



**Final evaluation of the  
Institutional University  
Cooperation with  
Moi University, Kenya**

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# ACRONYMS

AGBIO	Agriculture and biotechnology Project 3
ATC	Agricultural Training Centre
DGDC	Directorate General for Development Cooperation of the Belgian Government
DSS	Demographic surveillance system
GEP	Gender Equity Project (Phase 1)
GSSP	Government sponsored students programme
HE	Higher education
ICOS	Institutional Coordinators for Development Cooperation
ICT	Information and communication technology
IGERD	Institute of Gender Equity, Research and Development
IODL	Institute of Online and Distance Learning
IPM	Integrated pest management
ISFM	Integrated soil fertility management
IUC	Institutional University Cooperation initiative of VLIR-UOS
KENET	Kenya Education Network
KRA	Key result area
KUL	KU Leuven
MHO	Joint Financing Programme for Cooperation in Higher Education (The Netherlands)
MU	Moi University
MUTRH	Moi University Teaching and Referral Hospital
NGO	Non-governmental organisation
OVI	Objectively verifiable indicator
PSSP	Privately sponsored students programme
PSU	Programme Support Unit
REAL	Rivatex East Africa Limited
SAB	School of Agriculture and Biotechnology
UG	Ghent University
UOE	University of Eldoret
VLIR-UOS	Vlaamse Interuniversitaire Raad –Universitaire Ontwikkelingssamenwerking
VUB	Vrije Universiteit Brussel

# PREFACE

The VLIR-UOS programme for Institutional University Cooperation (IUC) is an interuniversity cooperation programme of Flemish universities, which started in 1997. Based on a system of programme funding provided by the Belgian government, the IUC programme is directed at a limited number of partner universities in the South. The IUC programme focuses on the institutional needs and priorities of the partner universities in the South and is, in principle, demand oriented, seeking to promote local ownership through the full involvement of the partner both in the design and in the implementation of the programme.

This report contains the findings, conclusions and recommendations of the final evaluation of the IUC programme at Moi University in Kenya, which began in 2007. The evaluation commission consisted of Julie Carpenter, Director and Principal Consultant at Education for Change Ltd., as the International Expert and Team Leader, and Dr Andrew Riechi, Senior Lecturer at University of Nairobi and Consultant on Education as the Country Expert. The report represents the views of this evaluation commission and does not necessarily reflect the opinions of VLIR-UOS.

Through the knowledge and experience of Dr Riechi the evaluation commission was already very familiar with changing Kenyan higher education context and the place of Moi University within that context. Julie Carpenter was briefed and updated by the VLIR-UOS and held meetings and discussions with the Flemish IUC project leaders prior to the field mission to Kenya. All relevant documentation on the IUC programme was also provided by VLIR-UOS and reviewed by the commission in detail.

In the view of the evaluation commission, the IUC programme at Moi University can be considered as a qualified success, implemented under challenging and changing circumstances in the rapidly changing higher education sub-sector in Kenya, in which teaching has traditionally taken precedence over research. Despite the challenges, the IUC programme has contributed significantly to bringing changes in the research and teaching culture in Moi University, in collaboration with external government and industry stakeholders and in community extension of the benefits of research.

The evaluators would like to express their appreciation to all of the individuals we met during the course of the evaluation, and to thank them for their active collaboration in this final evaluation. We thank the South Programme Coordinator, Professor John Githaiga, particularly for his commitment to the evaluation and to the hospitality extended to us by him and all the IUC Project Departments.

Julie Carpenter

Director and Principal Consultant

Education for Change Ltd.

# EXECUTIVE SUMMARY

## Introduction

An Institutional University Cooperation (IUC) programme is a long-term (12 years) institutional partnership between a university in the South and Flemish universities and university colleges. Based on country-level and local institutional priorities, it aims at empowering the local university in its triple function (education-research-service to society) and supports the local university in fulfilling its role as an active actor of change and progress in society.

The final evaluation's primary objective is to evaluate the performance of the IUC (programme level and project level). The performance of the IUC is evaluated on the basis of the OECD-DAC criteria for development evaluation (+ one additional criterion): **scientific quality, relevance, efficiency, effectiveness, impact, and sustainability**. For final evaluations, a particular focus is given to **sustainability and effectiveness** (progress towards the achievement of the specific objectives).

## The Moi University IUC Programme

The IUC Programme at Moi University started with a Pre-Partner Programme in 2006. The five-year Phase 1 of the programme started on April 1, 2007. This phase ran smoothly with six projects implementing their planned activities, with the logistical support of the Programme Support Unit. The IUC Flemish partners were led by Vrije Universiteit Brussel (VUB) and included KU Leuven, Ghent University and Hasselt University.

The programme used the 2011 Mid-Term Evaluation report recommendations in the planning of Phase 2. Attention in particular was paid to recommended strategies for sustainability such as networking with stakeholders, and synergy between the respective projects. The Partnership Programme for Phase 2 was completed and accepted by VLIR-UOS in early 2012. However, the start of Phase 2 was delayed due to some misunderstandings and differences in opinion that surfaced in relation to some Projects (Health Sciences in particular). Other factors include the challenges of the new status of Chepkoilel Campus acquiring autonomous status becoming Chepkoilel University College leading to the appointment of a new University Council (different from Moi University's). A consequence of this delay was concerns about the continuation of PhD students who started in Phase 1.

These and other issues were addressed through a remediation process which culminated in the re-drafting of parts of the Phase 2 Programme. The actual implementation of Phase 2 began in late 2012. Considerable changes had been made in Programme and Project staff, including the appointment of a new Programme Manager.

## Higher education context

For the last one decade, Kenya's education sector has witnessed rapid quantitative growth. However, despite the transition rate from primary to secondary education rising from below 50 percent over a decade ago to over 70 percent in the last few years. Cohort analysis from standard 1 to university education indicates that only 2% of pupils who enrol for class 1 actually progress to 1st year of university education, a clear indicator of an inefficient education system, thus leading to a remarkable loss of potential human resource in the country.

In response to this situation, efforts of the government and non-governmental stakeholders have led to phenomenal growth in the number of universities from one public university college in 1970 to seven public universities in 2007 and over 30 universities and university colleges in 2017, with some of them growing from campuses of existing universities to university colleges before becoming autonomous universities.

Total university student enrolment is expected to increase by 10.5 per cent from 510,685 in 2015/16 to 564,507 in 2016/17. The growth is attributable to the increase in the number of public universities and financing of students in private universities by the Government. However, the growth has not been well planned. This is demonstrated by the inadequate government funding of the universities, which are expected to absorb growing enrolments, thus raising fears of declining quality of education offered.

## Evaluation Findings

### Project level assessment

The IUC Programme at Moi University had five projects in Phase 2: in four of these – Civil and Structural Engineering (Project 2), Agriculture and Biotechnology (Project 3), Health Sciences (Project 4) and Textile Engineering (Project 5) - the overall objectives for each of the Projects remained essentially the same as in Phase 1. For two Phase 1 Projects – the Gender Equity Project and the Information and Communications Technology Project – selected activities were amalgamated into a single transversal institutional development Project (Phase 2 Project 6).

In Phase 2, all the IUC Projects performed and implemented much as planned. The scientific quality of the research undertaken by Project teams, Masters and PhD students under supervision, and the research results, broadly met the expected quality standards, and significant publications and research extension outputs were achieved.

The relevance of all the Projects, both to Moi University's strategic objectives and to Kenya's national priorities as envisaged in Kenya Vision 2030 (the national development blueprint), remains high with opportunities for research technology and know-how transfer into practice being effectively exploited in through extension and community work, and potential and existing links with industry.

Not all the intermediate results planned in every Project have been achieved to the fullest extent. There have been delays in completion of PhD studies, particularly among the Flemish sandwich scholarships, due in part to external circumstances, in part to continued difficulties in identifying suitable candidates with appropriate research interests, and in part to unforeseen hitches in research progress. However, most PhDs outstanding are likely to be completed before the end of 2017.

The most challenging results to achieve have been those involving cross-disciplinary and cross-Project collaboration: Moi University has no significant tradition of inter-disciplinary working and several opportunities that arose in Phase 1 and early Phase 2 have been missed. However, the IUC Programme seems to have planted the seeds of inter-disciplinary collaboration among Project teams who may translate emerging ideas into successful future project funding proposals.

In terms of impact, the administrative, academic and research environment of Moi University in the specific Departments with IUC Projects have been changed very significantly by the implementation of Pro-

ject activities, not only in terms of capacity building and infrastructural development (particularly in information and communications technology infrastructure and policies), but most importantly in terms of research practices and attitudes, team collaboration, extended networks of research contacts both nationally and internationally and in raised visibility.

The Project teams have all gained confidence and skills in sourcing research funding and writing project proposals. This will be important for sustainability of the Projects' research and forward plans. However, sustainability is at risk in two ways: 'brain drain' may continue to drain the pool of expertise and capacity as qualified staff move either out of academia (e.g. into other government service) or elsewhere within the expanding higher education system in Kenya. Equally, sustainability depends on committed and stable funding from Moi University (and the University of Eldoret in the case of Project 3) for running costs and infrastructure renewal. As the universities continue to expand, this committed funding may be at risk.

### **Programme level assessment**

Phase 2 of the IUC Programme was intended to be principally about consolidation and valorisation of the Phase 1 results. However, in some Projects in Phase 1 the capacity building activities were slow to start, with results delayed until Phase 2. The continuation of PhD studies started during Phase 1 was one of the reasons for the mid-term remediation process in 2012, in which all projects reoriented their activities to accommodate this. Several Projects were still engaged in research development and capacity building in Phase 2 with several PhD and Masters' students still to complete their studies in the final months of 2017. Accommodating this slower than expected scholarship completion rate in some Projects in Phase 2 has contributed to lack of available staff to consolidate and implement the teaching and curricula reforms, or to fully develop the planned programmes of research and teaching, and sometimes to a lack of funding resources to meet extension activity targets. It is worth noting that Phase 2 activities started in January 2013 (over 9 months late), therefore affecting the selection, commencement and eventual planned completion of the PhDs.

Some difficulties in personal relations, communication and understanding between North and South Project teams came to a head during the transition from Phase 1 to Phase 2 and were dealt with in a sensitive and effective manner in order to allow the Programme to continue. However, the solutions found represented quite an upheaval in the Programme as originally planned, with complete changes in Programme Coordination and Project Leader personnel. Nonetheless, through the efforts of the Programme Coordinators in Phase 2 and all new Project Leaders, in most Projects the teams have become or remained cohesive and productive, with positive gains evident through collaborative team-working.

