



QUALITY INFRASTRUCTURE IN KENYA

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Trade & Industrial Policy Strategies (TIPS) is a research organisation that facilitates policy development and dialogue across three focus areas: trade and industrial policy, inequality and economic inclusion, and sustainable growth

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ABBREVIATIONS

AfCFTA	African Continental Free Trade Area
AFSEC	African Electrotechnical Standardisation Commission
AFRAC	African Accreditation Cooperation
AFRIMETS	Intra-Africa Metrology System
AGOA	African Growth and Opportunity Act
ARSO	African Organisation for Standardisation
AU	African Union
CIPM	International Committee for Weights and Measures
COMESA	Common Market for Eastern and Southern Africa
BIPM	International Bureau of Weights and Measures
dtic (the)	Department of Trade, Industry and Competition (South Africa)
DVS	Department of Veterinary Services
EAC	East African Community
EAS	East African Standard
ECOWAS	Economic Community for West African States
EPRA	Energy and Petroleum Regulatory Authority
EU	European Union
GDP	Gross Domestic Product
IAF	International Accreditation Forum
IEC	International Electrotechnical Commission
ILAC	International Laboratory Accreditation Cooperation
ISO	International Organization for Standardization
KEBS	Kenya Bureau of Standards
KENAS	Kenya Accreditation Service
KEPHIS	Kenya Plant Health Inspectorate Service
KMLTTB	Kenya Medical Laboratory Technician and Technologist Board
KS	Kenya Standard
MRA	Mutual Recognition Agreement
NAB	National Accreditation Body
NEMA	National Environment Management Authority
NQI	National Quality Infrastructure
NQCLDMD	Nation Quality Control Laboratory for Drugs and Medical Devices
NQP	National Quality Policy or National Quality Infrastructure Policy
MoITED	Ministry of Industrialization, Trade and Enterprise Development
MRA	Mutual Recognition Agreement (ILAC)
MRL	Multilateral Recognition Arrangement (IAF)
NQI	National Quality Institute
OIML	International Organization of Legal Metrology
OIML-CS	OIML Certification System
PAQI	Pan-African Quality Infrastructure

PPCB	Pest Products Control Board
QI	Quality Infrastructure
SADC	Southern African Development Community
SANAS	South Africa National Accreditation System
SDGs	Sustainable Development Goals
SGS	Societe Generale de Surveillance
SI	International System of Units (from the French Système international (d'unités))
SQMT	Standardisation, Quality Assurance, Metrology and Testing
TBT	Technical Barriers to Trade
TIPS	Trade & Industrial Policy Strategies (South Africa)
TSC-M	Technical Sub-Committee for Metrology (EAC)
TSC	Testing Technical Sub-Committee (EAC)
UNECA	United Nations Economic Commission for Africa
UKAS	United Kingdom Accreditation Services
UNIDO	United Nations Industrial Development Organization
US	United States
WTO	World Trade Organization

1 INTRODUCTION

1.1 Motivation and terminology

The Department of Trade, Industry and Competition (the dtic) commissioned TIPS to conduct a study on the alignment of the technical infrastructure in South Africa. Part of was a comparison with other countries.

Usually, in comparative studies, this selection would focus on countries those that are further developed and from which South Africa can learn. Kenya has been deliberately included in the comparison as a country whose economy and quality infrastructure (QI) are less developed.

The comparison with Kenya serves to understand how other African countries deal with the challenges of industrialisation and African integration. Kenya is a leading economic and political force in Eastern Africa. How Kenya deals with partner countries offers an interesting comparison. At the same time, Kenya, together with South Africa, is one of the technical competence bearers of continental trade integration and a partner in building a Pan-African quality structure. Knowing about Kenya provides important indications for South Africa's regional and international engagement.

The case of Kenya is compelling because the country was one of the first in Africa to apply the concept of quality infrastructure:

“The National Quality Infrastructure is taken as the totality of the institutional framework including both the public and private sector that requires an establishment and implementation of standardisation, metrology (scientific, industrial and legal), accreditation and on conformity assessment services (inspection, testing, and product and system certification) necessary to provide acceptable evidence that products and services meet defined requirements, be it demanded by authorities (technical regulation) or the market place (contractually or inferred).” (KEBS, 2019)

In 2019, Kenya developed a National Quality Policy, which is still a novelty in the region. Kenya's quality policy guides the government in transforming an existing system into a sustainable quality infrastructure.

1.1 Information base

There is no academic research that deals with the Kenyan quality infrastructure. This case study is therefore based on information from the websites and reports from the key institutions of the QI that include the Kenya Bureau of Standards (KEBS), Department of Weights and Measures, Kenya Accreditation Service (KENAS), National Environment Management Authority (NEMA), Kenya Medical Laboratory Technician and Technologist Board (KMLTTB), NTSA, Kenya Plant Health Inspectorate Service (KEPHIS), Department of Veterinary Services (DVS), Energy and Petroleum Regulatory Authority (EPRA), Public Health Department of the Ministry of Health, National Quality Control Laboratory for Drugs and Medical Devices (NCQLDMD), Pest Products Control Board (PPCB) among others, as well as legal texts and policy documents. A recent case study by The World Bank provided information on QI in the East African Community (EAC) (Kellermann, 2019). Finally, our analysis benefits from the knowledge gained from the author's ongoing consulting work in East Africa, and the feedback from key resource people.¹ However, the author remains solely responsible for any errors and interpretation.

¹ Resource people consulted are Beatrice Mwasi, entrepreneur and private sector leader; Felista Nyakoe, Assistant Director of KENAS; Sammy Milgo, Ex-Chief Executive Officer at KENAS; Tobias Diergardt, Christina Foerg-Wimmer and Wesley Ronoh, project co-ordinator and consultants at Physikalisch-Technische Bundesanstalt (German National Metrology Institute).

2 CONTEXT

The Republic of Kenya, from now on referred to as Kenya, is a country in East Africa.

Kenya has been independent since 1963. Until 1978, liberation struggle icon Jomo Kenyatta led the nation. Agitation for multipartyism state in the early 1990s and the 1992 elections marked the beginning of elections in a multi-party system. With the Constitution of 2010, Kenya achieved a presidential system with separation of powers. The country also introduced a decentralised system of government with the national government and 47 district governments (WTO, 2019).

