KEY HIGHLIGHTS

Ghana Country Study June 2017

1. About Ghana

The Republic Ghana is a west African country, with an area of 238,500 km^2, bordered at the west, north and east by Cote d'Ivoire, Burkina Faso and Togo respectively. It borders the Gulf of Guinea to the south, with a 537 km coastline.

Ghana was the first country in sub-Saharan Africa to gain independence.

English is the official language and is used in schools and in business, and other common languages spoken are Asante 16%, Ewe 14%, Fante 11.6%, Boron (Brong) 4.9%, Dagomba 4.4%, Dangme 4.2%, Dagarte (Dagaba) 3.9%, Kokomba 3.5%, Akyem 3.2%, and Ga 3.1%.

According to UNICEF, between 1992 and 2013 the poverty headcount fell from 56.5% to 24.2%, ensuring Ghana achieved the millennium development goal target of halving poverty by 2015 .

8° 00' N and 2° 00' W

27.04million

$120.8 B (PPP)

How is Ghana doing in terms of Information, Communication Technology, Education, Science Technology and Innovation which are the pillars of the African Leadership in ICT and Knowledge Society Development (ALICT) course?

2. Information Communication Technology

Ghana's prospect of becoming a technology-driven, knowledge- and values-based economy is being driven by the MOC with supporting agencies, such as the National Information Technology Agency (NITA), the NCA, Ghana Multimedia Incubator Centre and the Advance Information Technology Institute -Kofi Annan Centre of Excellence (AITI-KACE).

ICT Policy Frameworks

Policies driving ICT developments in Ghana include the ICT for Accelerated Development Policy (ICT4AD), National Telecommunication Policy (NTP), and the National Science Technology and Innovation (STI) Policy and Development Plan. Several government bills such as The National Information Technology Agency Act (2008) and the Electronic Transaction Act (2008) also regulate the sector.

In 2014, the government set up the Computer Emergency Response Team (CERT) to monitor and alert the country of possible attacks or any attacks on the cyber space.

ICT Infrastructure

An integrated administration one-stop service centre was established in 2014 to facilitate the delivery of government services to citizens under the e-Government programme. The service centre was part of the first phase of the e-Government project in collaboration with Huawei.

10 regional capitals in Ghana are covered by a wide area network (WAN) as well as Tarkwa, Obuasi, Tema, Nkawkaw and Winneba, and a LAN infrastructure carrying 6,300 ports for government offices.

The National Data Centre near the Kofi Annan ICT Centre is an essential part of the e-Government infrastructure. The aim of the Data Centre is to promote an integrated use of ICT to improve efficiency and transparency in governance and facilitate storage, management and dissemination of data for both public and private establishments. A secondary data centre has been completed in Kumasi to serve as a back-up for the primary Data Centre.

61 Community Information Centres and 9 Regional Innovation Centres were constructed between 2013 and 2014.

There are six National Fixed Network Operators, two Wireless Telephony Operators, 229 Internet Service providers, 42 Direct to Homes Satellite Services, 114 VSAT Data Network Operators, 21 Free on Air Television Stations, 326 Privately-Owned Radio (FM) Stations, and eight pay-per-view providers in Ghana currently.

At the end of August 2016:

36,912,019 the total number of mobile voice subscribers , with a penetration rate of 132.44%.
19,125,469 the total number of mobile data subscribers in Ghana, with a penetration rate of 68.62%.
100,907 the total number of subscribers for Broadband Wireless Access data

ICT4D Initiatives

The Ghana-India Kofi Annan Centre of Excellence in ICT (AITI-KACE) works to stimulate the growth of the ICT sector in the Economic Community of West African States (ECOWAS). The state-of-the-art facility provides an environment for innovation, teaching and learning as well as practical research on the application of ICT4D in Africa. The Centre houses West Africa's first supercomputer, and state-of the-art desktops and laptops.

A special project, the i2CAP (I too can programme), builds programming skills among students in Senior Secondary Schools.

Challenges in ICT Development

The status of ICT use in the African socio-economic development suggests that there is potential for rapid expansion and innovation.

However, the processes needed to spur growth and innovation in ICT are not yet in place, as the markets are dominated by low literacy levels and with low per capita income.

Ghana also faces challenges related to capability, capacity and resources.