The problem of 'brain drain' was most acute in Phase 1 when a number of trained Masters' scholars left to take up other posts. Its effects continued to be felt in Phase 2. Moi University created a bonding agreement for PhD scholars to ensure their retention, but few other incentives to retain staff at Moi were put in place.

# Conclusions

## Concerning the programme and its projects

### Impact

The strength and impact of the Moi University IUC Programme lies in its research and education relevance to the local, regional and national priorities and needs, in engineering, agriculture and biotechnology and health; and its success at building teaching and research capacity in these areas, under challenging and changing higher education sub-sector circumstances, which has resulted in dedicated research groups, involving academic staff and students cohering around the relevant research themes.

The impact of the Programme could have been stronger but for a number of weakening factors:

- Kenyan higher education institutions traditionally place greater emphasis on teaching, acquisition of knowledge and qualifications appropriate to career advancement, rather than on research. Multi-disciplinary research is uncommon.
- The higher education context has changed in terms of government policy, political pressures and expansion. All public universities have expanded into new regions of Kenya and increased the number and variety of courses on offer, with consequences for retention of trained staff.
- Moi University senior management seems not to have fully embraced the IUC Programme in the early planning stages of Phase 1, and certainly not during Phase 2 implementation, as potentially a whole-institution programme of change and strategic opportunity, but rather as a series of separate though important project interventions needing only operational support.

### Planning assumptions

The IUC Programme was mainly negotiated by academics from both Belgium and Kenya familiar with the external contexts in each country. Perhaps because of this familiarity on both sides, a number of assumptions may have been made about the external context for research (Kenyan economic and social realities, the social circumstances and family pressures on academics and researchers), and the institutional situations in both North and South (policies, practices, culture), without any real full and frank discussions. When contextual and academic culture issues inevitably arose during implementation they were more difficult to address because they were largely unanticipated by North project teams, and complex and sensitive for the South teams.

In particular assumptions were made without being properly tested about:

- the potential of the IUC Programme to build significant inter-disciplinary research between Projects in a university lacking a significant multi-disciplinary research culture;
- the retention of staff that did not take into account the realities of Kenya's socio-economic and higher education context; and
- the building of capacity that was intended to change the research culture in Moi University while failing to take into account the realities of the higher education sub-sector in Kenya in which teaching is a higher priority than research.

## PhD model

The relatively low capacity of students at Moi University to absorb new knowledge and to exercise initiative and creativity in their learning has created some challenges for the IUC Programme and perhaps contributed to difficulties in identifying suitably qualified PhD candidates to take up the scholarships on offer. PhD supervision and compatibility between student and supervisor, has also proved to be critical to success (as it is in any PhD study), and possibly even more so where sandwich PhD students from the South are supervised only by a Northern academic and need to maintain their research and study momentum once back in their own homes.

## The management of the programme

The VLIR programme has been a success due to its good management, effective and efficient use of funds, producing visible and tangible results. It is a best practice 'Model Programme' for Moi University.

## The coordination between all parties

The IUC Programme was a large and complex programme with many planned activities within each Project. Ideally some of the Project teams in the North and South could have been larger. The number of visits and exchanges involving a range of academic staff from the North was relatively limited. Small Project teams in the South meant that the responsibilities were limited to only a small number of people, sometimes resulting in poor project reporting.

Communication at Programme level was very good, though within the Projects the quality of communication was rather mixed, in some going smoothly and in others with more difficulty, resulting in late reporting, inadequate feedback and irregular follow up of activity related problems.

## Recommendations

### For the Programme and Projects

**Recommendation 1:** MU should build on the Programme and Project management expertise built up in the Programme Support Unit office to develop an active University unit to source international and national research funding and support project proposal writing and submission.

**Recommendation 2:** IUC Programme Project teams should take the opportunity of the Phase Out of the IUC Programme to seek out multi-disciplinary, cross institution research funding that will enable team members to build on their increased capacity, confidence and team-working.

### For VLIR-UOS

**Recommendation 3:** VLIR-UOS should consider, in future IUC Programme Pre-Partnership and match-making negotiations, the use of an independent facilitator in early problem-identification and planning meetings between North and South teams, to ensure that there is full and frank airing of views and testing of assumptions on both sides, including a properly documented risk assessment.

**Recommendation 4:** VLIR-UOS should consider ways in which it can demonstrate the real but qualitative benefits (professional, personal and academic) that accrue to Flemish academic staff in being involved in teaching, training or researching with South partners within an IUC Partnership Programme.

As 'demand-led' programmes IUC Programmes must find a difficult balance between the needs of the South and the interests of the North partners. However, it is often the sheer exposure to exchanges of experiences and example in active academic partnerships that have the most lasting effect on South (and North) institutions.

**Recommendation 5:** For PhD scholars on sandwich PhD programmes in Flemish partner universities joint supervision should be the default position, and there should be clear and consistent rules on joint (North and local) supervision for all Flemish partners to follow. The principle here is that every PhD student should have more than one person on their supervisory panel.

**Recommendation 6:** For PhD students on sandwich PhDs there should be a consistent and clear framework for research supervision reporting, agreed and followed by all Flemish university partners. The framework should mandate the minimum requirements to be followed, which should include a progress review panel meeting at the start of each of the PhD students' annual visits to Belgium; and regular meetings and communications (face-to-face, skype or electronic/email) between supervisors and PhD students (every two weeks is considered best practice), documented and recorded in progress logs kept by the students themselves and verified in the annual progress review meeting.

**Recommendation 7:** VLIR-UOS should consider amending financial regulations to make it possible to transfer capacity building budgets allocated to PhD scholarships from one financial year to the next in order to align expenditures to the progress of the students.

# 1. Introduction

## 1.1. Background

### 1.1.1. The IUC as a concept

An Institutional University Cooperation (IUC) programme is a long-term (12 years) institutional partnership between a university in the South and Flemish universities and university colleges. Based on country-level and local institutional priorities, it aims at empowering the local university in its triple function (education-research-service to society) and supports the local university in fulfilling its role as an active actor of change and progress in society.

The objectives and content of an IUC partnership between one partner institution in the South and Flemish universities and university colleges are outlined in a *Partner Programme* (a technical and financial file). All IUC programmes combine objectives of institutional strengthening and strategic thematic capacity building (linked to both institutional priorities and developmental priorities in a specific country). Each partnership consists of a coherent set of interventions (projects) geared towards the development of the teaching and research capacity of the university, as well as its institutional management. The IUC programme is demand-oriented, and seeks to promote local ownership through the full involvement of the partner both in the design and implementation of the programme. IUC programmes are initiated with only a few carefully selected partner universities in the South, hoping that synergy, added value and greater institutional impact can be achieved through the different IUC projects located in the same partner university. Although the identification of the fields of cooperation is demand-based, as it concerns a partnership, the match with the available interest and expertise for cooperation at the Flemish side is crucial.

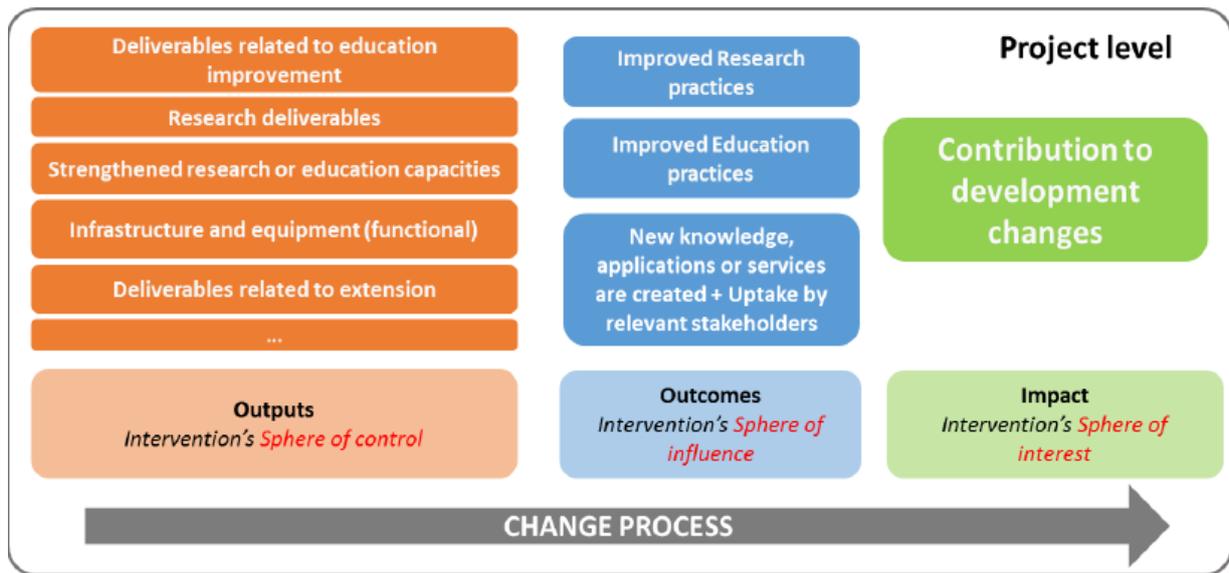
The IUC cooperation with a partner institution covers a period of 10 to 12 years with 2 main project phases of typically 5 years each. The IUC Partner Programme is subdivided into a number of constituting projects (research, capacity building and extension-related), which are composed of a number of inter-linked activities to be realised in the framework of a programme phase of 5 years.

The identification, formulation and implementation of each project is managed by project leaders: academics from both the Southern and Flemish higher education (HE) institutions. Flemish project leaders are designated by VLIR-UOS on the basis of an open competition, taking into consideration the advice of both the Flemish and local coordinators.

### 1.1.2. Theory of Change

The different IUC projects all have their individual results framework and underlying Theory of Change (see Figure 1). In an IUC programme, there is always one or more 'transversal' project, with a slightly different Theory of Change. Transversal projects always focus on strengthening organisational capacities in areas such as internal service delivery (e.g. information and communications technology (ICT) services, library services, etc.), external service delivery (e.g. extension services), managerial capacity (human resource management, planning, etc.).