With an area of 580 367 km² and a population of 47.6 million in 2018, Kenya is one of the largest economies in Africa in terms of production and market size. Kenya is the leading economy in the EAC with about 40% of regional gross domestic product (GDP). The country has 536 km of coastline on the Indian Ocean. Nairobi and Mombasa are the country's leading commercial centres (WTO, 2019).

Due to its dynamic economic development since 2012, the World Bank classified Kenya as a low to a middle-income country in 2014 (World Bank, 2021). The GDP per capita rose steadily to US\$1 701 in 2017, with the service sector, mainly transport and storage, real estate, wholesale and retail, and finance and insurance, accounting for half of the production in the same year. Agriculture accounted for 37.7% of the GDP. However, the contribution of the relatively diversified manufacturing sector declined from 13.1% in 2011 to 8.6% in 2017. The informal sector dominates the Kenyan economy, accounting for 83% of total employment in 2017.

In 2019, Kenya's economic growth averaged 5.7%, making it one of the fastest-growing economies in Sub-Saharan Africa. Recent economic expansion has been supported by a stable macroeconomic environment, positive investor confidence and a resilient service sector. In the first half of 2020, Kenya was severely affected by both the COVID-19 pandemic and the locust plague, particularly in the northeast.

The Kenya Vision 2030, launched in 2008, aims to transform Kenya into a middle-income industrialised country. Vision 2030 outlined the "Big Four" development priorities, focusing on manufacturing, universal health care, affordable housing and food security. In 2013, it launched a National Action Plan on Climate Change and added the goal of a low-carbon economy to Vision 2030.

Kenya is a founding member of the EAC and a signatory of the African Continental Free Trade Area (AfCFTA).

3 QI FRAMEWORK AND ORGANISATIONS

The Kenyan quality infrastructure has developed over the decades. The following subsections look at the framework laws and important organisations.

3.1 Legal framework

Chapter 4 of The Bill of Rights of 2010 lays the foundations for the protection of consumers and their right to healthy and safe products and services of reasonable quality. The Weights and Measures Act, Standards Act and, recently, the Accreditation Service Act implement the constitutional provision:

- The Weights and Measures Act (Chapter 513) (Republic of Kenya, 2012) was enacted in 1993 and revised in 2012. With it, the legislator lays the legal foundations for legal metrology and traceability to the International System of Units (SI) of vital measurements in trade, health, law enforcement and environmental control.

- The Standards Act (Chapter 496) (Republic of Kenya, 2013) was first enacted in 1974 and revised in 2012. This Act regulates standardisation and conformity assessment and their use in technical regulation and market surveillance.
- In August 2019, the legislator completed the framework of the quality infrastructure with the Accreditation Service Act (Republic of Kenya, 2019a), which legally recognised the national accreditation system.

The three laws establish the basis for the central QI organisations (KEBS, Department of Weights and Measures and KENAS) and define their mandates. In addition, various government institutions attached to the Ministries of Health, Internal Security (the government chemist) and the Veterinary Services Department of the Ministry of Agriculture are part of the quality infrastructure.

3.2 Key QI organisations

3.2.1 KEBS

The Kenya Bureau of Standards is the core government institution of the Kenyan quality infrastructure. Since its foundation in 1974, KEBS has been active in the fields of standard development, metrology, conformity assessment, training and sensitisation. The tasks of KEBS have been growing continuously. Today KEBS covers almost all functions of the national quality infrastructure:

- KEBS is the National Standard Body and thus responsible for the adoption and adaptation of international standards as well as their dissemination.
- KEBS also acts as the National Metrology Institute by being responsible for the traceability of measurements to SI and operates its calibration laboratories.
- KEBS offers equipment calibration services to calibration laboratories to industry
- KEBS is responsible for the development of technical rules for a large number of products and marks for the mandatory KEBS mark.
- KEBS operates its test laboratories and is active as a certification body for products and management systems.
- KEBS does also QI awareness-raising and training.
- KEBS also houses the National Enquiry Point for notification of standards in support of trade under the auspices of World Trade Organization/Technical Barriers to Trade (TBT) agreement.

With the growing tasks, the challenges for the management of KEBS have increased considerably. It is particularly challenging to guarantee the professional competence and necessary independence of the individual business units. This is all the more complicated because the organisation tends to be underfinanced. Recently, the reputation of KEBS has been dramatically damaged by the criminal behaviour of the previous management (Gitonga, 2019).

Regardless of its internal issues, KEBS collaborates in the development of regional quality infrastructure. Through its membership of the EAC and the Common Market for Eastern and Southern Africa (COMESA), KEBS contributes to the harmonisation of standards, measurements and conformity assessment systems. Also, KEBS operates the National Enquiry Point in support of the WTO/TBT Agreement on trade facilitation

KEBS represents Kenya in the International Organization for Standardization (ISO), the International Electrotechnical Commission (IEC), and in the African Regional Organisation for Standardisation (ARSO), and also at the International Bureau for Weights and Measures (BIPM) and the Intra-Africa Metrology System (AFRIMETS).

3.2.2 Department of Weights and Measures

Weights and measures is the oldest quality infrastructure organisation in Kenya. Its origins reach far back into colonial times. In 1912, the Weights and Measures Service was under the Commissioner of Police. By 1928, there was already a separate department headed by a qualified Inspector of weights and measures from Britain. Since 1951, there was an independent Department of Weights and Measures, now the present Ministry of Industrialization, Trade and Enterprise Development (MOIED). (MoITED, 2020).

The legal basis for the Department of Weights and Measures are two Acts of Parliament, namely the Weights and Measures Act (Chapter 513), and the Trade Descriptions Act (Chapter 505). These acts serve as the basis for the entire legal metrology system of the country.

The department has the following tasks:

- Establish a uniform system, of measurement in trade,
- Control weighing and measuring equipment in use for trade,
- Control the sale of goods, and
- Protect consumers from fraud by misrepresenting the weights and measures of products and services

Weights and measures services are available throughout the country in 21 offices. As part of its decentralisation policy, the department increased the number of district officers from 21 to 47. There are 93 legal metrology officers in the country, supported by 37 assistants.

The Department of Weights and Measures represents Kenya in regional and international legal metrology organisations, such as East African Metrology Systems, AFRIMETS and the International Organization of Legal Metrology (OIML).

