Early Networking History in Africa

African School of Internet Governance

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9 September 2018
Outline of presentation

• Post-colonial African readiness for ICT
• The role of infrastructure with an example
• Introduction of Internet in African countries
• More recent progress
• Some lessons learned
• Some sources for historical material
• Caveats
  – Views are my personal views and not necessarily the views of any organization with which I am or have been associated
  – Views are based largely on personal experience
Infrastructure issues

• Lack of all components of basic infrastructure
  – Surface transport – paved highways and railroads
  – Human skills and knowledge – information poverty
  – Educational facilities, universities, libraries
  – Professional and technical (people) networks
  – Integration into global groups; knowledge transfer
  – Electric power generation and distribution

• In later years (1990s), resistance to change
  – PTTs feared loss of revenue
  – Governments feared unknown disruptive forces
Ecosystem issues

• PTTs threatened by competition
• Regulators not prepared for new technology
• Colonial infrastructure patterns dominated
• Small, undeveloped, informal markets
• Colonial legacy left difficult environmental conditions
Initial Networking Efforts

• Methods depended upon global state of technical progress and local infrastructure
• Telex
• Store and forward: FidoNet, UUCP, BitNet
• LEO Satellites: HealthNet
• Early packet transmission: X25
• Internet over telephone circuits
• Permanent (routed) connections
Example: Rwanda in 1980

• 1980: First computer arrives in Rwanda
• Installation difficulties!
• Frustration and failure
• The enemy identified: Information Poverty
1980: Centre d’Informatique du Rwanda
Fast forward to the late ‘80s ...

• (Micro-) Computers populate Africa
• Networks begin to appear
• NGOs needed and promoted networks
• Store and forward: Initially UUCP and FidoNet
• HealthNet’s LEO (low earth orbiting satellite)
• Role of South African universities
• Internet champions for Africa emerge
Some Internet champions for Africa
Milestones of the ‘90s

• 1992++: ISOC’s INET training workshops
• 1995-6: U.S. Leland Initiative
• 1996++: INET training in French
• 1996: Action session in Montréal
• 1997: AISI initiative
• 1998: Important meeting in Cotonou
  - Birthplace of AfriNIC
Internet Connectivity 1998 (courtesy Mike Jensen)
Internet users in 2015 as a percentage of a country's population
.... Timbuktu in 1999
Since 1999, much has happened

- A lot of progress
  - Huge increases in connectivity and access
  - Mobile, search, social networking, Internet 2.0
  - Increasing recognition of what Internet Governance is

- But serious problems emerge in the IG space
  - Internet governance is **not** internet administration
  - All human behavior, including bad, is on Internet
  - ‘Network security’ has emerged as a very major issue
  - Some new apps facilitate harmful behavior
  - .... and many more problem areas to address
Some lessons learned?

• Strong and durable institutions matter
• Investment in skills and knowledge is crucial
  – In both technical and Internet Governance subjects
• Global networking connection yield important and effective transfer of skills and knowledge
• Education of government officials is critical
• Adoption of informed policies can yield significant economic and social benefits
• Blocking reality doesn’t work; guide it with good policy
  – Need to take unanticipated consequences seriously
  – Empower legal system to respond to new challenges
Sources of Historical Material

- Material is fragmented, informal
  - Librarians call this “fugitive material”
- Internet Society web site
- Wikipedia
- OSRC, University of Oregon, Steve Huter
- Various oral histories, recorded
- Early meeting proceedings and attendee lists
- Personal knowledge by pioneers
- Important to capture from primary sources while they are still available
- Lots of opportunity to contribute to an authoritative historical record of the Internet in Africa
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