ICT4D in Africa: Harnessing the power of ICTs

Background
In Africa, ICT access has increased dramatically over the last decade. As an example, mobile phone service reaches more than 600 million people across the continent, and World Bank research indicates that mobile coverage could be extended to cover 97 percent of Africa’s population without public subsidy.

As access increases, opportunities arise to leverage ICT to extend timely information and services to previously underserved populations, and to increase productivity and innovation in the public and private sectors. Promising examples of this include the use of ICT for improved disease monitoring and vaccination planning; m-banking services using the mobile to extend access financial services to populations that never before had a bank account; and just-in-time market information systems enabling small scale producers to cut out the middleman and obtain a better price for their products. Some African countries have also tapped into the growing global IT-enabled services sector providing call center and IT outsourcing services.

While significant improvements have been made in access to ICT across the continent, there are still significant access gaps, and much more can be used to harness the power of ICTs to reach Africa’s development goals. The question is how?

“IT has become abundantly clear to us in Africa that ICT is an indispensable tool in the achievement of our development outcomes, as well as the Millennium Development Goals (MDGs) (…) The challenge for us, in the developing world, is how best to apply ICT to provide more leverage in our fight against poverty, disease, illiteracy, lack of information and skilled workforce”.

Mr. Paul Kagame, President of Rwanda & recipient of the 2006 ICT Award by ITU.
(Remarks at WSIS 2003, Geneva)

InfoDev’s Role:
infoDev aims to help African countries leverage ICT to reach their development goals by building local capacity. This is done by:
1. Conducting experience-based research to derive lessons learned and good practices
2. Providing “how to” toolkits and training
3. Convening peer-to-peer communities of practice
4. Serving as a catalyst to start or scale new initiatives
**Background**
Small enterprises account for a significant proportion of production and employment in Sub-Saharan Africa. However, many of these enterprises do not reach their full potential due to capacity constraints, limited market linkages, lack of access to finance and conducive regulations.

Business incubation is a powerful tool for supporting entrepreneurs that wish to start and grow their businesses. Business incubators provide shared facilities that reduce the cost of setting up a business, business development services and mentoring that strengthen the management capacity of the entrepreneur, market linkages that result in more cost-effective supplies and a larger customer base, and financial services that cater to start-up enterprises.

African policymakers increasingly view business incubation as an important tool to unleash human ingenuity, enable competitive enterprises and create sustainable jobs. Business incubators can also be instrumental in developing new economic sectors.

**infoDev's Services:**
infoDev’s Incubator Initiative, launched in 2002 with support from the Government of Japan, supports the incubation and growth of competitive entrepreneurs and SMEs through a global network of over 150 business incubators spanning 70 developing countries. infoDev provides:
- Seed financing and technical assistance to new business incubators
- Regional networks facilitated through workshops and forums. The African Incubator Network was launched in 2006 and today has more than 300 members across the continent, providing an ideal place for business incubator managers and others to share ideas, lessons and methodologies that fit with the African context, and to raise awareness of business incubation as an economic development tool on the continent
- Training and toolkits for business incubator managers (www.idisc.net)
- Policy advice on business incubation, IT Park and ITES sector development

The goal of AIN is to develop a collaborative network of African incubators and other business development service providers, and to facilitate the provision of appropriate knowledge to support the development of innovative small enterprises.

**AIN’s priority areas are:**
- African best practices and success stories
- Training for business incubator managers
- Awareness raising for policymakers
- University-industry linkages
- Development of national business incubation networks

The AIN is co-sponsored by infoDev and the South African Enterprise Development Agency

www.ainportal.org

**NETWORK MEMBERS**
- Angola
- Ghana
- Kenya
- Mauritius
- Mozambique
- Namibia
- Nigeria
- Rwanda
- Senegal
- South Africa
- Tanzania
- Uganda

"I feel privileged and honored to have shared the incubator manager training with you. I feel we are now partners in awakening the economic sleeping giant that is Africa."

Feedback from trainee, Incubator Manager Training supported by infoDev, Mauritius, October 8-12, 2007

To learn more visit us at [www.infodev.org/africanetwork](http://www.infodev.org/africanetwork) or at infoDev’s Business Incubator Support Center at [www.idisc.net/africa](http://www.idisc.net/africa).
Africa’s Business Incubators

Africa’s business incubators support SMEs in a wide range of technical areas from developing ICT applications to clean energy technologies, agribusiness, textiles and furniture manufacturing. Other focal areas include incubators that support women, rural entrepreneurs, and youth.