The inadequate supply of skilled capacity and communication infrastructure, poorly implemented policy frameworks and legal and regulatory systems all hamper ICT development and growth.

3. Education

The Ministry of Education (MOE) in Ghana was established to provide relevant education to all Ghanaians, to enable them acquire skills, which will help make them functionally literate and productive to alleviate poverty and promote socio-economic growth.

Ghana has been a regional leader in the delivery of Education for All, reaching the education Millennium Development Goals well ahead of the 2015 deadline.

In 2014/2015, Ghana had a 91% net enrolment rate in primary school, a 33% increase in the last decade. The overall percentage of trained teachers in Ghana's primary schools was 61.7% in 2014/2015 (an increase from 32% in 2009/2010).

Only 25% of grade six students are proficient in mathematics and only 36% proficient in English, according to the 2016 National Education Assessment.

ICT in Education

The government of Ghana has recognised that with the emergence of the information age, effective use of information, knowledge and technology has emerged as very important factors for socio-economic development; and that they are tools for boosting economic growth, jobs creation, economic development, and a source for facilitating global competitiveness.

In 2015 the Minister of Education met stakeholders to revise the country's ICT in Education Policy, looking at fundamental issues relating to ICT governance, the learning environment, infrastructure and technical support and other critical areas affecting implementation of the policy.

In 2014, the Ghanaian government announced a campaign in association with the British Department for International Development to help disadvantaged girls through a distance learning project entitled Make Ghanaian Girls Great! The project installed classrooms with solar-powered computers and projectors to facilitate learning.

2,650 laptops were given to ICT trained teachers in the central region in 2014.

The Education Information Management System, (EMIS), was set up and is run by the MOE to collect, process and analyse education data to assist with decision making at all levels of education.

ICT curricula was developed for the basic and secondary schools, following the 2007 education reform. The use of ICT for instruction was also specifically recommended in various parts of all subject syllabuses.

Professional Development

Government policy is placing more attention on teacher professional development, particularly regarding ICTs. According to ICT4E 2015 policy, efforts are to be directed at using ICTs to facilitate education and learning within the Ghana's educational system.

The University of Education, Winneba (UEW) was established to provide professional development at the tertiary level mainly for teachers in the country
11,847 teachers were provided with career development training to enhance their teaching methodologies in Literacy, Mathematics and Science. In 2015, 31,000 public school teachers were undergoing training in ICT and were provided with laptops.

Challenges facing the education sector

Ghana is a regional leader in the delivery of education for all as one of the Millennium Development Goals, but enrolment in primary schools is still a challenge to basic education. While the cost of tuition may be free, many families cannot afford to purchase uniforms, stationery and books. Many students can bring in an income by working outside the home, or assist the family by working in the home, instead of attending school. This can lead to late entry into primary school, and will certainly have an impact on the low levels of language and mathematical proficiency plaguing basic education. The high rate of untrained teachers and teacher absenteeism in Ghana, results in poor quality of teaching, further entrenching poor results and lack of basic proficiency in languages.

Other factors challenging the education sector relate to basic infrastructure.

- Overcrowded classes,
- inadequate water and sanitation facilities,
- no electricity or no internet connectivity in many Ghanaian schools.

The policy goals of the 2015 ICT4E have not changed since the 2009 ICT4E policy, suggesting there have not been huge improvements in ICT across the nation. Several efforts have been made to introduce ICTs into Ghana's education sector, initiated by the MOE, development partners and other private sector agencies. There is no national roll out of initiatives, indicating that many do not continue after being piloted.

As a lack of trained teachers is already an impediment to the education system, a robust teacher development programme is needed to handle the effective use and roll out of ICTs in education.
There is little evidence to show that the government is making any strides in this direction.

4. Science, Technology, and Innovation (STI)

STI falls under the purview of the Ministry of Environment, Science, Technology and Innovation (MESTI). MESTI exists to establish a national scientific and technological base for sustainable development in Ghana.

In 2015, the Ghanaian government committed itself to upgrade facilities in 100 science resource centres under phase II of the Science Resource Project. As at September, 2015, 250 Science teachers and laboratory technicians from the 100 beneficiary schools had been trained to improve their skills in the use of equipment in ICT, audio visuals, Physics, Chemistry, Biology and general laboratory.

