ICT Policy and Technology Innovation in Africa - By Eric Osiakwan

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This presentation was made to the Africa Grantmakers Affinity Group http://www.africagrantmakers.org) and Grantmakers in Film + Electronic Media http://gfem.org), the aim of the presentation was to show how the African continent has been able to become connected to the Internet in a relatively short period of time, tracing some of the successes as well as obstacles to more robust connectivity. The article highlights some of the current efforts to further connect the Continent to itself and the world. It is also the belief of the writer that there are a number of these “homegrown” African efforts using mobile and Internet technology that should not be overlooked as resources by those concerned with African development and investment.
ICT Policy and Technology Innovation in AfricaBy Eric M.K Osiakwan The deregulation of the telecommunications sector in the early 1990’s under the World Bank’s Structural Adjustment Program led to (a) the general de-monopolization of the industry and (b) the creation of Second National Operators (SNOs). Significantly, most of these SNO’s failed due to the lack of an effective regulator. These developments led to:
- The establishment of national-level regulatory institutions like the National Communications Authority in Ghana.

- The liberalization of the air waves and the move beyond government-run media to the establishment of private radio, television, and newspapers

- The creation of the Internet sector in the form of value-added service providers

- The establishment of Mobile Operators in early the late nineties

Mobile penetration is currently about 30% across the continent, and Web is 5%. The growth of mobile has been due to unique policy and market factors:

- The general lack of landlines and the challenge to get them even if “available” from the incumbents

- Some regulators’ ability to establish interconnection between them, which was already a national policy in some countries

- Mobiles are cheaper to buy and use – and mobility is just cool!

- Some of the biggest mobile companies have come out of Africa, like Celtel/Zain and MTN, each in over 21 African countries

Mobile is now the platform on which the most dynamic innovations are taking place:·

M-Pesa - air time as money for transfer and purchasing·

Ushahidi - combination of sms and web for identification of “troubled areas” during the Kenyan elections ·

Tradenet - combination of sms and web for farmers and market information exchange· African Election Portal - combination of sms and web for election information and certified results Broadband, or high speed Internet access is mainly delivered through wireless connectivity using mobile, licensed frequency and wifi. While it is Internet Service Providers (ISP’s) that have taken the lead in broadband provisioning, mobile phone operators with GPRS, EDGE, 3G and other technologies are joining in speedily. Africa pays 40 times what the developed world pays for broadband. This is due to some factors, which are being addressed by the African Internet Services Providers Association (AfrISPA) and other institutions:
- Most prominent is the fact that Africans communicate with each other through 3rd parties, which cost a “capital flight” of about $500m USD, according to 2002 estimates.
- AfrISPA has being working with countries to establish Internet eXchange Points (IXP’s), which ensure local communication is kept local. There are 22 IXP’s on the continent now.

- Under AfrISPA’s African Internet eXchange System (AXIS), we seek to build an IXP in every country and to also connect the countries through cross-border terrestrial connectivity. Much of Africa’s international connectivity has being through satellite (VSAT), which is very expensive. For example, a 2MB connection costs between $5000 and $7000 per month.There is a lot of effort underway to build terrestrial fiber connections, which are incredibly robust delivery systems for Broadband - in some cases converting existing fiber on the power pylons (the large vertical steel towers supporting high-tension power lines). This is going to have a significant impact on Broadband connectivity and cost. Currently, there are about a dozen undersea cables for Broadband delivery that are proposed to be built, apart from SAT3 on the West and Southern coast of Africa. There are five of these that I am confident will happen:

- The East African Marine Systems (TEAMS) which is planned, fully funded and due to come online by June 2009 to cover East Africa and now has TEAMS 2 going down to South Africa.
- Sea Communication (SEACOM) also planned, fully funded and due to come online by June 2009 to cover South, East and North Africa.
- East Africa Submarine System (EASSy), which was supposed to be the first rolled out, but due to a change in model, it is now set to come online in 2010 to cover East and Southern Africa. Also fully funded.
- GLO -1, which is an undersea cable, built by Globacom, the largest mobile operator in Nigeria. It is being built from London to Nigeria and countries it has operations in like Benin and Ghana. Part of the cable is built and there is a planned extension to the US from London.
- MainOne, which is also planned and about to close the financing, is due to go from Portugal to Nigeria and Ghana where they have a license and landing rights. It is also planned to go down south, providing competition to SAT3, which has rather increased the cost of broadband in that part of the world instead of reducing. As mentioned, currently broadband costs are very high in Africa - a 2MB connection costs between $5000 and $7000 per month. At a recent meeting in Malawi we tried to get the cable operators to give us an idea of their actual cost to market:-
- TEAMS is proposing 2MB at $500 per month.-
- The other cable companies are indicating their ability to compete at that level and even get cheaper, so we do expect Broadband to get significantly cheaper in Africa over the next 3 years. With broadband getting cheaper due to the developments above and growth in PC access due to the lowering of PC prices combined with entry of low end laptops like the “One Laptop per child, EeePC, etc, there is going to be an exponential growth in Internet subscribers over the next three to five years. This would combine with the innovation in digital technology, which is gaining root very quickly in Africa as indicated above. There would be mushrooming of new business, which would grow to become SMEs and eventually become the enterprises of tomorrow. The uptake in technology clusters like Ghana Cyber City, a 36 acre planned technology park to be build in Accra, would set the stage for the creation of an ecosystem of interaction among these SMEs and also herald the advent of major outsourcing into the continent. The interaction between the homegrown SMEs and the outsourced business in the technology park would create a high level of output on both sides.