



NATIONAL INFORMATION TECHNOLOGY  
DEVELOPMENT AGENCY

ICT4D  
Strategic Action  
Plan Implementation  
Status Update and  
Illustrations Book



NATIONAL INFORMATION TECHNOLOGY  
DEVELOPMENT AGENCY

# ICT4D Strategic Action Plan Implementation Status Update and Illustrations Book

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As shown in Figure A, the National Strategic ICT4D Plan was developed through a Multistakeholder process involving the participation and contribution of all sectors of the economy and society

NITDA periodically reviews ICT4D status to ascertain the plan's progress and effectiveness in

#### Box A: Objectives of the ICT4D Status Update and Illustrations Book

- Communicate and present the findings of the ICT4D Status Plan Update
- Foster stakeholder engagement and deepens the ICT policy development process
- Deepen understanding and analysis of the implementation Update findings through the use of relevant graphical and diagrammatic illustrations
- Depict the major achievements, constructs and trends revealed in the ICT4D Status Plan Update
- Improve the organization of the ICT4D Status Plan Update information
- Enable accurate and quick dissemination of ICT4D Status Plan Update findings in presentable illustrative format (tables, figures, charts, graphs, etc)
- Propose recommendations that can help in fast tracking and enhancing ICT4D policy formulation and implementation quality and process in Nigeria
- Increase understanding to enable policy makers and stakeholders make more informed strategic decisions in ICT4D development
- Promote research within academia on policy development and implementation to support the use of ICT4D to develop an information and knowledge based economy and society

The ultimate aim is to fulfill a priority in the mandate of NITDA through the provision of ICT4D stakeholders, investors, private and public sector and civil society and the international community with accurate and timely information on the state of the ICT4D Strategic Plan implementation in Nigeria with a view to attracting more support for, and strengthening the ICT4D policy development process and ensuring ICT efforts, resources and investments are value driven and applied efficiently, effectively, and transparently to drive inclusive and innovative development and achieve Nigeria's economic, social, empowerment and overall prosperity goals.

# 1 | Introduction

In line with its mandate, the National Information Technology Policy Development Agency (NITDA) the National agency for coordinating Nigeria’s ICT4D initiatives and efforts facilitated the development of the Nigeria ICT4D Strategic Action Plan. The review and status update on the status of ICT4D Plan Implementation (policies, programmes and projects) was carried out in 2014. The findings and recommendations of the Strategic Action Plan implementation update were presented at the 2014 e-Nigeria Conference.

The ICT4D Status Update and Illustrations Report consist of the set of diagrams that summarizes information on the Evaluation of Sectorial Implementation of ICT4D Plan (2010-2015).

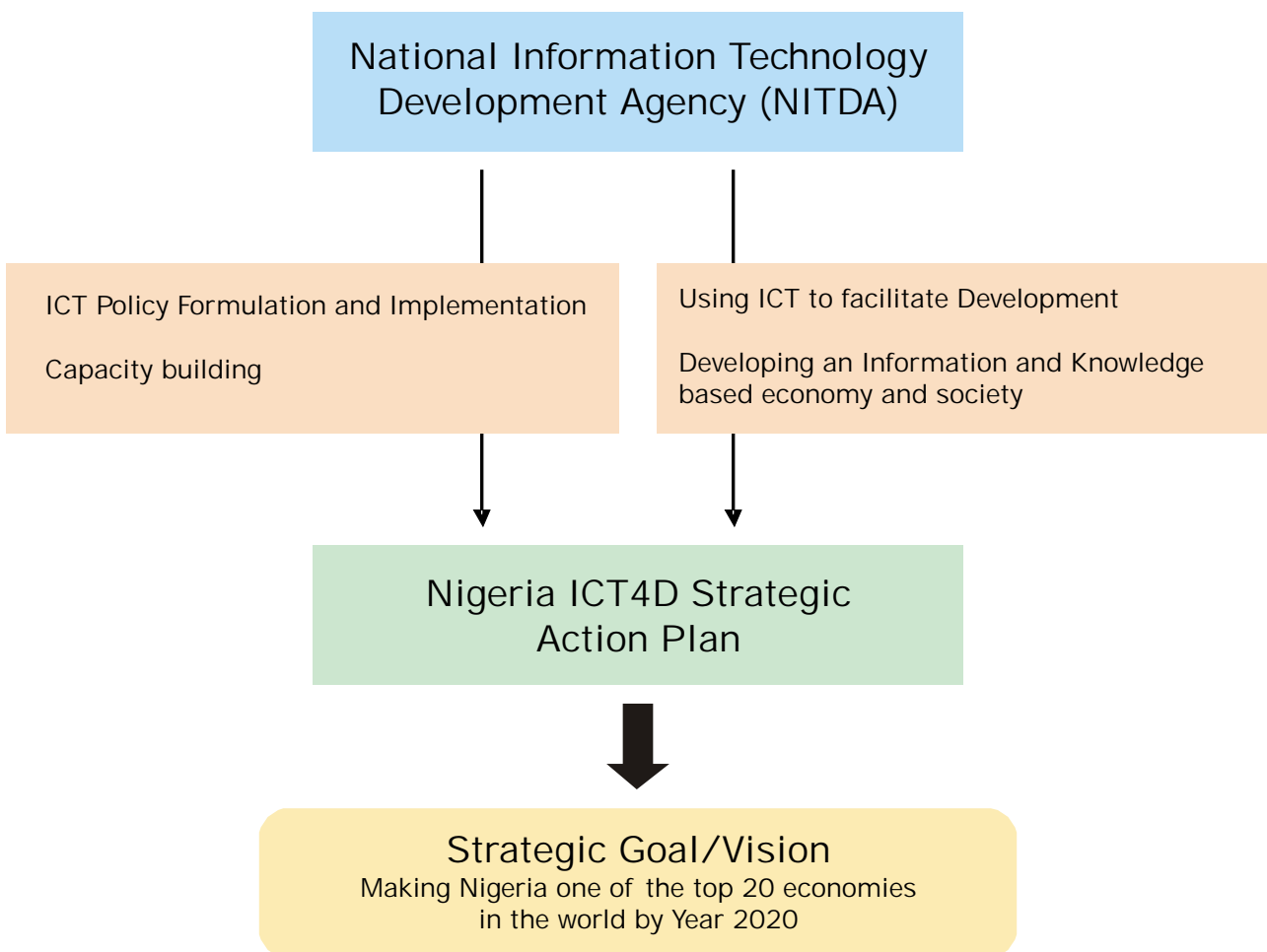


Figure 1.1 Background to the National ICT4D Strategic Plan



# National ICT4D Strategic Plan Structure

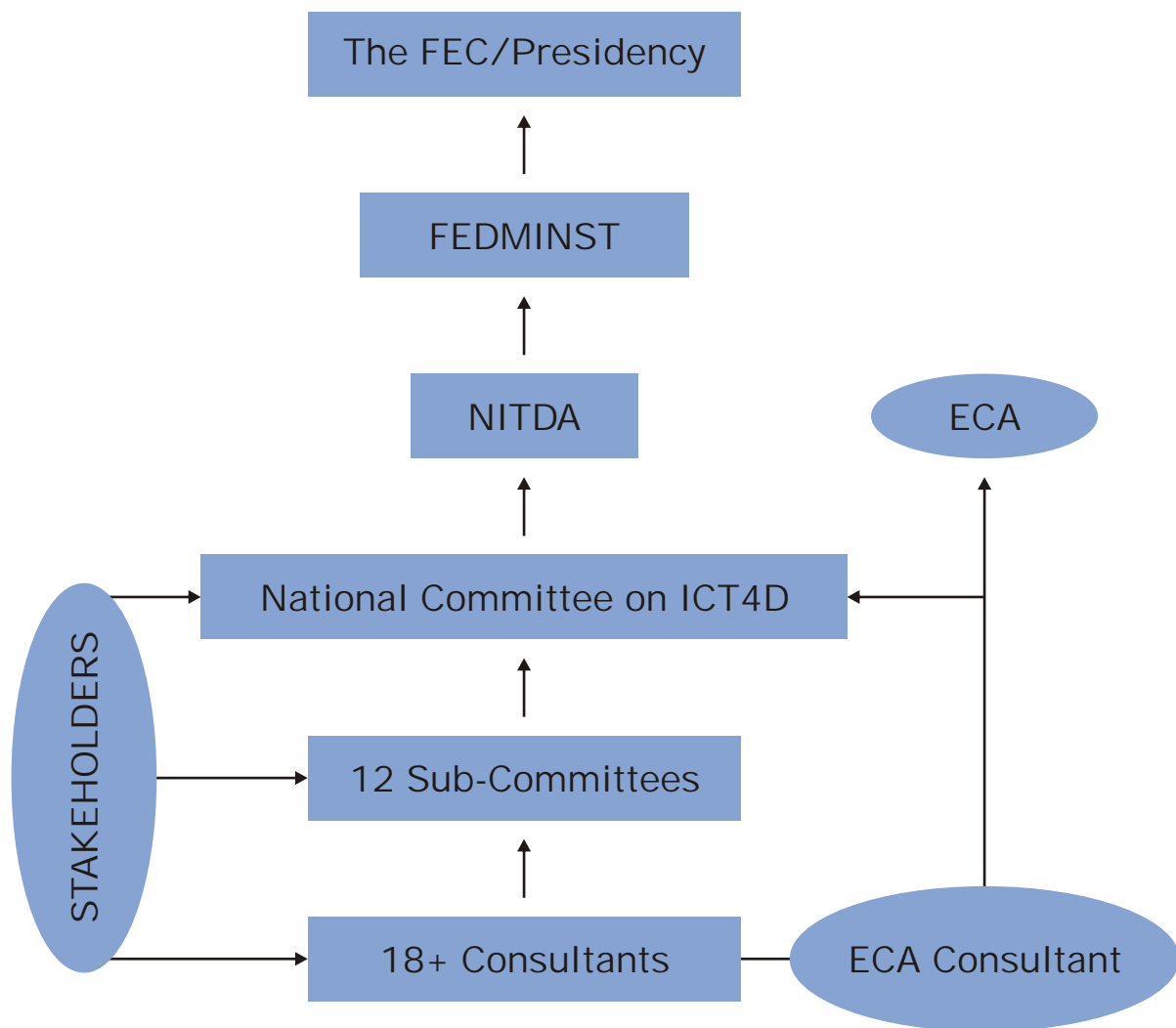


Figure 1.2 National ICT4D Strategic Plan Structure

The plan consists of 11 Sub-Plans representing the 11 Pillars of the Plan as shown:

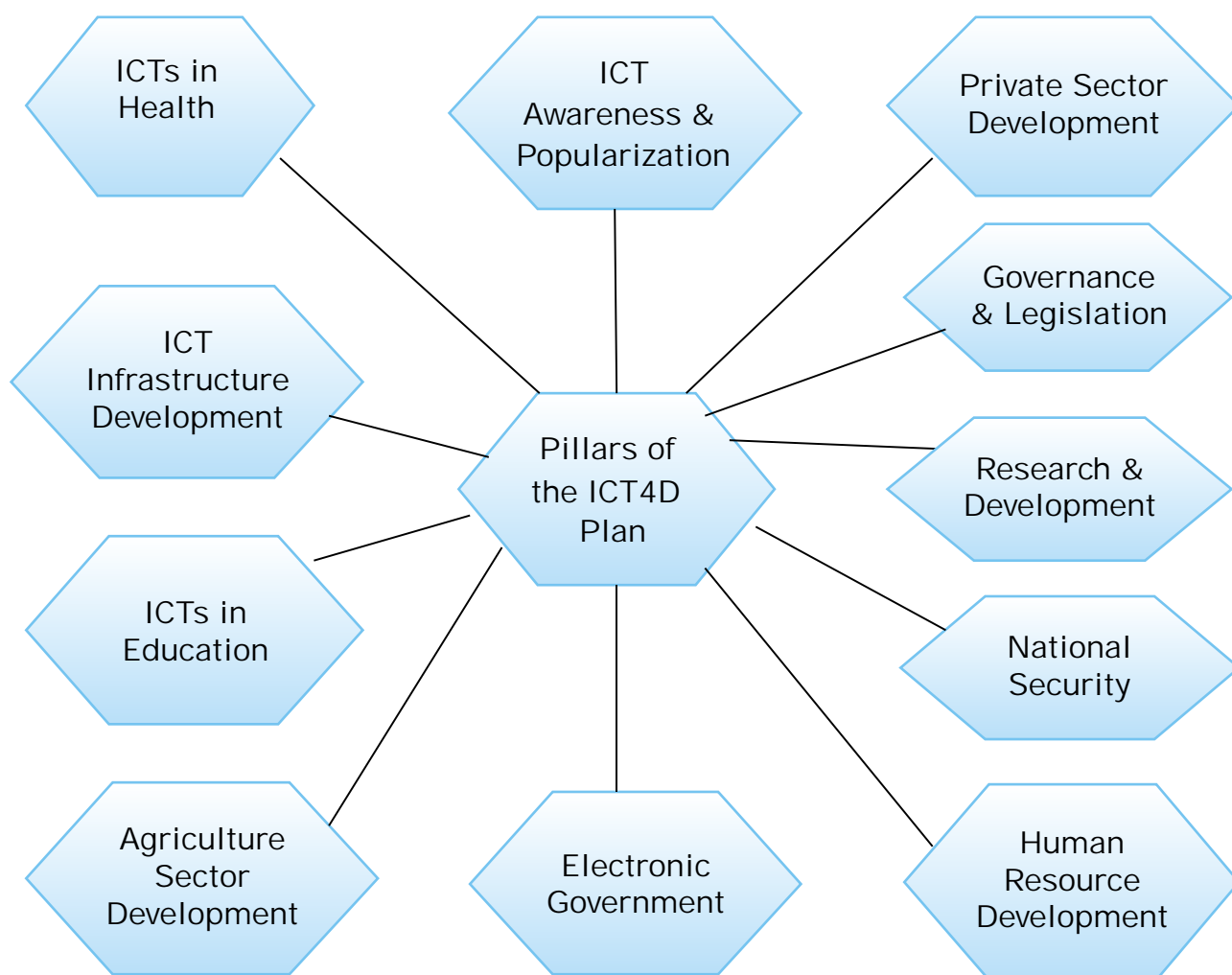


Figure 1.3 Pillars of the ICT4D Plan

Each Sub-Plan is made up of Programmes and Plan-Actions.

#### Box 1.1 Plan Monitoring and Evaluation Objectives

- Enables the ascertaining of plan impact and effectiveness which is integral to the ICT4D policy development process
- Highlights progress and achievements, while also throwing light on weak areas
- Provides a valid basis for policy revision and update
- Improves transparency and accountability in policy-making and reviewing ICT4D performance in Nigeria
- Strengthening of the ICT4D policy development process and ensuring ICT efforts, resources and investments are value driven and applied efficiently and effectively to drive inclusive development and achieve Nigeria's socio-economic goals

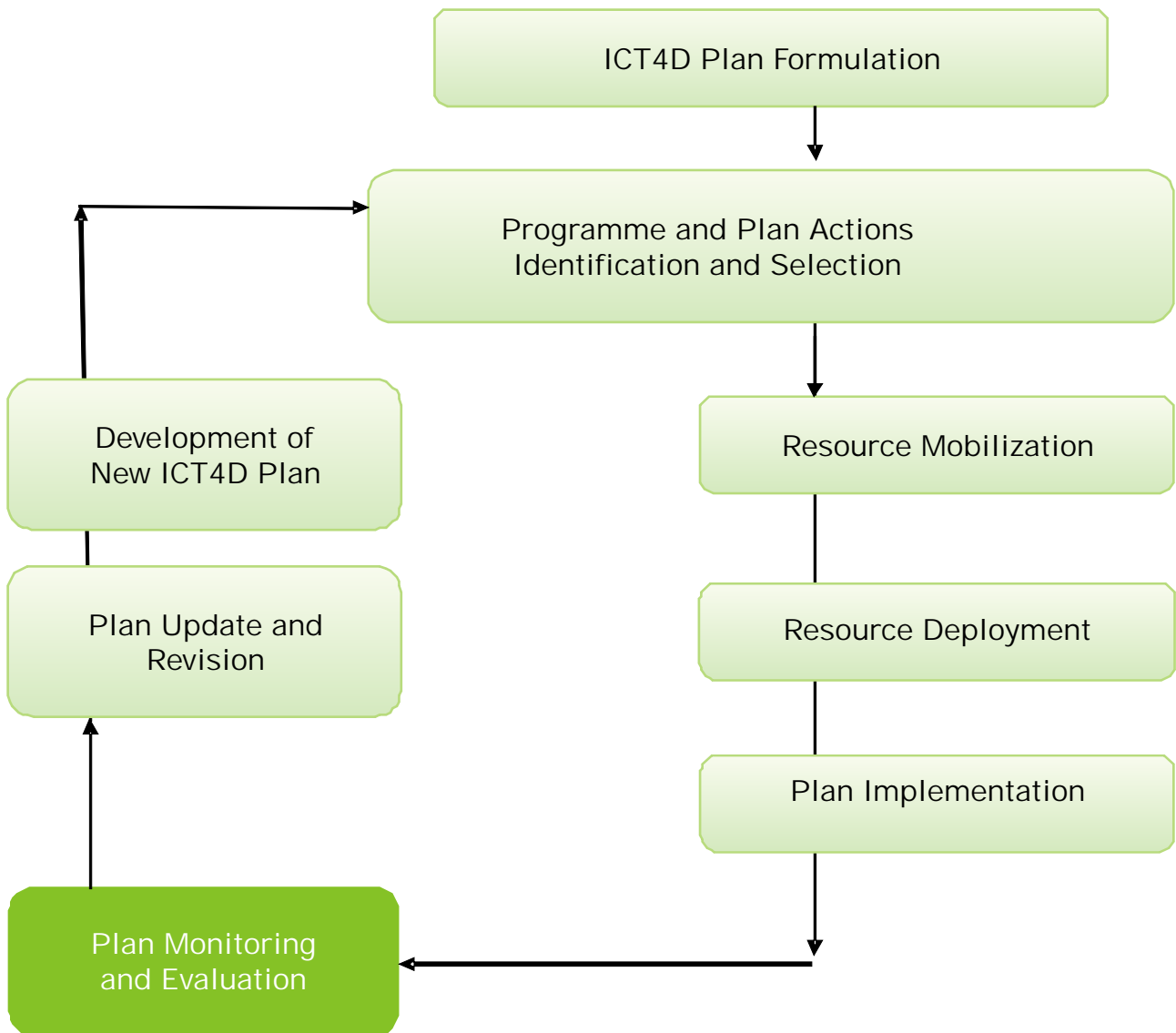


Figure 1.4 Plan Monitoring and Evaluation Stage in the ICT4D Policy Development Cycle

## 2 | The Contribution and Impact of ICT in Nigeria

Following the rebasing of its Gross Domestic Product (GDP), Nigeria became the largest economy in Africa, surpassing South Africa.

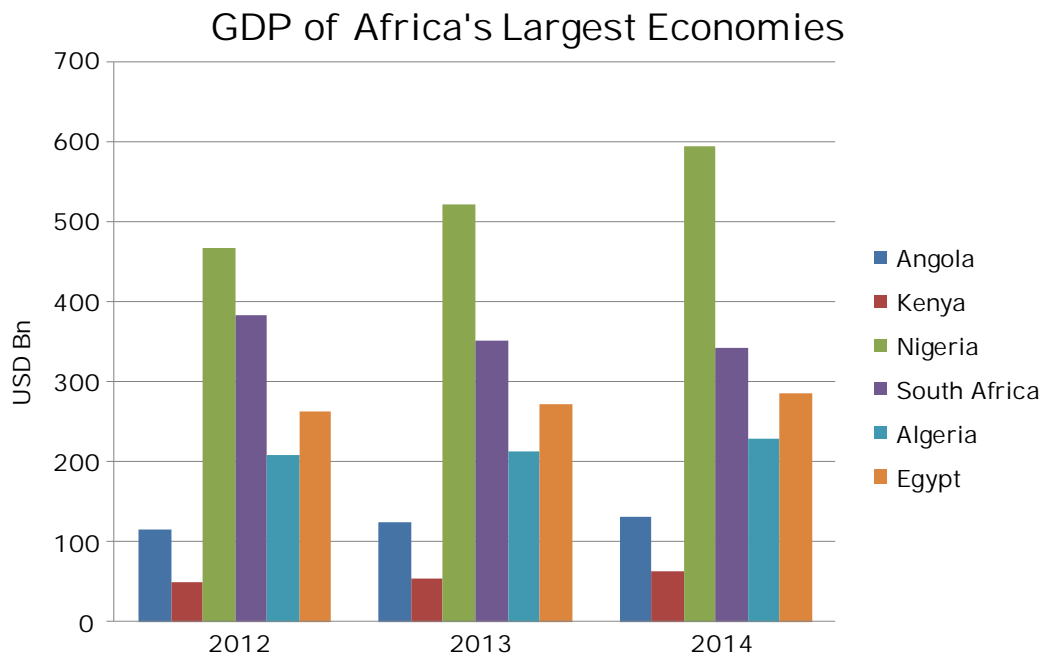


Figure 2.1 GDP of Africa's Largest Economies (USD Billion)  
Source: World Economic Outlook Database, October 2014

With an estimated population of 170 million, Nigeria is the seventh largest country in the world and the largest in Africa.

### Population of Africa's Largest Economies 2012-2014

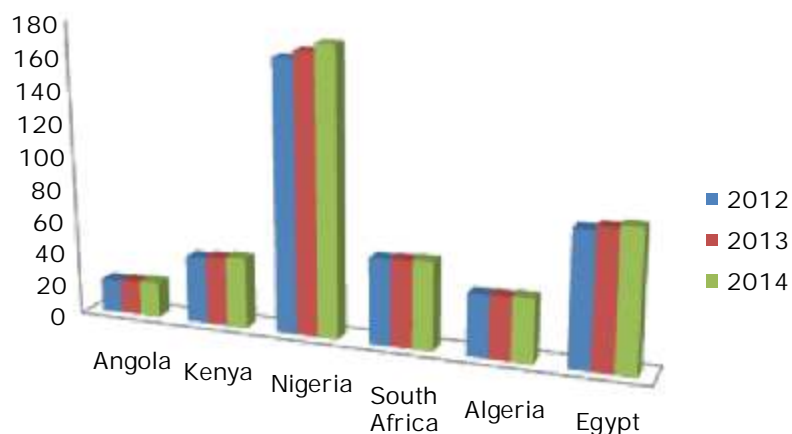


Figure 2.2 Population of Africa's Largest Economies  
Source: World Economic Outlook Database, October 2014

National Bureau of Statistics (NBS) statistics reveal significant changes in the economy, with the critical nature of the Services sector emerging. Services has now become the largest sector of the Nigeria economy by GDP, overcoming the Industry and Agriculture sectors.

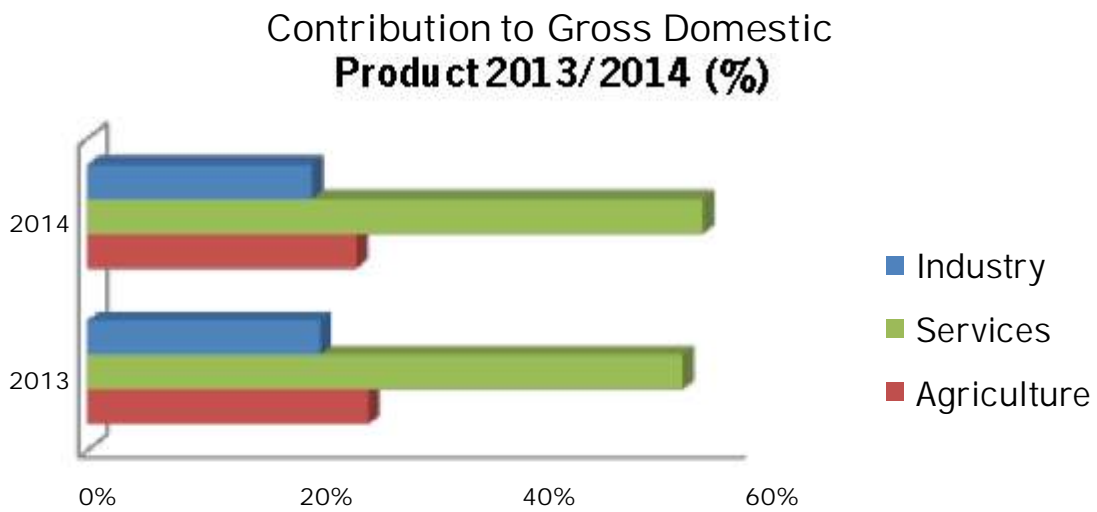


Figure 2.3 Contribution to Major Economic sectors to Gross Domestic Product (%) 2013/2014  
Source: National Bureau of Statistics (NBS)

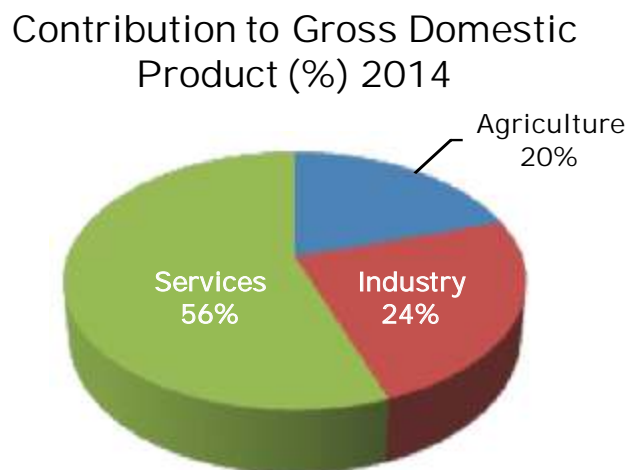


Figure 2.4 Contribution to Major Economic sectors to Gross Domestic Product (%) 2014  
Source: National Bureau of Statistics (NBS)

The Services sector presently accounts for more than 50% of national GDP.

