

## Evaluation Report for the Accreditation of the Master Programme “Integrated Watershed Management” (Makerere University, College of Agricultural Sciences (CAES) in Kampala, Uganda)

**AZ 1211**

Name of the Course	Degree	Starting Date	ECTS-credits <sup>1</sup>	Program duration	Fulltime – part time	Capacity each year	Master A = Applica- tion oriented R = Re- search ori- ented
Integrated Watershed Management	M.Sc.	Sep 2012	90	3 sem.	Full-time	20	A

Date of on-site visit: 06.02.2012

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<sup>1</sup> The actual credit units provided are 40 but this is based on contact hours only. Please, compare chapter 1.2.

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## 1st Part: Evaluation Report

### Introduction

This report is one of three reports resulting out of a series of on-site visits as part of an accreditation procedure at the Kenyatta University (Nairobi, Kenya), the Makerere University (Kampala, Uganda) and the University of Dar Es Salaam (Tanzania). At the Kenyatta University and at the Makerere University, it was the Masters Programme on Integrated Watershed Management (IWM) which was evaluated and at the University of Dar Es Salaam it was the Masters Programme on Integrated Sanitation Management (ISM).

The two masters programmes mentioned above were established and implemented through funding from the IWMNet, which is a network of universities in Germany and Eastern Africa which collaborates in the field of "Integrated Watershed Management". The Centre for International Capacity Development at University of Siegen launched the project titled "Capacity Building for Integrated Watershed Management in Eastern Africa (IWMNet)" in September 2007. This project was funded within the EU Water Facility Programme. The development of a master programme is the major activity at regional level (implying the East African Region) among other activities which focus at the national and the local level. The programme on IWM was set up in collaboration with relevant institutions such as the International Water Management Institute (IWMI)<sup>2</sup>, the Applied Training Programme (ATP) of the Nile Basin Initiative (NBI) and Water Resources Management Authorities of the partner countries.

Based on the master programme (MSc) on "Integrated Watershed Management" (IWM) established at Kenyatta University (KU) in 2006 (the first batch of students started in 2007), this project is designed to enhance capacity building in IWM and strengthen the on-going water sector reform processes in Kenya, Tanzania, Uganda and Ethiopia (please see project leaflet on [www.iwmnet.eu](http://www.iwmnet.eu)).

After the IWMNet had already started, the Department of Water Resources Engineering of the University of Dar Es Salaam together with the Kenyatta University in Kenya, Makerere University (MAK) in Uganda, the University of Zambia (UNZA) and the German University of Siegen (US) also raised funds/grants (ACP-Europe Cooperation Programme in Higher Education, EDULINK – 9th European Development Fund) to establish a new Master Degree programme in Integrated Sanitation Management (MISM) at the University of Dar Es Salaam. The overall objective is to strengthen training and research capacity of universities in Eastern and Southern African region to improve water and sanitation governance. The first batch of students in the programme for ISM started in November 2010.

The evaluation reports are all based on information provided in the documentation for accreditation of the university in question, additional documents provided during the on-site visit or shortly thereafter on request, oral information during discussions with the representatives of the university management, including university governance quality assurance, the executives of the respective schools and departments as well the person(s) in charge of the study

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<sup>2</sup> The IWMI is organised as a non-profit organisation and is one of 15 international research centres supported by the network of 60 governments, private foundations and international and regional organisations collectively known as the Consultative Group on International Agricultural Research (CGIAR).

programme, a group of student representatives and at the end also lecturers of the programme. Additionally, the expert group visited facilities as such as seminar rooms, the computer laboratories and in particular those providing GIS, and the laboratories where analyses in relation to water and/or sanitation management are conducted.

It must be mentioned that both programmes at the three universities cannot as yet claim to offer a Joint Degree Programme among the partner universities involved, as originally intended (see leaflet IWMnet). This level of cooperation has not yet been realised. Also intended at the beginning was an accreditation by the Inter-University Council for East Africa (IUCEA) supported by the German Academic Exchange Service, DAAD. Within this cooperation of IUCEA and the DAAD "Guidelines for Program Self-Assessment" and "Guidelines for External Assessment at Program Level" were developed. However, at the point in time that the accreditation was scheduled to be conducted, the IUCEA was not yet ready to carry out accreditations. Nevertheless, it was the intention from the beginning of the project that the degree programmes should be based on the Bologna Principles to guarantee quality at all partner universities and to secure credit transfer in the region which will be evaluated in the following chapters.

For all three universities the expert group noted that the marketing is highlighting the exchange among the universities and the involvement of the University of Siegen in the programme. The partnership with the University of Siegen may still continue, but in no case is the university still actively involved in the implementation of the programmes. Therefore, it is requested by the expert group to no longer mention the University of Siegen as a partner of the programmes on marketing brochures and leaflets because otherwise expectations of students will be raised that cannot be fulfilled. An international orientation of the three programmes is nevertheless recognisable, e.g. by staff and student exchange and is highlighted by a Memorandum of Understanding among the three universities.

The evaluation as such is based on the demands of the European Standards and Guidelines for Quality Assurance in Higher Education (ESG, 2005) and as well the ECTS-User's Guide. According to the demands of the ESG, which require "established processes, criteria and procedures that are used by agencies which should be also pre-defined and publicly available" (ESG 2005, p. 25), the ZEvA therefore uses its standardised procedure that operates according to the guidelines of the German accreditation council, but with the guidelines adapted to the specific needs of this accreditation procedure. This specific framework was made available to the universities in form of a report template well in advance. Also the ESG and the ECTS User's Guide were made available.

