



KENYA INNOVATION OUTLOOK STUDY

2022

BACKGROUND



2 BACKGROUND

2.1 DEVELOPMENT POLICY CONTEXT

In 2008, Kenya launched an ambitious long-term development strategy to become a globally competitive and prosperous nation by the year 2030. In recognition of the central role that Science, Technology, and Innovation (ST&I) plays in a modern economy such as boosting wealth creation, social welfare, international competitiveness, and the attainment of Sustainable Development Goals (SDGs), Kenya has acknowledged ST&I as one of the foundational enablers of “Vision 2030”. Following the launch of Vision 2030, the mainstreaming of ST&I in the country’s development strategy has been operationalized through various policies and acts of parliament. Some of the key policies and instruments are the ST&I Policy and Strategy of 2008, the STI Act of 2013, and more recently, the Big Four (Big4) Agenda and the Kenya National Digital Master Plan 2022–2032, which guides the country’s ICT deployment and investments. The 2013 ST&I act underpinned the creation of a triple helix of ST&I oversight entities: the National Commission for Science Technology and Innovation (NACOSTI) to oversee the regulation of the national ST&I system; the National Research Fund (NRF) to manage research funds; and the Kenya National Innovation Agency (KeNIA) to facilitate the commercialization and uptake of innovations. The country’s Medium-Term Plan (MTP) tracks progress on Vision 2030 through five-year cycles. The current MTP shows that the country has experienced an increasing economic growth in the last decade. Among the key areas being tracked as part of understanding progress under the MTP is the growth of the ST&I sector.

2.2 ECONOMY



Kenya’s economy is largely market-driven and anchored on innovations such as digital technology and commercialization.

Kenya is the seventh largest economy in Africa. Kenya’s economy is primarily market-based and is driven by agriculture, which contributes 33% of the country’s Gross Domestic Product (GDP), (mainly export of cash crops such as horticulture, coffee, and tea, among others) and tourism contributing 5.7% of the GDP. However, there is an increasing focus on innovation and technological transformations as key enablers for investments and service delivery. Through various regulatory reforms, the government of Kenya is focused on enhancing the business environment to enable local and foreign investments. Such initiatives include the creation of export processing zones, and supporting innovation hubs, for example, the Konza Technopolis, with special investment incentives and the creation of jobs. The country’s GDP has been increasing over the last decade at an average of 5%, even though this growth was staggered by the impacts of COVID-19, slowing down from 5.2% in 2019 to -0.3% in 2020. However, in 2021, the country recorded a 7.5% economic growth increase that was driven by the COVID-19 recovery strategies, and to some extent, innovations in the services sector and industrial output (World Bank, 2022). Although Kenya’s direct trade with Ukraine is relatively moderate, the economy is vulnerable to the commodity price shocks caused by the ongoing war between Russia and Ukraine. Kenya is a net importer of oil, thus an increase in the global oil prices translates to an increased cost of living. Due to the economic risks posed by the war in Ukraine, the projected economic growth for 2022 and 2023 is relatively lower than the 2021 rate at 5.5% and 5.2% respectively.

2.3 DEMOGRAPHY

Kenya's demographic dividend presents an opportunity for transforming innovation through new ideas, the adoption of emerging technologies such as digitization, and a stronger labour market.

Kenya has a predominantly young population with about 60% under the age of 18-35 years. The current population size stands at 56.2 million, ranking 26th in the world and seventh in Africa. The country's average annual population growth rate is 2.28% per year. The youthful population has been identified as a major opportunity for spurring innovation and digital transformation due to their vibrancy and readiness to learn new ideas and adopt new technologies.

2.4 EDUCATION

Kenya's education sector is a key foundation for innovation and remains a key catalyst for scaling up emerging innovations and value addition.

The country's literacy rate stands at 81.5%, ranking among the top 10 in Africa. Over 16 million children and youth are enrolled in about 90,000 pre-primary, primary and secondary education institutions, and another 0.6 million are enrolled in post-secondary, i.e., tertiary institutions such as colleges, TVETs, and Universities. The number of TVETs and tertiary education institutions doubled, as did enrolment numbers in tertiary institutions in the past decade. Provision is mostly public; enrolment in public institutions accounts for 70% of total enrolment in pre-primary, 84% in primary, 93% in secondary, and 82% in tertiary education. According to the World Bank's assessment of Kenya's economic outlook, the education sector outputs contributed significantly to the increase in the service sector value-added by 9.8% in 2021.