In the OIML, Kenya is an active user of the new Certification System (OIML-CS) (OIML, 2021), which contributes to the harmonisation of measurement procedures and avoids double costs for measurements.

3.2.3 KENAS

The Kenya Accreditation Service is a key player in the national quality infrastructure. KENAS is a government body, re-established through the Kenya Accreditation Services Act 2019 as the sole national accreditation body for Kenya (National Accreditation Body – NAB).

KENAS accredits conformity assessment services including laboratories (calibration, product testing, medical testing) and proficiency testing providers, inspection bodies, verification bodies and certification bodies in all sectors of the economy.

KENAS works to strengthen the technical infrastructure for compliance with standards to increase confidence in Kenyan products and services at a local and global level. KENAS contributes to Kenya's development agenda by promoting the use of accreditation and the acceptance of equivalence of accredited bodies worldwide as a means to facilitate trade, improve economic outcomes and manage and reduce risks to quality, health, safety, environment and consumer protection. KENAS works closely with governmental bodies but also aims to maintain its independence and impartiality.

KENAS is the focal point for national, regional and international accreditation activities. Since 2017, KENAS is a full member of both International Laboratory Accreditation Cooperation (ILAC) and the International Accreditation Forum (IAF) and hence a signatory of the ILAC Mutual Recognition Arrangements (ILAC-MRA) and the IAF Multilateral Arrangement (IAF-MLA). It is also a full member of

the African Accreditation Cooperation (AFRAC), and hence a signatory of the AFRAC MRA (ILAC) (KENAS, n.d.-a).

The MRAs ensure that Kenyan products and services that have been inspected tested and certified by KENAS accredited conformity assessment bodies have access to countries with accreditation bodies that are ILAC/IAF/AFRAC signatories – without the need for re-inspection, re-testing and or re-certification. This is under the policy of once inspected, tested and certified, accepted everywhere. This is based on the recognition of certificates and reports from a KENAS-accredited conformity assessment body as equivalent to those of their own accredited body, thereby facilitating movement and access of products and services across borders and contributing towards a significant reduction and or elimination of barriers to trade. This is anchored on Article 6 of the WTO/TBT agreement.

In 2017, this international recognition made KENAS the third national accreditation body in Sub-Saharan Africa. The reports and certificates issued by the accredited conformity assessment bodies are accepted by trading partners worldwide. Consequently, KENAS now provides accreditation and training services to countries such as Gambia, Ghana, India, Rwanda, Sudan, Tanzania and Uganda.

In the financial year, 2018/2019 KENAS recorded a positive financial result for the first time. As a result, the share of government financing was reduced from a peak of 80% in the fiscal year 2015/2016 to 56% of total revenues (KENAS, n.d.-b). The positive financial result signals the way to ensure the economic sustainability necessary to create lasting trust and confidence in the provision of accreditation services.

3.3 Lead ministry

The Ministry of Industrialization, Trade and Enterprise Development supervises the Kenyan quality system. All three institutions, KEBS, KENAS and the Department of Weights and Measures, report to this ministry.

However, the policy documents leave the impression that the ministry delegates the strategic management of the quality infrastructure to KEBS.

While KEBS hosts the national information centre under the WTO/TBT Agreement, the government notification body for technical regulations should ideally be located at the MoITED as per the best international practice. At present, KEBS still plays a role in this functional area.

4 COMPONENTS AND DISTRIBUTION OF COMPETENCES

4.1 Metrology

The legal framework of Kenya's metrology needs a fundamental revision. The allocation of the provision of scientific and industrial metrology services to KEBS and legal metrology services to the Department of Weights and Measures is indeed functional. At the same time, the role of the National Metrology Institute should therefore be legally established for purposes of ensuring independence, objectivity, impartiality and effectivity, especially as at present KEBS still provides equipment calibration services. This will also fulfil international best practice.

KEBS has been a member of BIPM since 2010 and has signed the International Committee for Weights and Measures (CIPM) MRA. Practically KEBS develops its international measurement competence as an observer on the Consultative Committee on Acoustics, Ultrasound and Vibration (International Bureau of Weights and Measures- BIPM) and the Consultative Committee on Quantity: Metrology in Chemistry and Biology (BPIM, n.d.). However, as an NMI, KEBS faces the challenge of developing further competencies for future areas of scientific metrology.

To enable KEBS to concentrate more on its role as the National Metrology Institute, it should consider outsourcing the calibration services to private service providers. The support of a national calibration system could then, in turn, be a task of KEBS with support of the NAB and KENAS, among other institutions.

4.2 Standards and technical regulations

4.2.1 Kenya standards

KEBS co-ordinates the development of Kenya Standards (KS). These are voluntary standards that are developed by interested stakeholder groups. In 2020, 201 Technical Committees are active: Food and Agriculture (34), Chemical (30), Leather (12), Civil (14), Electrotechnical Engineering (17), Metrology (4), Mechanical Engineering (26), Service (61), Trade affairs (3) (KEBS, n.d.-a).

The Standards Division at KEBS has made considerable efforts in recent years, however, the private sector and especially small, medium and micro enterprises are hardly involved in standards development. As a result, KS are little known and are rarely used by especially small and medium enterprises.

In the ongoing globalisation of trade, international standards are becoming increasingly common. Purely national standards exist only in a few exceptional cases, as they hinder free trade and increase the transaction costs of domestic exporters. In 2018, the WTO counted 9 150 Kenyan Standards, 65.2% of which were based on international standards: ISO standards account for 45.3%, IEC standards for 7.7%, East African standards for 6.5% and Codex standards for 4.6% (WTO, 2019) (see also Kenya Bureau of Standards webstore: <https://webstore.kebs.org/>).

Due to the growing importance of international standards, it is becoming increasingly important for Kenya to continue to actively participate in the development of international standards. Participation in international standards committees has so far involved expensive travel. Although the ISO's Committee on Conformity Assessment promotes the participation of ISO members from developing countries, the costs are often a significant obstacle. During the COVID-19 pandemic, the meetings of the international standards committees are increasingly being held online. This increases the possibility of participation of participants from countries like Kenya. The challenge of how countries such as Kenya can move from mere standard takers to active partners in global standards development is a reality.