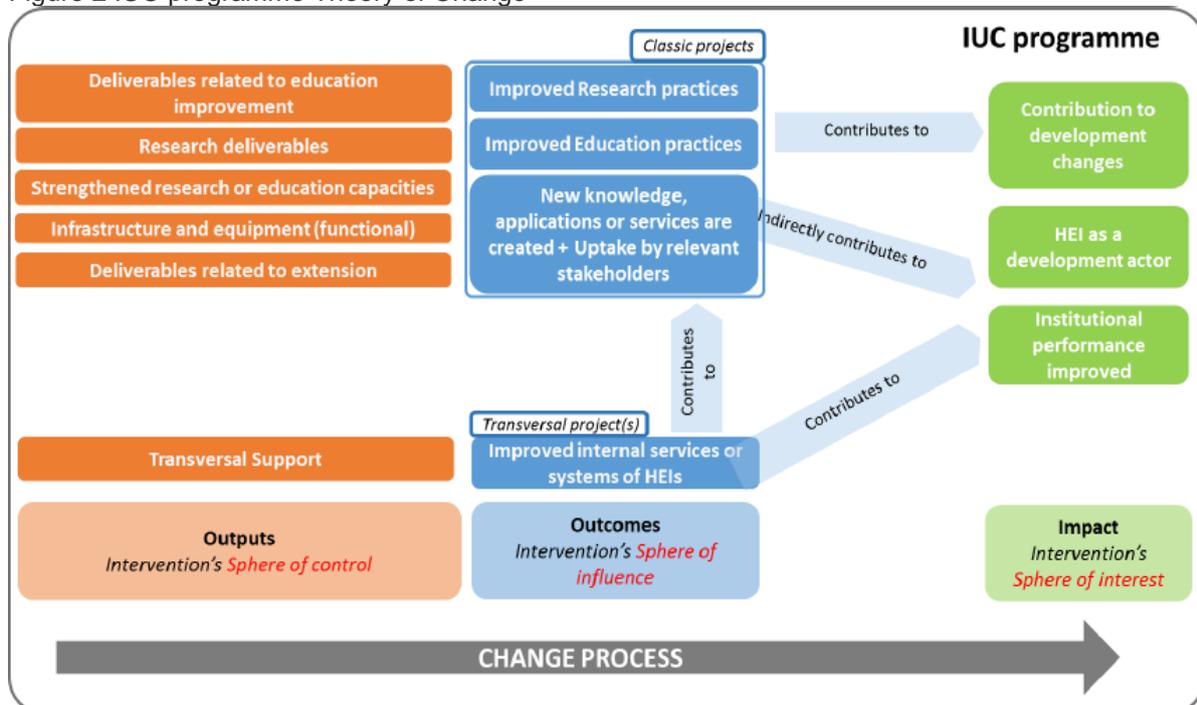
Figure 1 IUC project Theory of Change



An IUC is more than the sum of its projects: through programme-level management, the scale of the total programme, the interlinkages between the different projects, the support given by the programme support unit and the critical mass of capacity created, an IUC has the potential to empower the local university as a whole.

The primary impact envisaged for an IUC is to contribute to development changes through the development results of the different projects. A second intended impact is (a) the contribution to an improved performance of the institution and (b) a changed role of the university as a development actor (strongly related to development changes) (see Figure 2).

Figure 2 IUC programme Theory of Change



### 1.1.3. The IUC Programme at Moi University (MU)

The IUC Programme at MU started with a Pre-Partner Programme in 2006 after a successful proposal development and preparation of the requisite administrative structure. An important activity during the Pre-Partner phase was the matchmaking process whereby every Project in the programme identified suitable collaborators from the Flemish universities.

The five-year Phase 1 started on April 1, 2007 when the actual Project activities kicked off. This phase ran smoothly with six Projects implementing their planned activities, with the logistical support of the Programme Support Unit (PSU). The IUC Flemish partners were led by Vrije Universiteit Brussel (VUB) and included KU Leuven (KUL), Hasselt University, and Ghent University (UG) in Phase 2.

The Programme used the 2011 Mid-Term Evaluation report recommendations in the planning of Phase 2. Attention in particular was paid to recommended strategies for sustainability such as preparation of business plans and networking with stakeholders, and synergy between the respective Projects. VLIR-UOS mandated the inclusion in Phase 2 of the new model of transversal institutional development project, to be adopted in all IUC Programmes going forward, and made some significant cuts in the available Programme budget. The Partnership Programme for Phase 2 was completed and accepted by VLIR-UOS in early 2012, including the amalgamation of the Gender Equity Project (Phase 1 Project 6) and the ICT Project (Phase 1 Project 7) into a single transversal INSTDEV Project (Phase 2 Project 5).

A smooth transition, however, proved to be elusive and the start of Phase 2 activities was delayed (by several months) due to some misunderstandings and differences in opinion that surfaced in relation to some Projects (Health Sciences in particular). Other factors include the challenges of the new status of Chepkoilel Campus acquiring autonomous status becoming Chepkoilel University College leading to the appointment of a new University Council (different from MU's). A consequence of this delay was concerns about the continuation of PhD students who started in Phase 1. These and other issues were addressed through a remediation process which culminated in the re-drafting of parts of the Phase 2 Programme. The implementation of Phase 2 resumed in late 2012, affecting the start of PhD studies. Considerable changes had been made in Programme and Project staff, including the appointment of a new Programme Manager.

For four of the Projects Phase 2 was mainly a continuation of Phase 1 activities. Therefore, the overall objectives for each of the Projects remained essentially the same. Some fine tuning was done at the level of the specific objectives based on experiences during Phase 1 and redirecting to ensure the overall objectives are achieved. These activities have been implemented and the Programme is in the 10th year (last year) of Phase 2.

The Programme is now planning for the Phase Out. There are elaborate plans to support all the scholars who are yet to complete their studies. These scholars are PhD staff registered in Belgian universities at different levels of completion. The hope of the Programme is that with the plans made, every scholar will successfully complete his/her studies. The closing event of the IUC Programme will take place in February.

Table 1 IUC structure and project budgets in Phase 1 and 2

Projects	Budget (€)
<b>Phase 1</b>	
P1 Programme Support Unit (PSU)	369,108
P2 Civil and Structural Engineering (CSE)	545,991
P3 Agriculture and Biotechnology (AGBIO)	491,959
P4 Health	543,264
P5 Textiles	397,475
P6 Gender Equity (GEP)	338,936
P7 ICT and Library	523,067
<b>Phase 2</b>	
P 1 Programme Support Unit (PSU)	269,226
P2 Civil and Structural Engineering (CSE)	482,818
P3 Agriculture and Biotechnology (AGBIO)	407,693
P4 Health	239,112
P5 Textiles	339,424
P6 Institutional development (INSTDEV)	469,410

#### 1.1.4. Terms of reference of the evaluation

The evaluation's primary objective is to evaluate the performance of the IUC (programme level and project level). Next to this objective, final IUC evaluations also analyse the prospects for the post-IUC period:

A. The performance of the IUC needs to be evaluated on the basis of the OECD-DAC criteria for development evaluation (+ one additional criterion): **scientific quality, relevance, efficiency, effectiveness, impact, and sustainability**. For final evaluations, a particular focus needs to be given to **sustainability and effectiveness** (progress towards the achievement of the specific objectives).

B. The follow-up plan of the programme for the post-IUC period (cf. self-assessments) is also evaluated. The follow-up plan needs to further guarantee sustainability at institutional level (and research groups), and the impact of the university on development processes in the surrounding community, province and eventually in the country.

An extract of the terms of reference is appended to this report as Annex 1.

## 1.2. Context

### 1.2.1. The economic and political circumstances in Kenya

#### Demographics

A former colony of the British Government until 1963, Kenya is an Eastern Africa country, which lies on the Equator and is bordered by Ethiopia (North), Somalia (East), Tanzania (South), Uganda (West), and



Executive, the Legislature and the Judiciary. Kenya has continued to enjoy relative political stability, with a few incidences of insecurity in the recent past, which are often associated with political events, especially around general elections, which are hotly contested by candidates from various regions and political parties. There are elections to the National Assembly every five years; the next ones expected to be held in early August 2017.

## **Human development**

Between 1990 and 2015, Kenya's human development index (HDI) value increased from 0.473 to 0.555, an increase of 17.3 percent, thus placing the country in the medium human development category—positioning it at 146 out of 188 countries and territories and 18 in Africa as per the 2016 report of the African HDI. The human development progress, as measured by the HDI, can usefully be compared to other countries. The two countries in Sub-Saharan Africa which are closest to Kenya in 2015 HDI value, with an average 0.523, and to some extent in population size, are Cameroon and Tanzania, which are ranked 153 and 151 respectively.

The years between 1990 and 2015 have seen the country's life expectancy at birth increased by 3.4 years, with mean years of schooling increased by 2.6 years and expected years of schooling increased by 2.0 years. Kenya's gross national income (GNI) per capita also increased by about 26 percent in the same period. Recent data indicate that the proportion of registered health personnel per 100,000 population rose to 382 in 2016 from 346 in 2015.

### **1.2.2. The education sector context in Kenya**

For the last one decade, Kenya's education sector has witnessed rapid quantitative growth. However, despite the transition rate from primary to secondary education rising from below 50 percent over a decade ago to over 70 percent in the last few years, only 6.5 percent of students completing secondary education progress to higher or tertiary education. Cohort analysis from standard 1 to university education indicates that only 2% of pupils who enrol for class 1 actually progress to 1st year of university education, a clear indicator of an inefficient education system, thus leading to a remarkable loss of potential human resource in the country.

## **Higher education**

In response to this situation, efforts of the government and non-governmental stakeholders have led to phenomenal growth in the number of universities from one public university college in 1970 to seven public universities in 2007 and over 30 universities and university colleges in 2017, with some of them growing from campuses of existing universities to university colleges before becoming autonomous universities.

Student admission into universities and university colleges is categorised into two: Government Sponsored Student Programme (GSSP) for students admitted through Kenya Universities and Colleges Central Placement Services (KUCCPS) and the Privately Sponsored Students Programmes (PSSP) for students admitted by University Senates.

Total university student enrolment is expected to increase by 10.5 per cent from 510,685 in 2015/16 to 564,507 in 2016/17. The growth is attributable to the increase in the number of public universities and financing of students in private universities by the Government. Student enrolment in public universities

is expected to grow by 10.8 per cent to 479,312 in 2016/17 while private universities enrolment is expected to rise by 9.3 per cent from 77,929 in 2015/16 to 85,195 in 2016/17. However, the growth has not been well planned. This is demonstrated by the inadequate government funding of the universities, which are expected to absorb growing enrolments, thus raising fears of declining quality of education offered.

## **Moi University**

MU is the second public university to be established by the Government in mid-1984 following a report by a Presidential Working Party that was mandated to prepare detailed recommendations for a second university in Kenya. The University Administration moved from its temporary offices in Eldoret city to its present main campus at Kesses in Uasin Gishu County on July 29, 1986. Since then, the University has experienced rapid growth from its initial single faculty in 1984, to a current total of 15 Schools, nine Directorates and two Institutes. The total student population currently is over 52,000, distributed across Diploma, Undergraduate, Masters, Postgraduate Diploma and Doctorate of Philosophy programmes in diverse fields.