Youth Entrepreneur in Angola

“I had no advisory and support network until I came to the incubator. A big challenge faced by entrepreneurs in our country is that it is expensive to acquire a suitable infrastructure to operate in. It discourages people to invest in business. The Company has benefited a lot from the services of the incubator, such as infrastructure, ICT and technical support.”

WebCom in Mozambique

WebCom was started in 2005 and has been incubated in an incubator in Mozambique. Their main activity is web design and graphic design, but they also do web hosting, server configurations and networking. Today they have 6 employees, and this year they are planning to extend the company to software development, especially in mobile applications, such as market information systems.

The founder of WebCom says:

“The Incubation Program helped us in company registration, business planning and management, technical and managerial training and, most importantly, they have introduced us to some good clients.”

Cooking Stoves in Rwanda

In 2005, the Kigali Institute of Science, Technology and Management (KIST) did research on institutional cooking stove fueled by biogas, and manufactured prototypes for market testing. KIST’s business incubator saw the commercialization potential of the innovation, and attracted the interest of two entrepreneurs who started developing the business model together. In June 2007, Energy, Environment and Sanitation Company Limited (ESSCO.Ltd) was created. The new venture has now been under incubation at the KIST business incubator for almost 2 years.

Because the technology and prototype had already been developed by the university, ESSCO could quickly start manufacturing and selling stoves after forming the company. The business incubator was instrumental in helping the entrepreneurs get contracts with the government for providing stoves for the countries’ prisons, and with the Ministry of Defense. Given the lack of business experience of the two entrepreneurs, the business incubator was of great help in providing them with business training, guiding them through the process of getting the product ready for the marketing stage, assisting them with the marketing process, providing on-going mentoring and coaching through-out the ups and downs of the enterprise. Meanwhile the entrepreneurs were paying rent for their fully equipped office space at the business incubator, defraying the cost of the business incubation process.

The two entrepreneurs are optimistic regarding continued demand for the stoves. ESSCO is also receiving demand for installing the biogas equipment on a household level. This is a viable solution for households with cows, which can use the animal waste to create energy for their household needs. Illustrating their entrepreneurial drive, ESSCO is also already looking at expansion possibilities in the solar energy and mini hyderopower sectors.

JOB CREATION AND ENTERPRISE DEVELOPMENT

While the mean age of business incubators in Africa is only 4 years old, they have resulted in:

- 2,874 current incubates and over 600 companies graduated
- 43,178 employees in graduated companies and 14,532 in incubate companies
ICT & Education

Education, in any form, plays an essential role in the development in the region. For most people, it offers the only route to escape poverty. The enormous potential of ICTs in improving the management of the education systems, speeding up development processes, and facilitating teaching and learning is well recognized throughout Africa as evidenced by a series of ICT initiatives. Most African national e-strategies make explicit reference to programs of ICT in education.

infoDev is sponsoring a series of substantive cutting-edge research and analytical studies as well as capacity-building activities designed to enhance policy-relevant knowledge about what works, and what does not, in using ICT in education in developing countries, especially as it relates to the Millennium Development Goals (MDGs) and to make this knowledge more accessible to developing country policymakers and their colleagues in the donor community.

Survey of ICT Use in Education in Africa: 53 Country Reports

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infoDev released its landmark report “Survey of ICT and Education in Africa: 53 Country Reports” in 2007. It seeks to gather in a single resource the most relevant and useful information on ICT in education activities in Africa. Over three hundred notable ICT in education initiatives on the continent are included in the survey. A research team supported by infoDev and coordinated by the Commonwealth of Learning (COL) sought to document the major developments in each African country related to technology use in education in order to create the first consolidated look at this fast-changing sector and provide preliminary answers to how ICTs are currently being used in the education sector in African countries and what the common challenges and constraints they face.

To learn more visit us at www.infodev.org/education. Other Resources include:

- ICT in Education Toolkit - http://www.ictinedtoolkit.org
- Survey of ICT and Education in Africa – http://www.ict4edu-africa.com
- NEPAD e-Schools – http://www.infodev.org/epad-eschools

All but a handful of countries surveyed already have a national ICT policy in place or under development (…) A new phase of ICT for education in Africa is occurring within national, and emerging regional, policy frameworks that are providing the basis for partnerships and donor.
Monitoring and Evaluation of the NEPAD e-Schools Demo Project

InfoDev and the Commonwealth of Learning (COL) released in 2007 a public report highlighting the lessons learned from the first "demonstration" phase of the NEPAD e-Schools project, a multi-stakeholder, continent-wide initiative to impart ICT skills to young Africans and to use ICTs to improve the provision of education in schools.

