

**Karlsruhe University of Applied Sciences (HsKA)** is the largest institution (almost 7,000 students, more than 650 staff members) of its type in the German state of Baden-Württemberg. It has a long history dating back to 1878. In 1971 it attained its present status as a 'Fachhochschule'. In contrast to the academic courses delivered in universities, courses are focused not only on academic learning but also on application-oriented project work. The Faculty of Information Management and Media is active in networking with universities worldwide hoping to stimulate interest in its International Geomatics Masters' course. It believes in a particular strength regarding geomatics-related training for graduates from developing countries due to its experiences from previous (research) projects including strong capacity building components. The strong commitment within the BIOTA East Africa project resulted in a vast network of partners from Kenya and Uganda.

**Masinde Muliro University of Science and Technology (MMUST)** is located in Kakamega Town, western Kenya. It was founded in 2002 initially as a constituent college, and later became the 7th fully-fledged Public University in Kenya in 2006. Presently the university has five academic faculties (Science, Engineering, Education and Social Sciences, Centre for Disaster Management and Humanitarian Assistance, and Health Sciences). The university currently hosts a student population of over 10,000, with approximately 350 full-time teaching staff, and about 1,100 non-teaching staff. As the only university in Kenya with a science park, it is particularly active in promoting appropriate technology and research. The recently founded Centre for Kakamega Tropical Forest Studies (CEKATFOS) underlines the university's commitment to its neighbouring environment.

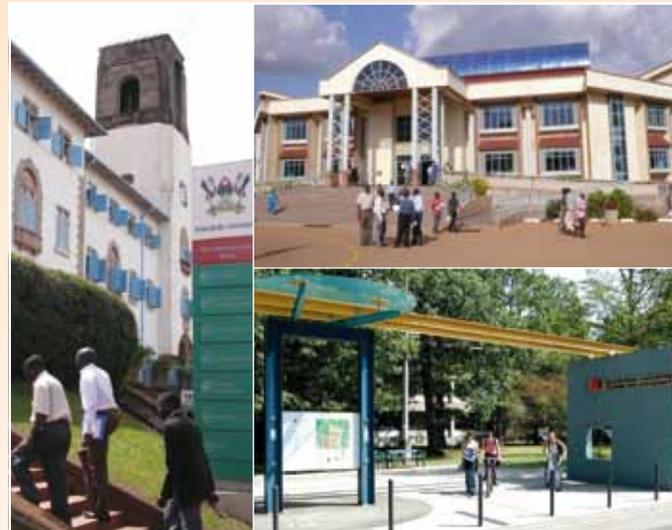
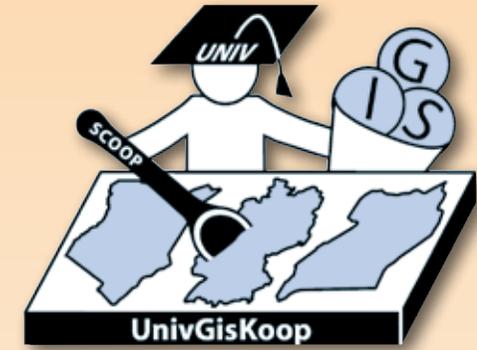
**Makerere University (MAK)** is one of Africa's oldest modern universities. It is located in Kampala, Uganda's capital. MAK was founded in 1922, but only in 1970 did it finally become an independent national university of the Republic of Uganda. Today 35,000 undergraduate and 5,000 postgraduate students from Uganda and abroad are registered in the study programmes. MAK is also a very active centre for research, thus aiming to maintain its status as one of the leading universities on the continent and beyond. Only recently Makerere was transformed into a Collegiate University with 9 colleges and 1 school, operating semiautonomously. The university is extensively using Mabira Forest for the training of their students and is involved in managing the Budongo Conservation Field Station (BCFS) research station.