## **1 „Integrated Watershed Management“**

### **1.1 University Governance and Management**

*The criterion is fulfilled.*

The Makerere University is comprised of 10 Academic Units. This includes nine Colleges and one School. The programme "Integrated Watershed Management" (M.Sc.) is placed under the Department of Agricultural Production which belongs to the College of Agricultural Sciences and Environmental Studies (CAES).

In May 2011, 36,664 students enrolled in programmes at Bachelor, Master and Doctoral level. At the undergraduate level Makerere University offers 8 Diploma and 82 Bachelor Degree programmes. At graduate level the University offers 28 Postgraduate diploma and 104 Master Degree programmes. All faculties, schools and institutes have provision for offering Doctoral Degrees either by research only or by course work and dissertation.

The university has about 1600 academic staff. These members of staff are further segmented into the permanent staff categories of Professors (67), Associate Professors (99), Senior Lecturers (189) and Lecturers (414). Most of the Assistant Lecturers are doing their PhDs whereas most of the Teaching Assistants are those members who excelled in their undergraduate studies (got first classes or upper second classes degrees) and are doing their Masters degrees.

There is more male academic staff than female academic staff. In most cases, the male academic staff outnumbers the female by twice. The worst situation can be identified in the College of Agricultural Sciences and Environmental Studies (CAES) where the proportion of female staff to male staff is 23% and the best relative situation is in law with a proportion of 36%. Overall the proportion of women academic staff in the university is 28% (cc University Fact Book).

The university developed as vision „to be the leading institution for academic excellence and innovations in Africa“. This should be supported by the „provision of innovative teaching, learning, research and services responsive to National and Global needs“. A Strategic plan covering the time period 2008/09 to 2018/19 depicts the strategies, measures and key performance indicators for achieving strategic goals and objectives. E.g. the goal to improve the relevance and quality of teaching and learning will be supported (among others) by objectives focussing on the improvement of instruction materials and on a learner centred environment. Resulting strategies comprise co-operations with professional bodies who offer experiential learning and workshops on learner centred methods. The respective performance indicators measure e.g. the number of staff trained and students' pass and completion rates.

Study programmes at Makerere University undergo an internal accreditation procedure. Part of this procedure is that each department and school in the University has, or should have, established its own internal protocols for the development and review of proposals for new programmes. Internal protocols of an unit are assumed to ensure appropriate faculty and student consultation and input. Additionally to these protocols general „Proposal Guidelines for New Academic Programs“ and a „Manual on Curriculum Development“ (which can be found online) have to be respected and then new programmes can be submitted to the Quality Assistance Unit. After senate approval the programme will be accredited by the National Council for Higher Education (NCHE) of Uganda. Whereas at the partner university in Nairobi the programme on "Integrated Watershed Management" is already running, at Makerere University the first student batch is expected to start in August 2012. Eventually, the report of the NCHE on the new programme "Integrated Watershed Management" is expected more or less at the same time as this evaluation report. Besides clear procedures for the development of new programmes the university requires a review of its new programmes after the first student group has graduated.

The department under which the study programme IWM is placed, belongs to the school of Agricultural Sciences which forms together with the School of Food Technology, Nutrition

and Bio-Engineering and the School of Forestry, Environmental and Geographical Sciences the College of Agricultural and Environmental Sciences. This set-up of departments, schools and colleges now exists for one year after the implementation of reforms at the university was initiated.

The expert group was a little bit surprised that the programme was not placed under the School of Forestry and Geographical Sciences but the reason was – according to the university – the already existing experiences with international programmes in the School for Agricultural Sciences and the appropriate staff situation. Also the fact that they are under one roof anyway should ease co-operations with other schools and departments and support the staff exchange if required. Here, the expert group likes to recommend to make use of this chance and to intensify co-operation with the Department of Geography, Geo-Informatics and Climatic Sciences and as well the Department of Environmental Management. Nevertheless it must be admitted that the Makerere University already named several members of neighbour departments as teaching staff in the future programme (compare accreditation documents appendices 4.1).

As the Kenyatta University, the Makerere University is also member of the Inter-University Council for Eastern Africa (IUCEA). In 2009 the East African Legislative Assembly (EALA) enacted the IUCEA Act 2009, thus effectively integrating IUCEA into the Eastern African Community (EAC) operational framework. The Act spells out the objectives, functions, institutional set up and systems of governance and management of IUCEA. The IUCEA Act 2009 also mandates the institution to advise the EAC Partner States on higher education matters, and to contribute towards (among others) meeting national and regional developmental needs as well as developing quality assurance processes in order to ensure that teaching, learning and research in the region achieve and maintain international standards.

The goal of the MSc programme IWM is to have human resources that have graduated with relevant knowledge and skills to manage a watershed in an integrated and sustainable manner. The rationale for the development of the program in and for Uganda were the increasing challenges of natural resource degradation. It is estimated that Uganda faces an annual loss of 225 Billion \$ just by soil degradation. In addition, there is a lack of human capacity in the country capable of applying watershed and other resource management in an integrated way. Key unique aspects of the programme are the integrated management approach, and the international concept that allows students and lecturers to learn and teach across borders within the region.