4.2.2 East African standards

The East African Community Standardisation, Quality Assurance, Metrology and Testing Act of 2006 provides a framework for regional co-operation in quality infrastructure. Representatives of the partner countries work on the harmonisation of standards in technical committees (Kellermann, 2019). Kenya, as an economically and technically developing country, plays an active role in this process.

However, progress in harmonising national standards to a (harmonised) regional standard is difficult. One problem is that there are often no real promoters of regional standards in the partner states. The lack of compatibility of the partner countries' systems with the principles of the WTO-TBT Agreement creates trade obstacles. Particularly, in the course of ongoing negotiations on trade agreements with the United States(US), the European Union (EU) and the African continent, attempts are being made to tackle fundamental reforms of the outdated regulatory system. To this end, various co-operation projects of international development co-operation are also underway.

4.2.3 Technical regulation

The regulators

“In Kenya, like in most countries, every ministry has established one or more regulatory agencies to develop and implement technical regulations within its domain. There is no definitive national guideline for the development and implementation of technical regulations. Hence each Ministry and their Agencies develop and implement technical regulations as they see appropriate” (KEBS, 2019). Inevitably, this approach has led to divergences in technical regulation development and implementation.

Many products, subject to technical regulation, fall within the domain of more than one national ministry and or state corporation. But there is no dedicated mechanism to ensure co-ordination of their activities. Hence, the result is an overlap in regulatory action, i.e. the supplier has to deal with more than one regulatory authority that frequently places “... differing demands on product quality and the supplier. This situation adds tremendously to the cost of products without resulting in better safety for the consumer or the environment; the opposite is often the case. Local products and imported products are frequently handled differently, violating one of the basic tenets of the WTO TBT Agreement.” (KEBS, 2019)

“At the international level, it has become the norm that regulatory authorities should not render conformity assessment services that provide the evidence that a product complies with technical regulation requirements. It is argued that this is a conflict of interest and such a mandate allows the regulatory authority to extract rent from suppliers that have to comply with technical regulation. In Kenya, this is amongst others the case for KEBS, as it is responsible for the implementation of “compulsory standards”², yet it also provides conformity assessment services.” (KEBS, 2019)

Table 1: Technical regulation authorities and their scope of operation

REGULATOR	REGULATED PRODUCTS AND SERVICES
Kenya Bureau of Standards	Implementation of all “compulsory standards” for manufactured products. Activities and services include metrology and calibration; testing, product and systems certification; training and market surveillance in Kenya; and the inspection of imported products.
Department of Veterinary Services	Disease surveillance, vector regulatory and zoological services; diagnostics and efficacy trials; veterinary public health and animal products inspection
Energy and Petroleum Regulatory Authority	Petroleum products
National Transport Safety Authority (Motor vehicles inspections and licensing, and road traffic safety complaints investigations
National Environment Management Authority	Waste management and pollution
Water Resources Management Authority	Water resources
Water Boards	Potable water quality
Ministry of agriculture through the various directorates	Farm produce

² The WTO uses the term “technical regulations” to refer to technical regulations which, in contrast to the voluntary standards, are generally mandatory. The concept of compulsory standards is confusing and outdated.

Ministry of Health Public Health Department	Food business operators and food substances
Pharmacy and Poisons Board	Pharmaceuticals and Poisons
Pest Products Control Board	Farm Chemicals
Kenya Revenue Authority	Imports Inspection
Kenya Plant Health Inspectorate Service, Ministry of Agriculture	Agricultural inputs
Radiation Protection Board, Ministry of Health	Radiation protection

Source: Kenya National Quality Infrastructure Policy 2019 and author additions.

Quality marks

KEBS has developed a system of different quality marks (KEBS, n.d.-b):

- The Standardization Mark or S-Mark is a mandatory product certification scheme for locally manufactured products. To acquire the S-mark, manufactured goods are expected to meet quality requirements as specified in the Kenya Standards. The Standardization Mark demonstrates that a particular product conforms to specifications.
- The Diamond Mark of Quality or D-Mark awards excellence to manufacturers (either based locally or abroad) which have demonstrated a high degree of excellence in product manufacturing and quality. D-Mark permit holders qualify automatically for the Standardization Mark without any further inspections and additional payments. The permit to use the D-Mark is valid for three years subject to satisfactory quality performance and full compliance to other contractual obligations signed between KEBS and the permit holder.
- The Import Standardization Mark of Quality responds to widespread faking of KEBS Quality Marks and provide a platform through which KEBS will be able to carry out on-field real-time validation and verification of goods bearing its Quality Marks. Since 2015, the Import Standardization Mark is issued in the form of a sticker with security features, combined with tracking and tracing software. All importers of the goods mentioned above will be required to purchase Import Standardization Mark stickers directly from KEBS.
- The Fortification Mark of Quality is anchored on the co-operation between the Public Health Department of the Ministry of Health and KEBS. The department requires that information about product micronutrients is provided on the labels of selected food products. KEBS administers the Food Fortification Logo and certifies that the products fulfil the requirements of the relevant Kenya Standard concerning fortification. An applicant for the Food Fortification Logo must have a valid Standardisation Mark or Diamond Mark of quality for the corresponding product.

The system product certification and the attendant marks prove the innovative power and business sense of KEBS management. The marks flexibly address different types of companies and make a valuable contribution to consumer safety and protection. However, the combination of the obligatory S-Marks with the voluntary marks is a challenge in terms of adherence to national competition policy and or laws. They give KEBS a considerable advantage over private providers of certification services. At the same time, it is problematic that KEBS's laboratories and verification bodies carry out the conformity tests for the S-mark. This could threaten professional independence, impartiality and objectivity.

4.2.4 Conformity assessment

CA-system

The Kenyan conformity assessment system includes certification bodies, test and calibration laboratories and inspection bodies. The information about the accredited conformity assessment bodies is confusing; only a part of them are accredited by KENAS. Especially in regard to older conformity assessment bodies obtain their accreditation abroad. With the international recognition of KENAS, the system is in a state of change. At the same time, KENAS is the only accreditation body in the accreditation system of the East African Community. It is increasingly active in cross-border accreditation (e.g. Rwanda, Sudan, Tanzania, and Uganda (KENAS, n.d.-c)).