The University currently has four campuses, namely: Main Campus, Town Campus, Eldoret West Campus and Odera Akang'o Campus. The Town campus hosts the College of Health Sciences (Medical Complex), School of Aerospace Sciences (Rivatex East Africa Ltd) and School of Law (Annex) while the Eldoret West Campus is home to the PSSP. Moi University also has two constituent colleges, namely Garissa and Alupe that also offer unique undergraduate and postgraduate programmes, and a total of six satellite campuses in Nairobi, Kitale, Bomet, Kericho, Coast (Mombasa) and Nakuru.

Since 1990, Chepkoilel Campus was a campus of Moi University and was later elevated to a university college of Moi University. However, the college became an independent University when it received a Charter by the President of Kenya on 11th February, 2013 and renamed University of Eldoret (UOE).

## **1.3. Evaluation methodology and process**

The methodology for final evaluations of VLIR-UOS IUC programmes has been developed over a number of years to allow consistency of approach and comparability (to an extent) of findings across different partnership programmes. The current methodology relies upon:

- self-assessment by IUC project leaders and Programme Coordinators both in the North and South
- external review by an evaluation commission comprising an international cooperation and a country expert, familiar with higher education and development cooperation and country-specific issues, including a detailed document review of Phase 2 documentation.

The logical frameworks for the IUC at MU and for individual projects were used as starting points in reviewing progress and activities since the mid-term evaluation in 2011, supplemented by output reporting on key result areas (KRAs) by project leaders in the self-assessment reports.

### **1.3.1. Qualitative evaluation criteria**

As stated in the terms of reference (Annex 1), VLIR-UOS uses the OECD-DAC criteria for evaluating the overall IUC programmes, namely:

- relevance
- efficiency
- effectiveness
- impact
- sustainability

These evaluation criteria are also used for each project within an IUC programme with the addition of the criterion 'scientific quality'.

### **1.3.2. Rating scale**

As required by the terms of reference, a 4-point rating scale was employed by the evaluation commission in their assessment of each project against both KRAs and qualitative criteria; namely

1 = (very) poor

2 = insufficient/low

3 = sufficient/good

4 = very high/excellent

The rating of programme and project progress against this scale is subjective and at the discretion of the evaluators as there are no objective criteria that can be applied to determine ratings. The evaluators have tried to be consistent across Projects and the overall MU IUC Programme.

### **1.3.3. The evaluation activities undertaken**

The evaluation began with an extensive review of available Programme and background documentation from Phase 2 of the MU IUC programme. The self-assessment reports were completed by mid-March 2017. In the same month the International Expert had meetings in VLIR-UOS headquarters in Brussels with seven Northern current or past Project leaders, including the Phase 2 Programme Coordinator, Georges Eisendrath, and the Phase 1 Programme Coordinator Bernard Manderick, and discussions with the relevant VLIR-UOS staff.

The evaluators visited Eldoret and MU for a five-day field mission from 17<sup>th</sup> to 21<sup>st</sup> April. A visit programme had been drawn up by the Programme Coordinator and Programme Manager (see Annex 2) enabling presentations by and meetings with all available South Project leaders, deputy Project leaders and team members from the five Phase 2 Projects, as well as consultation with senior MU management. All relevant MU departments and facilities on campus and in Eldoret were visited during the mission.

The evaluator's focused on:

- reviewing results of both the Programme and individual Projects against the identified KRAs and the objectively verifiable indicators (OVIs) in the logical frameworks, and more substantive outcomes;
- gathering quantitative, qualitative and anecdotal evidence to assess the Programme and Projects against the identified evaluation criteria

The mission in MU concluded with a meeting for IUC Programme Coordinator, Manager, Project leaders and senior University management in which the evaluators shared their emerging conclusions.

## **1.4. Structure of the evaluation report**

This report provides the main evaluation findings in Chapter 2, including a summary of Programme and Project results, an evaluation of the Programme and Projects against the qualitative evaluation criteria, and a brief assessment of the management of the Programme and Projects.

Chapter 3 summarises the overall conclusions reached about the IUC Programme at MU in relation to the implementation (3.1) and management (3.2) of the Programme and the coordination between Flemish and Kenyan partners (3.3).

Chapter 4 provides recommendations to VLIR-UOS on the future management of IUC programmes, and to MU and VLIR-UOS on IUC programme follow-up and possible approaches to future collaboration.

## 2. Evaluation

### 2.1. General overview and assessment

In Phase 2, the IUC Projects performed and implemented much as planned, with four of the Projects being more or less a continuation of Phase 1 objectives and activities. The scientific quality of the research undertaken by Project teams, Masters and PhD students under supervision, and the research results broadly met the expected quality standards, and significant publications and research extension outputs were achieved.

The relevance of all the Projects, both to MU's strategic objectives and to Kenya's national priorities as envisaged in Kenya Vision 2030 (the national development blueprint), remains high with opportunities for research technology and know-how transfer into practice being effectively exploited in Civil and Structural Engineering (CSE Project 2) and Agriculture and Biotechnology (AGBIO Project 3) Projects through extension and community work, and in Textile Engineering (TEXTILE Project 5) through potential and existing links with industry.

Not all the intermediate results planned in every Project have been achieved to the fullest extent. There have been delays in completion of PhD studies, particularly among the Flemish sandwich scholarships, due in part to external circumstances (e.g. in AGBIO planting seasons were missed due to IUC funding disbursement delays), in part to continued difficulties in identifying suitable candidates with appropriate research interests, and in part to unforeseen hitches in research progress. However, all PhDs are likely to be completed before the end of 2017.

The most challenging results to achieve have been those involving cross-disciplinary and cross-Project collaboration: MU has no significant tradition of inter-disciplinary working and levels of interest among Project teams have taken time to build up, with several opportunities in Phase 1 and early Phase 2 having been missed (such as collaboration with the demographic surveillance survey (DSS) in research data collection). However, the IUC Programme seems to have planted the seeds of inter-disciplinary collaboration among Project teams, with ideas emerging in Phase 2 for cross-collaboration even though most of these have not been substantively followed-up under the IUC itself, and take-up of at least one opportunity under the INSTDEV Project (Project 6). These emerging ideas may be translated into successful future project funding proposals.

In terms of impact, the administrative and academic and research environments of MU within the specific Departments with IUC Projects have been changed very significantly by the implementation of Project activities, not only in terms of capacity building and infrastructural development (particularly related to ICT), but most importantly in terms of research practices and attitudes, team collaboration, extended networks of research contacts both nationally and internationally and in raised visibility (CSE leads on national standards work, TEXTILES forms the basis of a new World Bank African Centers of Excellence (ACE II), etc).

The Project teams have all gained confidence and skills in sourcing research funding and writing project proposals, with evident early successes (the Digital Literacy Project (DLP), ACE II). This will be important for sustainability of the Projects research and forward plans. However, sustainability is at risk in two ways: 'brain drain' may continue to drain the pool of expertise and capacity as qualified staff move

either out of academia (e.g. into other government service) or elsewhere within the expanding HE system in Kenya. Equally, sustainability depends on committed and stable funding from MU (and UOE in the case of AGBIO) for running costs and infrastructure renewal. As MU expands further, this committed funding may be at risk.

The Projects, while not necessarily having a formal follow-up plan, all have ideas and some immediate prospects for external research funding (e.g. ACE II) and the significant new projects already up and running e.g. DLP.

Table 2 Summary of evaluation criteria scores for the IUC MU Projects

	Scientific quality	Relevance	Efficiency	Effectiveness	Impact	Sustainability
<b>P2 CSE</b>	3	4	3	3	4	3
<b>P3 AGBIO</b>	3	4	2	3	3	3
<b>P4 HEALTH</b>	3	4	3	3	3	3
<b>P5 TEXTILES</b>	4	4	2	3	4	3
<b>P6 INSTDEV</b>	2	3	3	2	3	3

Table 3: Summary of KRA scores for IUC MU Projects

Key result areas	P 2	P 3	P 4	P 5	P 6
<b>1. Research</b>	3	3	4	3	2
<b>2. Teaching</b>	3	3	3	3	2
<b>3. Extension and outreach</b>	4	4	3	2	2
<b>4. Management</b>	3	3	4	3	3
<b>5. Human resource development</b>	2	3	4	3	3
<b>6. Infrastructure development</b>	4	3	2	2	4
<b>7 Mobilisation of additional resources</b>	3	3	3	3	4

## 2.2. Evaluation per project

### 2.2.1. Project 1 IUC Programme Support Unit (PSU)

Though designated as a 'project' within the IUC, the PSU has as its overall academic objective 'the effective implementation of the VLIR-UOS IUC Programme at Moi University', and its developmental objective to 'support the IUC Projects at Moi University in their research and extension activities'. As an implementation and management agency, the PSU's results and effectiveness will be addressed under section 2.4 below.

## 2.2.2. Project 2 Capacity building for teaching, research and extension in Civil and Structural Engineering (CSE)

The overall academic objective of the CSE Project was to strengthen capacity for teaching, research and extension in the Department of Civil and Structural Engineering (one of five departments in the MU School of Engineering), through the specific objectives of the implementation of research programmes in structural engineering (SE) and water engineering (WE); the review and implementation of curricula at Bachelors and Masters level and development of PhD programmes in SE and WE; the training of staff at all levels; and contribution to innovation and technology transfer.

The overall developmental objective was to contribute to improvement of the socio-economic welfare of the people of Kenya, and specifically to contribute to the development of Kenya's housing, transport network, air and sea ports and water and sanitation infrastructure.

### Results achieved by the project

The specific academic objectives in the CSE Project are interdependent: the relative success of seven thematic research programmes has depended in large part on the development and expansion of post-graduate programmes in SE and WE, and on the training of staff at all levels.

Staff capacity related to the two major research themes (SE and watershed management) was low at the start of Phase 1, particularly in SE. By the beginning of Phase 2 capacity problems had been ameliorated to some extent although problems of 'brain drain' became an issue in 2012-2013, with difficulties in persuading full-time Masters' students to return to take up academic posts in the Department as well as the imminent retirement of several staff members. Repeated advertisement for the recruitment of (senior) staff did not yield positive results, and only one PhD was trained under the IUC in SE instead of two because no suitable candidate could be found in time.

Seven research programmes have been established:

1. Basic research in sustainable constructions - materials, components and constructions
2. Concrete structures, substructures and structural elements
3. Steel structures, substructures and structural elements
4. Monitoring, maintenance and repair of structures
5. Watershed hydrology and the effect of different interventions on high and low flows
6. Irrigation
7. Water quality

However, because of 'brain drain' in the field of SE, the research programmes 1, 3 and 4 remain under-developed.

