

KEY HIGHLIGHTS

KENYA Country Study June 2017

1. About Kenya

Kenya is located transversely on the equator of the East Coast of Africa, bordering the Indian Ocean, Somalia, Tanzania, Ethiopia, South Sudan, and Uganda. Kenya's surface area is 582,650 Km² with almost 80 percent of the land mass being arid to semi-arid savanna and sparsely inhabited by communities that combine agriculture with pastoralism for their survival. **The capital of Kenya is Nairobi.**

Kenya's 2010 Constitution established County Governments with legislative and executive powers. The country is divided into 47 counties as administrative units in a devolved structure of governance with districts and sub counties forming part of the administrative areas. element in devolution. The county governments enjoy a semi-autonomous status. Kenya is the economic and transport hub of East Africa. Kenya's GDP is 63,398,041.54, and its real GDP growth has averaged over 5 percent for the last seven years.



**0.0236° S,
37.9062° E**



48,507,497



\$152.B (PPP)

Where is Kenya in terms of Information, Communication Technology (ICT), Education and Science Technology and Innovation (STI): the pillars of the African Leadership in ICT and Knowledge Society

2. Information Communication Technology

There are several national ICT policies and strategies. The key policy framework for ICT in Kenya is the Kenya National ICT Masterplan 2013/2014-2016/2017. The vision for this masterplan is to make Kenya a regional ICT hub and transition the country into a knowledge economy.

Strategic Objectives in ICT

- Support the provision of reliable, secure and affordable connectivity across the country to all citizens;
- Facilitate efficient and effective government services;
- Enhance data access and protection stewardship of public data and information; offer consistent, integrated, e-Government citizen centric services;
- Use ICT automated processes in the product and service delivery value chains across various economic sectors;
- Work with the relevant State Departments to promote ICT innovations and their commercialization;
- Grow the number of Information Technology Enabled Services (ITES) companies and the range of services provided; grow and monitor the local ICT industry;
- Strengthen the leadership and ICT human capacity of the ICT Authority;
- Increase digital literacy of citizens;
- Develop ICT ready workforce; and
- Develop a critical mass of local high-end ICT skills.

In order to address cybersecurity challenges at national level, the Ministry of Information, Communication and Technology in cooperation with the ICT Authority launched the National Cybersecurity Strategy 2014 in June 2014. The Framework incorporates the National Cybersecurity Strategy, National Public Key Infrastructure (PKI) and the Kenya Computer Incidence Response Team, Coordination Centre (KE-CIRT/CC). The Strategy defines Kenya's cybersecurity vision, key objectives, and ongoing commitment

As part of phase 2 of NOFBI, over 6, 000 Km of National Optical Fibre Backbone Infrastructure (NOFBI) network had been laid across all the 47 Counties, by June 2016. Additionally, 44 out of 46 OSP and LAN survey in the Counties have been completed. Installation of equipment has been completed in 29 Counties while installation works is in progress in 9 Counties.



Laying of telephone 4G cables has covered 4,300km and 2,100 kms are earmarked to be completed before the end of this year. A total of 57 towns in 35 counties have been reached.

The digital migration from analogue TV to digital TV broadcast, has already seen rapid growth in the TV broadcast industry evidenced by the recent development of 65 Free to air TV stations in the country.

There is also a migration from Medium Wave to FM radio Transmission, a programme which is now 50 percent complete. The migration to FM radio transmission is expected to contribute to sector development and growth, increased access to information that will lead to improved education and health services and promotion of local cultural heritage.

Another significant development is that taxes on ICT hardware are largely zero-rated. Zero-rated taxes on ICTs are integral to the Government policy objective of universal access to affordable ICT services.

The Kenyan government also launched an e-government portal which enables citizens to access the following services online:

- Application of public service jobs online;
- Tacking statutes of ID and passports;
- Exam results and candidate selection;
- Submission of tax returns;
- Custom services;
- Reporting of Corruption; and
- Business licensing e-registry.

Underlying challenges

- ♦ Women's participation in the field of technology, is lagging behind their male counterparts – women only make up 15 percent of the ICT workforce in Kenya. It is believed that if the gender dimensions of ICT in terms of access and use, capacity-building opportunities, employment and potential for empowerment are explicitly identified and addressed, ICT can be a powerful catalyst for political and social empowerment of women, and the promotion of gender equality.
- ♦ Inadequate funding. In order for Kenya's Broadband strategy to be fully implemented, it requires approximately US\$ 3 billion. This poses a dilemma of whether the current contribution of 0.5 percent of the Gross Turn Over from all commercial licensees, will facilitate the Fund to meet its objective.