The first phase of the Initiative is a “Demonstration Project” (“Demo”) being implemented by NEPAD through the e-Africa Commission (eAC), in partnership with private sector organisations. Six schools in each of 16 countries were selected to participate. The Commonwealth of Learning, in partnership with InfoDev, a multi-donor partnership housed at the World Bank, managed the monitoring and evaluation of the Demo project.

Capacity Building for ICT in Education in Africa – eLearning Africa 2008

eLearning Africa has established itself as the largest and most comprehensive capacity-development event for technology-enhanced education and training on the Continent. The conference attracts high-level policy and decision makers and practitioners from education, business and government - the three key areas driving eLearning adoption and innovation. At this Forum, held in Ghana on May 2008, InfoDev facilitated a Planning Workshop on Capacity-Building for ICT in Education in Africa sponsored by the World Bank and the Korean Education Research and Information Service (KERIS), and presented the Survey of ICT and Education in Africa, coordinating a session exploring a possible agenda for eLearning Africa in 2020, and serving on various panel discussions.

Other analytical work on ICT and Education sponsored by InfoDev includes:

- Using ICT for Teacher Professional Development in Namibia
- Improving Teaching Quality in Guinea with Interactive Radio Instruction
- Education Management Information Systems (EMIS): Case Study of Mozambique
- Education Management Information Systems (EMIS): Case Study of Ghana
- Education Management Information Systems (EMIS): Case Study of Nigeria

To learn more about this research, please visit us at [www.infodev.org/workingpapers](http://www.infodev.org/workingpapers).
Many countries in Africa see ICT as a foundation of long-term economic development. The underlying infrastructure, particularly the access in rural areas, remains to be one of the key challenges facing the effort towards economic growth. Nonetheless, while the region has been very successful in increasing access to mobile communications, there has been little comparable improvement in broadband connectivity. The broadband access gap between Sub-Saharan Africa and the rest of the world is getting wider, just as the gap in mobile communications is getting smaller. Increasing access to broadband connectivity is therefore emerging as a high priority for policymakers across the continent.

To better understand the access gap, infoDev and the Global Information and Communications Technology Department of the World Bank (GICT) co-sponsored a study which reviews the current state of backbone network infrastructure in Sub-Saharan Africa and investigates the significance of this for the development of mass-market broadband ICT services in the region.

The study "Broadband for Africa: Policy for Promoting the Development of Backbone Networks" examines the underlying reasons for the current pattern of infrastructure development and sets out options for policy-makers to promote further development and use of these networks. This report focuses on one important part of the challenge – the lack of high-capacity backbone networks. It addresses three specific questions: What role do backbone networks play in the provision of broadband services, what is the current state of backbone network development in Sub-Saharan Africa (and why) and, what can be done to promote the development of backbone networks and thereby stimulate the take-up of broadband services?

To learn more visit us at www.infodev.org/access. To download the report, visit us at: Broadband for Africa - http://www.infodev.org/broadbandafrica.
ICT Regulation Toolkit: A Practical Tool

In order to respond to the need for practical, relevant guidance and assistance in an ever-changing environment, in late 2004, infoDev, in cooperation with the International Telecommunication Union (ITU), began the development of an ICT Regulation Toolkit, a hands-on, web-based update and expansion of infoDev’s successful Telecommunications Regulation Handbook of 2000. In 2009, the publication of the Universal Access module completed the set.

The Toolkit is intended to assist regulators with the design of effective and enabling regulatory frameworks to harness the latest technological and market advances. Regulators praised the convenience and versatility of the modules and several regulators have continued consultations in their home countries on frontier topics introduced at these events, such as international roaming and radio spectrum trading.

The toolkit includes seven modules, each one offering a summary and a more detailed overview of its respective topic with links to hundreds of practice notes and reference documents (over 850 in the entire Toolkit) drawn from global experience.

Global Capacity Building Initiative for Regulators

The GCBI is a joint infoDev/World Bank initiative designed to address the challenges of creating an enabling regulatory environment through a targeted, client-oriented capacity building program for regulators from developing countries. The goal of the initiative is to create a comprehensive and sustainable capacity building framework that facilitates the development and transfer of knowledge to support regulatory reform and builds the capacity of local training institutions to deliver this much-needed training. To date, infoDev has delivered face-to-face training activities with COMESA member countries in Ethiopia, newly-established regulators in Liberia and training on regulatory priorities for alternative networks for ECOWAS member countries.

In the case of the face-to-face training in Liberia, it addressed the key challenges facing fragile and post-conflict states as they establish early-stage rules-based regulatory regimes for rolling out ICT networks and services. In 2008, infoDev published a study on Training African Regulators as part of the needs assessment for the GCBI.

Resources:

- ICT Regulation Toolkit - http://www.ictregulationtoolkit.org