STRENGTHENING CAPACITY OF UNIVERSITIES IN EASTERN, CENTRAL AND SOUTHERN AFRICA TO OFFER QUALITY GRADUATE PROGRAMMES
Project 9-ACP-RPR-118 #33

TERMINAL EVALUATION

Draft report

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Regional Universities Forum for Capacity Building in Agriculture (RUFORUM)

List of acronyms and abbreviations

ANAFE	African Network for Agriculture, Agroforestry and Natural Resources Education
ASARECA	Association for Strengthening Agricultural Research in Eastern and Central Africa
AAU	Association of African Universities
CATs	Continuous Assessment Tests
CATS	Credit Transfer and Accumulation System
CTA	Technical Centre for Agricultural and Rural Cooperation
CIDA	Canadian International Development Agency
CHEA	Council for Higher Education Accreditation
ECSA	Eastern, Central and Southern Africa
EU	European Union
FAPA	Field Attachment Program Award
HEI	Higher Education Institution
HEQMISA	Higher Education Quality Management Initiative for Southern Africa
IDRC	International Development Research Centre
IFS	International Foundation for Science
IUCEA	Inter University Council for East Africa
JKUAT	Jommo Kenyatta University of Agriculture and Technology
MAK	Makerere University
OERs	Open Educational Resources
PSC	Project Steering Committee
QA	Quality Assurance
QAM	Quality Assurance Mechanism
RUFORUM	Regional Universities Forum for Capacity Building in Agriculture
SADC	Southern African Development Community
UNIMA	University of Malawi
UON	University of Nairobi

1. Introduction

1.1 Background

The European Union-African, Caribbean and Pacific (ACP) countries Cooperation Programme in Higher Education (EDULINK) provided a grant to the Regional Universities Forum for Capacity Building in Agriculture (RUFORUM) to implement a project on Strengthening Capacity of Universities in Eastern, Central and Southern Africa (ECSA) to offer Quality Graduate Programmes. The project was conceived with the intention of enhancing institutional capacities of universities in ECSA region to conduct high quality and relevant graduate training, especially at Phd level. Its intermediate objective was to strengthen capacity for shared training, quality assurance and knowledge management for lesson up-scaling. The action was developed from the need to have in place harmonized Quality Assurance Mechanisms and credit transfer systems; the need to marshal additional resources for training and research for example through partnerships with other knowledge centres such as universities in Europe; the need to broaden the perspectives of the students and lecturers, and improve their competencies in teaching and research skills; and the need to innovatively manage the programmes for efficiency, relevance, competitiveness and attractiveness.

The project was implemented by RUFORUM in partnership with five of its member universities:- Makerere University, Egerton University, Jomo Kenyatta University of Agriculture and Technology, University of Malawi and University of Zambia and Montpellier Supa Agro. The project targeted universities hosting regional graduate training programmes in ECSA, which included Egerton university, Jomo Kenyatta University of Agriculture and Technology (JKUAT), University of Nairobi; and Makerere university in East Africa, as well as University of Malawi and University of Zambia in Southern Africa. Project implementation commenced in August 2008 for a three year period running through August 2011. The project life span having ended, RUFORUM engaged the services of Nkoola Institutional Development Associates (NIDA) Limited to undertake a final project evaluation.

1.1 Purpose of the final evaluation

The evaluation was intended to assess project performance with regards to attainment of results; ensure feedback from the stakeholders; and also provide lessons to guide similar projects in the future. This report presents study methodologies, findings of the study; lessons learned and recommendations.

1.2 Methodology

The approach used in the study involved information gathering from project implementers, staff and students from six RUFORUM member universities[1], other stakeholders and secondary data sources. Data was collected through:- i) review of literature on project documents, ii) key informant interviews with RUFORUM

[1] Egerton University, University of Nairobi, and Jomo Kenyanta University in Kenya, University of Malawi-Bunda College of Agriculture in Malawi, Makerere University in Uganda; and University of Zambia in Zambia.

secretariat staff, staff and students in five universities as well as other stakeholders notably Inter University Council of East Africa; and iii) an email questionnaire. Field data collection was preceded by development of study instruments which were presented and discussed with the client. Field findings as well as information from secondary sources have been compiled, and subjected to critical analysis with a view to establish progress towards project indicators[2].

