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Eastern Africa's Manufacturing Sector

Promoting Technology, Innovation, Productivity And Linkages

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THE AFRICAN DEVELOPMENT BANK GROUP

Vice President: Zondo Sakala
Regional Director (EARC): Gabriel Negatu
Lead Economists: Stefan Muller, Abraham Mwenda
Chief Regional Economist and Task Manager of the Report: Tilahun Temesgen

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African Development Bank Group – Eastern Africa Regional Resource Centre (EARC)
Khushee Tower
Longonot Road, Upper Hill
Nairobi, Kenya
Phone: (254) 20 2712925/26/28
Fax: (254) 202712938
Email: EARC@afdb.org
Website: www.afdb.org

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ABBREVIATIONS

ACA	Anti-Counterfeit Agency
AFIPEK	Kenya Fish Processors & Exporters Association
CBK	Central Bank of Kenya
CET	Common External Tariff
CIP	Competitive Industrial Performance
COMESA	Common Market for Eastern and southern Africa
DFIs	Development Finance Institutions
DVS	Department of Veterinary Services
EAC	East African Community
EARC	East Africa Resource Center
EPC	Export Promotion Council
EPZA	Export Processing Zones Authority
EPZA	Export Processing Zone Authority
EPZs	Export Processing Zones
ERC	Electricity Regulatory Commission
ESA	Eastern and Southern Africa
ESALIA	Eastern and Southern Africa Leather Industries Association
FKE	Federation of Kenya Employers
FPEAK	Fresh Produce Exporters Association of Kenya
GDP	Gross Domestic Products
HCDA	Horticultural crops development Authority
HHI	Herfindahl-Hirschman Index
IDBC	Industrial Development Bank Capital
KAM	Kenya Association of Manufacturers
KARI	Kenya Agricultural Research Institute
KEBS	Kenya Bureau of Standards
KenInvest	Kenya Investment Authority
KEPHIS	Kenya Plant Health and Inspectorate Services
KEPSA	Kenya Private Sector Alliance
KIE	Kenya Industrial Estates
KIPI	Kenya Industrial Property Institute
KIPPRA	Kenya Institute for Public Policy Research and Analysis

KIRDI	Kenya Industrial Research and Development Institute
KITI	Kenya Industrial Training Institute
KLDC	Kenya Leather Development Council
KNCC&I	Kenya National Chambers of Commerce & Industry
KNFJKA	Kenya National Federation of Jua Kali Association
KPLC	Kenya Power and Lighting Company
KRA	Kenya Revenue Authority
KRA	Kenya Revenue Authority
KSB	Kenya Sugar Board
KTDA	Kenya Tea Development Agency
MPDI	Manufactured Product Diversification Index
MSME	Micro, Small and Medium Sized Enterprises
MTP	Medium Term Plan
MUB	Manufacturing under bond
MVA	Manufacturing Value Added
NEMA	National Environmental Management Authority
NIDC	National Industrial Development Commission
NMC	Numerical Machining Complex
PPCB	Pesticides Products Control Board
R&D	Research and Development
RCA	Revealed comparative advantage
RTAs	Regional Trading Arrangements
SMEs	Small and Medium-Sized Enterprises
SWOT	Strengths, Weaknesses, Opportunities and Threats
TREO	Tax remission for export office
TVET	Technical and Vocational, and Education and Training
VAT	Value Added Tax
WDI	World Development Indicators
WEF	World Economic Forum

ACKNOWLEDGEMENTS

This country report was prepared as part of a regional assessment of the manufacturing sector in Eastern Africa covering seven countries – Burundi, Ethiopia, Kenya, Rwanda, Seychelles, Tanzania and Uganda – commissioned by the African Development Bank (AfDB), East African Regional Resource Center (EARC). The report was task managed by Dr. Tilahun Temesgen, Chief Regional Economist, EARC. Overall guidance was received from Mr. Gabriel Negatu, Director, EARC, Nairobi, and Messrs. Abraham Mwenda and Stefan Muller, Lead Economists, EARC. The document was prepared by Dr. Mary L. Mbithi, consultant and country expert, and reviewed by Dr. Derk Bienen, BKP Development and Dr. Tilahun Temesgen, AFDB/EARC. Natassia Ciuriak, BKP Development provided editorial assistance. AfDB staff who provided important inputs and peer-review comments included Messrs. Walter Odero, Hyunyoung Song, Njoroge Mutahi and John Kofi Baffoe.

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The report also greatly benefitted from discussions with, and comments and suggestions from stakeholders who participated at the country level validation workshop in Nairobi as well as discussions with the Kenya Association of Manufacturers (KAM). The financial contribution from KOAFEC in undertaking the study is acknowledged and greatly appreciated.

FOREWORD BY AFDB/EARC REGIONAL DIRECTOR

A competitive, thriving and diversified manufacturing sector in Kenya is central to the country's socio- economic transformation. Kenya's manufacturing sector is more vibrant than its comparators in most other countries in the Eastern Africa region, but its competitive position lags behind globally due to a number of reasons: the sector does not produce diversified outputs, its productivity and global competitiveness are low, its contributions to employment and GDP are low. The sector also suffers from a number of constraints such as limited access to finance, low access to and erratic supply of electricity, and limited access to transport infrastructure.

On the other hand, there are a number of reasons for optimism in that the sector can be made more vibrant through addressing the major business environment constraints. Competitiveness of Kenyan manufacturing sector can be significantly improved through the right mix of policy reforms and incentives including support to improved market access and skills development, better access to infrastructure services and technology to spearhead sustainable and inclusive growth in the country.

The purpose of this report is to provide an analytical assessment of the manufacturing sector in Kenya. The report identifies binding constraints to a competitive manufacturing sector, as well as opportunities and strengths that can be harnessed for the development of the sector in the country. It also proposes a number of specific recommendations and actions – both horizontal and sector specific – to unleash the sector's huge potential.

The African Development Bank's Private Sector Development Strategy (2013-17) clearly articulates the need to enhance the role of Africa's private sector in the continent's economic transformation. The Bank has also recently adopted its Ten Year Strategy (2013-2022) which articulates private sector development as one key priority for Africa's economic transformation. This report therefore complements the Bank's strive to the realization of a sustainable private sector-led economic transformation in Kenya.

Gabriel Negatu,
Regional Director,
Eastern Africa Resource Center,
African Development Bank

FOREWORD BY PRINCIPAL SECRETARY OF MoIED

This report is part of a synthesis report based on country-level reports for Burundi, Ethiopia, Kenya, Rwanda, Tanzania, Uganda and Seychelles. The Report has been developed through a review of previous studies, benchmarking and a consultative process with key stakeholders. It brings out an assessment of the status of the manufacturing sector in Kenya. The report also brings out the competitive and comparative advantages; policy options for harnessing opportunities and constraints. It provides recommendations for promoting technology, innovation, productivity and linkages.

The East African Community Industrialization Strategy (2012-2032) whose theme is "Structural transformation of the manufacturing sector through high value addition and product diversification based on comparative and competitive advantages of the region" provides a strong basis for assessment of the current status of the manufacturing sector. Similarly, the Kenya Vision 2030 has identified the Manufacturing Sector, as one of the seven (7) key priority areas under the Economic pillar that will drive the realization of the Vision. The growth and development of the manufacturing sector in the EAC region will be premised on competitiveness driven by technology, innovation and high productivity levels.

The Sessional Paper No. 9 of 2012 on the National Industrialization Policy Framework for Kenya (2012 – 2030), recognizes that as Kenya strives to have a robust, diversified and globally competitive manufacturing sector, industrial research, innovation and creativity will be central to the growth and competitiveness. Some of the priority sectors identified in the EAC Industrialization Policy and Sessional Paper No. 2 of 2012 are the same as those in this report. It will contribute significantly to the regional and national goals of the manufacturing sector.

This report comes at a time when Kenya has initiated the implementation of its Industrialization Roadmap. The Roadmap is a progeny of the National Industrialization Policy which envisages growth of Kenya's manufacturing base from 11% to 20% of GDP in the next sixteen years. It leverages on competitive sectors that Kenya has a natural advantage that include textile, leather, fish, beef and other agro-based processing. Other areas of focus include ease of doing business and creation of transformational development programs such as Special Economic Zones, Small and Medium Enterprises Parks and Free Trade Zones. This report therefore provides a platform for cooperation between Government of Kenya, African Development Bank Group and other stakeholders in the development and revitalization of the manufacturing sector.

I also wish to urge the County Governments to use the findings of the report as they develop County Integrated Development Plans and other manufacturing based investment programs.

Dr. Wilson Songa, MBS

PRINCIPAL SECRETARY
MINISTRY OF INDUSTRIALIZATION AND
ENTERPRISE DEVELOPMENT
REPUBLIC OF KENYA

EXECUTIVE SUMMARY

This study assesses the status of the manufacturing sector in Kenya; identifies binding factors, constraints, opportunities and strengths for the development of the sector; draws lessons from the experience of South Korea (and other East Asian countries) that managed to successfully transform their manufacturing sectors into highly productive and competitive sectors, with high value added generation and makes recommendations including reforms, policies and strategies to strengthen the role of manufacturing as a dynamic force of economic development and transformation in Kenya.

The study methodology comprised the review of previous studies; carrying out consultations with key stakeholders in the Kenya manufacturing sector; and an assessment of competitiveness and comparative advantage, benchmarked competitiveness, and identification and assessment enablers for the manufacturing industry.

Key findings of the study

On the status of the manufacturing sector, the study finds that over the last decade, the share of the manufacturing sector to GDP has been rather stagnant at about 11%. In both absolute and per capita terms, manufacturing value added has been on the increase: The level of industrialization in Kenya as measured by manufacturing value added (MVA) per capita is about USD 79, representing about 26%, 9%, 6% and 1% of the level of that of Vietnam, South Africa, China and Korea respectively. Also, the share of manufactures in merchandise exports for Kenya (32% in 2012) is far lower than in those countries (more than 95% in Vietnam, China and Korea).

Among the Kenyan manufacturing subsectors that have achieved the largest increase in output over the last decade are tobacco and tobacco products, refined petroleum products, non-metallic mineral products, and manufacture of transport equipment. Textiles, wood and wood products, rubber and rubber products meanwhile have shown a declining trend.

Manufacturing sector productivity (measured by labour productivity) has been on an increase while unit labour cost has remained generally constant but high at about 35% of value added. The level of competitiveness (measured by Revealed Comparative Advantage, RCA) of Kenyan manufactures in general has been declining; the sector has never been globally competitive over the last decade. Although Kenya has shown some improvements in the Competitive Industrial Performance (CIP) index, her CIP score remains much lower than that of the benchmark countries of China, Chile, India, Indonesia, Malaysia, Philippines, Republic of Korea, South Africa, Thailand, Turkey and Vietnam.

On the binding factors, constraints, opportunities and strengths for the development of the sector, the study finds that in general Kenya's business environment lacks competitiveness, as shown by its rank number 106 out of 144 economies in the Global Competitiveness Report 2012-2013. The country's general strengths are innovative capacity, high quality education, well developed financial markets and a relatively efficient labour market. Key challenges are identified as poor health, low life expectancy and insecurity.

Specific strengths for manufacturing sector in Kenya include: availability of well trained and skilled labour; availability of some raw materials especially in food and beverages sector; strong private sector industry associations providing leadership in the sector and strong Public-Private Partnerships (PPP). Constraints in the sector include: expensive and unreliable power supply, and poorly developed infrastructure in general; limited access to finance especially for small-scale processing companies; limited value addition and product transformation; resource based production patterns using low technology; high cost of labour; relatively low productivity compared to emerging economies; and a high number of burdensome regulations and multiple regulatory institutions with overlapping mandates leading to high administrative costs.

Opportunities for the sector include: high domestic demand in all manufactured goods; high demand in EAC Partner State countries and the regional market for most manufactures; high demand in developed countries for processed foods and beverages; and the current industrial policy measures to support development of the manufacturing sector. Threats for the sector include: stiff competition from imported counterfeits and sub-standard products; climate change and global warming may pose a challenge to the availability of raw materials; the proposed trading arrangement between the EAC and the EU (the Economic Partnership Agreement), which is likely to increase competition for Kenyan products by European manufacturers that are far more competitive; and the general liberalization at the multilateral level (WTO) which erodes the current preference margins in countries where Kenya has preferential market access.

On lessons of experience from benchmark countries, the study finds that Kenya has a lot to learn in: stepping up measures to harnessing technology, innovation, productivity, and linkages including promoting linkages between industry and universities, polytechnic institutes and other training institutions, and on leveraging FDI. Kenya also needs to learn as regards improving the business enabling environment including the development and improvement of the regulatory environment in: the transport infrastructure sector; energy; communications; and financial services. The country also can learn as regards incentive schemes for the manufacturing sector, particularly in enhancing the utilization of such schemes. Finally, Kenya also needs to put in place strategies to enhance the benefits it can reap from regional integration particularly in the context of the EAC and COMESA.

Recommendations

Key recommendations to strengthen the transformation of manufacturing sector include:

- Review the current tax incentive regimes particularly to ensure quick tax refunds and tight control of refund process to reduce corruption cases and to reward more use of high technology, research and development.
- Review regulatory institutions and regulations governing the manufacturing sector to remove duplicative roles, remove multiple payments, reduce corruption, and reduce administrative and operational costs.
- Develop road, rail, air and maritime transport infrastructure, as well as energy supply and telecommunications systems to improve service flows and reduce costs to manufacturing.
- Improve logistics particularly port infrastructure, customs processes and capacity to track and trace freight goods.
- Develop viable credit mechanisms based on varied types of collateral e.g. in supply chain financing, where small suppliers participating in value chains sponsored by larger manufacturers are provided working capital by export credit agencies based on the creditworthiness of the supply chain organizer and the contractual commitments.
- Improve secondary and tertiary education level enrolment; quality of math and science education; and enrolment in engineering and technical subjects needs to be increased to develop the pool of highly skilled scientists, engineers, technicians and workers.
- Improve research and development (R&D), encourage staff training; promote linkages between university including joint development of training curriculum, vocational training and other tertiary institutions; and increase funding for R&D.
- Implement manufacturing cluster policies in the context of devolution to promote manufacturing depending on natural resource endowments of various counties for county-specific products.

1. INTRODUCTION

1.1 Background

The study on 'Eastern Africa's Manufacturing Sector: Promoting Technology, Innovation, Productivity and Linkages' was commissioned by the East Africa Resource Center (EARC) of the African Development Bank. The purpose of the study is to assess the current status of the manufacturing sector in the Eastern African region and to provide recommendations towards strengthening the sector's role in structural economic transformation and promoting inclusive growth across the countries in the region. The study covers seven Eastern African countries, Burundi, Ethiopia, Kenya, Rwanda, Seychelles, Tanzania, and Uganda. The regional study is supported by country-level reports of which this Kenya report is one.

The importance of the manufacturing sector to development globally has been acknowledged. In Kenya, the realization of the country's long-term development policy framework, the Kenya Vision 2030, whose goal is for the country to become a newly industrialised economy, identifies the manufacturing sector as a key driver in the attainment of this goal. The sector is seen as an important pillar in the achievement of Kenya's development; indeed, it contributes significantly to wage employment as well as to Kenya's merchandise exports, and accounts for a significant proportion of informal employment within the small and medium-sized enterprise (SME) sector.

However, the manufacturing sector's contribution to the Gross Domestic Product (GDP) has remained stagnantly low at about 11% and its annual growth rate has remained at about 4% recently, with the sector facing several challenges that have constrained it from realizing its expected high growth potential. The dismal performance of the sector has been at a time when several programmes have been implemented to encourage manufacturing activities, among them tax-related incentives provided under domestic programmes and under the East African Community (EAC) Customs Union trade regime.

1.2 Study Objectives

The purpose of this study is to contribute to the assessment of the current status of the manufacturing sector in the Eastern Africa region and to provide recommendations towards strengthening the sector's role in structural economic transformation and promoting inclusive growth across the countries in the region.

The specific objectives of the study are to:

i) Carry out a diagnostic and analytical assessment of the current status of the manufacturing sector in Kenya.
ii) Identify binding factors, constraints, opportunities and strengths for the development of the sector.
iii) Draw lessons from the experience of South Korea and other East Asian countries that managed to successfully transform their manufacturing sectors into highly productive and competitive sectors, with high value added generation.
iv) Make recommendations including reforms, policies and strategies to strengthen the role of manufacturing as a dynamic force of economic development and transformation in Kenya.

In the immediate term, this study contributes to the preparation of the regional study report "Eastern Africa's Manufacturing Sector: Promoting Technology, Innovation, Productivity and Linkages". The study provides recommendations on the best way forward towards strengthening the manufacturing sector in Kenya. Stakeholders in decision-making in Kenya, including the Government of Kenya, regional bodies, particularly the East African Community Secretariat and other Regional Economic Communities, and private sector and development partners will find the study useful. Members of academia, media, civil society and the general public will also benefit from the study.

1.3 Methodology

This study has been prepared using a mix of different methodologies including:

- Review of previous studies;
- Consultations with key stakeholders in the Kenya manufacturing sector;
- Descriptive statistical and trend analysis to enable:
  - Assessment of competitiveness and comparative advantage, using estimation of productivity, unit labour costs, trade performance, and revealed comparative advantage;
  - Benchmarking competitiveness for Kenya against the other study countries in the region and other selected developing countries;
  - Identification and assessment of enablers for the manufacturing industry;
  - Analysis of strengths, weaknesses, opportunities and threats (SWOT) of the manufacturing sector as well as selected sub-sectors.
- A stakeholder workshop was conducted to validate the study findings and recommendations.


TATA
RM
SKF

2. THE CURRENT STATUS OF MANUFACTURING IN KENYA

2.1 Overview of the Economy

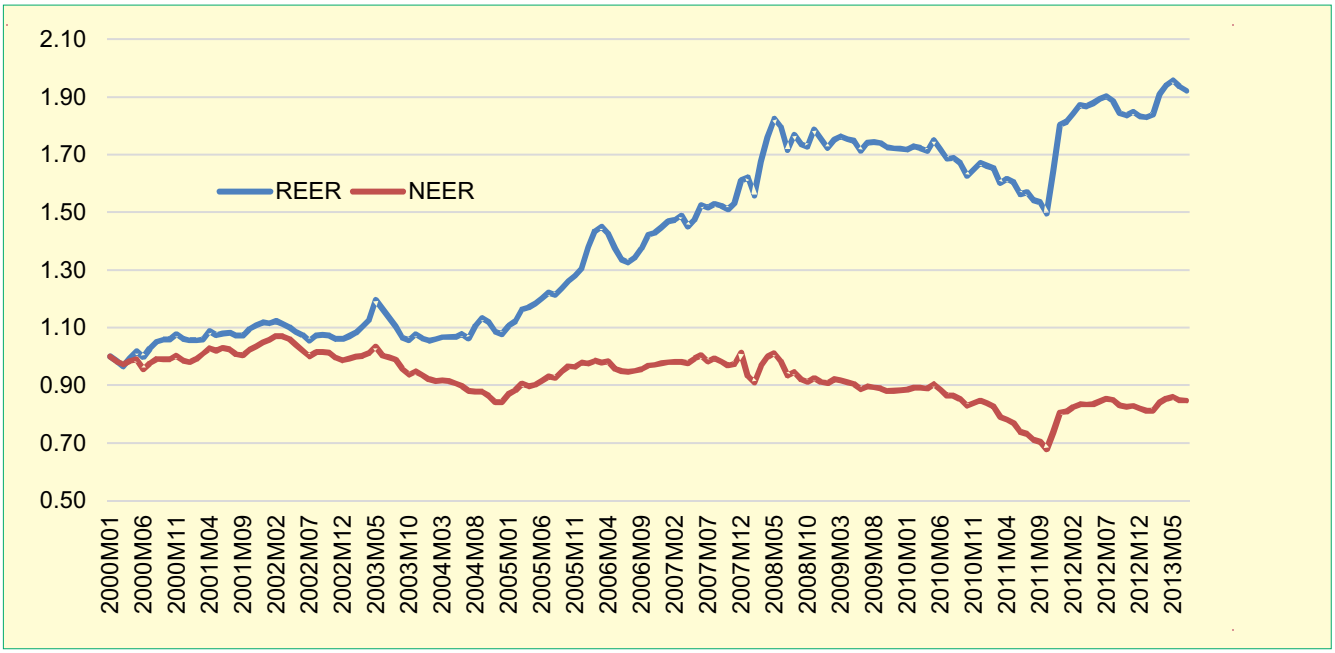
Since the early 2000s, the Kenyan economy has been on a recovery path after having experienced a slump in the late 1990s. In 2013, the country attained a GDP level estimated at about USD 46.5 billion or USD 1,073 per capita (IMF WEO, April 2013). The country's real GDP growth rate has been on the increase since 2003, although interrupted by the global financial crisis of 2008-09, the internal crisis related to post-election violence in late 2007 and early 2008, and the regional drought. Growth is projected to accelerate to the 6.2% range over the medium term from the 4.2% average achieved over the past dozen years (IMF WEO, April 2013).

Inflation has been volatile, peaking at 31.5% in May 2008 and recording an all-time low of 3.2% in October 2010. Stability remains an issue (the September 2013 consumer price index rose by 8.3% on a year-over-year basis reflecting the extension of VAT). However, on average, it has been kept in single digits over the past decade or so and is projected to be moderate, in the 5% range over the medium term. Interest rates are positive in real terms; accordingly, there are no fundamental structural concerns with financial stability.

Kenya has been running sizeable twin deficits on the fiscal and current accounts with the general government deficit in the range of 5% of GDP in recent years and the current account deficit in the range of 9% of GDP. For the near term however, these deficits do not appear to pose the risks that such figures normally would because of the impact of the discovery of major oil reserves in Kenya's northern Turkana region. This has intensified capital inflow related to oil exploration (some 45 exploration blocks have been licensed to 23 international oil companies). Gas has also been discovered on one of the offshore wells in the Lamu Basin. In addition, remittances have been rising strongly. Moreover, the current account, net of capital goods inflows has been in surplus (IMF Country Report No. 13/107, April 2013).

At the same time, these macroeconomic developments pose significant challenges for Kenya's manufacturing sector as they have contributed to a steep increase in the real effective exchange rate (Figure 1) which puts the manufacturing sector at a cost disadvantage.

Figure 1: Real and Nominal Effective Exchange Rates, January 2000-July 2013.



Source: Bruegel Institute (updated August 2013).

2.2 Descriptive Overview of the Manufacturing Sector

The services sector is the largest sector of the economy accounting for over 55% of GDP in 2012. Agriculture was the second largest sector contributing about 27% while industry accounted for about 17%, with the manufacturing sector accounting for over 10%. Table 1 shows trends of sector contribution to GDP in Kenya since 2000.

Table 1: Composition of Kenya GDP in %, 2000-2012

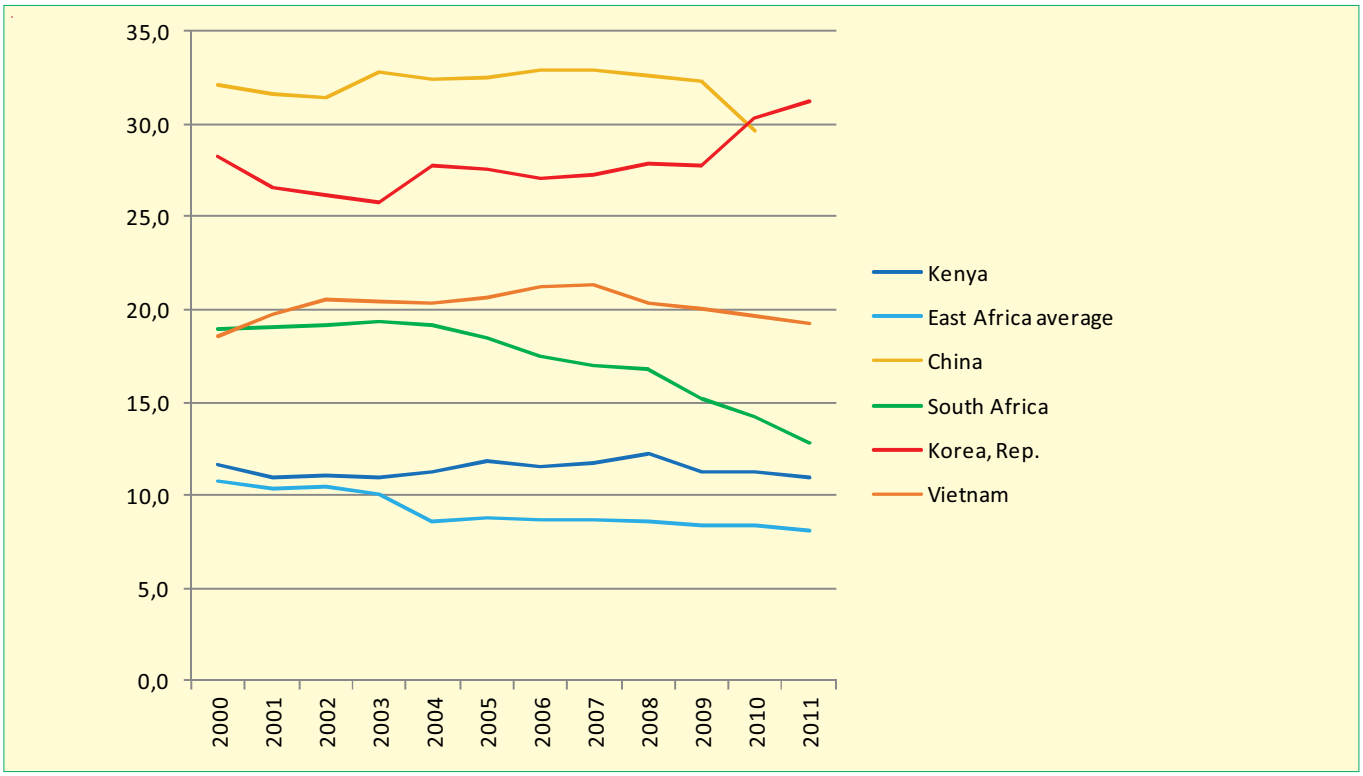
Sector	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Agriculture	32.4	31.3	29.1	29	28	27.2	26.8	25	25.8	27.2	25.1	28.5	27.1
Industry	16.9	17.2	17.4	17.6	18.2	19.1	18.5	18.5	19.8	18.7	18.6	17.6	17.4
Of which Manufacturing[1]	11.6	11	11.1	10.9	11.2	11.8	11.5	11.8	12.3	11.3	11.3	11	10.6
Services	50.7	51.4	53.5	53.4	53.7	53.7	54.8	56.4	54.4	54.2	56.3	53.9	55.5

[1] ISIC classification Rev. 3 section D "Manufacturing", Divisions 15-37.
Source: World Bank / World Development Indicators (WDI).

