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Challenges and Futures of Academic Networking
 and its Impact on Society

**Research and Education
 Network of Uganda (RENU)**


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Outline

- Background
- Overview of RENU
- Milestones
- Challenges
- Way forward

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Uganda



- Total Area: 241,038 sq km
 - Water & Swamps: 18%
- Population: 27 million
 - 51% female
 - 50.4% <= 15 years
 - 2.1% >= 65 years
- Life expectancy at birth: 47.3 years (46.1 for sub-Saharan Africa)
- Infant mortality is 81 per 1000 live births
- GNI per capita: US\$ 270

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Educational context, Dec 2005

- Number of higher education institutions - 157
- Total enrolment at 124,314 students
 - Increase of 15% from 2004
 - Female - 40.7%
 - Sciences/technology - 23.3%
 - Universities enrolled majority of students - 63%
 - Four public univs accounted for 71.4% (55,763)
- Adult literacy rate (% ages 15 and above), 68.9 (SSA - 61.3)
- Poor research capacity, its documentation & application

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RENU ("renew")

- Born 14th January 2006, still crawling
- Assembled vice-chancellors from 7 universities and CEOs of two national research organisations
 - Critical role in generating human resource necessary for development
 - Research and outreach for national development
 - Cognisant of the benefits and synergies that accrue from working together
- Grateful to IDRC for supporting inaugural activities

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Open network

- Signed an MoU and appointed a task team
- Admission is subject only to objective qualification for membership
 - Full membership
 - Associate membership
- Willingness to help and support associate members qualify for full membership

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Current membership

- Uganda Christian University (private)
- Uganda Martyrs University (private)
- Mbarara University of Science and Technology
- Kyambogo University
- Gulu University
- Makerere University
- Makerere University Business School
- Joint Clinical Research Centre
- National Agricultural Research Organization

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Objectives

- Promote and facilitate research and education networking
- Stronger negotiating position for members
 - Government and Regulators, policy and regulation
 - Suppliers, economies of scale
 - Development partners
 - Inter-connect with other NRENs, RRENs (UbuntuNet)
- Collaborate, pool and share resources in areas of common interest
 - Various information systems, high cost

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Milestones

- Draft legal instrument for operational entity is ready
- People from various units at each institution are coming together
- Organised training opportunities for members
 - Bandwidth management and optimization workshop (INASP and TENET)
- Negotiations for a bandwidth consortium
- Planning for *FutureSearch* workshop for Vice Chancellors and Chief Executives
- Funding proposals

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Challenges

- Mindset
 - Institutions have to re-learn how to collaborate and share resources
 - Its more that just about technology and connectivity
- Lack of a dedicated team
- Differing levels of ICT capacities
- Scarce resources

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Sample ICT level indicators

| Indicator | KU | Mak |
|----------------------|----------|---------------------------|
| ICT Policy & M. plan | Yes | Yes |
| No. of students | 8,000+ | 35,000+ □ |
| No. of computers | 250 | 3000 |
| Backbone (gigabit) | 0 km | 16 km |
| Bandwidth, total | 256 kbps | 21 Mbps |
| Bandwidth costs | \$10,000 | \$500,000 |
| MIS | None | ARIS, HURIS, FINIS, LIBIS |

As at December 2005

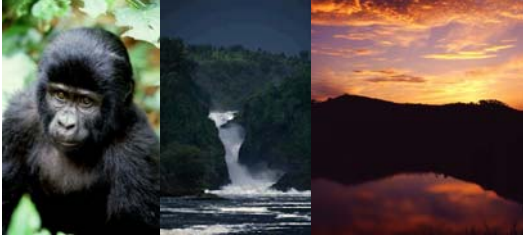
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Way forward

- Engaging government and policy makers
 - Research and education networking
 - Educational rates for ICT services
- Connectivity amongst members
 - Leveraging existing infrastructure
 - Planning for national backbone
- Legal operational entity
 - Dedicated team
 - Sustainability

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● Thank you for listening to me



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Spare slides

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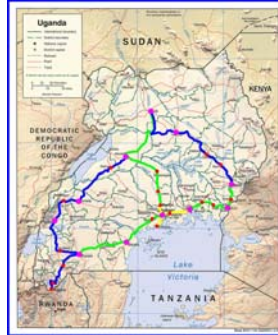
Criteria for membership

- Legal entities operating in Uganda
- Offering university level education and/or conducting university level research
- Universities must be established by Act of Parliament or chartered by the National Council for Higher Education
- Have an ICT Policy and Master Plan
- Established information resource management function
- Meet the cost of membership

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Proposed national backbone

- E-Government (Dec 07)
- Phase I (Dec 07)
- Phase II (Feb 08)
- Phase III (Jan 09)



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Uganda's ICT sector growth

| | 2000 (Dec) | 2006 (Jun) |
|-----------------------------|------------|------------|
| Mobile phone subscribers | 3,000 | 2,008,818 |
| Fixed phone lines | 45,145 | 108,140 |
| Pay phones | 1,258 | 11,082 |
| Internet service providers | 2 | 17 |
| Private FM radio stations | 14 | 145 |
| Private television stations | 4 | 34 |
| Courier service providers | 2 | 22 |

Source: Uganda Communications Commission website, www.ucc.co.ug

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Internet bandwidth

- Internet bandwidth costs are still very high

Changing costs of Internet bandwidth to Makerere University

| Year | 2000 | 2001 | 2002/03 | 2004 | 2005 |
|------------------------------|--|---|---|--|--|
| Bandwidth (Mbps) | 0.192 | 0.768 | 2.3 | 3.84 | 21 |
| Cost/unit (USD) | 38,300 | 38,300 | 8,330 | 6,260 | 1,935 |
| Monthly Recurrent cost (USD) | 7,354 | 29,414 | 19,159 | 24,038 | 40,635 |
| Use | Internet, email that up for few clients (noting) | Internet, email for a few networked computers on the University | Access to online journals, 200 networked PCs, research and general use, etc | Access to online journals, 2000 networked PCs, inter-university collaboration, research and general use, etc | Access to online journals, 2000 networked PCs, E-learning courses, inter-university collaboration, research and general use, etc |
| ISP | MTN | MTN | MTN & UTL | MTN & UTL | MTN & UTL |

Source: Directorate for ICT Support, Makerere University, 2006.

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