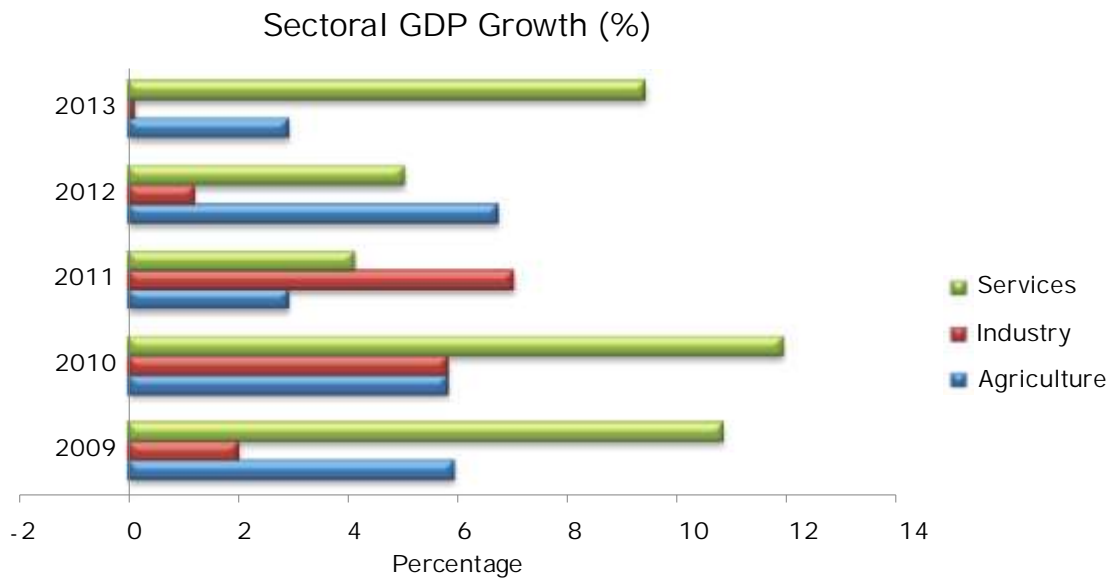


Figure 2.5 Sectoral GDP Growth (2009-2013)  
Source: National Bureau of Statistics (NBS)

The rebased economy is presently more driven by the Services sector as indicated in Figures 2.3, 2.4 and 2.5. The Information and Communication sector, most importantly the ICT sector is a major constituent of the Services sector, making significant direct contributions to GDP.

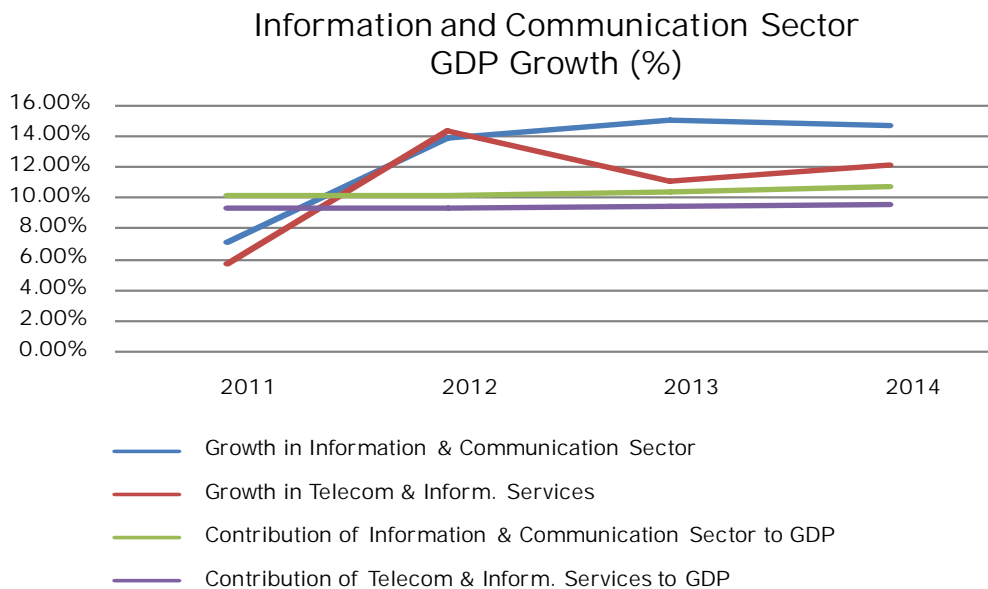


Figure 2.6 Information and Communication Sector GDP Growth (2011-2014)  
Source: National Bureau of Statistics (NBS)

Data highlights the strategic nature of ICT and the considerable impact it has on national development.

GDP Subsector Growth Rate (%)

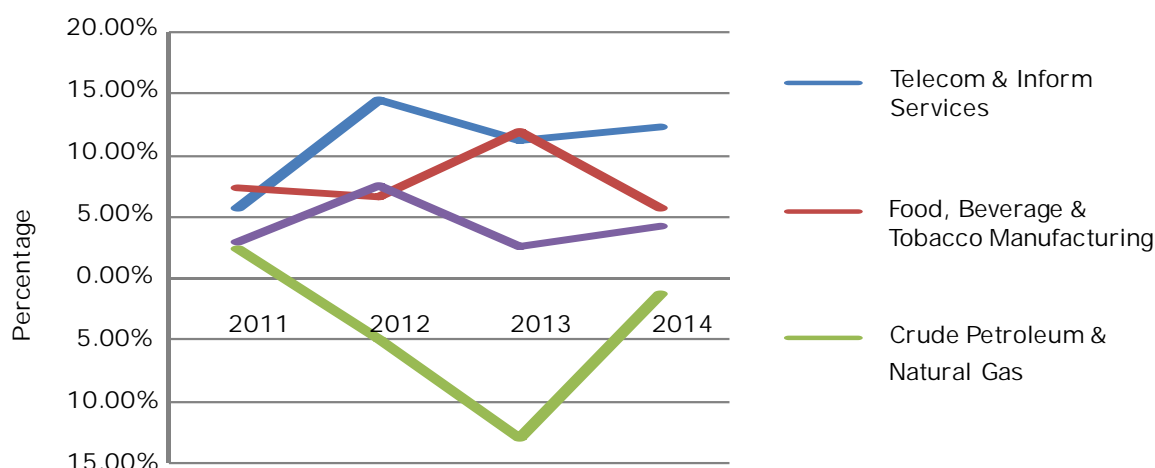


Figure 2.7 GDP Subsector Growth Rate (%)  
Source: National Bureau of Statistics (NBS)

Data highlights the strategic nature of ICT and the considerable impact it has on national development.

#### Box 2.1 ICT Contribution

- Rebasings of the economy gave appropriate weight to job creating parts of the economy, such as banking, the Nollywood film industry and ICT that have been growing fast in recent years.
- The ICT sector contributing 9.61% to GDP (2014) – over \$50 billion - has become a pillar of the Nigerian economy. It is the fastest growing sector in Nigeria.
- Making up 22% of the Services Sector which contributes over 50% to GDP, ICT presently facilitates the creation of a more diversified economy through significant impact and strategic addition of value to other sectors of the economy.
- Implementation of Nigeria Strategic ICT4D Plan from 2010 has promoted the deployment and utilization of ICT by individuals and organizations in government, social and educational sectors. Initiatives adding value through ICT have created jobs and boosted innovation in Nigeria.
- Nigeria’s ICT sector has attracted USD 6 billion in Foreign Direct Investments (FDI) in the last three years and continues to attract significant FDI.
- The Nigeria Strategic ICT4D Plan has been essential in providing a platform to enable Nigeria leverage ICTs for inclusive and sustainable national growth and development.

### 3 | Implementation Status Overview: Sub-Plans

Structure is provided in the Plan through the subdivision of the Plan into sub-plans each addressing a broad area for the implementation of ICT programmes and initiatives. The focus of each sub-plan is highlighted in table 3.1 below.

Sub plan	Focus
Electronic Government	facilitating government administration and service delivery, including the promotion of electronic government and governance initiatives
ICTs in Education	promoting ICTs in education targeting all levels of the educational system from primary to university level
ICT Infrastructure Development	promoting infrastructure development including physical and the telecommunications and communications infrastructure
ICTs in Health	promoting the use of ICTs to transform the health sector
Human Resource Development	promoting human resource development
Private Sector Development	supporting the development of the private sector including promoting the use of ICTs to support sectorial development, including key economic sectors
Agriculture Sector Development	promoting the use of ICTs to transform the agricultural sector
ICT Awareness and Popularization	promoting the use of ICT to meet social, commercial and educational needs of all especially the traditionally excluded and those in rural and under-served communities
Governance and Legislation Framework	creating the necessary legal and regulatory environment to support the development, deployment and exploitation of ICTs within the economy and society
National Security and Law Enforcement	addressing national security and law and order issues through the exploitation of ICTs
Research and Development	promoting research and development (R&D)

Table 3.1 National ICT4D Strategic Plan: Subplans and Corresponding Objectives



## Implementation Status Overview

For each sub-plan specific notable initiatives are identified and assessed. The following Table 3.2 outlines an overview of each sub-plan with examples of some major initiatives and level of sub-plan implementation:

Sub plan	Overview of Activities	Notable Initiatives	Percentage Implementation (%)
Electronic Government	Increased digital presence in government, impact should be deepened	Government websites, .gov.ng, Government Services Portal and National e Identity Card	55
ICTs in Health	Gains from collaboration with stakeholders, Network quality issues	ICT4SOML, Abiye Safe Motherhood, Nafdac, HIV/AIDs Call center	52
ICT Infrastructure Development	Mixed bag of huge teledensity improvement but last mile connectivity, Quality and Power	Landing of broadband fibre-optic submarine cables, Broadband Plan	55
ICTs in Education	Growth but issues of capacity, inclusion , Internet access	National IT Standards E-curriculum	55
Human Resource Development	Immense increase as awareness has grown overall capacity building level is still not enough to make significant impact	NITDA's Postgraduate Scholarship Awards, CPN IT education accreditation, Naija Cloud Plan, OAU Software Centre	60
Private Sector Development	Growth in e-payment and e-finance impact. Jobs have been created and investment attracted. Slow mobile money uptake, weak legislative protection, cybercrime, infrastructure, quality and power supply issues are concerns. Local industry capacity is still weak	Cashless CBN and NIBSS policies and initiatives, Large online stores Nigerian Content Guidelines. iDEA, Fund, Techlaunchpad, ISPON Software initiatives, Incubation initiatives	63
Agriculture Sector Development	More farmers supported than ever. Improved food security. Concerns of inclusion , Internet penetration	Growth Enhancement Scheme (GES), e-Agriculture Portal	75

ICT Awareness and Popularization	Most of the increase has been through the media. Issues with Rural exclusion and Infrastructure	Specialized ICT reporting. Training initiatives for Women in ICT, Academics, Traditionally excluded	59
Governance and Legislation Framework	Growth in providing governance framework but enactment of relevant laws has been slow.	Federal Ministry of Communication Technology (FMCT) State ICT Policies	55
National Security and Law Enforcement	Increase in use of ICT in security but needs to be deepened, capacities need to be enhanced to meet terrorism threats. Absence of legislation affects enforcement	Computer Emergency Readiness Response Team Nigeria E-Fraud Forum (NEFF) Lagos State Emergency Call Center and related legislation	53
Research and Development	Increased use of ICT to improve research collaboration and outcomes. Funding and scaling up challenges.	Nigerian Research and Education Network (NgREN) Eko-Konnnect Research and Education Network NCS IT Research Fund	53
Overall Implementation Level			58

Table 3.2 National ICT4D Strategic Plan: Subplans, Overview and Implementation Levels

### ICT4D Plan Implementation Level

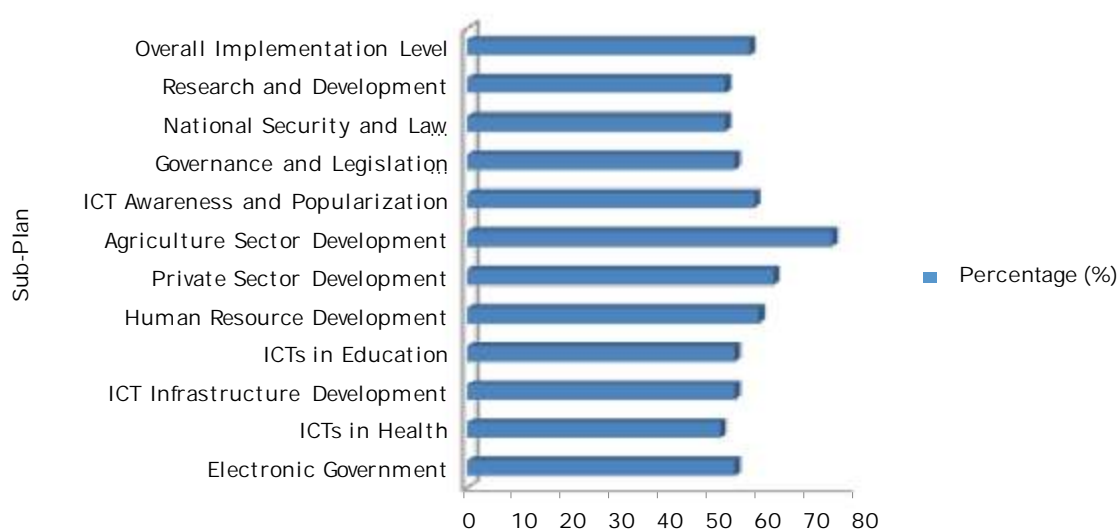


Figure 3.1 National ICT4D Strategic Plan: Subplans and Implementation Levels

Programmes within sub-plans were assessed in terms of implementation objectives, relevance and impact with respect to the strategic vision. As the above Table 3.2 shows Overall Implementation Status at 58% is above average.

Regarding the implementation of the ICT4D Strategic plan per sub-plan, Figure 3.1 above gives an idea about the implementation level reached for each sub plan, as well as overall level of implementation achieved.

## 4 | Electronic Government Sub-Plan

### Box 4.1 Focus

Facilitating government administration and service delivery, including the promotion of electronic government and governance initiatives

Initiative	Description	Status
Services Portal Getting Government Online	Single window technology access to government services by citizens, businesses, stakeholders (services.gov.ng)	Links to other pre-existing applications and services on websites of government Ministries, Departments and Agencies (MDAs)
National Electronic Identity Card program (National e-ID Card)	Citizen identity management provided by the Nigerian Identity Management Commission (NIMC)	6 million National e-ID cards were ready for distribution in Abuja, Lagos and Rivers states (Feb 2015)
Nigeria Customs Service ICT Initiatives - Single Window Trade Portal - Nigeria Trade Hub	Nigeria Single Window Trade Portal (www.trade.gov.ng), cross-government website for trade facilitation and Nigeria Trade Hub –Trade Information Portal	In use by stakeholders in trade, import and export. Won Best Web Portal award at NITDA e-Governance Awards (Nov 2014)
Nigeria Immigration Service Portal	Management of migration, facilitation of traveler processes and national security	In use for immigration services relating to Visa, Passports and ECOWAS
Corporate Affairs Commission Company Registration Portal	Businesses can now be registered with the Commission through the portal	Making it easier for the public to use CAC services.
Public Finance Electronic Platforms	Treasury Single Account (TSA), Government Integrated Financial Management Information System (GIFMIS) and Integrated Payroll and Personnel Information System (IPPIS)	Platforms have been implemented. IPPIS has enabled the removal of 62,893 ghost workers, saving N208.7 billion. (Feb 2015)
Uniform website across government (secured on .gov.ng top-level domain)	To ensure uniformity across all MDA websites for quality, relevance, accuracy and security	MDAs now have standard domain names and websites at ".gov.ng"

Unified E-Mail service	Transparency, accountability in official government correspondence	e-mail addresses for civil servants (@fedcs.gov.ng)
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ICT in Election Management	Electronic voter registration and accreditation	Permanent voters cards used in biometric register of voters along with electronic voter authentication (Smart Card Readers) in 2015 election
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ICT in Road Safety Administration	Driver's licence with enhanced security features as well as National Vehicle Identification Scheme (NVIS)	Driver's licenses and license plates are now auto-verified on a shared databases
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Table 4.1 Notable E-Government Initiatives

### Ghost Workers Detected and Government Savings by IPPIS

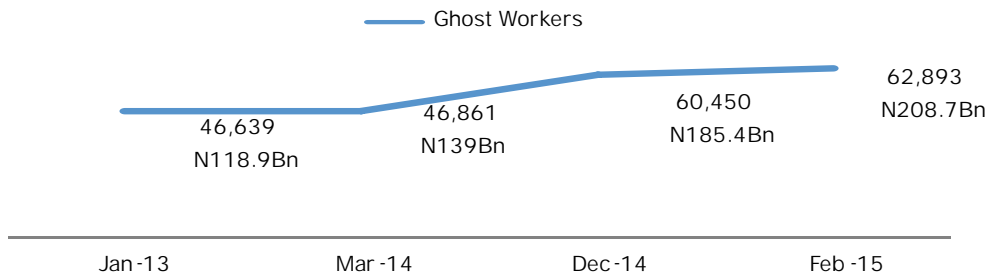


Figure 4.1 Ghost workers detected and Government Savings (Naira Billion) by IPPIS  
Source: Federal Ministry of Finance

The Federal government has made enormous savings through the Integrated Payroll and Personnel Information System (IPPIS) by detecting and removing ghost workers as shown in Figure 4.1.

### Federal Government Recurrent Expenditure (Naira Billion)

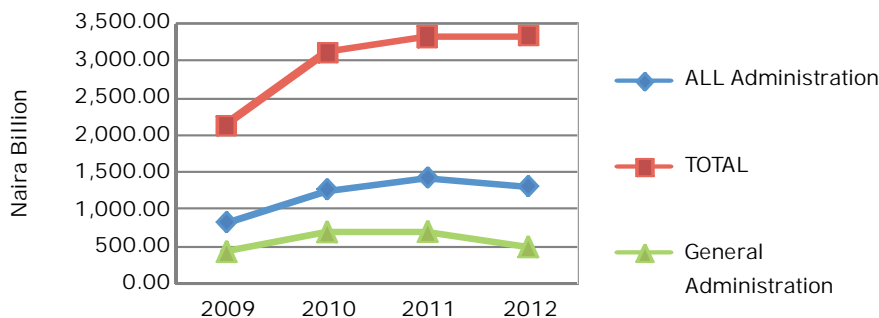


Figure 4.2 Federal Government Recurrent Expenditure (Naira Billion)  
Source: Central Bank of Nigeria (CBN) Statistics Database

Despite rising inflation in all sectors, general administrative expenditure of the Federal government has been dipping marginally from 2010 as shown in Figure 4.2. This has been due to the introduction of electronic platforms improving efficiency and transparency in the nation's public finances.

### E-Government Initiatives Impact

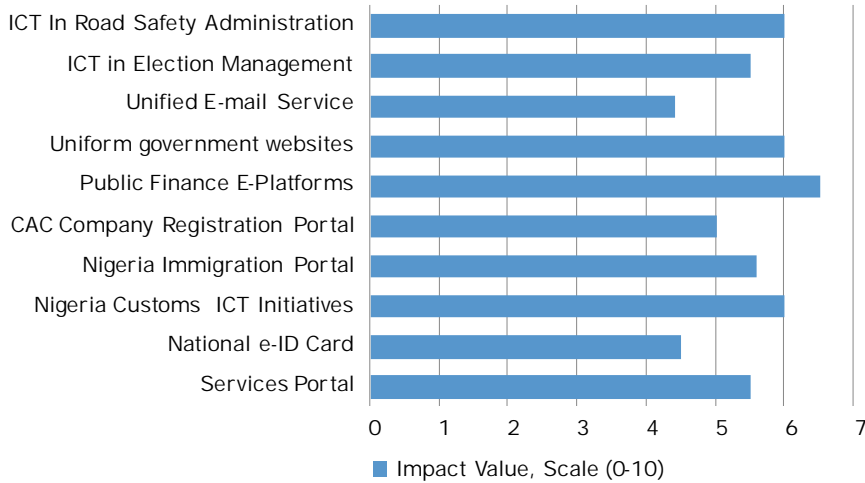


Figure 4.3 Impact of E-Government Initiatives

E-Government initiatives have had healthy impact, but there is still a lot to do as Figure 4.3 shows.

### E-Government Impact in Focus Areas

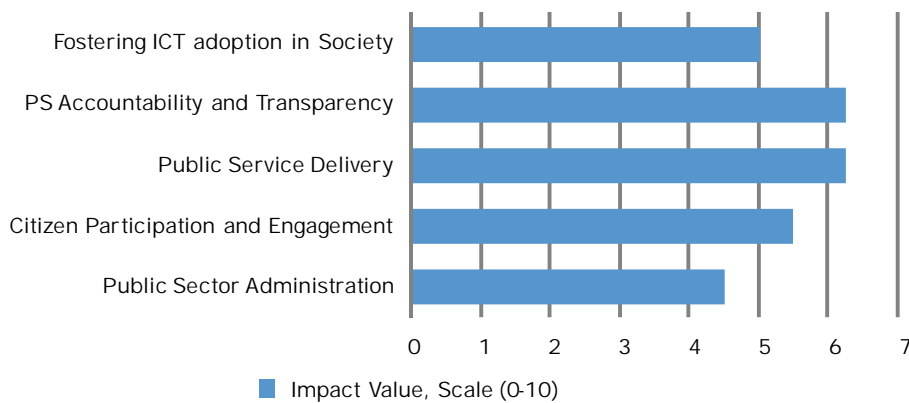


Figure 4.4 Impact of E-Government in Key Areas

Figure 4.4 reveals the varied impact is having in key fundamental areas. Placing more public data and information online and the use of ICT by Ministries, Departments and Agencies (MDAs) has fostered accountability and transparency while at the same time improving the efficiency of public service delivery.

## UN E-Government Survey: Nigeria (2012-2014)

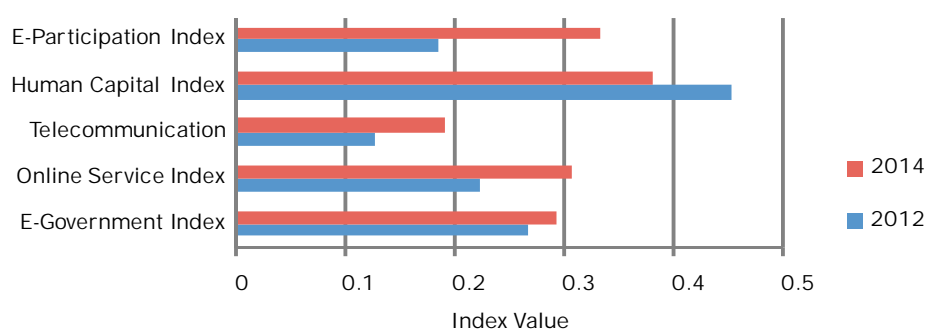


Figure 4.5 Assessment of E-Government in Nigeria  
Source: The United Nations (UN) E-Government Survey

In providing a snapshot of Nigeria's e-government development from a regional and global perspective, it is clear from Figure 4.5 that Nigeria has improved on the UN e-government index (ranked 162 in 2012 to 141 in 2014) while also moving up 22 places in the UN e-government e-participation index.

### Box 4.2 E-Government Highlights in Nigeria

- 1GOV.NET technology platform of Galaxy Backbone won the 1st place in the UN Public Service Awards for 2013 for its approach in providing safe and secure IT infrastructure for the delivery of e-government services. 1.Gov.net is a shared service infrastructure platform for the public sector.
- \$ 100 Million critical public sector infrastructure improvement underway (NICTIB project)
- 42,000 email accounts were created on a unified email platform for federal public servants (2014).
- Ministries, Departments and Agencies (MDAs) with government allotted websites increased to 420 in 2014
- In addition to initiatives mentioned, there are a variety of e-government initiatives at (Federal and State level). NITDA and the Ministry of Communication Technology have worked to transform the way government operates. Strategic plan implementation has provided coordination in e-government projects and activities.

