Project 4
Strengthening ICT infrastructure to Enhance Research, Teaching, Learning and Community Outreach

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Project Team Members

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- Prof. Ann Nowe - VUB
- Prof. Wolfgang De Meuter - VUB
- Prof. Coen De Roover - VUB
- Peter Manderick (Close the Gap)
Understanding the local context

There is huge inadequacy in JOOUST ICT infrastructure.

• Network;
  • Structured LANs with enhanced wireless footprint in JOOUST Campuses
  • Internet bandwidth to enable high speed information access and collaboration between campuses and other research partners

• Hardware;
  • Access to ICT Equipment by Staff and Students
  • full-fledged data center at JOOUST
  • High Performance Computing (HPC) platforms for research
• Software; Inadequate Software for Teaching and Research
• Gender Digital Divide; Low ICT Adoption/Digital literacy among girl child
• Security; physical security using CCTVs and automated access control systems;
• Lack of comprehensive disaster recovery and business continuity program for the University
• E Waste Management
• Information Exchange for community engagement
Project Objectives

• Medium Term Project’s objectives are:
  ❖ To strengthen ICT infrastructure including security provisions supportive of integrated Information, Information Systems and Data architectures respectively and attendant community communication networks.
  ❖ To strengthen service delivery in teaching and research through: (a) improved center of e-learning, (b) improved library Services,
  ❖ To strengthen capacity building through: (a) PhD supervision, (b) Curriculum development, (c) Staff exchange, (d) Workshops and conferences, and (e) Training
• Long Term Project’s objectives
  ❖ To establish **multidisciplinary laboratories** through: (a) open source resources e.g. Python, (b) Data analytics (c) Artificial Intelligence and IoT, (d) Cyber security and Forensic, (e) GIS, and (f) System dynamics.
  ❖ To strengthen **outreach through digital literacy** for gender empowerment and setting up a community radio and TV stations for disseminating project outputs to stakeholders within the LVB
  ❖ To establish a **Centre for e-waste and Green ICT**.
Link with the context analysis and the other projects

• **Project 1: Management of the Lake Victoria Basin Natural Resources**
  - Mapping out land cover changes, land uses and Climate within the LVB
  - Carry out mapping and classification of LVB biodiversity
  - Develop an inventory of LVB biodiversity
  - Establishing biodiversity monitoring and surveillance system
  - Application of Soil & Water Assessment Tool (SWAT) to simulate the quality and quantity of surface and ground water and predict the environmental impact of land use, land management practices, and climate change
  - Setting up of hydrologic based early warning system to mitigate water related disaster losses and
  - Setting up of institutional repository where they can share and disseminate their research findings;
• Project 2 (Technical support for a sustainable food security and resilience building in Lake Victoria Basin).

ICT will be useful in setting up smart agriculture. It will also be applied in promoting collaborative learning, exchange programmes and outreach through e-learning;

• Project 3 (Building Capacity for Research, Management and Control of Communicable and Non-Communicable Diseases).

Mapping out the CD and NCD epidemics in the LVB to ensure they are not under reported or misunderstood. The data centre proposed in ICT project will help this project in analyzing biostatistical data; and

• Project 5 (Strengthening Climate Change Resilience among Communities and Ecosystems in Lake Victoria Basin).

Assist in developing ICT driven early warning systems in the basin, GIS and remote sensing. An institutional repository developed by ICT will also assist in disseminating reports and findings from this project.
Expertise/ Stakeholders needed for the successful Implementation

Expertise already present in the project team

- Data analytics,
- ICT4D,
- E-Learning,
- Library Services,
- Cybersecurity,
- ICT Innovations

Expertise sought for at level of the Flemish HEIs

- Artificial Intelligence application in modelling,
- E Learning Training Expert
- Internet of Things,
- Data Management,
- Gender expert
- Community Mobilization
- Media Expert (TV and Radio Production)
- Communication Expert
Interested in this project?

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THANK YOU