



THE REPUBLIC OF UGANDA

ICT Sector Annual Monitoring Report

Financial Year 2013/14

October 2014

Ministry of Finance, Planning and Economic Development
P.O.Box 8147
Kampala
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ACRONYMS

AIA	Appropriation in Aid
BPO	Business Process Outsourcing
CCTLD	Country Code Top level Domain
CERT	Computer Emergency Response Team
DIS	Directorate of Information Security
FY	Financial Year
GB	Giga Byte
GCIC	Government Citizen Interactive Centre
GDP	Gross Domestic Product
GIS	Geographical Information System
GoU	Government of Uganda
HDD	Hard Disc Space
ICT	Information, Communications Technologies
IMSO	International Maritime Satellite Organisation
IP	Internet Protocol
IPv6	Internet Protocol Version Six
ISF	Information Security Forum
ISP	Internet Service provider
IT	Information Technology
KCCA	Kampala Capital City Authority
KIBP	Kampala Industrial and Business Park
KOICA	Korea International Cooperation Agency
LG	Local Government
MDA	Ministries, Departments and Agencies
MFPED	Ministry of Finance, Planning and Economic Development
MoES	Ministry of Education and Sport
MoH	Ministry of Health
MoICT	Ministry of information and Communications Technology
MoU	Memorandum of Understanding
MoWT	Ministry of Works and Transport
NBI/EGI	National Backbone Transmission Infrastructure/E-Government Infrastructure
NGO	Non Government Organisation
NII	National Information Infrastructure
NIPA	National Information Technology Promotion Agency-Korea

NISAG	National Information Security Advisory Group
NISF	National Information Security Framework
NITA-U	National Information Technology Authority
NOC	Network Operating Centre
NSIS	National Security Information System
NSSF	National Social Security Fund
OFC	Optical Fibre Cable
OPM	Office of the Prime Minister
PKI	Public Key Infrastructure
PSP/PIP	Public Service Provision and Public Infrastructure Provision
RAM	Random Access Memory
RCDF	Rural Communication Development Fund
TV	Television
UCC	Uganda Communications Commission
UNBS	Uganda National Bureau of Standards
UNODC	United Nations Office on Drugs and Crimes
UNRA	Uganda National Roads Authority
UPOLET	Universal Post O-Level Education and Training
UPU	Universal Postal Union
US\$	United States Dollars

FOREWORD

According to the National Development Plan (2010/11-2014/15), ICT is among the primary growth sectors. Government of Uganda is therefore, investing substantially in the ICT physical infrastructure as a prerequisite for structural transformation in the economy. The investments in the ICT sector must be effective as they are catalytic in nature.

Government has stepped up efforts to enhance effectiveness of programme implementation. The translation of financial resources into tangible outputs requires efficient and effective implementation, supervision and monitoring of the programmes.

The ICT sector monitoring report provides an overview of the financial and physical performance for selected programmes during FY 2013/14. The analysis is based on secondary data and field observations of the various programmes that are implemented by spending agencies.

It is hoped that implementation challenges that are identified and recommendations made thereof will guide the sector to ensure enhanced effectiveness of programme implementation and value for money for the public expenditures



Keith Muhakanizi

Permanent Secretary/Secretary to the Treasury

EXECUTIVE SUMMARY

Introduction

The annual monitoring in the Information and Communications Technology (ICT) sector focused on Ministry of Information and Communications Technology (MoICT), and National Information Technology Authority (NITA-U).

Data was collected using a number of methods including review of literature (Ministerial Policy Statement, progress/status reports of projects/programs, Public Investment Plan, Budget Speech, among others); interviewing project/programme implementers and beneficiaries, and observation or physical verification of reported outputs. Physical performance was rated using average percentage achievement of set targets during FY 2013/14.

Findings

The overall ICT sector performance (financial and physical) for the FY 2013/14 was excellent. Release performance for MoICT and NITA-U averaged at 96% while expenditure performance was 99% of released funds. Achievement of set targets however, was rated at 80% for both NITA-U and MoICT.

Ministry of Information and Communication Technology: The approved budget for the MoICT, FY 2013/14 was Ug shs 4.960 billion all of which was released. A total of Ug shs 4.920 billion (99.2%) was spent, representing an excellent release and expenditure performance. About 70% of the planned outputs were achieved during the financial year. The National ICT policy was submitted to cabinet for approval, the post code and addressing system strategy and legal framework initiated, cyber regulations developed and gazetted, country code top level domain policy disseminated among others. The preparations for construction of an ICT headquarters did not take off and migration from analogue to digital television broadcasting was not achieved.

The **National Postcode and Addressing System Pilot Project** in Entebbe had achieved 70% of the deliverables; however, it was two years behind schedule. Out of the total pilot project budget of Ushs 975 million, Ushs 937million (96%) had been released and 832 million (89%) spent. Achievements included: road signage installation, development of GIS database, house labelling and sensitisation meetings among others. Achievement of set targets was constrained by underfunding and poor scoping. For example, 50 mail boxes to cover 50 houses out of the targeted 1,600 houses had their mail boxes procured.

National Information Technology Authority: Two projects and two programmes were monitored under the NITA-U. These were; National Transmission backbone infrastructure, Business Process Outsourcing, and commercialisation of the NBI, and Information security respectively. The approved budget for NITA-U, FY 2013/14 was Ug shs 10.469 billion of which Ug shs 9.718 billion (92%) was released and Ug shs 9.712 billion (99.9%) of released funds expended by 30th June 2014. Both release and expenditure performances were excellent.

Under the **National Transmission Backbone Infrastructure** (NBI), The approved (GoU) budget for FY 2013/14 for project 1014 was Ug shs 1.016 billion which was revised downwards to Ug shs 863 million, all of which was released, and Ug shs 859 million (99.5%) spent by 30 June 2014. Both release and expenditure performances were excellent against the revised budget. The contract for phase III of the project was signed with M/s Huawei Technologies, however implementation did not start as had been planned.

Commercialization of the NBI was initiated and revenue had started flowing in. The remedial action on NBI vulnerabilities was taken with software on key devices upgraded. The bulk procurement of bandwidth was contracted and delivery of the same made to the data centre at Statistics House.

Under the Directorate of **Information Security**; the National Information Security Framework was drafted. The National Computer Emergency Response Team (CERT)/ Coordination Centre was established; a feasibility study on establishment of a Public Key Infrastructure was undertaken; international partnerships with the government of Korea made; Information Security awareness training/promotion campaigns held and the National Information Security Advisory Group created.

The **Business Process Outsourcing** (BPO) centre was officially launched on 19th September 2013. Two new operators M/s Dial-a -Service and M/s Cameo TECH Edge occupy the third floor of Statistics House in addition to M/s Techno-Brain who occupy fourth floor. During FY 2013/14, NITA-U supported the BPO centre with bandwidth, electricity and water. The centre was directly employing over 240 BPO executives.

Challenges

The sector was facing challenges of:

- Inadequate funding,
- Low appreciation of business process outsourcing services,
- Lack of last mile connectivity in most parts of the country,
- Lack of an alternative route to the undersea cable for the NBI and
- Delayed completion of projects among others.

Conclusion

Both the financial and physical performance for the ICT sector during FY 2013/14 was rated as excellent. Most of the set targets for the year were achieved. Delays were noted on implementation of the national postcode and addressing system, achievement of digital migration national deadline under the MoICT, and the phase III of the NBI under the stewardship of NITA.

Recommendations

- The ICT sector should prioritize funding to phase III of the NBI, the Business Process Outsourcing under NITA-U, and the National Postcode and Addressing System pilot project in Entebbe as the projects have outlived their life span.
- NITA-U should be allowed to use part of the funding from commercialization of the NBI to re-locate the fibre optic cables in road reserves where UNRA is expanding national roads. Alternatively, the MoWT should adequate budget for expansion of roads including relocation of service infrastructure whose installation was cleared.
- The MoICT should speed up the analogue to digital migration before the international deadline of December 2015. The public should be adequately sensitized on this migration.
- The MoICT should spear head harmonization of cross cutting activities in Government ministries and agencies implementing ICT programmes in order to prevent duplication.

CHAPTER 1: INTRODUCTION

1.1 Background

The Information and Communications Technology (ICT) sector is comprised of the telecommunications, broadcasting, postal, information technology and library; and information services sub sectors. It is structured into three functional levels namely: policy, regulatory and operational. The Ministry of Information and Communications Technology (MoICT) heads and coordinates all the ICT sector activities in collaboration with other stakeholders.

The key regulatory bodies are Uganda Communications Commission (UCC) and the National Information Technology Authority (NITA-U). The operational level is composed of: Telecommunications, Postal, Information Technology (IT) and broadcasting operators with Uganda Posts Limited and Uganda ICT Training Institute as agencies affiliated to the Ministry¹.

According to the National Development Plan (2010/11-2014/15), ICT is placed among the primary growth sectors. The overall sector strategic objectives include:

- Enhance access to quality, affordable and equitable ICT services country wide;
- Enhance the use and application of ICT services in business and service delivery;
- Enhance access to quality, affordable and equitable broadcasting services country wide;
- Enhance access to quality, affordable and equitable library services country wide, and
- Rejuvenate the application of postal services country wide².

The mandate of the Ministry is “to provide strategic and technical leadership, overall coordination, support and advocacy on all matters of policy, laws, regulations, and strategy for the sector for sustainable, effective and efficient development, harnessing and utilization of ICT in all spheres of life to enable the country achieve its development goals”³.

1.2 Rationale

Government of Uganda has implemented service delivery programmes with varying levels of success in the past 20 years. While poverty has reduced, overall, access to and the quality of key services, particularly health, education, ICTs, water and sanitation, agriculture and roads has remained poor. These are the areas where Government has channeled most public investments and expects the highest returns to ordinary citizens.

Although there are several institutions in the accountability sector mandated to monitor and audit public resources, they have not provided comprehensive information for removing key implementation bottlenecks to enhance transparency and accountability and consequently improve service delivery. It is against this background that the Budget Monitoring and Accountability Unit (BMAU) was established in FY 2008/09 in the Ministry of Finance

¹ MoICT,

² National Development Plan (2010)

³ MoICT

Planning and Economic Development, under the Budget Directorate, to address this challenge.