Building on the teaching programme reviews of Phase 1, new curricula were introduced and implemented for the Bachelor programme, an MSc in WE and MSc in SE, though the MSc programme in SE had to be suspended once again due to 'brain drain'. However, the UOE has adopted the new Bachelor curriculum of the CSE Department. A PhD curriculum in WE is being planned but has not yet been developed; the main focus has been to stabilise the MSc programme in WE and the PhD curriculum development is planned for 2017.

As a contribution to staff training at all levels, 10 graduate assistants (funded by the Project) were enrolled on the MSc programmes, some of whom have subsequently left though the majority have stayed on in the Department.

Two PhD students in WE were successfully enrolled at the KUL, with completions in 2017 and 2018. One PhD student in SE was enrolled at VUB and graduated in 2015. Unfortunately no other suitable candidate in SE could be found. It is significant that four local PhD students are likely to graduate in 2017/2018. Two local MSc's were trained in WE, and in SE, one more than anticipated.

Building on these capacity gains and the collaboration with Northern team members, possibly the most significant achievements of the Project in Phase 2 relate to the Project's developmental objective, through innovation and technology and know-how transfer, including collaboration with local and international stakeholders.

The collaboration with Bamburi Cement, begun in Phase 1, has led to the renewal of the Memorandum of Understanding (MOU) under which joint research will be carried out in the fields of affordable housing, pre-fabricated concrete elements/products, road materials, concrete mix design, steel-fibre reinforced concrete, self-compacting concrete. This is likely to impact the burgeoning construction industry in Kenya. Further provision is also made for attachment of staff and students to the company.

In Phase 2, a major Eurocodes initiative of the CSE Project has resulted in ongoing collaboration with the Kenya Bureau of Standards (KEBS). During a workshop run by the Department with KEBS on Eurocodes in February 2012, it was decided that Kenya would adopt structural Eurocodes to replace the British Standards. This has led to a large spin-off project on the introduction of Structural Eurocodes in Kenya. Many meetings have taken place, the most important of which were those with the Permanent Secretary in the Industry, Trade and Cooperatives Ministry. The meetings resulted in the setting up of a permanent steering committee named "National Implementation Committee on Eurocodes (NICE)" for which a Kenya Gazette Notice was prepared, and a report containing background information leading to the introduction of Eurocodes, including an operational plan for the first five years and a budget for the same period. Following the 2013 general elections, progress then slowed between 2013-2015 due to reshuffles of government officers. However, two further fee-based (therefore not funded by the project) awareness-raising workshops were organised in 2016 for industry stakeholders and an MOU signed between KEBS and the Department of CSE at MU in order to guide the implementation process.

In WE in Phase 2, in relation to watershed hydrology and the effect of different interventions on high and low flows, monitoring of Sergoit Catchment is going on with the support of Water Resources Management Authority and Kenya Forest Services. Additionally, the 6th Moi University Water Resources Management and engineering Conference & Workshop (2016) was organised with substantial support from National Drought Management Authority, and other stakeholders including the Ministry of Water and Irrigation, United Nations Office for Disaster Risk Management, the Regional Centre for Mapping of Resources for Development and Kenya Meteorological Department. The workshop resulted in a number of important resolutions for future collaboration in research and publication.

## **Assessment of evaluation criteria**

### **Scientific quality**

Seven research programmes were established, though three in SE remain underdeveloped because of 'brain drain' in the field of SE.

Preference was given to submission of publications in international journals, and the Project succeeded in publishing 12 articles (OVI target five); no publication appeared in national peer reviewed journals (OVI target 10). The contribution to conference abstract and proceedings almost exceeded by a factor close to five (OVI target 10, actual achievement 48). Presentations were given at all conferences attended by members of staff and students of the Department. An application for a patent on pre-fabricated affordable housing has been lodged in Kenya and temporary acceptance granted (OVI target 1).

In terms of other research outputs the OVIs were at least 30 MSc theses, 3 research reports and 2 surveys. Only 11 MSc students graduated (having written theses) and six had deferred their studies. One research report was published from which one paper in an international peer reviewed journal was published. Two surveys were carried out.

### **Relevance**

The CSE Project has directly and successfully addressed relevant developmental issues and problems in Kenya, in collaboration with private sector industry stakeholders, Kenyan authorities and government departments and also international donor organisations working particularly in water management and drought mitigation.

The OVIs for Phase 2 have been achieved if not exceeded: collaboration with KEBS in development of Eurocodes in Kenya has proceeded through the MOU, and included the development of material for training programmes, one workshop on Eurocodes carried out. In addition the OVI target was collaboration with at least three other public institutions in Kenya, and this has been exceeded (particularly in WE) to cover eight institutions.

The SE group is in collaboration with Bamburi Cement Ltd as planned, however, the planned collaboration with NORKEN International Ltd did not materialise, in large part due to capacity problems in the Department.

At least 1 link with NGO's has been achieved - the WE group has linked up with WaterCap/UNDP.

### **Efficiency**

All the intermediate results planned for Phase 2 have been achieved to a significant extent, limited only by some capacity gaps, and planned results have been exceeded in some areas such as in the establishment and strengthening of collaboration with stakeholders. Additional funding has been leveraged for research activities (e.g. monitoring watershed hydrology with the support of the Water Resources Management Authority and the Kenya Forest Services), and workshops (e.g. the 6th Moi University Water Resources Management and engineering Conference & Workshop (2016), organised with support from National Drought Management Authority), and considerable flexibility in use of funds during implementation has maximised the staff training gains (e.g. in funding training of research assistants and local Masters students).

### **Effectiveness**

The specific objectives of the CSE Project have largely been achieved. Although early aspirations for capacity building were high, external factors relating to the employment market in engineering and HE

expansion in Kenya created limitations, including difficulties in recruitment of staff and PhD candidates, recruitment and retention of Masters' graduates in the Department, which have been overcome only in part. However, improved laboratory facilities and established collaboration led by the Department and innovation arising from the Project's inputs and research achievements have created the conditions for significant national impact.

In terms of capacity development the Project has potentially met its PhD target in WE (OVI two PhDs) with two PhD students enrolled at the KUL, the first is planned to finish in 2017 and the second in 2018.

One PhD student in SE was engaged and enrolled at the VUB and graduated in 2015. Unfortunately no other suitable candidate in SE could be found (OVI two PhDs in SE). The planned four local PhD students will hopefully graduate in 2017/2018. As planned two local MSc's were trained in WE and two in SE, one more than anticipated.

Education curricula at Bachelors (OVI one), Masters (OVI two) have been reviewed, revised and developed as planned. The planned PhD programme has not yet been developed due in large part to capacity gaps. Staff capacity gaps have also adversely affected the continuation of one MSc course in SE.

### Impact

Much has changed as a result of the CSE Project, with the most evident impact being the Department's status as a leading collaborator and centre of excellence in SE (leading on the Eurocodes work) and WE (innovation in research), with established partnerships in public and private sectors.

### Sustainability

The established partnerships with industry, government agencies and international donor-funded organisations provide a solid basis for ongoing funded research, consultation and fee-paid training, and the Department already has plans for developing new initiatives. The WE group of the Department is involved in the review process for development of the National Water Master Plan 2030 (NWMP-2030) by the Ministry of Water and Irrigation in collaboration with Japan International Cooperation Agency.

While Departmental capacity is much improved since the start of Phase 1, there is a risk to the sustainability of education programmes (particularly postgraduate and particularly in SE and Public Health) in the imminent retirement of academic staff and difficulties in recruitment to fill posts.

Table 4: Evaluation criteria scores Project 2 CSE

P2	Scientific quality	Relevance	Efficiency	Effectiveness	Impact	Sustainability
Score	3	4	3	3	4	3

## Overview of key result areas (KRA)

Table 5: Assessment of KRA scores Project 2 CSE

Key result area	Summary of indicators	Score
<b>KRA 1 Research</b>	<p>Preference was given to submission of publications in international journals, and the project succeeded in publishing 12 articles (KRA target five); no publication appeared in national peer reviewed journals (KRA target 10). Conference abstract and proceedings exceeded the target (KRA target 10, actual achievement 48). An application for a patent has been lodged (KRA target 1).</p> <p>The KRA set included at least 30 MSc theses, however, only 11 MSc students graduated. One research report was published (KRA target three) and two surveys were carried out to meet KRA.</p>	3
<b>KRA 2 Teaching</b>	<p>KRA targets for teaching in Phase 2 included one updated Bachelors curriculum, and two updated Master curricula (WE and SE); these were achieved. However, fewer Masters students graduated than planned (30 planned, 11 graduates), but 226 students graduated at Bachelors level, exceeding the KRA target. The acquisition of laboratory equipment and of scientific books, reports, standards, etc for Euro 8,000 were achieved.</p>	3
<b>KRA 3 Extension and outreach</b>	<p>Collaboration with KEBS in development of Euro-codes proceeded as planned through the MOU; and the plan for collaboration with at least three other public institutions in Kenya was exceeded.</p> <p>Collaboration with industry in Kenya, among them Bamburi Cement Ltd through an MOU continues through collaboration with NORKEN International Ltd did not develop. The Department has established one link with a NGO in WE (KRA one in SE and one in WE). Planned workshops were carried out.</p>	4

<b>KRA 4 Management</b>	Resource management effective in staff development and training; North – South project team collaboration has been strong and effective	3
<b>KRA 5 Human resources development</b>	Only 11 MSc students have graduated (KRA at least 30); and only one of the planned two PhD scholarships were taken up. Otherwise the KRAs for Phase 2 have been met.	2
<b>KRA 6 Infrastructure management</b>	Laboratories equipped and departmental library collection established as planned	4
<b>KRA 7 Mobilisation of additional resources/opportunities</b>	Eurocodes spin-off project with considerable potential for expansion	3

### **Assessment of follow-up plan (way forward)**

The collaboration and partnerships developed in the Project can be pursued to ensure continuity and sustainability. The contacts and network established in these collaborations have the potential to continue well into the future. The Department is already pursuing research funding opportunities and proposal ideas arising from Project activities and achievements. There is a staff capacity gap risk as recruitment into senior posts remains challenging.

### **2.2.3. Project 3 Strengthening teaching, research and technology transfer in Agriculture and Biotechnology (AGBIO)**

The overall academic objective was to strengthen the research-based teaching capacity of the School of Agriculture and Biotechnology (SAB) of Chepkoleil University College (first a Constituent College of MU and subsequently the separate UOE) to develop agricultural and food technologies that improve the livelihoods of farmer communities in Western Kenya; with the specific objective to update the knowledge base to design more adapted cropping systems leading to better income, enhanced food quality and higher yields while preserving the resource base.

The overall developmental objective was to assure food security in rural areas of Western Kenya by improving yields, nutritional quality of the produce and increased income by diversified cropping systems; with the specific objective to develop an effective framework for interaction between stakeholders and to facilitate agricultural technology transfer.