Three expert seminars were held to develop the programme and a market survey was conducted before the start of the study programme to obtain public perceptions on whether the program fulfills job market requirements (cc chapter 1.7). 41.4% of the respondents fully agreed that the program can address issues lacking on the job market in the context of watershed management, and only 58.6% partially agreed and gave recommendations to suit job demands. Also 65% of the respondents agreed that the programme course contents address the basic challenges in the societies. The fact that different stakeholder groups were integrated into the development of the program is reflected by the logical structure of the curriculum which meets the needs of the water-related problems of the country.

As the Kenyatta University, Makerere University participated and co-organised several DAAD-supported summer schools related to water management. The international character of the summer schools adds up to the desired international profile of the study programme.

Unfortunately, it is not clear how far this activity can be maintained as the necessary funds are no longer available from the project. The program also benefitted from the EU Water facility Project on 'Capacity building for integrated watershed management' that has supported the School of Agricultural Sciences with soil-water laboratory equipment, and refurbished computer labs with 25 desktop computers, 5 UPS and 2 printers.

The envisaged admission capacity per year is 20 students. The first intake is expected in August 2012. The university explained that already many students announced their interest to study the new programme; several students who enrolled in the Master of Sciences in Soil Sciences confirmed that if they would have had the choice they would have rather studied the new IWM programme. Nevertheless, as the expert group considers the programme as very relevant for the country as such, the apparently weak marketing and publicity for the programme is considered as a severe problem. Even now, there are almost no information provided on the website and in the recent prospectus the programme is not mentioned at all. Accordingly, more marketing and networking activities are strongly recommended.

Gender Mainstreaming and the former Gender Committee have been recently merged under the Directorate of Quality Assurance which is now also responsible for developing gender-related policies. Gender mainstreaming started already in 2000 but nevertheless, as in the case of female staff, also female student enrolment at CAES is comparably low. According to the Quality Assurance Report from 2011 (p.18) the enrolment rate was around 32,5%. Efforts to bridge this gender gap are still sustained in the university with the Directorate of Gender Mainstreaming taking lead in this. The Carnegie Corporation of New York has boosted the Directorate's efforts by supporting the setting up of a Foundation for the Female Student Initiative (FSI) by matching the university's investment in the foundation by three dollars to one. The University Council raised USD 300,000 in the foundation paving way for USD 1 Million investment the Carnegie Foundation in the foundation. Part of the gender policy is a preferential treatment of female students for admission. The expert group would like to recommend intensifying the efforts in increasing the number of female staff and female students at CAES to meet societal demands, especially because the strategic plan does not mention any performance indicators in regard to the number of women at the university (as member of scientific staff and/or as student). During the on-site-visit it was mentioned that scholarships specifically for CAES are available. It would be worthwhile evaluating in how far at least a part of them can be made available for female applicants only.

Due to the severe HIV/AIDS problem in Uganda the university reacted by publishing in 2006 an HIV/AIDS policy for the university, that defined the non-discrimination of carriers of HIV or people that have obtained AIDS, as first principle. In addition to the policy on HIV/AIDS a policy and regulations on the prevention of sexual harassment are established and published. A Counselling and Guidance Centre is established to help with personal or emotional challenges that may affect studying or working in Makerere University.

Donors for the programme include the DAAD (application submitted). An application is submitted to DAAD that students from other Easter African countries get scholarships for studying in Uganda in the IWM programme. To achieve financial sustainability for the study programme, it is expected that more efforts in networking with local and international organisations must be invested that every year a sufficient number of funded students can be admitted.



## 1.2 The Study Programme's conceptual Classification and its underlying Qualification Objectives

*The criterion is fulfilled.*

The study programme concept focusses on disciplinary and trans-disciplinary qualification objectives that correspond to the aspired scientific educational goal and the degree level of a Master of Science. As already mentioned in the preceding chapter, this programme focuses on developing concepts and solutions for sustainable development of limited water and soil resources in tropical and sub-tropical regions. The main focus of the programme is the watershed as a spatial unit for training, research and planning leading to sustainable utilization of available resources for the benefit of all stakeholders.

This message is supported in particular by the core modules IWM 7110 on "principles of integrated watershed management" and IWM 7112 "Watershed degradation and restoration" offered in the first semester and as well of IWM 7213 "Integrated Watershed Planning" offered in the second semester. The modules altogether reflect in an appropriate manner the defined qualification and educational goals. The taught contents include disciplines from social science, law, natural sciences to engineering. The resulting competences comprise e.g. the understanding of policy interventions in a watershed (IWM 7214) and the application of analysing and planning techniques (IWM 7216 Watershed Evaluation Project) (cc also next chapter).

The study duration for this study programme is three to four semesters (compare chapter 1.5). As in Kenya, the study duration is given with 18 month but often students require for the field and thesis research until their defence more time. The time framework for the students even indicates four semesters until graduation. Taking into account the provided structure of the programme and the contents taught it must be assured that students can graduate – which includes the graduation ceremony – within 18 month of study time with a maximum delay of three month (compare chapter 1.5).

During the first two semesters students have to obtain 30 credit units (15 credits each semester). This includes elective modules. For the last semester which is devoted to thesis proposal writing, field work and final thesis work 10 credits are provided. Graduation requires a minimum of 40 credit units. One credit unit corresponds to one contact hour per week per semester or a series of 15 contact hours. The calculation of credit units is different from the Kenyatta University. But based on the contact hours provided and an estimate for self-study of about three times the contact hours, it can be assumed that according to the European Credit Transfer System around 30 ECTS/semesters are provided – leading to overall 90 ECTS as in the case of Nairobi. Overall this corresponds with the ECTS user's guide which explains that according to the "Bologna process" Second cycle qualifications typically include 90-120 ECTS credits, with a minimum of 60 ECTS credits at the level of the 2nd cycle. It must be mentioned that this calculation is based on three semesters study duration. If the university calculates two semesters time for thesis proposal, writing and its defence, the credits provided for the last year would be too little.

