Establishment of ICT in public schools and health facilities: What are the implementation challenges?

Overview

In 2007 Uganda Communications Commission (UCC) which regulates the telecoms sector, took a decision to support the establishment of information, and communication technology (ICT) facilities in selected government secondary schools, tertiary institutions, and health facilities among others. Implementation is through the Rural Communications Development Fund (RCDF). The UCC administers the Universal Services Fund (USF). Through the USF the RCDF was established to support the development of ICT facilities in government secondary schools, tertiary institutions, health facilities and other facilities.

The Budget Monitoring and Accountability Unit (BMAU) monitored progress of implementation of ICT facilities in public schools, higher institutions and health facilities.

The overall objective of this brief is to highlight the implementation challenges in the establishment and usage of ICT facilities in government aided secondary schools, teacher training colleges and health facilities. The paper provides policy recommendations.

Key Issues

- ⮑ Inadequate ICT personnel (teachers, instructors and tutors) in schools and higher education institutions.

- ⮑ High computer to student ratio which hampers effective transfer of knowledge.

- ⮑ Lack of user training for the beneficiary institutions and facilities on equipment usage.

- ⮑ Lack of maintenance program for the ICT equipments

- ⮑ Non functionality of telemedicine equipment in all health facilities visited.

Back ground

In 1996 the Government of Uganda liberalized the telecommunication subsector which resulted in radical changes that gave birth to an Information and Communication Technology sector.

The sector has been growing at a phenomenal rate over the last decade. The postal and telecommunications service activities grew by 15% in financial year 2011/12 and it accounted for 1.7 per cent of gross domestic product. This growth had a profound impact on the entire Ugandan economy, making the ICT an important sector.

The implementation of the first Rural Communications Development Fund was between 2003 to 2007. Following the success of the first policy, a new Rural Communication Development Fund Policy of 2010 was developed. Under this policy, the main goal is to provide access to basic ICT services for the rural and underserved communities of Uganda.

ICT projects are established between UCC and private or public partners. UCC provides technical support and partial funding. The ICT facilities are wholly owned by the partner who is obliged to ensure that the facility is available to UCC for a given period of time, usually one to five years. By the end of this period, it's expected that partners would have

developed capacity for self sustainability and other people are able to replicate them within the area in order to satisfy a bigger demand.

Aims for the Rural Communications Development Fund

In the education sector, the rural development fund program aims at: a) establishing ICT laboratories in schools, and b) providing connectivity and supporting content delivery. Specifically the project aims to supply 40 computer terminals and accessories per institution where there is grid power and 10 computers and solar power connections in areas without grid power. Each school laboratory was estimated to cost on average US $25000.

In the health sector the program aims to support the Ministry of Health to use ICT to improve health service delivery in the country especially through the use of tele-medicine. The unit cost of providing ICT equipments at a health facility was estimated to be on average US $23000.

Through this programme, ICT facilities have been installed in selected government health facilities country wide. All the health facilities are powered by solar energy.

Implementation status

The second quarter of financial year 2012/13 monitoring exercises noted that ICT equipments have been delivered and installed in various schools and education institutions countrywide. The equipment included monitors, keyboards, mice, and central processing units. The health facilities received computer sets, digital cameras, batteries, webcams, scanners, and solar systems.

Throughout the implementation of the program, a total of 730 schools and 150 health centers had benefited from the program as of December 2012. The target was to reach all government secondary schools and government hospitals and health centre fours (HCIV).

The benefits of using ICT in health facilities included enabling doctors to do remote consultations and diagnosis, access to medical information and the ability to coordinate research more effectively. The use of ICT for distance education enhanced the traditional face-to-face learning, and fostered networking among trainees.

Implementation Challenges

1. **Inadequate ICT teachers/instructors.** In the education institutions that were visited during the monitoring visit, it was reported that there was general lack of ICT teachers/instructors. ICT studies is a new subject in the school's curriculum, as such, the education service commission recruits and posts instructors to some schools while other schools miss out and have to recruit their own instructors. This therefore increases the operational costs of schools where ICT instructors are not posted and failure to pay means that the ICT instructors are likely to leave.

2. **Inadequate user training** by UCC in the use of ICT facilities. The schools and health facilities reported that the training provided by UCC was inadequate to grasp their practical operations. This was worsened by the fact that the suppliers of the equipment did not leave behind any User Manual to help them understand how to manage and use the equipment and for trouble shooting.

3. **Lack of maintenance budget** for ICT under the education sector. The Ministry of Education and Sports came up with the policy for students to study ICT as part of their subject combination at advanced level however this was not followed with a budget for equipment maintenance to ensure sustainability of the program in secondary schools. Schools in rural areas for example, are faced with a challenge of inadequate skilled manpower to carry out servicing and maintenance of equipments. They are therefore forced to consult experts from the urban areas who are very expensive. This constrains the already inadequate recurrent budget further constraining education service delivery.

4. **Use of equipments for unintended purposes**: In the health sector, while the equipments were delivered and installed at various hospitals and health centers, they are not being used for telemedicine; instead they are being used for word document processing like keeping staff records, book keeping and data entry. This is because none of the facilities were supplied with internet connectivity which is the major driver for telemedicine.

Tele-medicine computers in the records room at Lira Referral Hospital

5. **High student to computer ratio:** in secondary schools, the program was designed to supply 11 computer terminals for the solar system and 41 computer terminals for grid powered systems respectively regardless of the school population. Findings revealed that this is generally very low compared to the fact that some schools like Iganga high school, Jinja secondary school, and Soroti secondary school have a student population of over 3000 students but only received 41 computers. While schools like Kalangala secondary school received 11 computers sets because they are off grid power.

Conclusion

Evidence indicates that, a lack of internet access, partial delivery of promised packages, lack of instructors and end user training on supplied equipments is hampering the achievement of the objective to provide sustainable access of ICT services in schools and health facilities.

Information is key for socio-economic development worldwide. It is vital that the above challenges are addressed to remove all barriers to access and use of ICT services in both the health facilities and education institutions.

Policy Recommendations

1. In light of the new policy for A-level students to register a maximum of three principle subjects and two subsidiary subjects, one of which being ICT, there is need to review the staffing needs at secondary schools level to include teachers who can teach ICT.

2. The Ministry of Education and Sports, National Curriculum Development Centre and teacher training institutions should design ICT teacher training courses. In the mean time, teachers already on the pay roll and who have interest of teaching ICT should be supported to acquire ICT skills especially during holidays (in service training) to bridge the current skills gap in human resources for ICT training.

3. UCC should provide the entire package as planned and handover complete facilities both for education and health facilities. This will enable the achievement of the program objectives.

4. The Ministry of Education and Sports and Ministry of Health in conjunction with National Information Technology Authority-Uganda should set regional centers of excellence to provide technical support to various users of ICT services.

5. The Government through Ministry of Education and Sports should plan to procure additional computers for schools so as to reduce the high computer student ratio and enhance the hands on training.

6. In the health sector, consultants should be provided with laptops with wireless networks or smart phones/devices so that they can give information to those seeking advice at any time. This will aid the delivery of telemedicine and address the gaps by optimizing specialized resources at the lower level health facilities where it is difficult to attract highly qualified medical cadres.

References:

1. Ministry of Finance, Planning and Economic Development Quarter two Budget Monitoring report FY 2012/13, December 2012.

2. Uganda communications commission, http://www.ucc.co.ug.

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