The BMAU derives its mandate from the Public Finance and Accountability Act 2003, Article 3 and Article 6, that requires the Minister of Finance to supervise and monitor the public finances of Uganda and Secretary to the Treasury to authorize any public officer(s) inspect any office for purposes of scrutinizing efficiency in use of Government resources. The Unit is charged with tracking implementation of selected government programmes or projects and observing how values of different financial and physical indicators change over time against stated goals and targets (how things are working).

The BMAU prepares quarterly and annual monitoring reports of selected government programmes and projects. The monitoring is confined to levels of inputs, outputs and intermediate outcomes in the following areas:

- Agriculture
- Infrastructure (Energy and Roads)
- Industrialization; and Information and Communication Technologies
- Public Sector Management
- Social services (Education, Health and Water and Sanitation); and
- Microfinance

1.3 Report Outline

This report has four chapters. The second chapter provides the various methods that were used for data collection; while the third chapter reviews the different sector programs/projects monitored, focusing on their financial and physical performance, key challenges and recommendations related to programme implementation. The last chapter gives the overall conclusions and recommendations.

CHAPTER 2: METHODOLOGY

2.1 Scope

The report reviews progress of selected projects/programmes implemented by; the MoICT, that is, E-government ICT policy implementation, Strengthening Ministry of ICT project and other programmes. Under the NITA-U, two development projects and one programme were reviewed, that is, National Transmission Backbone Infrastructure (NBI), Business Process Outsourcing (BPO) and National Information Security Framework (NISF).

The report covers FY 2013/14. It aims at ascertaining whether; planned outputs as outlined in the Ministerial Policy Statement (MPS) were achieved, and establish whether financial expenditure was commensurate with physical progress. The report provides an update of the implementation against key performance indicators during the period under review.

2.2 Methodology

Across all the projects and programs that were monitored, the key variables included: performance objectives and targets; inputs and outputs, implementation processes and the achievement of intermediate outcomes and beneficiary satisfaction, where feasible.

2.2.1 Data Collection

Data was collected through a combination of approaches:

- Review of secondary data sources including: Ministerial Policy Statements for FY 2013/14; National and Sector Budget Framework Papers; Sector project documents and performance reports in the Output Budgeting Tool (OBT), MFPED Budget Documents, Budget Speech, Performance Reports; Sector Quarterly Progress Reports, Work plans, and the Public Investment Plans.
- Review and analysis of data in the Integrated Financial Management System (IFMS); and Quarterly Performance Reports (Performance Forms A and B) from implementing agencies.
- Consultations and key informant interviews with project managers in implementing agencies;
- Field visits to project areas involving discussions with implementers (Clients, Contractors, Consulting firms/Engineers, and beneficiaries). Observation and photography were key data collection tools during the monitoring exercise. In some cases call-backs were done to triangulate information.

2.2.2 Sampling

The sampled outputs were randomly selected from the information provided in the Ministerial Policy Statements and progress reports of the respective agencies. Priority was given to monitoring outputs that were physically verifiable. Outputs to be monitored were selected so that as much of GoU development expenditure as possible is monitored during the field visits.

Physical performance of projects and outputs was assessed through monitoring a range of indicators and linking the progress to reported expenditure. The variables monitored depended on whether an output was complete or ongoing and if implementation was according to budget and schedule. For completed projects, monitoring focused on utilization and beneficiary satisfaction.

2.2.3: Assessment Guide

For purposes of this report, the guide below is used to assess and rate performance. Physical and financial performance was rated in percentages according to achievement of the planned set targets and the overall utilization of funds for multi-year projects. Table 2.1 shows the assessment guide for measuring the achieved targets and expenditures.

Table 2.1: Assessment guide used for measuring achieved targets and expenditures

SCORE	COMMENT
<i>80% and above</i>	<i>Excellent (All set targets achieved and funds well utilized)</i>
<i>70% - 79%</i>	<i>Very good (Most of the set targets achieved and funds absorption is 70% and above)</i>
<i>60%-70%</i>	<i>Good (Some core set targets achieved and funds absorbed to 60%)</i>
<i>50-60%</i>	<i>Fair (Few targets achieved and funds absorption is average-50%)</i>
<i>Less than 50%</i>	<i>Below average (No targets achieved and funds absorption is less than 50%)</i>

Source: BMAU

2.3 Limitations of the report

- There were challenges experienced in obtaining financial information on projects with multiple funders.
- Rating of performance was based on the assumption that each output has the same degree of significance. This might lead to over or underrating of physical performance.

CHAPTER 3: SECTOR PERFORMANCE

3.1 Overall Performance

The overall ICT sector performance (financial and physical) for the FY 2013/14 was excellent. Release performance for MoICT and NITA-U averaged at 96% while expenditure performance was 99% of released funds. Achievement of set targets however, was rated at 80% for both NITA-U and MoICT. This was because Phase III of the National Transmission Backbone Infrastructure project, digital migration national deadline and completion of the national postal addressing system pilot project were not achieved.

3.2 Ministry of Information and Communications Technology (Vote 020)

3.2.1 Introduction

The mission for this vote is to promote the development of information and communications technology infrastructure and services throughout the country. Key deliverables are arranged in three vote functions, that is:

(i) Information technology and information management services, which is charged with developing enabling policies, laws and regulations as well as promoting, guiding and providing technical support, supervision, monitoring and evaluation to the development and use of IT and Information management services.

(ii) Communications and broadcasting infrastructure, which is charged with developing enabling policies, laws. Regulations as well as quality assurance in infrastructure development for communications service delivery and it also provides technical support, supervision, monitoring and evaluation in the development of communications and broadcasting and

(iii) Policy, planning and support services which is responsible for ensuring that the sector complies with policy guidelines and financial management standards in accordance with laws and regulations established. The vote function also supports planning, budgeting, supervision, monitoring and evaluation of ICT service delivery at all levels.

The vote has two development projects namely: E-government ICT policy implementation (code 0900) and Strengthening Ministry of ICT (code 0990). Both projects support activities across the three vote functions.

Annual planned outputs FY2013/14

The annual planned outputs for the MoICT were: i) Complete the development of the National ICT policy; ii) Develop the postcode and addressing system strategy and legal framework - Complete the pilot of National Post code and Addressing System in Entebbe; iii) Feasibility studies for development of ICT parks; iv) Develop ICT standards (National and Ministries, Departments and Agencies (MDAs)); v) Operationalise the UCC Act 2013 and appoint the board of UCC and Rural Communication Development Fund (RCDF); vi) Additional 1% levy and the charge on international incoming voice traffic; vii) Operationalise the cyber laws and NITA-U act with attendant regulations- National e-government regulations, National Databank regulations; viii) Implement National Information Security Framework in MDAs; ix) Implement the Internet Protocol Version Six (IPv6) strategy; x) Implement National Information Security Strategy.

Others are; xi) Disseminate the existing ICT policies (postal, telecom, Country Code Top Level Domain (ccTLD), e-waste management and national ICT); xii) Implementation of analogue to digital migration of TV transmission; xiii) Complete installation of signal distribution infrastructure for Digital Television broadcasting in Greater Kampala; xiv) Put in place mechanism for managing the .ug (dot UG) Country Code Top Level Domain (ccTLD); xv) Rationalisation of ICT services in MDAs and Local Governments (LG); xvi) Ratify three instruments for international ICT organizations (Universal Postal Union, Pan African Postal Union, and International Maritime Satellite Organization (IMSO)); xvii) Acquire permanent home for MoICT and NITA-U; xviii) Promote research and innovation in the sector and xix) Monitor and evaluate ICT sector activities.

3.2.2 Findings

Financial performance

The approved budget for the Vote, excluding taxes, arrears and Appropriations In Aid (AIA) for FY 2013/14 was Ug shs 4.960 billion all of which was released (100%). A total of Ug shs 4.919 billion (99.2%) was spent, representing an excellent release and expenditure performance.

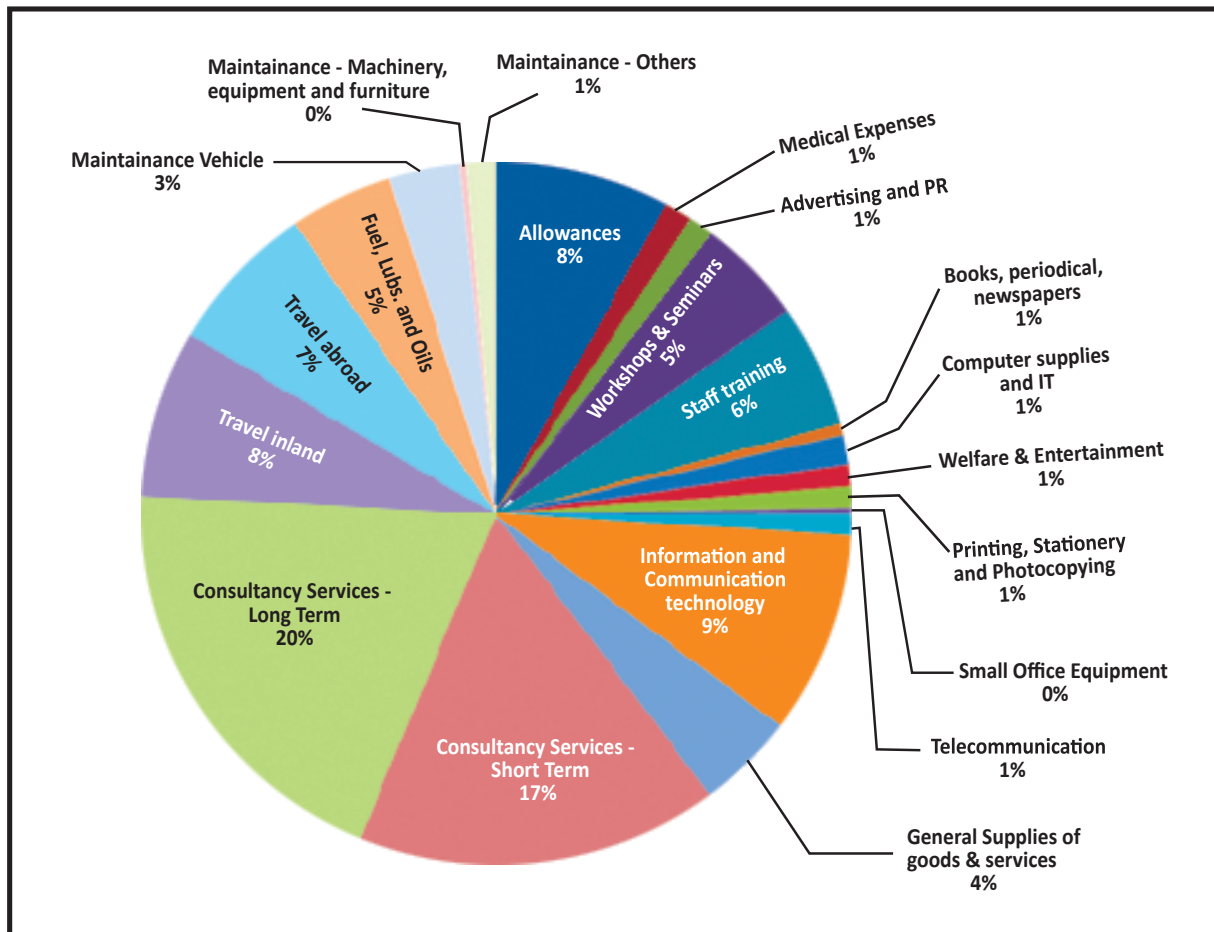
Table 3.1: Budget performance for MoICT FY2013/14 (Ug shs, million)

