandan exports. However, the limited scale of most agricultural production in Rwanda, together with need to serve internal markets and ensure local food security, can act as a limiting

Given the strong availability of several agricultural inputs, and the objectives of diversification and value addition, it seems natural to focus on agroprocessing value chains, i.e. processed foods, and beverages.[36] In addition, these value chains play a crucial role in enhancing food security and employing a significant portion of the population, particularly women. Concerns over the upstream environmental impact of these value chains can be addressed with the adoption of a host of well-established green practices that enhance the sustainability of the agroprocessing value chains. Lastly, the development of these value chains is aligned with local priorities, as reflected in NST1.[37]

For the manufacturing value chains identified in Table 2, certain environmental and structural constraints guide the selection. For example, despite a rich tradition of Imigongo patterns and colourful Kitenge fabrics, and the favourable market access conditions Rwandan textiles and apparel could face abroad through LDC preferences, the development of modern local value chains for fabrics, apparel and other textile products has proven challenging in the country. With only small-scale production of cotton, and import dependence for most other fibres, the inputs for fabric production have been limited and costly. This in turn has led to small-scale and costly local production of apparel and other textile products, at a disadvantage with imported products, and mostly with second-hand clothes, which flooded local markets at different points in time in the past decades. Policy efforts in recent years, in particular the ban on imports of second-hand clothing, and the *Made in Rwanda* initiative, have targeted the development of local textile and apparel value

[36] However, the value chain of alcoholic beverages is not considered further in the analysis due to its potential impacts on consumers.

[37] The NDPIII promotes agroprocessing to increase the value and volume of food products and soft drinks.

chains, to mixed effects.[38] As a labour-intensive industry, it holds the promise of generating significant employment, particularly for women, if properly supported and expanded. However, the sector faces substantial challenges, including the lack of raw materials in the value chain, the need for large investments to modernize the industry, the difficulty of competing with global apparel producers and second-hand imports, and the potential loss of trade preferences upon graduation from LDC status, While these value chains remain viable, it is more strategic to focus on more up and coming value chains in the short term, while continuing to explore ways to revitalize this industry in the future.

Value chains associated with minerals and wood, while feasible, can pose environmental challenges that require sustainable practices for long-term viability, an issue that requires a detailed analysis beyond the scope of this report. For example, the EUDR introduces additional complexities for wood products, necessitating compliance strategies that ensure continued market access. Additionally, the limited linkages of the mining sector to the broader economy suggest that, even if further processed, the value chains of mineral products will not generate positive spillovers.

The value chains of metal products, machinery, and electronic equipment, although strictly feasible in terms of input availability, face challenges due to the underdeveloped local steel supply, among other critical input shortages. One of the possible pathways to solve this foundational issue is through the development of regional value chains. Only once this is addressed can the potential for expansion into more complex manufacturing sectors be further explored, among them light manufacturing value chains—one of the priorities under NST1.

The beauty and personal care products value chain, emerges as a strong candidate for further focus. This sector benefits from the local availability of some key inputs, such as essential oils. Although some inputs still need to be imported, the sector has shown a positive trend in recent decades. The significant presence of MSMEs and female entrepreneurs in this sector further justifies its prioritization.

Lastly, while access to key inputs—particularly finished leather and soles—has long been a challenge for footwear manufacturers in Rwanda, significant efforts have been underway to strengthen the upstream stages of the value chain. These efforts are guided by the Rwanda Leather and Value Chain Comprehensive Strategic Framework (2015-2024) and the Strategy for the Transformation of Textile, Apparel, and Leather Sectors (2022). The recent growth in footwear exports suggests that sourcing options have improved, signalling that now may be an opportune time to implement additional supportive measures along the value chain, not only in upstream stages.

In conclusion, the value chains selected for further analysis are beauty and personal care products, footwear and processed foods and beverages. These value chains not only align with Rwanda's economic and social goals but also offer significant opportunities for diversification and value addition.

[38] The ban on imports of second-hand clothes, which began in 2016, was aimed at reducing reliance on imported used clothing, creating more opportunities for local manufacturers, and promoting "Made in Rwanda" products. This decision led to tensions with the United States, and the suspension to this day of Rwanda's duty-free access to the American market under AGOA for apparel. Despite this, the ban remains a key part of Rwanda's industrialization efforts.

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CHAPTER 3

Understanding business perspectives

CHAPTER 3
UNDERSTANDING BUSINESS PERSPECTIVES

Business insights

Unlocking value chains and diversifying exports in Rwanda requires a thorough understanding of the business perspectives and the challenges they face in connecting and operating within these chains. The ITC value chain diagnostic utilizes two key survey initiatives to provide a grounded and practical assessment.

The first initiative is a large-scale national business survey focused on non-tariff measures (NTMs) in Rwanda. The second involves a dedicated survey and consultation effort specifically designed for three pilot value chains. The documented views and experiences of Rwandan businesses and other stakeholders have significantly contributed to this diagnostic.

To further refine the findings and identify priority issues and potential solutions, dedicated consultative stakeholder workshops were organized for each of the value chains in Rwanda. These workshops played a crucial role in charting the way forward for enhancing value chains and export diversification in the country.

NTM Business Survey to understand trade challenges

In 2014, ITC in cooperation with Rwandan authorities, including the Ministry of Trade and Industry (MINICOM) conducted a comprehensive business survey on non-tariff measures (NTMs) in Rwanda, engaging 529 exporters and importers. This survey aimed to document the experiences of trading firms with regulatory and procedural trade obstacles at the product level (HS6) and the partner-country level, encompassing both intraregional and international trade.

The sample size was determined using a stratified sampling approach based on the company's sector and size, drawing from a registry of over 2500 trading companies in Rwanda. The survey covered a representative sample of companies from 13 predefined sectors, excluding minerals and arms, to ensure a broad and accurate depiction of the trade landscape.[39] This registry was compiled from data provided by the Ministry of Trade, the Private Sector Federation of Rwanda, and the Rwanda Revenue Authority. Companies interviewed were located mainly in the capital, Kigali, as well as the districts of Musanze, Rubavu, Huye and Muhanga.

The insights gained from these surveys provide unique and comprehensive evidence on barriers to trade, contributing significantly to the diagnostic of the three priority value chains presented in this report. Detailed information about the characteristics of the surveyed businesses and specific findings on trade obstacles related to NTMs in Rwanda can be accessed in the corresponding country report.[40]

Consultations with economic actors from pilot value chains

To gain insights into the challenges of value chain development and export diversification beyond trade obstacles, the ITC, with support from national sector experts, conducted interviews with participants across three selected pilot value chains. These interviews, carried out between March 2024 and May 2024, addressed a wide range of topics.

The discussions encompassed detailed company characteristics, production details (including inputs, outputs, sourcing origins, and sales markets), production capacity and constraints, sourcing constraints, access to finance, investment

[39] For detailed methodology refer to ITC (2015).

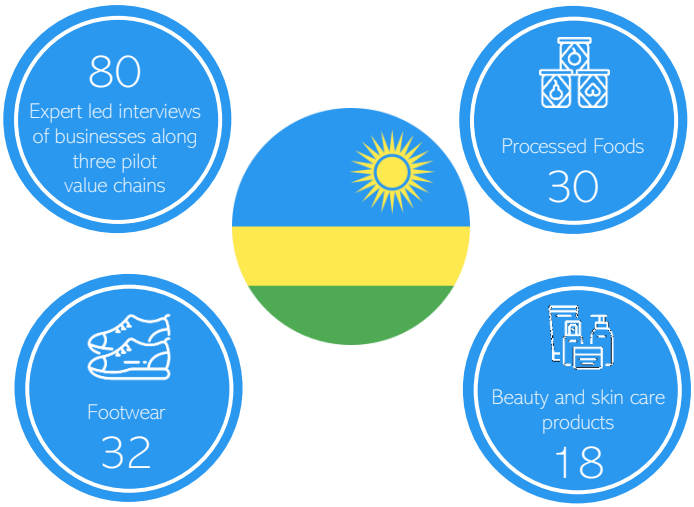
[40] See ITC (2014).

needs, access to technology, and environmental concerns. Additionally, the interviews explored the interest in and ease of doing business with other African countries and identified key factors necessary for enabling change.

Consultations with business support organizations (BSOs), including chambers of commerce and sector associations, provided further context and complemented the responses from individual businesses. These consultations also offered additional information on existing projects, strategies, and lessons learned within the sectors, thereby enriching the overall analysis.

Complementing the survey, ITC also organized national workshops for each of the three value chains in Kigali, Rwanda on 22 and 23 April 2024. The workshops focused on the current challenges and priorities for the value chains to diversify and add more value. The workshop brought together representatives from public institutions, business support organisations and private businesses.

Figure 14 Consultation with stakeholders along the pilot value chains in Rwanda



Workshops on the challenges and opportunities for value chain diversification, organized in Kigali, Rwanda on 22-23 April 2024.

60

Representatives from private sector, business support organisations and public agencies from three pilot value chains

Cross-cutting trade issues: insights from the NTM Business Survey

Insights on the cross-country trade issues are derived from the large-scale survey of exporters and importers in Rwanda.

Most companies affected by non-tariff measures

A significant 75% of Rwandan enterprises reported burdensome NTMs and procedural obstacles (POs). Specifically, 71% of exporting firms and 83% of importing firms reported trade impediments. Exporters in the processed food and agro-based products sector were highly affected, with 79% facing trade barriers, followed by firms exporting fresh food and raw agro-based products at 66%. Exporters of metals and basic manufacturing were less affected but still reported a notable 60% facing NTMs.

Of all challenging NTMs reported by exporting companies, about 92% were applied by partner countries and only 8% were export-related measures i.e., applied by the home country. This is in sharp contrast to other EAC countries where domestic regulations were more commonly reported.

Procedural obstacles associated with conformity assessment was the main impediment on exports, applied largely by destination markets. These measures accounted for about 63% of total cases reported in the raw and processed food sector and more than half in the 'coffee, tea, maté and spices' subsector. For imports the situation was equally problematic. Conformity assessment measures perceived as barriers imposed by government and transit countries were taking a toll according to participating Rwandan importers. Fees and delays associated with measures. such as weighbridge charges by transit countries. and inefficient testing and high fees and delays in inspection procedures at home were the most prevalent complaints.

Key regions and countries

Non-tariff measures imposed by the EU, United States, and Burundi were the most frequently reported, accounting for 38%, 18.2%, and 11.7% of all cases of burdensome NTMs, respectively. In terms of companies affected, 69% and 68% reported at least one burdensome NTMs from Burundi and the United States, respectively, being the countries with the highest incidence of NTMs.

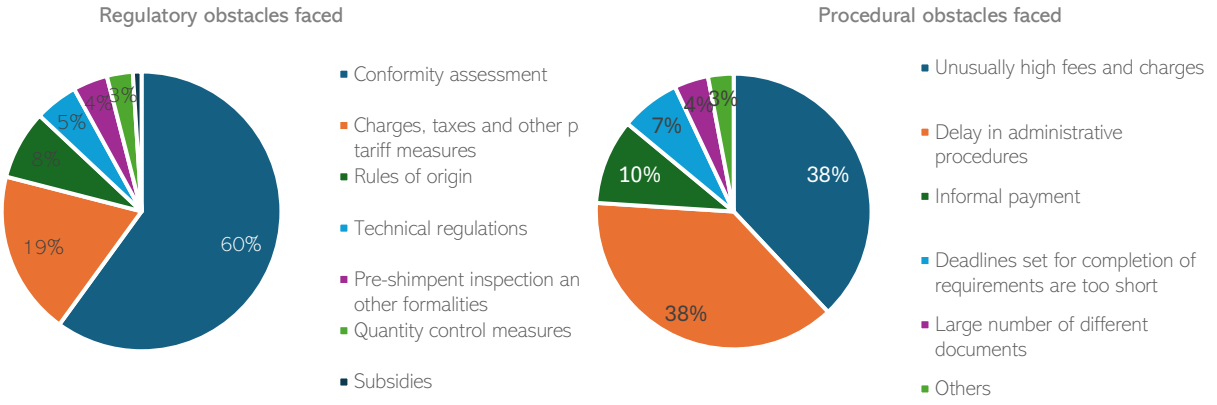
The most frequently reported partner countries applying procedural obstacles when exporting were the EU (37.7%), the United States (21.5%) and Burundi, United Arab Emirates, Japan, United Republic of Tanzania, Democratic Republic of the Congo and Egypt each representing between 2% and 8% of total cases reported. Among EU countries, most procedural obstacles were reported in Belgium and the United Kingdom (14.6% and 13.1% respectively).

Approximately 18.4% of procedural obstacles reported by importers had been applied by the EU, followed by Uganda at 16.3%, Kenya at 14.3% and China, India and South Africa with slightly over 10% each.

Most NTMs reported by exporters were related to technical regulations and conformity assessments, including sanitary and phytosanitary measures (SPS) and technical barriers to trade (TBT). Conformity assessments, such as compulsory activities and certificates to demonstrate compliance, were the main impediments, especially in the raw and processed food sector, accounting for 63% of reported cases. In the 'coffee, tea, maté and spices' subsector, more than half of the cases were due to these measures.

Charges and taxes were also significant impediments across all categories, with some complaints focusing on delays, high charges, and inefficiencies in compliance efforts. Private standards, such as costly Fair-Trade certifications and specific packaging requirements, were also significant obstacles for Rwandan exporters.

Figure 15 Types of regulatory and procedural obstacles faced by Rwandan exporters



Source: ITC Business Survey on NTMs in Rwanda.

Agriculture and food products

Firms exporting food and agricultural products were primarily affected by NTMs related to conformity assessment measures (76.8%), particularly significant for coffee and tea sectors. Charges, taxes, and other para-tariff measures accounted for 15% of reported cases, and technical requirements constituted 8.2%.

Exporters faced NTMs and POs linked to local regulations, such as certifications required by Rwandan authorities, export inspections, and licenses or permits to export. Common obstacles included high fees, costs of experts, and delays in meeting certification requirements. Transit countries also posed challenges with high weighbridge costs and administrative delays.

Other manufacturing

Exports of other manufacturing sectors, including ceramic tableware, kitchenware, and other household articles, faced NTMs related to non-recognition of certificates, Fair Trade requirements, and rules of origin. Procedural obstacles included administrative delays and high fees in destination markets and, occasionally, at home.

The survey results highlight that while NTMs are often legitimate, their frequency and complexity can negatively affect trade. Rwandan exporters and importers face numerous NTMs in their efforts to engage in the global trading system

Value chain specific issues

The subsequent chapters will elaborate in detail the key challenges and needs of the selected value chain based on the results of the Value Chain diagnostic survey.

CHAPTER 4

Sector specific challenges: Beauty and personal care products

CHAPTER 4
SECTOR SPECIFIC CHALLENGES: BEAUTY AND PERSONAL CARE PRODUCTS

Box4

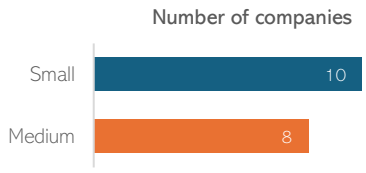
Profile of companies consulted

ITC conducted in-depth interviews with 18 companies in the beauty products sector. In addition to the in-depth interviews, ITC led a workshop on opportunities and challenges for diversification in the beauty products sector in Rwanda with 15 participants. The results of this section are based on these consultations.

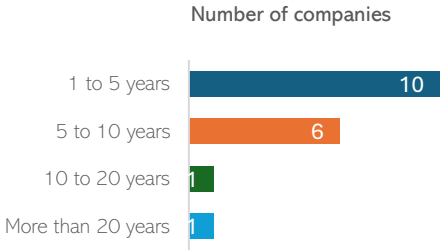
18
Interviews of businesses

15
workshop participants

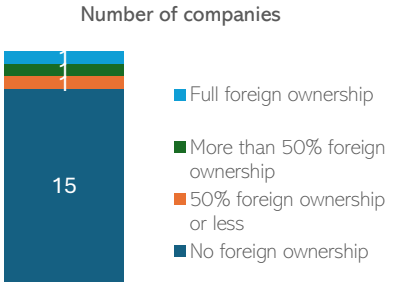
Company size



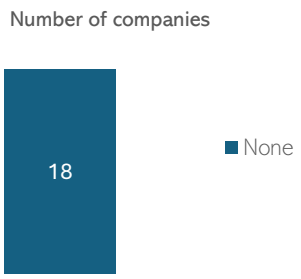
Years in operation

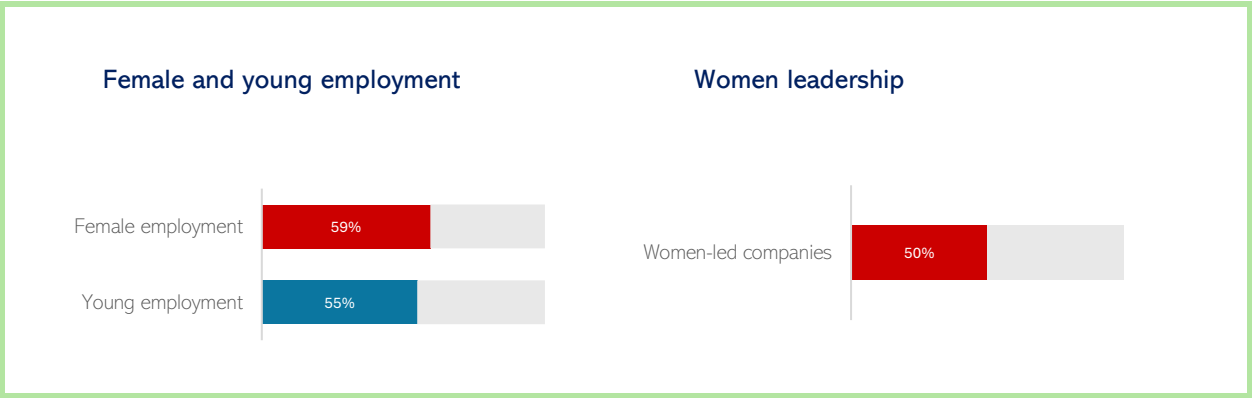


Foreign ownership



Companies located in a Special Zone





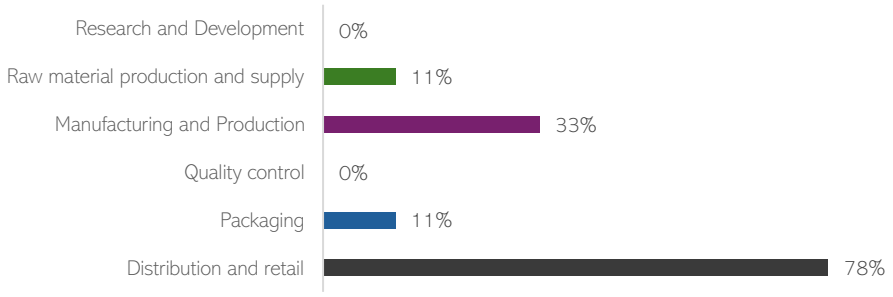
Note 1: The number of interviews was based on an initial list of 37 beauty companies identified by ITC (non-exhaustive list).
Note 2: All interviewed companies were located in Kigali and its surrounding areas, except for one located in the Musanze District.