The Council for Scientific and Industrial Research (CSIR), The Centre for Scientific Research into Plant Medicine (CSRPM) and The Ghana Atomic Energy Commission (GAEC) are key research institutions in Ghana that carried out various research projects.

A research centre for strategies against climate and ecosystem change was set up at the University for Development Studies as part of the Enhancing Resilience to Climate and Ecosystem Changes in Semi-Arid Africa: An Integrated Approach (CECAR-Africa) project.

Challenges facing the STI sector

1. The policies and institutions for STI have not been modernized, nor have they been aligned to economic growth and human development goals.
2. Ghana's institutional landscape has weak links and poor positive feedback between and among institutions, higher education and research institutions and private sector.
3. There are no incentives to work together and few mechanisms to encourage collaboration and communication.
4. The low levels of enrolment in science and technical fields across Ghanaian tertiary institutes is being addressed by a number of institutions and policies, but will still hamper growth in the sector.
5. The private sector remains relatively under-developed and is unlikely to be capable of generating innovation of the type and on the scale needed to create a dynamic engine of growth in the medium and longer term without a more supportive policy environment.

5. In conclusion:

- Several policies, strategies, and programmes within frameworks recognize the need to embrace opportunities associated with a fully functional information society and KS.
- ICT is increasingly being woven into the curriculum. At the tertiary levels, entrepreneurship and innovation are being recognized as wielding huge potential in assuaging graduate unemployment.
- Comparing the formulation of policies and their implementation timelines leaves a wide gap between the intended position and the actual situation. Many of the problems are attributable to implementation gaps that arise largely from a lack of continuity in programmes and roadmaps laid out, the suitability and timeliness of the interventions the programmes seek to promote, and leadership issues.

Implementation gaps also arise because of a scarcity in multi-stakeholder consultations and dialogue on one hand and a transformational leadership on the other.

Key Partners

⇒ Ministry of Communication (MOC);
⇒ Ministry of Environment, Science, Technology and Innovation (MESTI);
⇒ Ministry of Education (MOE);
⇒ National Communication Authority (NCA); and
⇒ National ICT Policy and Plan Implementation Committee.
⇒ National Information Technology Agency (NITA)
⇒ National Communications Authority (NCA)
⇒ Ministry of Communications (MoC)
⇒ National Development Planning Commission (NDPC)
⇒ Ghana-India Kofi Annan Centre of Excellence in ICT (AITI-KACE)
⇒ Ministry of Education
⇒ Education Management Information System (EMIS)
⇒ Ghana Education Service (GES)
⇒ ICT in Education Programmes (ICTEP)
⇒ Curriculum, Research and Development Division (CRDD)
⇒ National Board for Professional and Technician Examinations (NABPTEX)
⇒ National Council on Tertiary Education (NCTE)
⇒ National Accreditation Board
⇒ University of Education, Winneba
⇒ UNICEF
⇒ Ministry of Environment, Science, Technology and Innovation
⇒ Council for Scientific and Industrial Research (CSIR)
⇒ Ghana Atomic Energy Commission (GAEC)
⇒ Environmental Protection Agency (EPA)
⇒ National Biosafety Authority (NBA)
⇒ Ghana Space Science and Technology Centre (GSSTC)
⇒ The World Bank

INTERESTING FACTS ABOUT KS DEVELOPMENT IN GHANA

According to UNICEF, **between 1992 and 2013 the poverty headcount fell from 56.5% to 24.2%,** ensuring Ghana achieved the millennium development goal target of halving poverty by 2015

The gross domestic product (GDP) of Ghana in 2016 was $120.8 billion representing a per capita GDP of $4,400, with a 3.3% growth rate.

Ghana was **the first country in sub-Saharan Africa to gain independence.**

10 regional capitals in Ghana are covered by a wide area network (WAN) as well as Tarkwa, Obuasi, Tema, Nkawkaw and Winneba, and a **LAN infrastructure carrying 6,300 ports for government offices.**

STI: As at September, 2015, 250 Science teachers and laboratory technicians from the 100 beneficiary schools had been trained to improve their skills in the use of equipment in ICT, audio visuals, Physics, Chemistry, Biology and general laboratory

Education: In 2014/2015, Ghana had a 91% net enrolment rate in primary school, a 33% increase in the last decade.

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