SECTION I:
ICT INFRASTRUCTURE DEVELOPMENTS

Improving Access to Technology for Economic Development

By
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1. Introduction

In March 2006, Kenya published its first Information and Communications Policy (KIC 2006). The policy articulated the opportunities that Kenya had identified in the use of Information and Communications Technology (ICT) for social and economic development. In fact the vision statement of the policy was "to create an information society". There are many other countries that aim to leverage ICT for economic development. For example, President Paul Kagame of the Republic of Rwanda has been a champion in the use of ICT for economic development. Other African countries that have developed policies and strategies for effective use of ICT for economic development include Morocco, Egypt, Mauritius and South Africa. India is not only a user of ICT to provide business processing outsourcing (BPO) services to companies in developed countries, but is also one of the leaders in the software industry. Kenya has identified Business Process Outsourcing (BPO) as one of the strategic uses of ICT to support economic development.

Business Process Outsourcing (BPO) is one of the fastest growing segments of the IT services. For example, International Data Corporation (IDC) (http://www.idc.com), one of the leading research organizations, estimates that the global market for ICT will exceed $1.2 trillion by the year 2007. The Gartner Group, another leading research group, has observed that market perception for outsourcing has changed from a way to meet short-term financial objectives to a technique for achieving sustainable competitive advantage. The Deloitte Consulting group estimates that two (2) million jobs will move from the United States of America and Europe to cheaper destinations in the financial services business alone in the period 2006-2007. The global migration of service jobs due to outsourcing is estimated to be as high as four (4) million jobs.

Deloitte also forecasts that in the period from 2006-2010, 75% of the financial institutions and investment banks in the USA will move some tasks to low labour cost countries, with India as the favourite destination. In fact, global financial institutions will invest $356 billion in India alone for outsourcing projects (this is 30 times Kenya's GDP!). India will also capture 30% of the $400 billion outsourcing business that will be generated by the banking, financial, and insurance industry in the US by the year 2010.

Kenya's vision is to leverage ICT to become a "Regional Business Service Centre". This requires strengthening the three pillars of ICT: infrastructure, human capital, and marketing of Kenya as a BPO destination. This paper highlights how the government plans to strengthen ICT pillars during the period from 2006-2010.

2. ICT infrastructure pillars for BPO

The Government of Kenya has identified three key ICT infrastructure pillars:

- ICT hardware especially Personal Computers (PCs)
- Software
- Connectivity

The government is already collaborating with University of Nairobi, Jomo Kenyatta University of Agriculture and Technology, and Strathmore University, as well as the private ICT industry to develop and assemble cheap PCs. The government is also in discussions with leading software vendors such as Microsoft about software license costs. It is also exploring the use of open source software in educational and government institutions. The focus of the government, however, has been in the capital-intensive communications infrastructure that will provide the necessary affordable connectivity for businesses and other organizations in Kenya.

3. Affordable national and international communications infrastructure

International business and particularly the BPO service industry moves to countries and clusters with cheap, high-bandwidth, and reliable communications infrastructures. All of the countries that have been successful in attracting the BPO services have developed sophisticated telecommunications infrastructures.

It is estimated that Kenya has only 100 Mb/s of International Internet bandwidth compared to South Africa's 700 Mb/s. Additionally, all of the international Internet bandwidth is provided by satellite links which introduce undesirable delays and high costs. Other African countries like Mauritius, Morocco, Tunisia, are all connected to the global Internet using undersea optical fibre links that do not introduce the high delays. Apart from the delay, the cost of bandwidth is very high at an average of about $2,200 per Mb/s per month in Kenya compared to under $500 per Mb/s per month in other countries offering BPO services.

Kenya is therefore very uncompetitive in terms of Internet bandwidth both in cost and speed.

The Eastern African countries are unique in that they are the only ones in the world that have not yet been connected to the global undersea optical fibber network. The East African Business Leaders therefore created the East African Submarine System (EASSY) consortium in the year 2003 as a vehicle to finance the construction of the undersea optical fibber cable on the East African coast as shown in Figure 1. Unfortunately, progress on the project has been very slow because of divergent objectives among countries in the consortium and complexity of financing models. For example, the East African region is not homogenous and has unresolved ICT policy and regulatory issues, different ICT market structures, and multiple regional economic zones (East African community, COMESA, SADC). Kenya has been getting impatient because some of the other partner countries do not see the urgency of an undersea optical fibber and the associated loss of BPO opportunities.

Global Connectivity

Figure 1: Proposed EASSY optical fibre link

Apart from the international connection using undersea optical fibre, the government of Kenya has also recognized the need to develop a national optical fibre network. Such a national high-speed backbone network would allow BPO companies to move away from Nairobi where labour; land and rents are

relatively high to cheaper areas outside Nairobi (e.g., Nakuru, Eldoret, or Nyeri). Figure 2 shows the proposed 5,000 Km national optical fibber link.

The government intends to implement the project in the next one year because it considers an optical fibber network to be similar to a national road network. At present the government is exploring different financing models for construction of the cable such as issuing ICT infrastructure bonds at the Nairobi Stock Exchange, establishing Public Private Partnerships and borrowing money from development financial institutions such as the World Bank.
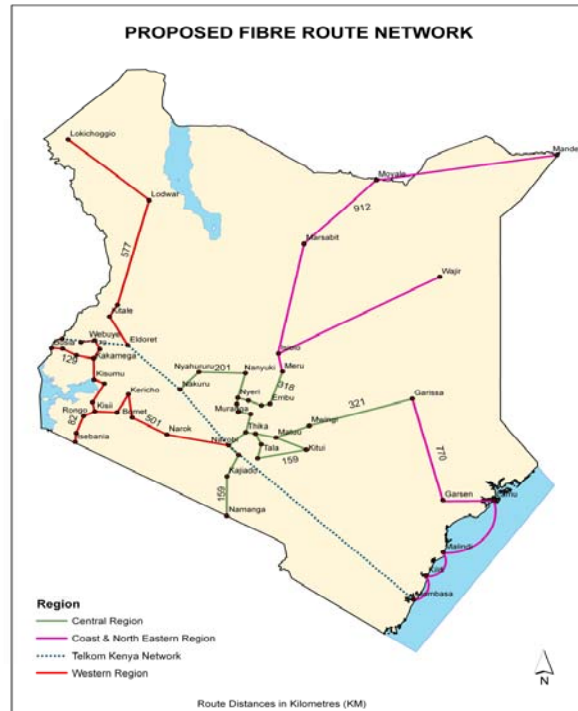

Figure 2: National Optical Fibre Backbone Network

4. Conclusions

In the Newsweek Magazine of May 2006, Fareed Zakaria wrote that "The 21st century will be a century of change. It is estimated that more things will change in the next 10 years than in the previous 100. Most countries are not ready for the dizzying change." Is Kenya ready for dizzying change? It is quite clear that decisive leadership in ICT and financing will be required. Governments will need local and international partners to develop infrastructure and to attract BPO industry into the country. Kenya already has some strength in terms of command of English, the language of international business, relatively large pool of university graduates in business and finance, and strong ICT academic

institutions. The government is planning to implement the ICT strategy at the dizzying speed of international business. Let us all be ready for the dizzy ride!

Reference:

KIC (2006) – Kenya Information and Communications Sector Policy, March 2006, Kenya Government Printers.

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