Knowing the Rwanda beauty products sector

Limited involvement along the value chain

Most of the businesses interviewed are engaged in just one step of the value chain, with only a few participating in two or three stages. Over three-quarters of these businesses focus exclusively on distribution and retail, without any involvement in manufacturing or raw material transformation. One-third are involved in manufacturing and production, while 11% handle raw material production and packaging. None of the companies engage in research and development or quality control activities.

Figure 16 Businesses' engagement along the value chain (% of businesses)



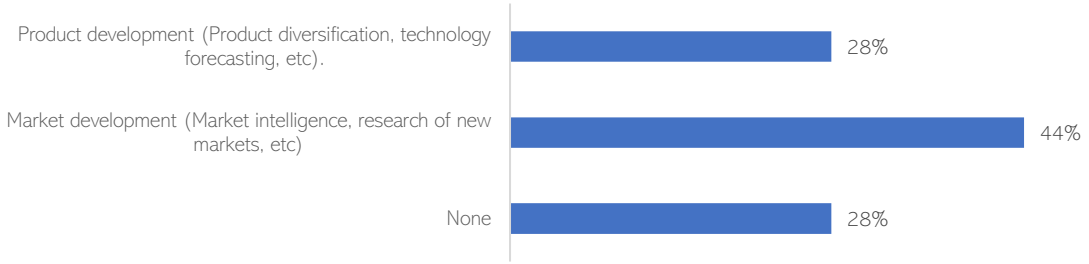
Source: ITC business survey in Rwanda (2024).

Companies prioritize market development over product development

Over 70% of companies engage in some form of market or product development. Market development is more prevalent, with 44% involved in these activities. Companies are continuously seeking new markets for their products. In contrast, only 28% focus on product development, often looking to international trends to guide new product lines. Nearly 30% of companies are not involved in any research and development, citing the high costs and the need for financial support and capacity building.

The market research is conducted to get insight on the market and target new clients, their preferences.

Figure 17 Businesses' engagement in R&D activities (% of businesses)



Source: ITC business survey in Rwanda (2024).

Optimism about Rwanda's beauty products value chain development potential

On a scale of one to ten, two thirds of the interviewed businesses rate the potential for the development of the beauty products value chain in Rwanda to be rather high, rating it to be 7 or above. In fact, on average companies rate the potential of value chain development in a score of 6.8 out of ten.

Africa's abundant natural resources present a unique opportunity for manufacturers. Essential oils and other natural products, such as avocado oil, can be marketed as pure and unmodified compared to global competitors. Investing in value-added processing of these resources can position African products favourably in the global market.

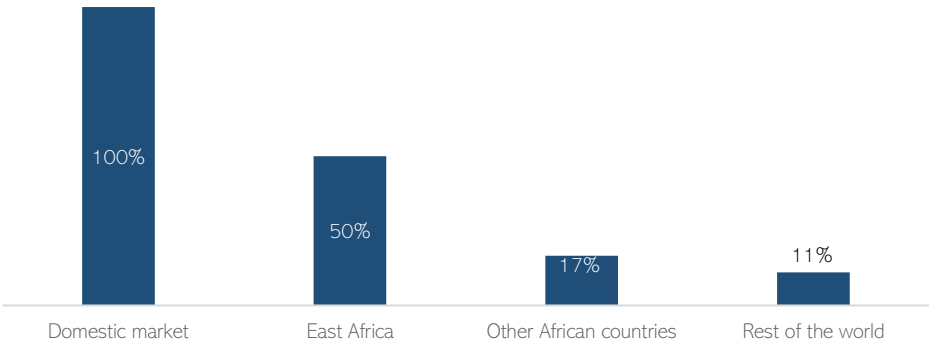
The potential for value chain development in the sector is high for several reasons. First, Rwanda is rich in natural resources with skincare and haircare benefits, offering a competitive advantage in producing natural and organic beauty products. Second, the country has a steadily growing consumer market, driven by increasing urbanization, rising disposable incomes, and a growing middle class, which provides ample opportunities for expanding the beauty products value chain.

Most sales are domestic

All companies interviewed sell their products locally and half sell their products in the EAC. Only 17% of the companies sell in other African countries, and 11% sell outside of Africa.

All companies sell at least half of their production locally and, on average, a company sells 83% of their products locally. In terms of exports, on average, a company sells 13% of its production to the EAC. Companies exporting to the EAC sell up to half of their production in this market. Exports outside the EAC are marginal. On average, only 3% of a company's total sales goes to other African countries, and less than 1% goes to other continents.

Figure 18 Share of companies selling to each region



Source: ITC business survey in Rwanda (2024).

Opportunities and constraints to value addition, market diversification and product diversification

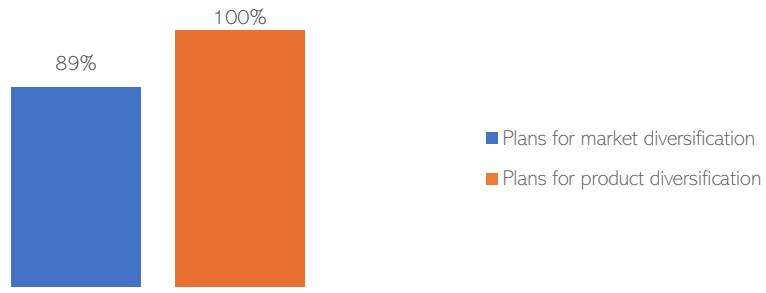
Businesses are keen on accessing new markets and diversifying into new products

Most of the interviewed businesses plan to tap into new markets within and outside Africa, and all of them plan to diversify into new product lines, to serve either existing or new markets. Businesses realize the advantages of diversification and see it as an important opportunity to increase their customer base, gain higher profits and increase overall productivity.

The key challenges may include regulatory and standardization process in additional to access to finance.

However, expanding to new markets presents numerous challenges for Rwandan enterprises, primarily due to limited financial resources, the need for product quality improvement, and lack of knowledge of new markets and consumer preferences.

Figure 19 Business plans for market and product diversification (% of businesses)



Source: ITC business survey in Rwanda (2024).

Most manufacturers are small scale

The industry in Rwanda is still very young and most manufacturers are small-scale and are facing various barriers to growth. These include inability to set up large scale factories due to high costs, certification challenges such as lack of appropriate facilities, and difficulties obtaining necessary certifications, limiting market access and growth potential.

Many cosmetics manufacturers operate on a small scale with high production costs. There is a need for financial support, either through investment or partnerships, to scale up production and reduce costs, making Rwandan products more competitive.

Providing targeted support to SMEs, including flexible facility requirements and easier access to certifications, can help these businesses scale up and compete more effectively. Government initiatives and support programs tailored to the needs of small-scale manufacturers would be beneficial.

Improving access to finance through government programs, partnerships with investors, and international funding can help cosmetics manufacturers scale up production. Financial support would enable businesses to invest in better facilities, technology, and human resources, thereby enhancing competitiveness.

Shortage of locally available inputs and high costs hamper businesses

Companies interviewed and national workshop participants mentioned challenges when sourcing inputs locally. Supply of raw natural materials is often limited and seasonal, and in general, high-quality raw materials are scarce or not available, affecting the consistency and quality of the final products. The absence of intermediaries or organizations to facilitate the procurement of raw materials in smaller quantities for small businesses further exacerbates the issue.

We don't source inputs from Rwanda because of their unreliable availability.

As a result, most raw materials are sourced from Asia, China, and Europe, necessitating long lead times—typically three to four months. Consequently, manufacturers must maintain a raw material stockpile equivalent to five months of production to avoid interruptions. This requirement severely impacts working capital, as substantial funds are tied up in inventory.

Maintaining five months' worth of raw materials and providing market credit (typically 30 days) means manufacturers need to have six months' worth of working capital readily available. This significant capital requirement is a major constraint for sustaining production and expanding operations. Inflation and fluctuating exchange rates between the dollar and the local currency exacerbate these financial challenges.

Moreover, the taxes on imports can be as high as 65%, which is a substantial financial burden and hinders business growth. This tax rate is comparable to that imposed on finished products, which raises concerns about the fairness and sustainability of the tax structure for local manufacturers. Furthermore, the sometimes-inconsistent application of taxes by different officers within the same regulatory body complicates the process for businesses, leading to unpredictable costs and delays.

Finding suitable packaging is challenging

With Rwanda's ban on plastic, finding sustainable packaging alternatives is a significant challenge. The limited availability of local packaging materials forces manufacturers to import packaging, further driving up costs. Alternative packaging options, such as glass or aluminium, are more expensive and heavier, adding to the import costs. Importing eco-friendly materials like aluminium from China increases production costs, making local products less competitive in terms of price.

The limited availability of diverse and affordable packaging materials also restricts product differentiation. Many businesses end up using similar packaging, which affects their ability to stand out in the market.

Speakers at the workshop highlighted some of the difficulties small-scale manufacturers face when seeking alternatives to plastic packaging. Fully automated systems for alternative materials require significant investment. Although there are innovative packaging options like bamboo and recycled paper, these often lack aesthetic appeal and cost-effectiveness compared to imported alternatives.

Rwanda does not allow the import of plastic bottles and alternatives can be expensive.

The challenges of packaging mentioned by private sector representatives have also been identified in the packaging strategy launched by the Ministry of Trade and Industry in 2022. As such, it should be a priority to implement this strategy, particularly with respect to the pillars on promotion of environmentally friendly packaging, the promotion of backward and forward linkages and the promotion of sustainable packaging technologies.

Better technological capabilities and skilled workforce are required to upgrade production

Limited technological capabilities and insufficient availability of labour are key production-related challenges. Most manufacturing machinery used in Rwanda is imported from Europe or Asia. Any technical issues require external support, which leads to prolonged downtime. This dependency on foreign technical expertise further hampers production efficiency.

While there is some skilled labour available, the sector still faces a shortage of adequately trained personnel. The industry lacks experts to help improve product quality to international standards, such as achieving ISO certification or navigating FDA regulatory processes. This gap extends to the absence of herbalists and other specialists needed to ensure the purity and efficacy of medicated cosmetics derived from herbal products. This gap affects overall productivity and the ability to quickly resolve technical issues.

Difficulties complying with quality requirements hinder diversification efforts

There is an insufficiency of local laboratories capable of conducting necessary tests to meet international standards, workshop participants agreed. The few that exist are prohibitively expensive. While the Rwanda Standards Board (RSB) operates advanced laboratories for testing essential oils and other cosmetic products, the high cost remains a significant barrier for SMEs.

On top of high costs, workshop participants mentioned the lack of reliable and up-to-date information on quality regulations and requirements. Manufacturers face difficulties in obtaining accurate and timely information from regulatory bodies like the Rwanda Food and Drugs Authority (FDA) and the Rwanda Revenue Authority (RRA). The absence of effective communication channels and the need for physical presence to access information further complicate matters.

RBS efforts on standards development and supporting SMEs with compliance

Despite difficulties, the RBS has worked on developing quality standards for the cosmetics industry, in collaboration with national experts and aligned with EAC and international standards.

Furthermore, they have implemented several programs to assist SMEs in achieving compliance with quality standards. For instance, SMEs can approach RSB for an initial assessment of their production processes and RSB conducts an analysis and provides training and coaching to help businesses improve their production and meet compliance requirements.

In addition, RSB offers a structured program to guide SMEs through the certification process. This includes taking product samples for testing and providing recommendations for achieving certification. The "Made in Rwanda" policy supports SMEs by subsidizing certification fees and testing costs. RSB covers 50% of the certification fees and testing costs for SMEs in the program.

However, the awareness level among SMEs seems low, often lacking clear information about certification processes, available support programs, and financial incentives. This gap hinders their ability to fully utilize available resources and benefits.

High interest rates constrain access to finance

Access to finance is another critical issue. High-interest rates and complex application processes deter manufacturers from obtaining necessary loans. Many financial support programs require lengthy approval processes, which delay access to funds.

Consumer preferences and competition

Local products often struggle to compete with imported goods in the local market due to consumer perceptions. Many Rwandan consumers believe imported products, especially from Europe and China, are of superior quality. This is exacerbated by the fact that imported goods are often more attractively packaged, influencing purchasing decisions. A participant shared an example of castor oil production where local products, despite being of high quality, are often overlooked in favour of imported alternatives due to entrenched consumer biases.

Some national workshop participants also pointed out that there is a significant issue with substandard and counterfeit products in Africa, which affects consumer trust. These products, often imported from countries like India, China, and Thailand, are made with artificial ingredients and sold at lower prices compared to genuine products. This creates a competitive disadvantage for local manufacturers that produce high-quality goods but struggle to compete on price.

Export potential and market expansion

During the workshop, participants discussed the significant potential for exporting Rwandan beauty care products. While the current focus is on the domestic market, there is a strong interest in expanding to international markets. They emphasized that the primary goal of the "Made in Rwanda" initiative is export promotion. Agreements with other countries facilitate the export of certified Rwandan products, thereby targeting markets beyond the limited domestic consumer base.

Many high-quality products, such as coffee and beauty items, are primarily produced for export due to the small domestic market and lower purchasing power. This necessitates a focus on international markets to ensure sustainable growth for Rwandan manufacturers. The East African market, with its 300 million people, and the broader African market, offer significant opportunities for growth. By focusing on these markets and enhancing the quality and branding of natural products, African manufacturers can compete globally. Exploring and leveraging the AfCFTA to ease the exportation of products across Africa and developing strategies to take advantage of the African free trade market would promote intra-African trade and provide significant benefits.

Limited marketing strategies and resources to effectively promote products, along with a lack of collaboration between manufacturers and service providers, pose challenges. Investing in robust marketing strategies, especially leveraging social media platforms to reach target customers, and fostering collaborations between manufacturers and service providers to ensure better product recommendations and customer satisfaction would improve the situation. Prioritizing local market engagement before expanding internationally and ensuring strong and effective local partnerships is crucial.

Weak business-to-business (B2B) connections hinder the growth of local industries. Utilizing tools like the trade competitiveness observatory being developed by ITC to connect buyers and sellers and expanding such tools to cover more sectors would facilitate stronger B2B connections.

Environmental constraints

Complying with waste management regulations and obtaining sustainability certifications is a struggle

In terms of environmental regulations, companies reported difficulties with sustainability certifications and regulations for waste disposal. Companies must certify the packaging used is not single-use plastic and is properly recycled. Obtaining this certification can be difficult.

In terms of waste management regulations, workshop participants discussed the stringent waste management requirements for manufacturers. The Rwanda Food and Drugs Authority mandates an environmental impact assessment (EIA) to ensure proper waste management practices. Companies must either manage waste in-house or subcontract certified waste management firms. This adds to the operational costs, particularly for SMEs, making it challenging for them to comply with regulations without incurring significant expenses.

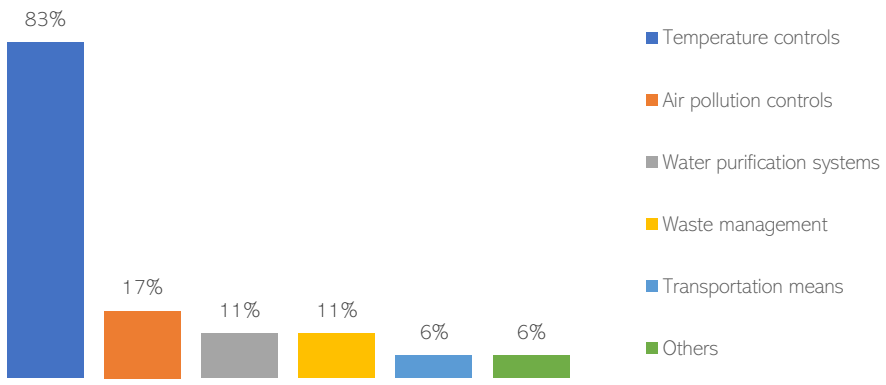
Lack of access to finance and to climate adaptation skills and technologies prevent businesses from adopting risk mitigations strategies

Companies reported not having access to finance and resources for adopting risk mitigation measures. Likewise, insufficient access to climate adaption skills and technologies was regarded as another barrier for better risk mitigation.

Businesses are acting on environmental matters

Despite the challenges, businesses are striving to align with environmental risks and best practices. Temperature control is an important initiative, being undertaken by 83% of the interviewed businesses. This includes, for example, the use of storage/refrigeration rooms that are more efficient in their use of energy, or a more systematic monitoring of temperatures, to avoid the unnecessary use of cooling systems. Other risk-mitigation measures include air pollution control, water purification systems and waste management.

Figure 20 Efforts companies have made to become more environmentally friendly



Source: ITC business survey in Rwanda (2024).