The importance of the services sector as shown by its share of Kenya's GDP has been on an increase since 2000, and the sector has been the main driver of economic growth over this period with growth rates of over 5% consistently. Leading sub-sectors have been wholesale, retail trade and repairs; transport and communication; and financial intermediation, with respective growth rates of over 17%, 12% and 7% recently (Kenya National Bureau of Statistics, 2012). The agricultural sector growth rate has been fluctuating between 2% and 6% recently, with the growth rate in 2012 being 4%. The sector however experienced negative growth rates in 2008 and 2009, being influenced by the domestic political instability following the country's general election at the end of 2007. The industrial sector's growth rate has been fluctuating between 2% and 5%, with the growth of the sector being driven by the manufacturing sector with a growth rate of over 7% in 2011 (Kenya National Bureau of Statistics, 2012).

The share of the manufacturing sector of Kenya's GDP has been rather stagnant at about 11%. Compared to developing countries such as China, South Africa, and Vietnam, many of which have manufacturing shares of GDP well above 20%, the contribution of Kenya's manufacturing sector to GDP is much lower (Figure 2). However, it has remained higher than the average recorded by the other Eastern African countries covered in the regional study (Burundi, Ethiopia, Rwanda, Seychelles, Tanzania and Uganda). The stagnating trend of manufacturing's share of GDP however is not peculiar to Kenya but a worldwide trend, as services sectors have become more important. Globally, the manufacturing sector's share of GDP has declined since 1970 from 27% to about 17% in 2010 (Atkinson et al. 2012).

Figure 2: Share of manufacturing in GDP: Kenya and selected countries, 2000-2011[1]



Source: World Bank / World Development Indicators (WDI).

[1]The "East Africa average" is calculated here as the average share of the manufacturing sector in the 7 country studies (Burundi, Ethiopia, Kenya, Rwanda, Seychelles, the United Republic of Tanzania, and Uganda).

[2]Manufacturing refers to industries belonging to ISIC divisions 15-37. Value added is the net output of a sector after adding up all outputs and subtracting intermediate inputs.

2.2.1 Size of manufacturing sector in the economy

The manufacturing sector[2] in Kenya is comprised of the following subsectors: beverages and tobacco, textiles and clothing; leather; wood and cork; furniture; paper; printing; chemical products; rubber and plastics; pottery and glass; metallic and non-metallic minerals; electrical and non-electrical machinery; and transport equipment.

Manufacturing production (measured as value added) accounts for the largest share of industrial sector production as shown in Table 2.

Table 2: Manufacturing, value added (MVA) in Kenya, 2000-2012

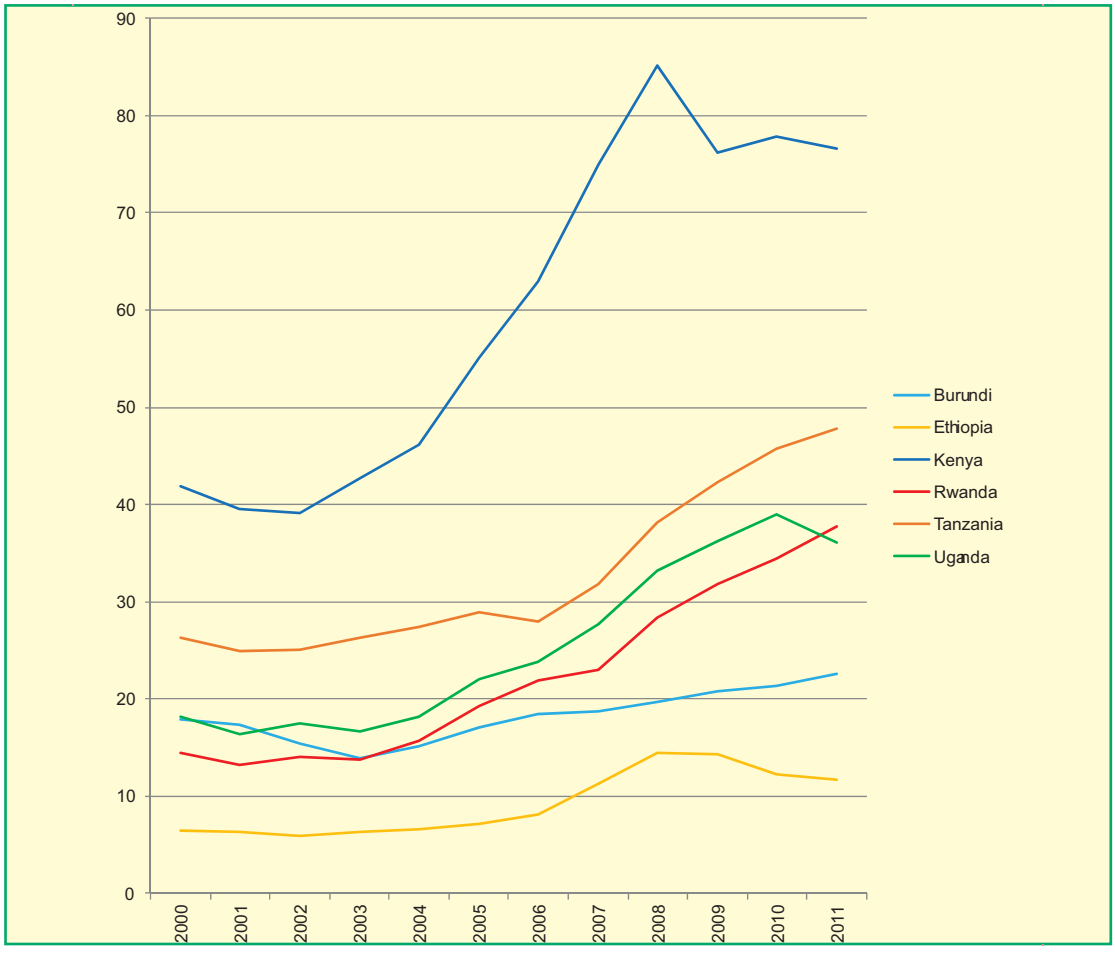
	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
MVA (curr ent USD million)	1,310	1,270	1,291	1,447	1,609	1,974	2,313	2,829	3,300	3,032	3,182	3,216	3,418
Contri bution to industrial GDP, in %	68.7%	63.9%	63.6%	62.1%	61.7%	61.9%	62.5%	63.6%	62.1%	60.4%	60.8%	62.5%	60.7%
MVA per capita	41.9	39.5	39.1	42.7	46.2	55.2	62.9	75	85.1	76.1	77.8	76.5	79.2

Source: World Bank / World Development Indicators (WDI).

In both absolute and per capita terms, manufacturing value added has been on the increase. Its share of industrial sector output has however been on the decrease reflecting primarily higher growth in construction (Kenya National Bureau of Statistics, 2012).

The level of industrialization in Kenya as measured by manufacturing value added (MVA) per capita is about USD 79. Although this is higher than the average for the Eastern Africa study countries (Figure 3), it is far lower than that of developing countries such as Vietnam, South Africa, China and Korea, whose MVA per capita stood at USD 301, 835, over 1,300, and over 6,000, respectively. Put another way, Kenya's manufacturing sector is therefore about 26%, 9%, 6% and 1% of the level of that of Vietnam, South Africa, China and Korea respectively.

Figure 3: MVA per capita, Eastern African countries, 2000-2011



Source: World Bank / World Development Indicators (WDI).

[2]Manufacturing refers to industries belonging to ISIC divisions 15-37. Value added is the net output of a sector after adding up all outputs and subtracting intermediate inputs.

All the Eastern Africa countries show an increasing trend in MVA per capita suggesting an improvement in the level of industrialization for all the countries for the period 2000- 2011. During this period, Kenya has experienced a faster growth of manufacturing sector MVA compared to the other Eastern Africa countries, at least until 2008; since then it has stalled both due to domestic factors – the post-election violence in 2007/08 – and international ones – the global crisis 2008/09.

The manufacturing sector is important in provision of employment opportunities in Kenya. Wage employment[3] in the industrial sector accounts for about 13% of the total formal wage employment, while employment in the manufacturing sector (ISIC 15-37) accounts for about 6.8% of all formal wage employment3 in the country (Table 3). The share of manufacturing sector employment to total employment has been rather stable over the years at between 6.6% and 7.5%.

Table 3: Wage employment in the formal manufacturing sector in Kenya, 2000-2011 ('000 persons)

Employment indicator	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Total employment	1,695	1,697	1,700	1,727	1,764	1,808	1,858	1,910	1,944	2,000	2,059	2,128
Manufacturing share of industrial employm ent	54.1	53.6	55.5	50.1	49.8	49.7	49.4	51.0	50.9	50.8	51.3	50.8
Manufacturing share of total employm ent	7.0	6.8	7.5	7.0	6.8	6.8	6.8	7.0	6.9	6.8	6.7	6.6

Source: Kenya National Bureau of Statistics, various years (Statistical Abstracts)

The above wage and employment figures and trends in the formal manufacturing sector underestimate the real employment situation in the country because they do not show the employment contribution of manufacturing in the informal sector which is far larger than employment in the formal sector. For example in 2011, the total number of people in formal wage employment in all sectors of the economy was 2.13 million persons while that in the informal sector was 9.27 million persons, suggesting that the informal sector in 2011 accounted for 81% while the formal sector accounted for 19% of the total employment in the country. While most of informal sector employment (60.3% in 2011) is accounted for by the wholesale and retail, hotels and restaurants industries, manufacturing accounted for 19.7% of the persons engaging in informal sector in 2011 (Kenya National Bureau of Statistics, 2012), meaning that informal manufacturing employment by far outweighs formal manufacturing employment.

The manufacturing sector also contributes significantly to Kenya's foreign exchange earnings through manufacturing exports (defined broadly), which account for over 40% of the value of merchandise exports. Most manufactured exports (over 52%) are agriculturally based. The bulk of Kenya's manufactured goods exports go to the African region, particularly to the Common Market for Eastern and Southern Africa (COMESA) and EAC regional trading blocs to which Kenya is party.

In both absolute and relative terms, the export value of manufactured goods has been on the increase. In absolute terms, exports of manufactures increased by a factor of 3.5 since 2001; as a share of total merchandise exports or industrial GDP, the increase was more modest but still notable (Table 4).

Table 4: Kenya exports of manufactured products, 2001-2012[4]

	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Total ma nufactur ed exports , million USD	572.3	930.4	1,437	1,485	2,093	1,948	2,281	2,785	2,406	2,798	2,506	2,074
Share of manufactur ed exports in total merchandise exports	37.7%	66.4%	56.3%	55.4%	61.2%	55.6%	55.9%	55.7%	53.9%	54.1%	49.2%	45.8%
Total manufactured exports as % of industrial GDP	25.6%	40.6%	54.9%	50.6%	58.5%	46.9%	45.2%	46.2%	42.1%	46.8%	42.4%	32.0%

Source: International Trade Centre's Trade Map (for export data); World Bank / World Development Indicators (WDI) (for data on GDP).

While the share of manufactured goods exports shows an increasing trend, volatility is high, generated by fluctuations in agricultural production and related product exports (food and beverages), which in turn reflect the fact that agricultural production in Kenya is highly dependent on weather conditions as much of it is rain fed.

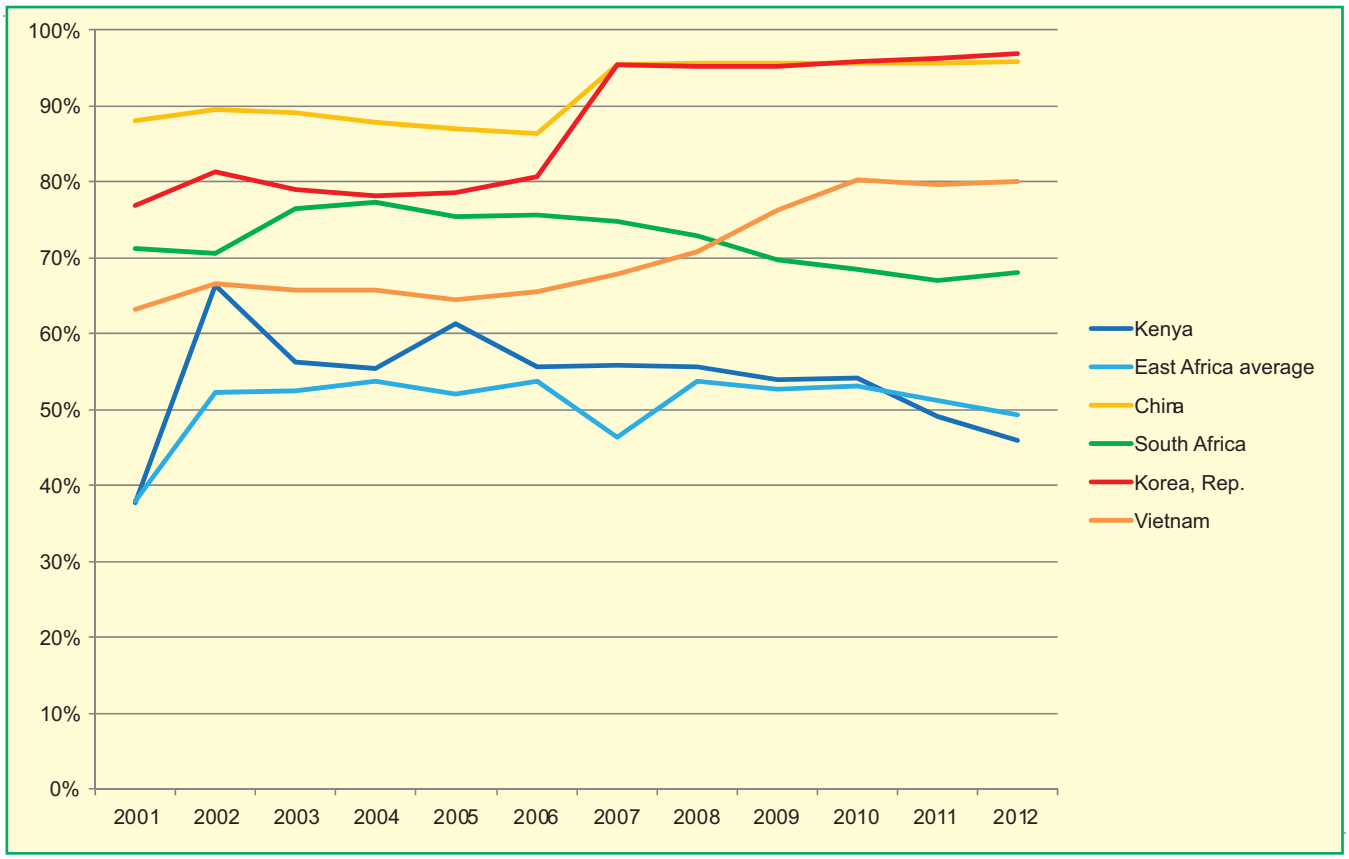
Compared to comparator countries such as Vietnam, South Africa, China and Korea, the share of manufactured exports in total merchandise exports for Kenya is low (Figure 4). For example, in 2012, the share of manufactures in merchandise exports was over 95% for Vietnam, China and South Korea, while for Kenya it was only 32%. In addition, these countries' shares showed an

[3]Based on data from the Kenya National Bureau of Statistics, wage employment figures include casual employees, part time workers, directors and planners serving on a regular basic salary contract.
The figures exclude self-employed persons or family workers who do not receive regular payments or salaries. The data also does not include employment in the informal sector.

[4]Data for the years 2011 and 2012 based on the partner reported data (Mirror data). The definition of "manufacturing" applied to determine manufactured exports in this table is based on the ISIC classification (specifically, ISIC Rev. 3), i.e. chapter D – Manufacturing (sections 15–37). Other sources for international trade data – such as WDI – apply a more restricted definition of "manufactures", which comprise "commodities in SITC sections 5 (chemicals), 6 (basic manufactures), 7 (machinery and transport equipment), and 8 (miscellaneous manufactured goods), excluding division 68 (non-ferrous metals)". In other words, they exclude processed agricultural products, beverages and others.

increasing trend before levelling while in Kenya the share showed a clear declining trend. The experience of declining trend is also true for EAC region and South Africa.

Figure 4: Share of manufactured exports in total merchandise exports, Kenya and selected countries, 2001-2012



Source: International Trade Centre's TradeMap.

2.2.2 Structure of the manufacturing sector

Kenya's manufacturing sector is dominated by manufacture of food and beverages, which accounts for over 35% of total manufacturing sector output. This is followed by refined petroleum products (over 17.5%), non-metallic mineral products (7%), and tobacco and tobacco products (4%). Manufacturing in the SME sector (although not possible to specify which products) is also significant, accounting for over 10% of total manufacturing sector output.

Trends of manufacturing subsector outputs (Table 5) show that some sectors have become more important since 2000, with their outputs and shares to total manufacturing sector output having increased. Among these subsectors are the tobacco and tobacco products, whose output increased over 12 times expanding its contribution to manufacturing sector output from less than 1% to about 4% over a period of 12 years.

Manufacturing output of refined petroleum products increased more than ten-fold over the period as its share of total manufacturing output increased from about 4% to over 17%, while output of non-metallic mineral products increased over six-fold with its share of total manufacturing output increasing from 2.7% to 7% (Table 5). Manufacture of transport equipment also showed an increasing trend.

Textiles output and share declined from a share of over 4% to barely 1%, while manufacturing output and share of wood and of products of wood and cork, except furniture; manufacture of articles of straw and plaiting materials declined from 1.2% to 0.4%. Manufacturing of rubber and plastics products, basic metals, and electrical machinery and apparatus have likewise shown a declining trend. Other subsectors including wearing apparels and dressing, publishing, printing and recorded media, machinery and equipment, have shown a stagnating trend.

Table 6 and Table 7 show trends in formal employment and exports respectively in various manufacturing subsectors.

Table 5: Manufacturing output, per sub-sector (2000-2011)

Manufacturing sub-sector	2000		2001		2002		2003		2004		2005		2006		2007		2008		2009		2010		2011	
	Value, Million USD	Share of manufacturing sector	Value, Million USD	Share of manufacturing sector	Value, Million USD	Share of manufacturing sector	Value, Million USD	Share of manufacturing sector	Value, Million USD	Share of manufacturing sector	Value, Million USD	Share of manufacturing sector	Value, Million USD	Share of manufacturing sector	Value, Million USD	Share of manufacturing sector	Value, Million USD	Share of manufacturing sector	Value, Million USD	Share of manufacturing sector	Value, Million USD	Share of manufacturing sector	Value, Million USD	Share of manufacturing sector
15 Food and beverages	1595	35	1575	36	1617	36	1851	36	2022	36	2351	35	2739	35	3439	36	3464	34	3689	38	3725	35	4067	35
16 Tobacco and products	35	0	28	0	29	0	39	0	41	0	68	1	105	1	117	1	113	1	106	1	405	3	448	3
17 Textiles	194	4	190	4	163	3	146	2	130	2	142	2	160	2	188	2	170	1	128	1	133	1	120	1
18 Wearing apparel; dressing	102	2	101	2	59	1	78	1	77	1	96	1	129	1	149	1	175	1	194	2	238	2	291	2
19 Tanning, leather; products	124	2	113	2	130	3	161	3	115	2	133	2	155	2	199	2	212	2	178	1	232	2	179	1
20 Wood, cork.	53	1	50	1	57	1	59	1	53	1	50	0	57	0	36	0	42	0	37	0	43	0	42	0
21 Paper and paper products	151	3	148	3	192	4	258	5	245	4	335	5	350	4	427	4	597	5	357	3	335	3	301	2
22 Publishing, printing and recorded media	79	1	78	1	146	3	173	3	160	2	182	2	249	3	235	2	180	1	218	2	236	2	200	1
23 Coke, refined petroleum products	193	4	178	4	610	13	895	17	859	15	1151	17	1350	17	1445	15	1996	19	1342	14	1690	15	1989	17
24 Chemicals and chemical products	72	1	66	1	53	1	68	1	76	1	78	1	90	1	112	1	129	1	128	1	146	1	138	1
25 Rubber and plastics products	165	3	149	3	142	3	166	3	171	3	216	3	233	3	284	3	258	2	275	2	287	2	266	2
26 Non-metallic mineral products	118	2	112	2	177	4	222	4	240	4	302	4	380	4	497	5	679	6	728	7	764	7	796	7
27 Basic metals	193	4	185	4	162	3	174	3	179	3	203	3	245	3	317	3	328	3	311	3	325	3	320	2
29 Machinery and equipment n.e.c.	16	0	15	0	20	0	23	0	29	0	34	0	32	0	32	0	28	0	26	0	25	0	24	0
31 Electrical machinery and apparatus n.e.c.	181	4	166	3	70	1	79	1	96	1	111	1	101	1	98	1	86	0	80	0	78	0	73	0
35 Transport equipment	55	1	50	1	131	3	157	3	211	3	151	2	232	3	290	3	334	3	314	3	265	2	293	2
36 Furniture; manufacturing n.e.c, of which:	*662*	*14*	*722*	*16*	*635*	*14*	*741*	*14*	*881*	*15*	*984*	*14*	*482*	*6*	*1380*	*14*	*1582*	*15*	*1571*	*16*	*1712*	*16*	*1762*	*15*
Miscellaneous	39	0	31	0	38	0	33	0	35	0	42	0	54	0	40	0	50	0	57	0	74	0	67	0
From MSEs	454	10	479	10	439	10	495	9	526	9	614	9	72	0	859	9	1024	10	1091	11	1143	10	1195	10
From EPZ	140	3	183	4	135	3	189	3	299	5	307	4	329	4	428	4	442	4	346	3	396	3	412	3
Furniture and fixtures	28	0	27	0	22	0	23	0	20	0	21	0	25	0	52	0	65	0	75	0	97	0	88	0

Source: Kenya National Bureau of Statistics (various years)- Statistical abstracts

Table : Employment per manufacturing sub-sector in Kenya, 2000-2011

Manufacturing sub-sector	2000		2001		2002		2003		2004		2005		2006		2007		2008		2009		2010		2011	
	Number of employees	Share of total manuf. employment	Number of employees	Share of total manuf. employment	Number of employees	Share of total manuf. employment	Number of employees	Share of total manuf. employment	Number of employees	Share of total manuf. employment	Number of employees	Share of total manuf. employment	Number of employees	Share of total manuf. employment	Number of employees	Share of total manuf. employment	Number of employees	Share of total manuf. employment	Number of employees	Share of total manuf. employment	Number of employees	Share of total manuf. employment	Number of employees	Share of total manuf. employment
15 Food products and beverages	79051	37.7	78535	37.8	48157	22.8	48864	22.5	49775	22.7	50456	22.4	51307	22.1	82781	30.6	83021	30.6	84129	31.0	83625	30.5	84937	30.4
16 Tobacco products	3191	1.5	3069	1.5	2931	1.4	2712	1.2	2810	1.3	2639	1.2	2563	1.1	3493	1.3	3245	1.2	3356	1.2	3415	1.2	3527	1.3
17 Textiles	26916	12.8	26563	12.8	34948	16.5	42653	19.7	42914	19.5	43544	19.4	44989	19.4	45868	17.0	44823	16.5	43788	16.1	45140	16.5	47004	16.8
18 Wearing apparel; dressing	382	0.2	382	0.2	11523	5.5	15578	7.2	15634	7.1	15856	7.0	15894	6.9	15153	5.6	16800	6.2	15978	5.9	15940	5.8	15726	5.6
19 Tanning and dressing of leather	3621	1.7	3496	1.7	9246	4.4	3225	1.5	1955	0.9	1894	0.8	1830	0.8	3895	1.4	5164	1.9	4222	1.6	5420	2.0	5618	2.0
20 Wood , cork products	9778	4.7	9762	4.7	9758	4.6	9741	4.5	9690	4.4	9734	4.3	9708	4.2	14184	5.2	14220	5.2	14632	5.4	14651	5.3	14943	5.3
21 Paper and paper products	8360	4.0	8330	4.0	8296	3.9	8253	3.8	8267	3.8	8367	3.7	8440	3.6	9971	3.7	10070	3.7	10159	3.7	10124	3.7	10166	3.6
22 Publishing, printing recorded media	7594	3.6	7700	3.7	7884	3.7	8046	3.7	8264	3.8	8559	3.8	8825	3.8	9053	3.3	8846	3.3	8825	3.3	8747	3.2	8799	3.1
23 Coke, refined petroleum pro	274	0.1	259	0.1	254	0.1	256	0.1	253	0.1	245	0.1	235	0.1	215	0.1	247	0.1	265	0.1	277	0.1	306	0.1
24 chemicals and chemical products	13114	6.2	12987	6.2	15150	7.2	14432	6.6	14626	6.7	14951	6.6	15309	6.6	15278	5.6	15109	5.6	15377	5.7	15357	5.6	15760	5.6
25 Rubber and plastics products	8008	3.8	8188	3.9	8422	4.0	8636	4.0	9435	4.3	10494	4.7	11385	4.9	12597	4.7	12370	4.6	12251	4.5	12248	4.5	12235	4.4
26 non-metallic mineral products	8335	4.0	8020	3.9	7882	3.7	6904	3.2	7265	3.3	7784	3.5	8611	3.7	10346	3.8	10405	3.8	10688	3.9	10893	4.0	11236	4.0
27 Basic metals	5729	2.7	5621	2.7	5491	2.6	5374	2.5	5293	2.4	5261	2.3	5212	2.2	5469	2.0	7079	2.6	7146	2.6	7215	2.6	7404	2.6
28 Fabricated metal products,	13060	6.2	12985	6.2	13888	6.6	13793	6.4	13912	6.3	14184	6.3	14469	6.2	8820	3.3	8817	3.2	9054	3.3	9269	3.4	9555	3.4
29 Machinery and equipment n.e.c.	1538	0.7	1524	0.7	1509	0.7	1494	0.7	1489	0.7	1500	0.7	1506	0.6	4350	1.6	4390	1.6	4546	1.7	4420	1.6	4446	1.6
30 Office, accounting and computing mach	348	0.2	353	0.2	539	0.3	364	0.2	371	0.2	382	0.2	391	0.2	401	0.1	411	0.2	432	0.2	442	0.2	445	0.2
31 electrical machinery and apparatus n.e.c.	3222	1.5	3178	1.5	3123	1.5	3073	1.4	3042	1.4	3039	1.4	3026	1.3	3016	1.1	3021	1.1	3015	1.1	3179	1.2	3337	1.2
34 Motor vehicles, trailers and semi-trailers	3392	1.6	3311	1.6	3252	1.5	3190	1.5	3148	1.4	3125	1.4	3089	1.3	2733	1.0	2813	1.0	2721	1.0	2782	1.0	2804	1.0
35 Other transport equip	4453	2.1	4105	2.0	4068	1.9	3949	1.8	3842	1.7	3671	1.6	3461	1.5	5003	1.8	3402	1.3	3410	1.3	3395	1.2	3429	1.2
36 Furniture; manufacturing n.e.c: *of which*	*4790*	*2.3*	*4830*	*2.3*	*7545*	*3.6*	*8252*	*3.8*	*8829*	*4.0*	*9629*	*4.3*	*10802*	*4.7*	*8933*	*3.3*	*8693*	*3.2*	*8596*	*3.2*	*8872*	*3.2*	*9051*	*3.2*
Furniture	*977*	*0.5*	*975*	*0.5*	*4340*	*2.1*	*4325*	*2.0*	*4339*	*2.0*	*4396*	*2.0*	*4439*	*1.9*	*1591*	*0.6*	*1651*	*0.6*	*1641*	*0.6*	*1716*	*0.6*	*1740*	*0.6*
Other manuf.	*3813*	*1.8*	*3855*	*1.9*	*3205*	*1.5*	*3927*	*1.8*	*4490*	*2.0*	*5233*	*2.3*	*6363*	*2.7*	*7342*	*2.7*	*7042*	*2.6*	*6955*	*2.6*	*7156*	*2.6*	*7311*	*2.6*