1.3 Arrangement of the Report

These next sections of the report are arranged as follows:
Chapter 2: Presents the study findings
Chapter 3: Presents the conclusions, emerging issues and recommendations

2. Findings

Project interventions undertaken by the RUFORUM, its implementing partners and associates fall in three result areas: strengthening quality assurance mechanism, strengthening capacities and competencies for effective implementation of training programmes; and enhancing regional and international partnerships for effective graduate training programs. Findings present evidence of the undertaken activities, achievement of expected results, shortcomings, and challenges. In presenting the findings an attempt is made to talk to the indicators but conclusive data has not been established to measure the indicators as stipulated in the logframe.

2.1 Strengthening quality assurance mechanisms in ECSA HEIs

Project interventions in this result area focused on developing and piloting quality assurance mechanisms, establishment of a credit transfer system, and establishment of peer review mechanism.

2.1.1 Developing quality assurance mechanism

Interventions included developing instruments for assessing quality assurance mechanism, undertaking scoping studies in selected universities in Europe and ECSA region with a view to learn lessons for strengthening quality assurance in RUFORUM supported graduate programmes, assessing existing QAM programmes, developing and piloting QA mechanisms, and refining QA mechanism and sensitising Higher Education Institutions. Achievements include undertaking a scoping study of quality assurance systems for graduate education in selected European Universities[3], conducting situational analyses in six partner universities; and compilation of a draft quality assurance handbook. The scoping study and exchange visit to universities in Europe provided useful insights on strategies and processes for conducting self assessments with regards to articulating demand for training programs, quality of

[2] Analysis and resultant findings make an attempt to talk to the indicators, however in absence of baseline figures as well some data due to limited time of during which field data collection was undertaken it was not possible to measure the indicators in the magnitudes reflected in the project logframe. It should be noted that this study is part of an on-going field data collection exercise intended to monitor and evaluate RUFORUM interventions

[3] Helsinki- Finland, Swedish University of Agricultural sciences- Sweden, University of Copenhagen - Denmark and Wageningen University

courses and supervision of students; documented understanding of how graduate degree programmes undertake aspects of quality assurance; and development of demand driven PhD and Masters degree programs.

The situational analyses in Makerere University, Egerton University, University of Nairobi, Jomo Kenyatta University of Agriculture and Technology in East Africa were coordinated by IUCEA while those in University of Malawi in Malawi, and University of Zambia in Zambia were lead by the Higher Education Quality Management Initiative in Southern Africa (HEQMISA). These analyses provided useful information pertaining to existing QA mechanisms in and policies in the universities, resources available for learning environment, mechanisms for student recruitment and assessment and state of teaching and learning environment.

An internationally accredited quality assurance system(s) for the Regional PhD programmes was developed and piloted in selected RUFORUM member universities:- UoN (Ph.D Dryland Resource Management, and MSc Agriculture Information and Communication Management); Makerere (PhD Plant Breeding and Biotechnology, MSc PBSS); UNIMA (PhD Aquaculture and Fisheries Science, PhD Agricultural and Resource Economics); Egerton (MSc Agriculture Information and Communication Management).

Findings suggest that the project has made significant strides with regards to attaining its performance measure with regards to increasing postgraduate enrolment in ECSA universities. During the life of the project, there were 5 taught PhD programmes with an enrolment of 85 students; and 3 MSc programs with an enrolment of 250 students. For instance in the UoN Land Resource Management and Agricultural Technology (LARMAT) department, number of PhD students has increased from 3 prior to the project to 17 in 2007/2008 representing a 467% increment in student enrolment. This number was directly influenced by project scholarships. Nevertheless, enrolment has been maintained at 10 students in 2010/2011 and another 10 in 2011/2012 without project scholarships, which figures represent a 233% increment in enrolment.

2.1.2 Establishment of credit transfer system

The project had interventions geared at establishing a shared credit transfer system with a view to foster increase in transferability of credits between ECSA universities and advanced learning centres such as universities in USA and Europe. Key achievements include production of a manual on Credit Transfer System (CATs), and the signing of an memorandum of understanding (MoU) by the Vice Chancellors of all the participating universities. The MoU sets provisions to facilitate staff and student exchange among member universities, and to facilitate the sharing of information and human resources among the member universities. The project met its performance target in this area. IUCEA, HEQMISA and the National Councils of Higher Education facilitated the process of agreeing on the CATs system for the regional training programmes.