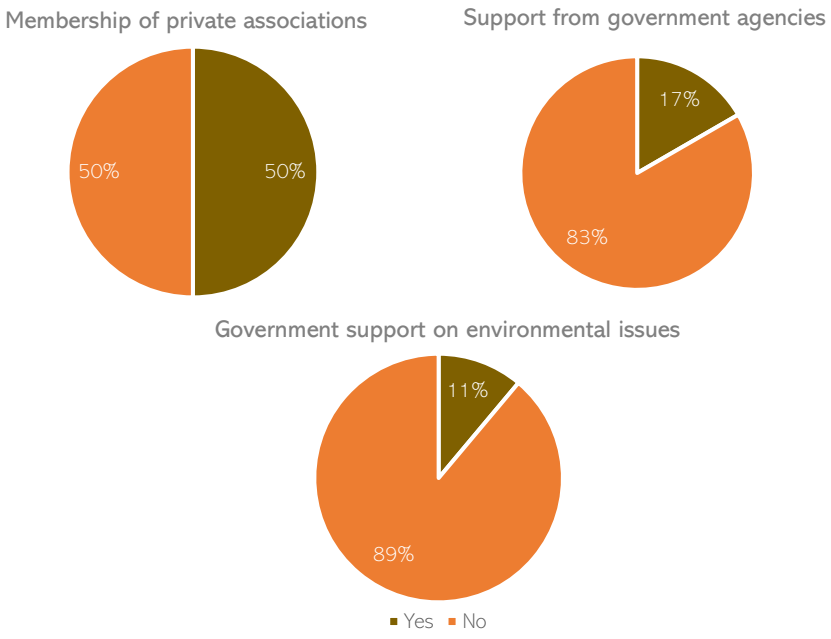
Business support network

The business support network for the beauty products in Rwanda is still weak. Only half of the companies interviewed are part of a business association. Workshop participants highlighted the absence of a specific industry association for advocacy or knowledge sharing within the beauty care sector. This workshop marked the first meeting of businesses in this field, emphasizing the necessity of forming a dedicated group.

The role of industry associations such as the Private Sector Federation (PSF) in disseminating information and supporting SMEs appears limited. High participation costs for trade exhibitions and a lack of targeted support for SMEs are significant barriers. Creating an association for beauty care producers and other manufacturers would provide a platform for collective problem-solving, sharing best practices, and advocating for industry-specific needs. These associations should focus on offering affordable and accessible support for SMEs, including assistance with participation in trade exhibitions and targeted training programs. They should also take a more proactive role in policy advocacy and information dissemination.

Support from the government is consider even lower, with 83% of businesses reporting no support from government agencies and almost 90% receiving no assistance on environmental issues. Currently, there is a noticeable lack of coordinated efforts and strategic plans for market and export development tailored to Rwanda's beauty and cosmetics sector, workshop participants agreed. Institutions such as the National Agricultural Export Board (NAEB) focus primarily on agriculture, leaving other industries without adequate support. Moreover, there is a significant disparity between large manufacturers and SMEs. Solutions must be customized to meet the unique needs of SMEs, which often lack the resources and support available to larger companies. Targeted support can help unlock the potential of SMEs, enabling them to compete more effectively both locally and internationally. Businesses require support in different aspects, including production, branding, and marketing.

Figure 21 Business support network



Source: ITC business survey in Rwanda (2024).

Financing and capacity building priorities for market and product diversification

When asked about the main support needed for accessing new markets and products, businesses cited financing and capacity building their top requirements. Financing for technology upgrades and achieving economies of scale is a priority. Limited capital restricts businesses' ability to diversify product lines and invest in necessary marketing efforts to compete with established international brands. In terms of capacity building, companies recognize the need to enhance their production capabilities, compliance with quality requirements and with environmental regulations.

Figure 22 Main support needed for market and product diversification

Source: ITC business survey in Rwanda (2024).

The way forward

This section summarizes business recommendations to support market and product diversification in the sector.

i. **Improve the public-private dialogue and cooperation in Rwanda's beauty sector:** Businesses are confident of the potential the sector has for growth and diversification. However, better synergies are required *within* the private sector and *between* public and private sector. For this, it is necessary to:

- Create a business association dedicated to the beauty sector in Rwanda, to advocate for policy reforms and requirements that are specific to the sector.
- Establish clear guidelines and provide capacity building from the government to producers seeking certification. Government and industry bodies should work together to streamline the certification process.
- Develop export promotion programs. These programs should provide financial assistance, training on export regulations and standards, and assistance in establishing international distribution networks.
- Strengthen collaborative networks by encouraging more links among shea butter and other commodity producers to leverage shared resources and maintain product quality.
- Continue holding industry dialogues to foster collaboration and growth across different parts of the sector.
- Seek government support in training farmers and improving post-harvest handling to ensure quality inputs.

ii. Implement **tax incentives to encourage local sourcing of raw materials** and develop an online platform to connect local producers with exporters, facilitating easier access to raw materials.

iii. Increase awareness of duty remission and other tax relief programs through workshops and online platforms.

iv. Invest in research and development to find cost-effective, sustainable packaging solutions. Encouraging innovation in this area can help manufacturers comply with environmental regulations without significantly increasing production costs.

v. Streamline the import process of packaging materials to reduce costs and encouraging collective procurement among SMEs to leverage economies of scale.

vi. Invest in local training programs and partnerships with technical institutions to develop a skilled workforce capable of maintaining and repairing machinery locally, reducing downtime. Collaboration with academic institutions, like the existing MoUs with the University of Rwanda and the National Institute for Research and Development (NIRDA), should be expanded and strengthened. Establishing specialized programs to train experts in cosmetics production and quality assurance can bridge the skills gap.

vii. Create local laboratories equipped to perform necessary product tests, facilitating compliance with international standards, and supporting the export potential of Rwandan cosmetics. A centre of excellence for product testing and certification would be a valuable addition to the industry infrastructure.

viii. Increase awareness among SMEs about the available support programs. RSB should enhance outreach efforts to ensure that more businesses are aware of and can benefit from these programs.

ix. Establish a centralized information hub within institutions like the Rwanda Development Board (RDB) and RSB that can provide manufacturers with easy access to information on certifications, financial support, and other resources.

x. Simplify the application process for loans and reduce interest rates to help businesses secure necessary funds. Government-backed financial programs and grants can provide additional support. Facilitating better access to affordable financing options and encouraging financial institutions to develop products specifically designed for the needs of SMEs would greatly benefit enterprises in the sector.

xi. Raise awareness about the quality and benefits of Rwandan products to build trust and loyalty among local consumers.

CHAPTER 5

Footwear

CHAPTER 5
SECTOR SPECIFIC CHALLENGES: FOOTWEAR

Box 5

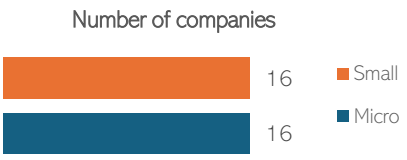
Profile of companies consulted

ITC conducted in-depth interviews with 32 companies in the footwear sector, In addition to the in-depth interviews, ITC led a workshop on opportunities and challenges for diversification in the beauty sector in Rwanda with 37 participants. The results of this section are based on these consultations

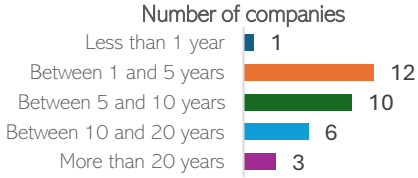
32
Interviews of businesses

25
workshop participants

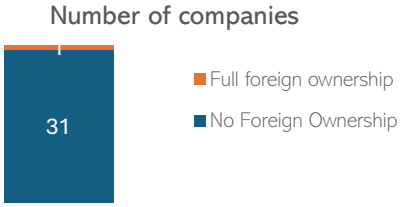
Company size



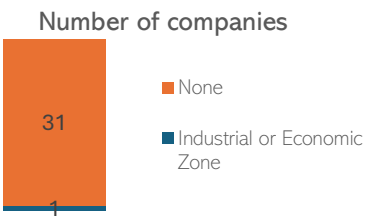
Years in operation



Foreign ownership



Location in a special economic zone



Note 1: The number of interviews was based on an initial list of 34 companies identified by ITC (non-exhaustive list).

Knowing the Rwandan footwear sector

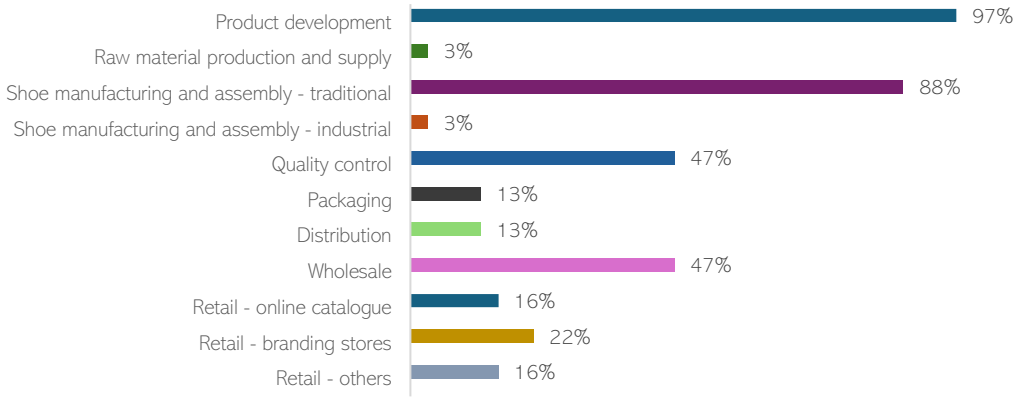
Traditional manufacturing dominates the sector

Most of the footwear companies interviewed in Rwanda are involved in product development and shoe manufacturing and assembly processes, primarily using traditional or handicraft methods rather than industrial ones.

After buying the leather, we shape them into small pieces (following the size), sew the top cover, and then merge with the sole to make the final products.

Around half of these companies perform quality control. More than half are engaged in distribution, wholesale, or retail, with retail in branded stores being the most common method. Few companies handle packaging, and only one company reported producing raw materials.

Figure 23 Businesses' engagement along the value chain (% of businesses)



Source: ITC business survey in Rwanda (2024).

Around three quarters of companies are active in research and development and innovation activities

More than 70% of companies interviewed are involved in research and development activities. Product development is far more common than market development. Footwear companies invest in the creation of new products from the design stage, taking into consideration current trends. Partnership and mentorship between companies is a common practice for product development, as businesses join forces to develop new products.

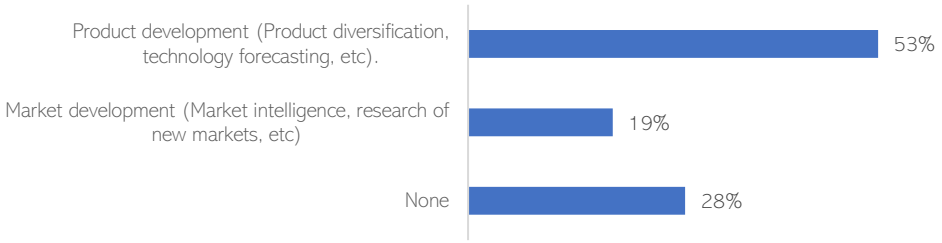
We have collaboration with other companies where we share the knowledge and make a tour to other countries to learn about the system and technology they are using.

Market development is less common, with 19% of companies involved in this activity. Participation in national and international trade fairs is the main channel used to engage with new markets.

Around a quarter of companies are not involved in any research and development given the limited resources and capabilities for these types of activities. Lack of knowledge and awareness on patenting may also hamper product innovation, according to workshop participants.

There are no research activities undertaken in our companies because we lack the capacity, technology, and finance to engage in them.

Figure 24 Businesses' engagement in R&D activities (% of businesses)



Source: ITC business survey in Rwanda (2024).

Optimism about Rwanda's footwear value chain development potential

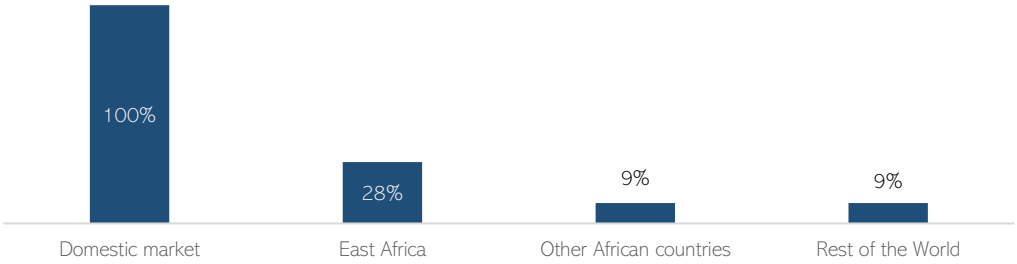
With a push towards promoting "Made in Rwanda" products, and a growing population and demand, businesses are optimistic about Rwanda's footwear value chain development potential. On a scale of one to ten, businesses rate the development potential at an average of 7.2. Companies consider the footwear sector particularly important for job creation. However, this potential may be at risk due to some existing challenges such as lack of information, difficulties with regulatory compliance, high levels of informality and a lack of a shared vision on the development of the value chain.

The sector is growing compared to the pre-Covid-19 period. However, it needs to have a clear vision and objectives.

The domestic market is the primary source of inputs

All companies interviewed source at least part of their inputs from the domestic market, while more than a quarter source their inputs from the EAC. Only three companies – or 9%- source their inputs from other countries outside Rwanda and the EAC, either in Africa or abroad.

Figure 25 Share of companies sourcing inputs from each region



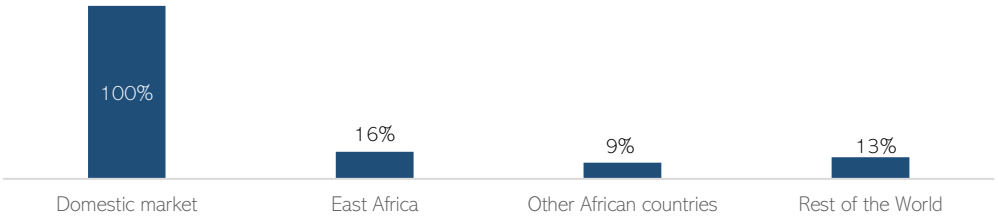
Source: ITC business survey in Rwanda (2024).

The domestic market is also the most predominant in terms of share of total inputs, with 69% of the companies sourcing exclusively from Rwanda, and 85% of the companies sourcing more than half of their inputs in the local market. In contrast, the share of inputs from abroad is low. On average, a company sources 12% of its inputs from the EAC, and 1% from other African countries, Inputs from the rest of the world average 3% of a company's inputs, though this varies widely, with some companies sourcing nothing and others sourcing up to 80% from outside Africa.

Foreign sales are minimal

All companies interviewed sell their products locally, and only a few export, with 16% selling to the EAC, 9% to other African countries, and 13% to the rest of the world. Roughly three quarters of the companies sell entirely in Rwanda. In terms of sales volume, a company sells 90% of its production locally. In terms of exports, on average, a company sells 4% of its production in the EAC, 1% in other African countries, and the remaining 5% outside Africa.

Figure 26 Share of companies selling to each region



Source: ITC business survey in Rwanda (2024).

Opportunities and constraints to value-addition, market diversification and product diversification

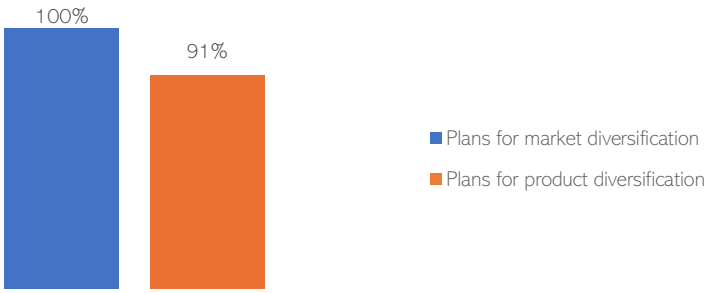
Businesses are keen on accessing new markets and diversifying into new products

All businesses interviewed plan to tap into new markets within and outside Africa, and 91% plans to diversify into new product lines. Businesses recognize that local demand for footwear is limited, with significant competition from imported products. As a result, market diversification is seen as a valuable opportunity to expand their customer base and create new job opportunities.

Similarly, pursuing product diversification would enable companies to better leverage their competitive advantages while strengthening the "Made in Rwanda" brand. There is significant potential to diversify footwear production in the country by developing other types of footwear such as military boots, safety shoes, and school shoes. Additionally, the value chain can be expanded beyond leather to include materials like textiles, plastic, and rubber.

We plan to focus on the shoes design and production and to develop more design according to the needs in national and international markets.

Figure 27 Business plans for market and product diversification (% of businesses)



Source: ITC business survey in Rwanda (2024).

Financial constraints and lack of market intelligence hinder market and product diversification

Expanding into new markets and product lines presents significant challenges for the sector. Businesses often have limited financial capital and investment capacity, hindering their ability to grow. Additionally, the high cost of raw

materials and the scarcity of locally sourced inputs, coupled with elevated transportation costs, further constrain expansion efforts. A lack of market intelligence and information also impedes access to international markets.

To achieve diversification, companies must build capacity in regulatory compliance to enter international markets and enhance their skills to explore new product lines. Moreover, trust in "Made in Rwanda" products needs to be strengthened.

Expanding to new markets presents challenges such as market entry barriers, cultural differences, competition, logistics complexities, market risks, and resource allocation demands.

We are afraid to take risks and expand our products. Raw materials are very expensive, and we do not have the capital to expand our work.

Sourcing inputs is a struggle

All companies interviewed reported difficulties sourcing inputs. Shortages, low quality, and high costs were the most common issues, which were often interconnected.

Livestock farming and leather production is limited in Rwanda. According to industry stakeholders, there are not enough tanneries in the country leading to insufficient supply of finished leather, resulting in reliance on imports from Kenya. Alternative vegetable leather is also mostly unavailable in the country, as well as other raw materials such as fabric and rubber.

If we don't source from Rwanda, it's due to concerns about meeting quality standards consistently and managing production timelines effectively.

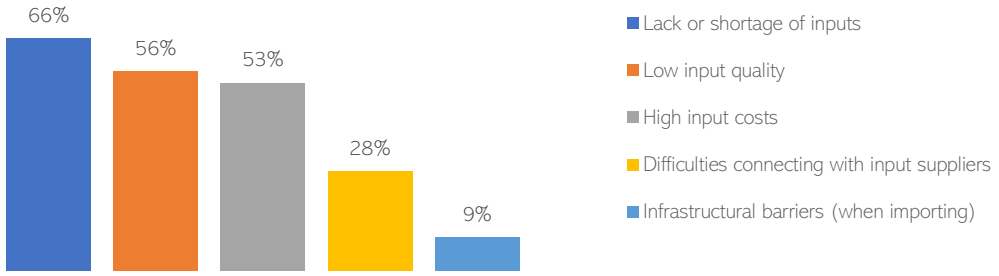
There are times when you cannot find colours other than black and chocolate. When you have an order for different colours it breaks your business.