		Approved Budget	Release	Expenditure	% Release	% Expenditure
Recurrent	Wage	944	944	925	100	98.0
	Non wage	1,528	1,528	1,522	100	99.6
Development	Project 0900	1,518	1,518	1,505	100	99.1
	Project 0990	970	970	967	100	99.6
Total (excl. taxes, arrears)		4,960	4,960	4,919	100	99.2

Source: IFMS and Ministry of ICT

Table 3.1 shows that the MoICT budget is evenly distributed between recurrent and development (49.8% and 50.2% respectively). However, most of the planned outputs and expenditures under the two development projects, that is, E-government ICT policy implementation-0900 (see figure 3.1) and Strengthening Ministry of ICT-0990 (see figure 3.2) were recurrent in nature.

Figure 3.1: Distribution of expenditure by line item under E-government ICT policy implementation project by 30th June 2014

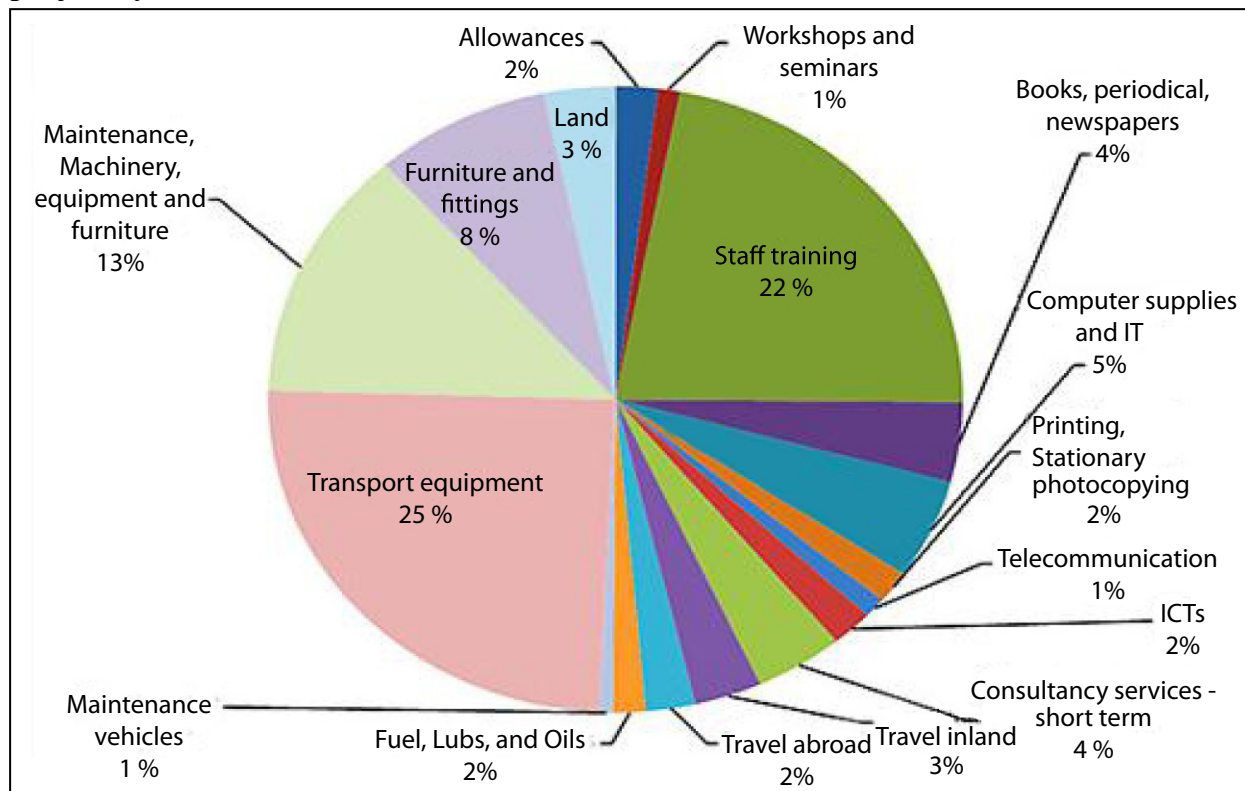


Source: MoICT

Both long and short term consultancies took 37% of the total project budget, followed by information and communication technology (9%), allowances (8%), travel inland (8%) and travel abroad (7%). The rest of the expenditures went on other recurrent activities shown in figure 8.1.

Under project 0990 (strengthening MoICT), 25% of the expenditures went to procurement of a vehicle for the office of the Minister, 22% on staff training, 13% on maintenance of machinery and equipment, and 3% on land. The remaining 37% was distributed on other recurrent activities as shown in figure 8.2.

Figure 3.2: Distribution of expenditure by line items under strengthening MoICT project by 30th June 2014



Source: MoICT

Physical Progress

- Complete the development and disseminate the National ICT policy.**

The national ICT policy was submitted to cabinet for approval. Dissemination is still awaiting the approval and gazetting.
- Develop the postcode and addressing system strategy and legal framework.**

The principles for the development of the national postcode and addressing system bill were agreed upon by the top management of the Ministry; a multi-institutional task team was formed to examine the existing legal framework to identify the gaps for incorporation.
- Operationalise the UCC Act 2013 and appoint the board of UCC and RCDF.**

By the end of FY 2013/14, regulations for operationalisation of UCC Act, 2013 were developed and submitted to cabinet for approval. Appointment of the board members was awaiting finalization of the vetting exercise.
- Additional 1% levy and the surcharge on international incoming voice traffic.**

The additional 1% levy was operationalised during FY 2013/14. It was estimated that about Ug shs 9 billion was realized from the levy during the financial year. The surcharge on incoming international voice traffic was operationalised and an average of Ug shs 8 billion was realized on a monthly basis from the levy.
- Operationalise the cyber laws and NITA-U act with attendant regulations (National e-government regulations, National Databank regulations).**

The national e-government regulations, and national databank regulations were developed. The electronic transactions regulations, and electronic signatures regulations were gazetted.

- **Implement National Information Security Strategy**

The national information security strategy was developed and disseminated at a workshop attended by 80 selected participants. Users were urged to align their strategies to the national strategies.

- **Implement the Internet Protocol Version Six (IPv6) strategy** and acquire a block of addresses

Internet Service Providers (ISPs) were engaged through meetings and workshops on rolling out the first phase of IPv6 strategy. The NITA-U had acquired a block of addresses for government.

- **Implementation of analogue to digital migration of Television (TV) transmission**

The ministry provided technical support to Uganda Broadcasting Corporation (UBC) and Uganda Communications Commission (UCC) in the planning of country wide rollout of transmission equipment for the switch over from analogue to digital broadcasting. The public awareness and sensitization seminars were not conducted due to limited funding.

- **Disseminate the existing ICT policies** (postal, telecom, ccTLD, e-waste management and national ICT).

One thousand copies of the Country Code Top Level Domain (ccTLD) were printed and disseminated and a stakeholder's workshop held as part of the exercise.

- **Put in place mechanism for managing the .ug (dot UG) ccTLD**

A task team for the creation of the interim body for management of the .ug ccTLD was put in place. Two teams carried out technical training with ccTLD registries in Rwanda and Kenya.

- **Rationalisation of ICT services in MDAs and LGs**

The Ministry of ICT provided technical support to 10 MDAs and 10 LGs. The guidance was mainly on development of institutional ICT policies and strategies and information management systems. Supported agencies include: NITA-U, Ministry of Foreign Affairs, Ministry of Trade, Uganda Business and Technical Education Board, Ministry of Gender, Ministry of Internal Affairs, Makerere University, Office of the Prime Minister, Ministry of Agriculture, and Ministry of Health. Local governments supported include: Jinja, Mbale, Gulu, Mbarara, Ibanda, Ntungamo, Iganga, Mukono, Kibaale, and Hoima.

- **Acquire permanent home for MoICT and NITA-U**

The MoICT was allocated land in Kampala Business and Industrial Park (KIBP) – Namanve for development of an ICT park. The ministry intends to use part of the land for construction of her headquarters. The planned start up activities (architectural designs) for construction of the buildings was however differed to FY2014/15.

- **Promote research and innovation in the sector**

One partnership with a leading company in software and hardware industry to set up innovation/incubation centers in Uganda was in advanced stages with a draft memorandum of understanding with M/s Dell Incorporation in place.

The ministry initiated two partnerships for promotion innovations and research; one with Microsoft under Makerere University on software and another with an alliance of hardware manufacturers (HP, Philips, Microsoft, Dell and East African Compliance Recycling). The alliance was to pilot the feasibility of establishing an e-waste collection infrastructure in Uganda.

Analysis

Link between physical and financial performance

The approved budget for the MoICT, FY 2013/14 was Ug shs 4.960 billion all of which was released. A total of Ug shs 4.920 billion (99.2%) was spent, representing an excellent release and expenditure performance. Most of the expenditures rhymed with the planned outputs of regulatory and policy formulation as well as dissemination.

Achievement of set targets

About 70% of the planned outputs were achieved during the financial year. The National ICT policy was submitted to cabinet for approval, the post code and addressing system strategy and legal framework initiated, cyber regulations developed and gazetted, country code top level domain policy disseminated among others. The preparations for construction of an ICT headquarters did not take off and migration from analogue to digital television broadcasting ongoing but on a rather slow pace and behind the original national deadline of December 2013.