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# UnivGisKoop

## Streamlining GIS Teaching While Emphasizing a Regional Focus

### A German-Ugandan-Kenyan University Cooperation

2012 - 2015

**Karlsruhe University of Applied Sciences**



**Masinde Muliro University of Science and Technology**



**Makerere University**



## The Project Aim is ...

... not to set-up new study programs, but to streamline up-to-date **GIS teaching** into existing curricula structures across various departments by integrating geodata use applications of

**regional relevance** into selected undergraduate and graduate courses. This includes the development and implementation of adequate modules supporting a widespread application of GIS in the study fields offered. The partnership aims at capability enhancement for two universities in developing countries by strengthening or establishing **centres of competence in GIS**. Benefits result not only from demonstration of geomatics technology and knowledge transfer from Germany to Kenya and Uganda but are also closely linked to the **harmonization** of the GIS teaching as a step towards easing student mobility **between East African institutions** of high education. Furthermore, geomatics facilities are considered here as an empowerment tool for sustainable development.



## Background:

The three universities use geodata and GIS to very different extents regarding both education and research. At the German university, training geomatics either in the realm of cartography, surveying, or geo-information management, geodata use and GIS are already fully established as integral part at the Bachelor level where normally three modules focus on GIS alone. At the Kenyan and Ugandan universities capacity is available, although rather limited in regard to the necessary equipment, and underused in regard to courses at both undergraduate and graduate level. GIS is often taught decoupled from and not related to or integrated into specific fields for which the consideration of the geospatial dimension is playing an ever increasing role. This partnership will, therefore, strengthen and standardise GIS training in the two East African universities, and enhance staff development and research work in geomatics.

## Planned activities:

Discussions on the needs at the East African partner universities revealed that the establishment of three mandatory modules would further both an increase in geodata use and GIS training for the students and serve as a straight forward integration into existing curricula across a number of study courses offered.

## Time plan:

project task	2012	2013	2014	2015
Preparation of project Web pages				
Preparatory visits to the East African partner universities				
Jointly preparing of a common founding document				
"Kick-off" meeting at HsKA				
Elaboration of teaching material for module 1				
Elaboration of exercises accompanying module 1				
Joint project meeting at MMUST				
Sending German students to the EA partner unis for practical term				
Elaboration of teaching material and exercises for module 2, start of teaching of module 1				
Joint project meeting at MAK				
Elaboration of teaching material and exercises for module 3, start of teaching of module 2				
Concluding conference at MMUST aiming at a multiplying effect				
Rounding-up of project, start of teaching of module 3				

## Objectives:

The overall objective is to provide a thorough contribution to **institution building** by harnessing geomatics facilities as tools for empowering sustainable development and by **maximizing the use of existing geodata resources** in the respective regions to indirectly address some of the major development challenges facing these countries. More specifically the objectives are:

- **Streamline geodata use and GIS in existing curricula** for undergraduate and graduate courses at MMUST and MAK by harmonizing the teaching and by jointly developing lecture materials, the latter to suit regional demands.
- **Have university GIS centres** running and **accelerating**, with staff with enhanced capacities (regarding knowledge and skills) to fulfil their role as multipliers.
- Conduct a series of **workshops and conferences** in Karlsruhe, Kampala, and Kakamega Town to ensure curriculum integration and to evaluate and test the lecture materials through a participatory effort, to disseminate project results, and to promote academic exchange and intercultural dialogue.
- **Build institutional capabilities** for increased geodata use and access to geomatics technology for students of relevant courses of MMUST and MAK, as well as for conducting also research in the medium and long-term for which use of geodata and GIS is a prerequisite or challenge.
- **Ensure sustainability** beyond the project duration by supporting the use of technologies that are demand driven, by capacity building through the academic institutions as well as commitment building at the decision making level.
- **Strengthen linkages** on an institutional and personal basis between Germany, Kenya, and Uganda providing the basis for long-term support in facilitating the universities' engagement for a continuous state-of-the-art GIS training.
- **Foster a better understanding** between developed and less developed countries.