### **Results achieved by the project**

The AGBIO Project was conceived as a community-based research project. It was envisaged that through involvement of scientific staff and the community, problems affecting the community would be addressed appropriately while building capacity for teaching, research and development in the SAB.

The research areas selected in Phase 2 of the Project focused on improved and integrated cropping systems for soybean and cotton, and on the effect of formulated food and feed products on nutritional

status in selected households. Specifically, the Project identified non-responsive soils and, through research with farmer groups, was able to diagnosis and carry out trials to find technologies that were able to improve soil responsiveness and yields of high quality.

Starting in Phase 1, PhD candidates were found to carry out research related to soybean and cotton, though not in nutrition. So in Phase 2, the funds were in part used to fund two Masters' students in nutritional sciences, which have been completed. Some set-backs in PhD research were experienced due to prolonged dry seasons that interfered with research on cotton.

To date in Phase 2, two PhDs, begun in Phase 1, have been completed, two local PhDs and two Masters are in the final stages, and three diplomas for technical staff have been completed.

In relation to the specific developmental objective, the Project enabled the UOE to link up with target communities in Western Kenya through involvement of communities in formulation, execution and implementation of research activities targeting the region. All the research activities involved significant community involvement and outreach: farmers willingly gave land for on-farm demonstrations. Communities participated in field days during field trials and evaluation of the crops. School feeding programmes were carried out in target areas to test the effect of the fortified cereals on the nutritional status of pre-school children. Farmer groups were trained in the preparation of the fortified flours and they were also invited to test for acceptability.

Outreach and extension activities followed the development through research of promising and sustainable products and technologies and the PhD and MSc scholars planned and participated in extension activities. Activities focused on field days, brochures and other extension materials prepared by the Project team, the supply of which (funded by the Project) proved inadequate to meet demand. The available budget would not permit the use of the media for disseminating information and messages.

Greater synergy and collaboration in research was developed with the Ministry of Education, Ministry of Health, Ministry of Agriculture and community-based organisations in the target areas of Busia, Bungoma and Siaya. For instance, in these areas all early childhood development centres are expected to improve the quality of porridge provided to the children through addition of soybeans. This has improved protein intake, and enrolment of pre-school children and school attendance have improved as a consequence.

Also during Phase 2 further improvements in the teaching and research environment in SAB were achieved, for example, a room near the foods laboratory was renovated and converted in a food analysis laboratory; another room was renovated to create a rat housing unit used for efficacy tasting of developed food products; ICT equipment and teaching books were purchased.

## **Assessment of evaluation criteria**

### **Scientific quality**

The IR for research for AGBIO included improved and integrated cropping systems of the target crops (soybean and cotton) on socio-economic returns determined and quantified, and improving cotton germplasm and preservation techniques assessed and applied. The OVIs in Phase 2 included

- the development by SAB scientists of at least four integrated soil fertility management (ISFM) technologies that can be adapted in target areas: at the end of Phase 2 two ISFM technologies

have been adapted, a brochure for farmers developed, five publications finalised and five conference contributions made to disseminate findings; annual data on crop performance and economic returns was collected as planned revealing improved maize yields, with more farmers taking up production of soybeans. 200 farmers were involved in technology adoption.

- SAB scientists will have developed at least four integrated pest management (IPM) technologies for each target crop that can be adapted in target areas; this work has not been completed due to vagaries of weather and budget changes, and one PhD scholar in this area did not continue.
- one on-station breeding site should be installed; this was exceeded as two on-station trials were established;
- Improved varieties of cotton seed be tested for adaptability in targeted agro-ecological zones; this was not achieved;
- four lines of improved cotton germplasm be developed; this was not achieved
- at least four improved protocols for on-farm seed handling are developed in participation with farmers; these protocols are still under evaluation as part of ongoing PhD studies.

In terms of nutritional research the following OVIs were established for Phase 2:

- By 2014 nutritional efficacy of soybean products and their impact on nutritional status and acceptability of the developed products will be determined; food products developed in Phase 1 proved to have improved health and attendance to school, and parents accepted the soy-fortified porridges for their children.
- By 2014 effects and nutritional efficacy of developed food products using animal models will be determined; five soy fortified cereals for animal feed were tested for nutritional efficacy.

The research ambitions of the Project in Phase 1 had been a lot higher in terms of MU cross-discipline collaboration. For example, they wanted to work with the Health Project and include questions on food and crops in the Demographic Surveillance System (DSS) surveys, and with the TEXTILE Project 5 working on cotton, but there was limited capacity for doing this and no traditions of cross-discipline collaboration within the University to build on. However, AGBIO nutrition research has been extended into cross-cutting research with the HEALTH Project 4 funded by INSTDEV Project 6.

### **Relevance**

The Phase 2 objectives were largely a continuation of those in Phase 1 of the Project, with very high developmental relevance to Kenya's national agricultural and food security priorities, and particular relevance to the livelihoods of farmers in West Kenya. Two field days were held each season and extension material was developed. 200 farmers evaluated the technologies developed through research and shared their experiences.

### **Efficiency**

Prioritising among potential IRs for budgetary purposes in Phase 2 was achieved rather late and the project team underestimated the real costs of agricultural research and staff capacity building, thus making some budgetary adjustments necessary, which limited the efficient achievement of planned results (e.g. upscaling and dissemination of new products and technologies). In part, due to delays in the start of Phase 2 of the IUC Programme, the Project missed two agricultural planting seasons (March) and the original idea was to do research over four planting seasons. Thus Phase 2 budgets had to accommodate late-running capacity building activities.

## Effectiveness

The capacity of the SAB to undertake relevant and ground-breaking research involving local and national stakeholders has been significantly improved, and already changes in practice among local communities are evident and receiving attention.

Despite budgetary challenges, the specific objectives of the Project in Phase 2 have been largely achieved; research and an active programme of extension work have worked towards the achievement of the following OVIs:

- By 2016, at least 50% of the farmers in the target areas use the adapted technologies and have acquired higher income and better nutritional status; 200 farmers have taken up technologies and
- By 2014, SAB scientists have designed at least one adapted cropping system for each target area that leads to higher income, improved food nutritional quality without negative effects on the resource base; research indicates significant improvements in young children's nutritional status in the research areas targeted.
- By 2014, the stakeholders platform develops action plans for the following two years with follow up activities

The IRs do contribute to the specific objective in that the protein rich products, developed through research, were used in a feeding programme that resulted in reduced prevalence of malnutrition among preschool children. The benefits in alleviating malnutrition inspired farmers to produce soybeans. Local administration participated in enforcing the policy of parents providing soybeans beside the maize for school feeding programme. The Ministry of Agriculture in the counties encouraged farmers to analyse soils in order to know what inputs would be necessary for better yields. However, scaling up was not achieved as expected.

## Impact

The impact of the Project activities on the SAB has been significant, resulting in improved human capacity and a better teaching and research environment, which have already underpinned new collaborations (with the Ministries of Health and Education), and improved enrolment in courses.

Upscaling the new knowledge and technologies was a planned and critical result of Phase 2, but this was made slightly more challenging by necessary budgetary adjustments. However, impact has already been achieved through collaboration with local communities and farmers in Western Kenya; lives have been changed through the use of improved technologies and practices based on the Project research. The positive effects on children's health and educational take-up, achieved through introducing fortified foods into pre-school feeding, are testimony of the impact and potential impact of the Project.

The OVIs set for sustainability include

- By 2016 income generating activities will be commercialized: to date the soil testing lab has been upgraded, and a tissue culture lab and food product analysis lab developed, ready for commercialisation, though commercial activities have yet to start.
- Annually meetings with the Kenyan Agricultural Research Institute, Tropical Soil Biology and Fertility Institute, Ministry of Agriculture and relevant community-based organisations in target

areas will be held. Through meetings and annual workshops good communications and collaboration with the fertilizer industry, Kenya Agricultural and Livestock Research Organization, International Institute of Tropical Agriculture, the Ministry of Agriculture, Ministry of Education, Science and Technology and Agricultural Training Centres (ATCs) have been achieved.

### Sustainability

The work with the Ministries of Agriculture, Health and Education begun under the Project will continue through, for example, the use of ATCs as research sites, collaboration on household and health surveys. A new outreach and information centre for SAB is being built with Nuffic NICHE support and Project team members will take the leading role in its development.

The soil science and food laboratories are now capable of undertaking fee-paid work for others such as soil analysis for local farmers.

Table 6 Evaluation criteria scores Project 3 AGBIO

P3	Scientific quality	Relevance	Efficiency	Effectiveness	Impact	Sustainability
Score	3	4	2	3	3	3

### Overview per key result areas (KRA)

Table 7 Assessment of KRA scores Project 3 AGBIO

Key result area	Summary of indicators	Score
<b>KRA 1 Research</b>	Eight articles were published in international peer-reviewed journals (KRA target two) and one in a national journal. 14 full conference papers were given exceeding the KRA target of six; and four abstracts.	3
<b>KRA 2 Teaching</b>	Teaching was not a priority in Phase 2; seven of the targeted 11 MSc and BSc curricula were reviewed and implemented and improvements in the teaching environment achieved through additional ICT and other facilities	3
<b>KRA 3 Extension and outreach</b>	Collaboration with the local communities in West Kenya and with national government agencies has been a high priority. A handbook draft was developed and five different information leaflets produced exceeding the targeting three.	4
<b>KRA 4 Management</b>	North PL made 2 annual visits to SAB while South PL made one annual visit to Belgium	3

	for supervisory and administrative purposes. Two field days targeting awareness-raising were organised in each county in a year with a different objective	
<b>KRA 5 Human resources development</b>	Four PhDs completed, two in final stages (five was the target). Three Masters were targeted and four completed as well as one BSc supported utilising unused PhD funds. Technical staff trained to diploma level. Teaching staff on short courses e.g. GIS, biostatistics	3
<b>KRA 6 Infrastructure management</b>	ICT, library and laboratory equipment and facilities further upgraded and enhanced	3
<b>KRA 7 Mobilisation of additional resources/opportunities</b>	SAB hosted a one week field trip for 50 Flemish PhD students, resulting in positive North-South exchange and collaboration. New outreach centre funded by Nuffic NICHE in which SAB will take a leading extension role.	3

### **Assessment of follow-up plan (way forward)**

The SAB already has some opportunities lined up to build on the AGBIO achievements. For example, the Project through collaboration with KUL hosted PhD 50 students from Belgium and there is a possibility that there will be further collaboration in a food systems project that is forthcoming. Some team members are members of the NICHE project (sponsored by Nuffic) that is setting up an outreach centre for the SAB. The Project Leader South has been appointed the Head of this Outreach centre; some team members are also members of the CONNESSA (EU funded) and RUFORUM funded projects; and the Smart Water Irrigation Platform funded by SNV, Netherlands, will be spearheaded by the Project Leader South and another AGBIO team member.