2.5 INNOVATION ASSESSMENTS

While Kenya's innovation landscape has been mainly assessed through the wider ST&I lens based on global standards and indicators, there have been limited efforts to employ contextually-relevant indicators that are easily understandable and usable to decision-makers.

The first attempt to map out the status of the country's ST&I sector was through the 2009/2010 national ST&I indicator survey. Additionally, the country has been a beneficiary of several strategic ST&I studies supported by international partners especially the Foreign, Commonwealth, and Development Office (FCDO), through the East Africa Research and Innovation Hub (EARIH). These include a study on ST&I Metrics in Africa supported through the EARIH to help governments, investors, and donors to make better choices regarding ST&I investments using available ST&I indicators[1].

Similarly, the knowledge systems and innovation study commissioned by the FCDO through the East Africa hub provided a comprehensive assessment of the ST&I landscape in Kenya, Rwanda, and Tanzania using the knowledge systems lens . Recently, the East Africa Science Technology Commission (EASTECO) and ARIN collaborated in a research study to develop a country-specific web-based ST&I indicator for the region, with Kenya as a priority country . More broadly, Kenya is involved in various regional and international ST&I fora such as the Africa Science Technology and Innovation Indicators (ASTII), which aims to strengthen the capacity of African countries to collect internationally comparable ST&I indicators (see Figure 1). These studies show that Kenya has a relatively high innovation potential compared to other African countries, and according to the Global Innovation Index 2021 (GII, 2021), the country ranked fourth in Africa. Overall, most assessments have focused on general ST&I indicators based on international standards, e.g., the Frascati and Oslo Manuals, and there have been limited efforts to break these indicators into granular forms relevant to the context and easily understandable and usable by decision-makers.