Source: Kenya National Bureau of Statistics (Various years)

Table 7: Main manufactured products exported by Kenya, 2001-2012[5]

Manufactured products	2001		2002		2003		2004		2005		2006		2008		2009		2010		2011		2012	
	Value in million USD	Share in total merchandise exports	Value in million USD	Share in total merchandise exports	Value in million USD	Share in total merchandise exports	Value in million USD	Share in total merchandise exports	Value in million USD	Share in total merchandise exports	Value in million USD	Share in total merchandise exports	Value in million USD	Share in total merchandise exports	Value in million USD	Share in total merchandise exports	Value in million USD	Share in total merchandise exports	Value in million USD	Share in total merchandise exports	Value in million USD	Share in total merchandise exports
15 Food and beverages	174.1	9.4	175.3	7.2	136.5	6.6	257.4	9.4	277.5	8.1	264.0	5.7	318.5	5.2	444.0	6.0	576.6	6.9	520.6	7.0	722.2	7.5
16 Tobacco products	1.5	0.1	0.5	0.0	0.7	0.0	1.1	0.0	0.8	0.0	1.7	0.0	1.8	0.0	1.3	0.0	2.2	0.0	2.2	0.0	5.6	0.1
17 Textiles	80.9	4.4	93.0	3.8	136.5	6.6	199.5	7.3	258.1	7.6	284.8	6.2	302.4	4.9	329.2	4.5	423.8	5.0	379.3	5.1	505.2	5.3
18 Wearing apparel; dressing	11.6	0.6	13.8	0.6	16.5	0.8	27.1	1.0	39.2	1.1	42.3	0.9	42.1	0.7	73.0	1.0	81.0	1.0	85.3	1.2	120.4	1.3
19 Tanning and dressing of leather	8.6	0.5	9.7	0.4	14.6	0.7	21.9	0.8	31.9	0.9	35.7	0.8	47.7	0.8	72.9	1.0	92.1	1.1	112.4	1.5	132.9	1.4
20 Wood and products	2.5	0.1	3.1	0.1	3.4	0.2	6.5	0.2	8.9	0.3	7.7	0.2	10.4	0.2	30.5	0.4	29.2	0.3	29.2	0.4	27.9	0.3
21 Paper and paper prod	45.4	2.5	57.2	2.3	53.1	2.6	78.9	2.9	85.5	2.5	110.3	2.4	125.5	2.0	172.2	2.3	249.3	3.0	230.0	3.1	296.8	3.1
22 Publishing, printing and media	19.6	1.1	20.6	0.8	18.3	0.9	31.3	1.1	42.0	1.2	44.2	1.0	42.9	0.7	48.7	0.7	62.3	0.7	47.1	0.6	52.0	0.5
23 Refined petrol	31.5	1.7	34.1	1.4	37.1	1.8	308.0	11.2	189.0	5.5	663.2	14.3	1486.7	24.2	1253.1	16.9	1285.8	15.3	812.8	11.0	1648.8	17.2
24 Chemicals and chemical products	322.7	17.5	396.5	16.3	404.3	19.4	478.5	17.5	550.2	16.1	741.3	16.0	903.8	14.7	1048.1	14.2	1187.5	14.1	1123.3	15.2	1351.7	14.1
25 Rubber and plastics	58.3	3.2	71.2	2.9	79.1	3.8	94.4	3.4	112.8	3.3	141.3	3.1	171.1	2.8	239.2	3.2	252.5	3.0	245.3	3.3	346.0	3.6
26 Other non-metallic mineral products	24.7	1.3	24.6	1.0	29.9	1.4	31.4	1.1	40.8	1.2	60.7	1.3	66.0	1.1	112.9	1.5	131.4	1.6	132.1	1.8	165.6	1.7
27 Basic metals	124.9	6.8	140.1	5.7	153.6	7.4	199.0	7.3	300.4	8.8	324.8	7.0	433.4	7.1	609.0	8.2	700.8	8.3	536.8	7.3	688.9	7.2
28 Fabricated metal pro	65.0	3.5	66.6	2.7	79.4	3.8	82.3	3.0	113.5	3.3	117.1	2.5	145.1	2.4	213.0	2.9	261.7	3.1	388.7	5.3	308.5	3.2
29 Machinery and equipment	195.7	10.6	199.7	8.2	219.1	10.5	256.4	9.4	321.7	9.4	422.7	9.1	456.0	7.4	646.4	8.7	795.1	9.5	753.1	10.2	927.0	9.7
30 Office, accounting a	44.9	2.4	45.9	1.9	43.2	2.1	44.8	1.6	84.5	2.5	81.6	1.8	91.2	1.5	95.1	1.3	131.6	1.6	121.0	1.6	143.7	1.5
31 Electrical machinery	110.9	6.0	88.7	3.6	79.3	3.8	76.6	2.8	100.9	3.0	127.9	2.8	183.8	3.0	253.1	3.4	452.4	5.4	372.9	5.0	412.3	4.3
32 Radio, television an	105.9	5.7	121.9	5.0	120.0	5.8	104.7	3.8	154.1	4.5	146.3	3.2	230.4	3.8	384.3	5.2	398.9	4.8	347.7	4.7	342.2	3.6
33 Medical, precision	39.3	2.1	51.9	2.1	42.9	2.1	50.2	1.8	68.3	2.0	71.6	1.5	86.9	1.4	148.0	2.0	112.2	1.3	137.6	1.9	145.0	1.5
34 Motor vehicles	167.9	9.1	179.8	7.4	208.2	10.0	239.2	8.7	314.8	9.2	364.3	7.9	536.6	8.7	737.3	10.0	776.3	9.2	717.5	9.7	818.3	8.5
35 Other transport equipment	183.5	9.9	618.0	25.3	162.4	7.8	112.7	4.1	272.8	8.0	510.2	11.0	390.1	6.4	398.1	5.4	296.2	3.5	200.7	2.7	278.1	2.9
36 Furniture; manufactures	27.5	1.5	26.3	1.1	42.4	2.0	38.9	1.4	44.0	1.3	58.8	1.3	69.8	1.1	87.0	1.2	95.2	1.1	101.8	1.4	133.8	1.4

Source: UN COMTRADE- accessed through WITS

[5]Data for the years 2011 and 2012 based on the partner reported data (Mirror data).

The firm structure of manufacturing sector in Kenya dominated by SMEs, defined as firms with less than 50 employees, which account for over two thirds of the firms in the manufacturing sector (Table 8). Since 2000, there has been a slight decrease in the share of SMEs in the manufacturing sector.

Table 8: Firm structure in Kenya's manufacturing sector, 2000-2011

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Number of firms	4405	4581	5306	5388	5287	4875	4915	4938	4961	4660	5553	5878
Share of SMEs[6]	72.5	72.6	72.1	71.8	67.1	66.8	67.1	67.2	67.2	65.1	67.2	67.2

Source: Kenya National Bureau of Statistics (Statistical Abstracts) various years

Although data on the ownership structure of the manufacturing sector firms since 2000 could not be accessed, KAM (2006) found that 40% of manufacturing unites were privately owned by Kenyans, 48% were jointly owned privately or in partnership by Kenyans and foreigners, while only 4% of them were fully owned by foreigners. The remaining 8% were jointly owned by Government and private partnerships (parastatals).

2.2.2.1 Priority sectors for detailed analysis

The Kenya National Industrial Policy Framework (Republic of Kenya, 2012) broadly identified three short-term priority sectors to promote industrial development in Kenya. The same sectors are also identified in the Industrial Sector Master plan for Kenya (Republic of Kenya, 2008), and were also affirmed by stakeholders in the manufacturing sector during stakeholder consultation. These sectors are agro-processing, agro-machinery (non-electrical machinery) and electrics/ electronics (mainly electrical equipment and machinery). The sectors were selected using strategic clustering approach which took into account the value chain and the prominent role of backward forward linkages the sectors have with other sectors in the economy. In addition, unlike the agro-processing and the agro-machinery sub sectors selected, the electrical and electronic subsector was selected because it is seriously under developed.

From the above broad sectors the following subsectors corresponding to the agro-processing, agro-machinery and electrical machinery are selected for analysis in this study: food and beverages; leather and related products sector; manufacture of other non-metallic mineral products; manufacture of fabricated metal products, except machinery; and equipment and electrical machinery. Two additional sectors, i.e. textiles and furniture, were added to the five selected sectors on recommendation by the Ministry of Industrialisation and Enterprise Development.

Food and beverages sector

Manufacture of food and beverages is the largest manufacturing subsector with a share of 3.2% of the country's GDP, which is a third of the manufacturing sector's GDP. Main manufacturing activities of this subsector include: meat and dairy processing; canning and preserving of fruits and vegetables, manufacture of vegetable and animal oils and fats; grain mill products; bakery products, sugar factories and refineries; chocolates and sugar confectioneries; spirits, beverages; and soft drinks and carbonated waters, among other food processing activities. Grain mill and bakery are the largest activities of the sector accounting for 14% and 16% of the sub-sector output activities and with 204 and 83 establishments respectively in 2011 (Republic of Kenya, 2012).

Like the general manufacturing sector, its structure is dominated by small enterprises (90%) and a total of 5878 firms and establishments in 2011 (Republic of Kenya, 2012).

The sector is well integrated domestically, with backwards and forwards linkages. The main source of inputs in the sector is domestic market and the output from the sector also feeds into the other manufacturing sectors of the economy. The sector has the largest manufacturing export share, thus integrating internationally. Since the inputs are agricultural based, the sub-sector's output and performance largely depends on the performance of the rain fed agricultural sector production, which is influenced by weather, the sector performance closely mirroring that of the volatile agricultural sector.

Manufacturing of leather and leather products

Activities in this subsector consist of tanneries, leather finishing and manufacturing of leather products including footwear. In 2011, the subsector was made up of 99 firms and establishments, but dominated by one multinational company with 50% share in footwear industry. All establishments in the sector are privately owned. The sector is not well developed and there is minimum value addition. While the main products of the sector are processed and finished leather, footwear, luggage, saddles and gloves, most of Kenya's exports are processed hides and skins.

Inputs to the sector which include dry, green and wet-salted hides and skins are sourced from the domestic market, slaughter houses and abattoirs. The availability of the inputs is constrained by the low recovery rate of hides and skins (since a significant proportion is adversely affected during processing) and by the high level of exports of raw hides and skins. Other inputs to the sector including tanning chemicals, spares parts for tanning machinery and accessories are imported. The sector is therefore to some extent integrated domestically and internationally.

[6] Number of firms / number of employees.

Manufacture of other non-metallic mineral products

The subsector accounts for about 2% of the manufacturing sector output and has a share of 4% of the total manufacturing sector employment. Production in the sector has been on the increase, with cement production for both domestic consumption and export being the fastest growing. Activities in the subsector include manufacture of pottery, china and earthen ware; glass and glass products, structural clay products; and cement, lime and plaster, among other non metallic products. In 2011, there were a total of 160 firms and establishments operating in the sector, with about 51% of the firms being small enterprises (Republic of Kenya, 2012).

Some inputs into this subsector such as clay, gypsum, limestone and dolomites are obtained domestically, with deposits being found in various counties of Kenya. Glassware is imported as an input into the sector.

Manufacture of fabricated metal products, except machinery and equipment

In 2011, the fabricated metal products subsector consisted of about 386 firms, with 74% of them being small enterprises. Firms in the sector are privately owned. The subsector share of employment was 5% of the employment in the manufacturing sector. The sector has been on an upward growth trend.

Activities in the subsector include manufacture of structural metal products (including iron, steel or aluminium products used in construction establishments), galvanized and cold-rolled steel products and pipes, manufacture of cutlery, hand tools and general hardware, treatment and coating of metals; general mechanical engineering; manufacture of tanks, reservoirs and containers of metal, articles made of wire including barbed wire, wire fencing, grill, netting, containers used for the packing or conveyance of goods, among others.

Inputs into the sector are mainly imported as domestic supply has not yet started. The subsector is well integrated domestically, supplying raw materials to the informal metal products manufacturing widespread in rural Kenya. The sector also exports to the regional markets, particularly the EAC and COMESA.

Electrical machinery

The electrical machinery and appliances subsector in Kenya is at an infant state, with a share of less than 1% of the manufacturing sector output and contributing to about 1.2% of total manufacturing sector employment. Production in the sector has been on the increase. The sector in 2011 consisted of 80 firms, with 67% of them being small enterprises. The firms in the subsector are privately owned.

Products manufactured under this subsector include: electricity distribution and control apparatus; insulated wire and cable; accumulators, primary cells and primary batteries; electric lamps and lighting equipment, among other electrical equipments. Inputs in this sector are imported, with no domestic sourcing inputs.

Textiles and Apparels sector

The sector accounts for about 3.7% of the total manufacturing sector production. In 2012, the subsector comprised 933 establishments (Republic of Kenya, 2012) with 87% of them being small.

Activities in this subsector include: cotton ginneries; spinning, weaving and finishing textiles; manufacture of made-up textile goods except weaving apparel; knitting mills; cordage, rope and twine industries; manufacture of wearing apparel except footwear among other manufacturing of textiles. In 2011, the sector employed about 63,000 people (22% of manufacturing sector employment), the majority being in the manufacture of wearing apparels and being semi-skilled. Notably, employment in this sector has been on the increase. Key challenges of the sector are the low production of cotton and increased competition from imported new and second hand clothes. Apart from the large establishments in the EPZ who use modern technology, most of the establishments use old and outdated technology.

The sector has shown a declining trend in production, with the textiles subsector particularly showing a decline in contribution of manufacturing output from over 4% in 2000 to about 1% of the manufacturing sector output in 2012.

Cotton ginning is limited with only 12 ginneries, each employing less than 20 persons in 2011 (Republic of Kenya, 2012). Utilization of the installed ginning capacity is low at 14% (EPZA, 2005). About 80% of cotton lint for use in ginning industry is imported from Tanzania and Uganda, owing to the limited production of cotton in Kenya. Fabric for manufacturing of apparels is equally imported due to limited local of supply. Other raw materials used in the sector are imported.

Exports from the two sectors has shown a slight increasing trend, with contribution to manufacturing exports increasing from 4.4% in 2000 to 5.3% in 2012 for textiles, while contribution of wearing apparels exports in manufacturing increased from 0.6% to 1.3% over the same period.

Furniture

Manufacturing of furniture is a rather small industry comprising 437 establishments in 2011, of which 87% employ less than 50 persons. It is estimated that informal activities in the sector account for over 85% and are spread out in both rural and urban centres, being artisanal in nature. Ownership of establishments is mainly private, with a few workshops being owned by the Prisons Department.

The subsector accounts for less than 1% of the total manufacturing sector output but provides over 2.6% of formal employment in the manufacturing sector. The sector's production and contribution to employment has shown a slight increasing trend. Although exports of furniture have been on the increase, the sector's share in manufacturing exports has been small at about 1.4% of the total

manufacturing sector exports.

A significant proportion of wood for use in the industry is obtained from domestic sources, while the rest is obtained from regional markets, particularly Tanzania and DR Congo. The sector has both forward and backward linkages in domestic and in regional markets.

2.3 Estimate of competitiveness and comparative advantage

2.3.1 Overall competitiveness of the manufacturing sector

To study competitiveness of the manufacturing sector in Kenya, three measures of competiveness are used, including:

- Labour productivity, which is estimated as the ratio of manufacturing value added (MVA) to employment (value added per worker). This provides a measure of the average output per employee;
- Unit labour cost (ULC) which measures the average cost of labour per unit of output and is estimated as the ratio of total labour costs to real output;
- Revealed comparative advantage (RCA), an index used in international economics for estimating the relative advantage or disadvantage of a country in a certain class of goods or services as evidenced by trade flows. In this study, the RCA is estimated as the share of the Kenya's manufactured exports in the country's total exports divided by the share of manufactured world exports in total world exports (Balassa, 1965)[7]. A country's comparative advantage is "revealed" if RCA>1. If RCA is less than 1, the country is said to have a comparative disadvantage.

Table 9: Indicators on the overall competitiveness of Kenya's manufacturing sector

Indicator	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Labour Productivity: MVA/Employment	5,993	5,863	5,620	6,035	6,651	7,977	9,075	10,830	12,497	11,383	11,869	11,668	n.a.
Unit Labour Cost: Total Labour Costs / Real Output	0.35	0.37	0.62	0.57	0.49	0.42	0.38	0.33	0.29	0.33	0.35	0.35	0.35
Revealed comparative advantage (RCA), Manufacturing, Kenya/World	n.a.	0.49	0.84	0.72	0.71	0.80	0.74	0.69	0.71	0.67	0.68	0.62	0.59

Source: World Bank / World Development Indicators (WDI) for MVA data; Kenya National Bureau of Statistics for employment and wages data; International Trade Centre's TradeMap.

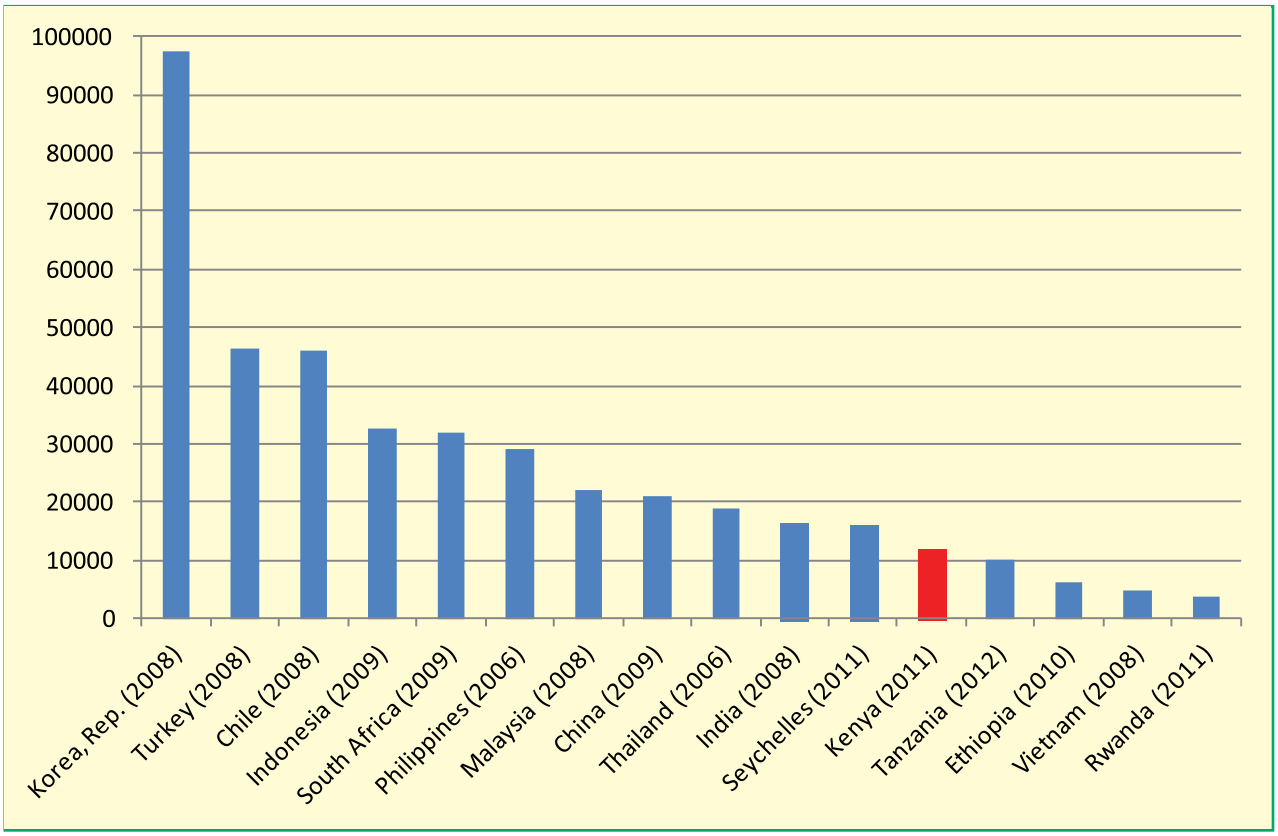
Trends in labour productivity (MVA per worker) show that labour productivity in the manufacturing sector has been on an increase. From 2000 to 2012, productivity has increased by about 126%. This is also confirmed by other studies (KAM, 2006; World Bank, 2009). During the same period, unit labour costs have remained generally constant although with some fluctuations, but are high at about 35% of the value added. From these two observations, we can conclude that the increase in labour productivity over time has been matched by a corresponding increase in labour costs.

Manufactured exports from Kenya do not reveal a comparative advantage as the RCA for all years since 2000 is less than 1. Trends since 2000 show that Kenya manufactured RCA has been declining suggesting that the competitiveness of Kenya's manufactured products in the international markets has been decreasing.

Figure 5 compares productivity for Kenya with that of other selected developing countries bench mark countries.

[7]For this estimation, manufactured exports were determined using a definition based on the ISIC classification, as specified in section .

Figure 5: Productivity indicator "MVA / Employment" for Kenya and benchmark countries, most recent year available

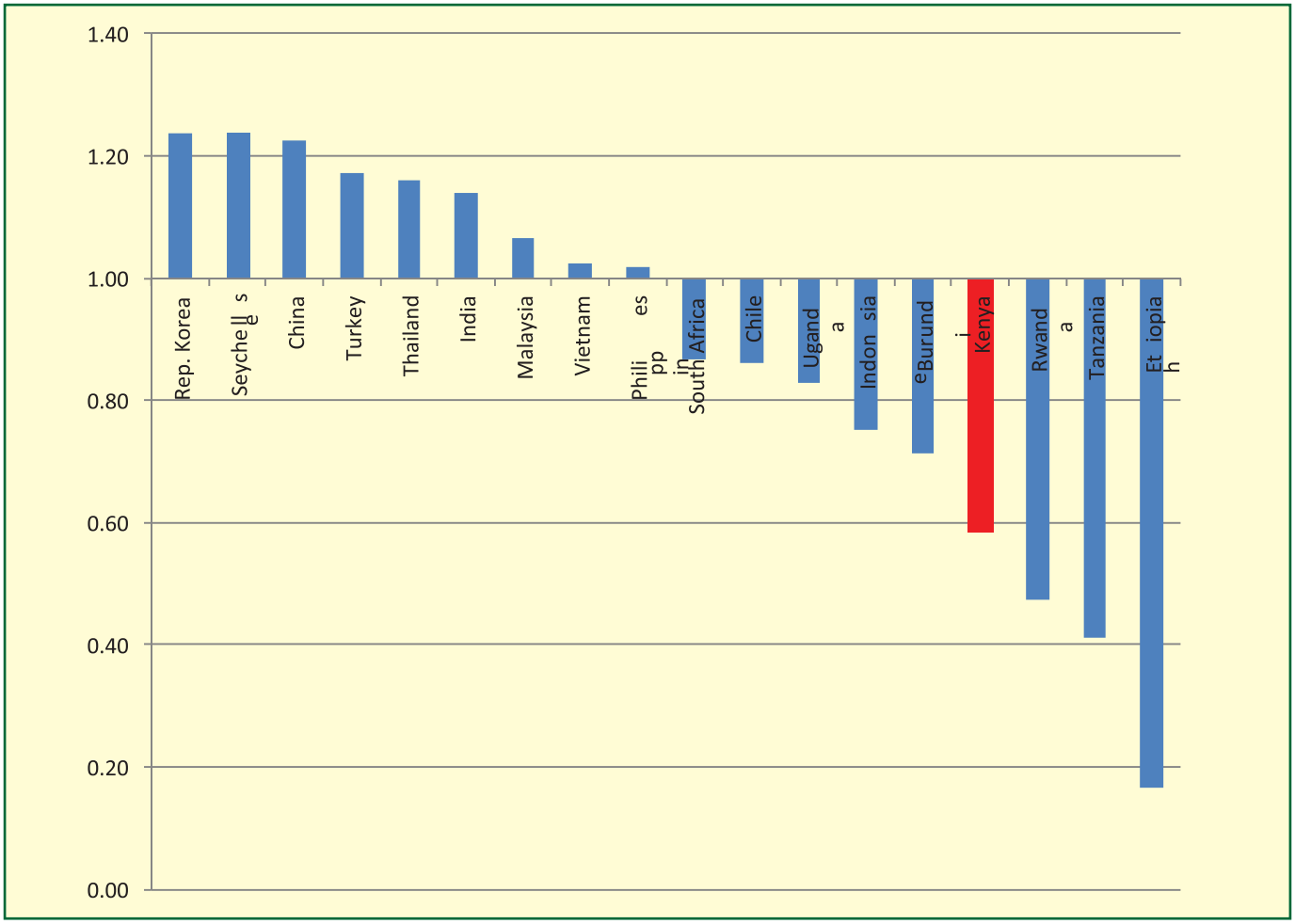


Source: World Bank / World Development Indicators (WDI) for MVA data; National statistical databases/surveys for study countries' employment data and UNIDO's INDSTAT2 for benchmark countries' employment data.