Businesses also reported a low variety of other inputs, limiting their capacity to meet their clients' needs and manufacture new products lines. Workshop participants confirmed this trend. They claim a lack of production of soles and accessories in Rwanda,

Quality of local inputs is inconsistent, with only a portion meeting producers' expectations. While higher quality inputs can be sourced abroad, this significantly increases production costs and is subject to risks such as international supply chain shocks and fluctuations on the exchange rate.

Difficulties connecting with input suppliers and infrastructural barriers when importing inputs were other less common obstacles reported.

Figure 28 Share of businesses facing difficulties accessing inputs



Source: ITC business survey in Rwanda (2024).

Most production still at an artisanal level

A vast majority of businesses face difficulties with production, most of them linked to limited technological capabilities. Local production of footwear is done largely by MSMEs and artisans who operate from their homes, often lacking the required technology and capability to increase their productivity. According to industry stakeholders, the lack of modern equipment and machinery in most businesses impedes a shift towards large-scale production or sophisticated designs.

We still use handicraft methods and low technology which does not add up high productivity.

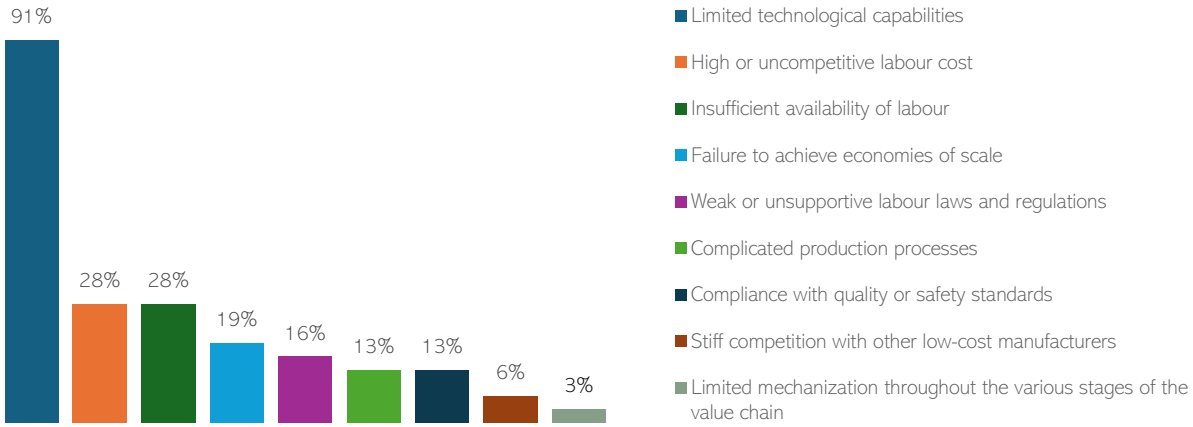
Issues with the availability and cost of labour concern over a quarter of the companies consulted. Skilled labour is scarce and expensive, and formal training for the footwear industry is not yet widely available. There is a lack of skilled labour in some key areas of the process such as design.

We face challenges with the labour due to the lack of school or training centres known for this sector. You train your relatives or friends willing to work with you and once they are trained, they change jobs. You must start from scratch.

As a result, companies hire low-skilled labour without the necessary technical expertise and train them on the spot. Labour turnover is also high, as the workforce often shifts to industries where they have received formal training and can receive a higher salary.

Other issues reported are failure to achieve economies of scale (19%), weak or unsupportive laws (16%), complicated production processes (13%), compliance with standards (13%), among others.

Figure 29 Share of businesses facing difficulties with production



Source: ITC business survey in Rwanda (2024).

Standards for the sector are not well-developed

Workshop participants acknowledged there are not enough standards developed for the footwear sector. This represents a challenge to produce high quality goods. It is also challenging for companies exporting or willing to do so. In fact, a company interviewed had to abandon plans to export to South Africa as it could not meet the quality requirements and obtain the product certification needed to access this market.

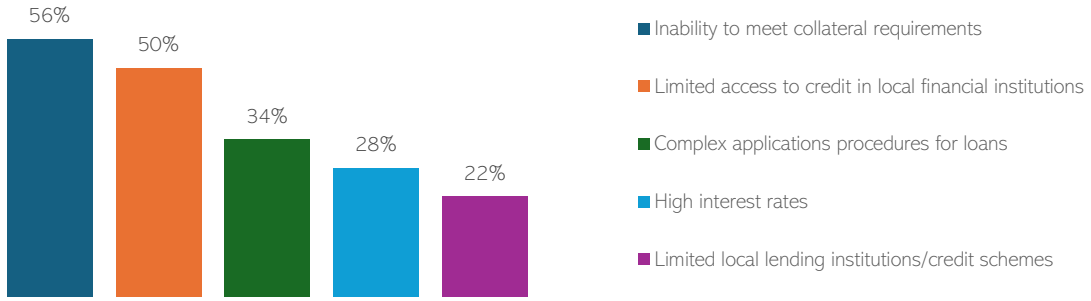
The sandals we intended to export did not meet the South African quality requirements and we could not get a quality certificate from the Rwanda Bureau of Standards.

Inflexible financing options limit plans for expansion

The last time we tried to apply for a loan, they requested us to provide the collateral registered to the company. Unfortunately, we couldn't manage it.

Three quarters of companies interviewed reported difficulties accessing finance. Over half of the businesses cannot meet collateral requirements, and 50% feel that access to credit in financial institutions is limited in general. Certain banks are not open in the rural areas, companies argue, forcing them to work with the microfinance and alternative financing options borrowing smaller amounts. Complex application procedures for loans are a struggle for over a third of companies. The process to access finance takes a long time and requirements are too many for the small growing businesses. High interest rates are a concern for 28% of the companies and limited number of lending institutions or credit schemes for 22% of them.

Figure 30 Share of businesses facing difficulties accessing finance

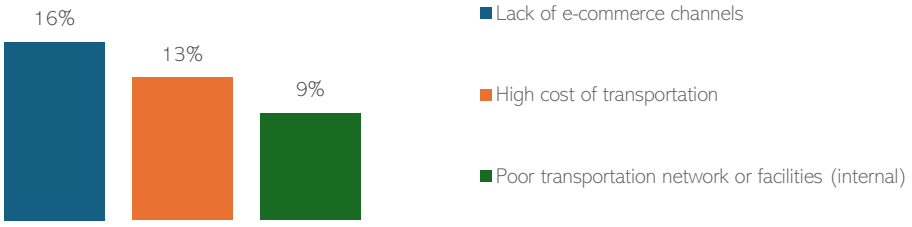


Source: ITC business survey in Rwanda (2024).

Infrastructural issues are less common yet present

A total of 38% of interviewed companies face some difficulty with national infrastructure. Lack of e-commerce channels is the most reported issue, even if only reported by 16% of all companies. The artisanal nature of most companies extends to limitations on using digital and e-commerce channels for retail. Language barriers also prevent them from accessing e-commerce channels where they could expand their client base. High transportation costs (13%) and poor transportation network (9%) both internally and externally were other issues mentioned by companies, although at a lower scale. A few companies also mentioned high cost and unreliable supply of electricity hindering their operations.

Figure 31 Share of businesses facing difficulties with national infrastructure



Source: ITC business survey in Rwanda (2024).

Low demand and visibility of Rwandan footwear abroad concern a few companies

More than half of businesses reported facing other issues related with production. Depressed local demand was a problem for 19% of companies. Businesses consider that, albeit growing, demand for footwear in Rwanda is limited, pushing them to find international markets. However, lack of international visibility of their products is another concern. Consumers abroad have limited information about the existence and quality of Rwandan footwear, affecting access to alternative markets. In fact, workshop participants consider the branding for Rwandan footwear is minimal.

Environmental constraints

Most businesses are not too concerned about environmental risks

An overwhelming majority of companies in the sector (97%) report being unaware of any environmental regulations or environmental risks that can hinder their operations. The few risks reported relate to changing temperatures affecting their production cycle and raw material quality. One company noted the environmental risks associated with the hide tanning process for leather, but as businesses are often not directly involved in raw material production, they do not face this risk directly.

Issues of climate change have affected our business, we are facing many diseases affecting the animals and of course, it affects the raw materials.

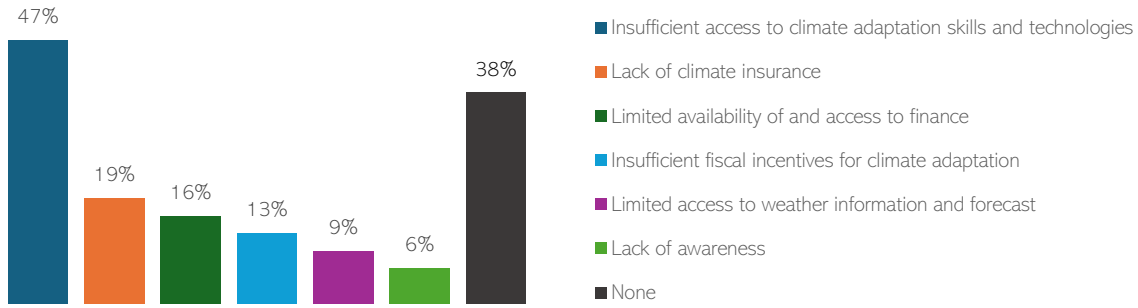
Businesses acknowledge a lack of awareness or proper information about potential environmental risks. Environmental regulations targeted at the footwear sector are either unknown or non-existent, and companies do not foresee any imminent risks in their production process.

Lack of information, technologies and skills: main challenges to adopt risk-mitigation measures

Despite not facing environmental risks, over 60% of companies recognize potential challenges in adopting risk-mitigation measures. Nearly half report a lack of awareness and access to the necessary technologies and skills. Few businesses identify their lack of climate insurance as a risk, making them vulnerable to environmental shifts. Companies also cite a lack of finance, insufficient fiscal incentives, and limited access to weather information as additional challenges, among others.

We are not aware of climate adaptation technologies related to our sector and therefore it would be challenging to implement something.

Figure 32 Challenges to adopting risk-mitigation measures



Source: ITC business survey in Rwanda (2024).

Businesses are acting on waste management issues

Despite the lack of environmental regulations and general awareness of environmental risks, companies are actively pursuing environmentally friendly initiatives, primarily related to waste management. Repairing, repurposing, and recycling are common practices for 88% of the companies. They use remaining materials and scraps to manufacture new products. Repairing old products and repurposing waste is a way for companies to maximize profit while managing waste in an environmentally friendly manner.

Recycling of the waste material and reuse of tires as soles for some of the sandals are common practices.

Dust from refining products is collected in boxes (under the machine), then we boil it to make sponges, usually added in the middle of the sole and upper side. This strengthens the shoes and helps them last longer.

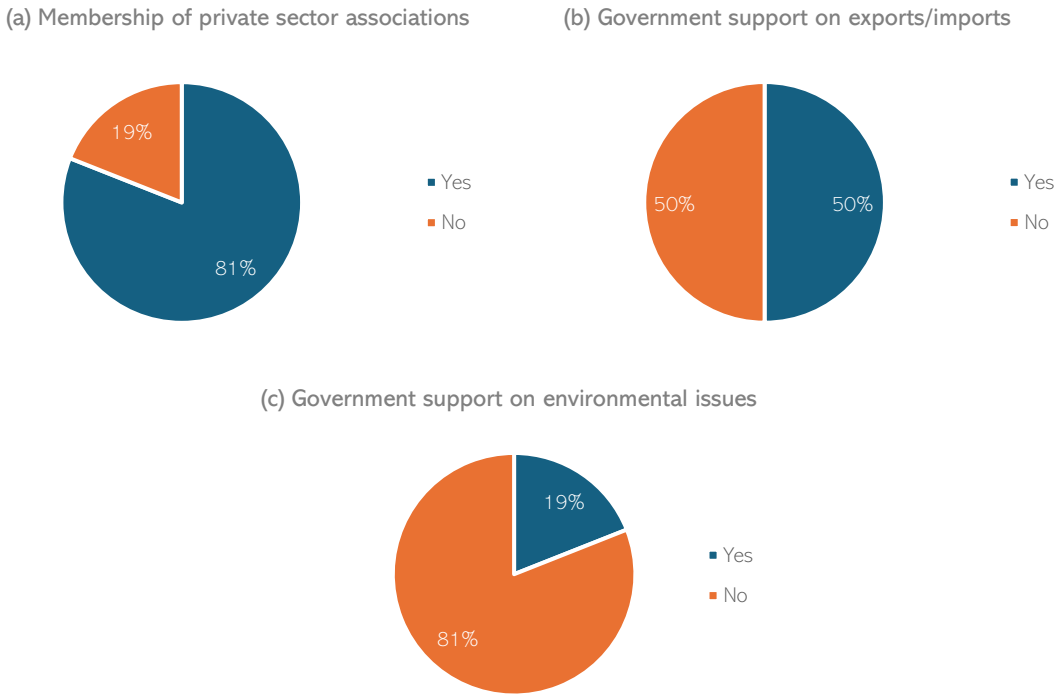
Business support network

There is scope for further strengthening government support on trade and environmental issues

More than 80% of companies are members of a private sector association. Most reported membership is in the Kigali Leather Cluster and the Rwanda Association for Promotion of Leather and Leather Products (RAPROLEP). These associations provide spaces for collaboration and voicing concerns to the private sector, though they focus exclusively on leather and no other types of footwear. Half of the companies receive support on international trade issues. Companies recognize the government's assistance in internationalization strategies, including technical help and support for participating in trade fairs. However, these efforts have yet to reach the other half of the companies.

Eighty-one per cent of the businesses say they lack support from the government on environmental compliance. Businesses require support on different aspects, from raising awareness and keeping them updated on environmental concerns, to subsidizing the adaptation of environmentally friendly technologies, and training on the circular economy initiatives, among others. Few companies acknowledge receiving this support, especially from training of the Rwanda Environment Management Authority and the RBS.

Figure 33 Business support network



Source: ITC business survey in Rwanda (2024).

Support required for diversification

Capacity building and financing: top priorities for diversification

Businesses mainly ask for capacity building and financing to support their diversification ambitions, both to new markets and to new products. Businesses ask for capacity building in the following areas:

1. Market access: information on new markets, including opportunities, prices, demand, logistics, etc. Developing market strategies to different potential customers would be a game changer for footwear businesses.
2. Businesses management skills.
3. Production and processing: moving from low-scale artisanal production towards a larger-scale production with higher productivity.
4. New product development: particularly on non-leather production (fabric and rubber footwear).
5. Workforce: training of high-skill workers for the footwear sector.

There is no industry producing the fabric, or the rubber, required for producing new types of shoes.

We do not have enough capacity to produce or to start the new product due to the lack of equipment, technology, qualified staff, place (location) for production.

Likewise, businesses cite requiring financial support to scale-up their production and acquire the required technology and capital to be able to manufacture new product lines.

Figure 34 Main support needed for market and product diversification

Source: ITC business survey in Rwanda (2024).

The way forward

This section summarizes the business recommendations targeted to increase market and product diversification in the footwear value chain in Rwanda.

ii. **Increase the availability of locally sourced inputs,** particularly:

- Setting up tanneries in Rwanda, allowing for more variety and availability of leather for the sector.
- Encourage investment in local production facilities for hides, leather skins, rubber, and fabric. This includes providing financial incentives, tax breaks, and subsidies to attract investors and promote the growth of domestic inputs industry.

iii. **Improve the branding of Rwandan footwear,** by developing a specific Rwanda Brand in the footwear sector under the "Made in Rwanda" brand.

iv. Invest in **education and training programs** relevant to the footwear sector. Support for Technical and Vocational Education Training (TVET) programs in footwear design, high-quality materials development, leather craft, and other relevant areas is needed. This requires investment in curriculum upgrades, attracting high-quality trainers, and improving school infrastructure.

v. Facilitate the adoption **of advanced technologies and modern manufacturing processes in the footwear sector.** This includes investing in machinery, equipment, and automation to improve efficiency, reduce costs, and enhance product quality

vi. **Mainstream circular economy principles** across the footwear industry, by reusing, repairing, refurbishing and recycling waste, spare parts and used products.

vii. **Capacity building on market access information:** There is a demand for more comprehensive training to help businesses effectively identify market opportunities and trends. Enhanced understanding of these tools can significantly support businesses in making informed decisions regarding market entry and pricing.

viii. **Develop and adapt standards for the sector and build capacity on quality compliance**

ix. Create finance mechanisms adapted to the footwear sector. This implies moving from traditional financing schemes to tailored options for the sector.

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CHAPTER 6

Processed food

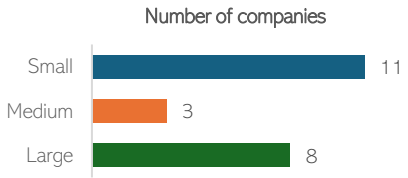
CHAPTER 6
SECTOR SPECIFIC CHALLENGES: PROCESSED FOOD

Box 6

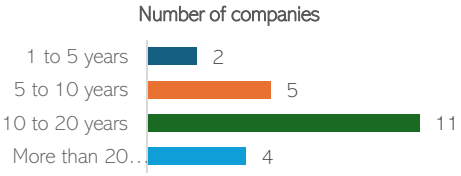
Profile of companies consulted

ITC conducted in-depth interviews with 22 companies in the processed food sector, and 8 public agencies or BSO's related to the sector, In addition to the in-depth interviews, ITC led a workshop on opportunities and challenges for diversification in the processed food in Rwanda with 20 participants. The results of this section are based on these consultations

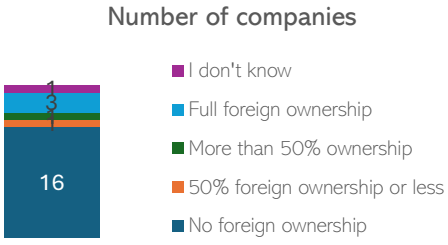
Company size



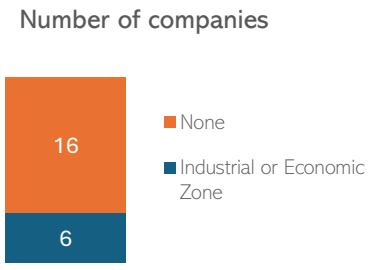
Years in operation



Foreign ownership



Location in a special economic zone



Knowing the Rwandan processed food sector

Scope for even more value-addition

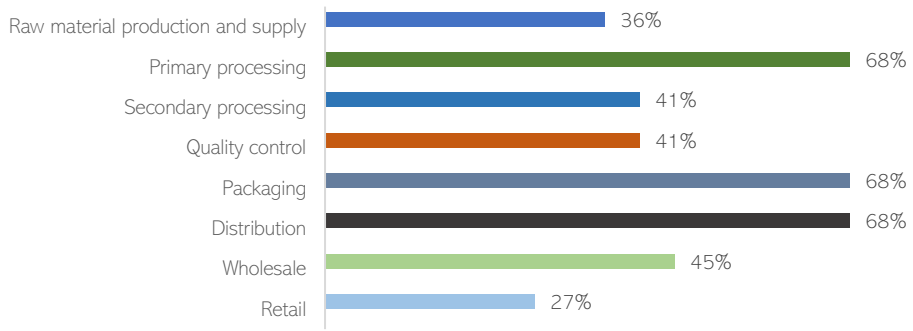
The survey finds that two thirds of the businesses are engaged in primary processing, packaging, and distribution. Business engagement in secondary processing, quality control and wholesale is lower but higher than 40%. Around one third of companies is engaged in supply and production of raw materials, while 27% of businesses are engaged in retail.