Comparing the study programme of Makerere with the latest version of the Kenyatta University it is obvious that the two programmes by the naming and content of modules are to more

or less 90% identical – as it was intended - to allow student and lecturer mobility. Differences can be observed in certain modules that are at one university a compulsory and at the other an optional/elective module. The fact that in Nairobi students study four compulsory and two elective modules and in Kampala students study five compulsory and one elective (minimum) module per semester underpins the identical time estimate because the learning outcomes and the module catalogue overlap.

For a better comparability with European or International Credit Transfer Systems it is advisable to revise the module catalogue that the planned average time to be spent on self-study is provided. Despite this aspect of credit units, the module descriptions distinguish well between content and learning outcomes or better the knowledge, skills and competences gained in a particular context. The described competences are all relevant and support the educational goals. Nevertheless the expert group criticises – as at the Kenyatta University - the lack of an appointed person who is in charge of the respective module.

The study programme leads to a Master of Science. The profile of the programme rather corresponds to an application-oriented than to a research-oriented programme. The expert group perceives both - the awarded degree and the application-orientation of the programme - as adequate. After successful graduation students receive their Master certificate and a postgraduate academic transcript per year. The transcript depicts the modules/courses, the credit units acquired and the grade including a detailed key to grades. The transcript indicates the contact hours per credit unit and as well the length of a semester in weeks. Based on this information given, a rough indication about the equivalence of credit units to other systems can be made. Nevertheless, it is recommended to improve the transcripts to international standards by also indicating the time of self-study per credit unit.

The expert group supports the concept to focus on the watershed as spatial unit but likes to recommend giving the issue of water in general and water quality in particular more room in the study programme. Water should be the red line through all courses; research methodology should be necessarily taught taking water-related case studies as basis. The biotic component of water management - again in the context of water quality - could be additionally covered in IWM 7112 and IWM 7216. Eventually water and water quality - not only quantity - should be discussed as a factor for maintaining biodiversity.

The master programme on IWM leads to the degree of a Master of Science which is considered as adequate to the qualifications gathered. The degree awarded is according to the qualification gained at a Master level taking the Dublin descriptors as basis:

- They have to demonstrate knowledge e.g. in Module IWM 7110 which enhances the Bachelor's level, and which provides a basis for further developing ideas adapted to a particular situation.
- Students are trained e.g. in Module 7201 to communicate their conclusions, and the knowledge and rationale underpinning these during the presentations and group work. These skills will eventually being proved too during the defence of their Master Thesis.
- The learning outcomes of module IWM 7216 mention that students should be equipped with skills in field and laboratory techniques for watershed evaluation, monitoring and planning.

The overall employability of graduates - if competences are successfully gathered as described in the module catalogue - must be judged as positive. This is also supported by the overall development of the programme within the context of the IWMnet project which included the integration of external expertise into the development of the programme (compare preceding chapter). Graduates could work in the public sector e.g. in water authorities but as well in the private sector especially in NGOs intervening in the water and sanitation (and/or health) sector. The promoted team work and the group assignments add up to the personal and professional development of the students.

To be eligible for admission to a Master's degree programme at Makerere, a candidate must be a holder of at least a Second Class degree or its equivalent awarded by Makerere University or any other recognized institution. An applicant who is a holder of a third class degree or its equivalent may be admitted only after such applicant has provided evidence of academic maturity in the desired field of study as shall be judged by the Board of Graduate studies and Research.

As specific requirements for an admission to the Master of Science in Integrated Watershed Management (M.Sc. IWM), applicants should possess an Honours Bachelor's degree in any of the following fields: watershed management, land use and management, agricultural sciences, natural resources management, geography, forestry, engineering, sociology, environmental studies and other natural sciences from recognized universities.

Again as in Kenya, an Honours Bachelor's degree encompasses at Makerere University generally 4 years study time. Nevertheless Bachelor degrees with honours in three years study time are possible under other National Qualification Frameworks (cc "The Framework for Higher Education Qualifications in England, Wales and Northern Ireland". August 2008, p. 20). Eventually students of IWM will achieve their Master degree on average after 5.5 years of study (based on the 18 month concept for IWM).

Students who are not native speakers in English or did not follow an English education system must provide a language proof or must undergo an aptitude test. The university offers students who do not have an adequate level of proficiency in English the possibility of trainings at the English department. Also during the discussions, the university mentioned the requirements of a defined English proficiency level. Unfortunately, this is not mentioned in the preliminary examination and admission regulation. It should be included into the admission requirements to increase transparency for applicants.

### **1.3 Study Programme Concept**

*The criterion is fulfilled.*

As the study programme is quite similar (which is intended) to the programme in Nairobi also here, the programme is well thought of and coherent in terms of structure. The individual modules support – also in their logical order – the qualification and educational goals of the programme. The programme benefits of the fact that evaluations and several curriculum development workshops in the context of the capacity building project (within the EU Water Facility Project) took place to better focus the IWM programme contents on market needs. For the purpose of further developing the curriculum, a survey with representatives of water-management-related ministries, local governments, consultancies and NGOs was conduct-

ed. The survey results are made available in the annex of the self-documentation of MU. One of the results was that 90% of the respondents agreed that the graduates of the programme are suitable to work in their organisations. The need of qualified personnel in the field of Integrated Watershed Management was observed for East Africa and the survey proved this need.