## 5 | ICT Infrastructure Development Sub-Plan

### Box 5.1 Focus

Promoting infrastructure development including physical and the telecommunications and communications infrastructure

Initiative	Description	Status
Telecommunications Industry Growth and Statistics	Nigerian Communications Commission (NCC) spurs competition and growth of the Telecommunications industry and measures Growth in telephone subscription, Growth in Internet penetration and Teledensity	NCC provides the regulatory environment that has resulted in improved telecom impact. Data is collected and published on a regular basis and shared with the public
Landing of Broadband Fibre-Optic Submarine Cables	The expansion of international broadband connectivity options in Nigeria. The aim is to break the previous monopoly in wholesale broadband provision	Several private cable companies have landed submarine cables on the shores of the country to expand available options
Nigerian National Broadband Plan (NBP) (2013 - 2018)	The NBP articulates how the nation plans to increase broadband penetration from 6% to 30% by 2018	Implementation is ongoing and being supervised by the Broadband Council
Power Sector Reform	To reposition the power sector for stable and improved electricity supply in the country	It is the largest power privatisation ever in Africa and achievements and milestones so far, reflect the commitment towards resolving Nigeria's power supply conundrum

Table 5.1 Notable ICT Infrastructure Initiatives



### Mobile Telephone Subscription Growth Rate (%)

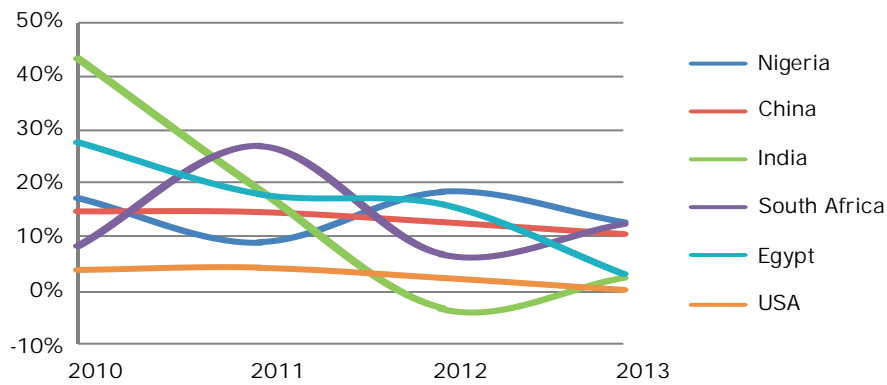


Figure 5.1 Mobile Telephone Subscription Growth Rate of Populous countries  
Source: International Telecommunication Union (ITU)

Over the past few years Nigeria has the fastest growing telephone subscription in Africa and among the world’s most populous nations as evidenced in Figure 5.1.

### Subscriber / Teledensity Data

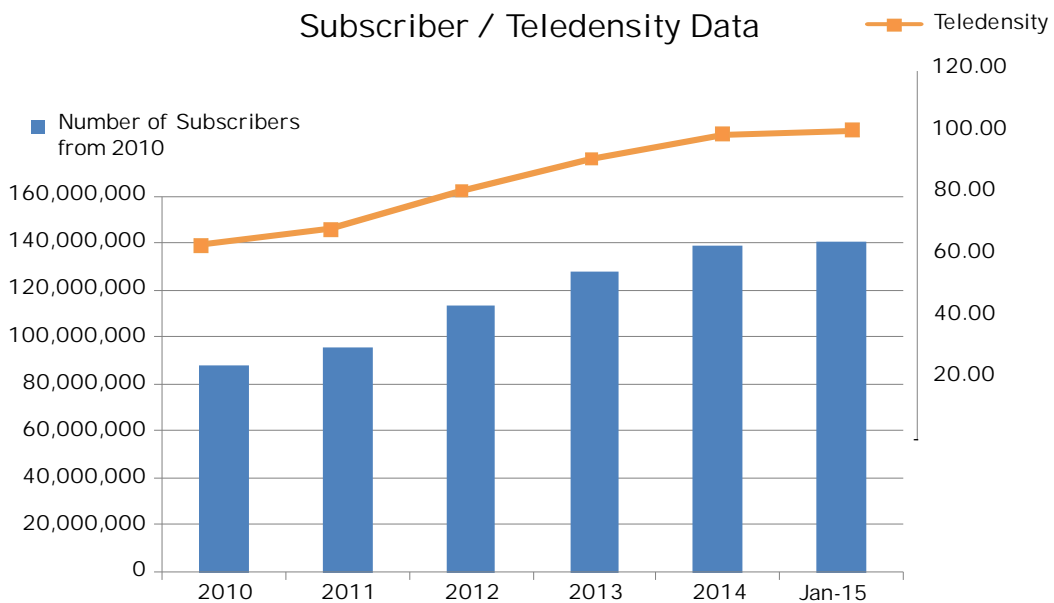


Figure 5.2 Subscribers / Teledensity Data from 2010 to January 2015  
Source: Nigerian Communications Commission (NCC)

Rapid growth telephone subscription has eventually led to achieving a teledensity of over 100% and over 140 million subscribers (Jan 2015).

### Additional Submarine Cable & Capacity

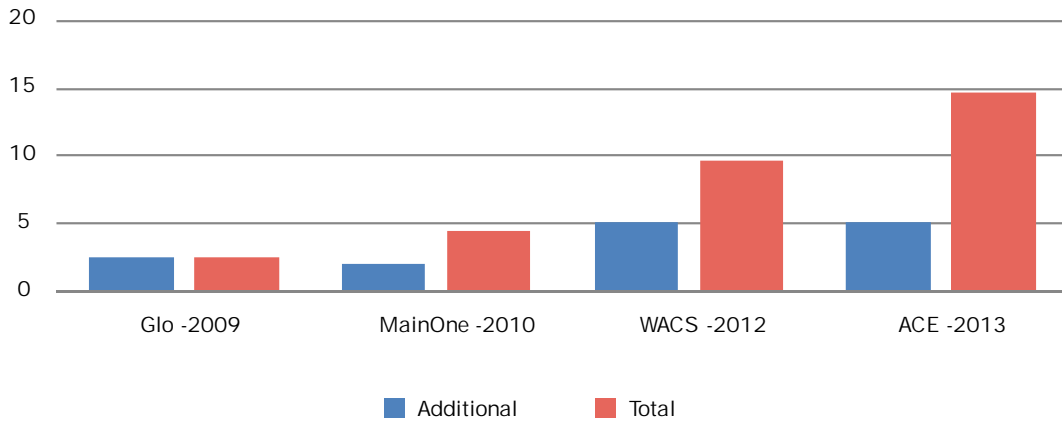


Figure 5.3 Additional Submarine Cable and Capacity in Nigeria from 2009  
Source: Various

### Growth: Submarine Cable Investment (\$ Million)

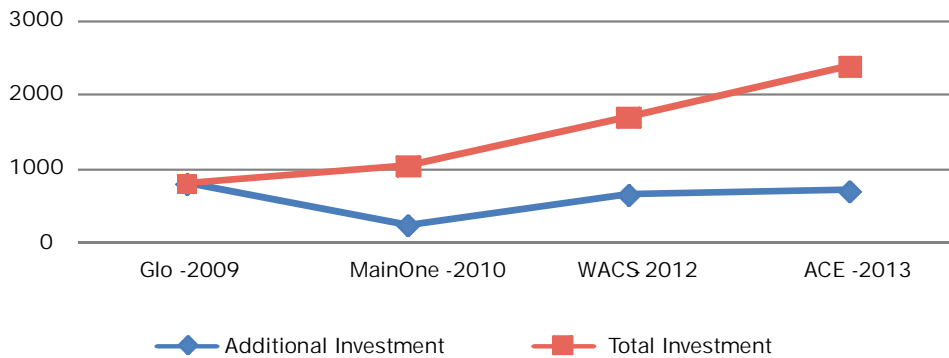


Figure 5.4 Additional Submarine Cable and Capacity in Nigeria from 2009  
Source: Various

In reducing dependence on VSAT systems and SAT-3 for bandwidth, additional undersea submarine cable landing on the shores of Nigeria have added significant capacity (design) from 2009 to 2013 as can be seen in Figure 5.3. Figure 5.4 reveals that in addition to providing competition in the wholesale bandwidth space, the submarine cable have attracted considerable investment.

### Bandwidth Cost

USD per Megabits per second (Mbits)

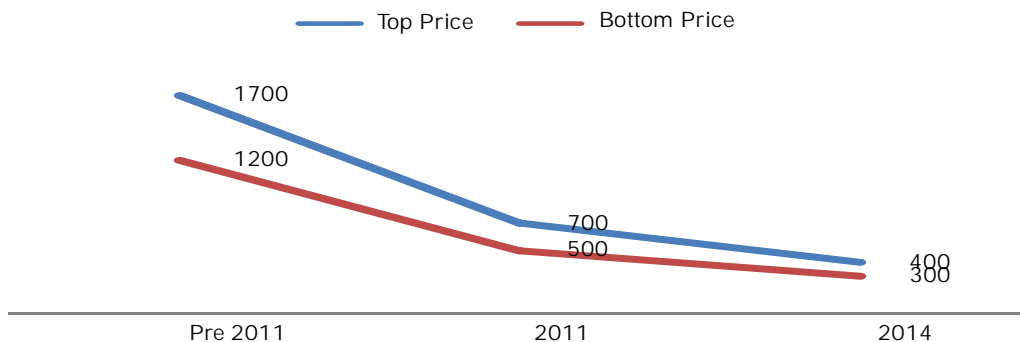


Figure 5.5 Cost of Bandwidth in Nigeria (Pre 2011 to 2014)  
Source: Federal Ministry of Communication Technology

Plan implementation through increased market competition has resulted in between 43% and 59% drop in the cost of bandwidth; Figure 5.6 exemplifies the trend in price reduction which fosters broadband penetration.

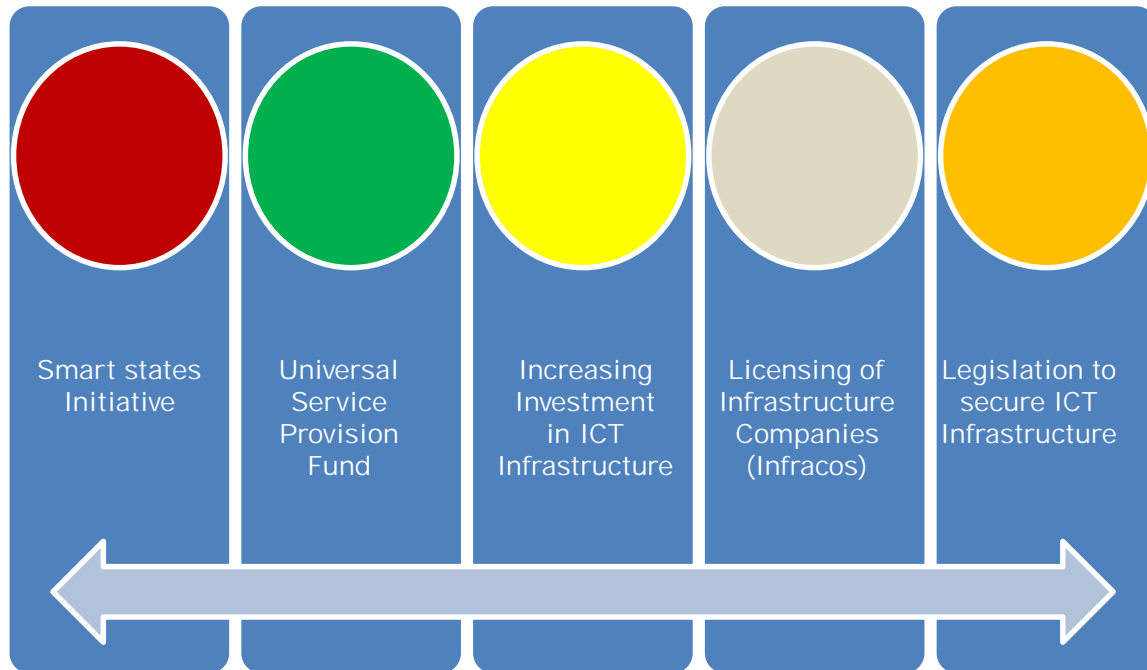


Figure 5.6 National Broadband Plan  
Source: Federal Ministry of Communication Technology

Figure 5.6 highlights focus areas and main activities of the National Broadband Plan in achieving the increase in broadband penetration from 6% to 30% in 2018. The importance of improving broadband penetration cannot be overemphasized as the World Bank estimates that a 10 per cent increase in broadband access can create a 1.4 per cent increase in GDP because access to reliable Internet brings services closer to the people that use them.

#### Box 5.2 National Broadband Plan (2013-2018) Highlights

- The Broadband council to supervise implementation was inaugurated in July 2013
- Bayelsa, Cross River, FCT, Lagos and Ondo States have become Smart States. Anambra, Delta, Gombe and Osun States have agreed to become a Smart States
- Two companies won Infraco licences in January 2015 - MainOne Cable (for the Lagos area) and IHS (for the North Central area. Bidding is ongoing and the remaining five infracos will be licensed by July
- Spectrum auction was held for 2.3Ghz in March 2014, while the 2.6GHz auction is scheduled to be held later in 2015
- Universal Service Provision Fund subsidizes access to unserved and underserved areas
- Development of legislations to secure ICT infrastructure Nationwide is on-going - Critical National Infrastructure Bill and Cybercrime Bill

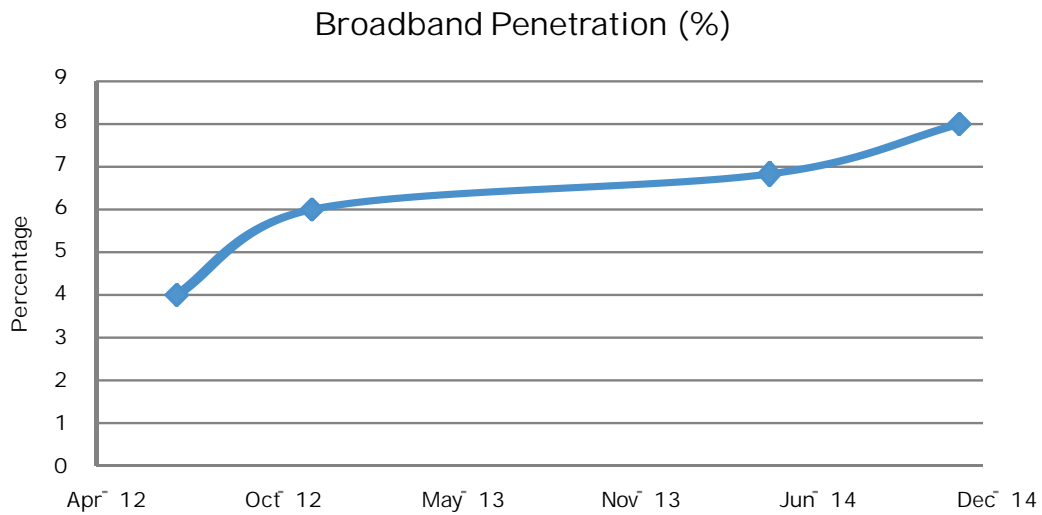


Figure 5.7 Changes in Broadband penetration (2012 to 2014)

Broadband penetration has risen from 6% in 2012 to 8% in 2014 as shown by Figure 5.7.

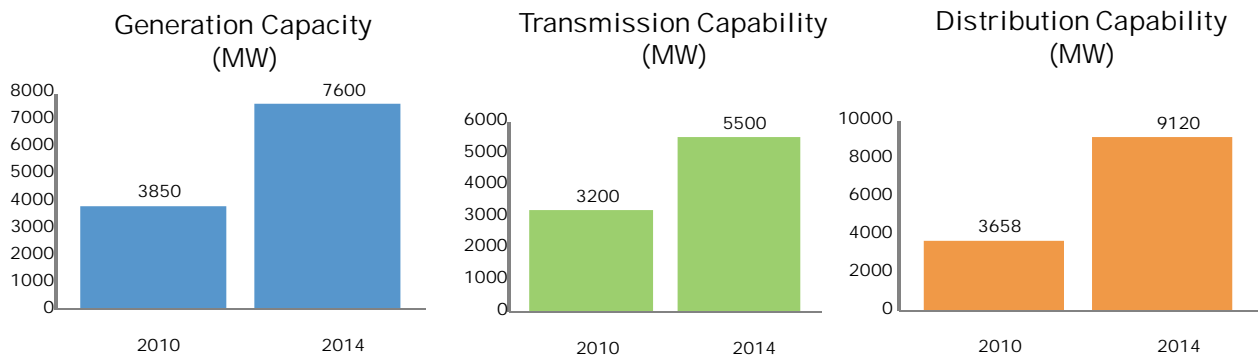


Figure 5.8 Impact of Power Sector Reforms (2010 to 2014)  
Source: Federal Ministry of Power

#### Box 5.3 Nigeria Power Sector Achievements (2010 – 2014) Highlights

- Significant service delivery improvements have been achieved along the entire electricity value chain in Gas to Power in Generation capacity, Transmission Capability and Achieved Generation
- Planned Gas Supply and Infrastructure Projects are ongoing and at varying level of maturation
- 10 Discos & 5 GenCos were handed over to new owners in November 2013
- Handover process is on-going with Afam GenCo and Kaduna DisCo.
- Divestment of 10 NIPP GenCos is at very advanced stage
- On 1st February 2015 supply and purchase contracts under Nigeria's Transitional Electricity Market (TEM) became active.
- National Renewable Energy & Energy Efficiency Policy has been developed
- N214billion CBN Intervention Fund launched to offset legacy gas & power debts
- The National Power Sector Apprenticeship Scheme (NAPSAS) initiative has been introduced to bridge the wide gap in the low end skill cadre of the Power sector.

Source: Power Sector Town Hall Meeting on January 2015

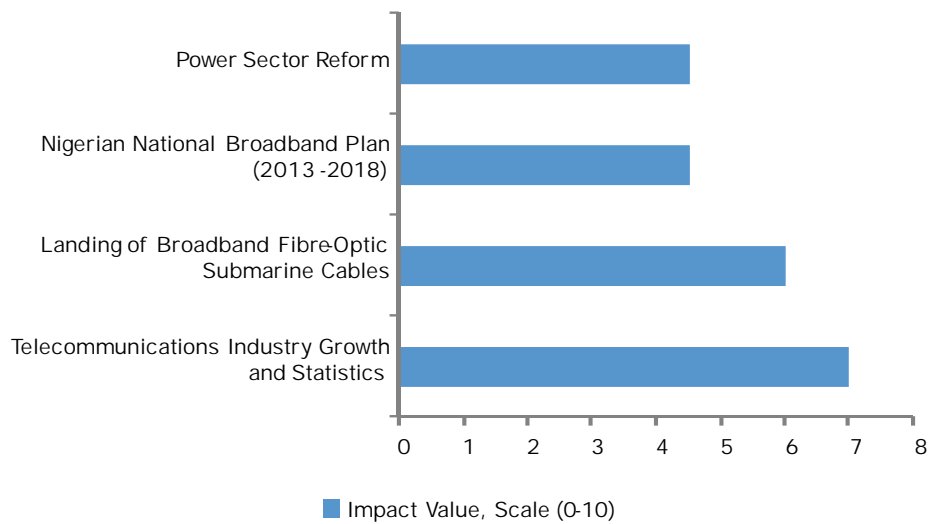


Figure 5.9 Impact of ICT Infrastructure Development Initiatives

The impact of ICT Infrastructure initiatives has been positive and noticeable in all sectors. There are however still significant gaps to be bridged. Further effectiveness in the implementation of National Broadband Plan and Power Sector Reform initiatives is required to meet set targets. This is reflected in Figure 5.9. Infrastructure is the backbone of the economy, and it is essential to work towards closing existing gaps.

## 6 | Human Resource Development Sub-plan

### Box 6.1 Focus

Promoting human resource development

Initiative	Description	Status
NaijaCloud	A Digital jobs creation scheme focused on empowering the youth and reducing unemployment with online freelance work opportunities.	Launched in April 2013, training has been carried out training to create awareness about online work opportunities through Microworks and elancing. Results are promising.
National Information Technology Development Agency (NITDA) Postgraduate Scholarship Scheme	Merit based scholarships are awarded to young Nigerian graduates for Post Graduate (PG) Studies in Masters (MSc) and Doctorate (PhD) Degrees in relevant areas of Information Technology (IT) obtainable in National and International Universities.	Since 2011, NITDA has awarded the scholarships annually to Nigerian graduates as part of the Nigerian National e-Human Capital Development Strategy being pursued by the agency.
Establishment of OAU Centre of Excellence in Software Engineering	A collaborative effort in building one of the top ICT integrated complexes in the country. It was achieved through the partnership of Obafemi Awolowo University (OAU), Step-B/ World Bank and Skye Bank Plc	Commissioned on July 16, 2013, the centre has carried out programmes in educational software development applications, networking, research and the development of the internet.

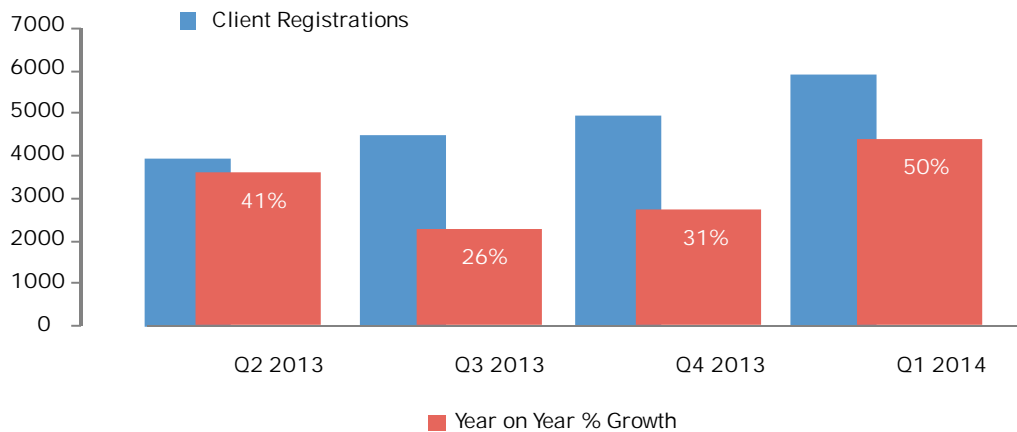
Table 6.1 Notable ICT Infrastructure Initiatives

Nigerian Statistics	E-Lance platform
Registered freelancers	21,059
Lifetime earnings	\$ 518,600
Average hourly rate	\$ 29

Table 6.2 Statistics from "E-Lance", a major online freelance work platform (Dec 2014)  
Source: Federal Ministry of Communication Technology

As part of the Naijacloud project, 2,000 Nigerians were trained about how to benefit from the various Microwork and E-lancing platforms. Within 2 months of the workshop, over 10,000 Nigerians were earning money on the platform. Table 6.2 indicates growth so far on one of the platforms. Initial training sessions have been held in Edo and Bayelsa States.

### Client Registrations and Year on Year Growth



6.1 Statistics of Nigerian Companies hiring freelancers online Q2 2013 to Q1 2014  
Source: Federal Ministry of Communication Technology

### Freelancer Registrations and Year on Year Growth

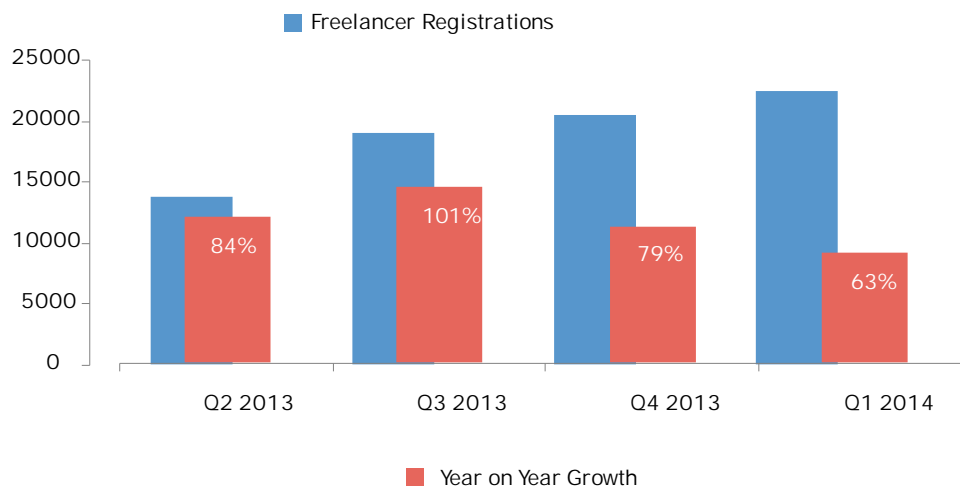


Figure 6.2 Statistics of Nigerians working online as freelancers online Q2 2013 to Q1 2014  
Source: Federal Ministry of Communication Technology

Figures 6.1 and 6.2 shows the impact Naijacloud has had on both human capital development and unemployment. Quality year on year growth fluctuates but registrations (Client and Freelancer) are increasing indicating steady growth in the online job-work market in Nigeria. This development is as a result of training provided by the Naijacloud initiative. In each state, 1,000 unemployed youths are to be trained in line with achieving the target of training 35,000 youth by the end of 2015.