Labour productivity for Kenya is higher than in Rwanda,Vietnam, Ethiopia and Tanzania. It is however lower than that of other developing countries including Seychelles, South Africa, and China, and is indeed much (about 90%) lower than in Korea. Differentials in labour productivity could be caused by differences in business environment (World Bank, 2008).

While Kenya's manufactured goods do not reveal competitiveness in the global export market, most of the comparator countries such as Korea, Seychelles, China, Turkey, Thailand, Malaysia, Vietnam and Philippines do (Figure 6). Compared to African countries, Kenya manufacturing sector is more competitive than that of Ethiopia, Tanzania and Rwanda, but less than Burundi, Uganda and South Africa.

Figure 6: Revealed comparative advantage of the country's manufacturing sector compared to World, for Kenya and comparator countries, 2012



Source: International Trade Centres TradeMap.

Finally, to benchmark national industrial performance, UNIDO has developed the Competitive Industrial Performance (CIP) index, which assesses industrial performance using indicators of an economy's ability to produce and export manufactured goods competitively. The CIP index comprises eight indicators classified in six dimensions:

- Industrial capacity, measured by MVA per capita;
- Manufactured export capacity, measured by manufactured exports per capita;
- Impact on world MVA, measured by an economy's share in world MVA;
- Impact on world manufactures trade, measured by an economy's share in world manufactured exports;
- Industrialization intensity, measured by the average of the share of MVA in GDP and of medium-and high-technology activities in MVA;
- Export quality, measured by the average of the share of manufactured exports in total exports and of medium- and high-technology products in manufactured exports.

The CIP index for 2012/13 ranks Kenya at 102nd overall in the global rankings (out of 135 countries), a rather poor ranking. shows the trends of CIP index for Kenya, other comparator countries in Eastern Africa, and for other selected benchmark countries.

Table 10: Overview of UNIDO's Competitive Industrial Performance (CIP) Index for Kenya and benchmark countries

Country	2000	2005	2006	2007	2008	2009	2010
Kenya	0.008	0.010	0.010	0.009	0.009	0.011	0.010
Eastern African countries:							
Burundi	0.000	0.001	0.000	0.001	0.001	0.001	0.001
Ethiopia	0.000	0.001	0.001	0.002	0.002	0.002	0.002
Rwanda	0.001	0.002	0.002	0.002	0.002	0.003	0.002
Tanzania	0.003	0.004	0.005	0.005	0.007	0.008	0.009
Uganda	0.002	0.003	0.004	0.004	0.004	0.004	0.004
Benchmark countries:							
Chile	0.060	0.069	0.072	0.071	0.072	0.073	0.072
China	0.162	0.239	0.257	0.274	0.291	0.318	0.329
India	0.045	0.056	0.059	0.060	0.064	0.073	0.075
Indonesia	0.077	0.074	0.074	0.072	0.075	0.082	0.082
Malaysia	0.197	0.190	0.192	0.183	0.169	0.184	0.183
Philippines	0.084	0.075	0.075	0.072	0.070	0.071	0.073
South Africa	0.072	0.076	0.076	0.076	0.080	0.077	0.077
Rep. Korea	0.318	0.356	0.364	0.366	0.373	0.399	0.404
Thailand	0.136	0.151	0.155	0.157	0.160	0.168	0.171
Turkey	0.096	0.121	0.124	0.128	0.132	0.130	0.128
Vietnam	0.025	0.035	0.038	0.041	0.045	0.051	0.054

Source: UNIDO.

Overall, the performance of Kenya's industrial sector has shown a slight improvement over time. It is better than that of the Eastern African study countries. The trends show hardly any improvement in Kenya's industrial sector performance since 2000, similar to the other study countries except Tanzania, whose CIP index value has increased slightly more.

Also, the CIP index for Kenya is much lower than that of the benchmark countries of China, Chile, India, Indonesia, Malaysia, Philippines, Korea, South Africa, Thailand, Turkey and Vietnam, suggesting that the industrial sector performance in Kenya is poorer compared to that of these countries. The trends in the CIP index also show that Kenya has fallen further behind over time in relation to most benchmark countries except Malaysia and the Philippines, whose CIP index values actually decreased.

2.3.2 Competitiveness of key manufacturing sub-sectors

2.3.2.1 Competitiveness of the food and beverages sector

As is the case with the general manufacturing sector, productivity of the foods and the beverages sector has been on the increase over time, increasing (in current prices) over 4.5 times between 2000 and 2011 (Table 11). During the same period, unit labour costs in the subsector have been on the decline. The productivity increase in the subsector is rather large, to be explained by the decrease in labour costs in this sector. Kenya has a comparative advantage in the food and beverages subsector as shown by the RCA.

Table 11: Indicators on the competitiveness of Kenya's food and beverages sector

Indicator	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Productivity: Food and beverages sectors value added/ Employment (USD)	2,319	2,574	3,756	4,292	4,675	5,267	6,156	8,769	9,513	9,875	9,997	10,754	n.a.
Unit Labour Cost, Food and beverages sector	0.82	0.76	0.48	0.48	0.46	0.45	0.45	0.35	0.32	0.32	0.34	0.32	n.a.
Revealed comparative advantage, Food and beverages, Kenya/World	n.a.	2.47	1.98	2.07	1.97	1.89	2.17	2.43	2.31	1.90	2.19	2.30	1.97

Source: Kenya National Bureau of Statistics for value added, employment and wages data; International Trade Centres TradeMap for exports data. Note that the 2011 and 2012 data are based on mirror statistics and thus are not strictly comparable to the earlier data which are based on Kenyas reported exports.

2.3.2.2 Competitiveness of the leather and footwear sector

Productivity in the leather and footwear subsector has increased by over 60% since 2000 (Table 12). Unit labour costs have been on the decline over the same period. It is possible that the increase in productivity in the subsector could be explained by the fall in labour costs. Over the same period the subsector has gained in comparative advantage as shown by the increase in the RCA indicator.

Table 12: Indicators on the competitiveness of Kenya's leather and footwear sector

Indicator	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Productivity: Leather and footwear sectors value added/ Employment (USD)	4,633	4,609	3,673	13,002	15,376	18,352	21,873	13,444	5,341	5,362	6,909	7,562	n.a.
Unit Labour Cost, Leather and footwear sector	0.44	0.38	0.22	0.20	0.18	0.17	0.17	0.13	0.25	0.34	0.22	0.19	n.a.
Revealed comparative advantage, Leather and footwear, Kenya/World	n.a.	0.99	0.77	1.26	1.63	1.48	1.80	2.15	1.87	1.32	1.66	2.10	2.53

Source: Kenya National Bureau of Statistics for value added, employment and wages data; International Trade Centres TradeMap for exports data. Note that the 2011 and 2012 data are based on mirror statistics and thus are not strictly comparable to the earlier data which are based on Kenyas reported exports.

2.3.2.3 Competitiveness of the non-metallic mineral products sector

Productivity in the non-metallic mineral subsector has increased by over twenty-five (25) times since 2000 (Table 13). Unit labour costs have been on the decline over the same period. The increase in productivity in the subsector is too large to be explained by the fall in labour costs experienced in the sector only. The sector has low labour costs (cost of labour accounts for 12% of the value added). Kenya has comparative advantage in the non-metallic mineral sector, as evidenced by the increasing trend of the RCA indicator.

Table 13: Indicators on the competitiveness of Kenya's "other non-metallic mineral products" sector

Indicator	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Productivity: Other non-metallic min. products sectors value added/ Employment (USD)	1,666	6,745	17,270	25,297	25,680	29,714	33,086	33,206	39,407	42,064	43,185	43,085	n.a.
Unit Labour Cost, Other non-metallic min. prod. sector	1.64	0.40	0.16	0.12	0.13	0.13	0.13	0.14	0.12	0.12	0.12	0.12	n.a.
Revealed comparative advantage, Other non-metallic min. prod., Kenya/World	n.a.	1.36	1.52	1.42	1.56	1.62	2.20	2.40	2.92	2.94	2.47	2.36	1.89

Source: Kenya National Bureau of Statistics for value added, employment and wages data; International Trade Centres TradeMap for exports data. Note that the 2011 and 2012 data are based on mirror statistics and thus are not strictly comparable to the earlier data which are based on Kenyas reported exports.

2.3.2.4 Competitiveness of the fabricated metal products sector

Productivity in the fabricated metal products subsector has increased by 50% since 2000 (Table 14). Unit labour costs, though fluctuating, have been on a general increasing trend over the same period. The increase in productivity in the subsector is not likely to be due to fall in labour costs. Over the same period, Kenya's comparative advantage in this sector improved, but the country has remained at a comparative disadvantage in this sector.

Table 14: Indicators on the competitiveness of Kenya's fabricated metal products sector

Indicator	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Productivity: Fabricated metals sectors value added/ Employment	5,870	5,738	4,783	5,173	5,303	5,891	6,959	12,996	9,508	9,198	9,488	9,067	n.a.
Unit Labour Cost, Fabricated metals sector	0.42	0.48	0.57	0.60	0.62	0.62	0.61	0.38	0.51	0.56	0.58	0.60	n.a.
Revealed comparative advantage, Fabricated metals, Kenya/World	n.a.	0.52	0.46	0.61	0.59	0.56	0.75	0.79	0.95	0.98	0.96	0.61	0.32

Source: Kenya National Bureau of Statistics for value added, employment and wages data; International Trade Centres TradeMap for exports data. Note that the 2011 and 2012 data are based on mirror statistics and thus are not strictly comparable to the earlier data which are based on Kenyas reported exports.

2.3.2.5 Competitiveness of the electrical machinery sector

Productivity of the subsector has decreased, with the current level of productivity being only a quarter of that in 2000 (Table 15). During the same period, labour costs have been on the increase (as shown by the increasing unit labour cost). The decline in productivity in this sector could partly be explained by the increase in labour costs. Comparative advantage for Kenya in electrical machinery subsector increased in the first half of the observation period but declined thereafter. Kenya remains at a clear comparative disadvantage in this subsector as evidenced by its very low RCA.

Table 15: Indicators on the competitiveness of Kenya's electrical machinery sector

Indicator	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Productivity: Electrical machinery sectors value added/ Employment (USD)	21,231	20,014	8,114	9,328	11,364	13,158	12,087	8,664	6,316	5,930	5,634	5,014	n.a.
Unit Labour Cost, Electrical machinery sector	0.14	0.24	0.51	0.51	0.45	0.43	0.55	0.82	1.10	1.25	1.40	1.55	n.a.
Revealed comparative advantage, Electrical machinery, Kenya/World	n.a.	0.08	0.13	0.12	0.12	0.16	0.23	0.16	0.19	0.15	0.15	0.11	0.09

Source: Kenya National Bureau of Statistics for value added, employment and wages data; International Trade Centres TradeMap for exports data. Note that the 2011 and 2012 data are based on mirror statistics and thus are not strictly comparable to the earlier data which are based on Kenyas reported exports.

2.3.2.6 Competitiveness of the textiles and clothing sector

Table 16 shows indicators of competitiveness of the Kenya textile and apparels subsector. Productivity of both the textiles and apparels subsector increased from beginning of 2000 until 2008 when it showed a marked decrease. This finding is corroborated by ULC data which follow the opposite trend. Productivity fluctuations in these two sectors are likely to be linked to labour costs and other production costs.

Despite the disappointing evolution of productivity, Kenya's textiles and apparels sector has revealed an increasing comparative advantage, especially with the onset on the African Growth and Opportunity Act (AGOA) Preferential Trading Arrangement (PTA) in 2001, through which Kenya exports apparels to the US market. Exports with RCA include exports of vegetable textile fibres, particularly sisal (manila hemp or Musa); articles of apparel and clothing accessories, knitted or crocheted; and articles of apparel and clothing accessories, not knitted or crocheted.

Table 16: Indicators on the competitiveness of Kenya's textile and clothing sector

Indicator	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Productivity: Textiles and apparels sectors value added/ Employment (USD)	13,842	14,029	12,333	11,733	12,013	14,899	16,970	26,825	20,453	12,979	11,950	10,234	n.a.
Unit Labour Cost, Textiles and apparels sector	0.95	0.91	1.03	1.12	1.05	0.89	0.82	0.55	0.71	1.00	1.06	1.10	n.a.
Revealed comparative advantage, Textiles and apparels, Kenya/World*	1.13	1.21	1.25	1.46	1.54	1.53	1.8	1.89	1.87	1.81	1.77	1.76	1.77

Source: Kenya National Bureau of Statistics for value added, employment and wages data; International Trade Centres TradeMap for exports data.

2.3.2.7 Competitiveness of the furniture sector

Table 17 shows indicators of competitiveness of the Kenya furniture and fixtures subsector. Productivity in the sector fell drastically between 2000 and 2004/05 but has recovered since then; however, in 2010 they were still at less than three quarters the value at the start of the decade, and dropped again in 2011.

Both productivity and labour costs have shown a fluctuating trend. Kenya's furniture sector has no RCA in international markets.

Table 17: Indicators on the competitiveness of Kenya's furniture and fixtures sector

Indicator	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Productivity: Furniture sectors value added/ Employment (USD)	11,811	11,632	2,081	2,204	1,962	1,990	2,341	4,777	5,947	6,590	8,466	7,445	n.a.
Unit Labour Cost, furniture sector	0.65	1.13	0.77	0.83	0.98	1.07	1.16	1.14	0.87	0.80	0.69	0.77	n.a.
Revealed comparative advantage, furniture, Kenya/World	0.27	0.12	0.11	0.11	0.11	0.12	0.30	0.29	0.28	0.28	0.28	n.a.	n.a.

Source: Kenya National Bureau of Statistics for value added, employment and wages data; International Trade Centres TradeMap for exports data.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3. EXPLAINING COMPETITIVENESS AND COMPARATIVE ADVANTAGE

3.1 Enablers for the Manufacturing Industry

The long-term framework for Kenya's manufacturing sector is presented in Vision 2030. This vision statement sees the development of robust, diversified and competitive manufacturing as being achieved through a three-pronged strategy including restructuring key local industries that use local raw materials but are currently uncompetitive; value addition to local agricultural produce as well as value addition to intermediate manufactures such as metals and plastics; and raising the share of Kenyan products in the regional market from 7% to 15%.

The manufacturing sector is expected to grow at a sustained growth rate of 10% per year until 2030 and is to create jobs, generate foreign exchange, and attract foreign direct investment. To achieve these goals, Vision 2030 focuses on improving the sector's productivity; raising the share of Kenyan products in the regional market; and developing niche products in which Kenya can achieve a global competitive advantage. Specific strategies for improving sector's productivity include scaling up of firms operations through consolidation and establishment of special zones and parks, and development of various industrial clusters.

The long term vision of the sector presented in industrial policy (Republic of Kenya, 2012) is to enable Kenya become a regional leader in industrial growth and development contributing upwards of 15% of the annual national GDP.

These policy documents have also identified various challenges facing the sector, such as high input costs including expensive and low-quality raw materials, rising labour costs, unreliable and expensive energy; low productivity levels; inefficient flows of goods and services; and an unfavourable business environment, among others. They have also provided strategies towards addressing the various challenges encountered by the sector.

The current targets for the manufacturing sector in the long-term policy statements are ambitious. Manufacturing sector targets in earlier frameworks such as the Economic Recovery Strategy for Wealth Creation were not achieved. The first MTP (2008-2012) implementing the Vision 2030 did not achieve its targets including those of increased manufacturing sector's contribution to GDP. The current policy framework will need greater commitment in implementation if the targets are to be achieved.

3.1.1 Overview

A wide range of factors determine the level of productivity and competitiveness of a country. Some of these factors include institutions, infrastructure, macroeconomic performance and management, health and primary education, higher education and training, market efficiency, technological readiness, business sophistication and innovation (WEF, 2013).

Kenya was ranked number 106 out of 144 in the global competitiveness report 2012-2013 (WEF, 2013). The country's general strengths are identified as innovative capacity, high quality education, well developed financial markets and a relatively efficient labour market. Key challenges are identified as poor health, low life expectancy and insecurity.

The World Bank's Ease of Doing Business indicator provides a comparative measure of the effect of business regulations on the costs of doing business for local firms in 185 economies. In 2013, Kenya ranked 121st out of 185 countries on the overall ease of doing business, showing that the country's business regulatory environment is not highly competitive compared to other countries. Table 18 shows the ranks for Kenya with respect to indicators of regulation competitiveness for the period 2011-2012 and 2012-2013.

Table 18: Overview of Doing Business indicators for Kenya

Indicators	DB 2013 Rank (out of 185 economies)	DB 2012 Rank	Change in Rank
Starting a Business	126	132	+6
Dealing with Construction Permits	45	31	-14
Getting Electricity	162	162	*No change*
Registering Property	161	157	-4
Getting Credit	12	9	-3
Protecting Investors	100	98	-2
Paying Taxes	164	168	+4
Trading Across Borders	148	142	-6
Enforcing Contracts	149	130	-19
Resolving Insolvency	100	96	-4
Overall Ease of Doing Business	**121**	**117**	**-4**

Source: IFC / World Banks Doing Business 2013.

Kenya ranks best in regulations related to dealing with construction permits and in getting credit while it ranks worst in regulations related to payment of taxes, getting electricity and registering property.

Overall, in 2013 Kenya dropped four positions in the doing business ranking compared to 2012. Improvements in competitiveness are noted with respect to regulations related to starting a business and paying taxes, which can be attributed to reforms undertaken in the country to simplify the process of starting businesses and payment of taxes, including undertaking some of related activities online. Kenya's competitiveness in regulations related to all the other indicators however decreased as witnessed by the drop in rank in 2013 compared to 2012.

The doing business indicators show that Kenya's regulatory framework generates an unfavourable business environment. Heavy regulation, weak trade agreements, lack of rigorous legal enforcement, incidences of insecurity, and limited access to capital are some of the challenges contributing to low productivity and competitiveness of the Kenyan manufacturing sector (Republic of Kenya, 2008). The country therefore needs to take measures to improve the competitiveness of its business environment.

3.1.2 Legal and regulatory environment

The legal, regulatory and administrative framework of a country determines the institutional environment in which businesses operate and how they interact with the government. This framework is an important determinant of productivity and competitiveness. Although effective regulation is important for proper functioning of businesses, especially where there are many small or medium-sized enterprises, regulations can also become burdensome and hinder enterprise growth. Regulations become burdensome when: they are many, difficult to administer and to comply with, and when similar regulations are administered by more than one agency.

The manufacturing sector is governed by industrial cross-cutting regulations including legislation that also applies to all sub-sectors. These statutes include: Companies Act, Factories Act, Employment Act, Local Government Act, Industrial Registration Act, Standards Act, Labour Act and the Trade Licensing Act. Other regulations also apply with respect to imports and exports, environmental impact assessment, taxation, statutory requirements including registration with the national social security fund, and the national hospital insurance fund. Important cross-cutting regulations affecting the manufacturing sector in Kenya and the implementing institutions are summarised in Box 1.

Box 1: Regulations affecting manufacturing sector in Kenya and the institutions implementing them

Regulatory requirement	Regulatory institutions involved
Business registration and licensing	Registrar of Companies Nairobi City Council (or municipal Councils) Department of mines and Geology, local authorities and Ministry of Energy, Ministry Commerce and Tourism, Kenya Forest service, Transport and Infrastructure, Ministry of Agriculture, Livestock and Fisheries, (including KEPHIS, PCPB, Dairy Board, Department of Fisheries and Department of Veterinary Service, Kenya Radiation Board. Specific institutions depend on the subsector.
Calibration	Department of Weights and Measures, Kenya Bureau of Standards (KEBS)
Premises/Factories/ work place safety	Ministry of Health, Department of occupational health and safety, Kenya dairy Board, Kenya Radiation Board
Water and sewerage regulations	Nairobi Water and Sewerage Company (NWSC) NEMA, KEBs, Water Services Regulation Board (WASREB), WARMA, Department of Public Health
Standards regulations	Department of Weights and Measures, KEBS
Occupational safety and health regulations	Ministry of Health and Sanitation and Directorate of Occupational Safety and Health Services(DOHS)
Environmental standards	National Environmental Management Authority and DOHS
Cess (local government tax) requirements	All county/municipal councils through which the product is transported; Kenya Forest Service
Waste regulations	NEMA, City/Municipal Council and the public health
License to transport waste and waste disposal	City Council and NEMA
Specialized materials certificate controlled substance regulation permit	KEBS NEMA
Noise and vibration licenses	NEMA and DOSH
Construction regulations	Public Health and Sanitation and City Council
Health regulations	Nairobi City Council, DOHS, Port Health and Ministry of Health

Source: Adapted from KAM, 2012

The key challenge posed for business in complying with business regulations in Kenya is the large number of regulations and the fact that in some cases their administration is undertaken by different regulatory agencies, sometimes with limited coordination. This makes compliance time consuming and costly (KAM, 2012).

Attempts have been undertaken to improve business regulation in Kenya since 2005. Reforms have targeted the reduction of the number of regulations but have had less focus on addressing the issue of overlapping regulatory actions by different regulatory institutions and agencies.

The review of business licensing laws in 2006 led to a reduction in the number of mandatory business permits leading to progressive reduction in procedures, time taken and costs of starting a business in Kenya between 2006 and 2013 (Table 19). Reforms in regulations related to construction addressed mainly the coordination of the license and permit approval processes of the concerned Departments of the City Council, leading to a reduction in the time taken to complete these processes. Similarly reforms in electricity regulation led to a reduction in time taken to obtain electricity.

Table 19: Kenya – Selected Doing Business Indicators, 2006 vs. 2013

Indicator	2006			2013		
	No. of procedures	Time it takes (days)	Costs (% of income per capita)	No. of procedures	Time it takes (days)	Costs (% of income per capita)
Starting a business	13	54	47.9	10	32	40.4
Dealing with construction permits	7	163	65.5	9	125	211.9
Getting electricity (2010)	6	163	1,409.30	6	146	1,208.20
Registering property	8	73	4.1	9	73	4.3

Source: World Bank, 2006; 2013 Doing business

Regulations related to paying taxes pose particular challenges to the business community. The four main taxes paid by businesses in Kenya are: corporate tax, which is governed by the Income Tax Act (Cap. 470 of Laws of Kenya); Value Added Tax (VAT), which is governed by the VAT Act 2012 (Cap 476 of the Laws of Kenya); Customs duty, which is governed by the East African Customs Management Act 2005; and the Excise duty, which is governed by the Customs and Excise Duty Act (Cap 472 of the Laws of Kenya).

The key challenges in complying with tax regulations that have been identified are as follows: lack of clarity on key provisions including on refunds; delays on the part of the Kenya Revenue Authority (the tax administration Authority in the country); heavy documentation requirements including keeping of documents for up to ten years for corporate taxes; and unclear tax exemption procedures and lack of transparency in obtaining tax compliance certificates (KAM, 2012). VAT regulations further require the filing of monthly returns. All these challenges lead to significant time being spent in payment of taxes in the country. Reforms since 2006, including simplification of tax payments through online filing, have contributed to a reduction in time required for paying taxes from 372 person-days per year in 2006 to 340 in 2013.

The experience with regulatory reform in business regulation and construction sector shows that reforming the regulatory system offers benefits for the country. There is scope for further reforms of the regulatory system to reduce time spent in ensuring compliance, reduce costs of doing business, and contribute to improved productivity and competitiveness of Kenya businesses and of its manufacturing sector in general.

3.1.2.1 Overlapping roles and regulations of central government and County governments

There is a growing concern over the overlapping roles and regulations of the central government and the county governments. Various counties charge other taxes, levies and cess in addition to the ones charged by the central government. The taxes are an additional cost to doing business in Kenya. There is need to harmonise and possibly put a cap on the imposition of new taxes, levies or related charges.

3.1.2.2 Specific regulations in priority sectors

Regulations in the food and beverages subsector

In addition to the manufacturing sector cross-cutting regulations, regulations specific to the food and beverages subsector include: the Crop Production and Livestock Act, which controls crop production, livestock marketing and processing of by-products; standards, labelling and inspection regulations, and cess (local government tax) requirements. Other regulations specific to food sectors include: Coffee Act, Dairy Act, Fisheries Act and Tea Act. Recent attempts to consolidate and reduce regulations in the sector have led to enactment of new regulations, the Kenya Agricultural and Livestock Research Act.

Specific regulations for the leather and leather products subsector

Specific regulations in this subsector include: the Crop Production and Livestock Act, which controls crop production, livestock marketing and processing of by-products; the Hides, Skins and Leather Trade Act, which aims to control and to develop the hides, skins and leather industry; and the recent Kenya Agricultural and Livestock Research Act.

Specific regulations for other subsectors

Apart from the cross-cutting regulations applying to the manufacturing sector in general, there are no specific regulations applicable to manufacture of the other selected subsectors covered in this report.

3.1.3 Industrial, innovation and manufacturing sector policies

Manufacturing sector policies in Kenya are guided by the National Industrialization Policy Framework for Kenya 2012-2013 (Republic of Kenya, 2012). The overall goal of the policy is to increase the contribution of the industrial sector to GDP by at least 10% per annum. Other objectives of the policy include:

- Strengthening local production capacity to increase domestically-manufactured goods through increasing sector's productivity and value addition by 20%;
- Raising the share of Kenyan products in the regional market from 7% to 15%;
- Developing niche products for which Kenya can achieve a global competitive advantage;
- Increasing the share of Foreign Direct Investment in the industrial sector by 10%;
- Increasing by 25% the share of locally produced industrial components and spare parts;
- Developing at least two Special Economic Zones and five Small and Medium Enterprises (SMEs) Industrial Parks;
- Establishing an Industrial Development Fund with a minimum of KES 10 billion for long term financing;
- Increasing by 20% the share of manufacturing in total Micro, Small and Medium Enterprises (MSME) output;
- Increasing the local content of locally manufactured goods for export to at least 60%; and
- Increasing the share of industries located outside major urban centres.

In addition, the policy seeks to rationalize and streamline policies, laws and regulations constraining industrialization and identifies the enablers of the sector as the following: physical infrastructure including transportation and related logistics, energy, water and sewerage; a reliable oil pipeline; ICTs; and national security.