The programme is supposed to start in August/September 2012. A total intake of 20 students is targeted per year.

The study programme concept covers the delivery of disciplinary and cross-disciplinary knowledge: e.g. IWM 7111 on "Remote Sensing and GIS applications" and IWM 7120 on "Hydrological Processes and Modelling" are rather disciplinary and IWM 7110 on Integrated Water Resources Management and as well the modules and 7123 "Livestock and Environment Interactions" are rather interdisciplinary. The delivery of methodological competencies is e.g. integrated in AEC 7110 on research methodology, in CRS 7101 on "Applied Statistics and Biometrics", field and laboratory techniques in IWM 7216 – the watershed evaluation project - and in IWM 7121 "Strategic Impact Assessment". Generic competences are e.g. provided by the need to hold presentations and conduct group work that is required especially during field work (Sem. 1 and 2).

The planned teaching methods focus on the form of seminars – demanding homework and presentations - which is complemented by lectures, fieldwork, group and laboratory work. Accordingly the form of examinations varies from essays, presentations, group assignments to oral and written exams. Typically the module grade is built by course work (40% of final grade) and a final written examination. In detail, it is in most cases composed by a test (20% of final module grade), an individual assignment (10% of final module grade), a presentation (10% of final module grade) and additionally the written examination (60% of final grade). The expert group considers in summary the study programme concept as academically feasible and adequate.

The expert group gathered also in the case of the Makerere University the impression that a timely completion of the study programme which includes a finalisation of the Master Thesis and its defence in time, is not guaranteed. Even, if the programme envisages that the field work of the Master Thesis will be conducted (and supervised) in one of the partner countries, the study duration should not be exceeded. This is of particular importance for students holding a scholarship as for example by DAAD which cannot be extended (cc chapter 1.5).

The staff situation seems to be adequate but as in the case of Kenyatta, also here the expert group likes to recommend that the time required for supervision of a thesis should be recognised as part of the overall workload of the lecturers to further increase the quality of teaching using realistic workload estimates for the lecturers.

The following research activities exist which can become beneficial in the context of the study programme:

- ▶ Beneficial conservation and sustainable use of natural resources. SSA-CP FARA funded project.
- ▶ Combining Systematic and Participatory Approaches for Developing and Promoting Sustainable Land and Water Management. EU-funded project 1996-1999.

- ▶ Soil Erosion Studies phase I in a selected micro-catchment of Lake Victoria Basin. Rockefeller Foundation funded project. 1998-2000.
- ▶ Water balance studies in the Lake Kyoga basin. Rockefeller Foundation funded project. 2000-2002
- ▶ Soil erosion studies phase II. Rockefeller Foundation funded project. 2000-2002.
- ▶ The World Bank IDA/GEF funded project: Lake Victoria Environmental Management Project. Established soil erosion/runoff plots in pastures, bananas, coffee and annual cropping systems and monitoring runoff and soil loss, and pollution loadings into Lake Victoria.
- ▶ Rockefeller Foundation Climate Change curriculum review

As in the case of Nairobi it is desirable that students become directly involved or exposed to project work in terms of data collection and the integration of project results in the taught module contents.

#### 1.4 Realisation of the Study Programme

*The criterion is fulfilled.*

The expert group had visited – among others - the computer lab, the GIS lab and laboratories with different purposes. Whereas the computer and GIS labs seemed to be adequate, the other physical facilities do not fully represent the state of the art and improvement is recommended. The expert group got the possibility to observe students use GIS programmes and by coincidence master students were asked to explain the role of GIS in their thesis. Apparently students are well trained in applying GIS technology and the expert group took these statements as additional indices that the Master qualification level will be fully achieved. Concerning the teaching of laboratory skills and field methods, it is recommended to invest more physical and qualified human resources to further enhance the level of methodological skills acquired by the students. This also corresponds to the market survey which was conducted before the start of the programme which was generally quite favourable for the chosen programme structure but regarding the question whether the program fulfils practical skills 50% responded "partially and 50% fully (see Table 9 of Market Survey in the Annex of the self documentation)

**Table 1: Available Infrastructure (by M. Tenywa/CAES)**

Laboratories/Field	Place/Units
Computer laboratories	Agricultural Production
GIS unit and GPS tools	Environment

Soil and water analysis lab	Soil Science
Plant analysis	Soil Science
Weather station and climate change unit	Geography
Library/Book Bank	CAES
Quality Assurance lab	Food science & technology
Learning Watersheds	Lake Bunyonyi & Mt Elgon catchments
Climate Change scenario studies	Kasese district



**Figure 1: Computer facilities for IWM students**

According to the students the general library is open from Mondays to Saturdays until midnight and on Sundays until 7 pm which is described as sufficient. The possibility to find space to meet and work in small groups seems to be given. Besides having adequate computer facilities in the department, the students receive IT support from the university: for example MS Office campus licences are provided for free use on their private note books.

Lecturers in the IWM programme who studied for at least 3 months at a German university are highly encouraged to make use of the possibility to apply to the DAAD once a year for a grant up to a maximum value of € 200 for scientific books and journals to help them advance their academic knowledge. These books could be and should be made available to the students. Further opportunities exist for direct DAAD-alumni. More detailed information can be obtained on [www.daad.de](http://www.daad.de). A registration on the website of the German Alumni Water Network (GAWN) should be promoted also to stay informed on water-related topics.