Certification

Technically, there is a difference between certifications of products and management systems:

- The *product certification* is mainly mandatory and carried out by KEBS. This applies the S-Mark. KEBS is accredited for this service at KENAS via ISO/IEC 17065.
- In the area of *management systems certification*, KEBS competes with the two transnational certification bodies Bureau Veritas and Societe Generale de Surveillance (SGS). All three certification bodies are accredited through KENAS. (KENAS, n.d.-d).

The data situation about the certified companies is ambiguous: The ISO Survey 2018 shows 62 management system certificates and 99 sites for Kenya (ISO, 2019). In contrast, the KEBS website alone contains 152 companies certified by KEBS with the ISO/ IEC 9001 standard. The private international certification service providers do not publish this data. (KEBA, n.d.-c).

A relatively new, dynamically growing area is private and sustainability certifications. One example is the GlobalGap certification scheme for fresh food. As early as 1996, GlobalGap established a local certification scheme together with the Fresh Produce Exporters Association of Kenya (GLOBALG.A.P., 2014). Kenya-Gap was the first system of its kind in Africa. International co-operation supports the involvement of small farmers in particular.³ GlobalGap certification bodies must be accredited (GLOBALG.A.P., 2014).

Laboratories

KENAS has accredited 34 testing laboratories and 17 calibration laboratories under the ISO/IEC 17025 standard. These include local companies, universities and government laboratories. A strong position is held by transnational suppliers such as Bureau Veritas, Inspectorate, SGS, Intertek (KENIS, n.d.-d).

There are also eight laboratories of the KEBS test department for polymer, organic chemistry, inorganic chemistry, microbiology, molecular biology, mechanical engineering, electrical and civil engineering (KEBS, n.d.-d). These laboratories are currently accredited through South Africa Accreditation Services (SANAS) and were previously accredited through United Kingdom Accreditation Services (UKAS). The German accreditation body (Deutsche Akkreditierungsstelle GmbH – DAkkS) accredits the metrology laboratories at KENAS in the fields of electrical, temperature, force, pressure and flow. In line with ILAC's agreement on cross-border, KENAS could take over these accreditations in the future.

³ More than 300 Kenyan farmers have received GlobalG.A.P. certification – opening the door to the European market – with support from the International Trade Centre. (ITC, 2017).

At the level of the EAC, the Testing Technical Sub-Committee (TTC) of the East African Standards Committee (EASC) has operated since 2004 as part of the regional quality infrastructure.

The mandate of the TTC includes:

- Co-ordinating co-operation in testing for purposes of developing the competence of testing laboratories and promoting recognition of test certificates;
- Encouraging inter-laboratory testing among laboratories; establishing procedures for validation of test methods;
- Co-ordinating the development and establishment of reference materials; and
- Making existing facilities accessible to users of laboratory services in the region.

So far, however, the TTCs have found it difficult to implement their mandate. International development co-operation provides support in this area.

KENAS, as the only accreditation body in the EAC, has successfully started to offer its services in the partner countries (accredited laboratories in Rwanda and Tanzania) and beyond (Sudan).

Inspection

KEBS is responsible for compliance with the technical regulations and market monitoring. KEBS delegates this function to five private inspection bodies (Bureau Veritas, China Certification and Inspection Group, Cotecna Inspection SA, Intertek and SGS). These regulations are in line with Legal Notice No. 78 of 15 July 2005 on the Verification of Conformity to Kenya Standards of Imports. (KEBS, 2018).

Of the five inspection bodies, only Intertek and SGS Inspection are accredited through KENAS under the ISO/IEC 17020 standard. The other service providers have their accreditation from abroad. In total, KENAS has accredited nine inspection bodies (KENAS, n.d.-e).

4.3 Awareness and training

In 2008, KEBS founded the National Quality Institute (NQI), a spin-off from the Certification Unit. The separation became necessary because the combination of certification, consulting and training activities is not a good practice.

The task of the NQI is to anchor a culture of quality in Kenyan society. NQI also promotes the principles, practices and techniques of quality management in the Kenyan industry in the context of Vision 2030 and the Sustainable Development Goals (SDGs). Through this, NQI supports the competitiveness of Kenyan products and services in the global marketplace. NQI is a leading provider of training on standards, management systems and related courses in the East African region. (KEBS, n.d.-e).

5 REGIONAL AND INTERNATIONAL CO-OPERATION

5.1 International embeddedness

The regional integration of Kenya is shaped by the regional economic communities of which the country is signatory including EAC, COMESA, the Intergovernmental Authority on Development and the Indian Ocean Rim. The COMESA/EAC/ Southern African Development Community (SADC) Tripartite Free Trade Area also has an impact on Kenya's regional integration agenda. Additionally, Kenya was among the first countries to ratify the African Continental Free Trade Area (AfCFTA) Agreement. Kenya's regional integration policy is impacted on by several international conventions and agreements, such the just concluded EAC-EU Economic Partnership Agreement and the EAC-US Trade and Investment Agreement. (Republic of Kenya, 2015).

The WTO provides a multilateral framework for trade. Its TBT Agreement shapes Kenya’s quality infrastructure and technical regulation system. At the same time, the technical competence of the actors of the Kenyan quality infrastructure depends on their participation in international and regional professional organisations. Membership in these organisations and the signing of multilateral recognition agreements facilitate market access for Kenyan companies and protects the country’s consumers.

The SDGs of the United Nations also provide decisive orientation for Vision 2030 and the national quality policy. The SDGs extend the tasks of the quality infrastructure and require it to make technical contributions to social, economic and ecological sustainability.

5.1.1 Professional organisations

The key organisations of the Kenyan quality infrastructure are active members of the professional organisations for metrology, standardisation and accreditation at the regional and international level.

Table 2: QI organisations at national, regional and international level

LEVELS/ AREAS	QI	METROLOGY	STANDARDS	ACCREDITATION
International		BIPM, OIML	ISO, IEC, ITU (International Telecommunications Union)	ILAC, IAF
Pan-African (PA)	PAQI	AFRIMETS	ARSO	AFRAC
EAC		Technical Sub-Committee for Metrology (EAC)	STMC (Standards Technical Management Committee)	EAC Accreditation Bodies
Kenya	NQI	KEBS and Department of Weights and Measures	KEBS	KENAS

Source: Compiled by author

5.1.2 East African community

The EAC was initially founded in 1967, dissolved in 1977, and revived with the Treaty for the Establishment of the East African Community (the Treaty Establishing EAC), signed in 1999 by Kenya, Uganda and the United Republic of Tanzania. Burundi and Rwanda joined in 2007 and Southern Sudan in 2016. In 2005, the partner states formed a customs union and introduced a common market in 2010.