### NITDA Postgraduate Scholarships Awards (2011-2014)

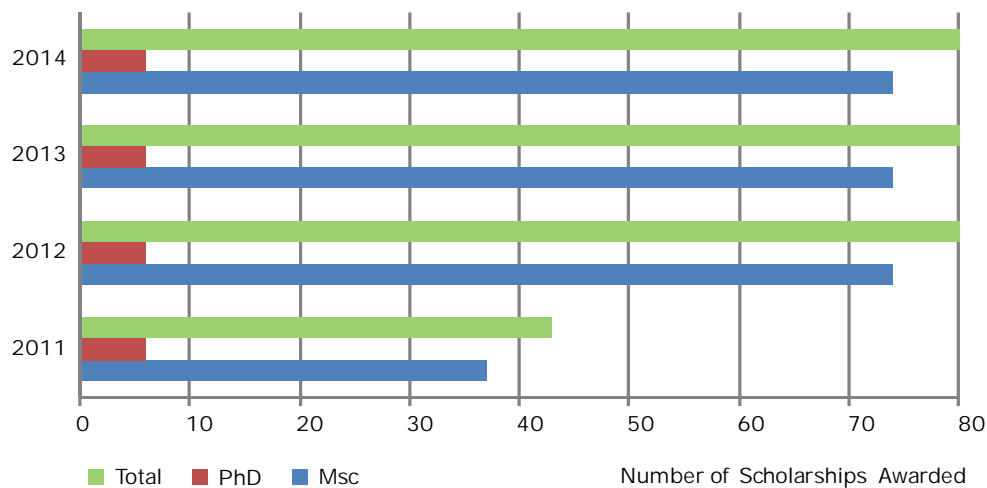


Figure 6.3 NITDA Postgraduate Scholarship Awards (2011 – 2014)  
Source: National Information Technology Development Agency

As shown in Figure 6.3, in 2011, NITDA Scholarships were awarded to 43 graduates, while from 2012 to 2014, scholarships were awarded to 80 graduates annually. Masters degree scholarship awards were doubled from 2012.

All geographical zones are covered for the doctorate degree scholarship award, while all states and the Federal Capital Territory are included in Masters degree scholarship awards. NITDA uses the initiative to strengthen human capacities for developing Nigeria's knowledge economy.

#### Box 6.1 Centre of Excellence in Software Engineering at Obafemi Awolowo University, Ile-Ife

- Built and equipped in July 2013 at a cost of N600 million - construction of the N450 million building housing the centre was funded by Skye Bank Nigeria Plc; Procurement and installation of ICT equipment at the centre, valued at \$3 million (N450 million), was funded through the Step B/World Bank Project
- With the capacity to accommodate about 1200 students per use, centre facilities include: Internet access laboratory, software studio, cloud computing laboratory, Telepresence, hardware design and software engineering laboratories
- The Cloud Computing environment consists of 7.7 TB cloud server for applications and operating systems and cloud storage of 96TB with 500 virtual terminals. The telepresence had been equipped with Huawei TP3118 product, which is tri-screen telepresence system with a row of conference tables seating eighteen participants.
- Goal of the centre is to develop the required local science and technology human resources for the nation's post basic institutions with built-in functional ICT capacity



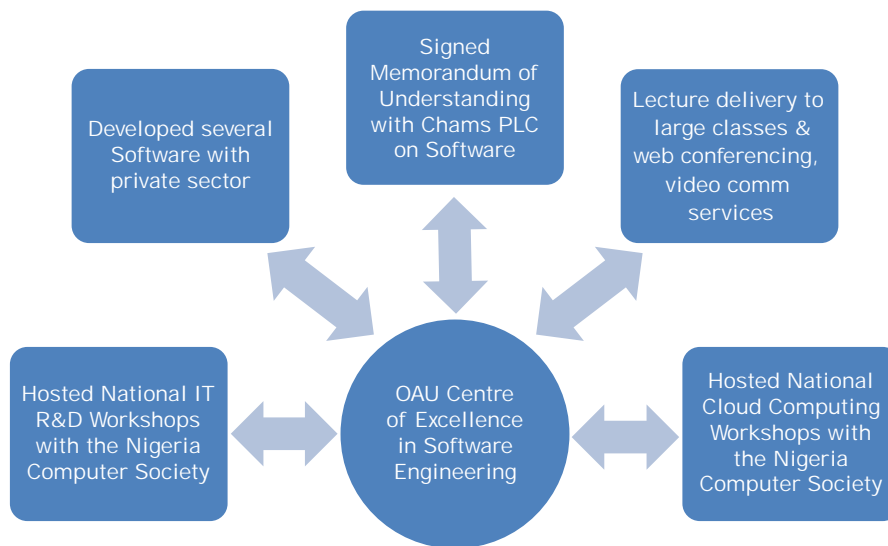


Figure 6.4 Activities of OAU Centre of Excellence in Software Engineering from 2013

As indicated in Box 6.1 and Figure 6.4, the OAU Centre of Excellence in Software Engineering is making a major contribution in developing the human capital required by Nigeria in the global digital society.

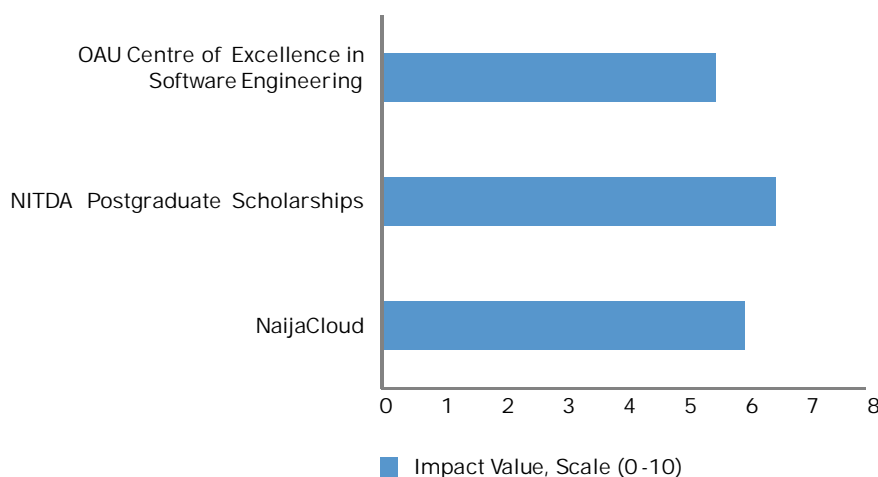


Figure 6.5 Impact of Human Resource Development Initiatives

Figure 6.5 highlights the impact of Human Resource Development initiatives. The initiatives are proving to be essential in ensuring Nigeria is better prepared to participate and contribute in the knowledge era. Improved implementation is required and programmes need to be scaled up.

## 7 | ICTs in Education Sub-Plan

### Box 7.1 Focus

Promoting ICTs in education targeting all levels of the educational system from primary to university level

Initiative	Description	Status
National Standards for IT Education	The 146 page comprehensive document specifies standards and requirements for the development of IT curricula, teaching, learning and assessment at all levels of the Nigerian education system	Launched in June 2014, it was developed by the Federal Ministry of Education, NITDA and the Computer Professionals Registration Council of Nigeria (CPN).
NERDC e-Curriculum Portal	A web-based, efficient and effective curriculum management solution for senior secondary education.	National Educational Research and Development Council (NERDC) partnered with Sidmach Technologies Nigeria Limited to develop the portal.
Students PC Ownership Scheme	The scheme enables students of Nigerian Universities to own a brand new PC/laptop with subsidy paid on behalf of the student. Students can pay in installments	Students can apply through a portal (Computer Ownership Scheme Portal) dedicated to the scheme ( <a href="http://www.cosportal.com.ng">www.cosportal.com.ng</a> ). Twelve (12) pilot universities were selected from the six (6) geopolitical zones.

Table 7.1 Notable ICTs in Education Initiatives

The e-curriculum portal is developed as a complete learning and teaching resource as shown in the following figures 7.1 and 7.2. Developed in line with the strategic deployment of ICT in the government's education policy, the portal is based on Nigeria's education curriculum. Most importantly as online platform, the e-curriculum portal extends and expands access to education.

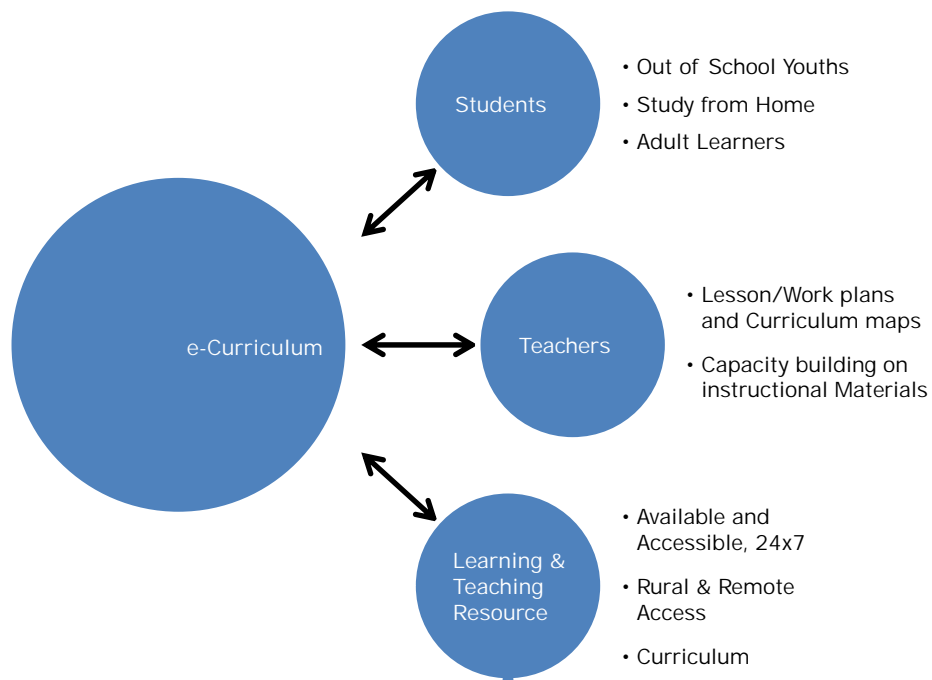


Figure 7.1 e-Curriculum Learning and Teaching Resource

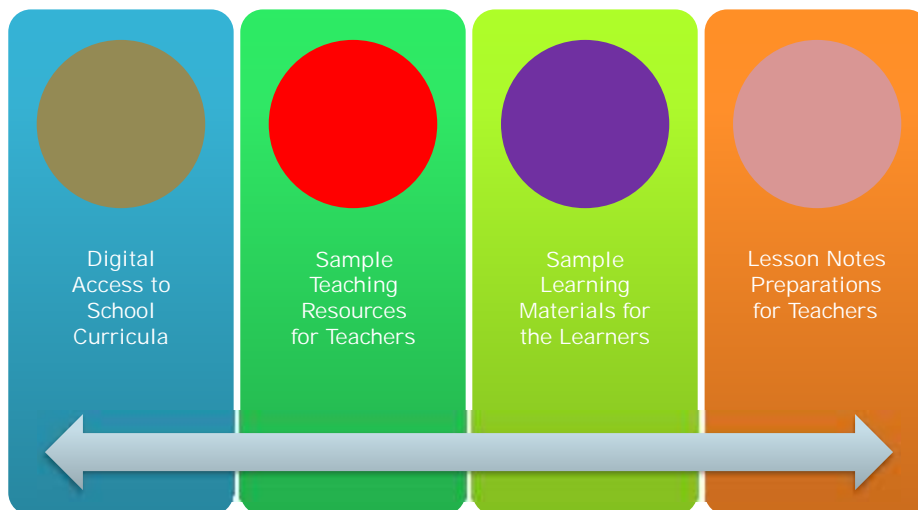


Figure 7.2 e-Curriculum Content  
Source: NERDC

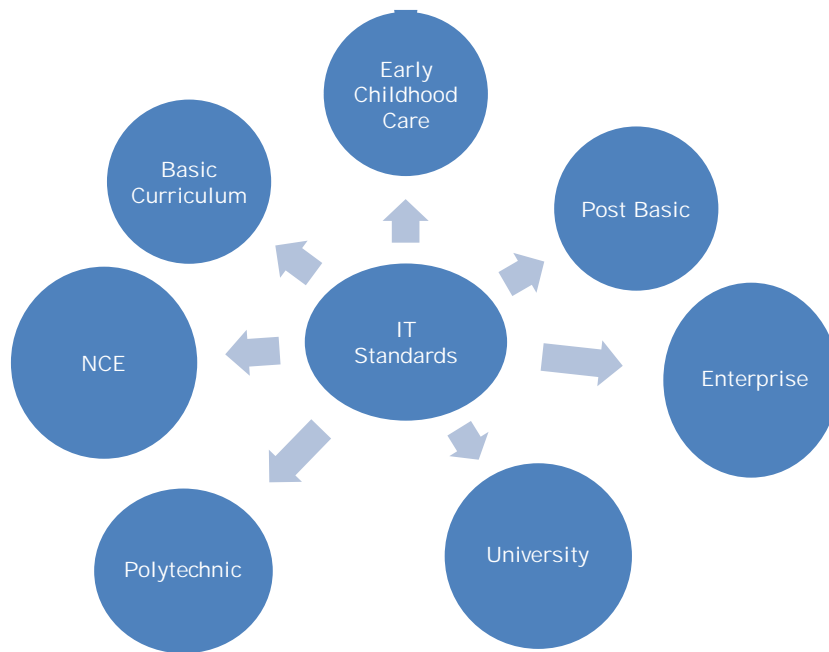


Figure 7.3 National Standards for IT Education in Nigeria  
Source: Federal Ministry of Education

The National IT Standards specifies standards that cover the entire education system as illustrated in figure 7.1 above.

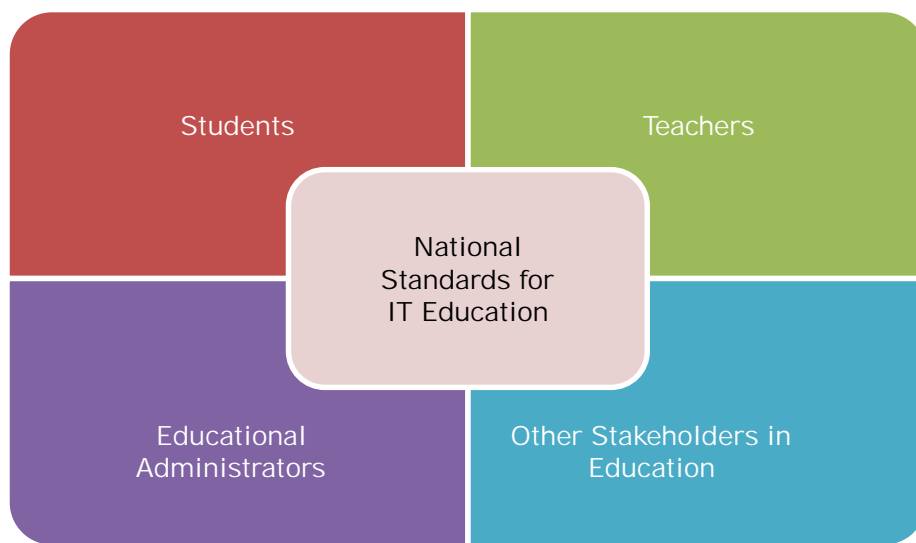


Figure 7.4 National Standards in IT and Stakeholders

The all inclusive nature of the National Standards for IT is represented by figure 7.2. IT is utilized in all aspects of education and there are role dependent standards to be met by all stakeholders.

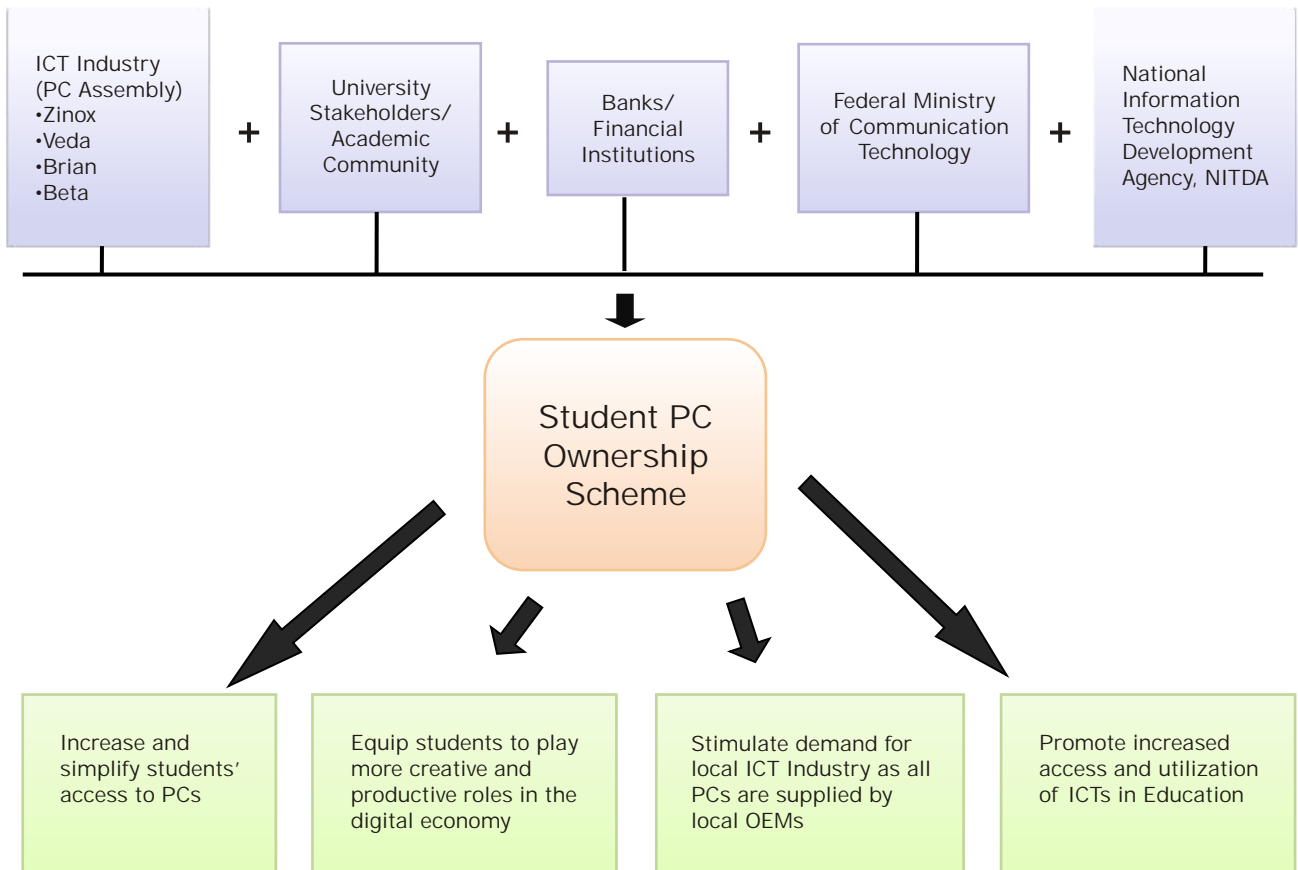


Figure 7.5 Student PC Ownership Scheme  
 Source: FMCT NITDA Computer Ownership Scheme Portal

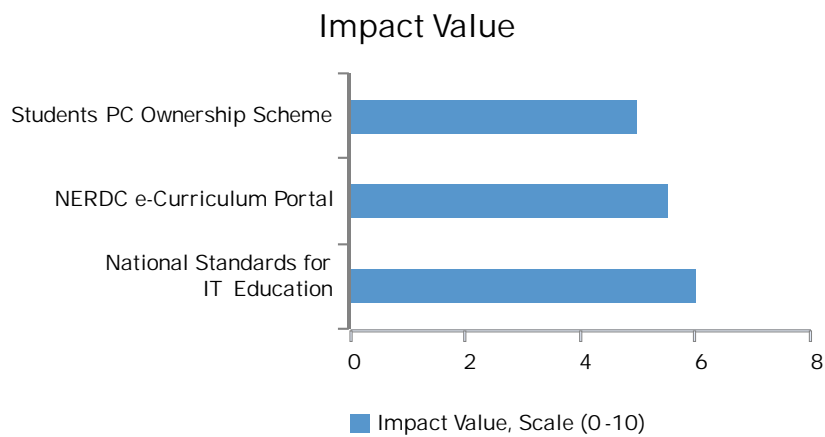


Figure 7.6 Impact of ICTs in Education Initiatives

Impact of ICTs in Education initiatives are highlighted in Figure 7.6. Above average performance, but for a sector as critical as education, much more impact is required in education.

## 8 | ICTs in Health

### Box 8.1 Focus

Promoting the use of ICTs to transform the health sector

Initiative	Description	Status
ICT4SOML (Leveraging ICTs to Save the Lives of One Million Women and Children in Nigeria by 2015)	Aims to scale up access to essential primary health services and commodities for Nigeria's women and children under the age of five. Through the initiative, the Government of Nigeria has pledged to save one million lives by 2015.	The National Health ICT Inventory for Nigeria has been developed and made some positive progress in plan actions relating to establishing a national medical web portal to improve access to health services using ICT
National Call Centre on HIV/AIDS and Related Diseases	Set up the National Agency for the Control of AIDS (NACA) to strengthen national response to HIV/AIDS and Infectious diseases	Information on infectious diseases is provided on calls to 6222 on Airtel and Etisalat lines. Call centre made a major impact during the recent Ebola crisis in Nigeria.
National Agency for Food and Drugs Administrations and Control (NAFDAC) ICT Initiatives	Leverage on ICT to improve capacity of NAFDAC and the achievement of NAFDAC objectives	Mobile Authentication Service (MAS), NAFDAC Automated Administration and Monitoring Solution (NAPAMS), Laboratory Information Management System (LIMS) and E-Clearance Portal are all in use by NAFDAC
Abiye Safe Motherhood Initiative	Using ICT to reduce maternal maternity in Ondo state	It has been used to improve management of pregnancies and safe deliveries. It is recognized globally as a leading initiative in saving mothers and children

Table 8.1 Notable ICTs in Health Initiatives

As a first step in achieving its objectives, ICT4SOML, a major ICTs in Health initiative, undertook the ICT for health landscape review and inventory. This effort has produced a comprehensive picture of existing ICT for health implementations in Nigeria. As a result policy makers and key stakeholders can be better informed about appropriate action that can be taken to use ICT in significantly improving maternal and child health in Nigeria. Some of the findings are presented in the following figures 8.1 and 8.2.