3.2.3 National Postcode and Addressing System pilot project - Entebbe

Introduction

The postcode system is primarily a piece of information identifying the locality of the addressee of a mail item and therefore is a fundamental and essential element of an address.⁴ Identifying and addressing individuals the world over has moved from the post office to a physical location of the addressee. This applies to mail, parcels, or any other deliverable. The migration to physical location enhanced the ability of governments, commercial entities, utility and emergency service providers to identify and tailor messages in the most suitable form to reach the intended persons.

The project was conceived in 2008. Execution of the project throughout the country was expected in seven years. The pilot project started in July 2011 and was expected to be completed by June 2012. However, due inadequate funding among other challenges the implementation has been extended to October 2014.

Since FY 2011/12, the MoICT has been coordinating the implementation of the National Postcode and Addressing System pilot project in collaboration with UCC, Posta Uganda, Ministry of Lands, Housing and Urban Development (MLHUD), Ministry of Local

⁴ National Postcode Project document

Government (MoLG), Uganda National Bureau of Standards (UNBS) and Entebbe Municipality.

The Government of Uganda, through the Ministry of ICT, with advice from UCC and Posta Uganda, started planning for the implementation of a Postcode system in Uganda. Execution of the project required a total of Ug shs 49 billion. The project is phased, starting with a one year pilot - the Entebbe Pilot project. Entebbe was chosen mainly because of its relatively good physical planning with a mix of urban and semi-urban settings.

Project Objectives

The main objective of the project is to introduce and operationalise a national address and postcode system so as to support meaningful and social economic development in the country. The project specific objectives are:

- i. To provide an address to every house and location in the country;
- ii. To improve the quality of postal and other services to government, community organizations, business and the general public throughout the country;
- iii. To develop and maintain a geographic information address management system; and
- iv. To lay a foundation for modernizing and expansion of the postal delivery infrastructure in Uganda.

Planned project outputs/activities

The main outputs in the pilot project included: development and adoption of addressing standards, initial sensitization; naming and numbering of all streets, roads, lanes plots, residential houses and business building among other things in the pilot area; mapping, digitization and Geographic Information System (GIS) of the Entebbe municipality map; optimizing the Entebbe post office sorting office with financial support from Uganda Posts Limited; initial postcode operations (mail delivery), involving effective transportation and delivery of postal items between Kampala and Entebbe post offices; postcode office set up to manage the existing operations.

Financial performance

The pilot project was originally estimated to cost Ug shs 975,297,635 of which UCC was to contribute Ug shs 662,589,735 for the key project deliverables (consultancy on status of infrastructure, development of marketing strategy, development of Geographical Information System [GIS], fabrication and installation of road signs and house numbers, 10 bicycles for mail delivery, 2 motorcycles, 2 pickup trucks and 3 laptop computers).

The Ministry of ICT was to contribute the balance of Ug shs 312 million to take care of the recurrent activities including supervision, vehicle running, training of managers from Posta Uganda, benchmarking of best practices, allowances, steering committee meetings, test mail delivery, and monitoring and evaluation of the project. Table 8.2 shows the releases and expenditures from UCC and MoICT to the project by 30th June 2014.

Table 3.2: Cumulative Project budget, releases and expenditures (FY 2011/12-2013/14) Ug shs

Contributing Entity	Approved budget	Release	% Release	Expenditure	% Expenditure
UCC	662,589,735	625,257,490	94	550,329,603	88
MoICT	312,707,900	312,707,900	100	282,619,900	90
Total	975,297,635	937,965,390	96	832,949,503	89

Source: MoICT

A total of Ug shs 30 million from MoICT had not been spent on test mail delivery, awaiting installation of mail boxes. Monitoring and evaluation of the pilot project to assess impact was awaiting final completion and handover. Although funds for fabrication and installation of road signs and house numbers had been released, the final payment was awaiting completion of works and expiry of the defects liability period. Table 9.3 shows the payment status on key contracts under UCC.

Table 3.3: Budget, contract amount and payments (Ug shs) as of 30th June 2014

No.	Description	Budget	Contract amount	Actual paid
1.	Consultancy for determination of status of Infrastructure in Entebbe Municipality	50,000,000	38,586,000	38,586,000
2.	Consultancy for development of a marketing strategy for the project	10,000,000	23,010,000	23,010,000
3.	Development of a Geographical Information System (GIS)	120,000,000	122,479,200	122,479,200
4.	Fabrication and Installation of Road signs and house numbers	232,500,000	198,392,882	123,464,995
5.	10 Bicycles	1,500,000	2,360,000	2,360,000
6.	2 Motorcycles	4,000,000	23,347,008	23,347,008
7.	2 Pickup trucks	120,000,000	200,644,800	200,644,800
8.	3 laptops	7,200,000	16,437,600	16,437,600
9	Monitoring and Evaluation	117,389,735		
	Total	662,589,735	625,257,490	550,329,603

Source: MoICT

The significant variation in actual expenditure against the budget on some items was due to, under, and over costing contained in the March 2008 study report of the Universal Postal Union (UPU) consultant. However, the overall expenditures were within the approved budget.

Physical performance

During FY 2011/12 and 2012/13, all the planned activities save for test mail delivery, had been initiated and were at varying levels of implementation (refer to the Annual Budget Monitoring Report FY2012/13). During FY 2013/14, the Ministry of ICT planned to finalise the activities and handover the pilot phase to Posta Uganda and Entebbe Municipality as per the Memorandum of Understanding (MoU). Progress on key deliverables is highlighted below:-

Development and adoption of addressing and postcode standards

The country drafted Universal Postal Union S.42 compliant National Addressing Standards which were approved by the Uganda National Bureau of Standards (UNBS) and the UPU. This made Uganda the third African country, after South Africa and Egypt, to have S. 42 compliant standards approved by the UPU.

Uganda adopted a five digit (numeric) system for the post code standard as shown in Table 8.4

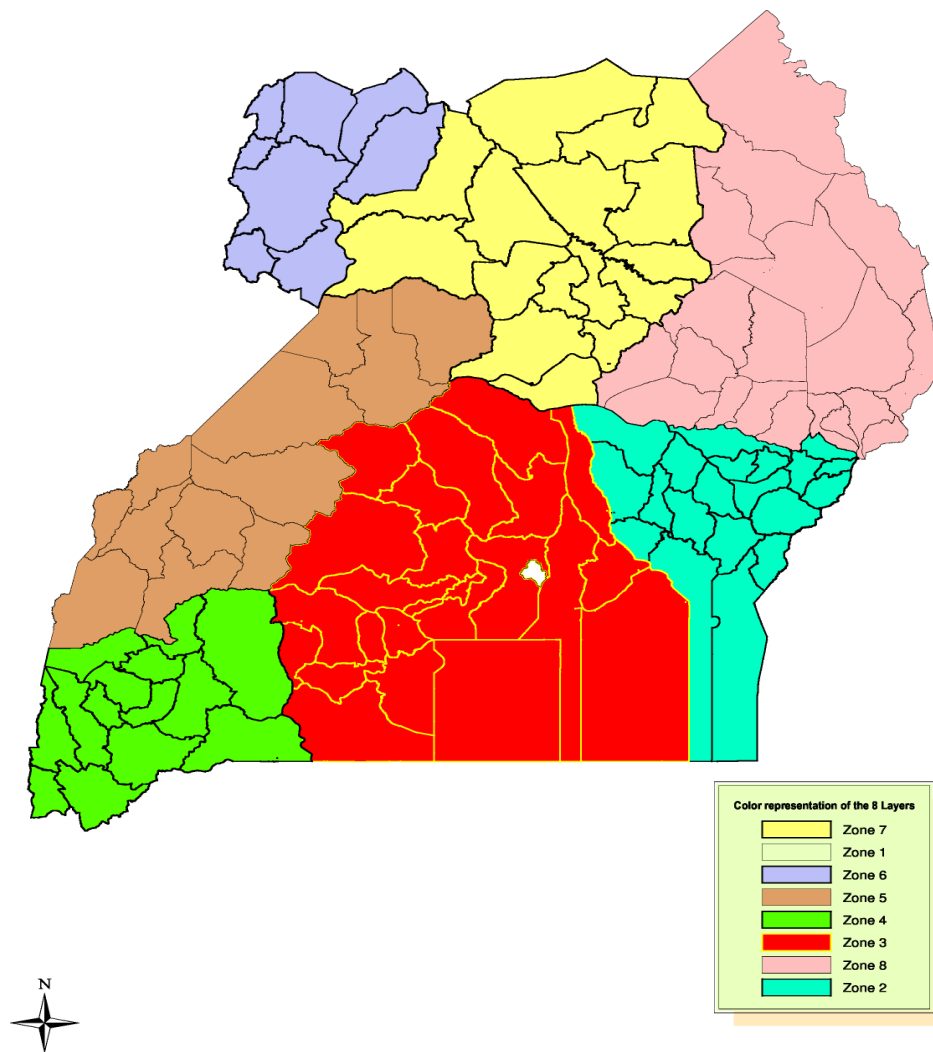
Table 3.4: Post code system standard

POSTCODE	EXPLANATION
33110 (XXXXX)	5 digits (numeric)
X - - - -	st 1 digit = Zone
XX - - -	st 1 and 2 (1 two digits) = Region
XXX - -	st 1 and 2 and 3 (1 three digits) = District
XXXXX	All 5 digits = Ward/Sub – Ward/Village
	All 5 digits = Post Office/Big Mailers/Landmarks/ Activity Postcodes

Source: MoICT

Uganda is divided into eight administrative zones. Each zone is assigned a code, for example zone 1 covers Kampala while other districts in Buganda where Entebbe fall under zone 3. This means that a postcode with the first digit as 3 falls in Buganda. These zones are further subdivided into 16 regions and the process continues until the last unit is identified (district, ward, sub ward and village). Figure 9.3 shows the zoning of the country.

Figure 3.3 Map of Uganda showing the eight zones



Source: MoICT

Sensitisation workshops

During FY 2013/14, three sensitisation workshops were held in Entebbe municipality targeting Local Council heads, selected users of the addressing system (banks, utility companies, hospitals, NGOs, among others) and residents. Residents are realizing the benefits of the project and proud to be associated with it. For example, several boda-boda cyclists and users noted that the system had eased locating destinations.