Based on performance of various subsectors, the policy has identified twenty-one priority subsectors for industrial development including: iron and steel, machine tools and spares, agro machinery and farm implements, automotive and auto parts industry, agro-processing; wood and wood industries, paper and paper products, leather and leather products, electrical and electronic products, mining and quarrying, ceramics industry, glass industry, pharmaceuticals industry, recycling materials, packaging industry, fish and fishery products, petrochemicals industry, green energy and biotechnology and nanotechnology industries.

Innovations in Kenya's manufacturing sector as measured by the number of registrations of industrial property rights in the form of patents and industrial designs are limited. Lack of innovation is one of the factors contributing to low productivity and competitiveness in the manufacturing sector in Kenya (Republic of Kenya, 2013). While registration of industrial property rights in Kenya is moderate, most of the applications and registrations are in agriculture-related and pharmaceutical-related areas (Republic of Kenya and JICA (2007).

Challenges related to innovation in Kenya (Republic of Kenya, 2012) include: disincentive to innovation due to ineffectiveness of the intellectual property (IP) system, and low awareness on the importance of IP registration.

Creating an enabling environment for improved productivity and competitiveness of the manufacturing sector remains a key objective of the current manufacturing sector medium term plan (2013-2017). Key activities of implementation activities to enhance manufacturing identified in the plan (Republic of Kenya 2013) include: development of subcontracting policy to promote the industrial sub-contracting linkages in the manufacturing sector; development of the business and technology incubation policy to increase the survival rate of SMEs and ensure they graduate to medium and large enterprises; and development of the national intellectual property rights.

To support the prioritized industrial sectors, the industrial policy proposes measures towards improvement of legal and institutional frameworks, measures for resource mobilization, promotion of high value addition, standardization, research & development, innovation, incubation, technology transfer, and protection of intellectual property.

3.1.4 Incentives for the manufacturing sector

The manufacturing sector in Kenya has access to several incentives provided by the government under different export schemes in the form of tax, physical infrastructure and procedural incentives. The incentives apply to all manufacturing sectors in Kenya. The incentives are provided under the following schemes:

Incentives under the Export Processing Zones

Established in Kenya in 1990, the Export Processing Zones (EPZ) scheme promotes export-oriented industrial investment within the EPZ designated areas. The EPZs are managed by the Export Processing Zones Authority (EPZA), which also offers new and existing manufacturers facilitation and after care services. Manufacturers, whether local or foreign investors located in the EPZ, enjoy tax incentives including corporate tax and withholding tax holidays, simplified business operating procedures including

rapid project approval and licensing, speedy processing of work permits of senior expatriate staff, facilitation and after care services by the EPZA. Business and industrial infrastructure benefits include ready factory buildings for rent or purchase, serviced land for construction of buildings, among others.

Incentives under manufacturing under bond schemes

The Manufacturing Under Bond (MUB) scheme was introduced in Kenya in 1986 to promote manufacturing for export. The scheme is facilitated by KenInvest and administered by the Kenya Revenue Authority (KRA), which licenses investors to operate a bonded factory. This scheme provides manufacturers with importation of plant, machinery and equipment tax free (import duty, excise duty and VAT). In addition to tax free provisions, the scheme also provides for 100% allowance on plant, machinery, equipment and buildings.

Incentives under tax remission for export office

Incentives provided by the Tax Remission for Export Office (TREO), which came into effect in 2002, include remission of 100% duty for raw material imported by manufacturers operating under the programme and manufacturing goods for export and/or essential goods for home use, with the exception of industrial sugar. The objective of the scheme is to enhance the competitiveness of Kenya's manufactured products in both the local and international markets. The scheme is managed by the Ministry of Finance and KRA. Under TREO, manufacturers only import approved and gazetted quantities and imported goods are subject to a security bond equivalent to the duty remitted.

EAC Duty Remission Scheme

This is an export promotion scheme provided under the EAC Customs Management Act (EAC, 2004). The scheme provides remission of duty on raw materials to approved manufacturers and on the quantity of goods granted remission as published by the EAC Council in the EAC Gazette. Manufactured goods benefiting from such schemes are for export outside EAC and if sold in the EAC territory, attract relevant duties and levies in line with the EAC Common External Tariff (CET).

The incentive schemes have generally been under-utilized. The most popular of the schemes has been the export processing zones, which contributed to some increase in manufacturing activity in the country, especially in the apparels subsector. However, since 2000 the number of firms located in these zones, number of people employed, capital investments and value of exports have decreased (Republic of Kenya, 2012). A key challenge with the utilization of the incentive schemes has been the delay in refund of eligible taxes. For example, a study by KAM (2012) found that 68% of all the respondents in the study had experienced VAT refund delays. Administration of the tax return related schemes remains a challenge, is easily manipulated, and is prone to corruption, with bribes sometimes being as high as 4%[8] of the refundable amounts.

Incentives in the priority sectors

Apart from the incentives across the manufacturing sector, there are no specific incentives to specific sectors.

3.1.5 Support institutions

There are several institutions in the country which support the manufacturing sector in Kenya. These can broadly be classified as regulatory, research and training, and private sector institutions.

Some key regulatory institutions relevant for all the manufacturing sector include: Kenya Bureau of Standards (KEBS) for standards, National Environmental Management Authority (NEMA) for environment, Kenya Plant Health and Inspectorate Services (KEPHIS) for ensuring sanitary and phytosanitary, Kenya Investment Authority (KenInvest) for investment facilitation, Export Promotion Council (EPC) for export facilitation, Anti-Counterfeit Agency (ACA), Kenya Industrial Property Institute (KIPI) for intellectual property facilitation, Kenya Industrial Estates (KIE) for financial access facilitation, Kenya Power and Lighting Company (KPLC) for distribution of electricity, Electricity Regulatory Commission (ERC) for overseeing regulations in the energy sector, Numerical Machining Complex (NMC) for machines calibrations, Export Processing Zone Authority (EPZA) for export promotion, Industrial Development Bank Capital (IDBC) for financial access facilitation, and the Kenya Revenue Authority (KRA) for tax-related regulations. These institutions are important in ensuring a conducive business environment for and improved competitiveness of the general manufacturing sector in Kenya.

The institutions generally oversee administration of relevant laws, make regulations, and enforce rules and regulations as supervisory or oversight authorities. The poor business regulatory environment existing in Kenya is a reflection of the weak or inefficient regulatory institutional system. A myriad of institutions at both the county and central level issue and implement regulations, sometimes with overlapping mandates and duplicative roles. Limited capacity, human resource limitations, and poor governance further weaken the performance of these regulatory institutions. With respect to institutions, Kenya ranked number 106 out of 144 countries in the global competitiveness index (WEF, 2013).

Research and training institutions supporting Kenya's manufacturing sector include: Kenya Industrial Research and Development Institute (KIRDI), Kenya Industrial Training Institute (KITI), Kenya Agricultural Research Institute (KARI), and Kenya Institute for Public Policy Research and Analysis (KIPPRA). Public universities also play an important research and training role in the sector; these include University of Nairobi, Moi University, Jomo Kenyatta University of Science and Technology, and Egerton University. Key challenges related to these institutions include: limited linkages between industries, research institutions, and

[8] Information obtained from field consultations carried out with stakeholders in July 2013.

training institutions; and low funding and weak institutional mechanisms (Republic of Kenya, 2012).

Private sector associations supporting manufacturing in Kenya include: Kenya Private Sector Alliance (KEPSA), Kenya Association of Manufacturers (KAM), Kenya National Federation of Jua Kali Associations (KNFJKA, representing informal sector businesses), Federation of Kenya Employers (FKE), Micro and Small Enterprises Association of Kenya, and the Kenya National Chambers of Commerce & Industry (KNCC&I). The private sector associations provide industry self-regulation; production, processing and market-oriented professional services support; and training. They also lobby the government for better business environment.

Specific institutions for the priority sectors

In addition manufacturing sector cross cutting institutions, several institutions also exist providing support to specific subsectors of the foods and beverages. These include: Department of Veterinary Services (DVS) for fisheries and meat processing quality and safety, Kenya Plant Health Inspectorate services (KEPHIS) for sanitary and phytosanitary as well as in chemical residue testing. Pest Control Products Board (PCPB) is involved in pesticide quality control, Horticultural crops development Authority (HCDA) for vegetables and fruits, Tea Board of Kenya for tea, County authorities, Coffee Board of Kenya for coffee, Kenya Sugar Board (KSB) for sugar and Kenya Dairy Board for dairy processing among others. Private sector support specific to the food and beverages subsectors include: Kenya Tea Development Agency (KTDA), Fresh Produce Exporters Association of Kenya (FPEAK), and the Kenya Fish Processors & Exporters Association (AFIPEK), among others.

Specific institutions in the leather and leather products subsector include: the Kenya Leather Development Council (KLDC) which promoted development of the sector, County Authorities who collect local authorities taxes, Eastern and Southern Africa Leather Industries Association (ESALIA – the regional organization that is spearheading development of the leather sector within Eastern and Southern African region); Leather Training & Production Centre, and the Leather Development Centre at Kenya Industrial Research Development Institute (KIRDI).

Apart from the manufacturing sector cross cutting institutions, there are no specific institutions supporting the other manufacturing subsectors covered in this report.

3.1.6 Infrastructure: Energy, Transport and Communication Energy

Availability and quality of energy infrastructure is an important determinant of the efficiency and competitiveness of the manufacturing sector. The main source of commercial energy in Kenya is petroleum fuels and electricity, with petroleum fuels accounting for 83% of energy used in the commercial sector. Petroleum fuels used in the country are imported as crude petroleum products or in refined forms while most of the electricity (over 99%) consumed is domestically generated, with only limited quantities being imported from Uganda. Electricity generation is by hydro, thermal and geothermal with hydro-generation accounting for 42% of all electricity generation. Electricity generation has shown a slight increasing trend, with the increases accounted for by thermal and geothermal generation. The commercial industrial sector consumes about 70% of the total electricity consumption in the country which the manufacturing sector alone consuming 60% of the energy generated in the country.

Unreliability of access to electricity and high costs represent a major constraint to manufacturing in Kenya. Power disruptions can last up to 4.4 hours, low voltage power line breakdown average between 5.4 per 100 customers per year (African Development Bank, 2012), and outages can occur 8 to 12 times in a month, leading to production loss of up to 7% of annual sales (KAM, 2012).

The country's dependence on hydro-generated energy makes supply of power subject to drought. The inefficient monopoly distribution of power by the KPLC has also contributed to the unsatisfactory quality of the energy sector. To address the unreliability of power supply, manufacturers additionally invest in generators further increasing their costs of power.

Transport modes and infrastructure

Kenya uses various modes of transport including road, rail, water, air and pipeline. Road transport is by far the largest mode of transport with a share of over 70% of the transport sector output. Air transport is also significant with a share of 18%, while water and pipeline account for 4% and 2% respectively. The share of rail transport in total transport output is insignificant.

The quality of transport infrastructure is relatively poor: the quality of Kenya's road, rail and air transport infrastructure ranked 72, 72 and 64 out of 144 countries respectively in terms of global competitiveness (WEF, 2013). The quality of the road infrastructure, particularly in urban areas, is improving because of road development being undertaken under the Kenya Urban Transport Infrastructure Program. Transportation is one of the constraints on businesses in the country, with key concerns being the low quality of the infrastructure, high freight costs and charges and loss of goods on shipment due to breakages and spoilage.

Communication infrastructure

Kenya started liberalization of the telecommunications sector in 1999. Since then access to communications services in Kenya has been on the increase, with mobile phone penetration being about 30 million persons (about 74 per 100 inhabitants) and Internet users numbering about 32 per 100 inhabitants in 2012 (CCK, 2013). Broadband subscriptions have also been on the increase, although still very low at 0.1% of the population (World Bank, 2012; WDI). Fixed lines, fixed wireless subscriptions and courier services have been on a downward trend. The number of mobile phone operators has increased from one to four, which has led to a decrease in costs of calling. Cost of Internet access has also decreased.

3.1.7 Trade logistics

An efficient trade logistics system is important for trade facilitation and trade competitiveness. The quality and competitiveness of a trade logistics system is determined by the efficiency of all the activities and processes between the point of the initial shipment of tradable products to the point of their destination. These include the efficiency of the cross-border clearance processes, quality of trade- and transport-related infrastructure, including ports, railroads, roads, and information technology; competence and quality of logistics services, including transport operators and customs brokers; ability to track and trace consignments; and timeliness of shipments in reaching destination within the scheduled or expected delivery time.

Kenya ranks poorly in logistics competiveness, being ranked number 122 out of 155 countries in 2012 in the logistics performance index (LPI), a drop in rank from number 99 out of 155 countries in 2010 (Table 20 and Table 21). The least competitive component in the logistics chain is customs processes, where the country ranked 135 out of 155 countries.

Table 20: Logistics Performance Index (LPI) Rankings 2010/2012, Kenya

Indicators	2012 Rank (out of 155 countries)	2010 Rank (out of 155 countries)	Change in Rank
Customs	135	102	-33
Infrastructure	130	112	-18
International shipments	88	76	-12
Logistics Competence	119	121	+2
Tracking & tracing	130	69	-61
Timeliness	113	112	-1
Overall LPI Rank	**122**	**99**	**-23**

Source: World Banks Logistics Performance Index (2012).

Table 21: Domestic LPI Performance 2012, Kenya and benchmark countries

Indicator	Kenya	Ethiopia	South Africa	Vietnam	Korea, Rep.
Export time and cost / Port or airport supply chain:					
Distance (kilometres)	132	750	364	52	300
Lead time (days)	2	4	2	2	2
Cost (USD)	1,455	1,000	1,861	310	572
Export time and cost / Land supply chain:					
Distance (kilometres)	478	750	553	59	300
Lead time (days)	8	4	3	2	3
Cost (USD)	1,651	1,000	1,442	293	500
Import time and cost / Port or airport supply chain:					
Distance (kilometres)	253	1,250	320	63	300
Lead time (days)	4	3	3	2	3
Cost (USD)	3,203	1,000	2,000	361	707
Import time and cost / Land supply chain:					
Distance (kilometres)	889	1,250	474	55	300
Lead time (days)	7	5	4	2	3
Cost (USD)	2,289	1,000	1,732	289	500
Shipments meeting quality criteria (%)	87.7%	82.5%	88.7%	77.7%	97%
Number of agencies - exports	3	n.a.	2	4	1
Number of agencies - imports	3	n.a.	2	4	1
Number of documents - exports	4	n.a.	2	5	2
Number of documents - imports	3	n.a.	2	4	1
Clearance time without physical inspection (days)	2	n.a.	1	1	1
Clearance time with physical inspection (days)	5	n.a.	2	2	1
Physical inspection (%)	25.41%	n.a.	4.97%	7.61%	2.50%
Multiple inspection (%)	2.45%	n.a.	1.99%	8.31%	1%

Source: World Banks Logistics Performance Index 2012.

3.1.8 Access to finance

Long-term finance, credit facilities as well as accessibility and affordability of financial services is important for the development and competitiveness of the manufacturing sector. Kenya's financial market is relatively well developed with Kenya ranking number 24 out of 144 countries in the recent global competitiveness index (WEF, 2013). The country ranks particularly well in ease of access to loans, financing through local equity market, and venture capital availability (ranking 25, 25 and 32 respectively; all out of 144).

The sector is guided by several regulations under the four regulatory authorities: the Central Bank of Kenya (CBK) for banks and payments settlement; the Insurance Regulatory Authority (IRA) for insurance; the Capital Markets Authority (CMA) for capital markets, and the Retirement Benefits Authority (RBA) for pensions, all under the oversight of the Ministry of Finance.

The Industrial and Commercial Development Corporation (ICDC), Kenya Industrial Estates (KIEs), and the Industrial Development Bank (IDB) Capital Limited are key public development finance institutions (DFIs) with mandates to provide medium-term and long-term finance to the general industrial sector. The role of these DFIs has, however, been declining due to low funding. The current industrial policy has identified investment and credit as the potential source for finance for the industry. The main sources of financing for the manufacturing sector are savings and domestic banks; these account for about 12% of commercial bank bills, loans and advances in 2011 (Republic of Kenya, 2012). Equity and debt capital markets have also been gaining ground.

Access to finance, including both as regards availability and cost (high interest rate), is a challenge to the manufacturing sector in Kenya. In addition to the high interest rates, there are also other charges such as legal, valuation, processing, and insurance fees which add to the cost of borrowing. Collateral requirements also limit access to credit; the most commonly used forms of collateral are machinery and equipment and land and buildings. Access to long-term financing for business start-ups is still a challenge.

3.1.9 Education, training and skills level

Skills and competency of the workforce is an important determinant of successful industrial development. Technical and managerial skills are particularly important. Kenya has a fairly well developed educational institution systems, comprising primary, secondary and tertiary levels of education. Tertiary level institutions include both universities and Technical and Vocational, and Education and Training (TVET) institutions. The number of tertiary institutions and enrolment in the institutions has been on the increase. The quality of education is good, ranking number 37 out of 144 countries, better than that of many other countries in Africa including Egypt, Mauritius, Nigeria, and South Africa (Table 22). However, enrolment is low and, as a result, Kenya ranks number 100 in terms of overall higher education and training, behind South Africa and Mauritius.

Table 22: Key higher education and training indicators for Kenya and selected African Countries

Indicator	Rank/144				
	Kenya	South Africa	Mauritius	Nigeria	Egypt
Secondary education enrolment, (gross %)	108	53	67	120	101
Tertiary education enrolment (gross %)	130	101	82	111	73
Quality of the educational system	37	140	46	83	139
Quality of math and science education	76	143	49	92	139
Quality of management schools	56	15	76	86	137
Internet access in schools	85	111	72	99	116
Availability of research and training services	64	51	67	68	99
Extent of staff training	70	26	37	57	129
Overall	**100**	**84**	**65**	**113**	**109**

Source: WEF (2013) -Global Competitiveness Index

The relatively high quality of education in the country has been feeding into the labour market providing relatively high skilled labour. Manufacturing firms in Kenya do not consider shortage of skilled workers as an important constraint to their operation and growth (World Bank, 2008). A key challenge however is that there is mismatch between the industrial labour market requirements and human resource development (Republic of Kenya, 2012; KAM, 2012). Integration, coordination and linkages between training institutions and industry are weak. Measures to address this challenge provided for in the industrial policy include: TVET reforms to offer skills more relevant to industry; enhancing sustainable linkages; and building alliances between industry, higher institutions of learning and research and development institutions.

Private sector associations in various manufacturing sub-sectors – particularly the Fresh Produce Exporters Association of Kenya, Kenya Association of Manufacturers, and Kenya Private Sector Alliance (KEPSA) – provide demand-driven training to industry. Training is provided on various matters, including: standards,

quality control, management, export/import trade and growth-oriented manufacturing.

3.2 Product Diversification and Structural Transformation of the Manufacturing Sector

3.2.1 Product diversification

Export product diversification (a larger export mix) is important for sustained earnings and development of the manufacturing sector. Diversification mitigates impacts of external economic shocks. A country with a larger number of products and trading with a larger number of trading partners has a lower export concentration ratio implying a more diversified export structure and more competitiveness. Higher export concentration conversely can lead to greater volatility in export earnings and economic growth rates.

Kenya's exports of manufactured products are dominated by four subsectors: food and beverages, chemicals and chemical products, wearing apparel, and other transport equipment. These four subsectors have a combined share of over 50% of total manufacturing sector exports, with food and beverages alone accounting for over 20%. The ten most important manufactured products exported accounted for about 79% of the total manufactured exports in 2012 (Table 23), thus Kenya's manufacturing sector exports are highly concentrated.

Table 23: 10 most important manufactured exports 2012

ISIC	Product	Share in total manufactured exports (%)
15	Manufacture of food products and beverages	20.6
24	Manufacture of chemicals and chemical products	13.3
18	Manufacture of wearing apparel; dressing and dyeing of fur	10.2
35	Manufacture of other transport equipment	7.35
25	Manufacture of rubber and plastics	4.98
27	Manufacture of basic metals	4.84
16	Manufacture of tobacco products	4.73
26	Manufacture of other non-metallic mineral products	4.33
19	Tanning and dressing of leather and leather products	4.14
17	Manufacture of textiles	4.09
Total		78.6

Source: COMTRADE

In terms of trends, the share of the ten most important manufactured exported products has declined from 88% in 2001 to 79% in 2012, which suggests some increase in the diversification of exports. This improvement in diversification is also shown by a slight decline in the concentration ratio and the Herfindahl-Hirschman Index (Table 24).

Table 24: Concentration of Kenya's manufactured exports, by product (2001-2012)

	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Concentration Ratio[9]	2001 0.35	2002 0.67	2003 0.53	2004 0.56	2005 0.46	2006 0.34	2007 0.29	2008 0.29	2009 0.28	2010 0.28	2011 0.31	2012 0.32
Herfindahl-Hirschman Index (HHI)[10]	0.0196	0.1172	0.0783	0.1117	0.0617	0.0234	0.0130	0.0145	0.0128	0.0121	0.0148	0.0196

Source: International Trade Centre's TradeMap.
For both the Concentration ratio and the HHI, scores go from 0 (being the most diversified) to 1 (being the least diversified).

The export shares of rubber and plastics, fabricated metal products, motor vehicles and furniture have increased over the period, thus the source of diversification is horizontal.

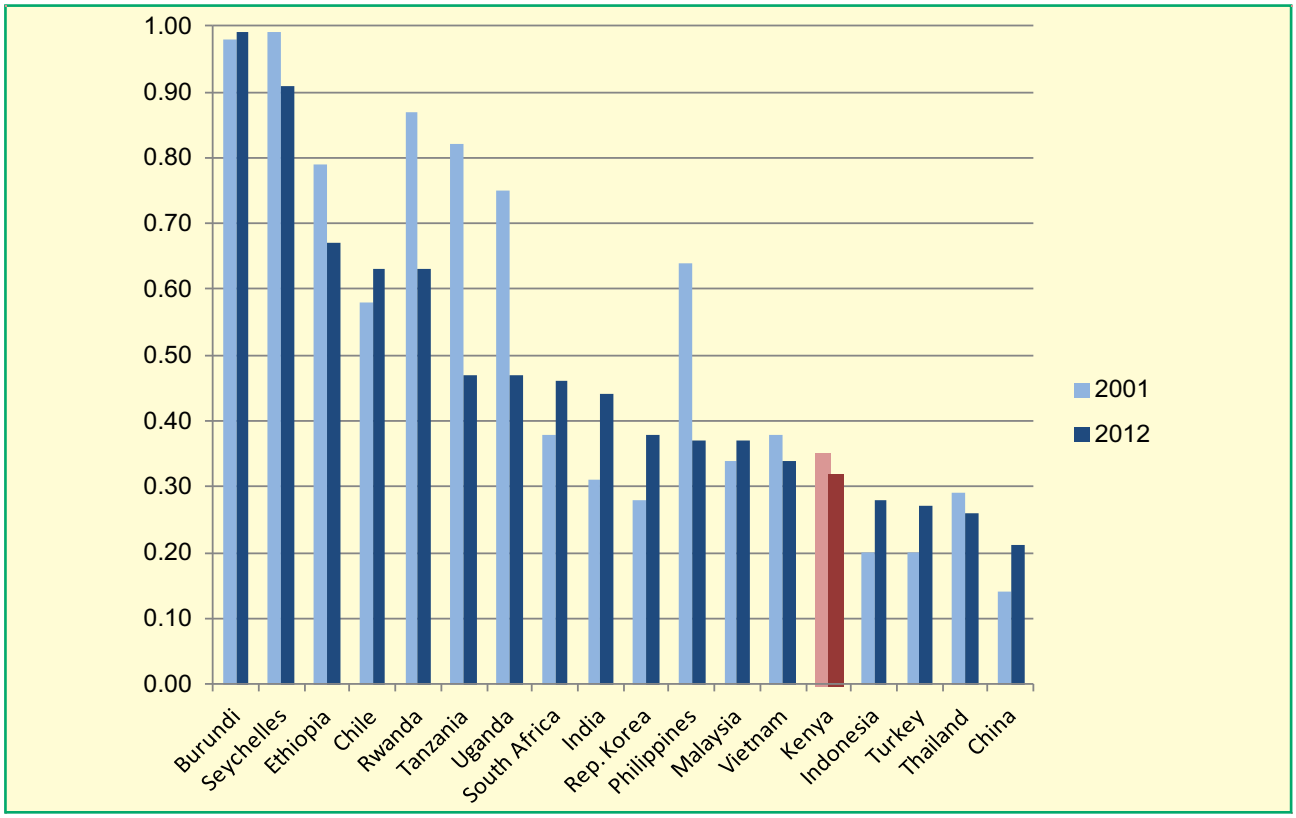
Figure 7 compares trends of manufactured exports concentration ratio for Kenya and other selected countries. Manufactured exports for Kenya are less concentrated than those of South Africa, Malaysia, Vietnam and other Eastern Africa countries, but they are more concentrated than those of China, Thailand and Turkey. The trend in the concentration index of manufacturing exports for Kenya has followed the same declining trend as that of several developing countries including Seychelles, Ethiopia, Rwanda and Philippines, while that of countries such as Burundi, Chile, China and Turkey, among others has been on an increase.

Figure 8 compares the diversification index of the manufacturing product exports of the same countries, showing the same trends as Figure 7.

[9] The concentration ratio is calculated here as the share of the 10 most important manufactured export products (at HS 6-digit level) in total manufactured exports.