3. Education

The education system in Kenya is also changing as a result of Vision 2030. Kenya's current formal education system comprised Early Childhood Development and Education, eight years of primary education, four years of secondary education and a minimum of four years University education. Widely referred to as the 8-4-4 system, it has been operational since 1985. Part of the structure is Technical and Vocational Education and Training (TVET), Special Needs Education, Adult and non-formal Education.

The new education system is said to be piloted from May 2017 at 470 schools. The new system replaces the current Standard One to Form Four with Grade 1 to Grade 12. It has been categorised into three phases: Early Years Education covering nursery education to Grade 3, Middle School Education covering Grade 4 to Grade 9 and Senior School covering grades 10 to 12. It instead recommended a 2-6-3-3 system aimed at "ensuring learners acquire competencies and skills to meet the human resource aspirations of the Vision 2030 blueprint".

Internet subscriptions increased significantly from 16.4 million in 2014 to 23.9 million in 2015, and Internet penetration increased from 38.3 percent in 2014 to 54.2 percent in 2015.

Miano, F. (2015). ICTs for Women and Girls Empowerment. The Institute for Social Accountability (TISA). Retrieved March 6, 2017 from <http://www.tisa.or.ke/index.php/blog/post/icts-for-women-and-girls-empowerment>

4.6% Increase in the total number of educational institutions from 79,641 in 2014 to 83,336 in 2015.



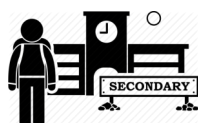
1.4% Increase of pre-primary schools in 2015

6.7% Total enrolment in pre-primary schools increased to 3.2 million in 2015



7.9% Increase in the number of primary schools

0.1% total increase in enrolment in primary schools from 10.0 million in 2014 to 10.1 million in 2015.



7.9% Increase in the number of secondary schools

13% Total enrolment in secondary schools rose by 13.0 percent to 2.6 million in 2015.



1.5% Increase of the number of Teacher Training Colleges

15.8% Increase in Public Technical Vocational Educational Training (TVET) institutions, mainly due to the increase in the number of Youth Polytechnics and Technical and Vocational Colleges.



28% The total number of public universities increased from 5 to 23 in 2015.

15.6% Total enrolment in universities increased to 512,924 in 2015.

Kenya has also witnessed a huge expansion of the higher education sector. There were just five public universities in the country in 2005, by 2015 there were 22 universities with plans for as many as 20 new universities. Growth in the university sector has largely come about through the upgrade of already existing colleges. In addition, there are 17 private universities and 14 public and private university constituent colleges. An additional 14 institutions have letters of interim authority to operate. All of the above have the authority to award academic degrees.

210,991 the total number of primary school teachers, this number in public primary schools grew by 5.1 percent due to engagement of teachers on contract.

41:1 the public primary school **pupil teacher ratio** improved from 43:1 in 2014 to 41:1 in 2015.

Successful Education Initiatives

1) Digital Learning Programme/Digital Literacy Programme

The Digital Learning Programme (DLP) was initiated by the Government of Kenya in 2013. The overall objective of the DLP is to prepare children for the 21st skills needed in today's globally competitive environment. The DLP is a government flagship project for Vision 2030's social pillar. The programme targets learners in all public primary schools and is aimed at integrating the use of digital technologies in learning. The Ministry of ICT is the main driver of the programme with the implementing body being ICT Authority. The belief is that technology has the power to bring about systemic change in basic and higher education by transforming teaching and learning through integrating technology in the learning environment.



2) Wezesha Initiative

The Kenya Government, through a project funded by the World Bank and implemented by the Kenya ICT Board, is offering an opportunity to registered students to purchase a laptop at a reduced cost in all universities countrywide. A voucher worth \$120 (about KSH. 9,600) is provided and the remaining portion of the laptop purchase then met by the student purchaser at the point of sale. This laptop initiative is known as 'Wezesha'; a Swahili word that means 'to enable'. Successful applicants receive discount vouchers for the purchase of laptops from specified dealers.

3) Access to Kenya National Examinations through mobile phones and internet

Since 2010, national examination results have been released online for access via mobile phone and the internet. The results are accessible through the Kenya National Examination Council (KNEC) website or via mobile phone after the user sends a prescribed SMS.

Challenges in the Education Sector

Kenya's education system is thus currently being completely overhauled. This move is particularly in recognition of the challenges facing the education system in the past and the recognition that a new skills set is required for 21st century learners. The Government has developed the National Education Sector Plan (NESP) 2013-2018, a five-year Department of Education's programme for delivering the reforms. The NESP Implementation Plan focuses on the urgent need to enrol all students in basic education, raise literacy and numeracy levels, reduce existing disparities, and improve the quality of education with a focus on teacher quality, school level leadership, more effective applications of teacher training in the classroom, increasing resources to the education sector, and targeting improvements and monitoring key results.