Completion of road sign installations and house labeling

Installation of road signage was finalized in all the wards within Entebbe Municipal Council. House labeling was ongoing and a total of 1,439 house labels out of 1,600 had been installed



Houses labeled along Nambiroad, Kitooro road and Church road in Entebbe Municipality

Mapping, digitization and Geographic Information System (GIS) of Entebbe municipality

A web based GIS system covering Entebbe Municipality was developed for the project. Three core layers were used in the development of the system, these included; the cadastral /parcel layer, the road network, the buildings/properties, and the postcode layer. A total of 1500 buildings were fully addressed with plot numbers and road names. The system was uploaded and can be accessed from the Ministry of Information and Communications Technology website at www.ict.go.ug.

Development of a marketing strategy

A marketing strategy for the project was developed and approved. The objective of the strategy was to develop a guide to facilitate the project stakeholders in communicating the National Post Code and Addressing System to the beneficiaries in the area of Entebbe. This involved a plan for the various media activities, advising on the best approaches to communicate using a combination of media vehicles, sequencing of the media activities and stipulation of the exact nature and quality of the materials required during the communications campaign.

Initial postcode operations (mail delivery)

By 30th July 2014, the project was at the stage of testing mail delivery. The MoICT was to provide resources to Posta Uganda to undertake the activity given the mandate of the agency. However, mail test delivery was awaiting installation of the 50 mail boxes procured.

Commissioning and hand over

Once mail delivery testing is complete, a review of the project and impact assessment shall be undertaken to inform the next steps in project rollout. It was reported that the pilot project was to be commissioned and handed over to Posta Uganda and Entebbe municipality in September 2014.



One of the procured project vehicles at Shell Entebbe and a vandalized road sign in Katabi

Analysis

Linking financial to physical progress

Apart from monitoring and evaluation, all the key deliverables from UCC were contracted, and over 70% completed. A number of core components of the project were under budgeted, for example; only 50 mail boxes were procured for 50 out of 1,600 houses. The GIS developed lacks the occupancy and postal layers which are key in effective mail delivery. The project funds have been optimally spent on the core project outputs. However, delayed implementation increased pilot project costs as assets had to be maintained until hand over.

Achievement of set targets

The pilot project was originally expected to be completed in one year, (FY 2011/12) however, due to inadequate funding; implementation has gone on for more than three years. 80% of the planned project outputs had been achieved.

Challenges

- The GIS developed lacks the occupancy and postal layers which are very relevant for easy delivery of mails in the postcode environment.
- Lack of updated cadastral maps and established property identification mechanisms in the area.
- There were no developed criteria for selecting the fifty recipients of the procured mail boxes.
- Some roads do not have names, whereas in some areas there is a disagreement between the council and the locals over assigned road names.
- There has been vandalism of the road signage especially in rural areas mainly due to disputed road names, exact point to mount the signage, among others. Many areas

lack a road reserve on which to install road signposts. Some roads have barriers, such as other signposts that hinder placement of the road signage.

Conclusion

At least 80% of the expected project outputs had been achieved by end of FY 2013/14. Residents of Entebbe had started appreciating and owning the project. Implementation was however delayed by underfunding, vandalism and under scoping.

Recommendations

- The MoICT and UCC should provide funds to capture property occupancy and postal layers in the GIS system to improve efficiency in mail delivery. This layer should define the current occupancy of the property. There is need for periodic (regular) update of the GIS.
- The physical planning department of the Entebbe Municipality should continuously update the cadastral maps.
- Entebbe Municipality in consultation with Posta Uganda should develop criteria for location of the procured mail boxes. For proper impact assessment, the ministry of ICT and UCC should fund the acquisition of additional mail boxes to cover at least one third (500 houses) of the project area.
- The municipal officials should engage local councils and residents in areas with disputed road names to mitigate vandalism.

3.3 National Information Technology Authority (NITA- U)

3.3.1 Introduction

The agency's mission is to coordinate, promote and monitor the development of Information Technology (IT) in the context of social and economic development of Uganda. At the beginning of FY 2013/14, NITA-U was elevated to a Vote status (Vote 126) and retained two of the previous four development projects, that is, the National Transmission Backbone Infrastructure (NBI) and Business Process Outsourcing (BPO). Financial and physical progress shows the overall performance of the agency and the two development projects.

Objective

The objectives of the project are to:

- Establish a national backbone infrastructure (high bandwidth data connection) in major towns of Uganda.
- Connect all ministries in a single wide area network.
- Establish a government data centre.

Planned outputs for NITA-U: FY2013/14

These included; i) Implementation of phase III of the NBI; ii) Reinforcement of NBI information security; iii) Implementation of national information security framework in MDAs; iv) Implementation of e-Government master plan; v) Operationalisation of the cyber laws and NITA law; vi) Development of National IT standards; vii) Continuous operation and maintenance of the BPO incubation centre; viii) Conduct feasibility studies on: Public

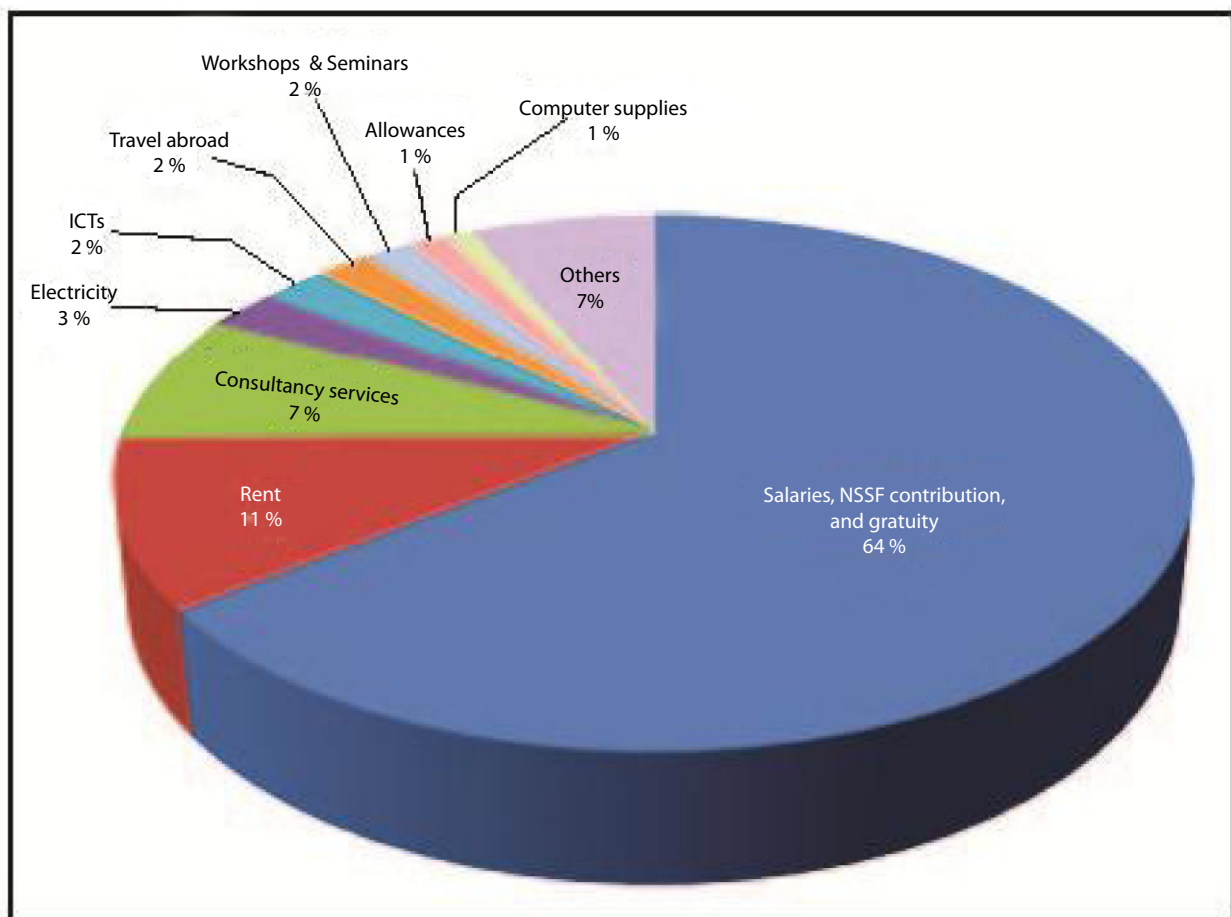
Key Infrastructure (PKI), National Data Centre and disaster recovery, shared services and a national data bank, last mile connectivity, and development of an IT park; ix) Establish a National Computer Emergency Response Team (CERT) and x) Development of NITA-U headquarters (acquisition and servicing of land).

Financial performance

The approved budget for the Vote, excluding taxes and arrears for FY 2013/14 was Ug shs 10.469 billion of which Ug shs 9.718 billion (92%) was released and Ug shs 9.712 billion (99.9%) of released funds expended by 30th June 2014. Both release and expenditure performances were excellent.

Absorption of funds was highest under the recurrent-wage component, with 64% of the total release spent on staff salaries, NSSF contribution and gratuity; 11% on rent, 7% on consultancy services, 3% on electricity, while information and communications technology, workshops and seminars, and travel abroad took 2% each, and 7% on others (See Figure 8.2).

Figure 3.4 NITA-U expenditures by line item, FY 2013/14



Source: NITA-U

Development projects performance under NITA-U

3.3.2 National Transmission Backbone Infrastructure (NBI): Project 1014

Background

The National Data Transmission Backbone Infrastructure and e-Government Infrastructure Project (NBI/EGI) is implemented by the NITA-U. It is aimed at connecting Ministries and Government Departments onto the e-Government Network. This is done to create an efficient government through simplifying procedures, bringing transparency, accountability and making timely information available to citizens.

The main objectives of the project are: to establish a National Backbone Infrastructure (NBI) (high bandwidth data connection) in major towns of Uganda; connect all Government Ministries, Departments and Agencies (MDA) in a single wide area network; establish a Government Data Centre; and establish District Information Centres.

Expected outputs at completion of the project include: all government ministries connected; e-government implemented; an optic fiber backbone transmission cable set up across the country (2,294km); district information centres established to improve communication, improved service delivery by government ministries, and reduced cost of communications.