**Figure 2: Cartography and Soil Analysis Laboratory**

To make the supervision of a master thesis more attractive and recognised, the time devoted to its supervision should be considered for the lecturer's workload. The internal organisation of the faculty should take care that thesis supervision will be more or less evenly distributed among available lecturers. Altogether the lecturers seemed to be informed about the programme to come and very motivated.

As already described in chapter 1.1 the programme is housed in the Department of Agricultural Production which belongs to the School of Agricultural Sciences. The department comprises more than 50 lecturers (permanently employed) of which four are full professors and three are associated professors. The programme will be headed by an associated professor. The programme on IWM is integrating different disciplines. This is already reflected by integrating eight lecturers from other departments into the programme.

Programmes to improve the quality of teaching are in place. These courses are obligatory for all staff members with the exception for those that have a professional background in educa-

tion. Additionally, the university changed a policy that lecturers nowadays must have as minimum degree a PhD. The complete staff is permanently employed. The job promotion for lecturers to become associated or full professors follows clear regulations which take into account achievements in the quality of teaching. This is ruled out in a reviewed appointment and promotion policy (<http://qad.mak.ac.ug/content/policy-appointment-and-promotion-2009>).

Taking the module catalogue as basis, the students' workload seems to be appropriate. There were no indices that students of other neighbour programmes (students of the Master Programme in Soil Sciences) are overburdened. Nevertheless, it is recommended that the means of verification of the workload will be integrated into the recently implemented evaluation system.

As the offered modules only overlap with other programmes in the case of the electives, there is no risk that delays of study occur because of parallel lectures.

A one week orientation week helps students to find their ways and during their studies all normal lectures are supported by tutorials. These tutorials will help to level out the different backgrounds of students admitted to the IWM programme.

A Dean of Students coordinates the activities of student accommodation and is responsible for the welfare and discipline of students in the University. The Dean of Students also gives oversight to the Students' Guild, the student governing body. Accommodation is partly provided on campus but in case of master students they often find housing in private apartments or with relatives. Additionally, a university guesthouse on campus can cater for visiting lecturers. Nevertheless, it is recommended that the university increases its efforts to welcome the international students that for example a student from Ghana can easily find its way around and gets acquainted with the local situation. This is of particular importance because the university claims to have around 3000 international students enrolled which highlights the importance to better cater for this group.

Concerning general services offered to students it happened quite recently that the centralised system to register online for modules became functional. Further aspects on student support will be discussed in chapter 1.7.

First e-learning activities of the Makerere University can be visited on <http://muele.mak.ac.ug/> which operates on the basis of "Moodle". The envisaged E-learning modules on IWM are not yet online.





**Figure 3: View into the laboratory for soil and water analyses**

## 1.5 Examination System

*The criterion is partly fulfilled.*

The examinations are comprised of course work (40 %) and written examinations (60 %) (see preceding chapter). Course work consists of laboratory work and progressing assessments. Assessments include individual and group assessments which can be also group presentations. Apparently, the form of assessments varies according to the different competences tested.

The planned examinations seem to be module- and competence-related and serve to test and verify the achievement of defined educational goals. The form of assessments is adequate. The group of students from a neighbour Master programme confirmed that they know form and dates of examinations well in advance. The regulations point out under which circumstances students have to retake a course/courses. But it is highly recommended that the current practise to offer the possibility to repeat exams six months after failure should be maintained instead of changing to a one-year mode. The examinations and the grading of marks are described in the respective regulations and as well in the prospectus of CAES.

Communication skills are trained and assessed e.g. by presentations (individual and in groups). Essays and written exams prove in how far students are capable to express their ideas and summarise knowledge and they have to prove their in-depth knowledge of a certain topic. Oral examinations serve to verify in how far students are capable to express and

explain certain issues to experts. The frequency of examinations and the related workload is appropriate.

As already mentioned the expert group fears that a timely graduation of students will be difficult which is partly connected to a difficult and lengthy procedure of appointing examiners. Additionally, the responsible committees are composed of many members which makes it even more complicate to make appointments. It is also related to the existing structure that the master degree courses must cover a minimum of 18 months and must be completed after a maximum of four years. As the thesis research and writing is partly planned for 2 semesters during the second year with no more than 30 ECTS, the programme is unnecessarily expanded which is criticised. The structure of the programme, the taught contents and the workload of students clearly require a three-semester structure which includes a graduation after three months. Therefore, a change in the procedure of appointing examiners (2 internal examiners and 1 external) would be recommended as supportive measure to always guarantee the offer of a timely defence to the students. Nevertheless it is welcomed that external examiners are integrated into the examination system, but this can only be welcomed if it is guaranteed that it does not impact the timely submission of the thesis and its defence. Academic supervisors for the students doing the Master Thesis should be appointed right from the beginning of the field work. Part of the duties of supervisors is to keep an eye on timely delivery. In case, the regulations are supposed to cover part-time students too, specific requirements for this group must be defined which include a longer study duration.

The expert team recommends that during the re-accreditation the future external expert team is advised to verify in how far the university succeeded to guarantee the graduation of students after 18 months.