2.1.3 Establishing Peer review mechanisms

Peer review mechanisms have been established in the participating universities particularly in relation to the regional programs although the implementation is still in infant stages. All the taught PhD and MSc programs have been greatly valued and appreciated by staff members in the participating, and other, universities. The project interventions appear to have boosted confidence in the graduate training programmes in ECSA region. Anecdotal evidence suggests improved image of graduate training programs in the study universities. Completion rates from the 3 year PhD training programmes and 2 year MSc programmes have improved stakeholder view of the graduate training programmes. This can be seen from increase in self sponsored applicants in the regional training programs.

Anecdotal views from key informants

- University of Nairobi was known for PhD students taking long to graduate as the research based PhD used to take a between 4 to 7 years for a student to graduate. Now this has changed with the new PhD in Dry lands resource management where students graduate in 3 years and they will also have produced at least two articles for publication.
- Even in the absence of project scholarships the number of self sponsored graduate students continues to be higher compared to before the course based graduate programs
- In Makerere, faculty of agriculture a student once threatened to physically harm him supervisor of a research based PhD programme which had prolonged for many years. The stringent 3 year programmes have helped.

The process of developing, piloting, refining and sensitising HEIs on quality assurance for graduate training and research has culminated into:-

i. Increased awareness of the importance of QA within Universities. The interventions have broadened understanding of what QA is all about. In some universities in the ECSA region, QA was being equated to having external examiners. This attitude has since changed. Quality assurance mechanisms are being given more attention and increasingly being applied in curriculum development, student learning and research. For instance University of Malawi, National University of Lesotho, and Botswana College of Agriculture have new quality assurance systems. There is also growing demand from universities for Continuous Professional Development of staff as a way of enhancing staff competencies to keep pace with the changing contexts so as to ensure quality of training.

   The project has catalysed the process of establishing and strengthening the National Councils of Higher Education in some of the participating countries notably Malawi. Through this project-in partnership with HEQMISA- the government of Malawi has initiated the process to have a Commission of Higher Education in ECA region which was not there before the project. The process of developing and raising awareness of QAM has helped some universities to establish QA units and improve upon their QA processes in relation to research and training – leading to an improvement in the web-

matrix ranking of RUFORUM member universities for instance MAK and UoN among the top 20 in Africa.

ii. The project interventions along with other similar initiatives has further cultivated and spurred universities' willingness to learn and collaborate with one another. It was noted that initially, it was a challenge to bring the different universities to the same table and share information on issues like student grading, but they are increasingly more keen to learn from each other, seeing themselves as partners rather than competitors. This has facilitated information sharing, exchange of credits and the harmonisation of QA mechanisms.

iii. RUFORUM has catalysed discussion on:

a) Minimum requirements for admission for graduate studies. Efforts for harmonizing credit transfer systems have been initiated.
b) Minimum requirements for student graduation:
    - Preparation of 2 manuscripts for publication. This is a requirement for graduate students especially for PhD before defense and graduation.
    - Course work based PhD in agricultural related courses. This involves one year of course work, where a student must pass all courses with at least B. CATs and assignments account for 50% while the final exam accounts for 50%. Makerere University has so far had such training. Universities' desire for comprehensive social responsibility led to inclusion of graduate programme quality assurance.
c) Benchmarks for training programs at graduate level. These benchmarks have been set for courses, course content, hours for each course, its topics and subtopics. Regional MSc and PhD training programs provide a starting point for this.
d) Benchmarks for research and student supervision, some of which include:
    - Sizes of labs;
    - number of students per lab space;
    - Required ICTs;
    - Number of graduate students per supervisor. UoN Land Resource Management and Agricultural Technology (LARMAT) department has set it at maximum of 3 students per supervisor.
e) Minimum standards for staff progression/promotion through the various ranks. Requirements for promotion are intended to be harmonized across member Universities as a means of improving the quality of training.

These issues have been captured and compiled in a draft handbook on QAMs which is going to complement the quality benchmarks from the country specific Commissions of Higher Education as well as the regional bodies such as IUCEA and HEQMISA. Quality improving procedures are increasingly being integrated in the design and review of existing graduate programmes. It is a requirement in many universities to have wider stakeholder consultations, demand assessment and clear quality assurance processes in the programmes. The project's QAMs were welcomed by implementing partners like HEQMISA and IUCEA as value addition to their already existing quality assurance processes.