Tertiary and university sub-sectors are also experiencing challenges with regard to poor and limited facilities, resulting in unsatisfactory transition rates from secondary to tertiary and higher education. These issues produce challenges of relevance, quality and equity for Kenya's education sector.

Recently, many efforts have been made to improve access to higher education. Kenya increased its number of universities to 67 in 2014. While valuable, highly educated human resources are generated, many—a percentage as high as 50 percent in Kenya, for instance—are reported to be unemployed. This indicates a mismatch between higher education programmes and the skills needed in the productive sector.

4. Science, Technology, and Innovation (STI)

In 2008, Kenya Vision 2030 was launched, with STI as a key basis for economic, political and social advancement. Vision 2030 outlines the need to integrate STI in national production processes as being central to the success of government policy priorities and programmes.

In 2013, the Science and Technology Innovation Act (revised in 2014) was adopted. The Act focuses on the promotion, co-ordination and regulation of the progress of STI; assigns priority to the development of STI; and entrenches STI into the national production system.

*In terms of Research and Innovation Kenya climbed up the rankings in the **Global Innovation Index (GII)**, rising from 99th position in 2013 to 80th in 2016. These improvements can be attributed to innovative applications of ICTs in various sectors. There are numerous initiatives to drive research and innovation in Kenya like Chandaria Business Innovation & Incubation Centre, @iLab Africa, iCow, iHub, Ushahidi, Kenya Medical Research Institute, etc.*

Kenya's STI Policy and Strategy (2009) underscores the mainstreaming and application of STI in all sectors of the economy. The key components of policies and strategies pertaining to ST

- 1 Establishing an institutional and regulatory framework to promote, coordinate, and manage STI, and to mobilize resources.
- 2 Leveraging STI to transform the economy through the national priority areas.
- 3 Allocating resources, mobilizing and motivating stakeholder to participate in the sector.
- 4 Funding to at least 2 percent of GDP annually
- 5 Facilitating the acquisition of intellectual property rights by scientists, researchers, and innovators
- 6 Promoting STI knowledge sharing and creating awareness
- 7 Developing human resource capital in STI to meet the demands of the economy
- 8 Developing STI infrastructure to support STI programmes in identified priority areas.

Challenges in STI Sector

At the operational level, the disconnect between industry and institutions undermines STI. While industry complains that graduates from local universities are not ready for industry, universities complain that they are not getting enough feedback from industry. Some leading firms, especially in the ICT sector, are filling the ICT skills gap of workers by providing bridging courses and offering internships. Some universities have also begun incubation centres to nurture emerging entrepreneurs.

Implementation appears to still be in its infancy and it is thus unclear how these goals will be applied. For example, with the higher education sector facing funding shortages, it is not clear how human resources in STI will be developed at the tertiary level. A significant gap in the policies is the lack of an effective intellectual property rights (IPR) system, which is an important incentive to innovation.

In Conclusion...

The government is moving towards a knowledge-based and 'innovation driven' model of economic development.

- The large and growing body of major recent policy blueprints in Kenya appears unanimous that STI is critical for promoting economic growth, stimulating productivity, and improving people's livelihoods. Kenya's Vision 2030 and the STI policy and strategy provide the framework for creating a knowledge-based economy.
- Since the progress that has been made in both policy and institutions, research and innovation have begun to advance in Kenya. Universities are competing to set up software and hardware incubation centres that would link them to industry.
- Some studies attribute Kenya's growing economy largely to ICT.
- Current restructuring of the education system and implementation of the digital learning programme also shows promise in gearing the country's direction towards ICT and STI.
- Integration and application of ICT within the learning process in the education sector is still in its infancy. New initiatives are still dominated by technical aspects.
- With devolved governance, continuity in government reforms, and a fairly stable political environment, Kenya is in a good position to leverage innovation.
- Kenya is firmly committed to nurturing a knowledge-driven development agenda. However, the issue of whether there is sufficient capacity and financial commitment to these goals remains debatable. Whilst Kenya has developed comprehensive policy frameworks, the relationships between research institutions and industry remain disjointed.