## 1.6 Quality Assurance

*The criterion is fulfilled.*

Quality Assurance at Makerere is under the Directorate of Quality Assurance which is the University's unit charged with the responsibility of providing leadership in prescribing, controlling and implementing quality standards at Makerere University. This Directorate was set up in May 2007. The University Quality Assurance Policy and Framework of 2007 guide the activities of the Directorate. The activities of the Quality Assurance Directorate include:

1. Ensuring the development and maintenance of high quality academic programmes;
2. Enhancement of Quality Experiential and Flexible learning;
3. Development of mechanisms to motivate high quality and competitive research;
4. Ensuring an effective external examination system;
5. Ensuring an efficient staff recruitment, development and appraisal system;
6. An effective student admission, assessment and progression process;
7. Ensuring a high quality support environment for staff and students for effective teaching, learning, research and knowledge transfer partnerships.
8. Contributing to the formulation of the university quality assurance enhancement policies and practices; to their implementation and monitoring across the university and where appropriate with collaborative partner institutions.

Important responsibilities of this directorate are to carry out tracer studies and the evaluation of courses/lectures by students. The Planning and Development Department commissioned a tracer study in the College of Humanities and Social Sciences. A report is yet to be submitted. The Quality Assurance Directorate has devised innovative mechanisms that will ensure institutionalization of tracer studies. The Quality Assurance Directorate has been also engaged in a Data Collection Exercise on the newly accredited academic programmes and courses at Makerere University. The collected data has been populated by DICTS and the college web administrators into an online database hosted at [ar-new.mak.ac.ug](http://ar-new.mak.ac.ug). Each academic programme and each course now has a homepage. Each of these pages will have a link to an online evaluation form, with a sample at <http://survey.mak.ac.ug/index.php?sid=17914&lang=en>. The students will receive a link via email that will take them to the appropriate page where they will evaluate a course that they will have registered for. These evaluations have been established quite recently. If the evaluation results require certain actions, a first step would be that the academic board would call the particular person for discussions. At this point the expert group would like to recommend engaging into the next step of the establishment of an evaluation system - meaning to guarantee the feedback of evaluation results (in an anonymous form) to the students too. For future re-accreditation it must be mentioned that the issue of the appropriateness of student workload should be considered during evaluations.

As the KU, also Makerere University developed a logical framework including a time frame for actions which is included in the Strategic Plan. Overall the university seems to be on a good way to collect, analyse and use relevant information for the effective management of their programmes of study which will be hopefully applied for the new programme. In addition to the measures already introduced, the expert group would like to recommend the introduction of incentives for good quality teaching.

Besides the Directorate of Quality Assurance, the Makerere University has established a Development Office whose main task is to diversify the University's resource base. The Development Office is comprised of two key functions; Alumni Relations and Prospect Research, both of which aim to cultivate and promote lasting ties between graduates, friends and future development partners of Makerere University. The alumni desk has been established to organise and coordinate Makerere University Alumni through a comprehensive Alumni database. The Development Office is introducing a survey form to help capturing relevant data from the Makerere University Alumni. Meanwhile, an Alumni website is being developed through which, the Development Office will keep in touch with fellow Alumni (<http://alumni.mak.ac.ug/>).

## 1.7 Transparency and Documentation

*The criterion is fulfilled.*

The university makes the requirements relating to the study programme, the course of study and examinations generally accessible at the beginning of the study programme. Information on admission requirements, application procedures including its forms and some information for international students can be all obtained on the website [www.mak.ac.ug](http://www.mak.ac.ug). The university made all information requested during the peer-review available.

To support incoming students one orientation week takes place at the beginning of each study programme. Another option which is successfully established at many universities is to place a senior student at the side of a newcomer – as study buddy. An online timetable helps to know about important dates and to understand the structure of the programmes.

The School of Agricultural Sciences has got an own students' leadership group – the representing persons are shown on the website including their email-addresses and phone numbers. Additionally, students' associations and their representatives can be contacted.

Unfortunately, the information provided online on the study programme itself is rather scarce. It is indispensable that the complete updated module catalogue including all required information will be made available online (open access also for marketing purposes). The same applies to all complete examination regulations which should be easily accessible on the website.

Rules on examination malpractices and irregularities are not only published for students but also rules on examination malpractices that focus on fraud by the examiners. Both regulations can be found on the website under "university policies". An academic calendar and time tables for teaching and examinations can be found for the various programmes on <http://caes.mak.ac.ug/academics/time-tables.html>. They can be found in the CAES prospectus too, which unfortunately does not yet include the IWM programme but offers all necessary academic information including the tuition fee for undergraduate and graduate Ugandan and international students.

Many good attempts on the website to improve information and to increase transparency for students are already existent but still require finalisation. E.g. the website of the Office of the Academic Registrar offers several categories for important information where the content is still missing. Whereas information on admission and academic requirements can be found under the respective college, it is desirable to find more information on campus life from shopping facilities to recreation.

## **1.8 Summary Report**

The expert group acknowledges the high potential of the Master's Degree Programme on Integrated Watershed Management and its importance for the Eastern African Region in general and for Uganda in particular. The programme structure of 18 months is adequate and allows student and lecturer mobility between the three universities. The contents of the programme offer good employment opportunities for the graduates after completion of the programme. The Makerere University Directorate for Quality Assurance recently established good approaches to guarantee quality assurance. This is further documented by the Strategic Plan. The university disposes of dedicated and sufficient staff and an adequate infrastructure.