## Technology Initiatives in Health

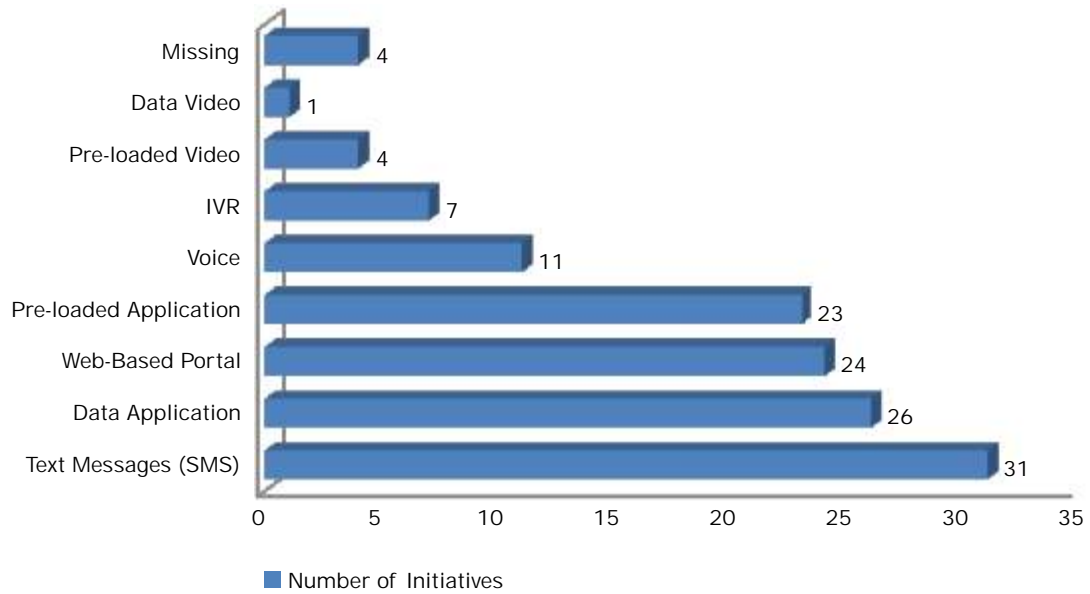


Figure 8.1 Analysis of Technologies employed in ICT for Health initiatives  
Source: ICT for Health Inventory in Nigeria: ICT4SOML (September, 2014)

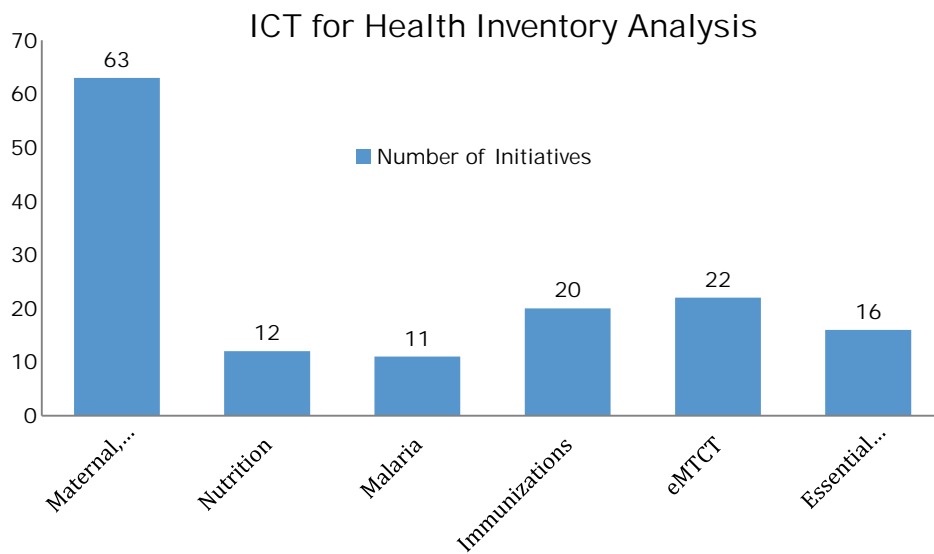


Figure 8.2 Inventory analysis based on SOML program area  
Source: ICT for Health Inventory in Nigeria: ICT4SOML (September, 2014)

## ICT for Health Inventory in Nigeria: ICT4SOML (September, 2014)

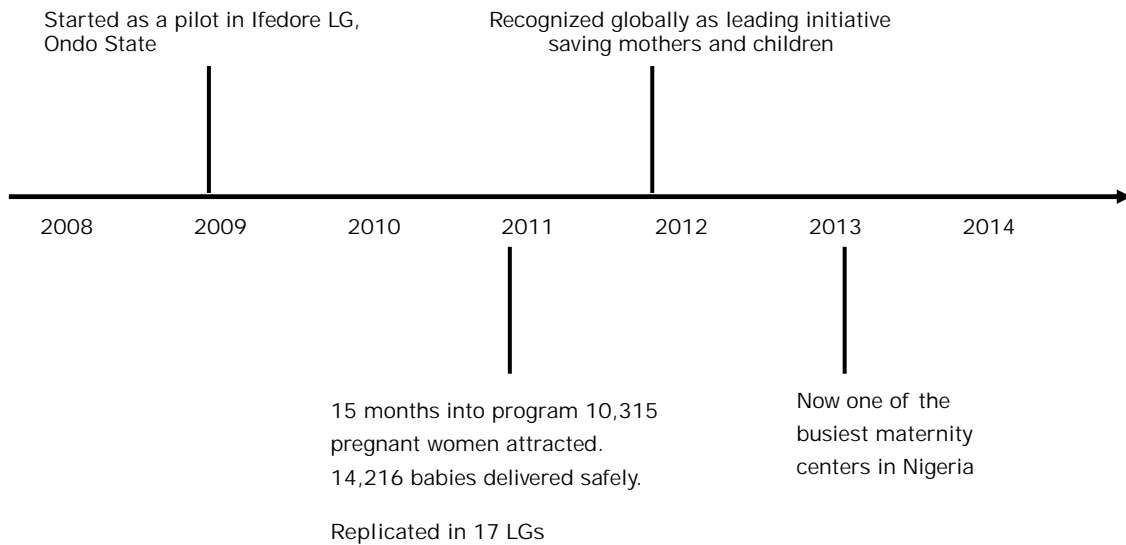


Figure 8.3 Abiye Motherhood Initiative Timeline  
Source: Ondo State Ministry of Health

Results with the Abiye Motherhood initiative have been nothing short of spectacular as presented in the timeline in figure 8.3. The ICT driven project is now recognized globally as a leading initiative in saving mothers and children.

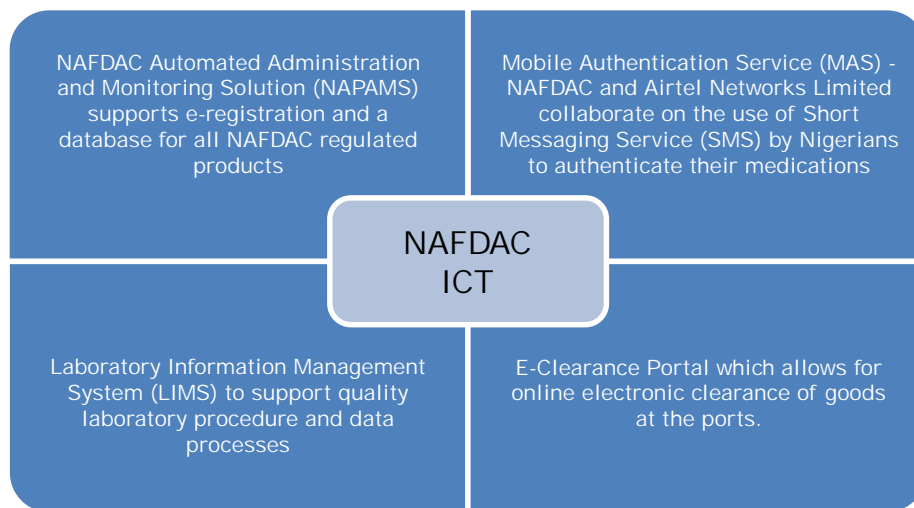


Figure 8.4 NAFDAC ICT Initiatives



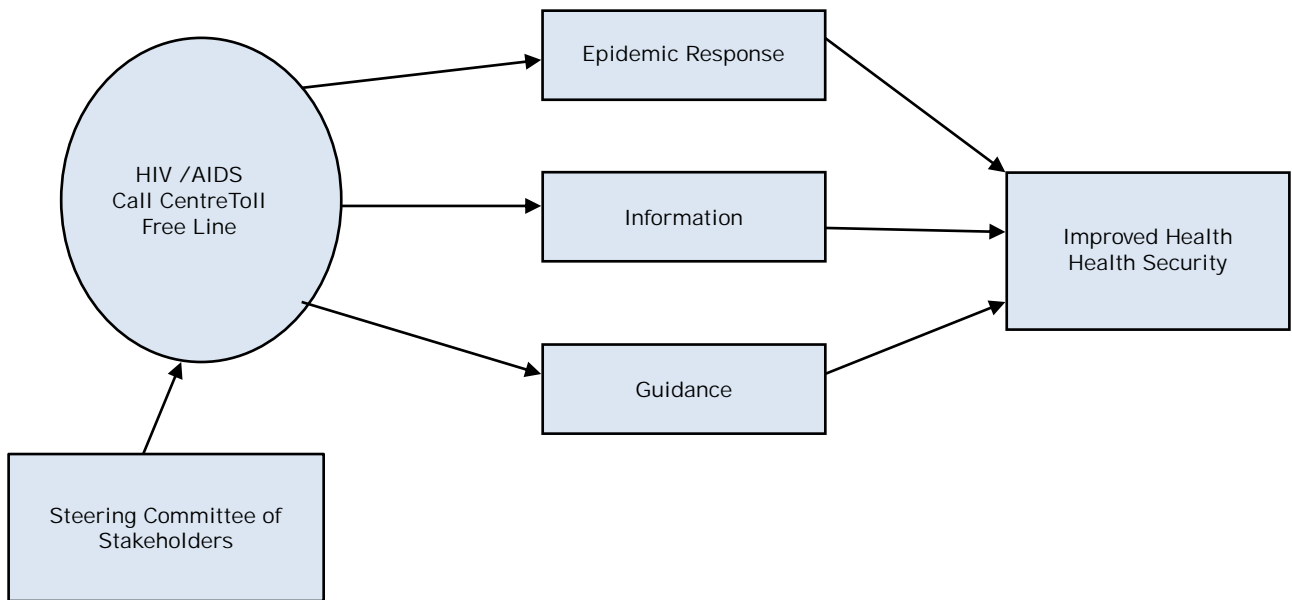


Figure 8.5 HIV/AIDS Call Centre Process for Health Security

By providing toll-free line information on HIV/AIDS and other infectious diseases, the HIV/AIDS call centre is being used effectively to boost health outcomes and security as illustrated in figure 8.5.

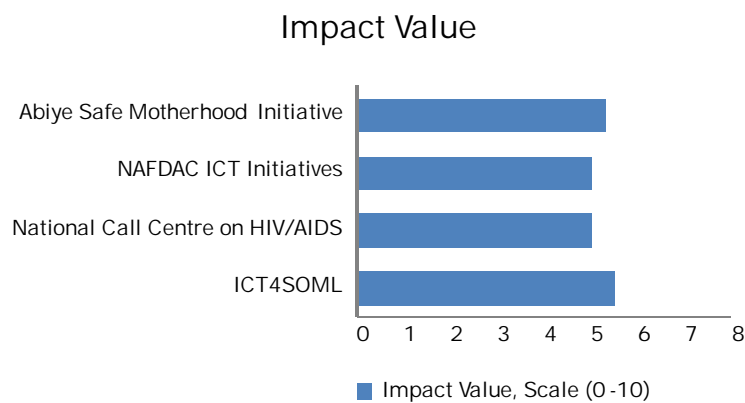


Figure 8.6 Impact of ICTs in Health Initiatives

ICT adoption through implementation of health technology initiatives has improved health outcomes in Nigeria. But as highlighted in figure 8.6 above, work still needs to be done to overcome challenges and improve implementation and impact. Implementation has been a valuable investment that has provided much needed resources.

## 9 | ICT Awareness and Popularization Sub-Plan

### Box 9.1 Focus

Promoting the use of ICT to meet social, commercial and educational needs of all especially the traditionally excluded and those in rural and under-served communities

Initiative	Description	Status
Specialized ICT Reporting and Media	Entails the use of the mass media to spread ICT awareness and popularization.	Stakeholders have invested in building the capacity of ICT journalists as a means of fostering greater public awareness and understanding of the issues.
Girls and Women ICT Initiatives	Initiatives promoting the empowerment and advancement of Girls and women in ICT to improve digital inclusion as well as increased awareness and popularization of ICT.	Girls and women are being empowered through several technology initiatives of government, social and private sector organizations.
People Living with Challenges – ICT Awareness and Training	Initiatives for empowering People living with Challenges to promote digital inclusion and improved ICT awareness and popularization	Training programs have been to empower people living with Challenges with ICT skills
Rural Information Technology Centre (RITC) project	Aimed at bringing IT to the doorstep of Nigerians by ensuring that the rural and under-served areas get access to IT infrastructure	The project commenced in 2009 and over 395 centres have been established. RITCs have contributed in boosting internet usage in Nigeria.

Table 9.1 Notable ICT Awareness and Popularization Initiatives

## Rural Technology Centres

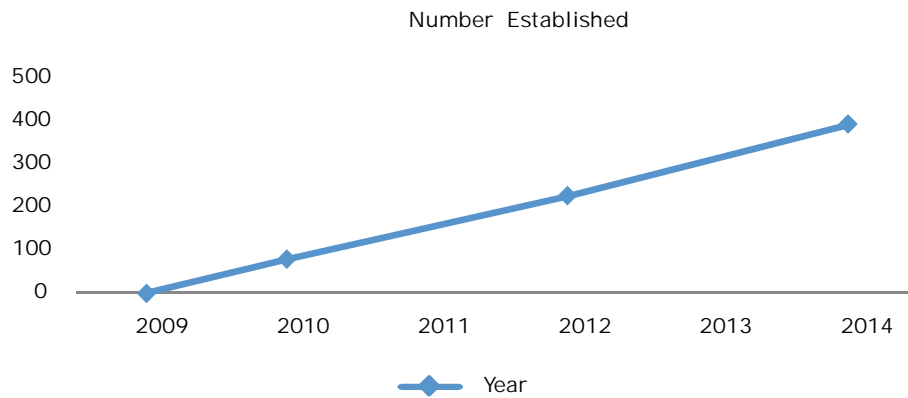


Figure 9.1 Growth in Rural Technology Centres  
Source: NITDA

Figure 9.1 shows that there has been steady growth in the deployment of RITCs by NITDA since the project commenced in 2009. This has assisted in bringing Internet access to underserved communities. The aim is to have at least one centre in each of the 774 local government areas of the country.

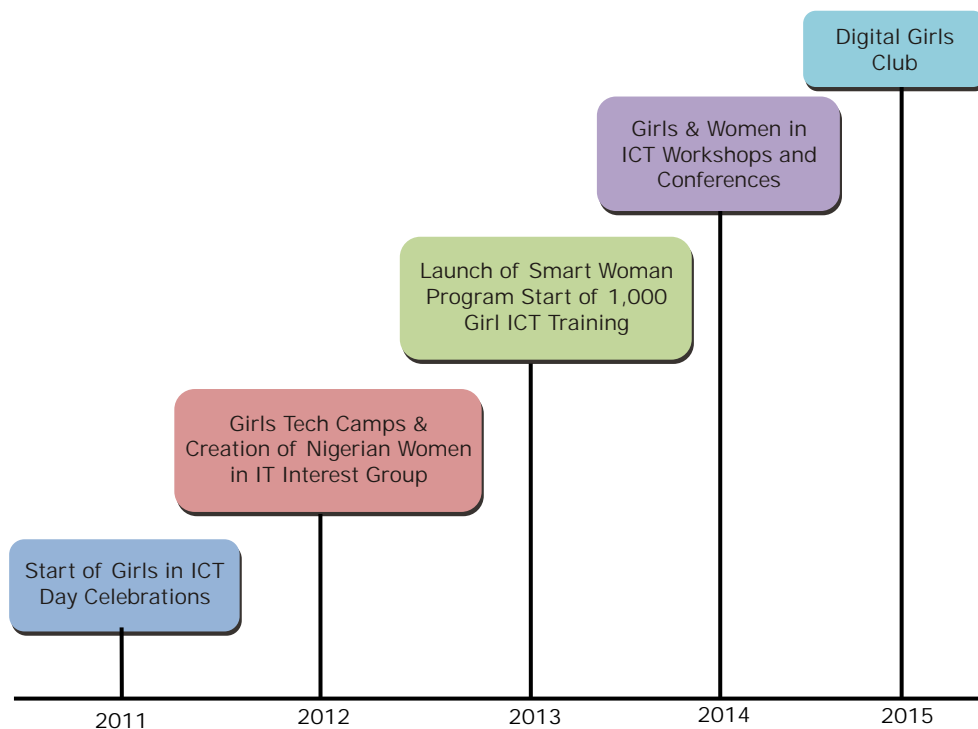


Figure 9.2 Girls and Women in ICT Initiatives and Activities  
Source: Various

As figure 9.2 illustrates above, a wide variety of initiatives have been implemented and are still being implemented to empower girls and women in ICT. The awareness is increasing in education, government and business spheres and is beginning to have an impact as more people are using ICT to meet their needs.

Major plan implementation has been through the mass media. The media is the main avenue that the populace uses to access information about policies, products, services, issues, challenges, opportunities, benefits, processes, and potentials in any sector. Plan implementation has included initiatives to boost the capacity of ICT journalists as shown in figure 9.3 to reach more people and accelerates development. Scope and impact of ICT reporting has developed and expanded over the years as indicated in figure 9.4's timeline.



Figure 9.3 Capacity Building for ICT Journalists

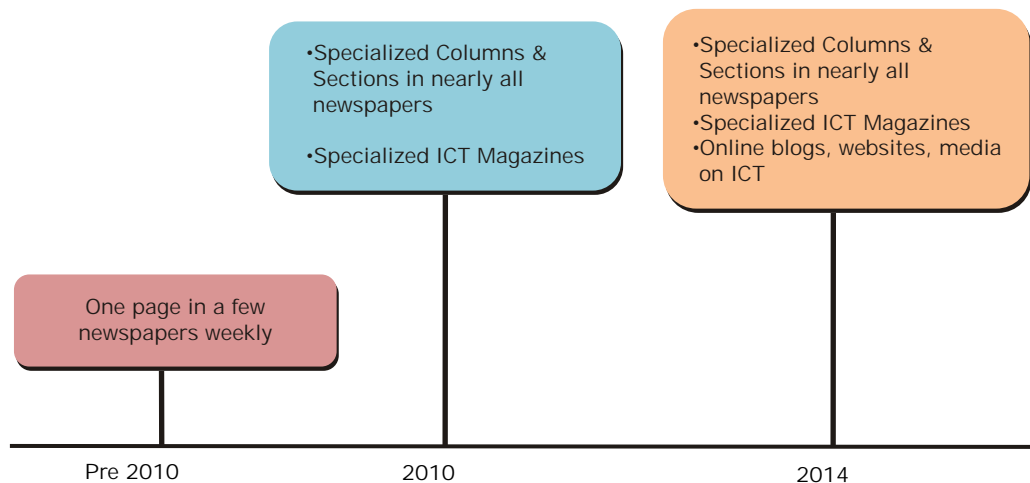


Figure 9.4 Timeline of Specialized ICT Reporting and Media

Organized by NITDA in alliance with the Non-Governmental Organization, Global Hope and Justice for the Less Privileged, the 5 day ICT Awareness and Training programme for people living with challenges promotes digital inclusion and increases ICT awareness through the empowerment of such people who have been traditionally excluded from development. Figure 9.5 presents how the ICT training for People with Challenges programme fits into NITDA's ICT Awareness mandate.

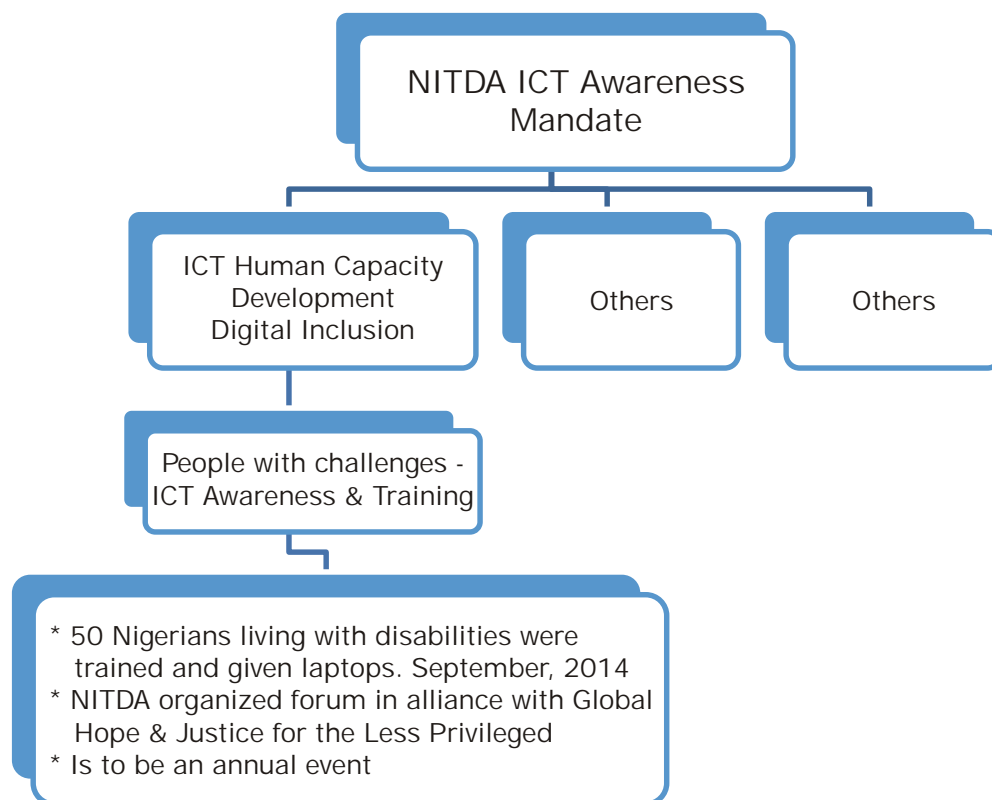


Figure 9.5 People with Challenges ICT Awareness & Training and NITDA's Mandate  
Source: NITDA

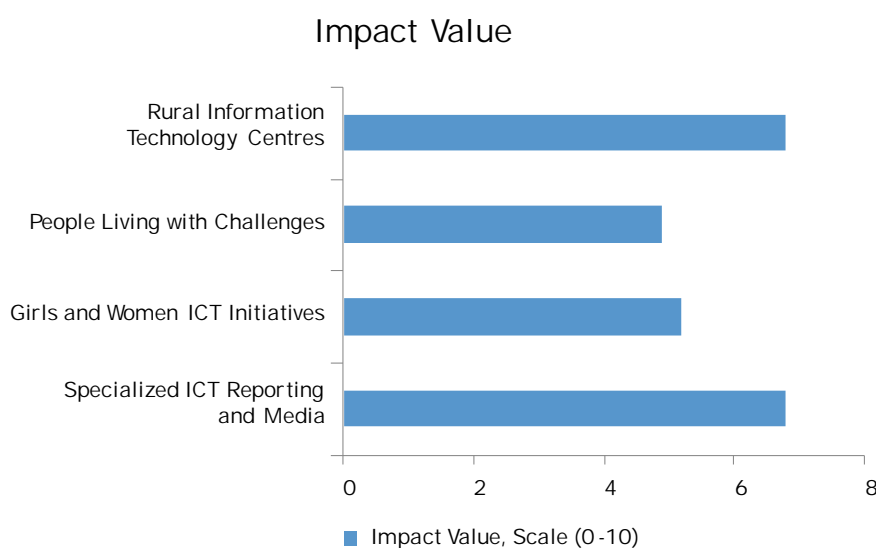


Figure 9.5 Impact of ICT Awareness and Popularization Initiatives

Plan implementation of initiatives has contributed significantly boosting ICT awareness ICT and internet penetration in the country. Figure 9.5 shows the impact of initiatives. Nigeria's Internet usage is the fastest growing in Africa, with Nigeria also housing the continent largest number of Internet users.

# 10 | Agriculture Sector Development Sub-Plan

## Box 10.1 Focus

Promoting the use of ICTs to transform the agricultural sector

Initiative	Description	Status
Growth Enhancement Support (GES) Scheme	Enables and increases the provision of targeted and subsidized farm inputs directly to farmers for delivery of seeds and fertilizers via electronic coupons on mobile phones or Electronic wallets (e-wallets)	Within two years, GES had reached 6 million genuine farmers, which has improved the food security of 30 million persons in rural farm households
National e-Agriculture Portal	Developed to provide information, resources and networking opportunities for the Agriculture sector, which will assist in the achievement of Nigeria's Agricultural Transformation Agenda (ATA)	The portal is live at: <a href="http://www.eagriculture.com.ng">www.eagriculture.com.ng</a> OR <a href="http://www.eagriculture.org.ng">www.eagriculture.org.ng</a> . Results achieved through inter-governmental collaboration between NITDA and Federal Ministry of Agriculture and Rural Development (FMARD)
mAgriculture Application Platforms	Mobile technology initiatives are developed to boost food security and meet needs of farmers, consumers and other stakeholders in Agriculture	A wide range of mobile application platforms have been developed to address various needs in the agriculture value chain

Table 10.1 Notable Agriculture Sector Development Initiatives

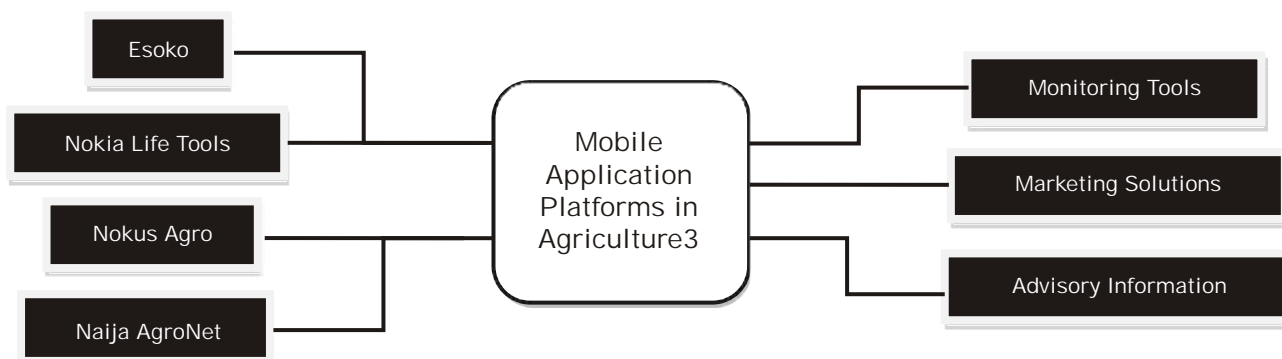


Figure 10.1 Mobile Application Platforms for Agriculture Development  
Source: Various

Figure 10.1 highlights some of the mAgriculture already in use in Nigeria. Farmers, the public and other stakeholders are already benefiting and changing the nature of the market through plan implementation. Mobile is promising in terms of the ubiquitous nature of mobile telephony and the significance of opportunities offered to young Nigerians. With a teledensity over 100% Nigeria is uniquely positioned to tap into the mobile growth avenues.