With a total population of 126 million people, the EAC is the second-largest trading bloc for Kenya. With 51% of the GDP of the EAC (2018) Kenya is the dominant economic power in East Africa. To accelerate the regional integration process, Kenya is leading a “coalition of the willing” (WTO, 2019).

In the early 2000s trade between East African countries declined sharply, primarily due to non-tariff barriers. The EAC Protocol requires in its Article 13 the elimination of non-tariff barriers to trade.

A significant milestone in the implementation of this integration goal was the approval of the East African Standardisation Quality Assurance Metrology and Testing Act (EAC SQMT Act). The Act lays the institutional foundations for regional quality infrastructure. (EAC Secretariat, 2006). The SQMT Act specifies that the member states mutually recognise their quality marks as equivalent. Due to the strong asymmetries in economic development, and the level of development of the national quality

infrastructure, this goal has not yet been achieved. The EAC only made progress in the adoption of common EAC Standards (EAS). Here, too, the adoption of these standards by the partner states is proceeding slowly.

5.1.3 AfCTFA agreement and PAQI

With the African Continental Free Trade Area agreement, the African states want to pool their sub-regional free trade integration efforts. The agreement includes 54 of the member states of the African Union. It requires that members remove tariffs from 90% of goods, allowing free access to products and services across the continent. The United Nations Economic Commission for Africa (UNECA) estimates that the agreement will boost intra-African trade by 52% by 2022. The scheduled date was 1 July 2020, but the start of the free trade zone was postponed because of COVID-19 pandemic.

Kenya is one of the promoters of the continental free trade zone. However, the government has recently come in for criticism because it entered into bilateral negotiations with the US on the African Growth and Opportunity Act (AGOA) without consulting the partner countries. This development shows, once again, the complexity of regional trade integration. (Ogutu, 2020).

The African Quality Infrastructure Organisations accompany and support the AfCFTA project. In 2013, the African Union Commission launched the Pan-African Quality Infrastructure (PAQI). PAQI was officially inaugurated on 30 August 2013 by the Director for Trade and Industry, African Union Commission, whereby members comprising of AFRAC, AFRIMETS, the African Electrotechnical Standardisation Commission (AFSEC) and ARSO have formalised their co-operation as members of the PAQI by signing a Memorandum of Understanding. (PAQI, 2013).

With PAQI again, the aim is to contribute to the dismantling of TBTs by harmonising standards and establishing and expanding quality infrastructure services. The restructuring of the national regulatory system appears to be the most difficult challenge.

6 THE NATIONAL QUALITY POLICY

6.1 Overview

Kenya is one of the first countries in the region to develop a National Quality Policy (NQP), in which the government outlines the reorientation of the national quality infrastructure. The United Nations Industrial Development Organization (UNIDO) is promoting this type of policy through guidelines and advice. In the case of Kenya, however, this is an own initiative that was supported and written by KEBS. (Gazette Weekly, 2018).

The document The Kenya National Quality Infrastructure Policy was published in March 2019 (Republic of Kenya, 2019b). The NQP document is divided into six chapters:

1. Introduction – background, stakeholders, objectives and principles
2. Situation analysis – NQP content and environment, internal and regional obligations, government commitment, QI system and TR regime
3. Policy vision, goals, objective, outcome and policy measures
4. Policy, legal and institutional framework – components of the NQI
5. Mounting, evaluation, accountability and learning
6. Policy review: lead ministry and implementation

Selected contents are presented in the following sections.

6.2 Situational analysis and rational

The starting point of the NQP is a description of the weaknesses of Kenya's current quality infrastructure:

“Currently, the quality and standards framework in Kenya is limited, and not all deserving sectors have been covered. Also, some of the parameters required in Kenya standards cannot be tested owing to lack of capacity. Also, an effective monitoring and evaluation system is not in place. Finally, there is the absence of clear policies to address growing competition from emerging quality management, testing and certification.” (KEBS, 2019)

The authors list a number of challenges that the NQP should overcome:

- Conflicting or inexistence of legislations creating overlaps across agencies and ministries, which leads to lengthy and costly transaction times, role conflict, inefficiency and waste of resources;
- Lack of co-ordination and synergies between national quality infrastructure institutions;
- Low capacity and under-skilled human and material resources in public and private institutions;
- Lack of and lag in timely sharing of technical information, concerning technical;
- Regulations and standards among institutions involved in NQI implementation;
- Non-alignment of some of the NQI and technical regulation administration and enforcement procedures with international best practices;
- Lack of harmonisation of enforcement of quality control mechanisms within the region;
- Lack of strong consumer associations to influence the quality of Kenya products and services;
- Lack of embracement of quality management systems in public and private institutions;
- Lack of a quality culture within the Kenyan private sector, which tends to focus on quantity rather than quality;
- Lack of a concerted institutional framework for funds mobilisation for the strengthening of NQI. (KEBS, 2019).

This assessment is consistent with many of the findings of this study. However, we read between the lines the authorship of KEBS with the view of a component of the system.

To justify the policy, the authors place it in the context of Vision 2030 and industrialisation policy. The NQP is described as a whole government task, and the commitment of the government to develop a national quality infrastructure is underlined. In contrast to the UNIDO guidelines (UNIDO, 2018), there is no explicit reference to the contribution of the quality infrastructure to achieving the SDGs.

6.3 Policy recommendations

The recommendations of the Kenyan Quality Policy focus on the revision of the legal framework and a co-ordinated governance system. The “optimal design of the national quality infrastructure in Kenya” should recognise the dual function of quality policy. The NQI should respond to the needs of government policy as well as a concern for market-based service provision. However, the notion that two separate systems are needed, i.e. one for the regulators and one for the marketplace, is outdated and leads to unnecessary duplication and inefficiency. In a modern National Quality Infrastructure, technical competence, as well as appropriate legal checks, are essential.

