# UNITED NATIONS COMMISSION ON SCIENCE AND TECHNOLOGY FOR DEVELOPMENT (CSTD)

## Contribution to the CSTD ten-year review of the implementation of WSIS outcomes

Submitted by

**AFRICAN ACADEMY OF SCIENCES**

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**COMPLETE**

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| Q4: **Country:** | Nigeria |
| Q6: **Which stakeholder category do you belong to?** | Technical or Academic Community,<br><br>Other (please specify)<br>Non-Governmental Organization (Scientific Academy) |

**Q7: To what extent, in your experience, has the "people-centred, inclusive and development-oriented Information Society", envisaged in the opening paragraph of the WSIS Geneva Declaration of Principles, developed in the ten years since WSIS?**

The envisaged outcome of "people-oriented, inclusive and development-oriented information Society" has impacted tremendously on many parts of the world including developing countries, Africa in particular where most people still live in rural areas. As a Nigerian, I will focus my review on Nigeria, which accounts for about 20% of African population and has about 70% of its population still living in rural areas. Hopefully, my review will be relevant to quite a number of African countries.

First of all, the Nigerian Government , through Federal Ministry of Communications Technology has crafted an excellent ICT Policy in the year 2012, very well within the WSIS +10 review period-- a policy that focuses on various major ICT topical issues like Research, Development and Innovation, Soft ware and Hard ware Development and production, capacity building and development of ICTP skills at all levels, ICTP infrastructures, Broad band (including penetration of affordable Broadband internet in Nigeria), Transition from Analogue to digital Broadcasting. ICT and the Environment(I .e promotion of environmentally friendly and sustainable ICT0, Universal Access to ICT(including access from rural areas) and so on. I am aware that all these issues and more are being more vigorously pursued now under a policy that has embraced and united all former policies.

Indeed Nigeria has witnessed some dramatic progress in some aspects of ICT penetration. While there has been dramatic changes in subscription to mobile telephone all over the world (fron 2.2 billion to 6.8 billion in 2005-2013, Nigeria has also witnesses dramatic increase in subscription which now stands at about 90 million. Estimate of internet users in Nigeria ha also dramatically increased from 2, 418, 670 in 2005 to over 44 million by now.

Nigeria's telecommunications market is the fastes growing in Africa; Here are some information penetrations so far achieved: 1) Mobile penetration (per hundred people) --55.76; Internet penetration (per hundred people) 23.48 (2010) ; Internet users: 43,720,000 (2010), Broadband Penetration 6.1% (2010) ; PC penetration (no of PC per 100) 4.7 %; Computer Assembly in Nigeria < 500,000.; No of Broadcasting Stations 308, e. t. c. Admittedly Nigeria still has a long way to go especially in the area of Computer assembly and manufacture in Nigeria.

**Q8: How far do you consider the implementation of specific WSIS outcomes to have been achieved?**

Actually there are many ICT Technologies now available in Nigeria. For instance, in the firls of Agriculture, we have: GPS(Global positioning systems); Remote Sensing(RS); Yield monitoring Technology (YMT); Market Information Technology (MIT) e.t.c .( Note) :some of them e.g GPS, RS, MIT applying to several other situations ). For Banking we have : ATM (Automated teller machine); EFT (Electronic Fund Transfer); CHAPs (Clearing House automated Payment); ACS
( Automatic Check Sorter) e.t.c. for Industries s and Business: In addition to Fixed and Mobile phones and the Internet we have : High Speed data Access; International data access, Unified Access license.

The growth of fixed and mobile telephone has contributed to Nigeria GDP which rose from 2.39 in 2007 to 3.66 in 2009. On the other hand, extension of ICT services to rural areas have been ensured by Government by subsidizing costs in order to create e.g School access program and Community Communication Centers and other ICT facilities for rural areas.