2013 SUBTOTAL/ ZONAL DATA

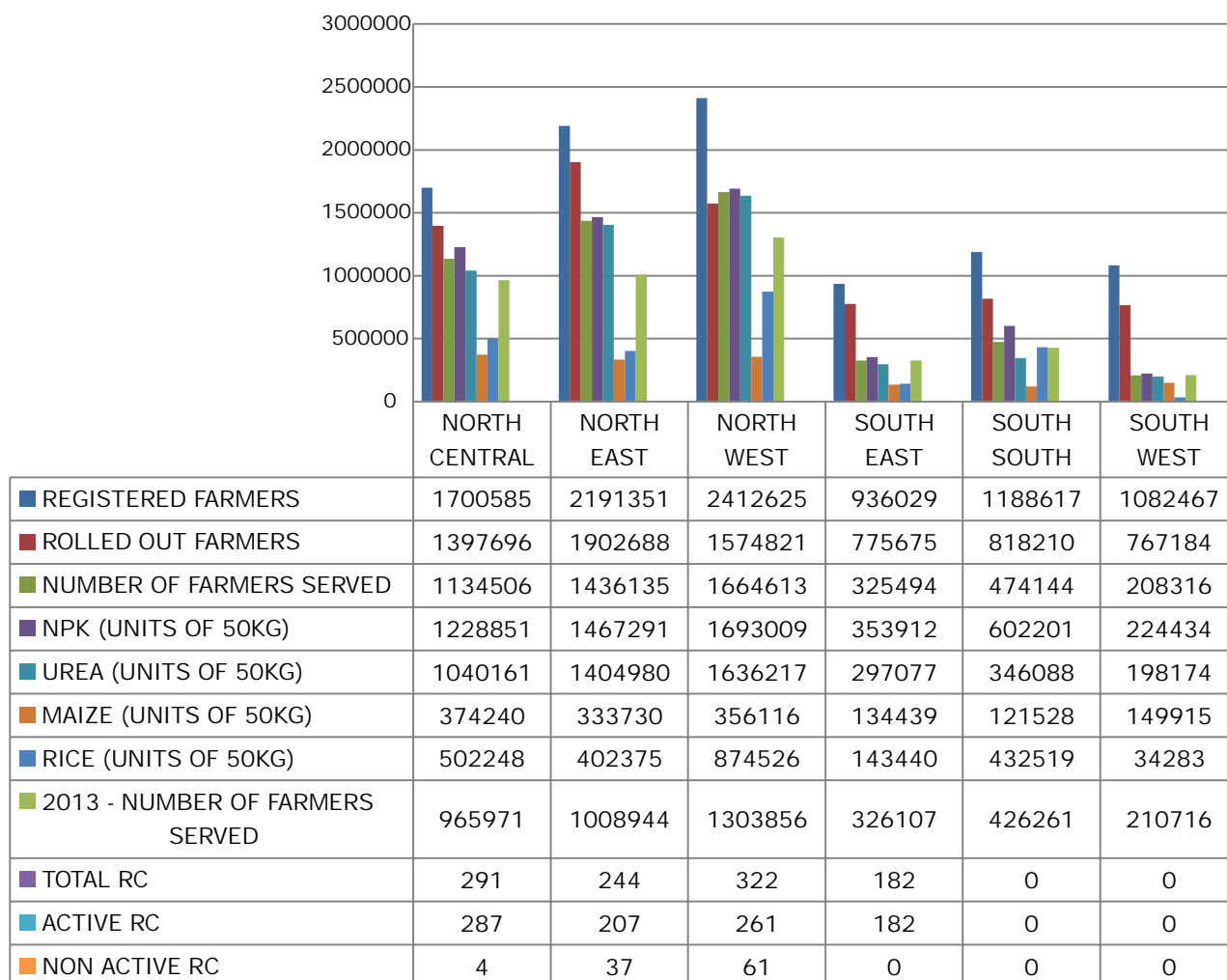


Figure 10.2 GES Zonal Information  
Source: Federal Ministry of Agriculture and Rural Development

GES has been implemented nationwide with significant success. Impact of the initiative has varied however varied from zone to zone as depicted in figure 10.2. The figure shows that the zone with the highest level of uptake is the North West zone, especially in terms of farmers registered with the scheme. However in terms of farmers that have rolled out the North West has made the most impact.

## GES Impact (2012-2013)

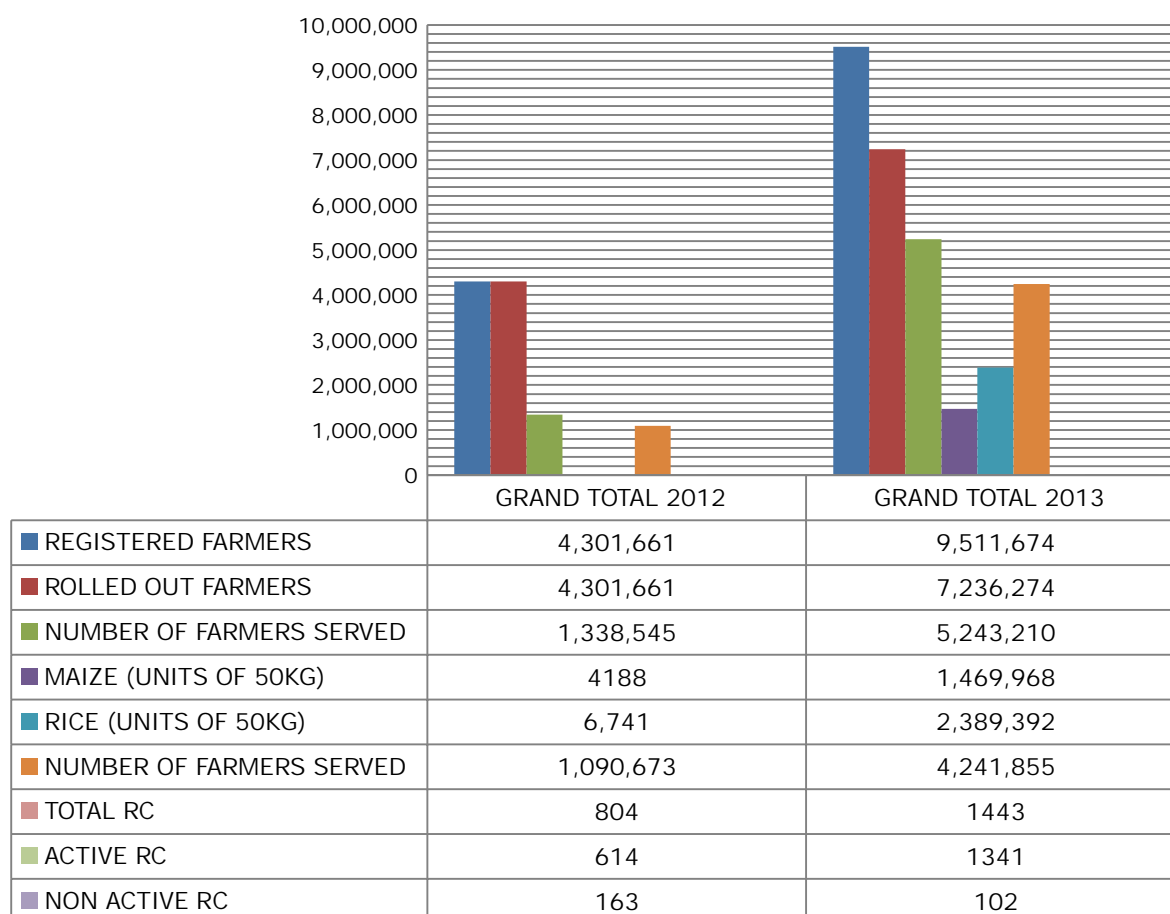


Figure 10.3 GES Growth 2012-2013  
Source: Federal Ministry of Agriculture and Rural Development

Figure 10.3 shows the growth in GES impact from 2012 to 2013, indicating over 100% growth in the number of registered farmers. The technology platform enables accredited farmers to receive fertilizer allocations and related information through their mobile phones.

The scheme which entails the massive overhaul of the national fertiliser and seed supply system has been a huge success by stimulating a revival in the sector. It has significantly improved the access of farmers to subsidized seeds and fertilizers, and ended over forty years of corruption in government fertilizer subsidy scheme. Companies now sell directly to farmers rather than to government. Contracts for supplies have been scrapped and government's monopoly has also been eliminated as procurement and supplies is now in the hands of private companies.



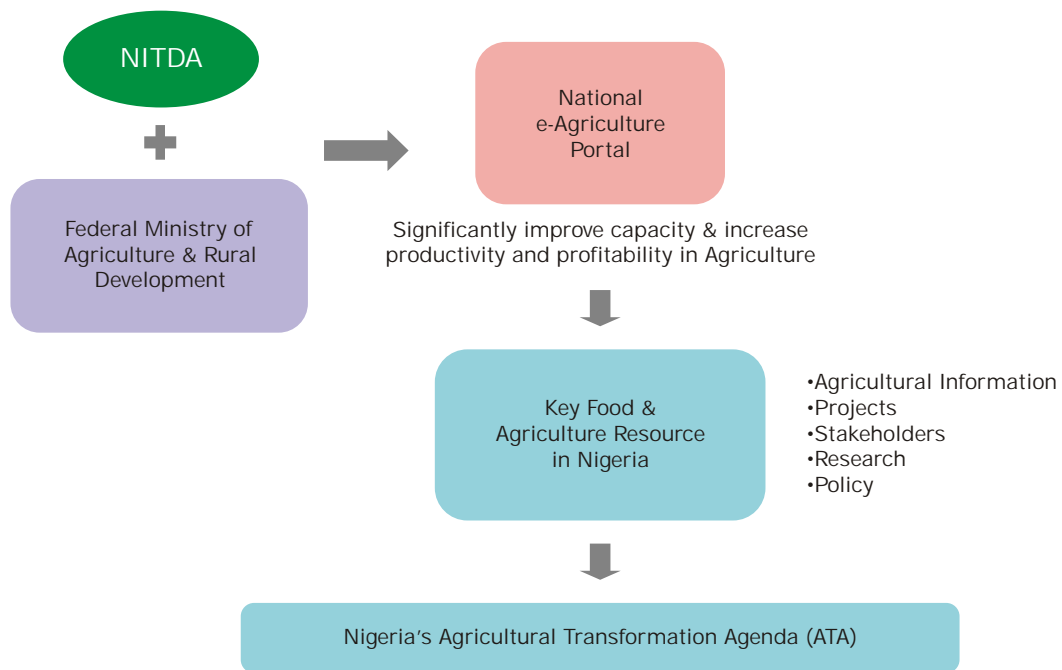


Figure 10.4 National e-Agriculture Portal  
Source: Various

The National e-Agriculture portal is a collaborative effort of NITDA and the Federal Ministry of Agriculture and Rural Development (FMARD). Figure 10.4 above shows the main components and expected outcomes of the e-Agricultural portal. The portal is accessible on various devices and platforms – Web and Mobile.

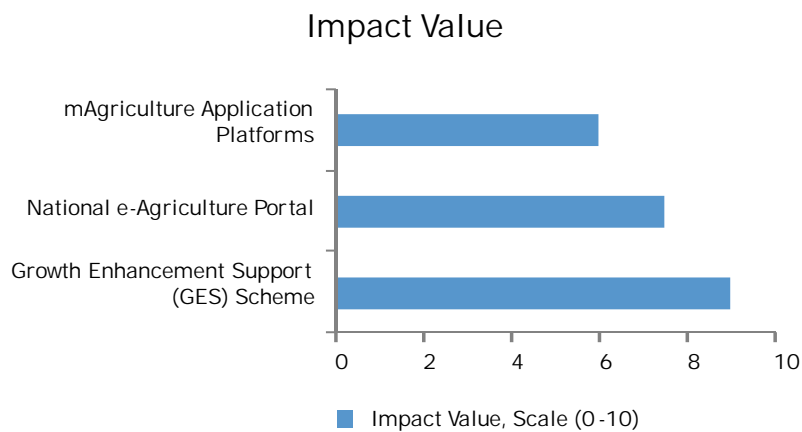


Figure 10.5 Impact of Agriculture Sector Development Initiatives

Plan implementation of initiatives made significant impact in the agricultural sector as illustrated in figure 10.5. Contributions of the initiatives have been most impressive in terms of boosting efficiency of the sector, changing the nature of the sector and enhancing job security.

# 11 | Private Sector Development Sub-Plan

## Box 11.1 Focus

Supporting the development of the private sector including promoting the use of ICTs to support sectorial development, including key economic sectors

Initiative	Description	Status
Cashless and e-payment Initiatives	Establishment of programs cashless and e-payments penetration in Nigeria	Programs have led to increased utilization of e-payment channels such as: Point-Of-Sale Systems, online payments, Internet Banking, ATMs Electronic Funds Transfer, Mobile money, etc
National Software Conference and Competition	Organized annually by the Institute of Software Practitioners of Nigeria, (ISPON) to promote software development in Nigeria	Outcomes have included increased software awareness, development of software policy initiatives, and growth of software competencies through the national competitions
Guidelines for Nigerian Content in ICT	Developed to increase the participation of the local companies and domestic value add to the ICT industry; also to stimulate sizeable and strategic investments and partnerships in the local ICT industry	The Office for Nigerian Content Development in ICT (ONC) by NITDA/Federal Ministry of Communications Technology for implementing the guidelines
Launching of Online Stores for Nigeria	Encouraging the creation of Online stores providing electronic commerce facilities including physical delivery of goods and services in Nigeria	Notable online stores launched are Jumia, Konga, DealDey, Kaymu, Gloo and OLX. The companies are innovating, creating jobs and adding value to Nigeria's economy
The ICT Innovation Fund	To raise funds for prospective ICT entrepreneurs who may not be able to access funds from banks	Nigerian Government announced commitment of \$9 million seed capital at DEMO Africa (Sept 2014). Closed at \$16.2 Million in 2014.

IT Developers Entrepreneurship Accelerator (iDEA)	Established to provide essential support to entrepreneurs in building software skills, solutions and businesses critical to their success	With centres in Calabar and Lagos, several startups have been supported to establish their businesses through incubation and acceleration programs. Over 200 direct and indirect jobs created
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Table 11.1 Notable Private Sector Development Initiatives

### Digital Cashless Transactions (Value in Naira Billion)

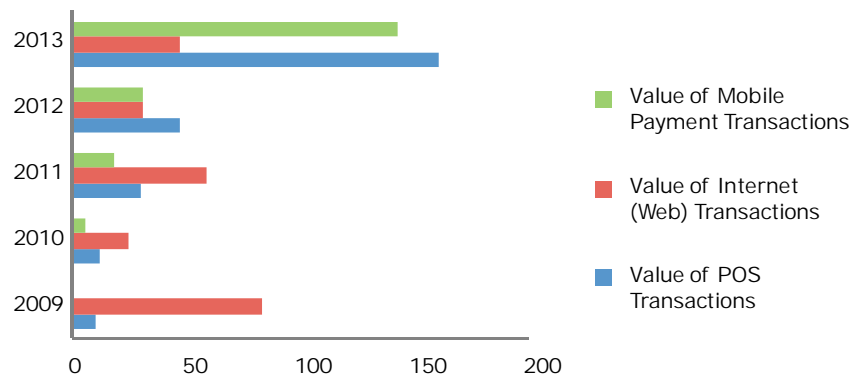


Figure 11.1 Digital Cashless Transactions  
Source: Central Bank of Nigeria (CBN) Statistics

Introduction of the cashless policy and other payment initiatives has seen many Nigerians utilizing digital payment methods for their transactions. Figure 11.1 above highlights the steady growth in the value of mobile payment transactions.

While the value of mobile, POS and internet transactions combined has traditionally been much less than the value of cheque transactions, figure 11.2 indicates that cheque transactions are falling in value, while ATM and other payment transactions are rising in value. Again this highlights a growing preference for electronic payment transactions.

### Value of Transactions (Naira Billion)

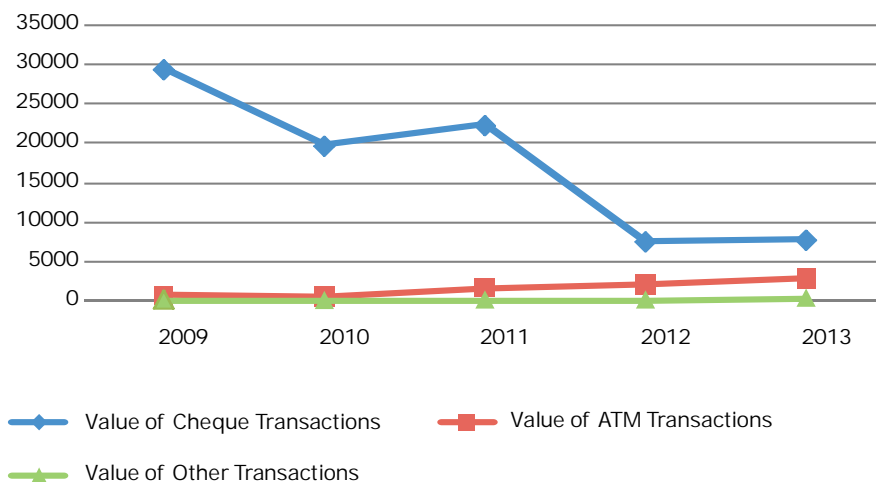


Figure 11.2 Value of Payment Transactions  
Source: Central Bank of Nigeria (CBN) Statistics

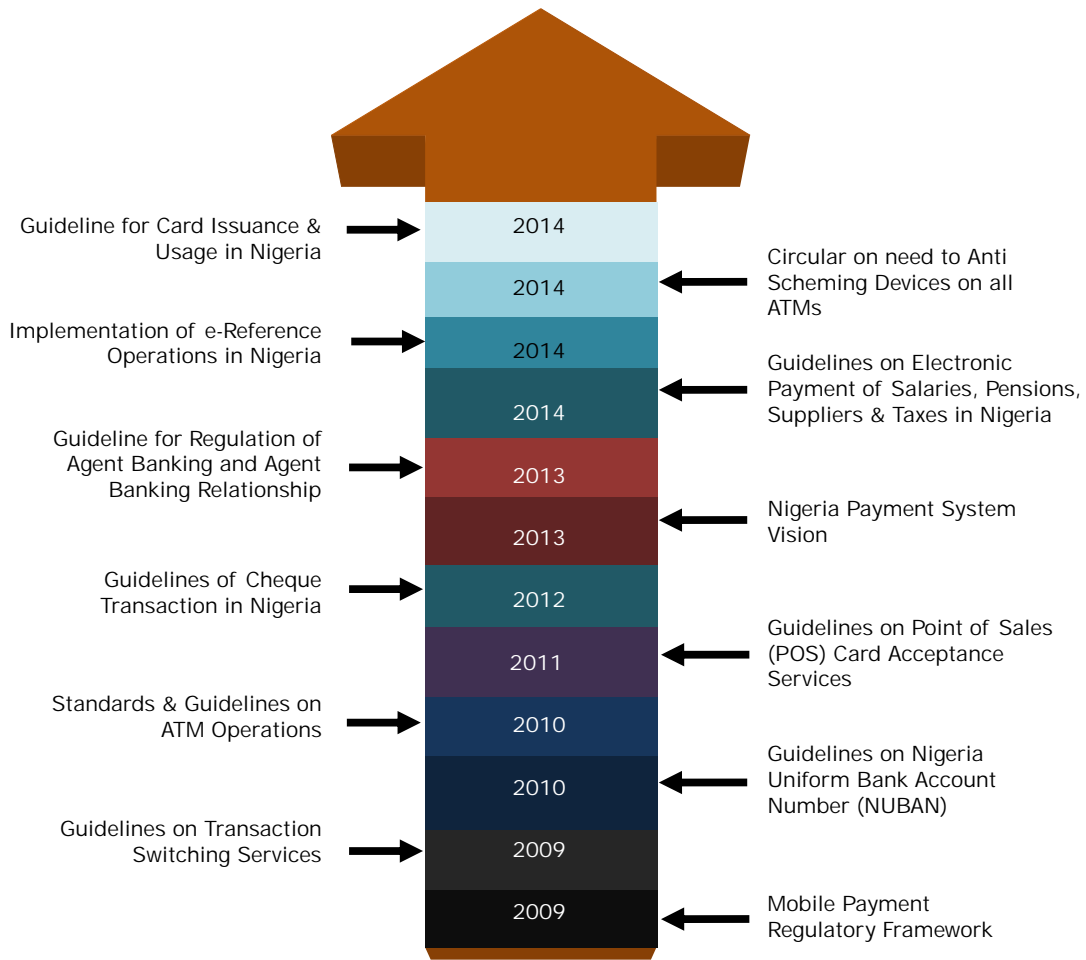


Figure 11.3 Guidelines for e-banking and e-payment services  
Source: Central Bank of Nigeria

CBN issues circulars and guidance in providing the regulatory framework for e-banking, e-payment and related services. Some of the guidelines feature in the figure 11.3 timeline presented above.

### National Software Conference

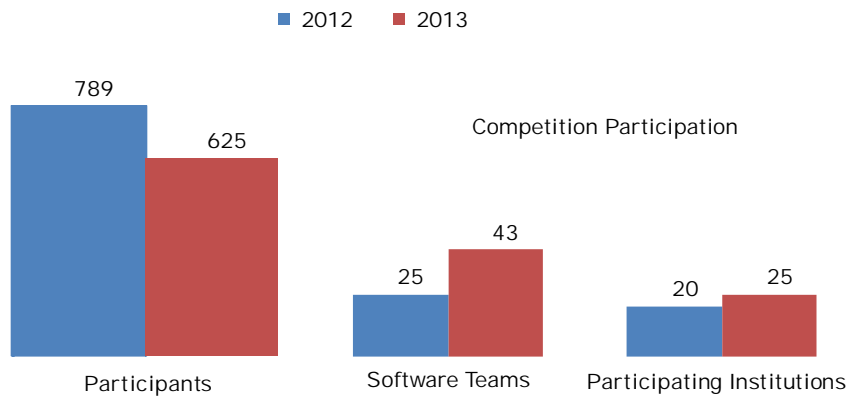


Figure 11.4, National Software Conference and Competition (2012/2013)  
Source: Institute of Software Practitioners of Nigeria, (ISPON)

Though participation at the conference dropped from 2012 to 2013, participation is increasing steadily in the software competition as illustrated in figure 11.4. The increase in software teams and participating institutions signifies more interest in enhancing and demonstrating software competency.

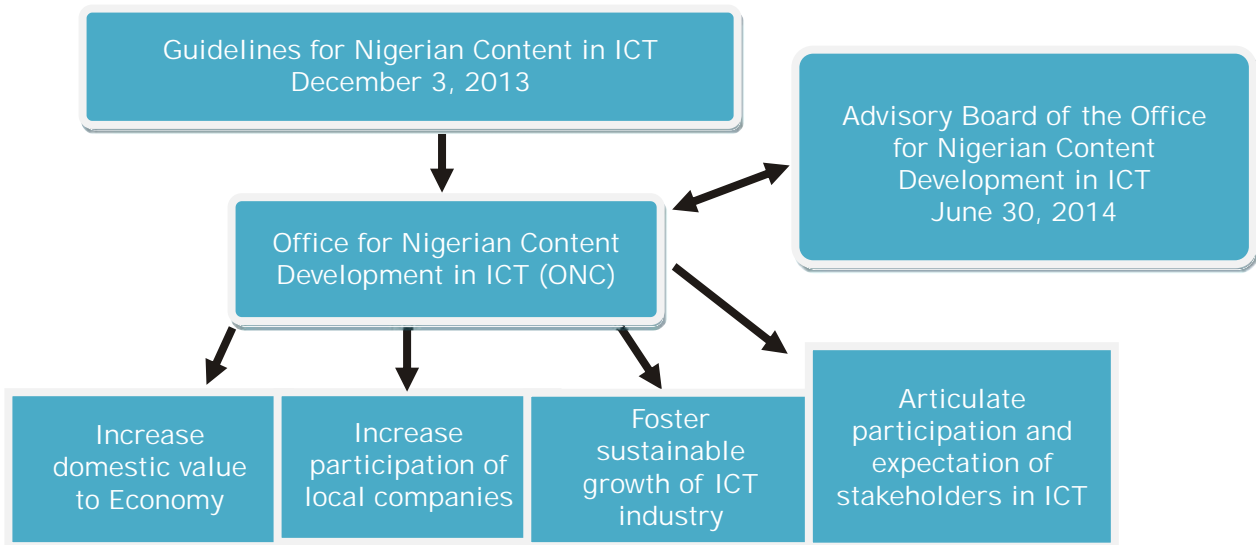


Figure 11.5 Guidelines on Nigerian Content in ICT  
Source: NITDA

Figure 11.5 highlights the purpose of the guidelines and how they will be implemented through the ONC. The advisory board is in place and works with the office and stakeholders to achieve objectives.