According to the public Investments plan (2013), the project commenced in July 2007 and was expected to be completed in July 2012. The end date was revised to July 2014. The project was divided into three phases and implementation was to take 27 months. It is funded by a concession loan from EXIM Bank of China with counterpart funding from Government of Uganda. In 2006, a contract was signed between the Ministry of ICT and M/s Huawei Technologies Company Limited of the Peoples' Republic of China at a contract sum of US\$ 106,590,305. By 30th June 2013, a total of 1,536.39km of optic fiber cables had been laid and US\$91.2 million paid for Phase I and Phase II.

Annual Planned Outputs FY 2013/14

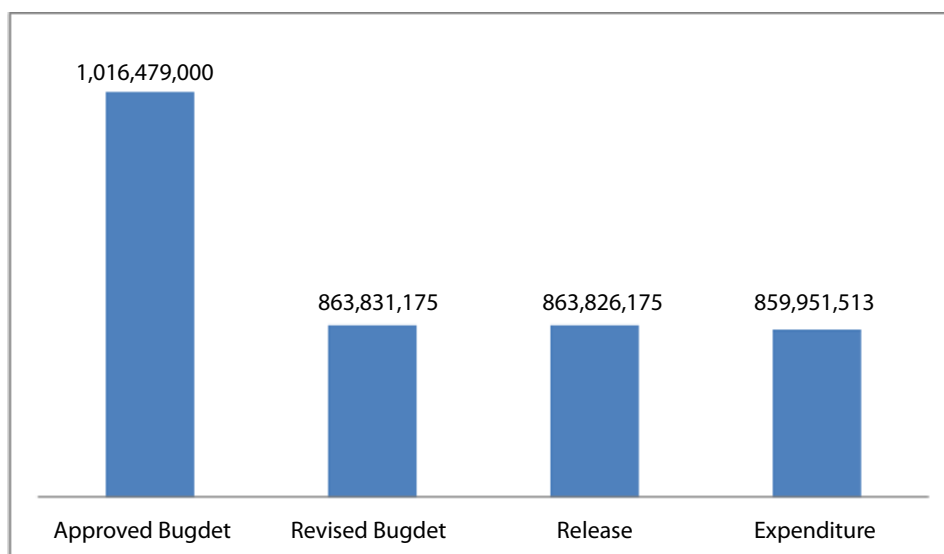
- (i) Implementation of Phase III of the NBI completed.
- (ii) Implementation of priority interventions of the rationalization strategy undertaken.
- (iii) Remedial action to address NBI Information Security vulnerabilities undertaken.
- (iv) National Information Security Framework developed.
- (v) Commercialization of NBI.

Findings

Financial performance

The approved (GoU) budget for FY 2013/14 for project 1014 was Ug shs 1.016 billion which was revised down wards to Ug shs 863 million all of which was released, and Ug shs 859 million (99.5%) spent by 30 June 2014. Both release and expenditure performances were excellent against the revised budget (See figure 3.5).

Figure 3.5: NBI/EGI approved budget, release and expenditure (Ug shs) 30th June 2014



Source: NITA-U

Expenditures were on: Consultancy services (35%) maintenance of machinery and equipment (21%), electricity (15%), computer supplies and IT services (11%), travel abroad (11%) and 7% on others. Funds were mainly spent on the project core components. There was no donor release for the FY 2013/14.

Past performance

Phase I and II of the National Backbone Infrastructure/e-Government Infrastructure (NBI/EGI) project were completed in 2012. These phases entailed laying of 1,536.39km of fibre optic cables and setting up of the NBI primary data centre and Metropolitan Area Network (MAN). The MAN network consists of the connectivity of 27 ministries and some departments through the laying of optical fiber cable onto the e-government network. Twenty two district headquarters across the country were connected and are benefiting directly from the project.

Physical performance for FY 2013/14

I) Implementation of Phase III of the NBI: During the course of the FY 2013/14, the contract for Phase III between GoU and M/s Huawei Technologies was approved by the Solicitor General. The Memorandum of Understanding (MoU) with the contractor for inclusion of a supervisor under phase III was signed, however, actual implementation, that is; laying of optic fibre cables (757 kms) and transmission stations to connect Kampala-Masaka, Masaka-Mutukula, Masaka-Mbarara, Mbarara-Kabale-Katuna, and Masindi-Hoima-Kyenjojo did not commence as the necessary surveys on all installations in the initial phases to ensure quality and reliability in providing services to users were being done and delay by Exim Bank to issue a “*No objection*” for disbursement of funds for Phase III.

Phase III will also avail an alternative route to the undersea cables at Mutukula through mainland Tanzania to the East African Submarine cables and will connect Uganda to the Rwandan border. All other districts will be reached using the last-mile connectivity programme using other connectivity technologies like WiMax.

II) Remedial action to address NBI information security vulnerabilities: To counter the security gaps from the vulnerabilities that had been identified, NITA-U undertook consultations with key stakeholders. Upgrade of software on the NBI devices had been done on four sites that are NITA-U, Ministry of Finance, Planning and Economic Development (MFPED), Ministry of Health (MoH) and MoES. It was reported that implementation of security controls would be completed once all the software at targeted sites are fully upgraded.

III) Rationalisation of NBI and bulk procurement of band width

Background

During FY 2013/14, NITA – U commenced the operationalization of bulk internet bandwidth for Government of Uganda Ministries, Departments and Agencies (MDAs). This is implemented through the delivery of centralized bandwidth for the agencies connected to the NBI and extending it to those that are willing to connect to the e-Government Infrastructure. The overall objectives of the bulk purchase of internet bandwidth by NITA – U were as follows:

- (i) Reduce the cost of internet bandwidth through the economies of scale.
- (ii) Enable NITA – U rollout e-Government services like online education, and health that are dependent on the accessibility to high speed internet service to the rural schools and hospitals;
- (iii) Connect MDAs and Special Interest Groups onto the NBI/EGI for delivery of internet services
- (iv) Promote the BPO industry across the country through the delivery of cheap internet bandwidth in all the towns that will be covered by the NBI.

Findings

By 30th March 2014, NITA – U had completed the procurement of suitable firms to provide bulk internet for Government of Uganda resulting into the selection of Bandwidth Cloud Services (BCS) and Safaricom Limited. By 30th June 2014, BCS had commenced delivery of bandwidth to Statistics House. A total of 36 MDAs had signed MoUs with NITA-U for supply of bandwidth and a total of 21 MDAs were receiving internet over the NBI.

The bulk procurement of bandwidth experienced delays in the signing up of MDAs most notably State House, Ministry of Defense and Ministry of Lands. A number of MDAs, notably Ministry of Foreign Affairs, Ministry of Local Government, Ministry of Education, Ministry of Trade and Ministry of Finance have internal technical issues which affect the quality of Internet service.

Some aspects of the contract, such as; Bandwidth Monitoring and Distribution Tools and Supply and installation of Internet Capacity to Statistics House using 10 Gigabit Ethernet Port on Routers that required upfront payment, could not be delivered due to inadequate funding.

IV) Commercialization of the NBI

Background

The overall objectives of the commercialization of the NBI/EGI are:

- a) To generate revenue for Government through the commercialization of excess capacity on the NBI/EGI;
- b) To maintain the National Data Transmission Backbone Infrastructure and the e-Government Infrastructure.
- c) To provide subsidized services for Government and special interest groups for example schools, hospital etc.

M/s Soliton Limited was awarded a contract to commercialise the NBI. The specific roles of the company include:

- a) Develop bankable business for the implementation of services on the NBI;
- b) Facilitate the bulk purchase and delivery of Internet bandwidth to government;
- c) Generation of revenue through commercialization including but not limited to:
 - (i) Provide sales and marketing services for the infrastructure, incidental, attendant and/or related services;
 - (ii) Implement a robust billing system that will generate automated bills for the utilization of the NBI/EGI and related services;
 - (iii) Provide effective Revenue management services including debtors management and collection services;
 - (iv) Effectively manage customer contracts and deliver contracted services at the agreed service levels;
 - (v) Planning for capacity, growth and aligning service delivery with business needs of the Client.
- d) Establish a robust structure and staffing for commercialization of NBI/EGI Infrastructure;
- e) Maintain the National Data Transmission Infrastructure and optical fibre cable by ensuring an uptime of 99.9% after completion of the rings and 97% before completion of the rings.
- f) Provide remote Network Operations Centre (NOC) management and generate weekly and monthly operation reports;
- g) Distribute and manage internet bandwidth to government entities connected to the NBI
- h) Distribute global Internet Protocol (IP) addresses to Government entities;
- i) Provide information security compliance across the NBI network which includes physical security of the National Backbone Infrastructure
- j) Management and financing (only where applicable) of capital investments/projects;
- k) Preparation and submission of relevant technical and commercial reports.

Under this contract, NITA-U's roles include: Monitoring the maintenance of the NBI, resource planning, and planning for network upgrade and expansion.

Findings

During the course of the FY 2013/14, the following were achieved:

NITA-U handed over phase I and II of the NBI, that is; the Data Centre at Statistics House, transmission sites, and MDA sites to the contractor. The project collection account was opened. A network assessment of the NBI was completed and a report submitted to NITA-U. Remedial repairs arising out of the network report were undertaken pending fixing the worn out batteries. The inception report and detailed maintenance plan were prepared and submitted to NITA-U.

The contractor (Soliton) sub contracted M/s Computer Point Limited to manage the data centre. In line with the Uganda Communications Commission Act, 2013, NITA-U submitted a request for Public Service Provision and Public Infrastructure Provision (PSP/PIP) licenses (licenses for voice and data provision and frequency assignment, they permit holders to install network facilities associated with transmission, reception and switching of telecommunications/electronic signals) to Uganda Communications Commission. By 30th June 2014, the agency was still awaiting a response. The contractor was sourcing an insurance policy for the NBI and was generating a comprehensive list of end users to whom, bandwidth would be supplied.

A remote Network Operating Centre (NOC), help desk, and billing system had been implemented. By 30th June 2014, a billing model for target user groups was generated and approved. Actual revenue generation was ongoing. Since March 2014 when government started delivering bandwidth, US\$ 45,300 was being generated per month. Signed contracts with different companies so far are estimated to generate US\$ 789,840 a year. Once the prospective clients are signed up, the NBI is expected to generate a total of US\$ 8,065,608 per annum from provision of dark fiber (unlit/unused optical fiber cables available for private use on the NBI) and capacity resale (a service of reselling leased/dedicated telecommunication services).