**Q9: How has the implementation of WSIS outcomes contributed towards the development of a "people-centred, inclusive and development-oriented Information Society"?**

ICT has contributed tremendously to improvements in Education, Socio-economic development, Agriculture, Commerce .. Banking, Environment, Personnel Management, Health, e. t. c. Now, we have e-Commerce, e-Agriculture, e-Learning, e-Government, e.t.c.

For example, ICT has provided fundamental change to teaching and learning at all levels of education in Nigeria, even though there is still need for a lot of improvement. it has increased the efficiency of teaches in teaching certain subjects, as well as helps students in solving problems.

Many un-employed Nigerians , especially youths have undergone formal and informal ICT training e.g. in cell phone and computer repairs, computer programming, e-marketing, e.tc which have enabled them to get jobs or set up themselves as self-employed entrepreneurs.

**Q10: What are the challenges to the implementation of WSIS outcomes? What are the challenges that have inhibited the emergence of a "people-centred, inclusive and development-oriented Information Society"?**

There are numerous challenges facinf many developinc countries (Nigeria Inclusive) in their efforts to fully embrace ICT. These include: 1) lackof enough and reliable power supply 2) Relatively high cost of ICT products (e.g software and hard ware)3) problems of high cost of internet connectivity 4) problem of security and cyber crime 5) problems of infrastructure. 6) lack of qualified personnel 7) mass illiteracy in ICT.8) limited access to the internet, especially in the rural areas. 9)environmental impact of e-waste and increased ICT activities.10) Bridging of digital divide.

**Q11: How are these challenges being addressed? What approaches have proved to be effective in your experience?**

In Nigeria, these challenges are being addressed as follows:
a) Government and other stake holders hare trying to
1) iimrove on the power supply 2) make internet access more available especially in the rural areas.3) lowering the cost of ICT products e.g soft ware and hard ware 4) enable training of more ICT personnel and teachers as well as provide infrastructural facilities Educational Institutions at all levels.5) invest heavily in the production of soft wares and hard wares or subsidize imports to make them cheaper.

b) The following approaches have proved effective so far.
1) Government subsidizing the cost of taking ICT facilities to the rural areas
2) Government supporting the training of many Nigerians, wespecially young women to be ICT literate. 3) Government and Stake holders investing heavily in Research, Development and Innovation even though there is still a lot of work to be done in this direction 4) Co-operation between the Government, Stake-holders in Nigeria and foreign partners to improve the ICT situation in Nigeria. Still a lot needs to be done in this direction.5) Government and Stake holers creating more ICT job opportunities for Nigerian Youths

**Q12: What do you consider the most important emerging trends in technology and other aspects of ICTs which have affected implementation of WSIS outcomes since the Summit? What has been their impact?**

a) The most important emerging trends in technology and ICT are:
1) Further development of cloud computing and its applications
2) Further development Broadband Technology and encouragement of the technology in developing countries
3) Big Date Analysis and related developments.
4) Development of smart systems.

**Q13: What should be the priorities for stakeholders seeking to achieve WSIS outcomes and progress towards the Information Society, taking into account emerging trends?**

1) There should more co-operation internationally to further develop these trends.
2) The UN organizations should invest more resources in these new trends.
3) The developing countries should be sensitized to also develop the new trends.

**Q14: What role should information and communications play in the implementation of the post-2015 development agenda?**

The post-2015 agenda emphasizes inclusive and sustainable development including such crucial issue health, renewable energy, agriculture, food security, climate change advanced manufacturing, urbanization and STEM education and research. it is clear from the discussions and presentations at the 17th session of the CSTD that each of these areas is intimately connected with ICT. It is therefore inevitable that ICT be involved in the implementation of the post-2015 agenda.

**Q15: Please add any other comments that you wish to make on the subject of the review that you believe would be helpful.**

*Respondent skipped this question*

**Q16: We would also welcome any documents, reports, etc. that you can forward which you think will provide useful evidence for the review. Please send these to cstd-wsis10@unctad.org. It would be helpful if you could list these in this box, together with any URL which enables access to them on the World Wide Web.**

*Respondent skipped this question*