SUVL, SUIN and SudREN; The History of The Sudanese Research and Education Network

Abdelrahim O MOHAMED
MBBS, MSC, PhD, Professor
Faculty of Medicine, U of Khartoum
Sudan

- Area 1,882,000 sq kilometer
- About 2000 kilometer long boarder with Republic of South Sudan
Fibre availability in the Sudan

- Extensive fibre (16615 Km) laid by
  - Sudatel
  - Canartel
  - Petrol pipe line
  - National electricity Grid
Higher education in Sudan

- Started 1902 Khartoum Memorial College
- Now 27 public and 5 private universities
  + > 40 private colleges
- Number of students > 500,000 and 12000 staff members
Objectives of SUVL Project

- Provide connectivity between HEI in a Wide Area Network
- Strengthen communication and collaboration between and among the research, library and educational communities, nationally, regionally, and internationally
- Build a virtual library for the shared contents of the universities
- Offer lifelong learning opportunities
- Provide tools for modern management systems in Sudanese HEI
Situation analysis

- Governance
  - Autonomous (operating as an NGO)
  - Board, CEO

- Connectivity
  - STM-1 155 Mbps

- Business plan and sustainability
  - Plan present
  - Sustainability depends on cost sharing and fund raising strategies
Situation analysis

- Bandwidth Management
  - Continuous monitoring system
  - Towards knowledge management

- Regional and International Relations
  - Member of UbuntuNET Alliance (6th)
    - Africa Connect
    - Member of AfriNic organization (AS name and IP addresses)
  - Founding member of ASREN the Arab research and education network
Situation analysis

- **Services Provided**
  - Internet with minimum of 2 Mbps
  - Virtual library with links to e-journals, local and international scientific publications
  - Video Conference System funded by NTC in 32 locations
  - E-Science depending on tools like Grid computing which created an opportunity for interaction of researchers in the Sudan with others in Europe through CHAIN project
  - Integrated Library and Digital Library System through a fund from UNESCO to be implemented in three Sudanese university libraries using open source protocols.
Lessons learned

- The collective purchase of bandwidth gave evident benefit of prize reduction.
- Compliance to good use policy must strictly be observed.
- Continuous monitoring of the bandwidth usage helps users and administration and gives a continuous feedback on the use.
Opportunities

- The improvement of ICT infrastructure and connectivity
- The enhancement of access to learning and research resources
- The automation of academic and managerial processes
- Introduction of modern learning techniques such as video conference, e-learning, e-medicine
- Collaborative research opportunities
Challenges

- Sustainability of the network
- Conflicting interests of telecom companies and the developing user ambitions
- The digital gap
Where are we failing?

- Most of the universities have no campus network.
- Wireless campus connection has many difficulties from interruption of the system and hence mistrust.
- Less attention from the leaders in HEI due to unestablished culture of networking.
Where are we failing?

- Universities have to learn to spend for their internet after five years of free connection.
- Funds allocated for networking are small and come low in priority in almost all universities.
- SudREN needs to develop its communication strategies.
Methods

- Interviews with 14 heads of IT sections
- Analysis of Documents from SudREN
- Observations of a participant
# Results

## fibre connection dates

<table>
<thead>
<tr>
<th>Number of institutions</th>
<th>Year of connection</th>
</tr>
</thead>
<tbody>
<tr>
<td>12 Public Universities</td>
<td>2008 -2009</td>
</tr>
<tr>
<td>15 Public Universities (2 of them wireless)</td>
<td>2009 – early 2011</td>
</tr>
<tr>
<td>1 National Research Centre</td>
<td>2010</td>
</tr>
<tr>
<td>3 Private Universities</td>
<td>2011</td>
</tr>
</tbody>
</table>
Results
Utilization of assigned bandwidth (1)
Results

Service availability for members

(1)
Results
Utilization of assigned bandwidth
(2)
Results

Service availability for members (2)
Results

- Problems
  - Lack of funds
  - Lack of campus connection
  - Problems with wireless connection
  - Lack of communication with higher authorities
Results

Recommendations

- Connecting university campuses with fibre
- Allocating more funds
- Coordination meetings of IT heads in different universities
- More communication and advocacy
Discussions

- **Two important initial elements**
  - SudREN started as a government body then transferred to the universities
  - NTC is the major funding and supportive body

- **Important elements for sustainability**
  - Autonomous governance
  - Strong political will
  - Regulatory body (NTC) commitment to support
Discussions

- Obstacles
  - Varying capacity and commitment of member institutions
  - Digital gap between university leaders and the rest of the academic community
  - Conflicting interests of some of the supportive technical staff
Are we Failing?

NO

There are some difficulties and obstacles but are only part of the building process
Thank you

SudREN