More work will have to be undertaken for the handbook to be formally adopted by the member universities. Much as RUFORUM has been able to set requirements for regional programmes, it faces a challenge in promoting quality assurance because the partnering universities already have their own policies and regulations such as minimum entry requirements and are guided by their national commissions, among other factors. Although some standards have been proposed such as those regarding access to internet, access to online agricultural materials and the like, and suggestions made for improving the quality of infrastructure, drastic changes and the adoption of these proposals cannot be expected. This is compounded by the fact that RUFORUM has no legal power and mandate to enforce the proposed changes in support of quality assurance. Therefore, RUFORUM's role in such circumstances should be to continuously advocate for these changes. A similar challenge lies in the fact that the education systems in the RUFORUM countries are different. This can be exemplified by the variation in the definition of a credit in the ECSA region. This also need for more work to make inroads with regards to harmonising grading systems with those from French and Portuguese speaking countries in the ECSA region.

2.2 Strengthening capacities and competencies for effective implementation of training programmes in ECSA HEIs

The project interventions focused on identifying competence gaps among staff and students, and implementation of specialised courses. These interventions were geared at raising the number of trained staff and students able to deliver lectures or train online; increasing the number of staff able to win competitive grants; achieving a pass rate in post graduate training programmes of at least 80%; enhancing joint implementation of project activities. Key achievements include development and circulation of a policy brief with recommendations on how academic faculties can digitise their teaching materials; training of 77 teaching staff and 335 students in various courses:-proposal writing, scientific data management, scientific writing and journal publishing, graduate research mentorship, and climate change risk assessment for agriculture. The well designed short courses were highly appreciated by both staff and students as being critical to enhancing professional skills and competencies. The training courses seem to have contributed to increased staff capacity to deliver lectures on line as well as winning research grants.

It was however noted that no training courses were conducted in quality assurance as funds did not allow for development of the course modules to train QA managers. Nevertheless Makerere University with support from the Canadian International Development Agency (CIDA) developed and pretested some modules. Consequently training for HEIs managers and others in charge of quality assurance was only undertaken in Makerere University.

Findings reveal that staff and student training on delivering lectures and training online has been done in collaboration with other projects funded by other donors. One course was delivered on-line in collaboration with ERESA project on enhancing research capacity and skills in Eastern and Southern Africa. Training modules have been developed and are being formatted for the MSc course on AICM, and PhD

course on Fisheries with support from another project. Some staff have developed and delivered training materials online for other regular courses not associated with the regional training programs. This was more pronounced notably at JKUAT notably in the department of statistics. Inspiration for this development was noted to have originated from the RUFORUM supported regional training programs. However issues of compensation for developing e-learning materials, internet speeds, inadequate ICT infrastructure, and intermittent power supply were noted to impair abilities to deliver materials on line.

With regards to staff ability to win competitive grants, findings reveal that between 2008 and 2011, a total of 72 university staff have been able to access research grants through RUFORUM Secretariat. Anecdotal evidence also suggests that the number of staff able to win competitive grants has increased (Egerton, JKUAT, UoN). This was attributed to skills improvement in proposal writing. Students have also been able to win research grants, 28 grants from International Development Research Centre (IDRC); 4 from International Foundation for Science (IFS) and 16 under the Field Attachment Program Award (FAPA).

2.2.1 Cost effective regional training programmes operationalised

Regional training programmes were established through multi stakeholders consultations. The project set out to operationalised cost effective regional training programs. Achivements include identification of competence gaps, undertaking a rigorous selection process at two levels – first by the universities for admission, and then by RUFORUM Secretariat for scholarships, where applicable. This helped to ensure that the selected students were of high quality.

A platform for mobilizing staff and a system for staff secondment to universities in the region was developed and used to share staff among RUFORUM member universities. This was mainly in form of meetings and workshops. A shared training and research resources management strategy was also developed for use by regional PhD programmes

A total of 122 students graduated in the project study programs. This only takes into account the number of students under the regional programs (18 from UoN-Drylands Resource Management; 22 from Makerere University - Plant Breeding and Biotechnology and 38 from Master of Science Degree in Plant Breeding and Seed Systems; 10 from University of Zambia - Plant Breeding and Seed Systems; 11 from University of Malawi - Aquaculture and Fisheries Sciences and 8 from Agriculture Resource Economics; 15 from Sokoine University of Agriculture. These regional programs were co-funded by various donors as follows: ERESA-EDULINK, BMGF, and participating universities. The improved competencies also appear to have contributed to a high pass rate in the regional graduate training programs. Findings reveal that for at the UON, 16 out of the 17 2008/2009 students under the PhD Dry land resource management programme passed their course a figure which represents 94% pass rate, while 10 students graduated within the given 3 year period representing 59% pass rate. At least 90% of the students have completed successfully and are due to graduate within 3.5 years, a figure which meets the

project performance measure requiring that at least 80% pass rate in postgraduate training programmes by 2011.