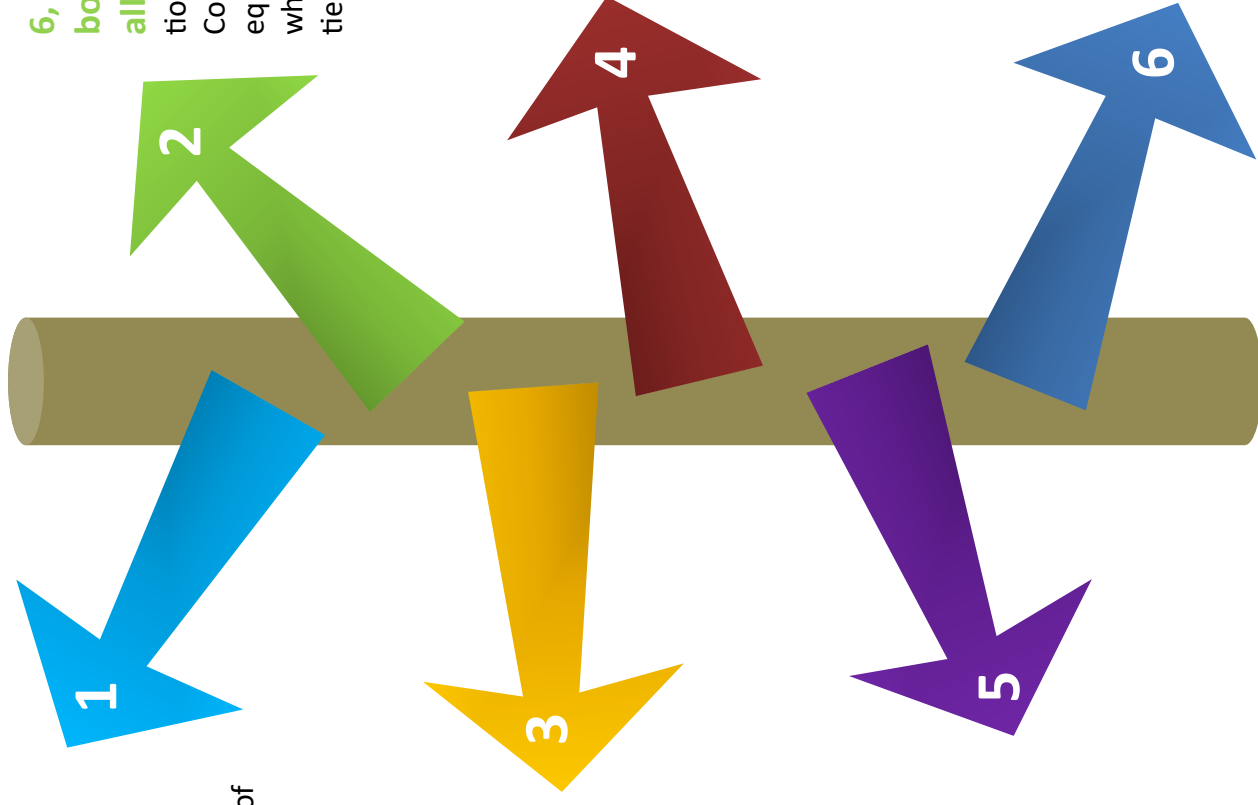
KEY PARTNERS

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|---|---|
| ⇒ Ministry of Information, Communications and Technology | ⇒ Kenya Institute of Curriculum Development (KICD) |
| ⇒ Communication Authority of Kenya | ⇒ Kenya Education Network |
| ⇒ Kenya ICT Authority | ⇒ Kenya Education Management Institute (KEMI) |
| ⇒ National Communication Secretariat | ⇒ Kenya Institute of Special Education (KISE) |
| ⇒ Konza Technopolis Development Authority | ⇒ Institute for Capacity Development of Teachers in Africa (ICDTA) |
| ⇒ Kenya ICT Action Network (KICTANet) | ⇒ Higher Education Loans Board (HELB) |
| ⇒ National Commission for STI (NACOSTI) | ⇒ Commission for University Education (CUE): |
| ⇒ Kenya National Research Fund | ⇒ Universities Funding Board (UFB) |
| ⇒ Kenya National Innovation Agency (KENIA) | ⇒ Kenya Universities and Colleges Placement Service (KUCPS): |
| ⇒ Kenya National Academy of Science (KNAS) | ⇒ TVET Authority (TVETA) |
| ⇒ Kenya Institute Public Policy Research and Analysis (KIPPRA) | ⇒ TVET Funding Board |
| ⇒ The Kenya Industrial Research and Development Institute (KIRDI) | ⇒ TVET Curriculum Development, Assessment and Certification Council |
| ⇒ Ministry of Education Science and Technology | |
| ⇒ The Teachers Service Commission (TSC) | |

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INTERESTING FACTS ABOUT KS DEVELOPMENT IN KENYA

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