Overall, over 30% of the interviewed businesses are engaged in at least five stages of the value chain and transform raw materials into the final product, package it and then sell it in either wholesale or retail markets. The remaining 70% undertake fewer activities along the value chain.

We process fresh Irish potatoes into chips (primary and secondary processing), package it, and distribute it to local and foreign markets.

We produce fresh juice, jam and wine from raw fruits and vegetables.

Figure 35 Businesses' engagement along the value chain (% of businesses)



Source: ITC business survey in Rwanda (2024).

Businesses are active in market development

Around 60% of the interviewed businesses are investing in market development activities such as conducting market research to fully gauge customer needs; participating in marketing events; customer outreach and advertising – all with the aim of reaching newer markets across the globe.

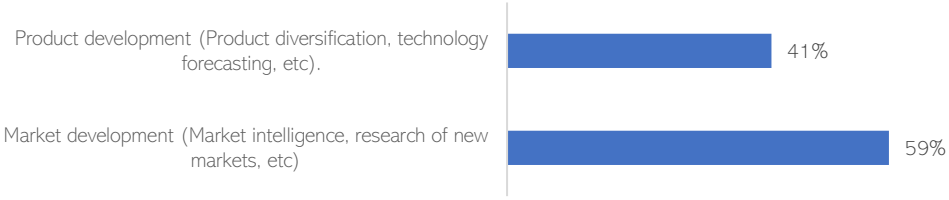
Investment in product development is relatively less common, undertaken by around 40% of the interviewed businesses. Usually, this involves research for improving quality of existing products and production processes, as well as for new

We invest in both market and product development. We do research in our laboratory, and also develop new products based on benchmarking done by similar companies. We work with secondary school/university students and other experts to develop innovative products.

Our company is exploring new markets: Quatar, Gabon, Dubai, UK, Canada, Maroc, USA, France, London, China, Turkey and Oman.

product development. Another common practice is the analysis of competitors' products. A few businesses also have specialized R&D departments dedicated to new product development.

Figure 36 Businesses' engagement in R&D activities (% of businesses)



Source: ITC business survey in Rwanda (2024).

Businesses require significant support to enhance their R&D capabilities, focusing on financial assistance for establishing quality control laboratories, improving operational capacities, purchasing advanced equipment, and conducting market research. Additionally, they seek skills transfer and capacity building through technical and managerial training, and the implementation of good manufacturing practices.

Optimism about Rwanda's processed foods value chain development potential

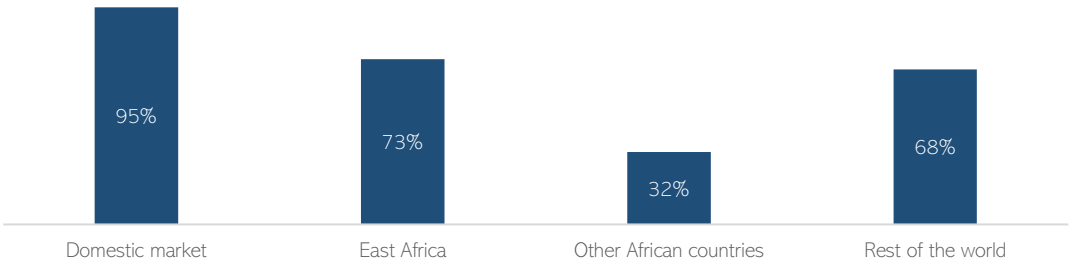
With a national policy framework for the sector in place; government's push towards promoting "Made in Rwanda" products; a favourable investment climate; a high level of trust in local products and establishment of special economic zones, businesses are convinced of the potential of Rwanda's processed foods sector. Over two-thirds of the companies are optimistic. They further add that the government is promoting start-ups in the sector, especially those set up by the youth. Additionally, the government is making investments in enhancing the quality of education on agriculture and food processing technologies at the university level.

The food and beverages production and processing sector is improving by the day. The government is encouraging Rwandans to consume local products. Higher learning institutions are producing technical staff equipped with knowledge and skills related to food and beverages production and food safety/quality control.

The domestic market is the primary source of inputs

Almost all companies interviewed source at least part of their inputs from the domestic market, while more than 70% source their inputs from the EAC and 68% procure inputs from other continents, different from Africa. Only 32% of interviewed companies source from the African continent – outside the EAC.

Figure 37 Share of companies sourcing inputs from each region



Source: ITC business survey in Rwanda (2024).

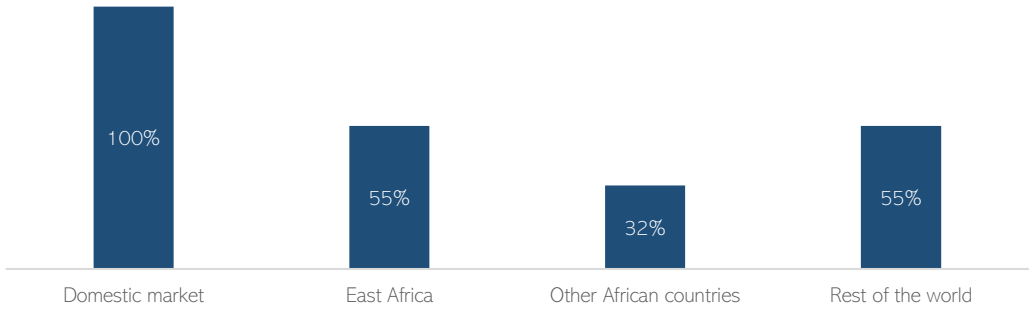
The domestic market is also the most predominant one in terms of share of total inputs, with most of the companies sourcing more than 50% of their inputs from Rwanda itself. On average, a company sources 70% of its inputs domestically. In contrast, the share of inputs from the EAC is relatively low, with an average share of 12% of a company's inputs coming from this region. Inputs from other African countries are even lower, with all companies sourcing less than 10% and only 2% on average. Inputs from the rest of the world average 18% of a company's inputs, though this varies widely, with some companies sourcing nothing and others sourcing entirely from abroad.

Foreign sales are still low

All companies interviewed sell their products locally, and more than half sell their products in the EAC or outside Africa. Only 32% of the companies sell in other African countries not part of the EAC.

On average, a company sells 72% of its production locally, although this varies widely by company, with some of them selling exclusively to Rwanda and some others selling less than 5% of their production internally. In terms of exports, on average, a company exports 14% of its production to the EAC, 5% to other African countries and the remaining 10% outside the continent.

Figure 38 Share of companies selling to each region



Source: ITC business survey in Rwanda (2024).

Opportunities for and constraints to value-addition, market diversification and product diversification

Businesses are keen on accessing new markets and diversifying into new products

An overwhelming majority of the interviewed businesses (95%) plans to tap into new markets within and outside of Africa. Almost as many (91%) plan to diversify into new product lines, to serve either existing or new markets. In pursuit of this goal, businesses have taken initiatives to identify promising markets and products for diversification.

We conducted a study on the opportunity to expend to new markets and found that milk powder has a high potential. In April 2024, we started the production of milk powder.

Businesses realize the advantages of market diversification and see it as an important opportunity to:

- increase their customer base and reach new customers with high purchasing power,
- to get a better price of for their product, and
- to reach markets where taxes are low relative to taxes in Rwanda.

Businesses believe that being able to reach new markets will also help them operate at their full production capacity and attain economies of scale, ultimately driving up their profitability. Some businesses also point towards the job creation potential that will result from such expansion or diversification.

More markets would mean new and more clients. This will enable us to develop new and innovative products to cater to differing client needs which will increase our profits and help us establish a stronger brand name.

More profits from newer markets will help with increasing our production capacity, addition of new technologies, expanding product portfolio and gaining new networks.

Likewise, a new product portfolio through product diversification would enable businesses to:

- tap new markets,
- gain additional customers,
- strengthen the brand name, and

- have positive repercussions for overall productivity, competitiveness and ultimately sales.

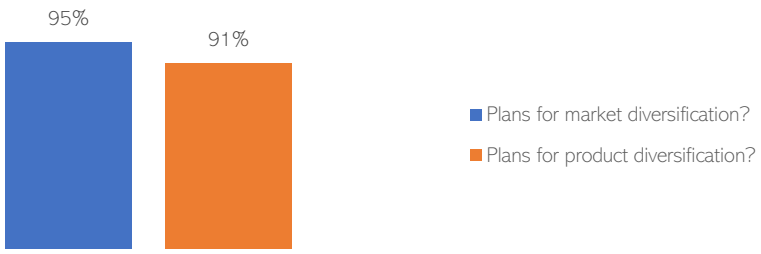
We see the following benefits to product and market diversification:

1. Product innovation: Analysing market trends, consumer preferences and purchasing power across the globe gives us an opportunity to develop better quality and an enhanced variety of products which can help us improve our market standing, not only in Rwanda but across the globe.

2. Improved quality and safety: Making efforts to reach new markets and clients will also give us an opportunity to understand product quality and safety standards in different parts of the world. This could be an opportunity to adapt newer technologies which will ultimately help us to up our quality and safety standards. It will also help us strengthen our skills and knowledge.

3. Expanded network: Expansion into new markets and developing new products will increase our incomes through an expanded consumer bases with varying purchasing power. It will also help us build new connections with other stakeholders.

Figure 39 Business plans for market and product diversification (% of businesses)



Source: ITC business survey in Rwanda (2024).

Financial constraints among factors hindering market expansion

Expanding to new markets presents numerous challenges for Rwandan enterprises, primarily due to limited financial resources, which affect production capacity, processing technology, and market penetration efforts. High transport costs, political instability, and global security issues further complicate market expansion. Additionally, companies face stiff competition, insufficient capital, limited connections with foreign markets, and inadequate access to market information.

For us, key constraints to market diversification/expansion are:
- insufficient capital/budget to implement our planned market extension projects
- limited connections with potential markets
- limited knowledge of ways of doing business online.

Transportation is expensive, which may affect the price of the product and discourage customers.

Being competent in foreign market requires investments to enhance quality and safety of products to be able to meet market standards.

The main challenge is the financial constraint. Expanding production and reaching new and bigger markets requires additional financial resources for such activities as: market analysis, upgrading processing equipment, adopting innovative processing techniques, sourcing from certified sustainable farms, and hiring and/or training of new technical/managerial staff, among other things.

Regulatory hurdles, such as obtaining safety and quality certifications, and the high costs associated with meeting new market standards, also pose significant barriers. Other challenges include the need for improved distribution facilities,

expertise in new product development, advanced technology, and effective online marketing strategies. Overall, financial constraints and the need for enhanced skills and technology are the major obstacles hindering market expansion.

There are challenges to new product development or expansion

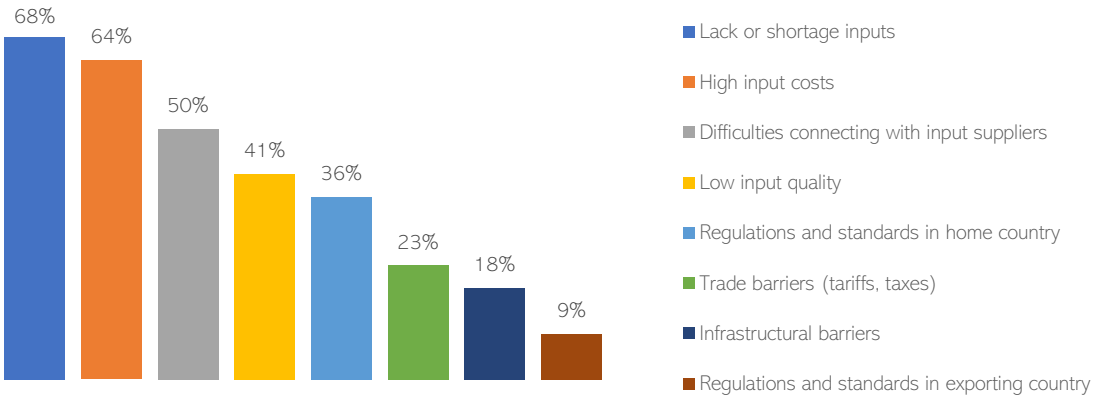
Limited financial means is the primary concern, which hampers investment in improved processing technology, increased labour, and market penetration efforts. Financial constraints are exacerbated by difficulties in obtaining bank credits and high interest rates. Additional challenges include insufficient factory capacity and outdated equipment, high costs of utilities and raw materials, and the need for modern technology. Companies also struggle with a lack of qualified employees, limited raw materials, and high processing equipment costs.

Regulatory hurdles and time-consuming certification processes further complicate expansion efforts. Moreover, competition with imported goods, limited market connections, and the need for capacity building among technical and managerial staff are significant barriers.

Dissatisfaction with domestic input sources is high

Over 86% of businesses cite challenges in sourcing inputs. Lack or shortage of locally available inputs is the topmost concern, followed by high input costs (64%), difficulties connecting with input suppliers (50%) and low input quality (41%).

Figure 40 Share of businesses facing difficulties accessing inputs



Source: ITC business survey in Rwanda (2024).

The interviewed businesses point to limited domestic availability of quality inputs at reasonable prices. Price fluctuations are common, and the available volume is often inconsistent to meet their requirements on time. At least one-fifth of the businesses indicate that the inputs available locally do not meet their selection criteria, as regards the quality.

The production of some of the raw materials like cereals is seasonal, hence there is a period of shortage. This happens due to improper handling and storage facilities of these crops.

Quality, price and availability of raw materials, were identified as top concerns in further discussions with stakeholders. A cassava processing factory pointed to the inconsistencies in quality of cassava obtained from farmers, which adversely affected the price of the final product. Businesses also pointed to insufficient supply of cassava tubers at reasonable costs locally, limiting the production capacity of cassava starch. The cassava brown streak virus disease (CBSD) as well as adverse weather conditions such as insufficient rainfall can impact cassava quality. In a similar vein, representatives from juice producing industries said that they found it challenging to access a year-round supply of raw material due to seasonality in fruit production. Further, the high cost of fruits in Rwanda, exacerbated by competition from foreign buyers, made juice production expensive. Likewise, honey producers pointed that Rwanda's small land size and limited forest area hindered honey production and were insufficient for beekeeping activities. Pesticide use in agriculture also posed a threat to honey production, thus curtailing adequate supply of raw material to local industries.

Long waiting/delay of imported products (ingredients and packaging materials) at customs affect our production and business plan of activities.

The quality of locally sourced inputs is acceptable, but they are very expensive. Also, we use plastic and glass packaging materials, but we do not have industries producing these materials locally. So, we source from abroad.

Rwandan suppliers are unable to meet our quality and quantity of requirements. This is why we source 95% of raw materials and ingredients from outside of Rwanda. This results in an increase in cost of production and increases the price of the product we offer on the market.

The production of maize is still low to meet our demand, as is the quality. It is difficult to find grade one maize.

We are still struggling to get quality raw honey in the volumes needed. Our beekeepers are not well equipped with modern beehives, and they still need training about good beekeeping practices. We still need to invest in capacity building for our beekeepers.

Access to packaging materials is a growing concern, as nearly one-third of the businesses fail to access quality packaging materials locally due to the absence of an established local packaging industry.

Workshop participants also point out that they must often import packaging materials, which leads to higher production costs and limits the competitiveness of Rwandan products in both domestic and international markets. For example, representatives of the cassava processing industry stated that they face significant challenges finding reliable packaging suppliers.

Over one-third of the businesses face difficulties complying with Rwanda's regulations and standards on imported inputs, which can often be time consuming and require multiple of different documents.

Access to technological capabilities is limited, compliance with quality and safety standards a challenge

Roughly two thirds of companies reported some challenge with production. Particularly, nearly half of the interviewed businesses have limited technological capabilities which negatively affects productivity. Imported machineries are often expensive and raise the cost of production and lower profit margins.

The current technical capabilities are not yet at our target level. There is a need for further strengthening our working capacity by using modern technologies/equipment.

Nearly a third of businesses are concerned about compliance with production, quality and safety standards which is expensive and requires skilled staff. This has implications for accessing foreign markets.

There is a shortage of well skilled technicians, for instance the ones in charge of machine maintenance.

During the national workshop as well, exporters pointed to the need for certified staff to handle quality assurance of Rwandan coffee to enhance its marketability.

The approval process of standards takes a long time. This is often because the requirements applied by the concerned national authorities (RSB and RFDA) are often changing and overlapping.