Figure 11.6 Online Shopping Sector Growth in Nigeria (2010-2012)  
Source: Euromonitor International (2014)

Implementation of relevant initiatives has delivered steady growth in online shopping. Inhibiting barriers have been lifted and the culture towards online shopping is changing, especially amongst the youth who constitute 46 % of the population (between the ages of 18 and 35 - NBS Baseline Youth Survey 2012). Online shopping growth is graphically presented in figure 11.6 above.

## Number of Ordered Goods / Nationwide Deliveries

(Daily per Retailer)

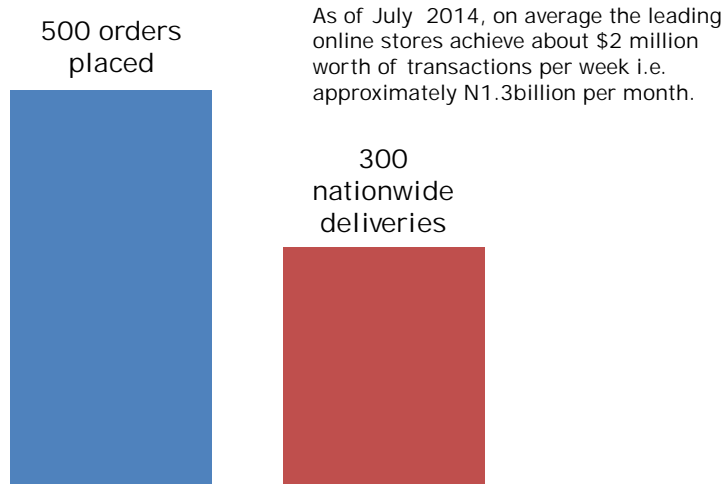


Figure 11.7 Number of Ordered Goods/Nationwide Deliveries (Daily per Retailer) 2014  
Source: Online Shopping Report by Phillips Consulting (July 2014)

## Most Visited Shopping Sites in Nigeria

Number of Visits (In Millions) (May-June, 2014)

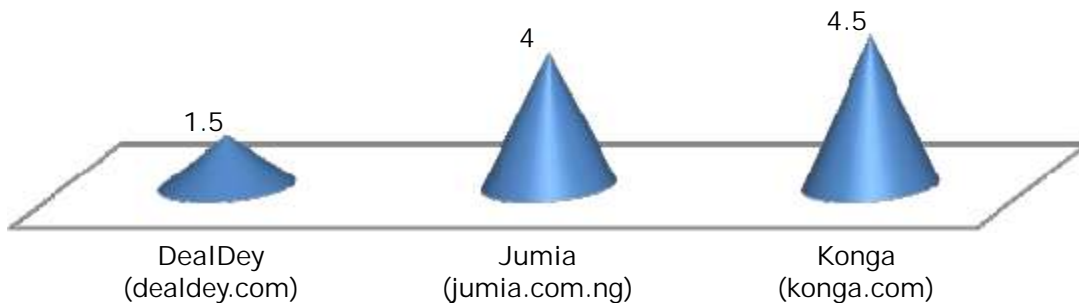


Figure 11.8 Most Visited Shopping Sites in Nigeria (May-June 2014)  
Source: Online Shopping Report by Phillips Consulting (July 2014)

Figures 11.7 and 11.8 confirm that Nigerians are increasingly patronizing online shops. Plan implementation especially the cashless policy has driven changes in lifestyles of consumers in Nigeria. Considering that Nigeria is Africa's most populous country with a populace that has been increasing gradually, impact has been immense.

## The ICT Innovation Fund

Aims help to grow the still very nascent Venture Capital industry in Nigeria and will fill the gap that exists where high risk capital is needed by entrepreneurs

- Nigeria Government's commitment of \$9 million seed capital announced at DEMO Africa (September 2014)
- Closed at \$ 16.2 Million; Further rounds will aim to reach target of \$ 50 Million

Targets disruptive and innovative technology startups in Nigeria with leadership potential.

The Fund creates opportunities currently unavailable to the ever growing ecosystem of young Nigerian IT entrepreneurs. It is estimated that the Fund will create 35,000 jobs.

Figure 11.9 The ICT Innovation Fund  
Source: Federal Ministry of Communication Technology

Achievements of the ICT Innovation fund are presented in figure 11.9. Plan implementation through the fund helps young Nigerians overcome funding constraints and boost job and wealth creation.

## IT Developers Entrepreneurship Accelerator (iDEA)

Launched in Lagos (April 2013) & Calabar (August 2013)

Support: Physical Workspace, Shared Facilities, Training, Mentoring, Testing Tools, Access to Capital

Over 200 direct and indirect jobs created

Specifically, eight (8) ICT startups supported to establish their businesses through customized incubation and acceleration programs

- iSEC: 5 years old just secured a turn-key deal with NIBSS to deploy its innovative financial authentication solution for all banks.
- Africana Computers Ltd (e-Pump solution): Raised US\$40,000 to complete its Back-office real-time monitoring software for sales and operation of gas station.
- Klien Devort which has a social networking to workplace automation tool and has negotiated a US\$800K investment.
- TeData Ltd. (an e-Stock solution provider) that has raised US\$50k, created over 10 jobs.

Ongoing incubation and acceleration of over 70 tech startups at iDEA centres that have the potential of generating 10,000 direct and indirect jobs

- Of 40 finalists at DEMO 2014, fourteen (14) Nigerian startups (highest from any African nation) launched their innovative solution before the audience of international and local investors, technology buyers.
- Five of these startups are products of iDEA Incubation Centers

Figure 11.10 IT Developers Entrepreneur Accelerator (iDEA)  
Source: Federal Ministry of Communication Technology

It is clear from figure 11.10 that the iDEA initiative is on track. As indicated, iDEA is already making an impact in the ICT landscape by creating jobs and wealth through technology for young people in Nigeria.

## Impact Value

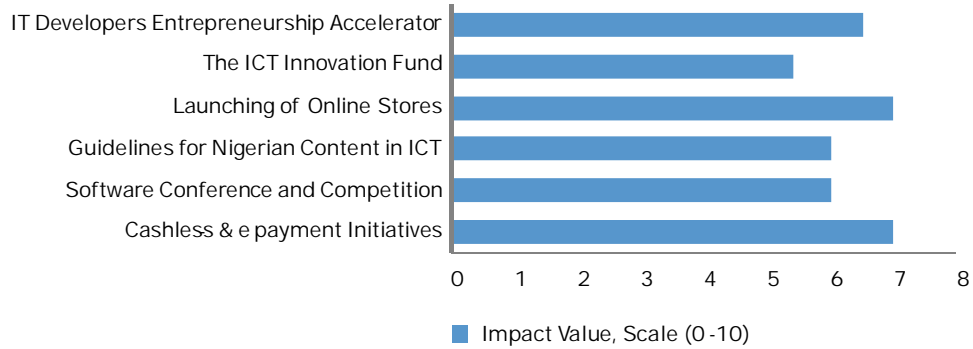


Figure 11.11 Impact of Private Sector Development Initiatives

Plan implementation of Private Sector development has made considerable impact through several initiatives. Though quite a few of the programmes are still works in progress and uncompleted, most are already making significant impact in line with the private sector becoming the source of innovation and the driving force of the economy. Implementation through the launching of online stores and the Cashless/e-payment initiatives, which is indicated in figure 11.11 has been quite successful and impactful.





# 12 | Governance and Legislation Sub-Plan

## Box 12.1 Focus

Creating the necessary legal and regulatory environment to support the development, deployment and exploitation of ICTs within the economy and society

Initiative	Description	Status
Creating the Federal Ministry of Communication Technology (FMCT)	The Ministry aims to coordinate and align all government's efforts in the administration and implementation of ICT throughout the country. The Ministry's mandate is to facilitate universal access to communication infrastructure, promote the utilization of ICT in all spheres of life, promote and facilitate the development of the ICT industry and its contribution to GDP and facilitate the employment of technology to drive transparency in government and effective public service delivery	The Federal Ministry of Communication Technology was established in 2011. Several agencies are under the ministry. The Ministry facilitated the delivery of the National ICT Policy, the National Broadband Plan and the Guidelines for Nigerian Content in ICT. It has developed and supported the Smarts States, Girls and Women in ICT, Naijacloud, iDEA, ICT Innovation Fund, e-Government Services portal and other initiatives.
Drafting and Enactment of relevant laws for facilitating ICT deployment and exploitation	To establish legal framework to facilitate the use of ICT for communication, governance and commerce; to promote and foster confidence and security in ICT deployment and exploitation; to maintain the security and integrity of data, records and information in digital form; to enforce laws to combat cyber crime; to protect personal privacy in digital transactions; to promote intellectual property; to address critical ethical issues of the digital culture and protect the rights of the child and under-privileged	With the enactment of the Evidence Act 2011, Electronic documents and materials generated through electronic based transactions are now admissible in the Nigerian judicial system. Since 2006, several bills have been drafted seeking to provide a legal framework to combat cybercrime and related offenses. The draft harmonized Cybersecurity Bill was produced in 2011. The National Assembly passed the Cybercrime bill in 2014.

Development of ICT Policies by States of the Federation	To facilitate the deployment and exploitation of ICT in States of the Federation to propel inclusive, social and economic growth in the States of the Federation	NITDA has collaborated with several states to draft their state ICT policies. Three states in the first phase and five states in the second phase.
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Table 12.1 Notable Governance and Legislation Initiatives

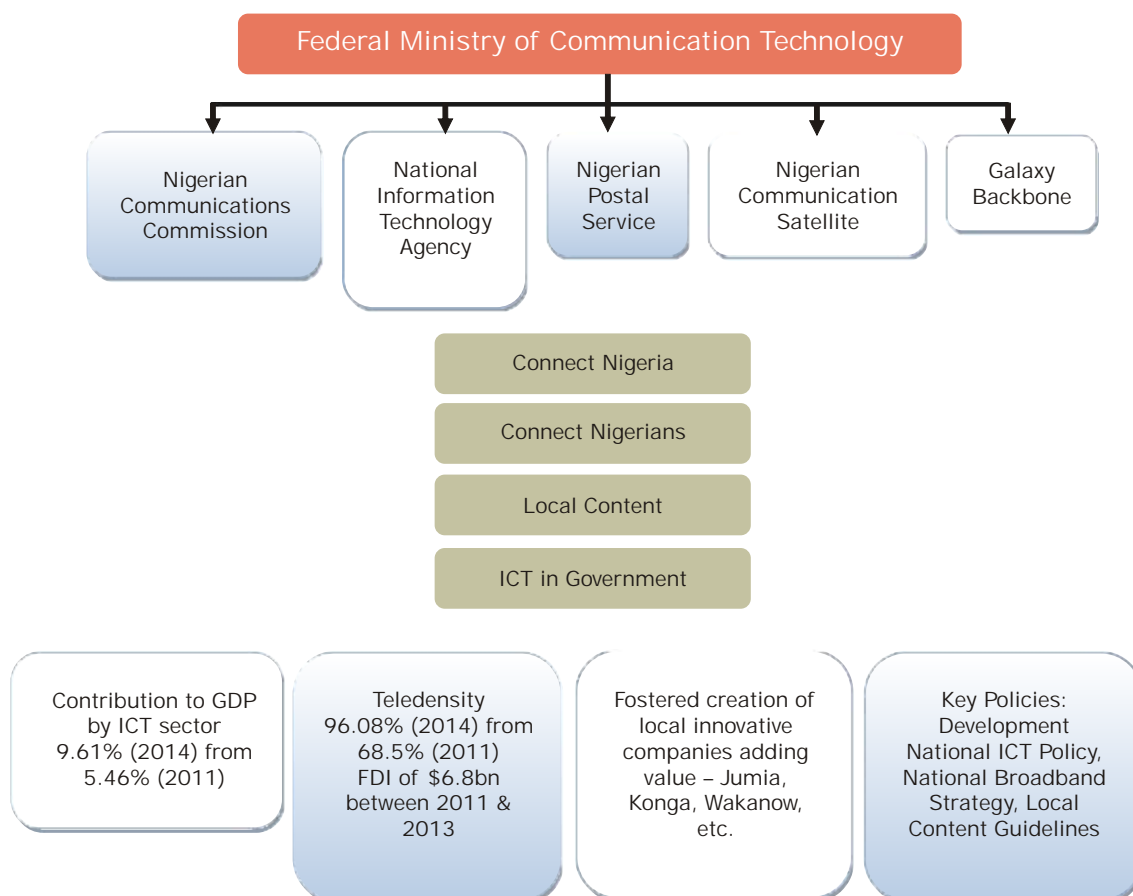


Figure 12.1 Federal Ministry of Communication Technology Structure and Achievements  
Source: FMCT

Figure 12.1 indicates that agencies under the Federal Ministry of Communication Technology are: Nigerian Communications Commission, National Information Technology Development Agency, Nigerian Postal Services, Nigerian Communications Satellite and Galaxy Backbone. In providing governance, FMCT ensures coordination of their efforts to ensure they are not working at cross purposes.

Through coordination of the agencies and adherence to its mandate, the Ministry's impact has been considerable. Achievements highlighted in figure 12.1 include facilitating development of relevant policies, encouraging the creation of local innovative companies, supervising teledensity growth and enabling ICT sector contribution to GDP to rise to 9.61% (2014).

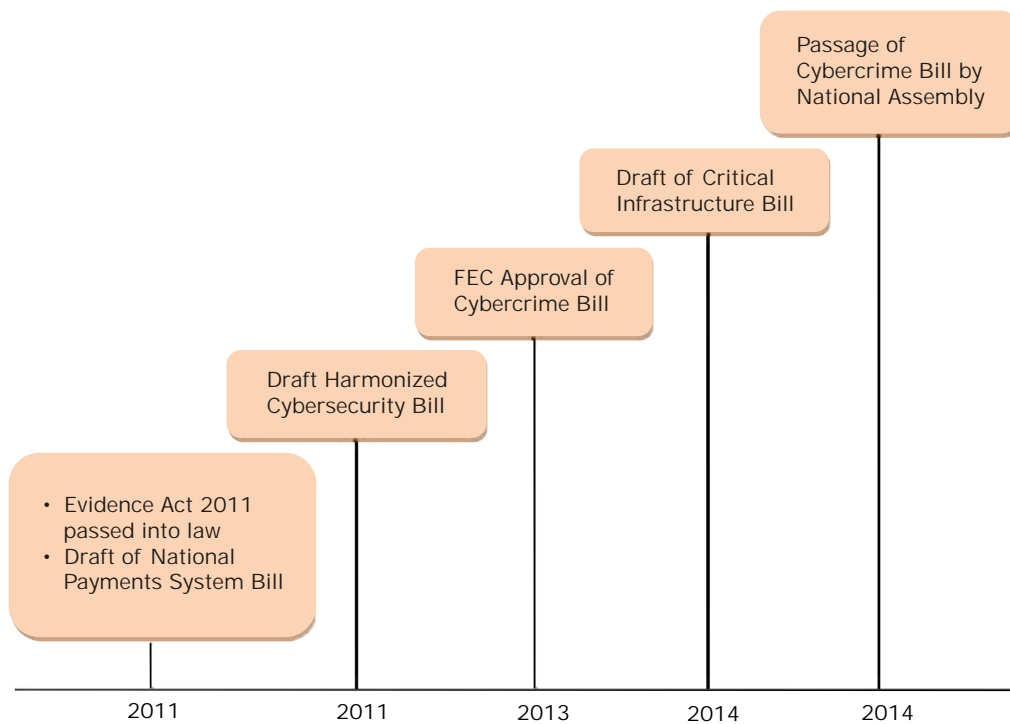


Figure 12.2 Drafting and Enactment of ICT Legislation Timeline  
Source: National Assembly

Figure 12.2 indicates some of the bills related to ICT deployment and exploitation that have drafted as well as those that have been passed into law. Enactment of ICT legislation is critical to building confidence, trust and safety in Nigeria's emerging digital economy.

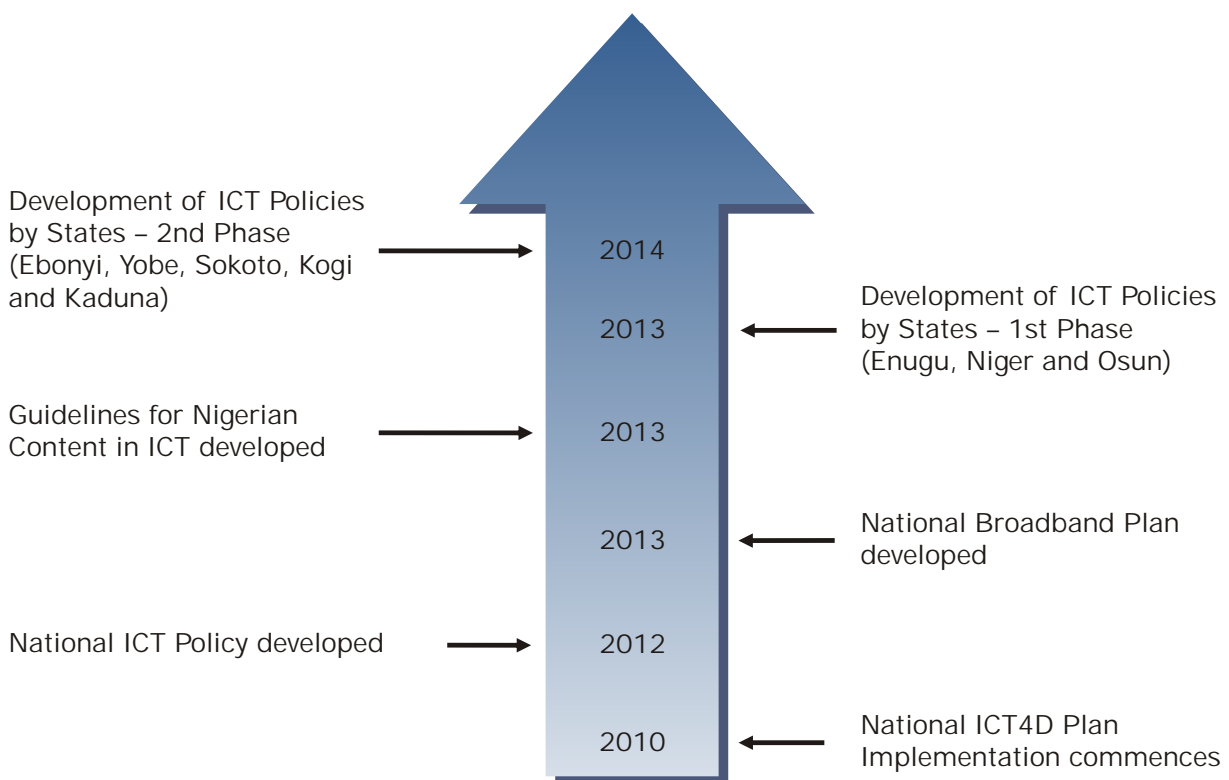


Figure 12.3 ICT Policy Development in Nigeria  
Source: NITDA/FMCT

Plan implementation in creating the necessary regulatory environment to support ICT development, deployment and exploitation has been through the plans, policies and guidelines highlighted in figure 12.3. Though content and focus is varied, they all fall within the vision of the Strategic Action Plan. The essence for each plan/policy is to create an enabling environment for the achievement of plan or policy specific objectives. Implementation is ongoing for most of these strategic interventions.

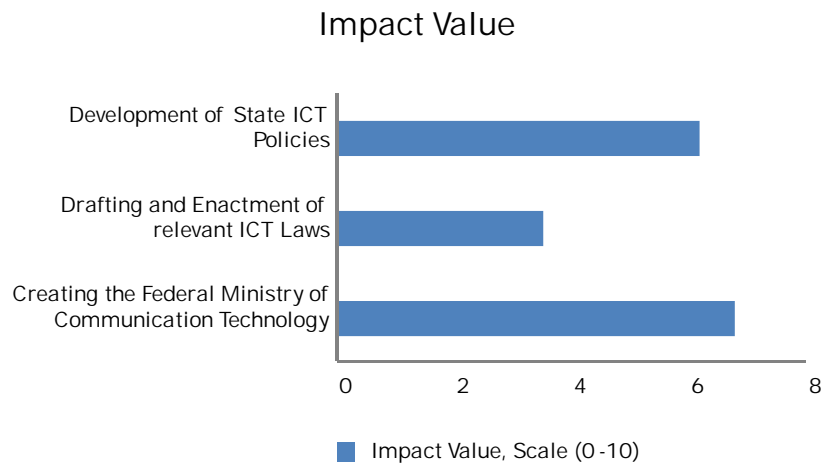


Figure 12.4 Impact of Governance and Legislation Initiatives

Impact of plan implementation has been varied with initiatives of the Governance and Legislation sub plan. Figure 12.4 highlights the fact that implementation impact of Creating the Federal Ministry of Communication Technology has been high. However, the legislative aspect of this subplan still needs serious attention. Creating the legal framework requires more effort. The development of State ICT Policies is also promising, though it is a recent strategic intervention.

# 13 | National Security and Law Enforcement Sub-Plan

## Box 13.1 Focus

addressing national security and law and order issues through the exploitation of ICTs

Initiative	Description	Status
National Computer Emergency Readiness and Response Team (CERRT.ng)	A trusted Cyber Security resource providing a networking, collaboration and sharing platform to ensure a secure Cyber Space	Will build Emergency identification readiness and response capacities and liaise as needed with similar incident response teams locally and worldwide
Lagos State Emergency Communication and Command Centre and Legislation	To receive information on emergencies and improve the capacity to respond promptly and effectively to emergency situations and to assist affected persons in Lagos state	24 hour emergency response is provided now in Lagos state through toll free numbers. Law establishing Lagos State Emergency Command and Control Centre has been enacted
National Cybersecurity Forum	Public-private sector partnership and multi-stakeholder engagement for developing a policy framework on cybersecurity	1st National Cybersecurity Forum organized by Office of the National Security Adviser (ONSA) was held in Lagos in July 2014

Table 13.1 Notable National Security and Law Enforcement Initiatives

The nation's first CyberSecurity forum was held in June 2014 with the general objectives of harnessing stakeholders input into the policy framework on cybersecurity. As shown in figure 13.1 below, the multistakeholder forum also aimed to build national consensus on National Cybersecurity Roadmap as well as develop a coordinated security foundation for digital activities in Nigeria.