## 2nd Part: Final vote of the expert group

### 1 „Integrated Watershed Management“

#### 1.1 General Recommendations:

- The applications of female students and female staff should be further encouraged. Especially measures to increase the female staff ratio should become part of the strategic plan.
- It is recommended to improve the transcripts to international standards by also indicating the time of self-study per credit unit.
- The module catalogue should show the person who is in charge of the respective module and as well the planned and estimated time for self-study in the different modules.
- It is highly recommended to improve the marketing and networking for the programme, improve the contacts with local to regional authorities and as well with international organisations intervening in the water sector.
- It is recommended to invest more physical and qualified human resources into the teaching of laboratory skills and field methods.
- To make the supervision of a master thesis more attractive and recognised and to eventually increase the quality of teaching by using realistic workload estimates for the lecturers, the time devoted for the supervision of a thesis should be considered for the lecturer's workload.
- It is recommended that the means of verification of the workload will be integrated into the recently implemented evaluation system.
- The updated and complete module catalogue, the course of modules/timetable of the programme and as well the examination regulations should be made available on the website.
- The required English level should be included into the admission requirements of the programme.
- It is highly recommended that the current practise to offer the possibility to repeat exams six months after failure should be maintained instead of changing to a one-year mode.
- The expert group would like to recommend the introduction of incentives for good quality teaching.
- Newcomers should receive support for orientation by placing a senior student at his or her side – as study buddy.
- During the re-accreditation the external expert team is advised to verify in how far the university succeeded to guarantee the graduation of students after 18 month (in case of the former old 4 semester structure 24 month).

## **1.2 Recommendation for accreditation towards the Standing Accreditation Committee (SAK)**

The expert group recommends towards the SAK the accreditation of the study programme „Integrated Watershed Management (M.Sc.) for the accreditation period of five years. The accreditation is subject to following conditions:

- It is requested by the expert group to no longer mention the University of Siegen as partner of the programme on marketing brochures and leaflets because otherwise expectations of students will be raised that cannot be fulfilled.
- The structure of the programme should be clearly designed to graduate after 18 months. To guarantee that the defence of the thesis will not take place later than three months after submission of the thesis, the university must define appropriate measures.

**The accreditation is provided for the duration of five years, once the conditions are being met not later than twelve months after receipt of the decision by the SAK.**

### 3rd Part: Continuation of procedure

#### 1 Response statement by university

Stellungnahme von Herrn Prof. Förch (Uni Siegen):

Zu Uganda hatte ich noch eine kurze Diskussion mit Professor Tenywa, der gerne die U Siegen weiter als internationaler Partner genannt sehen möchte. Ich unterstütze das aus zwei Gründen. Zum einen werde ich - und das ist tatsächlich gegenüber dem Stand im Februar eine neue Entwicklung – die Zusammenarbeit persönlich mit einer Gastprofessur im kommenden Akademischen Jahr (ab Oktober 2012) fortsetzen, um die Etablierung des Programms zu unterstützen. Zum anderen ist endlich in die Frage der Nachfolge Wasserwirtschaft in Siegen Bewegung geraten: die Stelle ist gerade neu ausgeschrieben worden und somit besteht Hoffnung auf eine aktive Wasserwirtschaft in Zukunft, die bestehende Kooperationen mit Ostafrika wieder aufnehmen bzw. fortsetzen wird.

#### 2 SAK-Decision

Recommendations:

- It is recommended that the applications of female students and female staff will be further encouraged. Especially measures to increase the female staff ratio should become a prominent part of the strategic planning.
- It is recommended to adapt the transcripts of the study program to international standards by indicating the time of self-study per credit unit.
- It is recommended that the module catalogue should name the person who is in charge of the respective module and the estimated time allocated to self-study in the different modules.
- It is highly recommended to improve the marketing and networking for the program, improve the contacts with local and regional authorities and with international organizations involved in the water sector.
- It is recommended to invest more technical and qualified human resources into the teaching of laboratory skills and field methods.
- It is recommended to make the supervision of a master thesis more attractive and to increase the quality of teaching in the long run by imposing realistic workloads on the lecturers. One step towards such adjustment would be to consider the time devoted to the supervision of a thesis as part of the lecturer's workload.
- It is recommended that the measures for verifying of the workload be integrated into the recently implemented evaluation system.
- It is recommended that the up-to-date and complete module catalogue, the sequence of the modules, an overall timetable of the program and the examination regulations should be made available on the website.
- It is recommended that the required English level should be specified and included into the admission regulations for the program.

- It is highly recommended that the current practice of offering the possibility to repeat exams six months after failure should be maintained instead of changing to a one-year rhythm.
- It is recommended to introduce incentives for good quality in teaching.
- It is recommended that newcomers receive support for orientation by placing a senior student at his or her side – as study companion.
- It is recommended that during the re-accreditation the external expert team is advised to verify in how far the university succeeded to guarantee the graduation of students after 18 month (in case of the former old 4 semester structure 24 month).

The SAK welcomes the planned measures and activities as explained in the response of the university to the evaluation report.

Nevertheless the SAK does not regard all caveats to be sufficiently taken into account.

The SAK grants the accreditation of the study programme "Integrated Watershed Management" (M.Sc.) for the accreditation period of five years. The accreditation is subject to the following conditions:

Conditions:

1. It is requested that the University refrains from mentioning the University of Siegen as partner of the program on marketing brochures and leaflets.
2. It must be guaranteed that the defence of the thesis will not take place later than three months after its submission. The University must introduce appropriate measures.

The accreditation is granted for the duration of five years, once the above conditions have been met. They have to be met not later than twelve months at the latest after the university has been notified about the decision of the SAK.