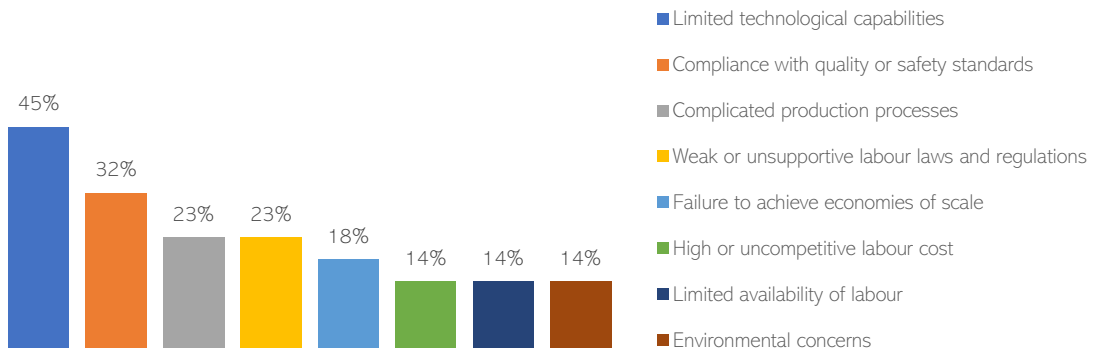
Challenges associated with complying with standards as well as the associated procedures ramp up the production costs. A quarter of the businesses also report the production processes being too complex. A fifth are concerned about weak or unsupportive labour laws, while nearly 15% find the labour costs to be high, face labour shortages and have environmental concerns. For at least a fifth of the businesses, these factors combined result in the failure to achieve economies of scale.

Certification fees for standards are prohibitively high for many SMEs. For example, the certification cost for Global GAP is approximately $12,000. As of 2018, only one company was certified under Global GAP, and this number has only marginally increased to around nine or ten companies since then.

Representatives from the coffee sector point that the uptake of standards in the sector remains low. The technical committee on coffee and related products at the RSB comprises 20 to 30 experts, yet the number of private companies that have adopted these standards is even less than the number of committee members. Among the 118 registered coffee exporters in Rwanda, fewer than 30 have adopted the standard for green coffee beans, the most exported coffee product.

This low uptake of standards can adversely affect the quality and marketability of Rwandan coffee. Exporters also point out that international standards such as Rainforest Alliance and UTZ have not yet been adopted nationally which poses a significant challenge for Rwandan coffee exporters seeking to meet international market requirements.

Figure 41 Share of businesses facing difficulties with production



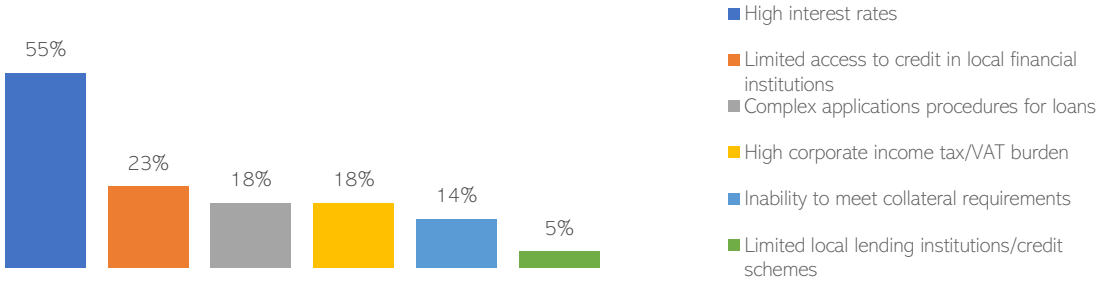
Source: ITC business survey in Rwanda (2024).

Access to finance is a challenge for over half of the interviewed businesses, high interest rates being the most constraining factor

Over half of the businesses find lending rates to be very high, and a top factor constraining their plans for market and product diversification. Limited access to credit is a concern for almost a quarter of the companies, while close to a fifth of the businesses find it difficult to access credit due to complex loan application procedures. Almost a fifth of the businesses point to the corporate income tax/VAT burden being too high. Fourteen percent are unable to meet the collateral requirements. A small share of the interviewed businesses (5%) is concerned about limited lending institutions or credit schemes. All these factors combined curtail businesses' ability to make any investments in R&D and new technologies, obtain quality certification or accessing suitable packaging materials.

Whenever we need bank loans, we face difficulties related to complex application procedures and high interest rates. This affects the smooth running of our business and negatively impacts our expansion plans.

Figure 42 Share of businesses facing difficulties accessing finance



Source: ITC business survey in Rwanda (2024).

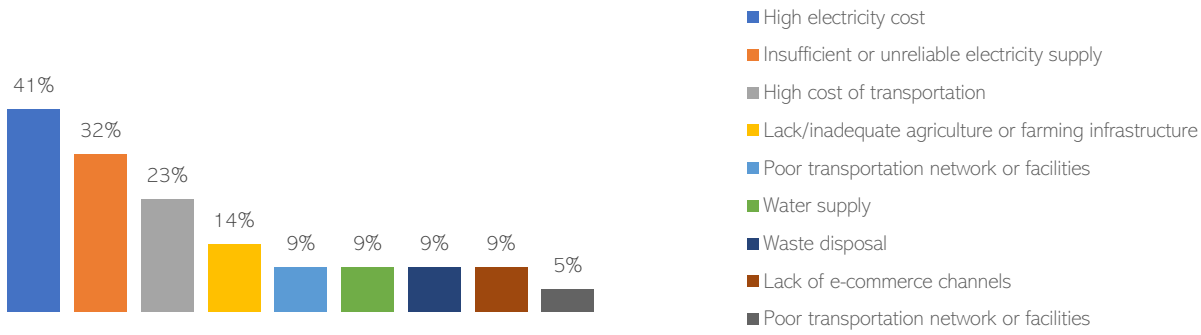
During the workshop as well, stakeholders identified access to finance as a hurdle to growth and development. They indicated several challenges including complex procedures, stringent requirements for accessing loans and limited financial support for start-ups due to lack of well-designed business plans. Besides, businesses struggle to find support from financial institutions on proper management of funds on an ongoing basis.

Infrastructural issues are less common yet present

More than 40% of the businesses face one or more challenges pertaining to the national infrastructure, notably high electricity cost. Close to a third of the businesses also indicate that the national electricity supply is unreliable. High transportation costs are a concern for around a quarter of the businesses. Other infrastructural constraints faced by businesses include inadequate agriculture or farming infrastructure (14%), poor transportation network or facilities along

key trade corridors (9%), inadequate water supply (9%), lack of e-commerce channels (9%) and limited waste disposal facilities (9%).

Figure 43 Share of businesses facing difficulties with national infrastructure



Source: ITC business survey in Rwanda (2024).

The cost of electricity is high which results in an increase in production cost and hence the final product. There is a need for improvement of handling facilities for raw materials (green coffee) as well as transportation networks in rural areas at the farm or cooperative level.

Up to now, there is no available economic zone for MSMEs. We are thus restricted to building our own premises in non-commercial zones. This impacts our ability to obtain certification. We face electricity issues as well because residential electric power does not run our machines.

Stakeholders from the processed horticulture industry pointed to inadequate post-harvest handling of horticultural products due to the lack of appropriate cold chain facilities at collection centres and transportation inefficiencies from farms to processing facilities, and ultimately to markets. The perishable nature of horticultural products necessitates effective management starting from the farm.

Businesses specifically identified the need to upgrade national quality infrastructure, and to invest in the accreditation of national testing facilities and laboratories to strengthen business' ability to comply with national as well as regional and international quality standards. They also pointed to the need to enhance the capacity of factory employees and food scientists to meet international standards such as ISO and HACCP. For instance, the Horticultural Export Organization of Rwanda indicated that meeting international standards requires substantial investment in infrastructure and adherence to stringent regulations set by the RSB. Actors in the honey processing sector pointed to the high certification costs as being a constraint. Horticulture exporters indicated that inadequate packaging standards hinder the competitiveness of Rwandan horticultural products in international markets. Coffee producers too pointed to the absence of accredited laboratories for testing key parameters required for international markets, such as soil tests and maximum residue levels. Currently, these tests must be conducted in the Netherlands, which increases costs and delays. This is a significant barrier to meeting international export requirements.

Businesses lag in market research, marketing, and market access

Businesses cite that they lack an understanding of market and consumer trends, knowledge of strategies to access regional production networks and markets, and limited skills to help penetrate regional and international markets. This goes hand in hand with competition they may face when accessing new markets. Overall, this restricts their ability to expand their product or market portfolios.

We do participate in national marketing events, but we have not yet been able to connect with international companies.

Workshop participants, particularly those from the beverages industry, mentioned facing challenges developing business plans, innovation, and diversification in product offerings. This in turn curtails their ability to access finance.

Environmental constraints

Environmental challenges, although less common, are a growing concern

Half of the companies reported difficulties complying with environmental regulation. The most challenging concern is the regulation on responsible sourcing of material, reported by over a quarter of companies. Particularly, this relates to the import of packaging material which requires approval by REMA (Rwanda Environment Management Authority) and RFDA (Rwanda Food and Drugs Authority), which businesses find to be a time-consuming process.

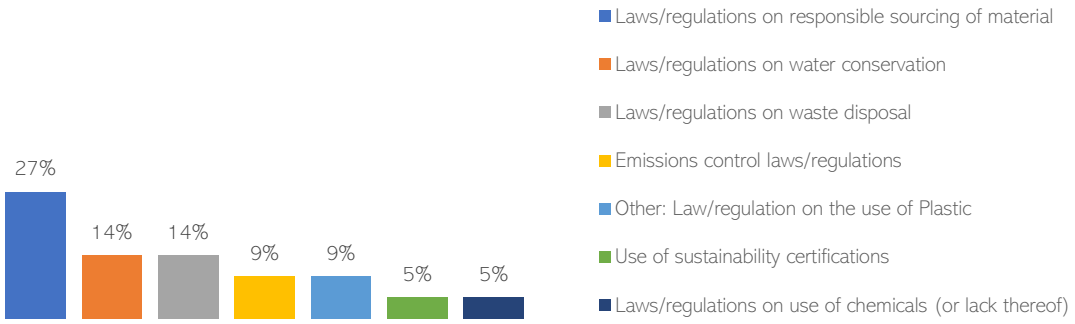
We are being obliged by the Rwanda Environment Management Authority (REMA) to use only glass bottles as packaging materials, while in Rwanda we do not have factories producing such packaging. Similar products imported from foreign markets are in plastic packaging, which results in non-competition with the foreign products. Also, the application process of environment related certificates from REMA takes a long time.

In addition, the Rwandan government recently banned the use of plastic bottles and is advocating for glass bottles. One of the interviewed businesses points out that this has made importing essential plastic packaging from their suppliers in Kenya and Rwanda rather difficult.

Industry stakeholders highlight that a ban on plastic packaging within the country necessitates the use of alternative materials like glass or paper buckets for export. Paper packaging poses challenges due to its density and fineness, resulting in product spillage, tearing, and affecting product integrity.

Fourteen percent of businesses also cite challenges pertaining to laws and regulations on water conservation and waste disposal. For instance, some businesses cite that the waste disposal regulations do not indicate the facilities how to dispose waste. Emission control laws and regulations, and the use of sustainability certifications concerns around 9% and 5% of the interviewed businesses.

Figure 44 Share of businesses facing constraints with environmental regulations



Source: ITC business survey in Rwanda (2024).

Changing weather patterns, soil erosion, and floods are among the top environmental risks faced

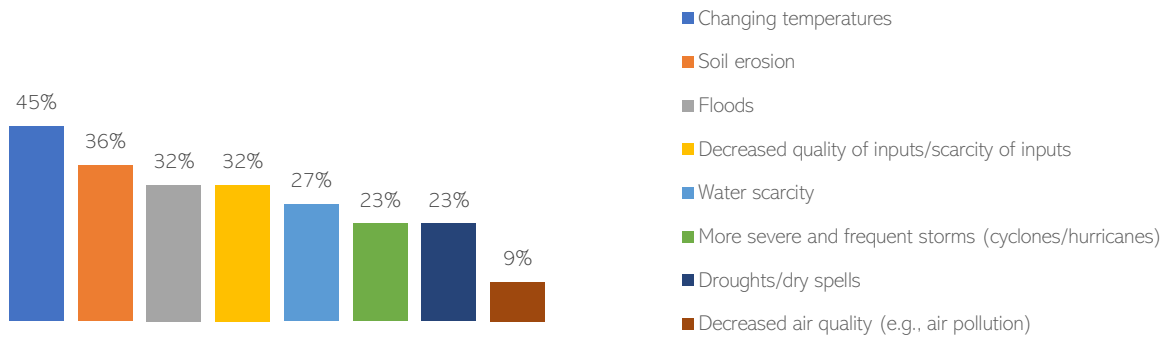
Roughly 60% of the businesses cite that environmental risks can have a significant impact on their business. Of the most pressing concerns is the changing temperatures, indicated as being burdensome by nearly half of the businesses. A third of the businesses also cite soil erosion, floods, and decreased quality of inputs or scarcity of inputs as being a challenge. Almost a quarter are concerned about water scarcity, severe and frequent storms and droughts or dry spells. Decreased air quality and changing sea levels are a concern for a small share of businesses (9%).

Uncontrolled fuel wood harvesting in the neighbouring region can result in inundations in production areas.

Our company processes tea leaves. Natural disasters (soil erosion, flood, land sliding) may affect the tea plantation and affect the availability of raw materials. They could also destroy the roads and block the supply of raw materials and distribution of finished products.

The effect of all these risks is largely the same i.e., it negatively affects availability and quality of the raw produce needed for production.

Figure 45 Risks most likely to impact businesses



Source: ITC business survey in Rwanda (2024).

Access to finance and to climate adaptation skills and technologies prevent businesses from adopting risk mitigation measures; government support is limited

While businesses recognize that environmental threats can impact their operations, they face several constraints to adopting risk-mitigating measures.

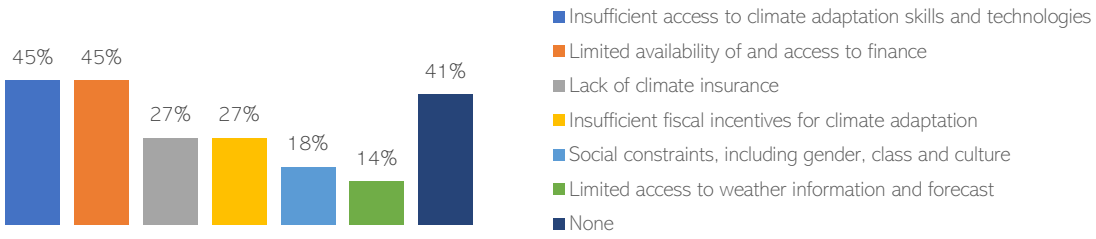
The top constraints are financial and technological. Nearly half of the businesses find it difficult to access climate adaptation skills and technologies or the necessary finance to invest in them, or simply to improve their working conditions or facilities in other processes, such as the use of irrigation during the dry season, use of cereal drying machines during the rainy season to minimize moisture content and humidity of storage, or even to have access to weather information and forecasts. Adverse weather conditions, such as insufficient rainfall, have particularly impacted the harvest timings of the cassava crop, as pointed out during the workshop.

When possible, farmers producing macadamia should get support for resisting tough weather conditions (long dry season and high rainfall), such as irrigation during dry season and using green houses for cultivation.

Lack of environment protection incentives or loans/credits from government or private partners, banks prevent us from adopting risk-mitigating measures.

A quarter of the businesses also cite the lack of fiscal incentives to encourage adoption of risk-mitigating measures. Other hindrances to adoption of risk-mitigating measures include social constraints (18%), limited access to weather forecasts (14%) and lack of climate insurance (14%).

Figure 46 Challenges to adopting risk-mitigation measures

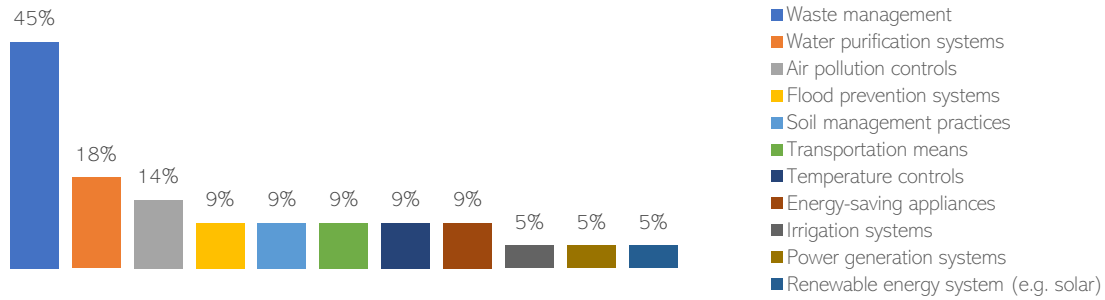


Source: ITC business survey in Rwanda (2024).

Businesses are acting on environmental matters

With all the challenges and given the support received, businesses are trying their best to be in line with environmental requirements, especially the regulations applied by Rwanda Environment Management Authority (REMA). These include using only approved packaging materials, proper waste management, educating employees and suppliers to respect REMA requirements and environment protection measures in general. Nearly half the businesses claim that they are working towards proper disposal of waste.

Figure 47 Efforts companies have made to become more environmentally friendly



Source: ITC business survey in Rwanda (2024).

Business support network

There is scope for further strengthening business support networks

Two-thirds of the companies are members of a private sector association but 18% still lack access to them. Half of the companies have received some support from government agencies to export or import, while 40% have not.

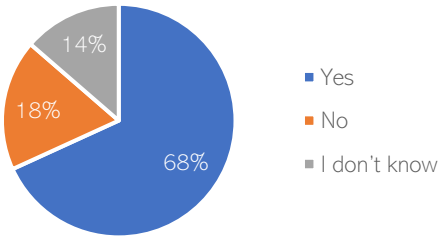
64% of the businesses cite that they lack support from the government on environmental compliance. Businesses would like support on various facets such as simply raising awareness on the policies and the necessary compliance procedure, subsidizing installation of wastewater treatment facilities, getting a long-term solution on use of plastic packaging, training of farmers on environmental protection practices, or financial assistance to incorporate new production technologies.

We do not receive any direct support from the government. The government can support our activities at national level or district level and we can also get benefits indirectly through the correct implementation of those policies and regulations by our stakeholders.

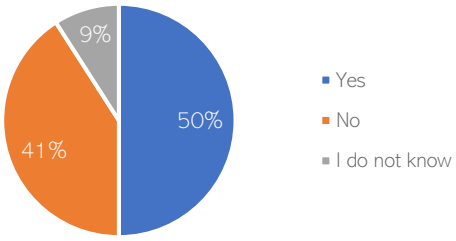
We receive support from the Rwanda Development Board to attend trade fairs and exhibitions.