While these do not necessarily add up to a formal plan, the SAB is clearly in a position to respond to opportunities as they arise and generate new proposals for collaboration and research.

### **2.2.4. Project 4 Building capacity, research and extension in Health Sciences (HEALTH)**

The overall goal of the HEALTH Project was to contribute to the achievement of the Millennium Development Goals (MDGs) among communities in Western Kenya. The overall academic goal and the overall developmental goal are the same, namely to strengthen capacity, research and extension in Health Science.

## Results achieved by the project

The HEALTH Project was designed to strengthen capacity in the fields of family medicine and reproductive health through training and research, through curricula reform, and establishing the DSS office in Webuye, Bungoma County (for which the Project paid some staffing and running costs and funded capacity building in biostatistics in Phase 1), which updates its information bi-annually.

While significant progress was made in capacity building through PhD and Masters' scholarships in Phase 1, the mid-term evaluation<sup>1</sup> noted unresolved issues relating to the DSS:

*The DSS was set up, although the Northern partners note that they did not participate in its design (either at the conceptual or technical level). A lot of data has been collected from the community, a Demographic Surveillance Area has been mapped out, and the Webuye DSS office has been established. Using funds from other source, a new building was constructed to house the DSS. MU-K recognizes the importance of the office as it has employed full-time staff, who are paid from university funds. An open source technology database was created, although data has yet to be analysed due to lack of capacity in bio-statistics. The project is able to train staff, but is not able to retain them because it can only offer them short contracts. There have also been differences of opinion regarding the purpose and functioning of the data base between the Southern and Northern team leaders. Efforts to resolve their differences amicably have not yet been successful.*

These personal and professional differences of opinion proved to be intractable and irreconcilable particularly in relation to access to and use of DSS data for research, putting at risk the continuation of the HEALTH Project in Phase 2. Changes of IUC Programme and Project personnel and a negotiation process led by the Phase 2 North Programme Coordinator successfully resulted in a continuation of the capacity building and investment activities of the HEALTH Project with a greater emphasis on reproductive health based at Moi University Teaching and Referral Hospital (MUTRH).

IUC funding for data collection and running costs in the DSS was stopped in Phase 2, though MU itself has continued to fund and maintain the DSS at Webuye and community-based research in family medicine and health improvement continues. The facility is used by both undergraduate and postgraduate students in Schools of Medicine, Nursing, Dentistry, and Public Health in the College of Health Sciences to conduct community based teaching and research. Among other stakeholders who have utilized the Webuye DSS platform include the Kenya Medical Research Institute (KEMRI), Kisumu and Kilifi counties, who use this facilities to conduct surveys, for instance, the uptake of the sulfadoxine-pyrimethamine intermittent preventive treatment of pregnant women and to conduct non- communicable diseases surveys respectively.

In capacity building, at the end of Phase 2 a total of eight PhDs (three Flemish and five local or regional) will have been completed, some of which were started in Phase 1. In addition, the School of Nursing reviewed the BSc and MSc programme curricula, although the Department of Reproductive Health was

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<sup>1</sup> Neil Butcher & Daniel Sifuna. Mid-term evaluation of the ongoing cooperation with Moi University, Kenya. March 2011

unable to complete the review of the MMed programme due to the tight schedule for the lecturers in the Department who have to teach and work as consultants at MUTRH. Capacity within the Project team for research planning has also been strengthened in key areas of reproductive health, HIV/AIDS and malaria.

The IUC investment in laboratory equipment and technician training has resulted in significant research results of great potential benefit at community and national levels. For example, the Health Sciences laboratories are now able to do human papilloma virus (HPV) DNA testing, recommended in cervical cancer testing. Knowing the prevalence of HPV in the community has assisted in the creation of awareness and prevention of cervical cancer in the community. The Project has been able to do HPV testing and vaccination for more than 2000 girls and hospital patients.

## **Assessment of evaluation criteria**

### **Scientific quality**

The establishment of the DSS in Webuye has underpinned significant and ongoing research in community-based family medicine, from which a number of international peer-reviewed articles have been published. Testing, vaccination and diagnostic capacity development underpins reproductive health research based at MUTRH and MU now stands as a centre of excellence in molecular diagnostics.

In family medicine the OVIs for the improvement of capacity in Phase 2 have been achieved; namely the completion of the National Family Medicine Policy, 1 PhD training in Family Medicine, participation in conferences, and ongoing collaborative research.

In health science capacity building the OVIs have also largely been achieved with a few omissions; namely the PhD in Health Systems research and the one MSc in Biostatistics and one in Demography were not achieved.

### **Relevance**

The DSS approach in Webuye established a foundation for a large community-based surveillance programme providing important data for health programming for government and interested partners. The reproductive health research, particularly the testing and diagnostic facilities accrued through the Project, have significant national potential.

### **Efficiency**

Capacity building targets for Phase 2 have been largely met within the resources allocated.

### **Effectiveness**

The objectives for Phase 2 – basically a continuation of the capacity building objectives established in Phase 1 – have been met and the College of Health Sciences has been considerably strengthened through the research skills and knowledge acquired during MSc and PhD training.

OVIs for the IR of Curricula Review/Development for three areas have been partially met, with only one Masters programme in Reproductive Health was reviewed instead of the planned two as a consequence of lack of staff availability.

## Impact

In terms of internal performance of the College of Health Sciences the capacity building gains (human resources and investment in facilities) are already having an impact.

The establishment of the DSS at Webuye has created a unique regional and national research resource.

The testing and diagnostic facilities accrued through the Project, have significant national potential particularly in HPV research and testing. In line with the OVIs a National Family Medicine policy has been written, and strategic planning undertaken for qualitative research in HIV/AIDS, malaria and reproductive health has been completed.

## Sustainability

The Project enabled many academic staff members to obtain MSc and PhD degrees who will use the skills acquired to continue being engaged in health systems research to identify the health needs of the community at the local level.

The staff and students at the College of Health Sciences already benefit from the establishment of the Webuye DSS, a facility that will be useful in meeting research needs for MU, and for health personnel at both County and sub-County level to identify communicable disease patterns and formulate timely intervention in the community. There is a risk, though, that ongoing funding for maintenance and staff costs for the facility may diminish and limit the regularity and comprehensiveness of the data collection.

Table 8 Evaluation criteria scores Project 4 HEALTH

P4	Scientific quality	Relevance	Efficiency	Effectiveness	Impact	Sustainability
Score	3	4	3	3	3	3

## Overview of key result areas (KRA)

Table 9 Assessment of KRAs scores Project 4 HEALTH

Key result area	Summary of indicators	Score
<b>KRA 1 Research</b>	Five articles published in international peer-reviewed journals and three in national journals. Three papers in conference proceedings. These outputs met the KRA targets for Phase 2	4
<b>KRA 2 Teaching</b>	Curricula in three BSc and MSc programmes reviewed, though one MMed review did not go ahead	3
<b>KRA 3 Extension and outreach</b>	Not a priority for Phase 2. County and sub-County level health officials are able to use DSS to identify communicable disease patterns and formulate timely intervention in the community	3

<b>KRA 4 Management</b>	Laboratory manuals and protocols have been introduced in line with KRA targets for Phase 2	4
<b>KRA 5 Human resources development</b>	2 PhDs in reproductive health; 1 PhD in Epidemiology; 1 PhD in Health Systems Research; 1 Nurse trained at PhD Level; 1 PhD in Paediatrics; 1 MSc in Medical Microbiology; 1 MSc in Biostatistics; 1 MSc in Demography; 1 MSc in Human Resource Development. KRA targets for Phase 2 met.	4
<b>KRA 6 Infrastructure management</b>	Not a priority of Phase 2. Laboratory equipment and facilities improved through investment and management procedures	2
<b>KRA 7 Mobilisation of additional resources/opportunities</b>	Five local PhDs have been supported to meet KRA targets. Likelihood of additional resources being generated through providing access to DSS data for research by government and to donor-funded organisations	3

### **Assessment of follow-up plan (way forward)**

Returning scholars are already bidding for new research funds. The researchers will be encouraged to design studies aimed at solving community health needs either using stored data in the DSS or to formulate new studies to address the health challenges in community within the Webuye DSS. The results obtained at the Webuye DSS platform can be extrapolated to cover the rest of Bungoma County and other parts of Kenyan communities with similar climatic patterns and social-economic life.

### **2.2.5. Project 5 Capacity enhancement for textile research and extension (TEXTILE)**

The overall academic objective was to develop a sustainable centre of textile expertise.

The developmental objective was to increase capacity, productivity and development in the textile industry, by bringing research findings to the industry and entrepreneurs resulting in enhanced production and new innovative products thereby creating job opportunities and decreasing the rate of unemployment.

## **Results achieved by the project**

The Department of Manufacturing, Industrial and Textile Engineering has its teaching base for undergraduate programmes on Main Campus (in the School of Engineering) and conducts research and post-graduate teaching at the Rivatex East Africa Ltd. (REAL) factory site.

Building on the programme review and development activities of Phase 1 the Department has succeeded in boosting enrolment in its Bachelors and Masters' level (in Textile Engineering and Industrial Engineering) programmes. A total of five students from Uganda and Zimbabwe were sponsored to undertake their Masters programmes by the EU programme Mobility to Enhance Training of Engineering Graduates in Africa (METEGA). The Department is now offering the only undergraduate programme in textile engineering in Kenya and the only Masters programmes in East and Central Africa.

In Phase 2, the Department has also launched the only PhD programmes in textile and industrial engineering in Africa with three students already lined up.

Teaching and learning in the revised Bachelors and Masters' programmes have been significantly updated and enhanced by the use of ICT and new methodologies using presentational techniques. The Project team has recognised in implementing the programmes that student capacity can be a challenge, where high examination marks do not necessarily equate with learning ability and problem-solving.

Over Phases 1 and 2 the planned PhD training (in the North) was achieved and two PhD scholars completed their studies, and the third one is almost through, all at Ghent University (UG). The planned target of training 10 MU staff/students to Masters' level in the Department has faced recruitment challenges since MU did not employ graduate assistants to be trained.

In terms of delivering enhanced research on processes and products the focus has been on new methodologies of manufacturing and processing textiles, composite materials and medical textiles, using MSc students and the IUC equipped laboratories at REAL. The Project team has established research links with industry to identify problem areas and potentially assist in seeking solutions. Links include collaboration with the National Sericulture Centre and workshops attended by Project team members, organized by the Agriculture, Fisheries and Food Authority (AFFA) in which national policies were being formulated or reviewed.