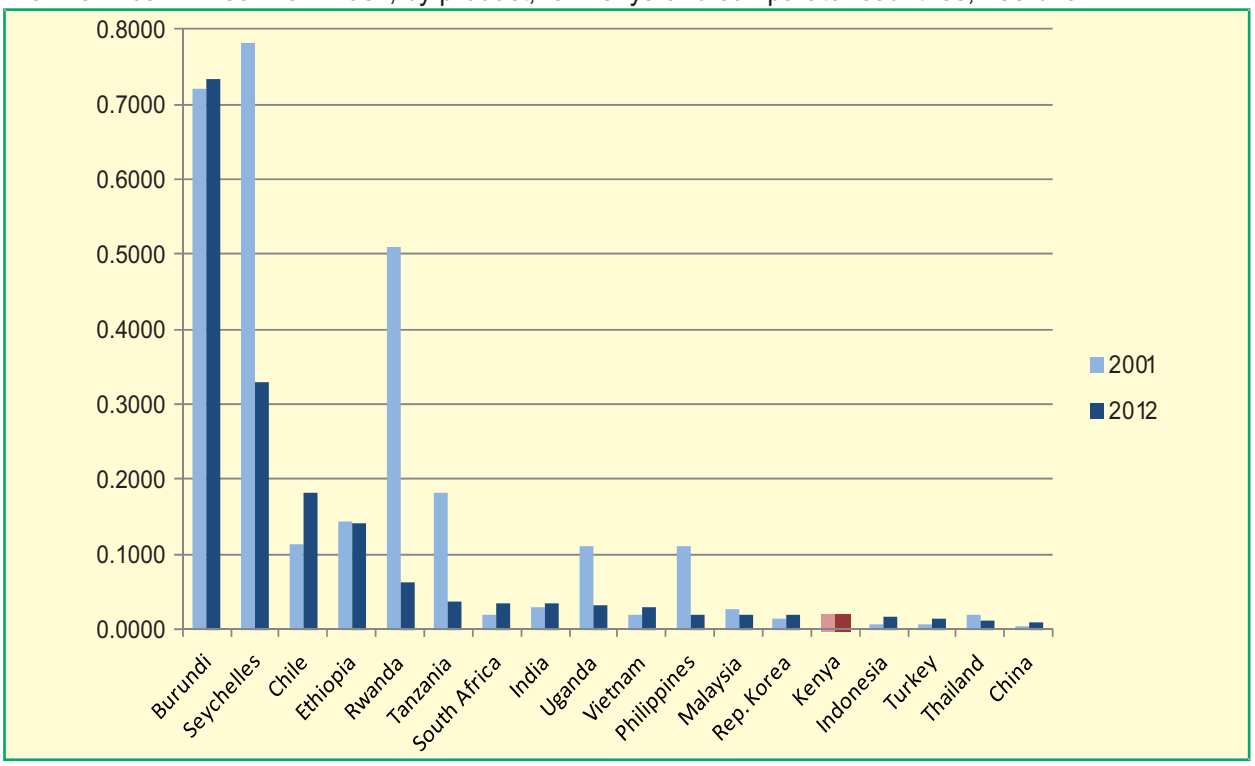
[10] $HHI = \sum s_i^2$ (where s_i is the share of export product i in total manufactured exports, in per cent).

Figure 7: Concentration ratio, by product, for Kenya and comparator countries, 2001/2012[11]



Source: International Trade Centre's TradeMap.

8: Herfindahl-Hirschman Index, by product, for Kenya and comparator countries, 2001/2012[12]



Source: International Trade Centre's TradeMap

[11]For Burundi, 2003 data has been used instead of 2001 data.

[12]For Burundi, 2003 data has been used instead of 2001 data.

The top ten export destination markets account for about 84% of Kenya's manufactured exports (Table 25). Of these, African countries account for 65%, with the East African Community partners Burundi, Rwanda, Uganda and Tanzania together accounting for over 57%. The EU and the US markets also are significant. The key export markets are those where Kenya has a preferential trading arrangement.

Table 25: Top 10 Most important Kenya's manufacturing export destination markets, 2011

Market	Trade value '000 USD million	Share (%)
Uganda	602.4	24.0
European Union	390.1	15.6
Tanzania	324.7	12.9
United States	304.5	12.1
Zambia	130.0	5.2
Rwanda	113.1	4.5
India	68.9	2.7
Egypt, Arab Rep.	61.4	2.4
Malawi	60.0	2.4
Afghanistan	58.2	2.3
Total top 10		84.3
All countries	2,508.2	100.0

Source:

The trends show that over the years, the share of the top 10 export destinations has declined from 94 to 84%; thus, the degree of concentration of Kenya manufactured export markets has slightly decreased, with Kenya gaining new markets both in Africa and outside Africa.

Kenya has a fairly well diversified manufacturing sector production, with a manufactured product diversification index (MPDI) of 0.257 in 2012. Although there are some fluctuations in the MPDI, there has been a general declining trend since 2001 (Table 26).

Table 26: Manufactured Product Diversification Index (MPDI)[13]

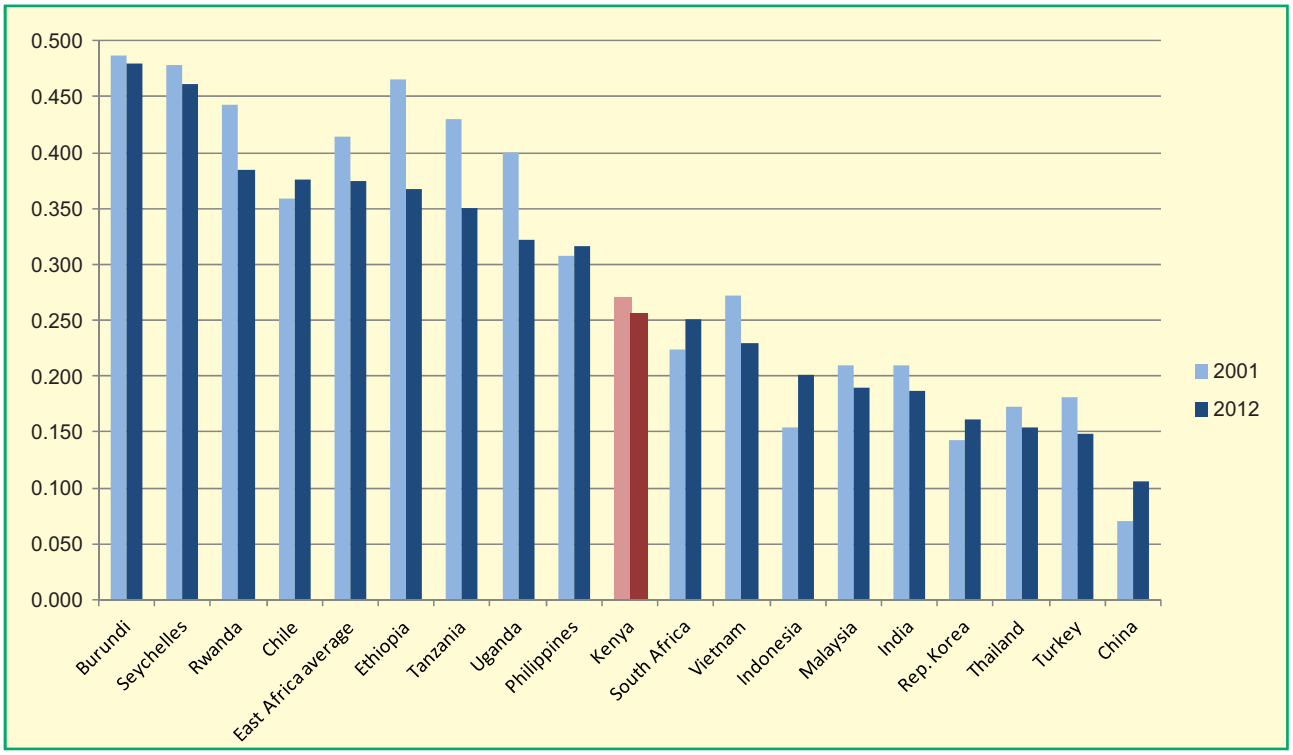
	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
MPDI Kenya*	0.2711	0.3385	0.2990	0.3178	0.2794	0.2367	0.2318	0.2194	0.2190	0.2090	0.2469	0.2570

Source: International Trade Centre's TradeMap.
* For the MPDI, scores go from 0 (being the most diversified) to 1 (being the least diversified)

Figure 9 compares diversification of the Kenya manufactured products with that of some benchmark countries. Kenya produces a greater variety of manufactured products compared to Eastern Africa countries and other developing countries such as Chile and Philippines, but a lesser variety compared to South Africa, Vietnam and China among other developing countries – which is not surprising given the latters' generally larger economic size.

[13] The Man ufactured Product Di versification Index (MPDI) is computed by measuring absolute deviation of the #count ry share from world structure, as follo ws: $MPDI_j = \frac{\sum |h_{ij} - h_{il}|}{2}$ (where h_{ij} is the share of product i in total m anufactured exports of country j and h_i is the share of product i in total w orld manufactured exports; only those manufactured products whose share in a countrys t otal manufactured exports is 0.5% or above are considered).

Figure 9: Manufactured Product Diversification Index for Kenya and comparator countries, 2001/2012[14]



Source: International Trade Centre's TradeMap.

Diversification is important because it reduces a country's exposure to external shocks and lowers instability in export earnings. As well, it can contribute to expanded export revenues, upgraded value added, and enhanced growth through improved technological capabilities, increased sophistication of markets, scale economies and externalities, and substitution of commodities with positive price trends for those with declining price trends (Samen 2010).

3.2.2 Structural transformation

Manufacturing production and export in Kenya is heavily based on resources and relies on low technology. This suggests that there is limited value addition and little structural transformation in the manufacturing value chain as is exemplified in the manufacturing of food and beverages, and cement among other products. Table 27 shows trends in structural transformation of Kenya manufacturing exports for the period 2001 to 2012

Table 27: Change in Kenya's manufacturing exports by technology classification, 2001-2012[15]

	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Resource-based exports	44.3%	73.5%	63.7%	66.3%	55.6%	44.1%	42.9%	44.6%	42.4%	42.6%	44.9%	47.7%
Low-technology exports	37.5%	13.0%	20.4%	23.1%	29.6%	38.4%	36.9%	33.4%	31.5%	32.2%	32.8%	34.2%
Medium-technology exports	13.1%	8.5%	12.4%	8.1%	12.2%	13.8%	14.6%	16.3%	19.6%	18.5%	16.8%	13.5%
High-technology exports	5.1%	5.0%	3.5%	2.5%	2.7%	3.8%	5.6%	5.8%	6.4%	6.7%	5.5%	4.6%

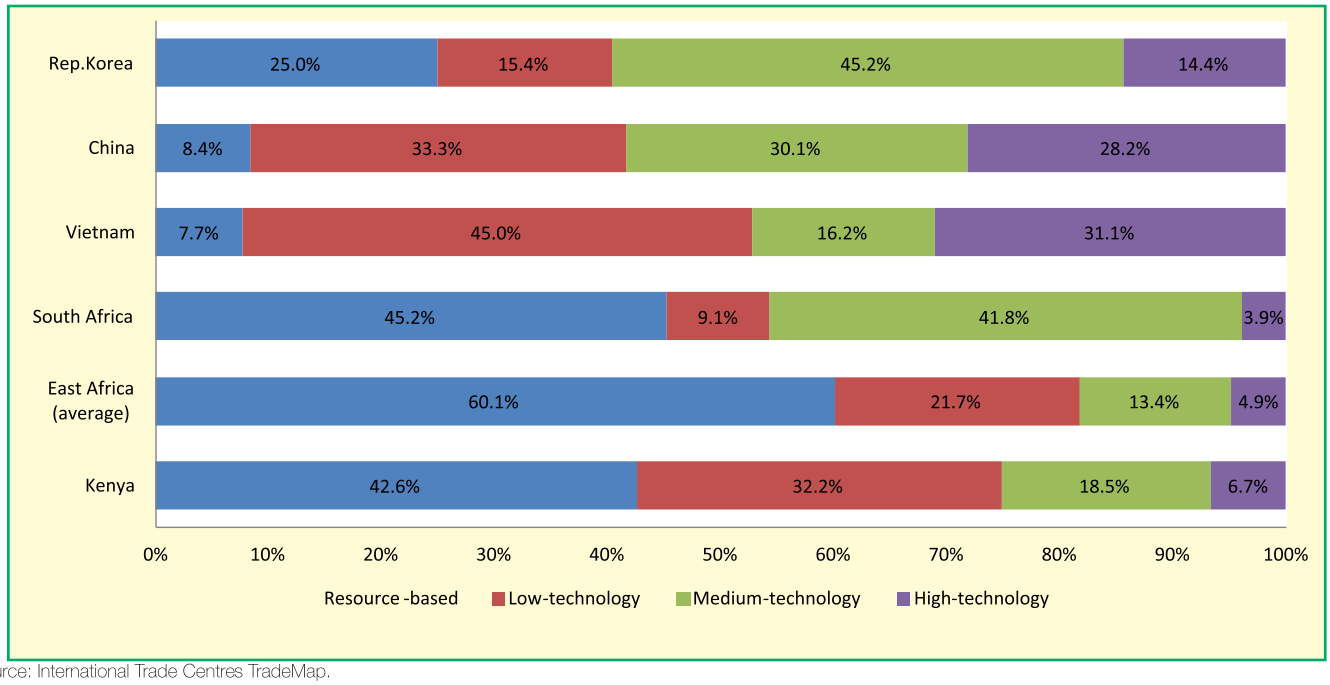
Source: International Trade Centres TradeMap.

[14]For Burundi, 2003 data has been used instead of 2001 data.
[15]The figures for this table were calculated following UNIDO's technological classification of manufactured exports according to SITC revision 3 (for the detailed classification of SITC sections per category, please see Annex 1 of UNIDO's Tanzania Industrial Competitiveness report (UNIDO 2012: 104)). Please note that the definition of "manufactured export" according to this classification is narrower than the definition we used elsewhere in the report.

Since 2001, there has not been a clear change in the structural composition of Kenya's manufactured exports. Resource-based and low-technology exports account for about 82% of all manufactured exports, the same level as in 2001. Exports of medium- and high-technology manufactured products have remained low, with a share of around 18% of total manufactured exports.

Figure 10 compares the structure of manufactured exports by technology for Kenya with that of benchmarking countries. Compared to the Eastern African average, Kenya's manufactured products are relatively more structurally diverse, with Kenya having a smaller share in resource-based manufactures, and a larger share in low-, medium- and high-technology manufactures. Kenya's manufactured products are however less technologically advanced than those of benchmarking countries such as South Africa, Vietnam, China and Korea which have far larger shares of medium to high technology in their export mixes.

Figure 10: Structure of manufactured exports by technology classification for Kenya and comparator countries, 2012[16]



Source: International Trade Centres TradeMap.

3.2.3 Export diversification in priority sectors

3.2.3.1 Food and beverages

Food and beverages exports account for about 24% of manufactured exports. Export products from this sector are concentrated in production, processing and preservation of meat, fish, fruit, vegetables, and oils and fats. These account for 58% of the total subsector exports. Beverages account for another 10% of the subsector's exports. Other exports from this subsector are dairy products and grain mill products with export shares of 1.9% and 1.6% respectively. Other food products account for 29% of the subsector's export share.

The most important markets for this sector (top 10 export destination markets) account for 88% of food and beverages sector exports. EU and EAC account for 63% of the market share.

3.2.3.2 Leather and leather products

Exports of leather products account for 4% of the total manufactured sector exports. Exports have been on the increase since 2000. Exported products include raw hides and skins and limited articles of leather. In 2011, exports of raw hides and skins accounted for 98% of the total exports from this sector. Top ten most important export markets, which include, EU, Hong Kong, China, India, Uganda, Tanzania, Rwanda, Pakistan, Indonesia and Zambia have a share of over 70% of the sector's exports.

3.2.3.3 Non-metallic mineral products

Non-metallic mineral product exports account for 4.9% of the total manufacturing sector exports. Exports from this sector are

[16] Idem.

concentrated in cement and plaster, which account for over 76% of the subsector exports, and glass and glass products, which account for over 16%. Export markets are equally concentrated, with almost all the market share (99%) being accounted for by the top ten most important markets, with Uganda alone accounting for 77% of that market share. EAC partners account for 95% of the market share.

3.2.3.4 Fabricated metal products

Exports of fabricated metal products account for about 2.5% of manufacturing sector exports. They comprise structural metal products with an export share of about 28%; cutlery and hand tools (4.3%), tanks and reservoirs (3%), steam generators (0.4%) and other fabricated metal products (64.3%). Export markets are highly concentrated, with the top 10 markets having a share of around 98% of the total sector exports, with limited market diversification since 2000. African markets dominate; for example, in 2011, the only non-African market in the top ten was the EU, with a share of 2.1%.

3.2.3.5 Electrical machinery

Exports of electrical machinery account for about 1.3% of manufacturing sector exports. Although the subsector exports few products, they are fairly well diversified in export shares, with accumulators, primary cells and primary batteries accounting for the largest export share of 33%. Export markets are concentrated in Africa, with the EAC partners Tanzania, Uganda, Rwanda and Burundi accounting for about 83% of Kenya's manufactured exports. The top ten export markets accounted for 97% of the export market share in 2011. There has been limited export diversification since 2000.

3.2.3.6 Textiles and Apparels

Exports of textiles account for about 4% while those of apparels account for about 10% of all manufactured products exported from Kenya.

Exports of textiles are highly concentrated in a few markets, with the top 10 largest export markets including USA, Uganda, China, Tanzania and EU accounting for 87.2% of the textiles market export share in 2012, and the top 10 export destination markets accounting for 98% of the export market share. The USA alone accounts for about 58% of the export market. Exports of apparels are concentrated in USA market, with a market share of 96% of apparels exports market. Exports to the USA enjoy duty free quota free market access provided under the AGOA preferential trading scheme.

3.2.3.7 Furniture

Kenya exports of furniture are small, accounting for about 0.2% of the total manufacturing exports from Kenya. Exports are concentrated to the EAC markets, with Burundi, Rwanda, Tanzania and Uganda accounting for over 93%, while those to Tanzania alone account for over 46% of the export market share.

3.3 SWOT analysis of the manufacturing sector in Kenya

The analysis of the priority manufacturing subsectors in terms of production, competitiveness and enablers of competitiveness, and export performance and diversification has shown that the various subsectors have key strengths, weaknesses, opportunities and threats. Below is a SWOT analysis for each of the seven priority subsectors discussed in this study.

3.3.1 Food and beverages subsector

Strengths	Weaknesses
○ Availability of well trained and skilled labour ○ Well-developed export market including EU and China ○ High productivity of the sector making it competitive ○ Availability of inputs/raw materials from domestic mining industry ○ Existence of quality public (Competent Authorities) and private sector institutions (well known globally) which ensure quality and confidence in the sectors products ○ Sector has revealed comparative advantage globally	○ Costly and unreliable power supply. ○ Sector is influenced by fluctuations in domestic raw materials seasonality and dependence on rain-fed agriculture supply ○ Standards and food safety requirements e.g. for beef products in key export markets such as EU and USA limit the range of products exported ○ Poorly developed transport system especially in rural areas presents a challenge on the availability and cost of raw materials ○ Access to finance especially for small-scale processing companies limits expansion of the sector ○ Multiple regulations and regulatory institutions lead to high administrative costs
pportunities ○ High domestic and regional demand for processed foods presents opportunities for more value addition esp. in dairy, beef, fats & oils processing ○ High export market demand for fresh and processed foods globally presents opportunities for processing of vegetables and fruits ○ Trading arrangement between EAC and EU assures Kenya of duty free and quota free market access to the EU market for the sector products including processed fish products ○ A relatively well established horticultural and fisheries sector presents opportunities for a continued supply of key raw materials in the sector ○ Increasing global demand for beverages ○ Recently enacted Agriculture, Livestock, Fisheries and Food Authority Act (No. 13 of 2013) presents an opportunity for the sector regulatory and institutions coordination	Threats ○ Concentration on horticultural processing, fish, oil and fats, and beverages (these accounts for 68% of export) narrows the sectors export basket ○ Concentration of the sector on a few export markets (top ten export markets account for over 88%) while EU market share is over 37% ○ Environmental issues and global warming is a threat to agricultural sector which is the main supplier of the sectors raw materials

3.3.2 Leather and Leather products

Strengths	Weaknesses
○ Availability of domestic raw materials ○ Decreasing labour costs ○ Increasing productivity ○ Revealed comparative advantage	○ Export of raw hides and skins reduces value addition (70% of all exports are hides and skins). Also reduces availability of raw materials in the local markets. ○ Low capacity utilization ○ Limitations in skills in slaughtering, flaying and tanning leading to low recovery of hides and skins ○ Poor animal husbandry leading to poor hides and skins for use in the industry
Opportunities ○ Strong backward and forward linkages that provide opportunities for value addition ○ Current industrial policy proposes measures to develop the subsector including ban of export of hides and skins ○ High export market demand in EU, Hong Kong, China and India ○ Recently enacted Agriculture, Livestock, Fisheries and Food Authority Act (No. 13 of 2013) presents an opportunity for the sector regula tory and institutions coordination	Threats ○ Importation of second hand leather products leading to increased domestic competition ○ Exports concentrated to the EU, Hong Kong, China and India markets, the four with an export market share of over 71%, and EU alone with a market share of over 35%

3.3.3 Other non-metallic mineral products sector

Strengths	Weaknesses
○ Low labour cost advantage (labour costs account for 12 of the value added) ○ Availability of well trained and skilled labour ○ High productivity of the sector making it competitive ○ Sector has a revealed comparative advantage in the world ○ Availability of inputs/raw materials from domestic mining industry	○ High cost of power leading to high production costs. ○ Unreliable power source leading to reduction in production ○ Poorly developed railway transport which is necessary for transportation of bulk products from the subsector such as cement ○ Access to finance especially for small-scale processing companies ○ Licensing regulations for mining companies which supply inputs to the sector are complicated ○ Lack of a clear policy for development of the subsector
Opportunities	**Threats**
○ High domestic market demand from construction industry and roads sector ○ High export market demand from EAC Partner State countries and regional market ○ Value chain downstream particularly the mining sector is being given emphasis in the current industrial policy	○ Concentration of the sector on production and export of only cement, lime and plaster ○ Concentration of export market to Uganda and EAC Partner State countries only (95% share of the market) ○ Environmental issues in the mining sector which supply raw materials to the sector ○ Land policy on land ownership in mineral rich counties is ambiguous and could affect supply of inputs into the sector

3.3.4 Fabricated metal products

Strengths	Weaknesses
○ Availability of well trained and skilled labour ○ High productivity of the sector making it competitive ○ Availability of some inputs/raw materials from domestic mining industry	○ Expensive and unreliable power leading to reduction in production ○ Access to finance especially for small-scale processing companies ○ Large informal sector ○ All inputs mainly imported as domestic supply has not yet started ○ High cost of labour ○ Under capacity utilization ○ Sector has not revealed comparative advantage in the world
Opportunities	**Threats**
○ High domestic market demand such as in construction industry ○ High export demand from EAC Partner State countries and regional market ○ Value chain is well developed, with integration with informal metal products manufacturing widespread in various counties of Kenya ○ Importance being placed on iron and steel industry in the current Industrial policy is an opportunity for the sector	○ Stiff competition from imported iron and steel products ○ Exports are concentrated to a few markets ○ Export products concentrated to a small product mix

3.3.5 Electrical machinery

Strengths	Weaknesses
○ Availability of well trained and skilled labour ○ Relatively high productivity of the sector making it competitive ○ Utilization of modern technology	○ Expensive and unreliable power leading to reduction in production ○ Access to finance especially for small-scale processing companies ○ High cost of labour ○ Sector is infiltrated by counterfeits and sub-standard products ○ Sector has not revealed comparative advantage in the world
Opportunities	**Threats**
○ High domestic demand in electrical appliances in all sectors of the economy and in the communications sector ○ High export demand from EAC Partner States and regional market ○ Importance is being placed on this sector in the current industrial policy	○ Stiff competition from competition from imported counterfeits and sub-standard products ○ Exports are concentrated to a few markets ○ All inputs in this sector are imported

3.3.6 Textiles and apparels

Strengths	Weaknesses
○ Backward and forward linkages ○ Sector has RCA in world markets especially in vegetable textile fibres, apparels and clothing.	○ Limited production of raw material (cotton) ○ High cost of electricity ○ Underutilization of the of the available ginning capacity ○ Sector is infiltrated by second hand products ○ Use of low and outdated technology ○ Low R&D leading to limitations in innovations and design ○ Limited skills ○ Dependence on imports for fabric used in the industry
Opportunities	**Threats**
○ High domestic demand, EAC Partner State countries and Africa regional market ○ Tax incentives under the export processing zones Authority ○ Duty free/quota free market access in USA under AGOA Scheme and in EU under EU EAC Framework Economic Partnership Agreement (FEPA)	○ Stiff competition from new imports and second hand clothes ○ Exports are concentrated to a few markets, mainly USA under AGOA ○ Most of the raw materials are imported. ○ Liberalization under the multilateral trading arrangements (WTO) will erode most of the market access gains available under AGOA and EU EAC FEPA

3.3.7 Furniture

Strengths	Weaknesses
○ Decreasing labour costs ○ Availability of some raw material domestically and from regional markets	○ Decreasing productivity ○ Sector has not RCA in world markets ○ Limited use of automation as most of production is manual ○ Limited R&D and innovation ○ Limited skills
Opportunities	**Threats**
○ High domestic demand, EAC Partner State countries and Africa regional market	○ Stiff competition from imports ○ Exports are concentrated to a few markets mainly in the EAC ○ Climate change is likely to affect availability of low material

Strengths	Weaknesses
○ Availability of well trained and skilled labour ○ Availability of some raw materials especially in food and beverages sector ○ Strong private sector industry associations providing leadership in the sector ○ Strong Public Private Sector Partnerships	○ Expensive and unreliable power ○ Limited access to finance especially for small-scale processing companies ○ Limited value addition and product transformation ○ Production is resource based and uses low technology ○ High cost of labour ○ Relatively low productivity compared to emerging economies ○ Poorly developed infrastructure ○ Many burdensome regulations leading to high administrative costs ○ Multiple regulatory institutions with overlapping mandates lead to high administrative costs ○ Sector has not revealed comparative advantage in the world ○ Limitations in innovativeness
Opportunities	**Threats**
○ High domestic demand in all manufactured goods ○ High demand in EAC Partner State countries and regional market for most manufactures ○ High demand in developed countries for processed foods and beverages ○ The current industrial policy has measures to support development of the manufacturing sector	○ Stiff competition from imported counterfeits and sub-standard products ○ Exports are concentrated to a few products ○ Exports are concentrated to a few exports markets with which Kenya has trading agreement ○ Climate change and global warming pose a challenge to the availability of raw material used in the sector ○ Proposed trading arrangements between EAC and EU (the Economic Partnership Agreement) will increase competition for Kenya products by the European countries whose manufactures are by far more competitive