Figure 48 Business support network

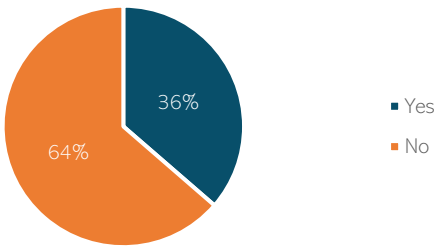
(a) Membership of private sector associations



(b) Government support on exports/imports



(c) Government support on environmental issues

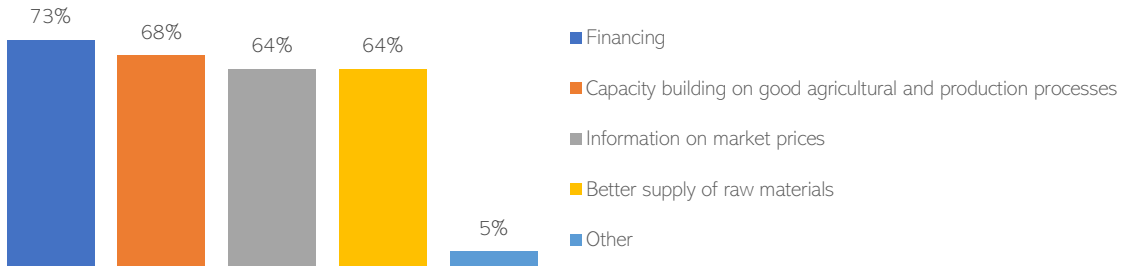


Source: ITC business survey in Rwanda (2024).

To support their diversification ambitions, businesses ask for easier access to finance and capacity building on agricultural, production and marketing practices.

Nearly three quarters of the interviewed businesses ask for financing support to put their market diversification plans into action. Roughly two thirds of businesses would like support on capacity building on good agricultural and production practices, information on market prices as well as easier access to raw materials.

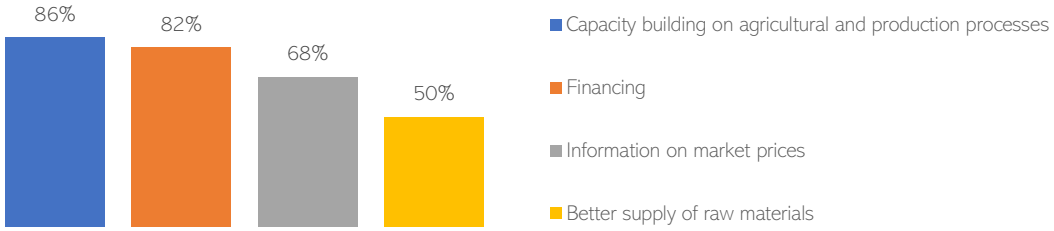
Figure 49 Main support needed for market diversification



Source: ITC business survey in Rwanda (2024).

To aid product diversification as well, businesses ask for support on a similar range of activities. Over 85% of businesses would like capacity building on good agricultural and production processes; close to 80% ask for financial support, while around two-thirds would like help with increased access to information on market prices, and half on improved access to raw materials.

Figure 50 Main support needed for product diversification



Source: ITC business survey in Rwanda (2024).

More specifically, the support needed by businesses can be broken down as follows:

- Capacity building: businesses ask for capacity building in the following areas:
  - Production and processing: better production, handling and storage of the raw agricultural produce,
  - Marketing: developing marketing strategies, building market linkages, and accessing information on market prices and opportunities. They also ask for support on building employee capacity on effective marketing.
  - Compliance with quality and safety standards
  - New product development and innovation

We need capacity building on proper cassava handling practices from farm level to the final stage of cassava flour processing. We also need support with information on market prices, strategies for market penetration and building of connections with foreign markets.

We need support with building employees' capacity on new food (tea) product development.

- Easy access to finance: businesses ask for easier access to bank credits without going through complex application procedures and lengthy waiting times. High interest rates are another concern. Businesses also suggest that special schemes be created for small businesses operating in the food and beverages sector. They argue that financial support can help access new machinery and equipment that could augment their

We would like some financial support or simply easier access to bank credits without having to go through complex processes; reduction in interests and easier availability of funding for food and beverages processors and businesses, especially MSMEs.

product diversification. It could also help them invest in environmental support systems more easily.

- Easy access to raw materials: Businesses also claim that easier access to good quality raw material at reasonable prices, locally, would reduce their production costs and would allow them to further diversify their offering.

The way forward

The section presents some recommendations to strengthen local value creation and provide impetus to product and market diversification in the sector, as received directly from the businesses:

i. Make targeted investments in increasing local production of necessary raw inputs needed to aid local manufacturing based on an assessment of needs of the domestic food processing industry, as well as local consumption patterns. For this,

   - foster collaborations with the government to address production-related challenges,
   - collaborate with international organizations for technical support,
   - invest in imparting good agricultural practices to local farmers to incentivize them to improve farming methods and ultimately enhance farm yields, and
   - establish contracts between industries and farmers to secure a stable supply of raw materials, providing financial and technical support to farmers.

ii. Facilitate the development of comprehensive standards that can address industry needs and promote quality assurance. For this,

   - forge collaborations between stakeholders, technical committees, and academia, and
   - adopt regional and international standards.

iii. Equip businesses to comply with quality and safety standards by:

   - making the standards readily available at low cost through RSB,
   - training technical and managerial staff through national authorities, like the RSB,
   - supporting certification costs, and
   - harmonizing standards across agencies and simplifying procedures for obtaining certification.

iv. Invest in upgrading testing facilities and obtaining international accreditation to enhance the credibility and reliability of laboratory testing, supporting the certification process for export products.

v. Explore innovative solutions to address these challenges. This may involve the development of cost-effective cold chain facilities and efficient transportation methods tailored to the specific needs of horticultural products.

vi. Continue to encourage and support youth and females to invest in processed foods value chain and to invest in training and skill development for the sector through collaborations with universities and research institutions.

vii. Enable easy access to finance by streamlining complex application procedures, reducing lending interest rates and minimizing collateral requirements. Reduce bureaucratic hurdles to make it easier for businesses to access finance; digitize application processes and provide support to entrepreneurs during the application process, as needed. Further, aim to provide ongoing guidance and advice by conducting regular business assessments, offering mentorship programs, and facilitating access to business development services.

viii. Invest in training, skill development and capacity building on:

   - production and processing for factory employees and food scientists, enabling them to meet international certification standards; also incorporate education on standardization to secondary schools and universities.

- market research, developing product export strategies, market penetration and online-marketing to enable businesses to create more connections with export markets.

ix. Support the provision and adoption of new and innovative food processing technologies to encourage and aid new product development and innovation.

x. Invest in establishing a packaging industry to ensure domestic supply of high-quality packaging compliant with existing national environmental regulations. Seek to build collaborations between industry stakeholders, government agencies, and research institutions to facilitate the production of affordable yet high-quality packaging solutions.

xi. Increase investment in tailored and targeted training initiatives and research and development efforts to foster a culture of innovation within the organization. Invest in training programmes on product development and packaging innovation.

xii. Revise taxes including taxes applied on imports of agro-based products as well as domestic consumption tax to provide impetus to local food and beverage products.

xiii. Encourage sustainable agricultural practices and promote certifications like organic certification to help Rwandan producers meet global market demands.

CHAPTER 7

Supporting diversification in Rwanda

CHAPTER 7
SUPPORTING EXPORT DIVERSIFICATION IN RWANDA

The analysis of Rwanda's diversification landscape highlights the potential for value addition and export diversification across several sectors, among them beauty products, footwear, and processed food. However, multiple challenges hinder the realization of this potential, including financial constraints, irregular access to quality inputs and market access hurdles. The following areas for policy action aim to address these barriers and promote growth across Rwanda's value chains.

Enable access to affordable finance

High borrowing costs and limited financing options are a critical barrier for Rwandan businesses across sectors, impeding scaling up, and both market and product diversification, as well as the adoption of new technologies. To enhance financial accessibility:

- develop targeted financial products: tailor financing options to the unique needs of specific sectors like footwear, beauty products, and processed foods, and MSMEs, or to specific objectives, such as technology adoption. This includes measures like establishing credit facilities offering low-interest loans, rethinking collateral requirements and simplifying loan application procedures.
- encourage partnerships with financial institutions: government and industry associations should collaborate with banks, investors, and development finance institutions (DFIs) to create updated funding mechanisms. These collaborations can effectively share risks and reduce costs, making financing more accessible for SMEs and growth-oriented businesses in key sectors.
- leverage digital finance solutions: encourage financial institutions to expand mobile banking and digital lending products. Rwanda's well established mobile payment infrastructure, including MTN Mobile Money (MoMo), Airtel Money, and eKash, and others, could be adapted to improve access to small loans for rural businesses in export-focused sectors.
- reinforce financial literacy programs: expand programs, such as those supported by the Rwanda Development Board (RDB), the National Bank of Rwanda (NBR), Access to Finance Rwanda (AFR) and private sector associations, that equip SMEs with financial literacy and management skills to improve business planning, budgeting, and loan management.

Strengthen supply chains by improving access to raw materials and inputs

Irregular availability of high-quality, locally sourced inputs is a consistent issue across value chains, as are hurdles in logistics networks. Better access to quality inputs and stronger logistics networks can address some of Rwanda's main domestic supply constraints, and enhance its production capacity, value addition and export competitiveness. Some actions that can be considered to that end are:

- reinforce local input supplies: support the development or reinforcement of local suppliers through the improvement of agricultural extension services and investment in sectors such as agriculture and livestock, to ensure consistent and quality raw material supply, or through targeted incentives, such as tax benefits for sustainable packaging solutions. Additionally, enhance the coordination between farmer cooperatives and processors.
- encourage the development of common local or regional solutions for shared industry needs: establish public-private partnerships to develop regional warehousing, cold storage, and raw material hubs, enabling year-round access to quality inputs and facilitating the procurement of key inputs for SMEs in smaller quantities. A similar approach can be taken to build integrated storage and processing infrastructure, or, importantly, for the supply of sustainable packaging materials, for which more reliable local or regional suppliers would reduce dependence on imports. Co-finance facilities through local government and business partnerships to ensure sustainability.
- optimize logistics infrastructure and networks: upgrade rural roads, cold chain infrastructure, and transport corridors.

Strengthen supply chains by enhancing technological capacity and skill development

For many Rwandan businesses, export competitiveness is also limited by outdated technology and a lack of skilled labour, particularly in production and quality control. Expanding access to modern equipment and training is crucial to improve efficiency and export readiness. To overcome these constraints:

- facilitate access to modern technology: government programs can facilitate access to advanced manufacturing technologies, either through direct subsidies or partnerships with foreign suppliers. Commercial banks or microfinance institutions can offer equipment leasing models, supported by government subsidies or partnerships with foreign suppliers, allowing firms, in particular SMEs, to access modern machinery without large upfront costs.
- invest in technical and vocational education: expanding Technical and Vocational Education Training (TVET) programs that focus on practical skills in manufacturing, use of modern equipment, quality assurance, and export compliance for high-potential sectors like footwear, processed foods, and beauty products.
- upskill specialized labour: focus on targeted training for roles such as quality control specialists and product formulators. Collaborate with regional training institutes to provide short-term courses that address specific needs, enhancing Rwanda's capacity to develop higher-value export goods.

Incentivize export readiness and facilitate market access

Rwanda's export competitiveness also relies on addressing trade infrastructure gaps and supporting local firms, in particular SMEs, to access new markets and diversify their product offerings. This requires comprehensive export support and market intelligence. Targeted support in capacity building, market research and compliance, as outlined below, will enable businesses to compete internationally successfully:

- reinforce and expand existing export promotion programs: provide training on export regulations, financial support for international marketing, and facilitate market entry—particularly within the AfCFTA and other regional frameworks. Offer SMEs guidance on trade regulations, market trends, and product standards. Develop digital platforms providing trade data and market insights to support informed decision-making.
- encourage collaborative market research: support firms in conducting market research to better understand consumer preferences and international market trends. This could involve public-private partnerships to help SMEs access market data and consumer insights, pooling resources for comprehensive market analysis.
- develop mentorship networks: connect new exporters with experienced firms to share best practices and knowledge, enhancing export readiness across sectors.
- streamline regulatory compliance: simplifying the process for obtaining certifications and reducing associated fees would facilitate market access, particularly for smaller businesses that often struggle with complex certification procedures. Continue to establish quality standards harmonized with key trading partners.
- modernize quality infrastructure and trade systems: establish well-equipped local testing laboratories and harmonize certification standards.
- optimize logistics networks: continue the establishment of one-stop border posts and streamlined customs protocols to facilitate efficient cross-border trade.

Promote sustainable production and green market access

Environmental concerns, such as the lack of sustainable packaging options and the high cost of compliance with environmental regulations, pose significant challenges. Additionally, Rwanda's export competitiveness can be enhanced by embracing environmental sustainability and tapping into growing global demand for eco-friendly products. Supporting green practices and sustainable production methods can position Rwandan exports favourably in premium international markets while ensuring long-term environmental resilience. To that effect:

- design incentives for sustainable packaging solutions: provide financial support or tax breaks for businesses investing in sustainable packaging alternatives, such as glass or biodegradable materials, that comply with Rwanda's plastic ban.
- encourage circular economy initiatives: promote recycling, waste reduction, and the reuse of materials, for example in the footwear and processed food sectors. This could be supported through government incentives and technical training.

- support eco-friendly production practices: establish grants and subsidies encouraging businesses to adopt sustainable sourcing, waste management, and energy efficiency measures. Promote organic farming techniques through targeted incentive programs.
- develop green certification capabilities: create government-backed schemes to help companies obtain organic and sustainability certifications at reduced costs, improving access to premium eco-sensitive markets.
- build market linkages for sustainable products: connect producers with growing markets for organic and health-conscious products while providing support to meet specific sustainability requirements of these premium market segments.
- invest in green innovation: support research and development in sustainable production methods within key value chains to enhance product quality and meet rising international standards for eco-friendly products.

Strengthen public-private collaboration and investment

Rwanda's export growth requires strong collaboration between government, industry associations, and investors. Building effective public-private partnerships while attracting strategic investments can accelerate sector development and ensure policies remain responsive to business needs.

- create sector-specific platforms: establish industry associations and working groups for underrepresented sectors, such as beauty products, providing frameworks for advocacy, knowledge sharing, and collective problem-solving.
- streamline investment processes: simplify business registration and regulatory compliance for FDI, with targeted incentives for export-oriented sectors. Include knowledge-sharing and technology transfer requirements in FDI agreements.
- enhance policy feedback mechanisms: hold regular sector-specific workshops supported by working groups that address regulatory and operational issues and develop digital platforms for real-time stakeholder input on export procedures and policy changes.
- promote strategic investment partnerships: target FDI in key value chains through sector-specific investment strategies, facilitating joint ventures and establishing or continuing to support specialized economic zones with tailored incentives.

Leveraging technology and digital solutions

Rwanda's strong focus on digital transformation offers a solid platform to drive export diversification through e-commerce and digital trade. Policy frameworks like the E-Commerce Policy, ICT4COM, and the National Payment System Strategy align with Vision 2050 to establish Rwanda as a regional e-commerce hub. However, challenges such as high mobile service costs, interoperability issues, and skill gaps must be addressed to realize this potential fully. Some recommended actions in this direction are:

- expand digital infrastructure and accessibility: despite high 3G and 4G coverage rates, further investment is needed to improve network reliability and coverage to support mobile-driven e-commerce and exports. Affordable broadband and reliable electricity access in rural areas are essential for greater e-commerce adoption. Subsidize mobile broadband and fixed internet costs to make them more affordable and invest in expanding electricity and internet access in underserved regions to ensure equitable participation.
- boost e-commerce adoption: scale successful initiatives like Kigali's E-Commerce Service Centre (ECSC) to regional hubs, providing SMEs with marketing, logistics, and payment support to compete effectively in the digital economy.
- improve payment systems: harmonize mobile payment services, banks, and SACCOs to reduce costs and support the transition to a cashless economy.
- build e-commerce skills and awareness: implement targeted training programs to equip SMEs with expertise in digital marketing, logistics, and leveraging international platforms such as Amazon, Alibaba, and eBay. Raise awareness about the benefits of e-commerce to encourage adoption among businesses and consumers.
- enhance trust and regulations: strengthen enforcement of intellectual property rights and align e-commerce laws with EAC and global standards to build confidence among investors and consumers.
- capitalize on regional integration: continue to support the implementation of the Protocol on E-Commerce of the AfCFTA, and support additional initiatives towards the harmonization of duties, taxes and regulation on e-commerce transactions within the region.

- develop a comprehensive data ecosystem for e-commerce: establish a national framework to collect and analyse e-commerce data, informing policy and tracking growth. Collaborate with private sector stakeholders to generate reliable metrics on ICT usage and export performance for better data-driven policy design.
- establish a dedicated ICT regulatory authority: as the e-commerce sector in Rwanda grows in scale, complexity, and cross-border activity, consider creating a specialized body to oversee ICT and e-commerce activities, ensuring better enforcement of laws and governance to support sector growth.

Furthering regional integration and leveraging South-South cooperation

Intra-regional trade provides Rwanda with opportunities to scale up production, access new markets, and build regional value chains that can catalyse value-addition and economic growth. Initiatives such as the AfCFTA and ongoing regional integration efforts offer a platform to streamline trade procedures, harmonize standards, and improve regional connectivity. Additionally, South-South cooperation offers a valuable avenue for Rwanda to advance its export diversification goals by engaging with economies that share similar development trajectories and contexts. Frameworks like the Northern and Central Corridors, and the Belt and Road Initiative (BRI) can play a pivotal role in addressing Rwanda's longstanding infrastructure challenges. By leveraging these initiatives, Rwanda can strengthen its regional and intercontinental trade connections, fostering the development of integrated value chains and enhancing its economic resilience. Actions in line with these priorities can be to:

- simplify export documentation and compliance: continue to streamline processes for regional trade under AfCFTA, focusing on NTMs reduction to facilitate easier access to regional markets.
- support businesses in meeting regional standards: provide training on AfCFTA compliance requirements to enhance competitiveness within African markets. Develop mentorship programs connecting experienced exporters.
- expand regional collaboration that supports value chain development: support the co-development, production and distribution networks for high-potential value chains and essential inputs, for example, sustainable packaging.
- further regional corridors and global infrastructure initiatives: work with regional and development partners to secure investments in modern transport infrastructure and logistics hubs, to enhance regional connectivity and facilitate exports to global markets.
- facilitate Mutual Recognition Agreements (MRAs): simplify entry into new markets by aligning certifications and quality standards, particularly for value-added goods.
- explore new bilateral trade agreements and leverage financing initiatives: develop trade agreements with emerging developing countries and partner with South-South development finance institutions to fund sector-specific projects, such as cold chain logistics for processed foods or R&D for eco-friendly beauty products.