It was reported that the Uganda Revenue Authority, Ministry of Finance, and the Ministry of Public Service had submitted requests to NITA-U for provision of NBI services including hosting of disaster recovery sites, IFMS connectivity, hosting of the Computerized Education Management and Accounting System (CEMAS) application, and connectivity to Integrated Payroll and Pension System (IPPS).

Analysis

Link between Financial and Physical performance

Both release and absorption of funds by NITA-U were excellent at 92% and 99% respectively. Absorption of funds was highest on staff remuneration (wages, gratuity and NSSF contribution) at 64% of the total release. Procurement of bulk bandwidth, development of the national information security framework and commercialization of the NBI were initiated.

Achievement of set targets

Under National Transmission Backbone Infrastructure, all the planned outputs were either achieved or initiated apart from implementation of Phase III of the project. Bulk procurement of bandwidth and commercialization of the NBI were initiated and operationalized. The draft

national information security framework was developed and the Computer Emergency Response Team (CERT) established. Overall performance of the NBI project was very good (70%).

Challenges

- Delayed commencement of phase III of the NBI (laying of 757kms of fiber optic cable and installation of associated transmission sites) during FY 2013/14 leaves the country with a single route to the undersea internet cable.
- Inadequate funding: NITA- U did not receive funding from Government of Uganda for the non recurrent costs of the bulk procurement of bandwidth contract, as a result, some aspects of the contract, such as; Bandwidth Monitoring and Distribution Tools and Supply and installation of Internet Capacity to Statistics House using 10 Gigabit Ethernet Port on Routers that required upfront payment, could not be delivered.
- Delayed signing of MoUs by MDAs and internal technical issues: The bulk procurement of bandwidth experienced delays in the signing up of MDAs most notably State House, Ministry of Defense and Ministry of Lands. A number of MDAs, notably Ministry of Foreign Affairs, Ministry of Local Government, Ministry of Education, Ministry of Trade and Ministry of Finance have internal technical issues which affect the quality of Internet service.
- Under commercialization of the NBI, the process of handing over the Data Center took a long time because identifying a sub-contractor for its management delayed.
- The internal processes and approved Government procedures took a lot of time which delayed the commercialisation process. This was coupled with the lack of sufficient funds to carry out the NITA-U obligations under the contract. This slowed down the responses to requirements.
- Continuous vandalism of the OFC infrastructure especially in towns where manhole covers are stolen and some cables cut.
- The NBI has critical relocations required in the medium term due to new road works, however, NITA-U did not have the budget and funds for relocation of the OFC from the road reserves. Affected routes include: Kajjansi- Entebbe road where the Entebbe Express Highway is being constructed. The relocation requires an estimated Ug shs 462 million. Along the Atiak –Nimule road, an estimated Ug shs 2.6 billion is required for relocation of the OFC. Discussions with UNRA have so far not yielded results as Ministry of Works communicated that they shall not compensate utility infrastructure in the road reserves.
- Difficulty of getting permission from KCCA to dig across the city for provision of last mile connectivity.

Conclusion

Commendable progress was realized under the commercialization of the NBI and procurement of bulk bandwidth during the financial year. However, the planned implementation of the third phase of the NBI did not take off. The project is affected by inadequate funding, vandalism of OFC and delayed permission to dig some city roads for last mile connectivity to some MDAs.

Recommendation

- The NITA-U should fast track the implementation of phase III of the NBI project for the set objectives to be achieved.
- The NITA-U should be permitted to use part of the funds generated from the commercialization of the NBI and provision of bandwidth to procure the missing tools,

extend the OFC to key MDAs and relocation of the OFC at the ongoing road construction sites.

- The MoWT, UNRA and KCCA should improve road designs with service ducts to avoid digging of paved roads by utility services companies.
- The NITA-U should provide technical support to MDAs with internal technical issues to enable them improve on the quality of service.

3.3.3 National Information Security Framework

Background

The NITA-U Directorate of Information Security (DIS) is charged with the responsibility of providing vision and leadership to spearhead information security governance, risk remediation, planning and response, as well as promoting and monitoring the development of a National Information Security Framework (NISF).

The framework includes establishment of a National Computer Emergency Response Team (CERT) Coordination Centre, conducting a feasibility study on establishment of a Public Key Infrastructure, establishing international partnerships, conducting Information Security awareness training / promotion campaigns, spearheading the creation of the National Information Security Advisory Group among others.

The directorate has three departments namely: Computer Forensics and Incident Management, Information Security Compliance, and Information Security Operations.

Findings

Financial performance

The approved budget for information security FY 2013/14 was Ug shs 605 million of which Ug shs 510 million (84%) was released and a total of Ug shs 509 million (99.9% of release) spent. Most of the funds (66.7%) were spent on short term consultancy services and 9.8% on workshops and seminars. Table 8.4 shows the financial performance of the NISF.

Table 3.5: Approved Budget, Release and expenditure (Ug shs) for NISF FY 2013/14

Item	Approved Budget	Revised budget	Release	Expenditure	Unspent	% distribution of expenses
Allowances	40,000,000	40,000,000	40,000,000	39,999,733	267	7.9
Advertising and public relations	5,000,000	20,000,000	20,000,000	19,999,553	447	3.9
Workshops and Seminars	60,000,000	50,000,000	50,000,000	49,997,778	2,222	9.8
Consultancy services Short term	420,000,000	340,000,000	340,000,000	339,909,080	90,920	66.7
Travel inland	60,000,000	40,000,000	40,000,000	39,999,491	509	7.9
Fuel, lubricants and Oils	20,000,000	20,000,000	20,000,000	19,482,820	517,180	3.8
Subtotal	605,000,000	510,000,000	510,000,000	509,388,455	611,545	100.0

Source: NITA-U

Physical performance

The following achievements were registered against the planned activities for the framework:

- a) NITA-U developed a draft National Information Security Framework (NISF) to help secure information and information systems on which the country's economic development and national security depends.

The NISF fulfils Government of Uganda's (GoU) pledge to protect national resources and systems against cyber-attacks and associated risks such as cyber terrorism, computer related espionage, fraud, sabotage, and vandalism. The draft framework was reviewed by the technical committee of the NITA-U board who recommended it for board approval. The board requested for a stakeholder validation workshop for the NISF which took place on 28th and 29th April 2014.

- b) In a national coordinated approach for handling information security incidents, a National Computer Emergency Response Team/Coordination Centre (National CERT/CC) was established in February 2014 under direct supervision and oversight from the Directorate of Information Security. The National CERT/CC (www.cert.ug) is responsible for receiving, reviewing, and responding to computer security incident reports and activity for both the public and private sector. Currently collaborating with relevant security institutions in a bid to help equip them with the ability to establish a military CERT.
- c) The Directorate provided information security governance, technical assistance and quality assurance for the National ID Project (National Security Information System). NITA-U participated in the development and review of technical specifications, procurements of additional equipment, review of information security processing facilities and infrastructure, and recruitment of staff for the project.
- d) Through the National IT Promotion Agency of South Korea (NIPA), NITA-U was able to undertake and conclude a feasibility study on establishment of the Public Key Infrastructure (PKI) for Uganda⁵. The draft report was presented to NITA-U management and comments were captured by the NIPA consultants. The final report is yet to be presented by NIPA, and reviewed by NITA-U.
- e) The agency developed 12 Information Security Standards for Government of Uganda in collaboration with the Uganda National Bureau of Standards (UNBS).
- f) NITA-U provided technical assistance towards the establishment of an e-procurement system championed by PPDA.
- g) The agency organized the Annual East Africa Information Security Conference in August 2013 together with the Information Systems Audit and Control Association (ISACA), and the Swedish-Uganda ICT conference in March 2014. In collaboration with Cyber Security Africa, NITA-U organized the East African Banking and ICT Summit on 24th April 2014. In conjunction with the United Nations Office on Drugs and Crime (UNODC), the EA

⁵PKI - is a set of hardware, software, people, policies, and procedures needed to create, manage, distribute, use, store, and revoke digital certificates. PKI enables users of a basically unsecure public network such as the Internet to securely and privately exchange data and money through the use of a public and a private cryptographic key pair that is obtained and shared through a trusted authority.

regional meeting on preventing and combating cybercrime was held on 27th and 28th May 2014 in Uganda.

- h) NITA-U spearheaded the creation and constituting of the National Information Security Advisory Group (NISAG). NISAG shall maintain a national risk register and shall provide advisory services to Government of Uganda on Information Security and shall ensure that issues of cyber security are addressed appropriately. The various institutions operating critical National Information Infrastructure (NII) were requested to nominate representative and they positively responded. Appointment of members to NISAG by the Hon. Minister of ICT was ongoing. The secretariat for NISAG will be at NITA-U under the Directorate of Information Security.
- i) NITA-U actively participating in the creation of a social media monitoring and citizen interaction centre concept for GoU. This will be the platform for government to listen to and respond to pertinent threads on the social networking sites such as Facebook, Twitter amongst others. This project code named Government Citizen Interaction Centre (GCIC) was initiated.
- j) NITA-U initiated the process of joining the Information Security Forum (ISF) and participated in the Annual Global ISF meeting in November 2013. The ISF brings members together to share and discuss information security issues, experiences and practical solutions in an environment of total trust and confidentiality as well as provide members with unlimited access to an extensive library of reports that provide practical guidance and solutions to information security challenges.
- k) The agency conducted information security awareness training/campaigns in various institutions including the following:
 - i. Bank of Uganda
 - ii. Institute of Internal Auditors
 - iii. Insurance Regulatory Authority
 - iv. Information Systems Audit and Control Association (ISACA) Kampala Chapter
 - v. Makerere University
 - vi. Ministry of Energy and Mineral Development
 - vii. Ministry of Finance, Planning and Economic Development
 - viii. Ministry of Information and Communication Technology
 - ix. National Information Technology Authority - Uganda
 - x. Rural Electrification Agency
 - xi. Special Forces Command
 - xii. Uganda Bankers Association
 - xiii. Uganda Electricity Generation Company Limited
 - xiv. Uganda Human Rights Commission
 - xv. Uganda Investment Authority
 - xvi. Uganda Law Society
 - xvii. Uganda National Chamber of Commerce and Industry
 - xviii. Uganda National Chamber of Commerce and Trade
 - xix. Uganda National Council for Science and Technology
 - xx. Uganda People's Defence Forces
 - xxi. Uganda Revenue Authority
 - xxii. Uganda Road Fund

- l) NITA-U led the joint security team during the process of planning for the remediation of the security vulnerabilities discovered during the information security audit of the NBI. The plan has been drawn together with the associated budget. Implementation of zero cost controls commenced. Funding proposals were submitted to MFPED and KOICA.
- m) NITA-U provided governance and strategic thoughts during the process of managing the Information Security affairs for government of Uganda. This has amongst others included incident response during cyber-attacks notably the defacement of the OPM website and the mass defacement of 55 .go.ug websites.
- n) The agency established both local and International partnerships with the following amongst others; Uganda Communications Commission, Government of the Arab Republic of Egypt, Government of Cameroon, Government of Korea, Commonwealth Telecommunications Organization, Commonwealth Cybercrime Initiative, United Nations Office on Drugs and Crime.