Increase in the number of joint implementation of projects/activities: The QAM project, and this indicator, in particular, was a contributing factor to the requirement for all project proposals to have partners in-built into the implementation process. Findings suggest that there is an increase in the number of joint implemented projects/activities through Graduate Research Grants and regional program. The discussion during the QAM Mombasa meeting led to holding the Ministerial Conference on higher Education in Africa which has contributed to the development of Africa-wide capacity strengthening initiative, code named TEAM Africa.

Student and staff exchange

The program set out to establish mechanism to facilitate staff exchange so as to backstop effective training in the regional training programs. Findings reveal that over 25 staff members were able to visit and teach in partner universities. This notwithstanding it was noted that staff exchanges were difficult to coordinate particularly across multiple universities. This was attributed to differences in university calendars as well as bureaucratic procedures where some countries demand for processing of work permits for the visiting lecturers. Key informants noted that they resorted to taking advantage of experienced personnel who come to their countries for other activities to also have interface with the graduate students.

2.3 Enhancing regional and international partnerships for effective and efficient graduate training in the ECSA HEIs

Formal relationships have been established with institutions in ECSA, the rest of Africa and Europe and these include: 29 RUFORUM member universities; Supa Agro, MontPellier; the Association for Strengthening Agricultural Research in Eastern and Central Africa (ASARECA), African Network for Agriculture, Agroforestry and Natural Resources Education (ANAFE), IUCEA and HEQMISA.

This was to be achieved through the establishment of platforms upon which continued mutual support were drawn for development of programmes in research and training in form of a blog, workshops, and meetings. Main institutions involved included the Association of African Universities (AAU), Technical Centre for Agricultural and Rural Cooperation (CTA), SADC (Southern African Development Community), IFS, IUCEA, HEQMISA, regional quality assurance institutions, and the participating universities. The events facilitated the establishment of partnership of various sorts:

- Partnerships for mobilising human resources for curriculum development
- Partnership to teach and supervise students
- Partnerships for supporting students attachments for research
- Partnerships for strengthening management skills

The QAM project, and this indicator, in particular, was a contributing factor to the requirement for all project proposals to have partners in-built into the implementation process. Sound partnerships have been established among university staff and agricultural stakeholders in the process of writing and implementing the project. Key informants acknowledged that they have increased the number of people and organisations with which they have established and strengthened relationships. Both staff and students acknowledged that their capacity to network has greatly improved.

The RUFORUM network has an inherent dynamic platform with both formal & informal networking arrangements that facilitates cross learning between its member universities. It continually brokers such partnerships for learning on quality assurance initiatives. New partnerships are emerging to implement similar initiatives. At national level, there's interest and demand for quality assurance and benchmarking standards by the national commissions of higher education that accredit universities and programmes. In UoN the department of LARMAT has leveraged resources from USAID, to support student training at undergraduate and graduate level, foster close working relationship with grass root organisations and communities and have also established collaborative relationship with university of Collorado to exchange staff.

2.4 Development of knowledge management framework

The main elements of the knowledge management framework have been incorporated into the RUFORUM monitoring and evaluation (M&E) framework, and the management information system (MIS) for RUFORUM. 26 scientific / journal publications have been published in peer reviewed journals and produced by the PhD students funded under this action.

The project met the minimum design target for the number of conference publications to be produced as 3 conference publications were produced namely:

- African Crop Science Society Conference, October 2009, Cape Town, South Africa;
- The 2nd RUFORUM Biennial Conference, September 2010, Kampala, Uganda;
- FARA General Assembly, Science Week, July 2010, Ouagadougou, Burkina Faso.

In addition 24 theses have been produced by the PhD and MSc students, while over 50 training modules under the various regional training programs were developed

Four out of the targeted newsletter articles on achievements from the QAM project were prepared and published in various RUFORUM newsletters.