By implementing these multifaceted policy interventions, Rwanda can address critical challenges across financing, technological capacity, infrastructure and market access that are keeping promising value-added sectors such as beauty products, footwear, and processed foods from realizing their full potential. In particular, leveraging regional integration frameworks and South-South cooperation, embracing sustainable production practices and digital transformation can strategically transform Rwanda's economic landscape. The strategic vision extends beyond mere export growth, aiming to build a competitive, innovative, and resilient economic ecosystem that can effectively support Rwanda on its path to LDC graduation and position the country as a dynamic player in regional and global markets. The implementation hinges on continuous adaptation, strong public-private collaboration, and a holistic view of economic development that embraces sustainability, technology, and strategic global positioning.

APPENDICES

APPENDICES

Appendix I Definition of partner regions

The regions mentioned in Chapter 1 are defined as follows:

Southeast Asia
Brunei Darussalam
Cambodia
Indonesia
Lao People's Democratic Republic
Malaysia
Myanmar
Philippines
Singapore
Thailand
Timor-Leste
Viet-Nam

Eastern Africa
Comoros
Djibouti
Eritrea
Ethiopia
Kenya
Madagascar
Mauritius
Rwanda
Seychelles
Somalia
South Sudan
Sudan
Tanzania, United Republic of
Uganda

Central Africa
Burundi
Cameroon
Central African Republic
Chad
Congo
Congo, Democratic Republic of the
Equatorial Guinea
Gabon
Sao Tome and Principe

Southern Africa
Angola
Botswana
Eswatini
Lesotho
Malawi
Mozambique
Namibia
South Africa
Zambia
Zimbabwe

Appendix II The value chains of NAEB's 2019-2024 strategic plan

The National Agricultural Export Development Board's (NAEB) strategic plan for 2019 to 2024 plan identified priority value chains to reach agricultural export targets. They were chosen based on their capacity to contribute to agricultural export targets and on Rwanda's ability to address the value chains' challenges. The chosen value chains are those with global market potential, agronomic viability for scale production, and the ability to generate high export revenues, whose existing challenges are also relatively easy to address.

Three types of value chains are identified through this process: 1) high potential value chains, 2) value chains with opportunities in specific segments, and 3) new growth value chains. High potential value chains include horticultural products, tea, and pyrethrum. Value chains with opportunities in specific segments include speciality and organic coffee, value-added cereals, and animal products. New growth value chains include essential oils, sericulture, and stevia.

High potential value chains

Within the horticultural value chain, high-value crops such as chilis, French beans, flowers, grapes, macadamia nuts, mushrooms, and passion fruit were prioritized with a focus on expanding exports first to the European market, followed by the Middle East, and Western and Southern Africa. The strategic plan targeted $100 million in horticulture sales as well as capturing 3% of the European Union (EU) horticulture market by 2024. Lightweight, high-value perishable crops that are easy to transport were suggested for the EU and other international markets, while high-weight crops that are either high value (i.e., avocados) or low value (tomatoes) were suggested for local or regional markets. Pineapples were not prioritized due to low yields and the high shipping costs compared to international competitors like Ghana and Costa Rica.[41]

Challenges identified for the horticulture sector included compliance with mandatory (i.e., sanitary and phytosanitary) and voluntary (i.e., organic) standards, limited cold chain and air freight capacity, a small number of consistent horticulture exporters, difficulty connecting with buyers due to lack of market information and marketing capabilities, and limited access to quality inputs, agronomic knowledge, and post-harvest handling skills.

The strategic plan targeted $50 million in tea sales, as well as capturing 3% of the global black tea market, and increasing the share of Rwanda's exports of speciality tea (e.g., green, organic) to 20% of total exports by 2024. Target markets for tea included Asia, the United States, Europe, and North Africa. Challenges in the tea sector included low yields due to limited investment in production inputs and knowledge of farming best practices, limited R&D capabilities and knowledge of quality management, lack of market information enabling exporters to find direct buyers and sell at higher prices, limited control over prices for higher-quality tea (as the majority of Rwandan tea is sold through auctions), and high transport costs.

The strategic plan targeted $2 million in pyrethrum sales to buyers of pyrethrum extract in the United States, Europe, Africa, and Asia by 2024, and diversification into locally produced organic pesticides (which use pyrethrum extract) for regional and international markets. Challenges in the pyrethrum value chain included limited land available for production expansion, low productivity due to limited fertilizer use and knowledge of best practices, and lack of established market linkages with potential buyers.

Value chains with opportunities in specific segments

Nearly all of Rwanda's coffee exports are green, with limited diversification of into organic, specialty, and single origin coffee. Due to volatile international coffee prices, the strategic plan emphasized the need for diversification into higher value coffee such as organic, specialty, and single origin coffee, which can fetch a significant price premium over regular coffee. The strategic plan targeted $6 million in coffee sales to buyers and producers of coffee in the United States, Europe, and Asia by 2024. Challenges in the coffee value chain included scattered production areas with low yields and poor coordination, leading to higher logistics and production costs. Processing challenges were also identified to hamper the export of higher value coffee, with washing stations operating under their capacity and a large share of coffee production remaining not fully washed, and therefore sold at lower prices on the local market.

Given the limited regional demand for milled cereals outside of the Democratic Republic of the Congo (DRC) and Rwanda's limited production capacity compared to other regional exporters, the strategic plan targets exports of what

[41] NAEB (2019).

it calls value added cereal re-exports. Specifically, Rwanda aims to export wheat and maize flour milled domestically from imported grains. While cereal processors in Rwanda have sufficient capacity to supply the regional market, local maize is low quality, leading Rwanda to import over 40% of maize grains. Challenges in the cereal sector include lack of mechanized farming (due to small plots and step terrain) which reduces Rwanda's competitiveness vis-à-vis other regional exporters, low productivity due to lack of resources and farming skills and knowledge, limited post-harvest handling knowledge and capacity, and limited quality and safety standards enforcement.

While live animals comprised the largest component of Rwanda's animal product exports between 2013 and 2018, the country would like to diversify into fine cuts of meat from cows and small ruminants like lamb and goats, as well as value-added dairy products. The Government of Rwanda has already implemented several initiatives to improve livestock production and productivity including the Gako integrated beef project which aims to increase quality meat production for local and export markets. Production of animal products in Rwanda is constrained by fragmented smallholder-based farming, limited access to quality feed and grazing terrain, and low productivity of local cow breeds. Furthermore, there is limited professional knowledge of quality control and enforcement, a lack of commercial scale processing infrastructure, and limited cold chain and logistics capacity.

New growth value chains

The strategic plan highlighted essential oils and stevia as emerging value chains with growth potential. The plan targets $1 million in sales of essential oils to the EU, Asia, and Africa by 2024. The plan also mentions that eucalyptus, geranium, and patchouli (which can be used in essential oils) grow naturally in Rwanda and that the country could target niche markets by exporting organic essential oils. Essential oils exports are currently limited by low production and local processing capacity due to the nascent nature of the value chain. Stevia production is also relatively new in Rwanda, with exports beginning in 2016. The strategic plan states that a stevia processing plant could be established if sufficient volumes of stevia can be produced. Other nascent value chains with potential identified by the strategic plan include honey, sericulture, specialty mushrooms, herbs, and spices.

Appendix III Value chain selection methodology

As briefly outlined in Chapter 2, the ITC value chain selection methodology relies on the definition of product-level value chains, built from existing sector-level input-output matrices, and the feasibility and desirability assessments. This appendix provides additional details on these steps.

The product-level definition of value chains

The definition of value chains at the product level is the cornerstone of the identification of feasible value chains. The starting point to determine input-output links at the product level are the sector-level input-output matrices of the United States, Mexico, and the Philippines. These input-output matrices are selected as the basis for the methodology because they disclose a greater sectoral disaggregation than most, and they represent countries with very different economic structures and development levels. There are two main motivations not to use the input-output matrix of the country being analysed. First, not all countries have an input-output matrix defined at the level of detail provided by the ones used in the methodology, or updated as often, or available at all. Second, the input-output matrix of any given country can only reflect the input-output links of activities already taking place in the country, whereas the methodology seeks to identify opportunities for new products as well.

Input-output matrices are a representation of trade across industries and indicate the value of inputs used to produce an output at the sector level. The value of input requirements per unit of output is called a technical coefficient (tc). The input-output matrices are originally defined at the sector level and must therefore be transformed to the product level for our exercise, and the technical coefficients have to be distributed accordingly. To do that, in an initial step, all products (p) that are matched to an input sector (IS) are considered potential inputs for all products matched to an output sector (OS). Figure A. 1 illustrates this expansion with two hypothetical input sectors (IS_1 and IS_2), two output sectors (OS_1 and OS_2), and their corresponding products. In this first step all possible products assigned to a sector are also assigned their respective sector's technical coefficient.

Figure A. 1 Disaggregation of a sectoral input-output matrix to the product level

Sectoral input-output matrix

	OS_1	OS_2
IS_1	tc_{11}	tc_{12}
IS_2	tc_{21}	tc_{22}

→ First step

		OS_1		OS_2		
		op_{11}	op_{12}	op_{21}	op_{22}	op_{23}
IS_1	ip_{11}	tc_{11}	tc_{11}	tc_{12}	tc_{12}	tc_{12}
	ip_{12}	tc_{11}	tc_{11}	tc_{12}	tc_{12}	tc_{12}
IS_2	ip_{21}	tc_{21}	tc_{21}	tc_{22}	tc_{22}	tc_{22}
	ip_{22}	tc_{21}	tc_{21}	tc_{22}	tc_{22}	tc_{22}
	ip_{23}	tc_{21}	tc_{21}	tc_{22}	tc_{22}	tc_{22}

→ Second step

		OS_1		OS_2		
		op_{11}	op_{12}	op_{21}	op_{22}	op_{23}
IS_1	ip_{11}	tc_{11}	tc_{11}	tc_{12}	0	tc_{12}
	ip_{12}	tc_{11}	0	tc_{12}	tc_{12}	tc_{12}
IS_2	ip_{21}	tc_{21}	0	tc_{22}	tc_{22}	0
	ip_{22}	0	tc_{21}	tc_{22}	tc_{22}	tc_{22}
	ip_{23}	tc_{21}	0	tc_{22}	0	tc_{22}

Note: *IS* stands for input sector, *OS* for output sector, *ip* for input product, *op* for output product and *tc* for technical coefficient.
Source: Authors' own diagram.

Matching all possible input products of a sector to all possible output products of a sector necessarily generates some inaccurate input-output links at the product level. For example, frozen bovine carcasses and frozen swine carcasses are in the same output sector, while bovine animals and swine are in the same input sector. In the matrix resulting of the initial step of the disaggregation, swine is incorrectly considered an input to frozen bovine carcasses.

Therefore, the second step consists of removing any inaccurate input-output links. Correct links are identified implementing several approaches. The first one is applying natural language processing techniques to the description of input products and output products. Information on input-output links from rules of origin provisions of over 70 trade agreements is also incorporated. Lastly, manual corrections are made following the assessment of sector experts. In the example cited above, the word match of "bovine" carcasses and "bovine" animals allows us to conclude that bovine animals are used to produce bovine carcasses (and swine are not). When a link is removed, the corresponding technical coefficient is set to zero (Figure A. 1, right). The technical coefficients are reallocated to all remaining matched inputs for each output.

Lastly, the technical coefficients of all three input-output tables are aggregated, weighted by each country's market share of the output product.

The resulting product-level input-output matrix only represents the immediate inputs used during the last step of production (i.e., direct inputs). To better capture the production process, intermediate consumption of inputs (i.e., indirect inputs) can also be considered. This can be done by tracing the production of inputs in the input-output matrix itself. To fully capture the entire production process, the input-output matrix is inverted. The resulting matrix, also known as the Leontief matrix, contains the total requirements of each input product for each output product, that is the value of an input that is required to produce a unit of the output, taking into account the entire upstream value chain production processes.

Feasibility

Availability of inputs

As explained in Chapter 2, in order to determine whether sufficient inputs are available within the country to produce a specific value chain output, trade data and the product-level input-output table are used.

In the case of Rwanda, the criteria applied are as follows:

a. For each output, each input is checked, comparing its projected exports to:
- the minimum exports of that input among countries that export the output with a revealed comparative advantage, and
- the average exports of that input among countries that export the output with a revealed comparative advantage.

When projected exports exceed these thresholds, the input is considered to be available.

b. For each output, the sum of all available inputs needs to be:
- above 20% of the sum of all necessary inputs,
- above the minimum share of necessary inputs available among countries that export the output with a revealed comparative advantage, and
- above the average share of inputs available among countries that export the output with a revealed comparative advantage.

The combination of the different thresholds in a. and b. generates a range of criteria (6), going from some that are often met, generally the ones associated to minima, to others that can hardly ever be met, mostly the ones that require surpassing the averages of countries exporting the output with a revealed comparative advantage. In cases where none of the criteria are met, it is considered that inputs are not available domestically for that product. When only criteria associated to minima are met, the input availability is considered to be `weak'. Medium, strong, and very strong categories of input availability are defined depending on the number of criteria met.

Required capabilities

To assess Rwanda's *capabilities* for a given product, the requirements applied were that:

- the product is already being exported, OR
- the product is sufficiently `similar' to other products Rwanda currently exports.

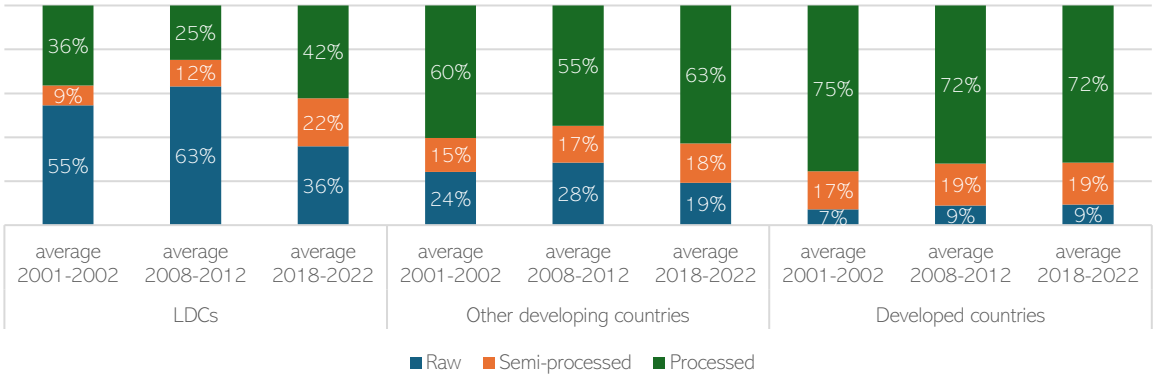
The concept of `similarity' relies on the notion of product space and density, as developed in Hidalgo, et al. (2007). A product is considered to be sufficiently similar to current exports if:

- Rwanda's density for that product is higher than its average density, AND
- Rwanda's density ranking for that product is lower than the average density ranking for that product among countries that export it with a comparative advantage.

The underlying assumption is that products typically exported simultaneously require the same capabilities.

Appendix IV Additional figures

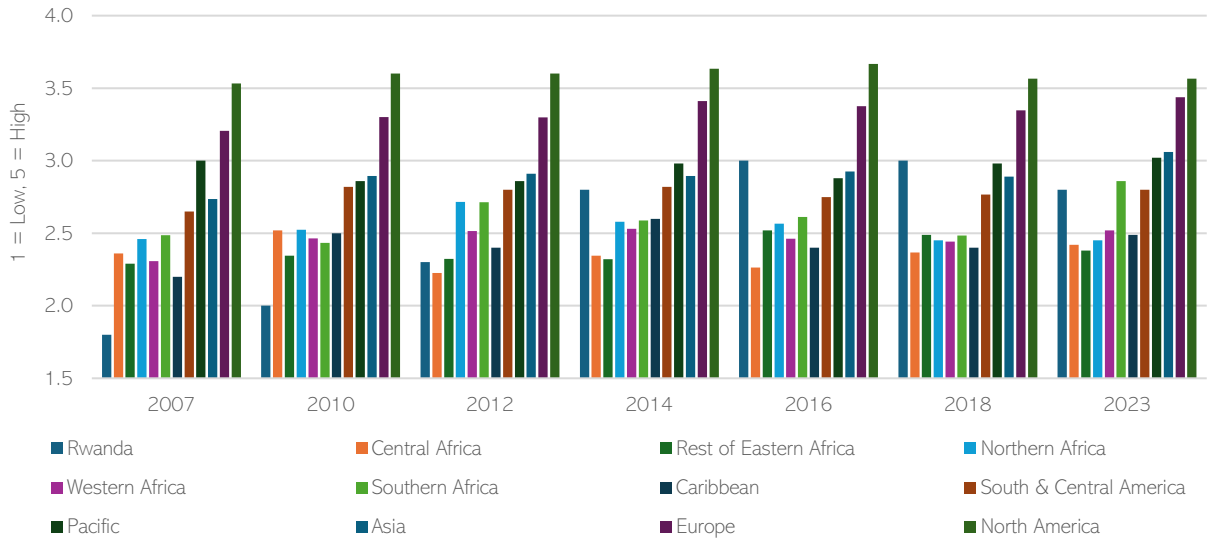
Figure A. 2 Exports, by level of processing and country group



Note: The classification of products into raw, semi-processed and processed is based on the Multilateral Trade Negotiation Categories (MTNC) of the World Trade Organization (WTO).

Source: Authors' calculations based on ITC Trade Map (2023).

Figure A. 3 Logistics performance index 2007 to 2023, average by region



Note: Value represent simple regional averages.

Source: Authors' calculations based on the Logistics Performance Index of the World Bank (lpi.worldbank.org).

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