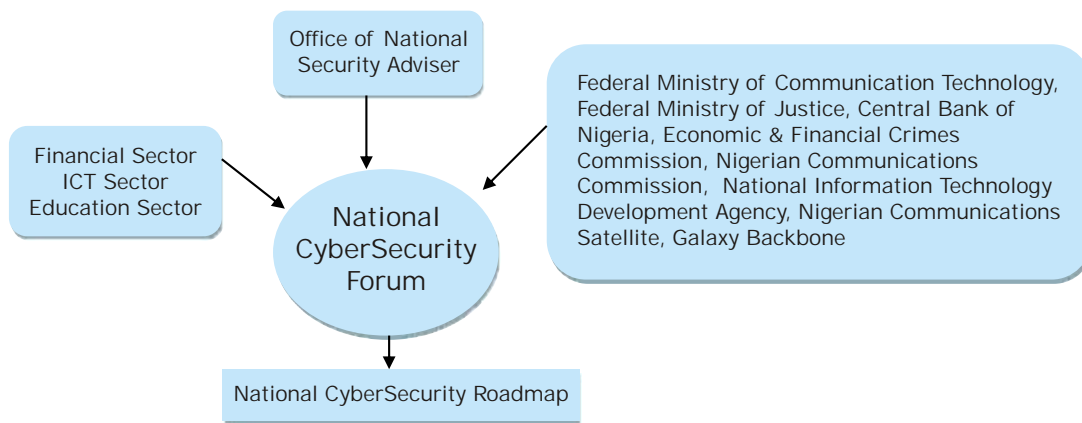


Figure 13.1 National CyberSecurity Forum

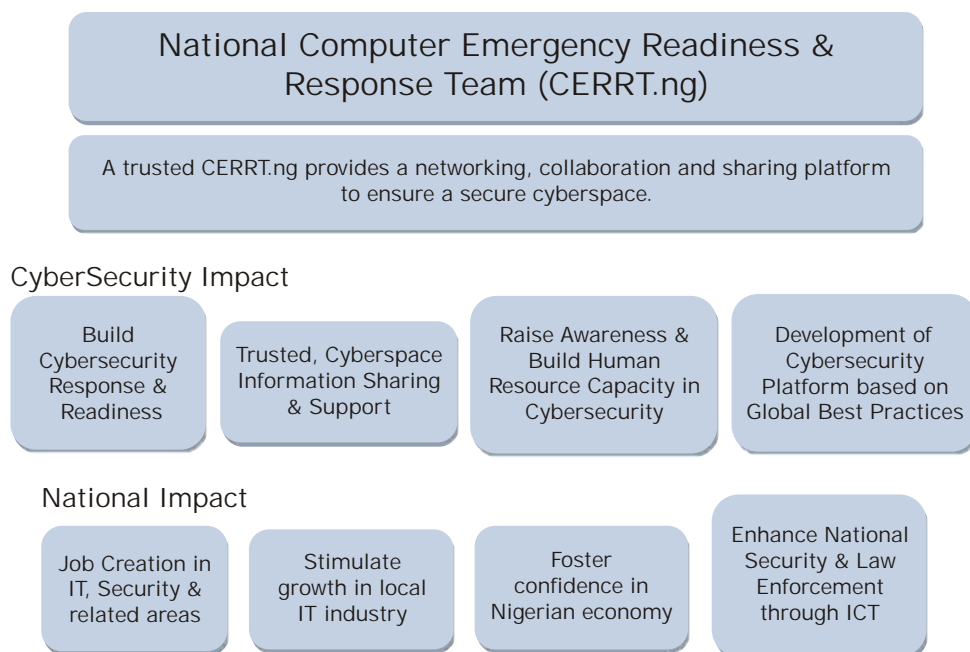


Figure 13.2 National Computer Emergency Readiness and Response Team (CERRT.ng)  
Source: NITDA

The National Computer Emergency Readiness and Response Team (CERRT.ng) is designed to have both Cyber Security and National impact as indicated in figure 13. 1 above. Essentially in building capacities and carrying out its Cyber security tasks it will be contributing to national development as shown.

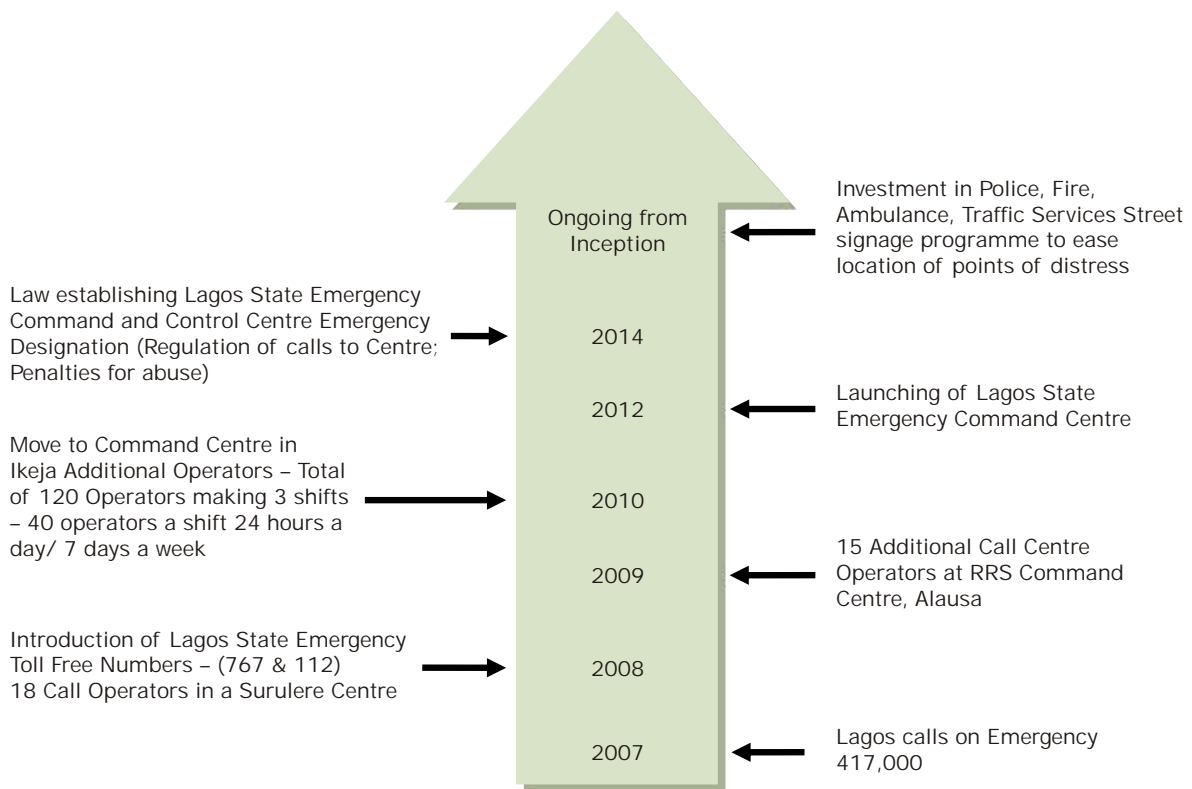


Figure 13.3 Lagos State Emergency Communication and Command Centre and Legislation  
Source: Lagos State Government

Lagos State Emergency Communication and Command Centre has leveraged effectively on ICT to significantly improve emergency response in Lagos. Figure 13.2 above shows a timeline of activities of the Command Centre from inception highlighting milestones and progress made over the years. It is evident that it is making progress and also making an impact in the lives of Nigerians. The call centre aspects even assists with job creation in the state.

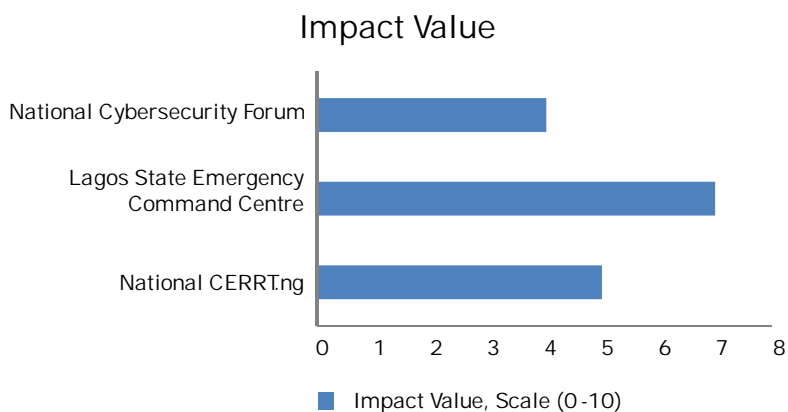


Figure 13.4 Impact of National Security and Law Enforcement Initiatives

Although overall impact is above average, there is a lot that still needs to be done to ensure ICT serves the best interest of national security. Figure 13.4 indicates that the Lagos State Emergency Command Centre has made quite a significant impact. It has been a huge success in Lagos state - within the first 15 months of the operations, calls grew to about 1.5 million a day.





# 14 | Research and Development Sub-Plan

## Box 14.1 Focus

Promoting research and development (R&D)

Initiative	Description	Status
Inauguration of the first Nigerian Research and Education Network (NgREN)	Infrastructural backbone to interconnect all research and education institutions in the country and link them with other Research and Education Networks worldwide	NgREN was commissioned in July 2014. First phase of the World bank assisted project implements a REN encompassing the 27 older Federal Universities.
National Information Technology Research and Development Workshop	Instituted by the Nigeria Computer Society (NCS) to enhance research and development capacities in Computer Science/IT towards national development	Several editions have been including the maiden edition in November, 2012. The 2014 edition focused on cloud computing
Establishment of City and State Research and Education Networks	To provide data communications networks and services to the research and education communities in the city or in the state	Eko-Konnect (2009) and Osun REN (2012) are two RENs fostering research development and collaboration in their domains

Table 14.1 Notable Research and Development Initiatives

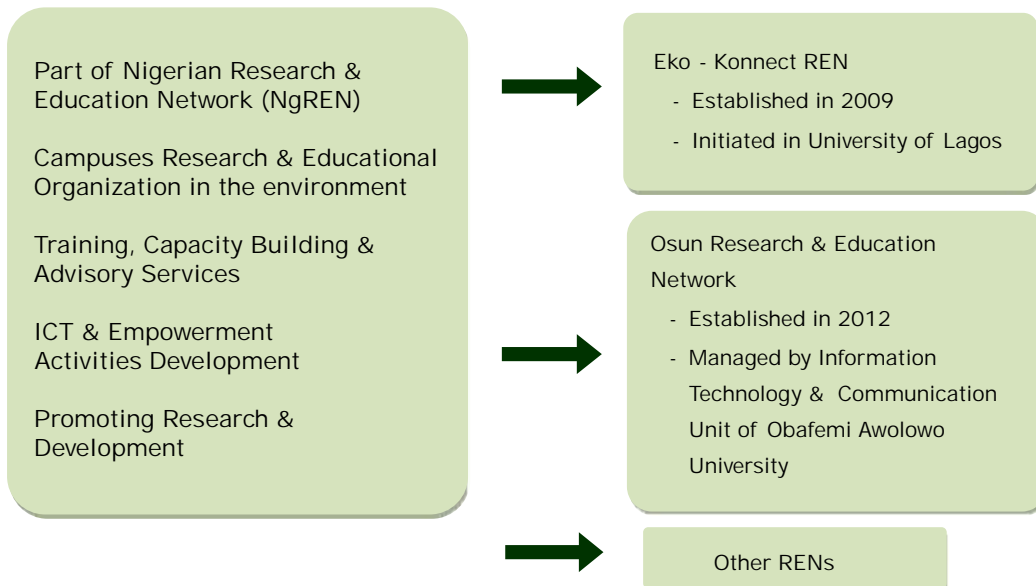


Figure 14.1 Focus of Research and Education Networks in Nigeria

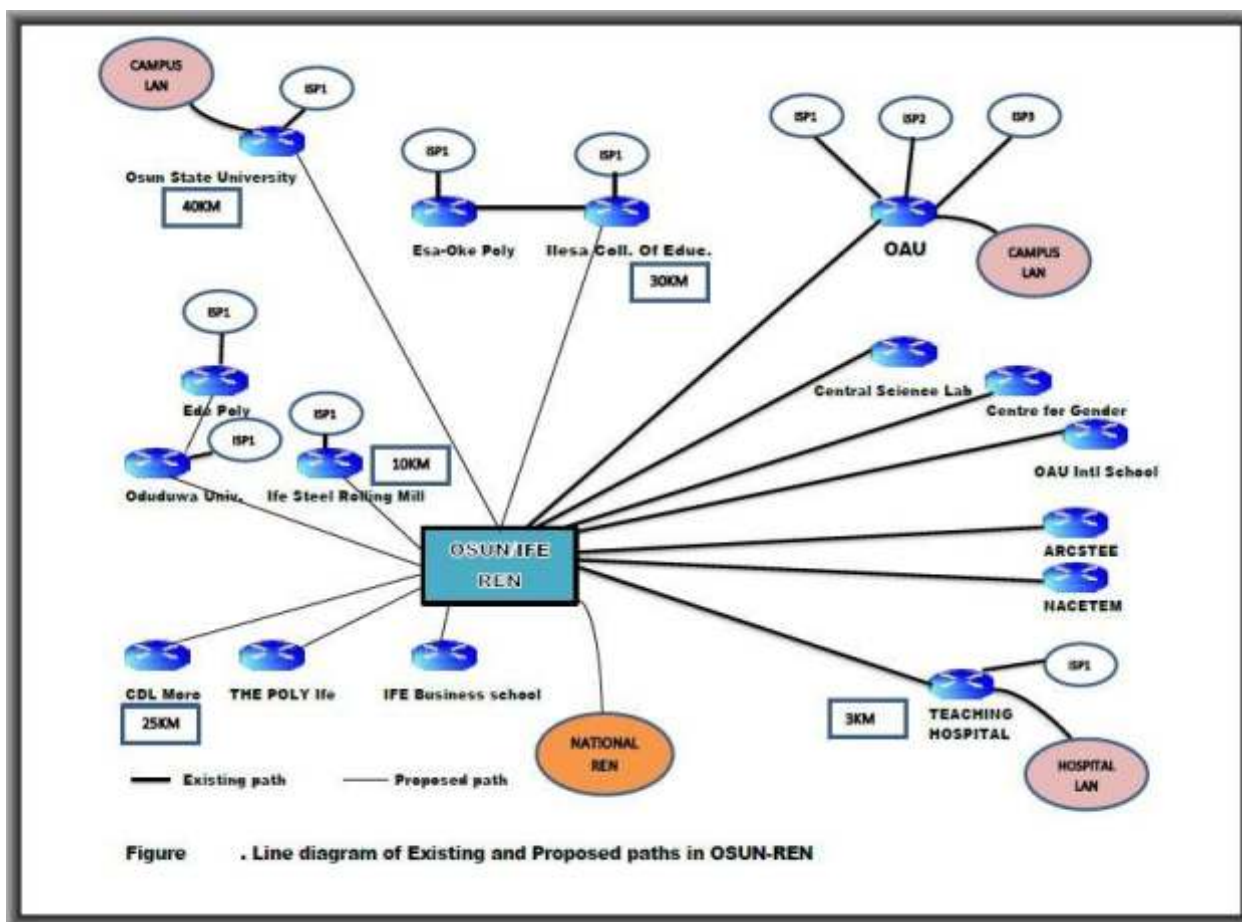


Figure 14.2 Osun State REN Structure Diagram  
Source: Obafemi Awolowo University (OAU)

The collaborative nature of Research and Education Networks (RENs) for the communities is shown by the diagrams in Figures 14.1 and 14.2. While the Osun state REN provides communications networks and services to research and educational institutions in the state, Eko-Konnect's collaborates with business research and academic communities in Lagos.

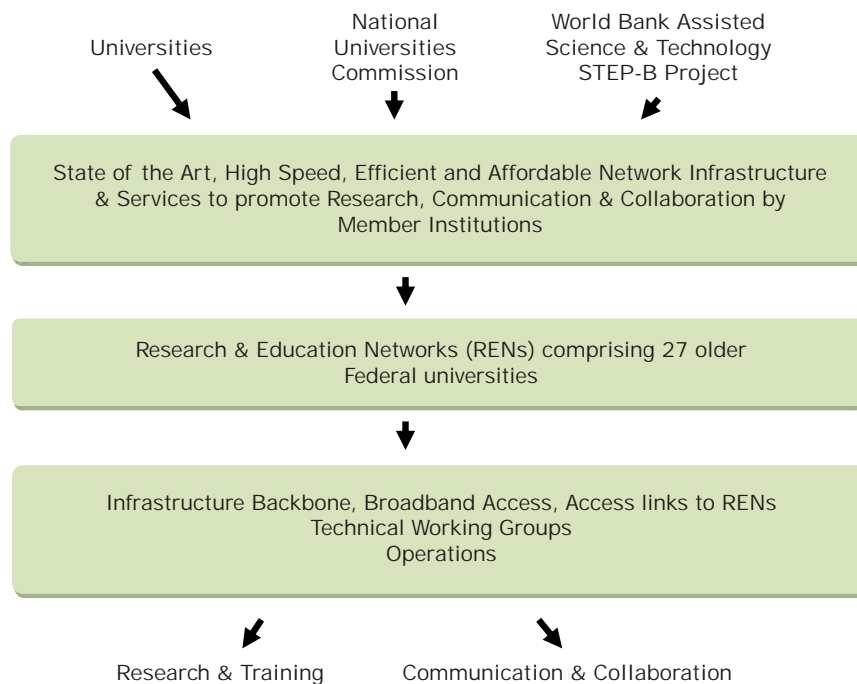


Figure 14.3 Nigerian Research and Education Network (NgREN)  
Source: NgREN

The NgREN was developed as a result of collaboration involving universities, National Universities Commission (NUC) and the World Bank. This is shown in figure 14.3 highlighting the importance of collaborative partnerships in furthering plan implementation. Quite significantly, funding which is essential for building world class network infrastructure for the first phase is provided by World Bank.

The following figure 14.4 presents NgREN status reflecting its national spread and potential impact. The collaborative network facilitates the growth of research and development and the achievement of research and development subplan objectives.



## STATUS OF NgREN IMPLEMENTATION

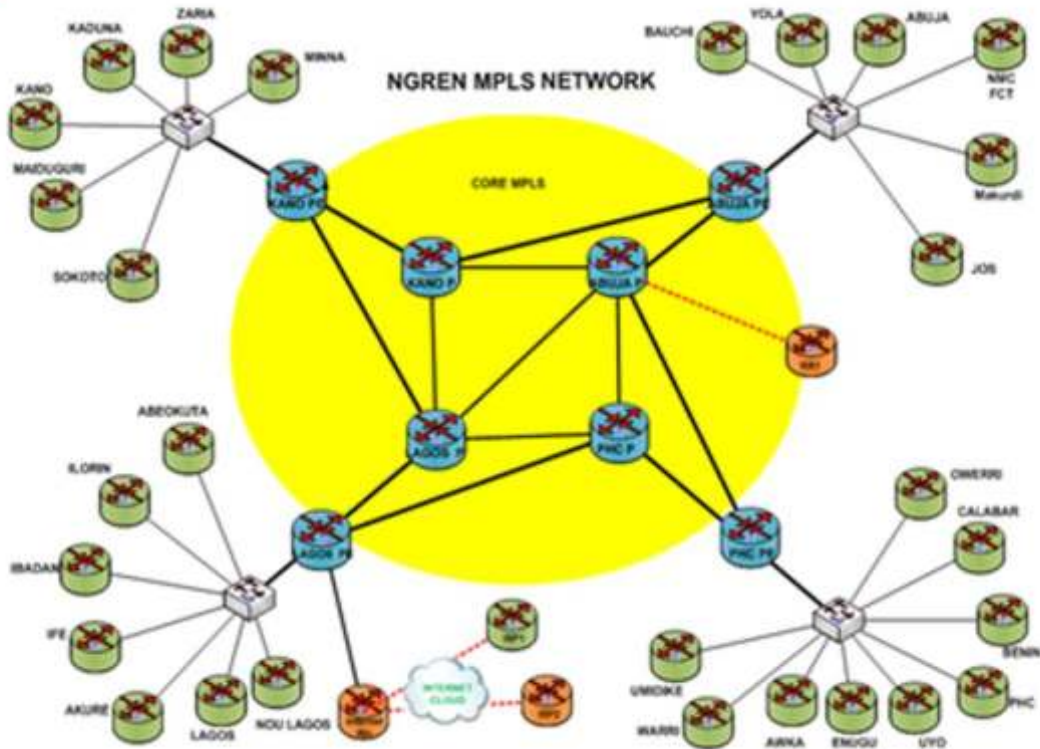


Figure 14.4 Status of Nigerian Research and Education Network (NgREN)  
Source: NgREN

### National IT Research Workshop Attendance

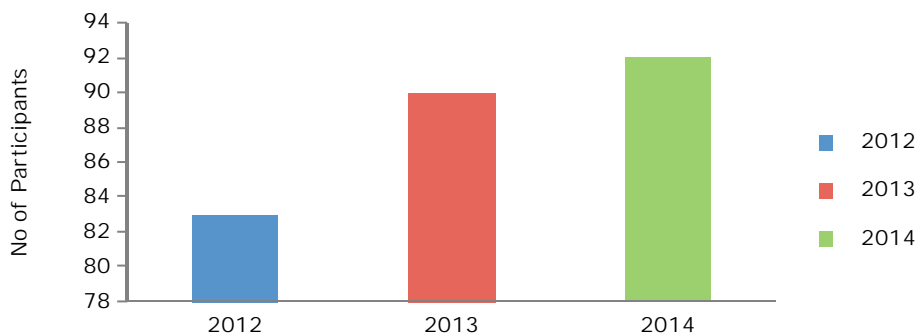


Figure 14.5 Attendance at National IT Research and Development Workshops (2012-2014)  
Source: Nigeria Computer Society

The National IT Research and Development workshops organized by the Nigeria Computer Society (NCS) experience steady growth in attendance as indicated in figure 14.5. Growth is due to the relevance of topics taught and the hands-on nature of the workshop. Plan implementation through building research capacity is crucial to bridging the IT research gap in Nigeria

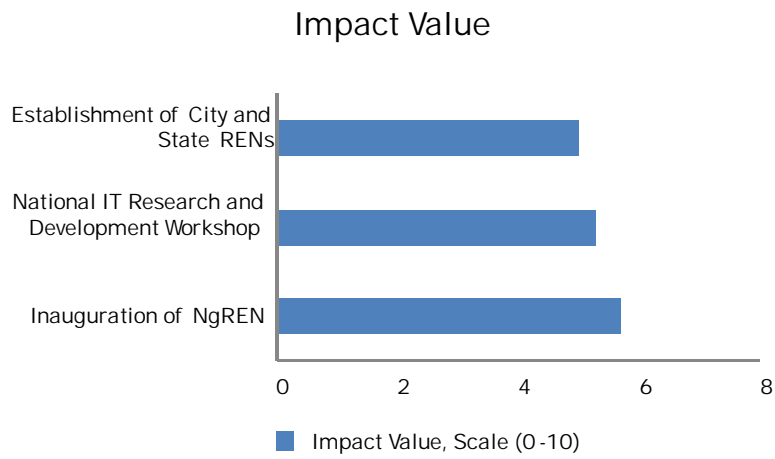


Figure 14.6 Impact of Research and Development Initiatives

Implementation is satisfactory so far but most of the initiatives still require further development and implementation. The research and development implementation gap is still wide. Figure 14.6 reveals this gap. Implementation needed to intensified and scaled up for them to fully deliver on their promise.



# 15 | Observations

Achievements	Challenges
<p>Implementation outcomes in the e-payment, e-commerce landscape have been among the most outstanding</p>	<p>The level of local content in major projects is still quite low. Capacity, funding and patronage are major constraints</p>
<p>Impressive implementation outcomes have been in growth in telecommunication infrastructure resulting in impressive teledensity</p>	<p>Infrastructure inadequacies in network quality and broadband penetration as well as in power supply constitute barriers to growth in all sectors</p>
<p>Growth in innovative practices is exceptional in Agriculture and holds major promise for new youth entrepreneurship support initiatives</p>	<p>Implementation progress is weak throughout the plan in areas relating to legislation for the ICT environment</p>
<p>Guidance and policy direction to support the development, deployment and exploitation of ICTs for banking and payments is impressive</p>	<p>Quite a few implementation agencies have no working plan for ICT4D strategic action plan and have a disconnect with NITDA on plan initiatives</p>
<p>Implementation has been above average on an overall basis. Federal Ministry of Communication Technology and NITDA have provided strong and visionary leadership and support</p>	<p>Quite a number of the plan actions are already outdated and do not fully reflect the reality of available technologies as well as present socio-economic developments in the country</p>

Table 15.1 National ICT4D Plan Evaluation Observations Snapshot





# 16 | Recommendations

## Action Points

Infrastructure provision implementation should be sustained and highly prioritized in all aspects of ICT development with emphasis on the National Broadband Plan and Power Supply adequacy and reliability

Fast track the enactment of draft ICT bills which have been developed through plan initiatives, as a matter of urgency.

Ensure strategic and systematic plan implementation of initiatives to hinder new forms of terrorism and national security threats

Exceptional implementation achievements in innovation (e.g. GES, e-commerce stores, etc) should be encouraged and celebrated. Strategic collaboration and partnerships should be explored for faster, sustainable results.

Public awareness should be strategically raised on ICT4D strategic action plan activities. Such enlightenment should include the creation of a web portal for this purpose. Feedback and citizen engagement should be encouraged.

Mainstreaming of mobile into development should reflect in plan implementation activities through the development of feasible and sustainable mobile initiatives relating to mobile money, mEducation, mHealth, mAgriculture, etc.

NITDA should ensure that implementing agencies develop knowledge management practices, plans and resources in fulfilling their IT governance responsibilities to deliver value through implementation of ICT4D Strategic plan projects and initiatives.

The current national Strategic ICT4D plan launched in year 2010 should be updated. The new plan should build on the current plan and a review of current national socio-economic development policies, strategies, challenges and issues as well as ICT developments, trends, deployment and utilization in Nigeria and globally. The review and update process should be based on best practices and should involve effective and efficient stakeholder participation and consultation.

Table 16.1 National ICT4D Plan Evaluation Recommendations Snapshot

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