According to the Honourable Peter Munya, Cabinet Secretary Trade, Industrialization and Cooperatives, the vision of the NQP is: *“...promoting economic and social transformation through*

sustainable Quality Infrastructure for a globally competitive and prosperous Kenya with a high quality of life by 2030.

The purpose of this policy is to promote economic prosperity in line with the Government of Kenya policies and objectives in the Vision 2030 economic blueprint. Kenya recognises that quality goods is a pillar for social, economic development and gives priority to the adoption of a National Quality Infrastructure Policy.

Thus, the overall purpose of this Policy is to guide the government on how to achieve an effective regulatory mechanism using accredited laboratories, certification bodies and inspection agencies in line with the Constitution where the rights of the consumers are respected in order to improve the quality of life and lifestyle of the citizens of the Republic of Kenya.

Moreover, this policy seeks to establish a strong and national regulatory, accreditation and certification infrastructure to facilitate production and trade, enhance export, accelerate economic development, and protect the environment, health and safety of the consumers and improve the quality of imports.” (KEBS, 2019)

Regarding a new legal framework, the NQP recommends the establishment of:

- A *Technical Regulation Framework Act* that will guide the development and implementation of technical regulations across all Ministries and State corporations, and county governments;
- A *Technical Regulation Coordination Office* within the Kenya Bureau of Standards
- A *National Measurement Institute (NMI)* within KEBS.

All recommendations assume that KEBS will remain the overarching institution of the NQI in Kenya and will be strengthened.

At the same time, the vital role of the private sector in implementing NQPs should be recognised. It is planned to involve representatives of the private sector, specifically the Kenya National Chamber of Commerce and Industry and the Kenya Manufacturers’ Association, in steering the public NQI. Private sector providers of conformity assessment services are also to be involved so that the private sector can derive maximum benefit from the national quality infrastructure.

Unlike in other countries, Kenya’s NQP does not provide for the establishment of a National Quality Council involving the private sector, universities and civil society. Instead, the plan recommends creating a Reference Group in which the ministries responsible for technical regulation will be represented. The Reference Group should lead the institutional and legal modernisation of the NQI so “...that the concerned institutions provide competent and essential support and services to industries, the government of Kenya and all other stakeholders in line with the international good practices and norms. The same applies to the Technical Regulation Framework until the envisaged Technical Regulation Coordination Office can take over this function.” (KEBS, 2019)

At the end of 2019, Honourable Peter Munya, Cabinet Secretary Trade, Industrialisation and Cooperatives, appointed a task force to champion the National Quality Policy. The Taskforce’s tasks include reviewing and assessing comprehensive concepts and the shortcomings of the country’s overall quality infrastructure. The task force should recommend reforms in Kenya standard system. This happens in a time when there are allegations that counterfeit products are finding their way onto the markets. However, bodies such as KEBS and Anti-Counterfeit Agency already exist. The task force will guide the QI bodies, in particular, to eliminate illegal and unfair trade practices throughout the country. The Standards and Quality Infrastructure Task Force should present a plan to reorient the entire quality and standards ecosystem in a few months. (Mbabazi, 2019).

7 CONCLUSIONS

This case study of quality infrastructure in Kenya is done in a time when the government is reorienting the quality system. The National Quality Policy recognises the importance of QI in achieving national development goals under Vision 2030. The proposals for the revision of the legal basis and the co-ordination of actors are in line with recommendations of international experts and good practices.

Compared to the South Africa, quality infrastructure in Kenya is less developed. In contrast to the South African Bureau of Standard, which has mostly transferred the functions in the area of technical regulations and market surveillance to the National Regulator for Compulsory Specifications, KEBS continues to be jointly responsible for regulatory and market-related tasks. The NQP even explicitly calls for this dual function to be left under one roof. Due to the low use of QI services in Kenya, this may be an appropriate approach at this stage. However, there are considerable concerns regarding the independence, objectivity and impartiality of the individual areas.

With KENAS, the Kenyan Quality Infrastructure has a new dynamic institution. The accreditations by KENAS create confidence and trust in the system. It also facilitates the entry of private conformity assessment providers. These companies bring international expertise and efficiency to the system, which benefits users in business, customers, regulators and the public and private sectors at large.

So far, KEBS and KENAS have been operating largely independently. This is due to the fact that accreditation was formerly part of KEBS, and KENAS which is relatively a new entity must demonstrate its independence, objectivity and impartiality in the delivery of accreditation services in line with the requirements of ILAC/IAF among others. The Accreditation Act gives KENAS the force of law and hence gives it the necessary legal confirmation. This also supports its economic performance besides strengthening its image. In this respect, it is time for KEBS and KENAS to co-operate and work more closely together to realign the national quality infrastructure.

Weights and Measures is still a department of MoITED). For the current scope of responsibilities, the current arrangement is functional. However, legal metrology will be faced with tasks in areas such as health and environment, which require better equipment and a new coordinated institutional framework.

Overall, the understanding of quality infrastructure in Kenya is traditional and almost exclusively focused on the trade sector. The possible contributions of quality infrastructure to innovation and sustainable development are not yet sufficiently in focus. This is also a sign of too little involvement of the private sector, the academic sector and civil society.

Despite all its weaknesses, Kenya is a more developed country in the African context, with corresponding quality infrastructure. In the context of the EAC, Kenya assumes a similar function to South Africa in SADC. Due to these structural similarities and the common interests regarding a Pan-African quality infrastructure, Kenya remains an essential partner for South Africa.