The Project Steering Committee (PSC) prepared two policy briefs on QA in higher education during the project and has been disseminated them among Vice Chancellors, Deans and other Senior Managers in ECSA universities and in Europe, Commissions and Ministries for Higher Education in ECSA where they exist, the PSC,

programme coordinators. These policy briefs inform policy on quality assurance, credit transfer and other higher education concerns were entitled: 'Quality Assurance Systems in Selected Universities of Europe – Lessons for RUFORUM'; and 'Building Institutional Capacity for Advanced Degree Training in Agriculture and the Natural Sciences: Lessons from RUFORUM'.

2.5 Quality Assurance Measures for student learning and delivery

1. **Class attendance list**

In the very first place the measures are intended to ensure that learning take places. Hence, the measures start with tracking whether students and lecturers are in class. The attendance registers are signed by both students and lecturers. They also track whether the lecturer was on time, and whether each lecture was delivered for the stipulated time. In the event that the lecturer misses some hours, s/he has to indicate how they are going to compensate for that time. The use of class attendance lists where lecturers, students, class co-ordinators sign and heads of department sign are being used in Egerton, JKUAT, and UoN.

2. **Quality Teaching Forms**

Quality teaching forms were designed to track delivery of the course. These are used to establish whether course content was covered, whether the Continuous Assessment Tests (CATs) and assignments were administered/given, marked and corrections made. This is signed by lecturers, class representative and head of departments (JKUAT).

3. **Self Assessments and Benchmarking of programs.**

Using quality benchmarks from the Commission for Higher Education as well as IUCEA, the staff undertake self assessment of training programs, identifying strength and weakness in course content, and delivery mechanisms. This is followed by developing minimum courses required for the training program (JKUAT, Egerton). Self assessments of programmes allows for benchmarking of programmes for the purpose of comparing with other universities offering the same course.

- *Standardised Course Content:*

Teams of lecturers competent in given areas deliberate and develop standard content to minimise variation with regards to topics covered and the time allocated to each topic and its sub-topics (Egerton). The detailed course outline provides a description of the minimum topics for that course, the subtopics, minimum time allocation, mode of student evaluation (the assignments to be given, CATs); required practicals, reference materials for further reading, and the preconditions for taking the course (Egerton).

- *Course teaching manuals:*

Course teaching manuals which detail the notes, topic by topic were developed thereby enhancing learning and understanding by students even in the absence of the lecturer. In Egerton, some lecturers have developed teaching manuals for regular programs while in UoN these were only cited in case of courses offered through the Open Distance Electronic Learning (ODEL). Efforts are being made to develop PowerPoint presentation of notes.

4. Student evaluation of course/lecturer

A composite tool is used to evaluate the course content, and delivery by the lecturers (that is, whether course content was given and was descriptive enough; coverage of the content; the way it was taught, whether tests were given marked and revised, among others). This is now a routine way of work in JKUAT, Egerton and UoN, at both undergraduate and post graduate levels. Student evaluations have been taken on as part of ISO 9001 quality certification. There is need for the sensitisation of students on the purpose of these evaluations in order to change the general perception that they are punitive rather than geared towards improving quality.

The questionnaires are analysed by the Directorate of Quality Assurance and results shared with the Dean, Head of Department (HOD) and the individual lecturer. The HOD discusses the results with the respective lecturers. It is vital that students are continuously reminded that the purpose of the evaluation is not to institute punitive actions but to help improve areas of the course and its delivery by the lecturer.

In JKUAT, the evaluation instrument has been improved with a view to gear it towards Information and Communications Technology (ICT), so as to automate the process and do away with students having to fill in hard copies. Likewise, the reporting format for the quality assurance bulletin has been changed to make the content more readable.

5. Internal and external peer review of exams

Exams are set early in the semester and are then compiled by the examination officer. Peer review involving internal and external reviewers for the exams. External examiners moderate the way questions are set (balance in scope, their clarity and strength, and their consistency with the course outlines) among other factors. Questions should follow a tier (from basic concepts which require recall to issues that require application of knowledge)

6. Other quality assurance processes

- Stakeholders are consulted in the development/review of training programs. Methods used include self administered questionnaires sent to the relevant stakeholders (employers, research institutions, former students, current students and farmers), and stakeholder workshops. Then curricula development follows iterative internal processes.
- Internal audit processes are also applied for instance through spot checks during exams to ascertain whether the exams are on time, challenges, and whether the exams are done by the right group of people.
- With regard to examination of student research thesis/dissertation, there are 2 supervisors and 2 examiners-one internal non-supervisor staff of the university and one external examiner. An aural examination is conducted for the student to defend their proposal and the research report.
- Study universities (UoN, JKUAT, Egerton) have recognized the need for Pedagogy to improve on the delivery mechanisms as an approach for shifting from the traditional methods. Some universities like Nairobi and Egerton, reported that the pedagogical practices are mandatory but the short courses

offered are limited to basic skills and are only offered for 2 days. However the RUFORUM retooling effort was a bit longer and had impact.