Analysis

Link between financial and physical performance

A total of Ug shs 605 million was approved for NISF of which 510 million (84%) was released and Ugshs 509 (99.9%) million spent. At least 66.7% of the funds were spent on consultancy services for the development of the National Information Security Framework which was the core deliverable of the program. Both physical and financial performance was excellent (90%).

Achievement of set target

The draft National Information security framework was developed, the national information security advisory group and the Computer Emergency Response Team established. The feasibility study on the public key infrastructure was completed.

Challenge

- Under staffing of the Directorate of Information Security due to budget constraints. To-date the directorate has only two staff, the director and the information security operations manager.

Recommendation

- The NITA-U should rationalize and prioritize the staffing of the directorate of information security.

3.3.4 Business Process Outsourcing (BPO): Project 1055

Background

Business Process Outsourcing (BPO) is defined as the strategic use of third party service providers to perform activities traditionally handled by internal staff and resources. The BPO is categorized into back office outsourcing (which includes internal business functions such as human resources or finance and accounting) and front office outsourcing (which includes customer-related services such as call centre services).

In 2008, the Ministry of ICT developed a BPO strategy and model for Uganda which proposes that for sustainability of the BPO industry, there is a need for government to partner with the private sector and provide support in areas of: infrastructure development, human resource development, enterprise development, marketing and creating an enabling environment for BPO to flourish.⁶ The project commenced on 1st July 2008 with an end date of 31st July 2014. This project was transferred from the MoICT to NITA-U with effect from FY 2010/11 and is fully funded by GoU.

Objectives

The objectives of the project are to:

- Setup infrastructure that can support the BPO industry.
- Market Uganda as a preferred BPO destination.
- Establish partnerships with the private sector to enable the sustainability of the industry.

The annual planned outputs/ activities for the project in FY 2013/14 are:

- i. Support provided towards the maintenance and sustainability of the BPO Incubation Centre (internet bandwidth and utilities)
- ii. Officially launch the BPO Centre
- iii. Operationalize 3rd floor of the BPO incubation Centre
- iv. Dissemination of the BPO Standards
- v. Submit cabinet memo for approval of the 3 BPO frameworks (Strategy, Incentive guidelines and Standards)
- vi. BPO skills developed through regular training
- vii. Increase youth employment through BPO
- viii. Promote BPO services

Findings

Financial performance

The approved budget for the project excluding appropriations in aid, taxes and arrears for FY 2013/14 was Ug shs 210 million all of which was released by June 2014. Both release and expenditure performances were excellent as shown in Table 8.5.

Table 3.6: BPO approved budget, releases and expenditure (Ug shs) FY 2013/14

Line Items	Approved Budget	Release	Expenditure	% Absorption
Information and Communication Technology	180,000,000	180,000,000	179,999,047	100%
Electricity	20,000,000	20,000,000	19,998,446	100%
Water	10,000,000	10,000,000	9,948,606	99%
TOTAL	210,000,000	210,000,000	209,946,099	99%

Source: NITA-U and IFMS

Physical performance

The BPO centre was officially launched on 19th September 2013. Two new operators, M/s Dial-a -Service and M/s Cameo TECH Edge were procured and occupy the third floor of

⁶ Business Process Outsourcing Strategy

Statistics House. These commenced service provision that include: Help desk, customer service, technical support, directory services, tele-marketing, tele-surveys among others. M/s TechnoBrain who operate at the 4th floor of Statistics House are engaged in voice processes including market research for telecommunications companies, customer care, counseling services, and video transcription. They also provide services in content moderation under knowledge processes.

Under the skills development and capacity building component, four NITA-U staff (to manage the planned training of trainers) were trained in Egypt during the month of November 2013. A road map for the training of trainers was developed. Phase one of the training of trainers was concluded and phase two is to be conducted by the Egyptians during FY 2014/15.



BPO executives working at the Incubation Centre on 3rd and 4th floor of Statistics House

The cabinet memo on BPO incentives, guidelines and standards was approved by the Executive Committee of NITA-U. The BPO Standards were disseminated to the BPO Association.

Under promotion of BPO services, NITA-U partnered with the BPO Association to organize the 2013 BPO Regional Conference. An abridged version of the proceedings was developed and submitted to NITA-U Executive Committee for comments.

The BPO centre registered a staff growth of 45% from FY 2012/13 with over 350 staff attached to the companies operating in the centre. A total of 272 were BPO executives majority of whom were youth. Other staff provide support services including restaurant, transport, security, hardware maintenance, among others.

Analysis

Link between financial and physical progress

Approximately 85% of the BPO project expenditures were on provision of ICT services including internet bandwidth, promotion of BPO and skills development, where as 10% of the funds went to electricity and 5% on water. Therefore, the project registered efficient utilization of resources and all the expenditures were on the core project outputs.

Achievement of set targets

All targets set during the FY under review were achieved.

Challenges

- **Inadequate sensitization of the public on the availability of BPO services in Uganda:**-The operators are yet to tap into the local market due to public ignorance about the potential of BPO services in Uganda.
- **Internet connectivity breakdowns:** The BPO centre was experiencing internet down time resulting from several conditions including breakdown of the undersea fibre optic cable and power outages which greatly affects the service.

Conclusion

By 30th June 2014, financial performance was excellent and expenditures were on key project deliverables. The old and new operators are providing services especially to the international clients. The BPO services are sometimes affected by internet downtime which affects the reliability and credibility of the operators to the international market.

Recommendations

- The NITA-U should amplify the sensitization campaigns on availability of BPO services and market the country as a BPO destination.
- The NITA-U should engage Internet service providers to improve response time whenever there is any outage.
- The NITA-U should identify an alternative connection to the undersea fiber optic cable during phase III of the NBI project.

NITA-U Projects analysis

Link between Financial and Physical performance

Both release and absorption of funds by NITA-U were excellent at 92% and 99% respectively. Absorption of funds was highest under the wage component which over crowded other budget items.

Achievement of set targets

Under National Transmission Backbone Infrastructure, all the planned outputs were either achieved or initiated apart from implementation of Phase III of the project. Bulk procurement of bandwidth and commercialization of the NBI were initiated and operationalised. The draft national information security framework was developed and the Computer Emergency Response Team (CERT) established. Overall performance under the NBI was good.

As part of the continuous operation of the BPO, two new operators that is; Dial-a -Service and Cameo TECH Edge were procured. Four NITA-U staff (trainers of trainers) were trained in Egypt during the month of November 2013 and a road map for the training of trainers was developed. The overall performance of the BPO project was excellent with 100% of planned outputs achieved.

Comparative analysis

Although absorption performance on most outputs under NITA-U was excellent, implementation of the third phase of the NBI did not commence. Both the National Information Security component and the BPO project were on course with implementation of planned outputs for FY 2013/14.

Overall Challenges for NITA-U

- Under funding of the Authority: Although the ICT sector contributes 6% to the GDP, the budget allocation is 0.13% (Ug shs 15 billion of which Ug shs 10.4 billion is for NITA - U). As a result, the Directorate of Information Security has two members of staff (a Director and a manager).
- The BPO services are yet to be fully appreciated locally due to inadequate sensitization.
- Delayed implementation of phase III of the NBI: This resulted from delayed approval of the loan by EXIM bank, adjustment of agreements to include project management structures to effectively supervise works and several audits from government institutions.
- The need to re-locate OFC from on-going road construction sites is affecting the availability of service and revenue from the commercial users of the NBI. The Ministry of Works is not ready to fund the relocation of infrastructure in road reserves yet NITA-U has no budget for the activity.
- Lack of last mile connectivity: The target users including administrative local government headquarters, schools and hospitals were not yet connected to high speed interconnectivity through NBI.
- There were missing links and absence of redundancies (alternatives) in the NBI. There is only one gateway through Kenya to the undersea cable which makes operation of e-services costly and risky.

Recommendations

- The NITA-U should identify new sources of funding including donor funding to undertake key activities.
- The NITA-U should fast track NBI phase III implementation. This will address the lack of an alternative route to the undersea cable.
- The NITA-U should develop and implement a media strategy to amplify publicity on the Business Process Outsourcing project.

CHAPTER 4: CONCLUSION AND RECOMMENDATION

4.1 Conclusion

Both the financial and physical performance for the ICT sector during FY 2013/14 was rated as excellent (above 80%). Delays were noted on implementation of the national postcode and addressing system, digital migration national deadline under the MoICT and the phase III of the National Transmission Backbone Infrastructure.

The sector was facing challenges of inadequate funding, low appreciation of business process outsourcing services, lack of last mile connectivity in most parts of the country, lack of an alternative route to the undersea cable for the NBI and delayed completion of projects among others.

4.2 Recommendations

For improving the implementation of programmes, a number of proposals were made.

- The ICT sector should prioritize funding to phase III of the NBI, the Business Process Outsourcing under NITA-U, and the National Postcode and Addressing System pilot project in Entebbe as the projects have outlived their life span.
- NITA-U should be allowed to use part of the funding from commercialization of the NBI to re-locate the fibre optic cables in road reserves where UNRA is expanding national roads. Alternatively, the MoWT should adequate budget for expansion of roads including relocation of service infrastructure whose installation was cleared.
- The MoICT should speed up the analogue to digital migration before the international deadline of December 2015. The public should be adequately sensitized on this migration.
- The MoICT should spear head harmonization of cross cutting activities in Government ministries and agencies implementing ICT programs in order to avoid duplication.

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