

Makerere University

Visit of SIDA Research Board to Makerere University
5th –9th February, 2005

Integrating ICT in the University functions: The achievements, challenges and new directions



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Why ICT ? - *Organisational transformation*

- Supporting the student centered many to many learning paradigm
- Enhancing the effectiveness and efficiency of student and staff research through access to local and international online resources
- Enabling international research collaboration
- Enabling efficiency of academic and administrative management of students.
- Enabling efficiency of administrative processes
- Enabling cheap, efficient, timely communication



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ICT Policy and Master Plan

(ICTP/MP) (1) – *A journey of 1,000 miles....*

- Are the two most important documents guiding the systematic integration of ICT into the university's core functions
- Formulation process of both the first and revised documents focused on acceptance and ownership, involving members of the University Council, Academic & Admin Management, Staff, and Students



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ICTP/MP (2)

- First version covered 2000-2004 period: Identified key ICT services and systems needed to 'kick start' the transformation at the University
- Second version (revision) covers 2005-2009 period: Addresses deficiencies noted in the first version; Captures the future ICT directions focusing on ubiquitous access and efficiency gains.



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ICTP/MP 2000-2004: What was planned? Achieved? (1)

- ✓ Development of ICT support Unit (DICTS)
- ✓ Data and communication network Phases 1 and 2 (Maknet)
- ✓ E-mail and Internet access
- ✓ Office automation: computers and building LANs in various units
- ✓ Skills training for End Users: EUTP (*An ongoing exercise through the Institute of Computer Science*)



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ICTP/MP 2000-2004: ... (2)

- ✓ Library Information System: MakLIBIS
- ✓ Academic Records Information System: ARIS
- ✓ Finance Information Systems: FINIS (*Some modules still to be fully activated*)
 - Human Resource Information System: HURIS (*Application loaded; to go live soon*)
 - Implementation of E-learning: (*Full Rollout deferred to New Phase due to insufficiency of computer resources*)



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ICTP/MP 2000-2004: Challenges

- Transforming people; methods of work
- Information literacy (ref discussion by Library)
- High cost of Internet access via satellite: *supplying less than needed due to cost (cost going down)*
- Recurrent cost of software: *cost of standard packages is prohibitively high for Makerere*
- Sustainability: *cannot implement more than can be maintained/sustained using internal resources*
- Providing adequate access for users: *Target of 1 PC:5 undergrad students; 1 PC:1 graduate student; and 1 PC to each member of the academic/admin staff.*



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Major supports - with thanks:

"I am because we are" (Ubuntu philosophy)

▪ Sida / Sarec(SEK 35.3m)	\$3,300,000
▪ USAID/Leyland Initiative	\$800,000
▪ NORAD (NOK 9.5m)	\$1,100,000
▪ GoU(ADB loan)	\$1,000,000
▪ Makerere University	\$500,000
▪ NUFFIC (E-learning training)	\$120,000
▪ Carnegie Corporation (support to main Library)	\$650,000
▪ Various other partners	\$500,000
Total (cf projection of \$11m)	\$8,470,000



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Makerere... Changing Indicators

Indicator	2000	2005
• ICT literate staff	300	3000
• Networked computers	300	2700
• LANS	15(Poor)	40(Good)
• Backbone (Gigabit)	None	16km
• Bandwidth in	128kbps	15Mbps
• Email users	300	7000
• Online journals	0	8000
• Internal ICT budget	\$25,000	\$700,000



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Outreach....Our motivation (1)

- *“It should never be that the anger of the poor should be the finger of accusation pointed at all of us because we failed to respond to the cries of the people for food, for shelter, for the dignity of the individual” – Nelson Mandela*
- ICT should not symbolise technology: It should capture the essence of hope, and the reality of an exit to a better quality of life for our institutions, our people
- *DICTS is making its contribution to the Makerere outreach activities.....*



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Outreach.. Our role, as DICTS and singly (2)

- *ICT Policy and Master Plans for other institutions (government, universities) (DICTS, Nora, Apolo, Tusu)*
- *ICT policy research and evaluation – as a node of the Research ICT Africa! Network (DICTS)*
- *Open source software development, as a node in the AVOIR network (DICTS)*
- *Contracted by the DFID and Sida supported CATIA Project to expand the NetTel capacity building network for ICT Policy and Regulation to eight African Countries*
- *Uganda Telecom Sector Policy Review (Tusu)*
- *Uganda Chartered Healthnet (Nora)*
- *Uganda Development Gateway (DICTS)*
- *International conference on role of Universities in ICT4D; key input to similar forum in Manila (DICTS)*



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The future

- *“I pointed you to the stars, and all you could see was the tip of my finger” – African saying*



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The future ...including the 8th OSI layer

- What are the challenges and solutions in translating ICT investment to organisational transformation?
- How can we quantify organisational efficiency gains and hence justify investment in ICT?
- What are the causes and how can we improve the low success rate of information system projects in Africa?
- What are the challenges and solutions in building evolutionary systems that fully integrate organisational thinking and aspirations, organisational human resource, organisational processes, and technology?
- What is the role of ICT support in transforming Makerere into a knowledge university?
- **DICTS** – not just infrastructure support, but, more importantly, knowledge and transformational support



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ICTP/MP II (2004-2009): The Future

- **MakLIBIS II:** Detailed in Library presentation.
- **Information system II:**
 - enabling web based controlled access to all information systems by all staff and students, and the public;
 - building capacity for in-house s/w development
 - ensuring 24/7 availability/continuity of ICT services.
- **E-learning:**
 - Setting up infrastructure to support Elearning and building sufficient capacity to use and support the infrastructure – and devolution of E-learning to an independent unit
- **DICTS:** Building capacity as a knowledge support unit



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ICTP/MP II (2004-2009):The Future...

- **Maknet II:**
 - Increasing access points to university ICT resources and services (extending fiber backbones to all buildings, setting PC LANs in halls/admin buildings, creating wireless hotspots in common areas & conference rooms).
- **Student computer and training resources:**
 - working towards a centralized general purpose computer labs for students, setting-up networked LANs in faculties
- **Smart Campus:**
 - setting up infrastructure to support the use of smart card systems for access to services and building capacity to support it.



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ICTP/MP II (2004-2009): Cost (\$)

MAKLIBIS II	1,066,000
Information Systems II	1,066,000
Student computing and training resources	6,208,000
E-Learning I	2,410,000
Smart Campus I	60,000
MAKNET-II	3,054,000
DICTS PhD Training	
TOTAL	14,494,000



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The Sustainability Challenge - Reflections

- “The computer is a black box. I don’t know how it is made or where the printer colour ink comes from. I always strive to pay for this ink which takes half my monthly salary. Several times I tried to fill the toner cartridge with Chinese ink but it didn’t work. I even tried to use the traditional dye that my wife applied on cotton clothing....Am I doomed to be an eternal consumer spending my money continuously to purchase computer products?...” – *S Ouédraogo, “The Computer and the Jembe”*



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The Sustainability Challenge

- Makerere – provision of 2% from all income combined with decreasing cost in bandwidth and government picking up salaries will provide \$1.3m per year in three years time – sufficient to meet recurrent, replacement, and expansion costs.
- *The challenge is mobilising funds to support the initial capital procurements – and we are appreciative of our friends: a little more goes a very long way*



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CONCLUSION

- Four year ago, we set out to eat an elephant – one piece at a time... We have gone a long way, but the major part still remains...
- “If we are facing in the right direction, all we have to do is to keep on walking”
– *Buddhist expression.*

THANK YOU



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