- One key aspect emerging out of this is that with the exception of student evaluation of course/lecturer there is no other mechanism was cited with regards to following up on the lecturers to ascertain whether they apply the pedagogical practices. Auditing processes (external and internal) happen in Universities like Nairobi but these are at evidence based level. In some cases their peers are involved in reviewing the delivery of the courses.

3. Conclusions, lessons and recommendations

3.1 Conclusions

Results indicate that the project made significant strides in developing quality assurance mechanisms for graduate training and research, establishment and operationalisation of regional training programmes, strengthening competencies of human resource involved in implementation of training programs and establishment of partnerships. On a six rating scale (presented in Annex A), we conclude that project effectiveness was moderately satisfactory. Project shortcomings are in the areas of operationalising QAMs ad CATs across member universities; student and staff exchanges; staff delivery of lectures online; development of e-learning materials; and developing modules and training of managers in quality assurance. This conclusion of project performance has also taken into consideration the fact that EU released funds for only one year and yet more funds were required to undertake activities in years 2 and 3 which compelled RUFORUM to pre-finance activities, inevitably causing delays and non-implementation of some activities. Given the fact that it takes time for intermediate and ultimate outcomes/impacts to be realized and the QAMs to be institutionalised, it can be concluded that the project's achievements and the sustained efforts of the regional institutions to promote quality in graduate training are likely to contribute to the achievement of the overall goal. Ongoing assessment beyond the life of the project would be essential for ascertaining further progress.

3.2 Emerging issues and lessons

The following emerging issues were elicited from the implementing partners, lecturers and students:

- Quality assurance for training has for long been the norm but now quality assurance for research is increasingly being considered. Furthermore, many existing regional and global quality assurance mechanisms for post graduate training have largely ignored the research component of quality assurance. Lessons were drawn from lead universities in Europe like Wageningen University and the local demand from research systems. The project's progress made on strengthening quality assurance in research is therefore expected to

complement and inform current and future initiatives in this area by partners like IUCEA.

- There is mutual learning between the lecturers and students. The lecturer improves on the notes because of the intensity of the course. The students are either improved in terms of team work and presentation.
- The procedure of development, buy-in and approval of the QAMs and CATs takes time. Piloting and validation of tools and other elements of the QAM take time.
- There is need to identify ongoing activities in the region related to QA and adapt already existing frameworks and systems such as those developed by HEQMISA, IUCEA, AAU and National Councils for Higher Education.
- Implementation of well designed and targeted short courses for students (in proposal writing, climate change risk assessment for agriculture, scientific data management, scientific writing, personal mastery and soft skills) is vital for development students' professional skills. These courses have contributed greatly to building students' confidence and to improvements in their capacity to communicate, manage themselves, and conduct better quality research, present research findings, and understand some of the emerging issues such as climate change concerns. Feedback from graduates highlighted that this is a major strength of the RUFORUM supported regional postgraduate program.
- Staff have improved the quality of the teaching both in terms of process and content. Skills enhancement courses contribute greatly to the achievement of the RUFORUM goal of producing quality graduates.
- Some lecturers have maintained use of traditional teaching methods and have not adopted the online delivery of training with e-learning platforms such as Moodle. This was attributed to the inadequate training on the use of the platform and execution of tasks like uploading notes and assessments on it.
- Developing valuable partnerships is not easy as it takes time to establish good rapport and team work culture, especially in the context of organisations/partners who operate in different fields yet have to work together, for instance public universities and the private sector. Furthermore, to develop regional buy in and agreement, implementers need to work with established institutions and this process also takes time.
- Expertise in quality assurance is relatively limited, scattered and uncoordinated. The few experts that exist have not been adequately networked, coordinated and facilitated to support institutionalised national and regional QAM initiatives at a wider scale.
- Course based PhD training programs provide stringent measures to ground the student in the subject area prior to undertaking research (stringent training programmes with clear requirements for course work and research ensure that quality is maintained). The requirement to produce a publication has drastically improved communication skills among students and staff; it also increased the confidence of the students and staff in themselves and in their performance. Furthermore, a number of organisations have appreciated the value of the taught PhDs and are now funding their staff to train e.g. ALL students of the third cohort of PhD Dryland Resource Management, and the