3.3.8 SWOT analysis of manufacturing sector in Kenya

The above analysis has shown that manufacturing sector in Kenya is relatively more developed compared to most of the Eastern Africa countries but less developed than many other developed countries. The sector is less competitive compared to emerging economies. The SWOT analysis of the overall sector is presented below.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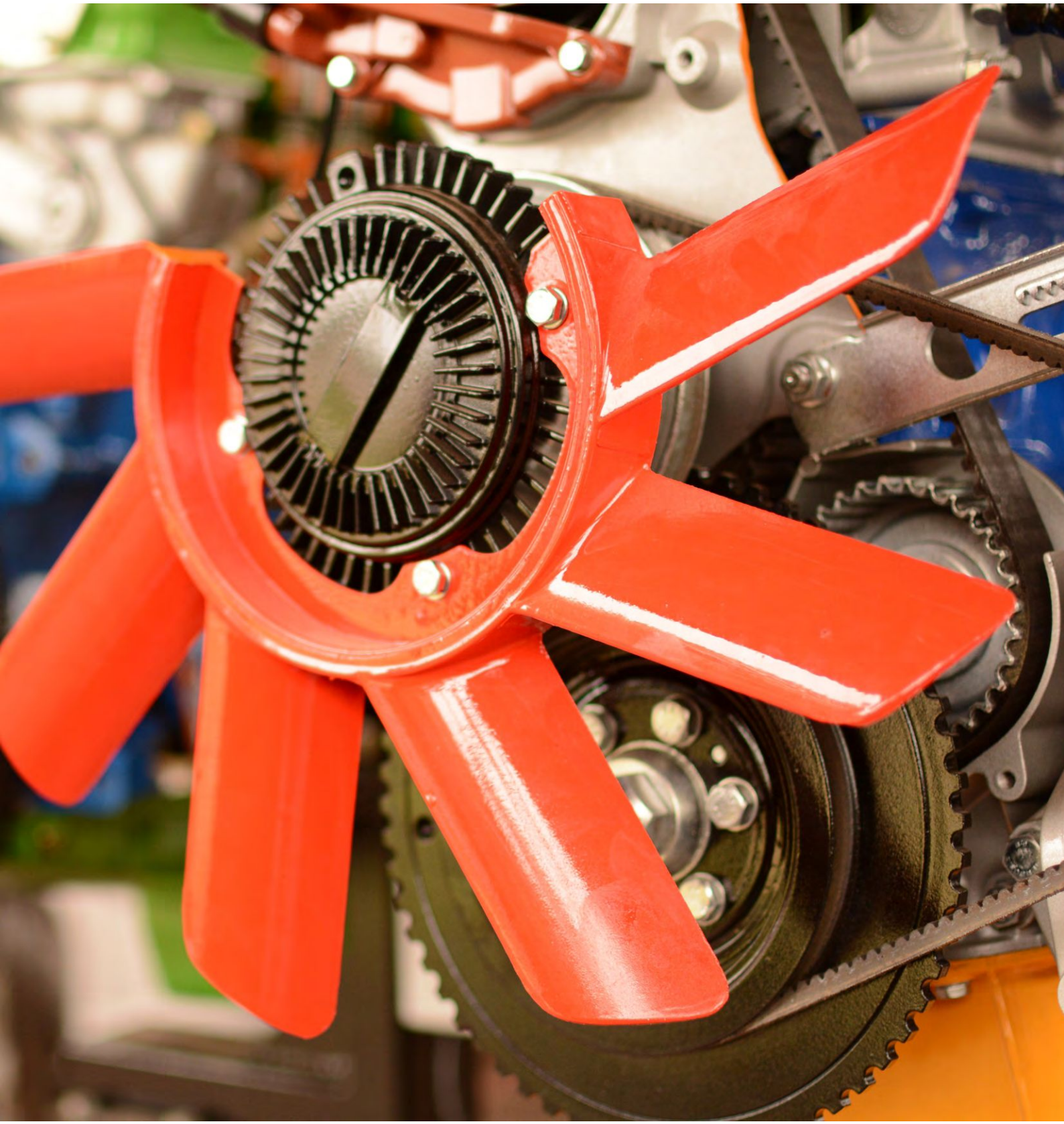


4. POLICY OPTIONS: HARNESSING OPPORTUNITIES AND EASING THE CONSTRAINTS TO

4.1 Structural transformation

4.1.1 Harnessing technology, innovation, productivity, and linkages

The achievability of the broad targets in the manufacturing sector in Kenya, including increased total factor productivity growth, is contingent on the ability of Kenya's industrial sector to learn. This implies both the adoption and adaptation of existing technology to suit local conditions. Kenya scores relatively well in general innovation and sophistication factor indicators (being number 53 out of 148 economies in the Global Competitiveness ranking) as shown in Table 28, but it needs to continue upgrading of innovations in manufacturing to transform the sector.

Table 28: Kenya's innovation indicators

Innovation indicators	Rank/148
Capacity for innovation	34
Quality of scientific research institutions	51
Company spending on R&D	28
University-industry collaboration in R&D	38
Government procurement of advanced tech products	79
Availability of scientists and engineers	57
PCT patents, applications/million pop.	96
Overall	53

Source: WEF (2013)

Vision 2030 recognizes that policies for attainment of all economic sector targets (including manufacturing sector objectives) are to be based on a strong science, technology and innovation (STI) foundation. To this effect, the industrial policy provides several ways for harnessing technology, innovation, productivity and linkages. The policy promotes linkages between industry, universities, polytechnic institutes and other training institutions. It seeks to leverage FDI to bring in skills and technology to boost value-added in agro-based industries (Republic of Kenya, 2008); provides for a National Industrial Sub-contracting Policy with the purpose of supporting small enterprise growth and graduation; and provides for protection of intellectual property rights. It also provides for the review of the Public Procurement and Disposal Act 2005 in order to give 100% preference to locally manufactured products for an increased domestic market.

Measures to enhance standards provided in the policy include fast tracking harmonization and implementation of EAC and COMESA standards. As well, they include measures to improve standards regulation and enforcement in Kenya, including through the development of standards and anti-counterfeit policy and the establishment and coordination of institutions involved in standards inspection and anti-counterfeit enforcement such as the Intellectual Property (IP) and Standards Tribunal.

On trade linkages, the policy aims at coordinating trade policy and industrialization policy to address issues related to tariffs, bilateral and multilateral trade policies and thus enhance competitiveness and market access for Kenya's industrial products.

Implementation of the current framework will contribute to the harnessing of technology, innovation, productivity, and linkages for a more competitive manufacturing sector. However, the policy framework also needs to support increased enrolment in secondary and tertiary training, and science and engineering technical institutions to ensure the availability of a technically skilled pool of labour.

4.1.2 Improving the Business Enabling Environment

4.1.2.1 Regulatory environment in the transport infrastructure sector

The Kenya National Integrated Transport Policy seeks to support industrial sector development as clearly seen from its vision, which is to become a world-class integrated transport system responsive to the needs of people and industry (Republic of Kenya, 2009). The strategic objectives of the policy include, among others:

- establishing and strengthening of institutional systems for

transport sector management, coordination and regulation;
- developing and maintaining an integrated and coordinated transport infrastructure for efficient movement of passengers and freight;
- developing appropriate transport sector funding/financing mechanisms;
- delivery of efficient and effective sector operations to enhance national productivity;
- enhancement of investments in the transport sector;
- application of ICT in transport planning, operations and management to enhance sector efficiency; and
- facilitation of regional integration and trade.

These strategic objectives if attained will clearly support and contribute to manufacturing sector transformation and competitiveness.

4.1.2.2 Regulatory environment in the energy sector

The objectives of the Kenya Energy Policy are to utilize energy as a tool to empower national and county governments as well as to accelerate urban and rural development (Republic of Kenya, 2012).

Some key strategic objectives of the policy include to: improve access to quality, reliable and affordable energy services; provide a conducive environment for the provision of energy services; promote development of indigenous energy resources; promote energy efficiency and conservation; foster international co-operation in energy trade, investments and development; promote diversification of energy supply sources to ensure supply security; promote both local and international investments in the energy sector; and provide for the phased transfer of provision of energy services to the counties of Kenya, among other objectives. Notable in Kenya's energy sector is the recent increased interest and effort in petroleum exploration, which led to discovery of commercial reserves of petroleum in the country in 2012.

During the period 2008-2012, there was an increase in new electricity connections to new consumers, including institutions. As well, power generation capacity was expanded as two new electricity generation plants were commissioned. The second Medium Term Plan (2013-2017) for the implementation of Vision 2030 proposes to: increase peak energy surplus to 30%; enhance availability of energy to manufacturing enterprises to 100%; and to reduce power connection period to manufacturing sector to 30 days.

These objectives, if met, would address the manufacturing sector's energy-related challenges of availability, quality and affordability, a key development to enable transformation and increased efficiency and competitiveness.

4.1.2.3 Regulatory environment in the communications sector

The objectives of the telecommunications policy in Kenya are to: develop an efficient, high capacity national telecommunications infrastructure; promote and strengthen research and development, innovation and manufacturing activities in the country; and promote systematic and comprehensive expansion of telecommunications infrastructure in both rural and urban areas (Republic of Kenya, 2006).

Strategies for achieving the objectives include: promoting public-private partnership in the development of telecommunications infrastructure and equipment; establishing universal access mechanisms for promotion of wider access to telecommunications services; collaborating with other countries to support regional telecommunications infrastructure project; requiring that physical infrastructure providers including roads, railways, pipelines, property developers and power make provision for future installation of ICT facilities.

The aim of the Information Technology (IT) policy is to provide by 2015 sufficient Internet capacity for schools, colleges and businesses, and to provide a reliable and secure Internet infrastructure. The objectives of the sector are to use e-Government as a tool to improve internal efficiency and quality of public service delivery and to help in the fight against corruption. Limitations in ICT infrastructure hampers provision of efficient and affordable ICT services in the country in particular in rural areas of Kenya (Republic of Kenya, 2006).

4.1.2.4 Regulatory environment in the financial services infrastructure

Key objectives of the long-term strategy for the financial sector include among other objectives: improved access and deepening of financial services and products for a much larger number of Kenyan households and small businesses; mobilising additional savings to support higher investment rates; increasing efficiency in the delivery of financial services for improved affordable, services range and quality; creating a better financial environment that encourages stakeholder involvement; enhanced stability; and making Kenya one of the ranked financial centres in "emerging markets" by 2030 (Republic of Kenya, 2009).

Objectives envisaged to be achieved by 2012 included: reform the commercial justice system to expedite the settlement of commercial disputes; improve the registration of movable and immovable assets as collateral in order to increase their tangibility; encourage more use of ICT in the financial sector; effect necessary legal reforms to encourage use of non-conventional collateral such as warehousing and social capital; strengthen the legal framework for effective functioning of credit reference bureaux; ensure that banks provide transparent and understandable information on charges made to clients; remove barriers to effective competition in the system and encourage entrance and exit; and expedite the

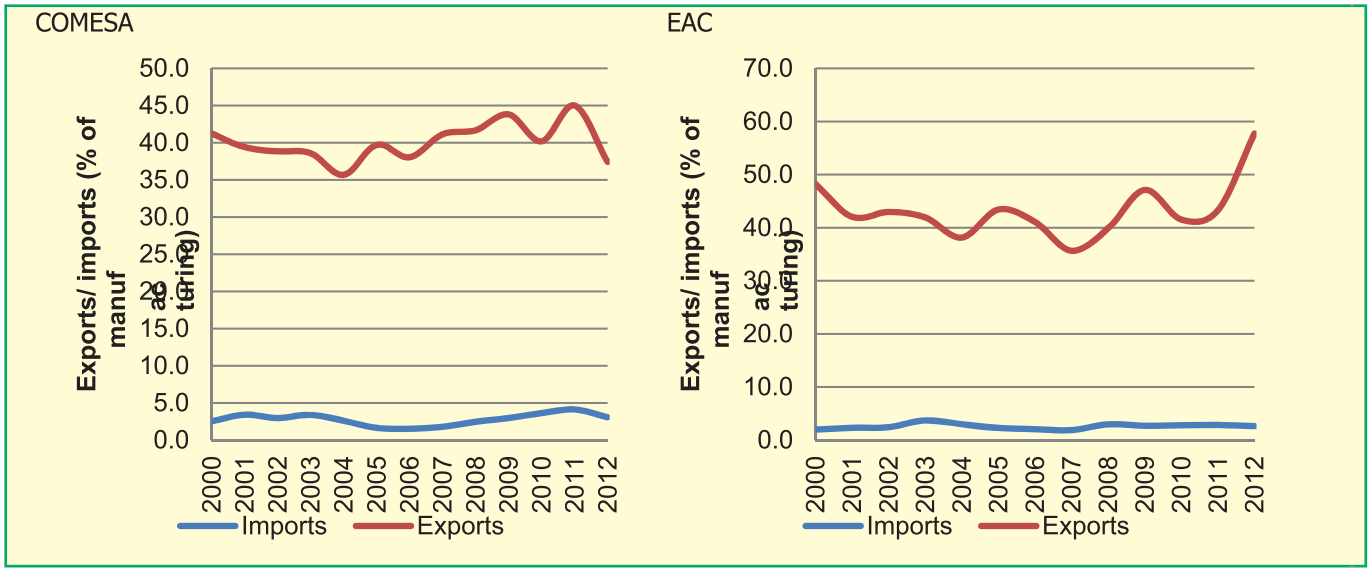
Companies Registry reforms to expand them to the districts. Although some milestones have been met especially with respect to more use of ICT, a lot is yet to be done to enhance affordability through flexible collateral arrangements.

Based on the recent trends in the deepening of the financial sector, physical accessibility is likely to increase, however interest rates are likely to remain high owing to the low loan accounts uptake and high rates of non-performing loans (NPLs).

4.2 What benefits can countries reap from regional integration (regional perspective)

Regional integration offers market opportunities for Kenya's manufactured products. Current long-term policies for the manufacturing sector seek to tap into this regional market through increased Kenya exports. COMESA and EAC are particularly important to Kenya as they constitute the major markets for Kenya's manufacturing exports (Figure 11).

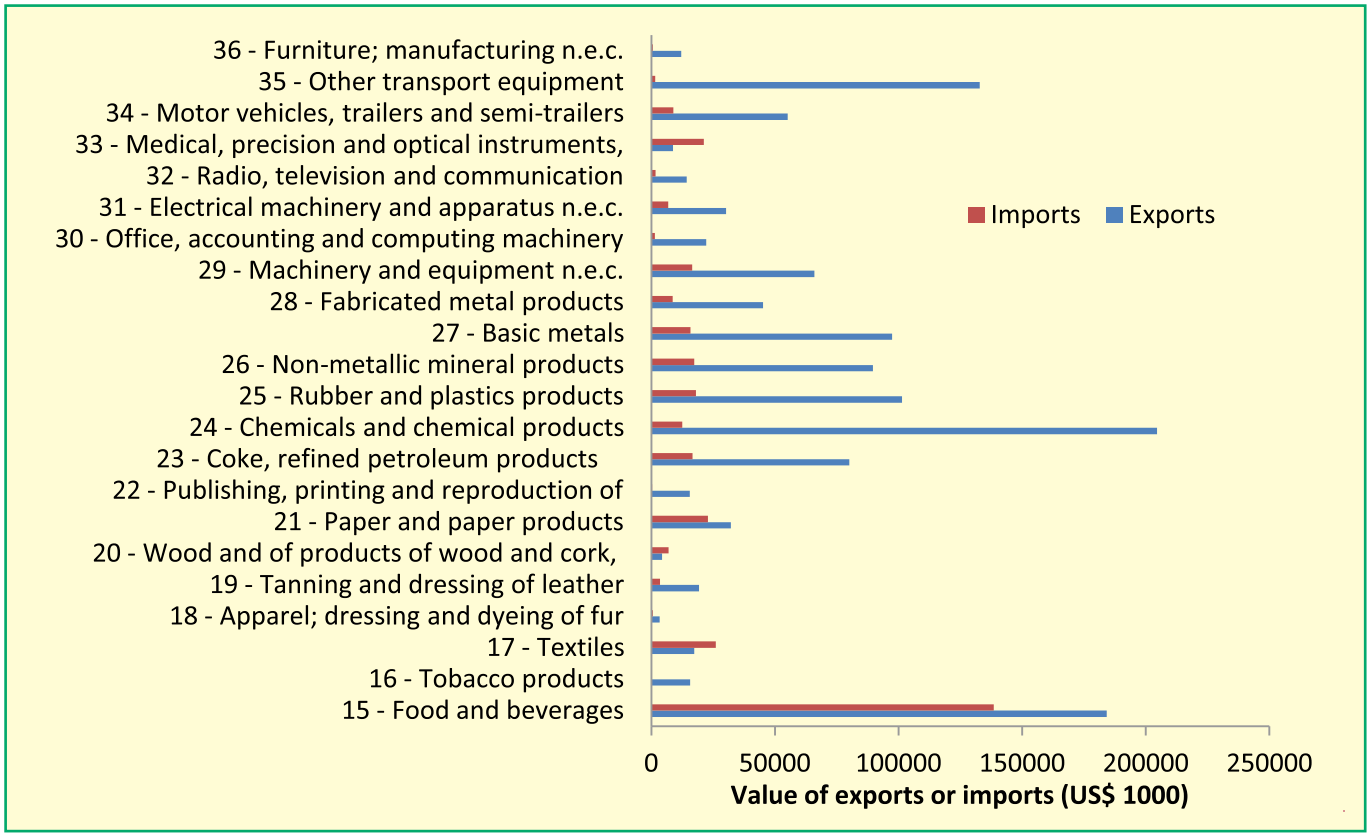
Figure 11: Trends in Kenya's trade of manufactured goods with COMESA and EAC, 2000-2012



Source: COMTRADE

In 2012, Kenya had a bilateral trade surplus with EAC partners, i.e. Kenya's exports to EAC partners exceeded imports, in all categories of manufactures apart from textiles and medical, precision and optical instruments, watches and clocks (Figure 12). The largest manufacturing exports to EAC in 2012 included chemical and chemical products, food and beverages, other transport equipment, non-metallic mineral products, rubber and plastic products and coke and refined petroleum products. The largest imports included food and beverages, textiles, and paper and paper products. In 2012, significant intra-industry trade with EAC countries – identified as both-ways trade within the same HS 2-digit class – was limited to foods and beverages, textiles, paper and paper products, rubber and paper products, basic metals and non-metallic mineral products.

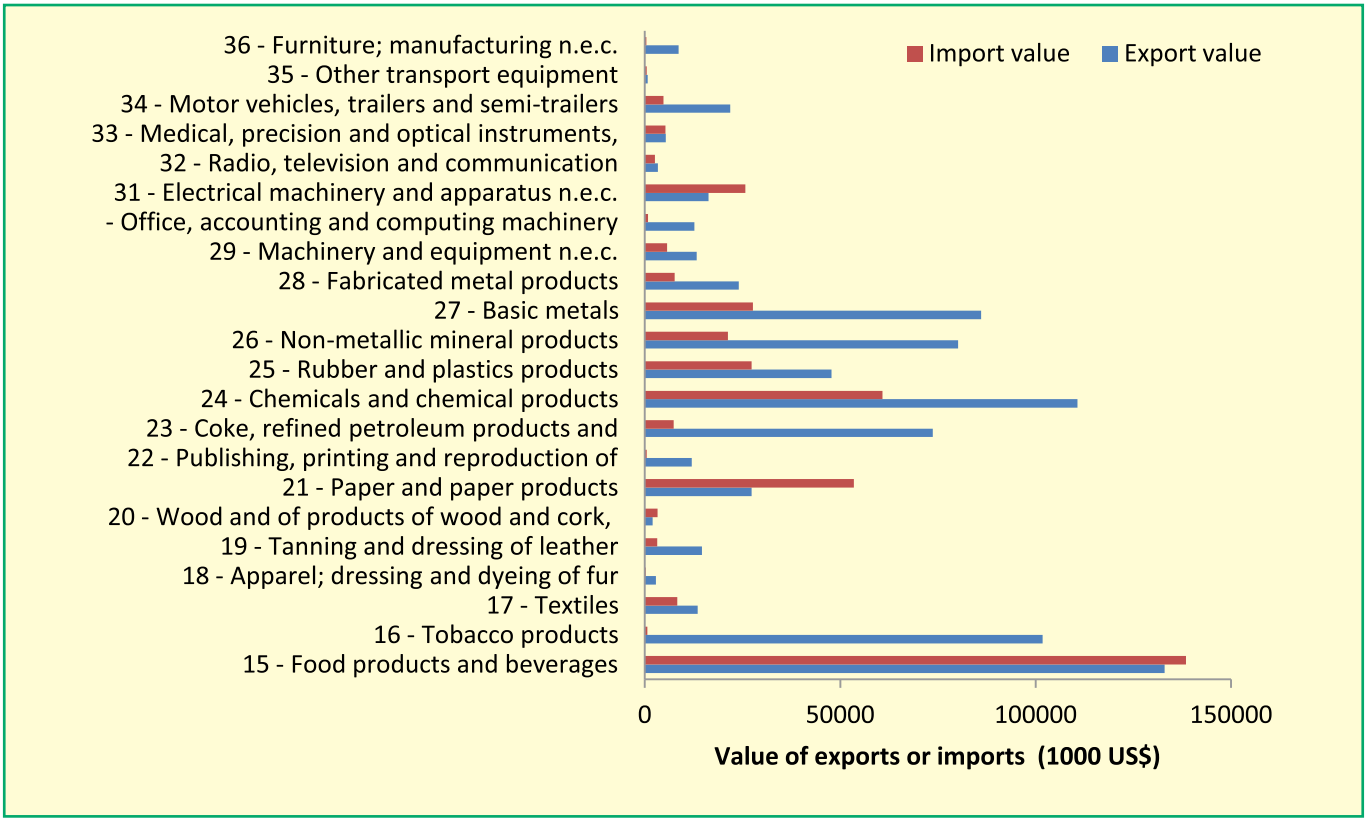
Figure 12: Kenya's manufactured goods trade with EAC partners by sector (2012)



Source: COMTRADE

In 2012, Kenya manufacturing net imports from COMESA included: food products and beverages, paper and paper products and electrical machinery and apparatus. Inter industry trade exists in food and beverages, paper and paper products, chemical and chemical products, rubber and plastic products, non-metallic mineral products and base metals (Figure 13).

Figure 13: Kenya's manufactured goods trade with COMESA partners by sector (2012)



Source: COMTRADE

Although at the regional level EAC and COMESA member countries may have similar comparative advantage producing similar products, the existence of intra-industry trade flows shows there is a scope for Kenya to specialize in manufacturing of these products for the regional market.

Sourcing of industrial raw materials from the region is limited. For example, in 2012, raw material imports by Kenya from the COMESA region accounted for less than 4% of all imported raw materials. Regionally-sourced raw materials are mainly for the food and beverages, tobacco, and textiles industries. Industrial inputs sourced extra-COMESA include flat-rolled products of iron or non-alloy steel, mineral or chemical fertilisers, crude oil, and woven fabrics of both cotton and synthetics. Regional value chains and supplier networks are not sufficiently developed.

Both EAC and COMESA countries have experienced moderate growth recently leading to steep increases in exports of Kenyan products such as cement (which have increased over three times since 2001). This suggests that the regional market has the capacity to support exploitation of economies of scale in Kenyan manufacturing sectors.

Given the relatively more developed state of manufacturing in Kenya as compared to regional trading partners in EAC and COMESA, regional integration provides mainly an opportunity for learning by doing for Kenya as opposed to learning by exporting.

To benefit from preferential market access in both COMESA and EAC Trading Arrangements (RTAs), respective products have to meet the rules of origins (ROOs) criteria. Rules of origin in both COMESA and EAC are relatively simple, with four main origin-conferring criteria (EAC Secretariat, 2006). The latter treat as complying with EAC ROOs products that are: wholly produced; whose imported content is not more than 60% of the c.i.f. value of the cost of materials used in production; whose regional value-added is at least 35%; or a change in Tariff Heading (CTH) and the associated sufficient working requirement. Compliance and administrative costs incurred by exporters and customs authorities respectively in the implementation of COMESA and EAC rules of origin are therefore expected to be relatively small. The CTH criteria pose challenges leading to non-recognition of rules of origin in

some manufacturing products such as pharmaceuticals, machinery, motor vehicles, and metal products among other products especially in EAC region.

EAC and COMESA countries are in the process of jointly developing improved border infrastructure. This includes development of road infrastructure (regional corridor infrastructure), one stop border points and other trade facilitation programmes under EAC and COMESA, all expected to facilitate regional trade. Cross-border railway infrastructure remains non-existent.

Development of regional institutions including standards organizations, patent office, rules of origin authority, among other institutions with greater expertise has a potential to contribute to efficiency in compliance and enforcement of regulations at the regional level, thereby contributing to manufacturing sector efficiency. Regional integration further offers an opportunity for Kenya and EAC industries to improve their competitiveness and graduate to competing at the global level as it offers a learning platform for the manufacturing enterprises.

4.3 Lessons of experience

Kenya has had several policies and programmes to support manufacturing and industrialization. In the course of Kenya's history, three types of policies that have impacted on the development of the industrial sector can be distinguished: the import substitution policy; the Structural Adjustment Programmes (SAPs) and export-led growth policy. The period since early 2000 is characterised with development of long-term policies being implemented through the short- and medium-term plans.

The import substitution policy, implemented after Kenya gained independence in 1963 to 1970s had objectives of ensuring rapid growth of industry, reducing balance of payment problems; increasing domestic control of the economy and generating employment. Domestic production of import substitutes was encouraged through quantitative restrictions, import licensing, foreign exchange controls, high tariffs on competing imports and overvalued exchange rates. The policy contributed to growth of the consumer products industries, particularly the textiles sector and to a relatively high growth of the manufacturing sector of 8% up to the late 1980s. The policy however discouraged exports as it targeted mainly domestic market which was limited in size.

SAPs were implemented from early 1980s with objectives of addressing structural rigidities, price instability and macroeconomic imbalances, some of which were associated with the import substitution policy. The aim was to transform the highly protected domestic market to a more competitive environment, through price decontrol, reduction of quantitative and tariff protection and devaluation of exchange rates among other privatization and liberalization measures. SAPs adversely affected growth of the Kenya economy, including the growth of the industrial sector which reduced from 3.8% to 1.8% per annum (Government of Kenya, 2012).

The export-led growth policy gained importance from early 1990s. The aim was to encourage production for export market, with objectives of improving efficiency, stimulating private investment and increasing foreign exchange earnings. In addition to the liberalization measures implemented through the SAPs, export promotion initiatives including incentives such as Manufacture Under Bond (MUB) and Export Processing Zones (EPZ), among other incentive programmes, were also introduced. These policies though contributing to increased exports have not created the much needed backward and forward linkages in the economy, especially with the SMEs sector.