REFERENCES

- BIPM. (n.d.). CIPM MRA participants. International Bureau of Weights and Measures. Available at: <https://www.bipm.org/en/cipm-mra/participation/signatories.html#KE>
- EAC Secretariat (2006). Understanding of East African Community Legislation on Standardization, Quality Assurance, Metrology and Testing Act (SQMT). East African Community. Available at: <https://www.industrialization.go.ke/index.php/policies/113-understanding-of-east-african-community-legislation-on-standardization-quality-assurance-metrology-and-testing-act-sqmt>
- Gazette Weekly. (2018). Standards body developing national quality policy, The Gazette Weekly. 16 February 2018. Available at: <https://thegazetteweekly.co.ke/standards-body-developing-national-quality-policy/16/02/2018>
- Gitonga, N. (2019). KEBS official's substandard fertiliser case kicks off today. PD Online. 26 November 2019. Available at: <https://www.pd.co.ke/news/national/kebs-officials-substandard-fertiliser-case-kicks-off-today-14570/>. (Accessed 14 August 2020).
- GLOBALG.A.P. (2014 Kenya-GAP Successfully Re-benchmarked for GLOBALG.A.P. Integrated Farm Assurance Standard Version 4. 22 January 2014. Available at: https://www.globalgap.org/uk_en/media-events/news/articles/Kenya-GAP-Successfully-Re-benchmarked-for-GLOBALG.A.P.-Integrated-Farm-Assurance-Standard-Version-4/.
- GLOBALG.A.P (2019). Tour 2019 Kenya: National Food Safety Policy and Capacity Building Key to Kenya's Agricultural Growth. Available at: ¹ https://www.globalgap.org/uk_en/media-events/tour/tour-2019/tour-2019-kenya/
- ISO. (2019). Certification & Conformity: The ISO Survey. International Organization for Standardization. Available at: <https://www.iso.org/the-iso-survey.html>.
- ITC. (2017) Kenyan avocado farmers receive GLOBALG.A.P. certification. ITC News. International Trade Centre. 7 April 2017. Available at: <https://www.intracen.org/news/Kenyan-avocado-farmers-receive-GlobalGAP-certification/>.
- KEBS. (2018). Public Notice on Inspection of Imported Goods at the Country of Supply. Kenya Bureau of Standards. Available at: https://www.kebs.org/images/pdf/13331841R_-_Public_Notice.pdf.
- KEBS. (2019). The Kenya National Quality Infrastructure. Kenya Bureau of Standards. Republic of Kenya. Nairobi.
- KEBS. (n.d.-a) Technical Committees. Kenya Bureau of Standards. Available at: https://www.kebs.org/index.php?option=com_content&view=article&id=20&Itemid=325.
- KEBS. (n.d.-b) KEBS Mark of Quality. Kenya Bureau of Standards. Available at: https://www.kebs.org/index.php?option=com_content&view=article&id=32&Itemid=339.
- KEBS. (n.d.-c) ISO 9001:2015 Quality Management Systems. Kenya Bureau of Standards. Available at: https://www.kebs.org/index.php?option=com_content&view=article&id=212&Itemid=408.
- KEBS. (n.d.-d) Testing Laboratories. Kenya Bureau of Standards. Available at: https://www.kebs.org/index.php?option=com_content&view=category&layout=blog&id=30&Itemid=354
- KEBS. (n.d.-e) The National Quality Institute (NQI). Kenya Bureau of Standards. Available at: https://www.kebs.org/index.php?option=com_content&view=article&id=38&Itemid=211
- Kellermann, M. (2019). QI Toolkit Case Studies. The World Bank and Physikalisch-Technische Bundesanstalt. Washington D.C.
- KENAS. (n.d.-a) About Us. Kenya. Kenya Accreditation Service. Available at: <https://www.kenas.go.ke/about-us/>.

KENAS. (n.d.-b). Message from the Chief Executive. Kenya Accreditation Service Available at: <https://www.kenas.go.ke/ceo-message/>.

KENAS. (n.d.-c). Directory of Accredited Conformity Assessment Bodies. Kenya Accreditation Service. Available at: <https://conquestcapital.co.ke/websites/directory/>.

KENAS. (n.d.-d). Certification Bodies. Kenya Accreditation Service. Available at: <https://conquestcapital.co.ke/websites/directory/certification-bodies/>.

KENAS. (n.d.-e) Inspection Bodies. Kenya Accreditation Service. <https://conquestcapital.co.ke/websites/directory/inspection-bodies/>

Mbabazi, E. (2019). Standards and Quality Infrastructure Reforms Taskforce Established. The Kenyan Wall Street. 17 December 2019. Available at: <https://kenyanwallstreet.com/standards-and-quality-infrastructure-reforms-taskforce-established/>.

MoITED, 2020. Department of Weights and Measures. Ministry of Industrialization, Trade and Enterprise Development. Available at: <https://www.industrialization.go.ke/index.php/departments/state-department-of-trade/430-department-of-weights-measures> (Accessed 14 August 2020).

OIML. (2021). OIML Certification System (OIML-CS) List of Utilizers, Associates and their scopes. International Organization of Legal Metrology. Available at: <https://www.oiml.org/en/oiml-cs/docs/oiml-util-and-assoc-summary-table.pdf>.

PAQI. (2013). Quality for Africa. Pan-African Quality Infrastructure. Available at: <http://www.paqi.org>

Republic of Kenya. (2012). Weights and Measures Act: Chapter 513. Available at: http://www.kenya-law.org/kl/fileadmin/pdfdownloads/Acts/WeightsandMeasuresAct_Cap513.pdf. (Accessed 14 August 2020).

Republic of Kenya. (2013) Standards Act: Chapter 496. Available at: <https://www.aca.go.ke/images/downloads/standards-act.pdf>. (Accessed 14 August 2020).

Republic of Kenya (2015). Draft Regional Integration Policy for Kenya, April 2015. Available at: http://meac.go.ke/wp-content/uploads/2017/03/regional_intergration_policy_rev_15.04.pdf

Republic of Kenya. (2019a) The Kenya Accreditation Service Act, 2019. Available at: <http://kenya-law.org/kl/fileadmin/pdfdownloads/Acts/2019/KenyaAccreditationServiceAct2019.pdf>. Accessed 14 August 2020).

Republic of Kenya. (2019b). The Kenya National Quality Infrastructure. March 2019. Available at: https://www.kebs.org/images/public_notice/2019/March_2019/National_Quality_Policy_draft_26-03-2019.pdf

UNIDO 2018. Quality Policy - Guiding Principles. United Nations Industrial Development Organization. Vienna. Austria.

Ogutu, M. (2020): Caught between Africa and the West: Kenya's proposed US free trade agreement, Africa Portal. 19 June 2020. Available at: <https://www.africaportal.org/features/caught-between-africa-and-the-west-kenyas-proposed-us-free-trade-agreement/>.

WTO 2019. Trade Policy Review. Report by the Secretariat of the East African Community (EAC). Geneva.

World Bank. (2021). The World Bank in Kenya: Overview. The World Bank. Available at: <https://www.worldbank.org/en/country/kenya/overview>.