second cohort of the MAK PhD program are either self-funded or funded by their respective organizations.
- Sharing of the research findings has lead to improved research and greater awareness of research outputs by stakeholders.
- Production of graduates involves many players interested in quality with diverse experiences and demands, hence the need for leveling expectations.
- Some of the project's targets and indicators were ambitious. For instance, the project sought to develop a draft handbook however it is difficult to determine when it will eventually become institutionalised and accepted in the partner universities. This points to the need to ensure that the resources and time necessary for completion of some activities are not underestimated, and that the project still needs to be assessed at a later stage.
- The preparation of new/revised curriculum and modules for the regional programs helped to bring together various staff in different universities. This increased ownership of the programs and collaboration between universities and amongst staff, and produced high quality curriculum.

3.3 Recommendations:

- Engage partners more intensely during the proposal development and project implementation. A more participatory and consultative process which involves a broader array of stakeholders, not limited to academics, students and national councils of higher education should be undertaken. The consultations should be more inclusive and include stakeholders like professional bodies on agriculture, farmers' associations and employers of graduates among other players in the industry when necessary.
- More has to be done to establish certification mechanisms because accreditation is currently the only certification that exists. Certification mechanisms are critical for effective quality assurance systems.
- External peer reviewed evaluations should be implemented as indicated in the QAM/CATs handbook.
- A common grading system (Grade Point Average – GPA) as proposed in the handbook should be adopted across the ECSA universities.
- There is need to facilitate additional efforts for networking for continued quality enhancement. In addition, collaboration between partners within RUFORUM's network should be strengthened to entrench quality assurance in graduate training and reinforce the achievements made.
- Rigorous measures for assessment of PhD programs and research as QAMs should be upheld. For instance, the publication requirements should be maintained to ensure that quality research is undertaken.
- Universities should continue to engage in collaborative training and research so as to sustain the gains of the project.
- Continuous sensitization of students on the importance of providing constructive feedback on course content and delivery through evaluations is necessary for ensuring continuous quality improvement in training.
- More efforts should be made to ensure that staff and student exchanges are implemented in order to tap into the benefits of the exchanges on the quality

of the teaching and learning both in terms of process and content. In particular, financial resources need to be mobilized/availed to support regional staff and student exchanges, and North-South student exchanges.

- Project activities should be carefully crafted and budgeted for.
- Continued commitment and ownership of the developed QAMs and CATs by University Management, RUFORUM Board and regional partners is required in order to ensure high quality and relevant graduate training, ease credit transfer and sustain the gains of the project.
- Efforts and achievements particularly in monitoring and evaluation of activities and training of QA managers should be scaled up. Thorough periodic monitoring and evaluations are recommended to assess the activities on the ground so as to develop rational improvement plans.
- Short introductory and refresher courses on basic computing should be offered to staff and students in order for them to ably use the computer and effectively make use of the online platforms in training and accessing online resources.
- Measures should be put in place to ensure that coordination arrangements are followed during implementation as a means of overcoming coordination challenges and ensuring that all partners are fully and meaningfully engaged. This can be done by enhancing regular two way communications among the partners. The lead partner should have clear oversight mandate to ensure that the other partners undertake activities in a coherent manner to raise the odds of achieving the project goals.
- Efforts need to be intensified to improve infrastructure in the universities including ICT facilities in order to increase access to computers and internet, and enable effective and efficient delivery of online training.
- For knowledge management frameworks to be relevant within the context of RUFORUM as the implementing agency, they have to be incorporated into its monitoring and evaluation and Management Information System frameworks.

Annex A

Based on information from the study, a rating was used to assess project performance. Effectiveness was rated on a six level scale ranging from highly satisfactory, satisfactory, moderately satisfactory, moderately unsatisfactory, unsatisfactory, highly unsatisfactory.

i. Highly satisfactory: The project had no shortcomings.
ii. Satisfactory: The project had minor shortcomings.
iii. Moderately satisfactory: The project had moderate shortcomings.
iv. Moderately unsatisfactory: The project had significant shortcomings.
v. Unsatisfactory: The project had major shortcomings.
vi. Highly unsatisfactory: The project had severe shortcomings.