More recently, within the first period of implementation of Vision 2030 (2008-2012), a number of flagship projects have been endorsed and various steps have been taken. Land has been acquired for the development of industrial and technology parks in various parts of the country. Programmes have been instituted for training of engineers and technicians, including approval of financing for the upgrading of training institutions (including universities, polytechnics, and other training institutes). Kenya's industrial research institute (KIRDI), has been transformed to reach many parts of the country. And an MOU to develop iron and steel mills in Kenya has been signed between Kenya's Numerical Machining Complex and POSCO, a major South Korean steel company. Implementation of these initiatives is yet to begin, however.

At the same time, various industrial and manufacturing growth targets of the sector have not been achieved. FDI inflows into the manufacturing sector have been low and utilization of incentive schemes has also been low. The poor performance of the sector is attributed to various factors, including importantly the uncoordinated framework which led to inefficient resource allocation, and duplication of responsibilities and efforts (Republic of Kenya 2012). Other factors that have hampered progress include: lack of sector prioritization in high level political decisions; absence of an industrial culture; lack of a harmonised and clearly defined National Industrialization Policy (NIP) and numerous laws; a weak legal framework; and inadequate funding.

The current industrial policy identifies an institutional gap in the coordination of the various industrial sector policy actors and proposes establishment of the National Industrial Development Commission (NIDC) to provide leadership in the sector for improved coherence and better coordination of the industrial sector in Kenya. However, it must also be recognized that manufacturing has both backward and forward linkages with all the other sectors of the economy and that its growth will also be affected by the growth of other sectors.

In her efforts towards transformation of the manufacturing sector, Kenya can learn a lot from developing countries that have managed to transform their manufacturing sectors substantially recently including East Asia countries. For example in Korea, infrastructural development, which cut through all the value chains, formed the basis of the manufacturing sector transformation. Free land is provided as an incentive for foreign investors. The country also established specialized economic zones and manufacturing clusters. With special zones, there is learning of technology and manufacturing skills from the foreigners in addition to employment.

5. CONCLUSIONS, RECOMMENDATIONS, AND ACTION PLAN

5.1 Conclusions

The performance of Kenya's manufacturing sector over the last decade has been mixed. The share of the sector in GDP has remained at about 11%. Manufacturing value added has been on the increase but remains low by international comparison. Likewise, the share of manufactures in merchandise exports for Kenya (32% in 2012) is far lower than in comparator countries (more than 95% in Vietnam, China and Korea). Among the Kenyan manufacturing subsectors that have achieved the largest increase in output over the last decade are tobacco and tobacco products, refined petroleum products, non-metallic mineral products, and manufacture of transport equipment. Textiles, wood and wood products, rubber and rubber products meanwhile have shown a declining trend. Manufacturing sector productivity has increased while unit labour cost has remained generally constant but high at about 35% of value added. The level of competitiveness (measured by Revealed Comparative Advantage, RCA) of Kenyan manufactures in general has been declining; the sector has never been globally competitive over the last decade.

This mixed performance is mirrored by an equally mixed performance of the environment for the manufacturing sector in Kenya. For example, Kenya is ranked number 106 out of 144 economies in the global competitiveness report 2012-2013. The country's general strengths are innovative capacity, high quality education, well developed financial markets and a relatively efficient labour market. Key challenges are identified as poor health, low life expectancy and insecurity. With regard to specific strengths for the manufacturing sector, the availability of well trained and skilled labour and of raw materials especially in food and beverages sector, strong private sector industry associations providing leadership in the sector, and strong Public-Private Partnerships (PPP) can be mentioned. Constraints in the sector include expensive and unreliable power supply and poorly developed infrastructure in general, limited access to finance especially for small-scale processing companies, limited value addition and product transformation, resource based production patterns using low technology, high cost of labour, relatively low productivity compared to other emerging economies, and burdensome regulations and multiple regulatory institutions with overlapping mandates leading to high administrative costs.

The Kenyan manufacturing sector benefits from multiple opportunities, such as high domestic demand in all manufactured goods, and high demand in the EAC regional market for most manufactures and in developed countries for processed foods and beverages. It also benefits from the current industrial policy measures to support development of the manufacturing sector. On the other hand, threats for the sector include stiff competition from imported counterfeits and sub-standard products, the proposed trading arrangement between the EAC and the EU (the Economic Partnership Agreement) which is likely to increase competition for Kenyan products by European manufacturers that are far more competitive, and the general liberalization at the multilateral level (WTO) which erodes the current preference margins in countries where Kenya has preferential market access.

In response to the identified challenges and to ensure that opportunities for the manufacturing sector can be turned into actual benefits, a strong manufacturing base needs to be developed, nurtured and maintained a over the longer term. This requires stable and supportive macroeconomic and micro framework policies at the general (horizontal) and at the sector levels. Recommendations on some of these policies are presented in the following sections.

5.2 Horizontal Policy Recommendations

5.2.1 Incentives for the manufacturing sector

Tax incentives remain an important strategy for attracting foreign investors wishing to exploit the natural resource base in Kenya and those viewing Kenya as an export platform for EAC and Eastern and Southern Africa (ESA) regional markets. Recent manufacturing incentives schemes in Kenya have, however, been ineffective. Reform of the incumbent incentives including those related to export zone processing, manufacturing under bond, and other incentives involving tax refunds is therefore necessary to address the challenges reducing their utilization. Review should target ensuring quick tax refunds and tight control of the refund process to reduce cases of abuse of the schemes including elimination of corruption. As these are potentially contradictory objectives, improved monitoring technology and institutional reforms will be necessary.

The current schemes also need to be reviewed to reward more use of high technology and research and development.

The current manufacturing dispersion policies and strategies presented in the industrial policy and the Medium Term Plan 2 are in line with decentralization (devolution) as envisioned in the Constitution of Kenya 2010 (Republic of Kenya, 2010). These strategies will be strengthened by incentives to encourage manufacturing activities setups in different regions (counties) of Kenya.

5.2.2 Legal and regulatory environment

Of critical issue is to coordinate the different laws and regulations, repeal and combine some to eliminate the issue of overlaps. There is need to address the issue of overlaps and multiplication of laws and regulations between the county and the central government regulations.

Enhanced dialogue between the private sector and Government will also expedite addressing some of the legal and regulatory

issues.

5.2.3 Support institutions

Kenya needs to review its regulatory institutions and regulations governing the manufacturing sector to remove duplicative roles, remove multiple payments, reduce corruption, and reduce administrative and operational costs related to business compliance with different regulations and dealing with multiple institutions with mandates for the same sector.

5.2.4 Infrastructure: Energy, Transport and Communication

Kenya needs to develop road, rail, air and maritime transport infrastructure, as well as energy supply and telecommunications systems to improve service flows to manufacturing.

5.2.5 Trade logistics

Kenya needs to particularly improve port infrastructure, customs processes and capacity to track and trace freight goods. This will improve efficiency of port or airport supply chains, reduce costs and save time for improved efficiency of trade in manufactures. Land supply chains (from ports of entry to destination points and vice versa) will also be improved by a better developed road network, reduced roadblocks, improved security, and improved railway network.

5.2.6 Access to finance

Although Kenya ranks relatively well in ease of access to loans and local equity financing and venture capital, the cost of loans still presents a challenge, with interest rates often prohibitively high. Access to large size investment finance remains a particular challenge to SMEs which lack collateral. Moreover, capital for start-ups is almost non-existent.

There is a need to develop a viable credit mechanisms based on varied types of collateral. One such area is in supply chain financing, where small suppliers participating in value chains sponsored by larger manufacturers are provided working capital by export credit agencies based on the creditworthiness of the supply chain organizer and the contractual commitments of the latter. An effective export credit financing system that supports the supply chain of export-oriented production helps to develop backward linkages within the economy, promotes enterprise development by enabling small firms to graduate into larger size classifications by providing working capital based on the receivables of the larger, creditworthy buyers, and improves export competitiveness in a WTO-compatible way.

There is also a need to increase funding and increase the role of Development Finance Institutions (DFIs) for lending especially to support the graduation of successful SMEs into larger size categories and for the start-up of new firms to increase competition in domestic markets.

5.2.7 Education, training, and skills

Although the quality of education in Kenya is relatively good, ranking number 37 out of 144 countries (WEF, 2013), Kenya needs to improve secondary and tertiary education level enrolment in which it ranks poorly globally (number 108 and 130 out of 144 countries respectively). The quality of math and science education needs to be improved to become more competitive and enrolment in engineering and technical subjects needs to be increased to develop the pool of highly skilled scientists, engineers, technicians and workers required by the manufacturing sector.

Kenya will also need to improve research and development (R&D) and to encourage staff training. Promotion of linkages between university, vocational, training and other tertiary institutions needs to be strengthened for an improved manufacturing skills match. Government also needs to increases its funding for R&D. Collaboration between private sector and higher learning institutions will also aim to develop training curriculum which will promote skill matching for the manufacturing industry.

5.2.8 Implementation of manufacturing cluster policies

With the devolution process in Kenya and the related drive to disperse economic activities to various regions within the country, there is an opportunity to capture positive spill-over effects by nurturing industrial districts through cluster policies. Manufacturing cluster development strategies will enable production cost reductions and will promote innovation. In addition the strategy will promote county manufacturing depending on natural resource endowments of various counties for county-specific niche products.

5.3 Sectoral Recommendations

Manufacturing sectors are highly heterogeneous; accordingly, sector-specific strategies are required to ensure that policy alleviates binding constraints. To improve transformation and performance the prioritized sectors, the following recommendations are made:

5.3.1 Food and beverages

- Provide capital investment incentives such as land and machinery at various counties of Kenya. The purpose is to promote agro-processing of agricultural products produced locally.
- Strengthen infrastructure for standards and phytosanitary to meet export market standards.
- Promote value addition of materials available locally at the county level including targeting fruit juice, beef processing and manufacturing of milling products among other products available at the county level.
- Develop necessary processing and manufacturing skills and road transport infrastructure and road network to contribute to improved manufacturing at the county level.
- Stabilize agricultural production e.g. through irrigation to

ensure a stable supply of raw materials used in the sector.

5.3.2 Leather and leather products

- Discourage exports of raw hides and skins.
- Impose a tax on exports of wet blue to encourage more processed exports.
- Develop skills in slaughtering, flaying and tanning to improve recovery of hides and skins.
- Provide training on animal husbandry to improve hides and skins for use in the industry.
- Improve standards for hides and skins processing and for leather products.

5.3.3 Other non-metallic mineral products sector

- Develop road and energy infrastructure, improving their quality and lowering their costs.
- Simplify licensing regulations and procedures and lower loyalty payment for mining companies which supply inputs to the sector.
- Develop a policy to guide development of the sector.
- Implement measures to address environmental concerns.
- Encourage local procurement of the sector's local products.

5.3.4 Fabricated metal products

- Kenya, together with other EAC and COMESA countries, needs to address the issue of non-recognition of the rules of origin for fabricated metal products for improved market access.
- Improve the availability, quality and cost of electrical power for use in the industry.
- Diversify production and export basket of the sector products.
- Improve access to finance especially for small-scale processing companies.
- Encourage formalization of the existing large informal sector.
- Encourage collaboration of SMEs and larger industries through contracting production from SMEs.

5.3.5 Electrical machinery

- Improve the quality of public training institutions involved in skills development especially by providing training equipment and materials.
- Enforce measures to curb counterfeits and sub-standard electrical machineries and appliances by strengthening standards institutions and anti-counterfeit authority.
- Promote local procurement by government institutions and agencies.
-

5.3.6 Textiles and Apparels

Recommendations to improve performance of this sector include to:

- Provide incentives and promotion of production of cotton to supply ginning industry.
- Provide incentives for ginning industry.
- Provide more affordable credit for investors in the industry.
- Promote preferential domestic procurement.
- Promote domestic and foreign investment in higher value-added textiles and apparel.
- Promote business collaboration with foreign companies for improved technology.
- Support research and development of new processes, applications and value-added products.
- Invest in modern technology including improving automation and computerised manufacturing in the sector.
- Promote 100% public domestic procurement in line with the Public Procurement and Disposal Act 2005 and promote buy Kenya build Kenya campaigns.

5.3.7 Furniture

Recommendations to improve performance of this sector include to:

- Promote 100% percent public domestic procurement in line with the Public Procurement and Disposal Act 2005 and promote buy Kenya build Kenya campaigns.
- Develop skills to improve finishing, design and production of higher quality products as well as production of ready-to-assemble furniture.
- Upgrade technology used in the sector including support of use of Computer Aided Design (CAD).
- Promote research and development to improve value of products for sophisticated consumers domestically and in the region.

5.4 Action Plan

The recommended action plans and road map reflect on the current long-term vision for the Kenya manufacturing sector as presented in Vision 2030 and its medium-term implementation plans (MTPs). They aim at addressing the current (identified) binding constrains to the performance of Kenya's manufacturing sector. Achievement of the manufacturing sector transformation calls for the choice of appropriate strategies that help achieve the strategic objectives.

The strategies shall be attained through industrial developmental phases to achieve the long-term vision. The seven priority sectors analysed in this study can be classified into technology phases as shown in Table 29.

Table 29: Classification of priority sectors into manufacturing development phases

Priority sector	Manufacturing phase	Key characteristics	Policy challenges addressed
Food and beverages	Phase 1: Short-term (Low technology manufacturing)	**Agriculture driven** ▫ Driven by nature of agricultural products and land/input assets	○ Ensuring global market access, addressing domestic standards and foreign non-tariff barriers ○ Capturing value added by processing
Leather and leather products	Phase 1: Short-term (Low technology manufacturing)	**Agriculture driven** ▫ Driven by nature of agricultural products and land/input assets	○ Ensuring global market access, addressing domestic standards and foreign non-tariff barriers ○ Capturing value added by processing
Non-metallic mineral products	Phase 1: Short-term (Low technology manufacturing)	**Resource-driven** ▫ Driven by nature and location of inputs ▫ Sensitive to commodity price changes ▫ Transportation/logistics costs	○ Capturing rents ○ Capturing value added by processing ○ Specific infrastructure provision
Fabrication of metal products	Phase 2: Medium term (Medium technology manufacturing)	▫ Sensitive to currency fluctuations ▫ Can be labour- or capital-intensive ▫ High barriers to entry	○ International competition to attract FDI/claim a share of global value chains ○ SEZs to address complexities of domestic regulatory frameworks without need for difficult reforms ○ Logistics & border facilitation to minimize trade frictions
Electronics and Electrical machinery	Phase 3: Long-term (a transition to high manufacturing)	**Knowledge-intensive/sunrise industries** ▫ Sensitive to currency fluctuations ▫ Can be labour- or capital-intensive ▫ High barriers to entry	○ Attract FDI ○ Technology transfer ○ Factor-input policies (apprenticeship/venture capital/university-based research support) ○ Strategic use of government procurement
Textiles and Apparels	Phase 2: Medium term (Medium technology manufacturing)	▫ Sensitive to currency fluctuations ▫ Can be labour- or capital-intensive	○ International competition to attract FDI/claim a share of global value chains ○ SEZs to address complexities of domestic regulatory frameworks without need for difficult reforms ○ Logistics & border facilitation to minimize trade frictions
Furniture	Phase 1: Short-term (Low technology manufacturing)	**Resource-driven** ▫ Driven by nature and location of inputs ▫ Sensitive to commodity price changes ▫ Transportation/logistics costs	○ Ensuring global market access, addressing domestic standards and foreign non-tariff barriers ○ Capturing value added by processing

Table 30: Proposed Action Plan

Action	Expected outcome	Responsibility	Timing (phases)	Pre-conditions
Horizontal Policies				
1. Incentives for the manufacturing sector				
1.1. Action 1: Reform export promoting tax incentives	*Quick tax refunds and tightened control*	*Ministries of: National Treasury, East Africa, Commerce and Tourism, Industry and Enterprise Development, Devolution and Planning, and private sector associations*	*Medium term*	*Repeal the current incentive scheme regulations*
1.2. Action 2: Review current incentives	*More use of high technology and R&D and innovations*	*Ministries of: National Treasury, East Africa, Commerce and Tourism, Industry and Enterprise Development, Devolution and Planning, and private sector associations*	*Medium term*	*Repeal the current incentive scheme regulations*
1.3. Action 3: Provide incentives to investors at the rural county levels	*Dispersion of manufacturing activities*	*Ministries of: National Treasury, East Africa, Commerce and Tourism, Industry and Enterprise Development, Devolution and Planning, and private sector associations*	*Medium term*	*Repeal the current incentive scheme regulations*
2. Legal and regulatory environment				
2.1 Repeal and combine some laws & regulations	*Reduced overlaps and reduced cost of manufacturing business*	*Ministries of: National Treasury, East Africa, Commerce and Tourism, Industry and Enterprise Development, Devolution and Planning, and private sector associations*	*Medium term*	-
2.2 Eliminate overlaps and multiplication of county and central government regulations	*Reduced overlaps and reduced cost of manufacturing business*	*Ministries of: National Treasury, East Africa, Commerce and Tourism, Industry and Enterprise Development, Devolution and Planning, and private sector associations*	*Medium term*	-
3. Support institutions				
3.1. Action 4: Reform regulatory institutions and regulations	*Reduced duplicative roles; multiple payments, corruption and costs*	*Ministries of: National Treasury, East Africa, Commerce and Tourism, Industry and Enterprise Development, Devolution and Planning, and private sector associations*	*Short term*	-
3.2. Action 5: Develop/designate apex institutions	*Improved coordination of sector*	*Ministries of: National Treasury, East Africa, Commerce and Tourism, Industry and Enterprise Development, Devolution and Planning, and private sector associations*	*Short term*	-
4. Infrastructure: Energy, Transport and Communication				
4.1. Action 6: Develop infrastructure	*Improved access and costs*	*Ministries of: National Treasury, Transport and Infrastructure, Energy and Petroleum, East Africa, Commerce and Tourism, Industry and Enterprise Development, Devolution and Planning, and private sector associations, development partners*	*Long term*	*Funding*
4.2. Action 7: Increase competition in energy and communications sector	*Improved access, quality, lower costs of the services*	*Ministries of: National Treasury, Transport and Infrastructure, Energy and Petroleum, East Africa, Commerce and Tourism, Industry and Enterprise*	*Short term*	*Change of the current regulations*

Action	Expected outcome	Responsibility	Timing (phases)	Pre-conditions
		Development, Devolution and Planning, and private sector associations		
5. Trade logistics				
5.1. Action 8: **Improve port infrastructure**	*Save time and reduce costs*	*Ministries of: National Treasury, Transport and Infrastructure, Energy and Petroleum, East Africa, Commerce and Tourism, Industry and Enterprise Development, Devolution and Planning, and private sector associations, development partners*	*Long term*	*Funding*
5.2. Action 9: **Improve customs processes**	*Save time and reduce costs*	*Ministries of: National Treasury, Transport and Infrastructure, Energy and Petroleum, East Africa, Commerce and Tourism, Industry and Enterprise Development, Devolution and Planning, and private sector associations*	*Short term*	-
5.3. Action 10: **Tracking and tracing**	*Reduced losses due to theft*	*Ministries of: National Treasury, Transport and Infrastructure, Energy and Petroleum, East Africa, Commerce and Tourism, Industry and Enterprise Development, Devolution and Planning, and private sector associations, development partners*	*Short term*	*Funding*
6. Access to finance				
6.1. Action 11: **Increase funding of DFIs**	*Increased access of credits to SMEs*	*Ministries of: National Treasury, East Africa, Commerce and Tourism, Industry and Enterprise Development, Devolution and Planning, and private sector associations, development partners*	*Medium term*	-
6.2. Action 12: **Develop different viable forms of collateral**	*Increased access to credits*	*Ministries of: National Treasury, Central Bank, Banking institutions, private sector associations, and development partners*	*Medium term*	-
7. Education, training and skills level				
7.1. Action 13: **Promote industry tertiary institutions linkages**	*Improved matching of skills; innovations and technology transfer*	*Ministries of: Education, National Treasury; Information, Communication and Technology (ICT), East Africa, Commerce and Tourism, Industry and Enterprise Development, Devolution and Planning, and private sector associations, development partners*	*Long term*	*Funding*
7.2. Action 14: **Improve quality and enrolment in engineering and technical institutions**	*Bigger pool of highly skilled labour force*	*Ministries of: Education, National Treasury; Information, Communication and Technology (ICT), East Africa, Commerce and Tourism, Industry and Enterprise Development, Devolution and Planning, and private sector associations, development partners*	*Long term*	*Funding*
8. Manufacturing cluster development				
7.1 Action 15**: Promote manufacturing**	*Improved technology*	*Ministries of: National Treasury, East Africa, Commerce*	*Long term*	*Funding*

Action	Expected outcome	Responsibility	Timing (phases)	Pre-conditions
clustering at the County level	transfer	and Tourism, Industry and Enterprise Development, Devolution and Planning, research institutions and private sector associations, development partners		
9. Grow market for locally manufactured products				
9.1 Action 16: **Promote public procurement of locally manufactured products and encourage consumption of domestically manufactured products**	Increased domestic market base	Ministries of: National Treasury, East Africa, Commerce and Tourism, Industry and Enterprise Development, Devolution and Planning, research institutions and private sector associations, development partners	Short term	Enforce Public Procurement and Disposal Act 2005 and implement campaigns on buy Kenya build Kenya
<u>Sectoral / Vertical Policies</u>				
1. Food and beverages				
1.1. Action 1: **Strengthen infrastructure for technical standards and sanitary & phytosanitary standards**	Improved access and competitiveness at export markets	Ministries of: National Treasury, East Africa, Commerce and Tourism, Industry and Enterprise Development, Devolution and Planning, research institutions and private sector associations, development partners	Short term	Funding
1.2. Action 2: **Promote value addition**	Increased exports of more high value/ high technology products and earnings; diversified export base	Ministries of: National Treasury, East Africa, Commerce and Tourism, Industry and Enterprise Development, Devolution and Planning, research institutions and private sector associations, development partners	Short term	Funding, training
1.3. Action 3: **Provide capital investment incentives at rural county level**	Increased investments in food processing at rural county level; dispersion on manufacturing	Ministries of: National Treasury, East Africa, Commerce and Tourism, Industry and Enterprise Development, Devolution and Planning, research institutions and private sector associations, development partners	Medium term	Funding
2. Leather and leather products				
2.1. Action 4: **Discourage exports of hides and skins and impose a tax on exports of wet blue**	Increased value addition; increased availability of raw materials for processing	Ministries of: National Treasury, East Africa, Commerce and Tourism, Industry and Enterprise Development, Devolution and Planning, research institutions and private sector associations, development partners	Short term	Change of regulations related to hides & skin exports
2.2. Action 5: **Develop skills in slaughtering, flaying and tanning of leather**	Improve recovery rate of hides and skins for manufacturing	Ministries of: National Treasury; Information, Communication and Technology (ICT), East Africa, Commerce and Tourism, Industry and Enterprise Development, Devolution and Planning, research institutions and private sector associations	Short term	Funding
3. Non-metallic mineral products				
3.1. Action 6: **Develop transport and energy infrastructure; and encourage**	Lower costs	Ministries of: National Treasury; Information, Communication and Technology (ICT), Energy and	Long term	Availability of funds

Action	Expected outcome	Responsibility	Timing (phases)	Pre-conditions
competition in their supply		Petroleum, East Africa, Commerce and Tourism, Industry and Enterprise Development, Devolution and Planning, research institutions and private sector associations		
3.2. *Action 7:* Encourage government procurement of local products and promote consumption of domestically produced goods	Increased domestic market base	Ministries of: National Treasury, Information, Communication and Technology (ICT), Transport and Infrastructure, Energy and Petroleum, East Africa, Commerce and Tourism, Industry and Enterprise Development, Devolution and Planning, and private sector associations, development partners	Short term	Review of the Public Procurement and Disposal Act 2005 to give preference to locally manufactured products
4. Fabricated metal products				
4.1. *Action 8:* Address issue of non-recognition of the rules of origin in COMESA and EAC	Increased exports to regional markets	Ministries of: National Treasury, East Africa, Commerce and Tourism, Industry and Enterprise Development, and private sector	Medium term	-
4.2. *Action 9:* Encourage formalization and facilitate growth of SMEs	More production, increased product standards, more use modern technology, more exports	Ministries of: National Treasury, East Africa, Commerce and Tourism, Industry and Enterprise Development, Devolution and Planning, Information, Communication and Technology (ICT), Energy and Petroleum, private sector	Long term	Funding to establish incubation centres
5. Electronic and electrical machinery				
5.1. Action *10:* Improve the quality of public training institutions involved in skills development	Highly skilled labour force	Ministries of: National Treasury, Industry and Enterprise Development, Devolution and Planning, East Africa, Commerce and Tourism, Information, Communication and Technology (ICT), Energy and Petroleum, private sector and development partners	Long term	Funding
5.2. *Action 11:* Enforce measures to curb counterfeit and sub-standard products (enforce anti-counterfeit Act)	A more vibrant electronic and related products sector	Ministries of: National Treasury, East Africa, Commerce and Tourism, Industry and Enterprise Development, private sector	Short term	-
6. Textiles and Apparel				
6.1 *Action 12:* Support production of cotton	Increased supply of cotton lint for ginners	Ministries of: National Treasury, Devolution and Planning, East Africa, Commerce and Tourism, Industry and Enterprise Development, private sector	Medium tem	-
6.2 *Action 13:* Revive and support ginning industry	Increased domestic production of fabric for the industry	Ministries of: National Treasury, Devolution and Planning, East Africa, Commerce and Tourism, Industry and Enterprise Development, private sector	Long term	-
7. Furniture and Fixtures				
7.1 *Action 14:* Support R&D, innovations	Increased value added and fine designs sophisticated	Ministries of: Education, Industry and Enterprise Development, private sector and development partners	Medium term	-
7.2 *Action 15:* Enforce 100% domestic public procurement of domestically produced furniture	Increased domestic market base	Public Procurement oversight Authority	Immediate	Production of high quality and sophisticated designs comparable to import quality

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AFRICAN DEVELOPMENT BANK GROUP

Contacts
Avenue du Ghana
Angle des Rues Pierre de Coubertin
et Hedi Nouira
BP 323
Tunis Belvedere 1002
Tunisie
Tel: (216) 71 10 20 05
Fax: (216) 71 103 751
Email: m.toure@afdb.org
Website: www.afdb.org