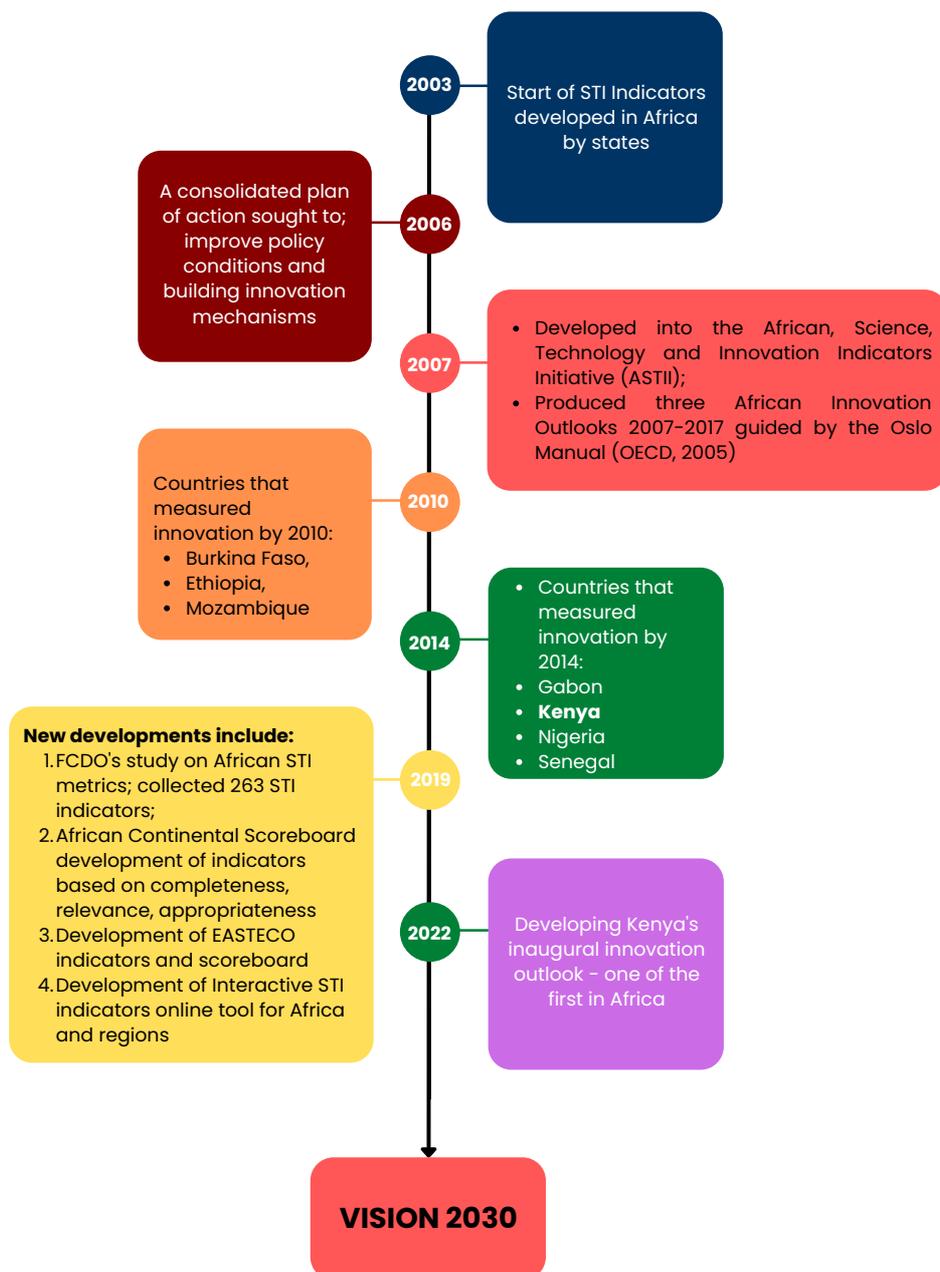


Figure 1: Timeline of past initiatives to measure science, technology, and innovation in Kenya

¹ <https://www.arin-africa.org/2020/07/16/science-technology-and-innovation-sti-metrics/>

² <https://www.arin-africa.org/2020/07/16/knowledge-systems-and-innovation-si/>

³ <https://www.arin-africa.org/2022/02/12/developing-the-east-african-regional-sti-indicators-and-web-based-electronic-database/>

2.6 RATIONALE OF THE KENYA 2022 INNOVATION OUTLOOK STUDY

Despite the country riding on innovation as a vehicle for economic growth, there lacks a single consolidated platform where innovation activities and progress can be updated regularly to serve as a one-stop-shop for information on Kenya's current innovation status and outlook. This hampers the ability of the government, local stakeholders, and foreign investors to make rapid and evidence-based decisions regarding investing in Kenya's ST&I sector. This inaugural Kenya Innovation Outlook study provides a foundation for tracking innovation processes and activities thereby strengthening the coordination and investments in strategic innovative activities. The outlook, therefore, serves several strategic purposes as outlined in Figure 2.

KENYA INNOVATION OUTLOOK 2022

- An integrated framework for effective governance of innovation activities
- Surveillance tool for identifying niches for strategic investments and economic growth
- A Learning and feedback framework that shows innovation opportunities, gaps and challenges
- A tool for profiling Kenya's best innovation practices – including in the informal sector that is often overlooked by the more general global frameworks
- A step towards strengthening Kenya's position in the regional and global STI engagements and resource mobilising.

Figure 2: Rationale for Kenya Innovation Outlook development 2022

2.7 OBJECTIVES OF THE KENYA 2022 INNOVATION OUTLOOK STUDY

This Innovation outlook report was commissioned by the EARIH in partnership with KeNIA to develop a comprehensive overview of Kenya's innovation landscape and its evolution over the past 5-10 years. The aim is to inform KeNIA and other stakeholders, including FCDO, ST&I policy makers, analysts, and potential investors about the trends and opportunities in the innovation landscape. It is expected that the high-quality, contextual evidence collated in the study will augment KeNIA's efforts in promoting innovation in Kenya, facilitate partnerships across diverse ST&I stakeholders, and steer investments toward the country's ST&I sector. In turn, this will drive enterprise development and economic growth. Most importantly, the report provides a baseline against which progress in Kenya's innovation outlook can be measured going forward.

2.8 The process of developing the outlook study

The study involved nine (9) key steps focused on conceptual understanding, data collection and analysis, and co-creation of sets of relevant indicators based on stakeholder consultations and global innovation frameworks (Figure 3).



Figure 3: Approach to developing Kenya's Inaugural Innovation Outlook

2.9 THE ORGANIZATION OF THE REPORT

This report is organized into five main sections. This introductory section sets the context for Kenya's innovation environment. The second section outlines the conceptual framework underpinning the outlook. In the third section, the innovation indicators are described and analyzed based on the framework, while the fourth section presents a consolidated scoreboard with innovation indicator domains and sub-domains. Key opportunities and challenges to innovation in Kenya including potential interventions are outlined in the fifth section.