The textiles research laboratory has been modernised with latest testing equipment, although it is not yet fully self-sufficient, despite the investment in equipment and facilities under the Project due to the specialised nature and extremely high cost of the equipment. The process of meeting statutory requirements for accreditation of the textile laboratory is on course but will require further investment. However, communication has been initiated with the accrediting body Kenya Accreditation Service and the initial requirement of calibration of specific machines has been done. As the testing laboratory is not yet accredited, the industry has not yet embraced the use of the facility, and due to slow national economic growth, the textiles industry has not yet shown the anticipated interest in the innovative research carried out by the Department

## **Assessment of evaluation criteria**

### **Scientific quality**

The TEXTILE Project has established the Department as the centre of research and teaching excellence in Kenya. The new education programmes introduced, with updated teaching and learning methodologies, are high-quality and are attracting increased student interest.

In terms of the Phase 2 OVIs for enhanced research on processes and products in industrial, textile and sustainable technologies the Project exceeded the target for published articles in international peer-reviewed journals (18 when the target as at least 12); no national journal was found that was appropriate which affected the publication target for working/technical papers, popularising literature/articles in national journals, electronic journals etc; only three were produced. 13 conference papers were written (a target of at least 10 was set).

### **Relevance**

Textile manufacturing is identified in Kenya Vision 2030 as a key sector in the economy as the country strives to achieve middle income status by year 2030. The Cotton Development Act and an Industrialisation Policy are important policy documents the government has initiated aimed at the revival of the industry. However, the reality is that few textile manufacturing plants have resumed production since the slow-down occasioned by government's Structural Adjustment Programme in the 1990s.

Although policies have and are being developed for the textile industry, their implementation still remains a major problem, and industry is slow to pick up on the opportunities on offer in the Departmental centre of textile expertise capable of offering quality testing, research and service to the industry.

### **Efficiency**

The TEXTILE Project set some high targets for enhanced teaching capacity and human resource development in the OVIs, which have not been completely achieved in Phase 2; PhD training has met the target, but only three of the targeted 10 MScs have been achieved; and fewer technical staff and post-doc students have been trained than envisaged in the OVIs.

### **Effectiveness**

The objectives and IRs for capacity building have been broadly achieved, though the Project has fallen short on some OVIs. Two new PhD programmes were developed and MSc programme curricula reviewed and revised in accordance with the OVIs. The use of the teaching and research facilities provided by the Project is proving to be transformative in the Department. Equally the Project team members remain a cohesive and collaborative team having benefitted significantly from the opportunities for North-South and South-South collaboration, external funding, and industry links made available in the IUC Project.

### **Impact**

The most significant early impact has been internal to MU, evidenced by increasing enrolment and interest in the programmes of the Department and its external visibility as a centre of excellence. Without the interventions made under the IUC Programme, it is doubtful that the Department could have spearheaded the MU bid for World Bank African Centre of Excellence (ACE II) status (see below).

### **Sustainability**

The OVIs set for the enhanced sustainability of the centre of expertise in textiles included the development of a strategic business plan, which is in place; the acquisition of accreditation status for the laboratory, which is in progress; and the enhanced service delivery and commercialisation of the laboratory, which awaits its accreditation. A major contribution to the sustainability of the capacity and other gains from the TEXTILE Project has been the very recent success of the Department's bid for ACE II status under the World Bank programme for East and Southern Africa.

The business plans and links with industry already developed under the Project will eventually underpin the development of research, testing and other services for industry once accreditation is achieved and assuming an up-turn in the prospects for the textiles industry as a whole.

Table 10 Evaluation criteria scores Project 5 TEXTILES

P5	Scientific quality	Relevance	Efficiency	Effectiveness	Impact	Sustainability
Score	4	4	2	3	4	3

### Overview of key result areas (KRA)

Table 11 Assessment of KRA scores Project 5 TEXTILES

Key result area	Summary of indicators	Score
<b>KRA 1 Research</b>	Research results published in 18 articles in internationally peer-reviewed journals and disseminated in 13 conference papers. Some KRA targets (e.g. for working papers published, national journal articles) were not met	3
<b>KRA 2 Teaching</b>	In line with the KRA targets curricula were developed for BSc, two MSc and two PhD programmes. New teaching and learning methodologies and ICT-based facilities were introduced but not as many e-learning packages were developed as planned due to staff unavailability	3
<b>KRA 3 Extension and outreach</b>	Fewer extension outputs (e.g. workshops, leaflets, handbooks) were produced than targeted in the KRAs for Phase 2. Links established with industry and key government agricultural and industrial agencies, but not yet active.	2

<b>KRA 4 Management</b>	Laboratory accreditation procedures in hand.	3
<b>KRA 5 Human resources development</b>	Targets were met for two PhDs (in Phase 2) and three Masters trained. Fewer technical staff were trained than envisaged. More than doubled the Department's PhD and Masters qualified staff	3
<b>KRA 6 Infrastructure management</b>	Laboratory technician staff trained. Further investment in laboratory equipment and facilities	2
<b>KRA 7 Mobilisation of additional resources/opportunities</b>	Collaboration with KEBS and other external partners, Eldoret Polytechnic and other MU departments. World Bank ACE II status achieved.	3

### **Assessment of follow-up plan (way forward)**

The establishment of the Department as part of the World Bank ACE II Centre of Excellence in phytochemicals, textile and renewable energy at MU assures the continued development of the Department and of REAL as the regional and national research partner for industry and government in textiles research, and will ensure continued student enrolment in existing programmes. The anticipated links with Kenyan industry, as a research and testing service centre, may, however, have to await an up-turn in the fortunes of the textiles industry.

### **2.2.6. Project 6 Capacity building through institutional capacity development (INSTDEV)**

The overall objective of the Project was to create an enabling environment for multi-disciplinary research and implementation of MU policies. The academic objective was improved quality of collaborative research; and the institutional development objectives were improved access to e-content, improved ICT network and management, improved gender equity.

### **Results achieved by the project**

This is the transversal institutional strengthening project in Phase 2, which VLIR-UOS introduced as mandatory for all IUC programmes after 2012. The Project results from a redesign of the Partner Programme in Phase 1 in order to make it consistent with the new requirement. In the redesign Phase 1 Project 6 GEP and Project 7 ICT were stopped and the new INSTDEV Project was created with the objective of amalgamating institutional capacity activities from ICT, GEP and other university departments. The focus was on policy development and implementation, including activities that create incentives for implementation of the different policies developed at MU for ICT (including e-library), open and distance learning, gender equity, extension and research; and to stimulate interdisciplinary research, especially between the other four Projects in Phase 2 of the IUC, and to develop collaborative initiatives

such as a Research Data Repository, training in computer science, and through calls for multi-disciplinary research proposals.

The academic objective of improved quality of collaborative research has been achieved in this Project only to a very limited extent. Two PhD scholarships were offered and a research fund that was tied to calls for proposals for IUC Project teams to do cross-cutting research with other researchers in other disciplines. The fund did not attract many appropriate applications; three successful though only two were implemented (e.g. a proposal from AGBIO and CSE to conduct research on water quality assessment survey in River Nyando in Muhoroni and e-waste management implemented in 2015) and only one PhD student was found for the scholarships. Lacking a real tradition of inter-disciplinary research at MU, and with Project team members under pressure to achieve their own Project research targets in Phase 2, ideas for cross-disciplinary research arose quite late and were not developed into concrete proposals.

However, Project team members were given opportunities to present research findings at international conferences and meet other researchers, with the potential to stimulate collaboration and networking beyond country boundaries and yield international quality collaborative research. Training at BSc level was undertaken to support ICT activities, and two PhDs were initiated in Information Science and Computer Science. Staff workshops (open to staff beyond the IUC Programme), such as those on publication writing, helped to raise awareness of opportunities for quality collaborative research and improve the quality of published outputs across the university.

The ambitious plan to further support and stimulate cross-disciplinary research and collaboration through the establishment of a Research Data Repository (or Centre) to archive all MU research data and provide tools for analysis and presentation of data (building on the skills and competencies of the Computer Science PhD scholars and ICT team) was not realised. Sufficient support for the concept of sharing research data across departments and disciplines and managing data through one institutional unit, was not evident in MU, and indeed is a difficult concept to promote in most HE systems internationally. Discussions about ownership of data and different views on how to use statistics in the different disciplines delayed and even blocked this activity.

The developmental objectives of improved access to e-content, improved ICT network and management, improved gender equity have been largely achieved, and in ICT beyond initial expectation. Funding of €200,000 was won through a separate VLIR-UOS ICT infrastructure call, which greatly enhanced the ICT infrastructure in seven MU campuses and greatly improved access to e-content. The staff trained under ICT continue to offer excellent network support and management. The support given to the Institute of Open and Distance Learning (IODL) in the School of Education has also enabled sensitization and training on instructional design, and the production of good quality e-content. The IODL now runs a Moodle-based learning platform. The greatly improved internet access helped the other Projects in the IUC Program to work better and has also had an influence on the study habits of students and research/work habits of lecturers and other staff. This is evidenced by increasing demand.

Under the auspices of the Library an Institutional Research Repository was implemented based on D-Space platform, and the Repository Policy was developed and has been submitted to Information and Learning Resource Committee of Senate for discussion and approval. The Library has also benefitted

from the introduction of the ABCD library management system, with significant training and mentoring inputs from the North Project team.

In terms of gender equity, the Institute for Gender Research and Development (IGERD), which was established in Phase 1 with considerable input from the North Project team, provided an institutional focus for building on the gains of Phase 1 including the completion of one PhD by a Project team member, regular monitoring of the gender policies now in place in MU, training workshops on implementing policy, use of awareness-raising posters around sexual harassment and related issues, and training for the gender focal persons now established in each school and administrative unit. These and other measures have resulted in a more gender sensitive culture in the university (e.g. recruitment in MU now considers the “one third gender rule”). However, the gender aspects of the INSTDEV Project suffered from the lack of a Northern Project team partner to bring issues to the fore in IUC Programme and Project meetings and to continue the provision of advice and mentoring established in Phase 1. The IGERD remains a very small cross-disciplinary academic unit, lacking a teaching role (although there is close cooperation on gender studies courses with the Department of Social Sciences), and sufficient academic staff with Masters or PhD degrees to be able to supervise and promote postgraduate studies.

## **Assessment of evaluation criteria**

### **Scientific quality**

The INSTDEV set ambitious targets for high-quality inter-disciplinary research, which were not completely realised. However, the Project has made contributions to improving the scientific quality of research outputs and research collaboration across MU through specific training inputs on publication writing, on the use of the Institutional Research Repository (for published research articles and outputs), and through facilitating staff opportunities to network and extend their collaborative contacts.

11 full conference papers have been written and some of the papers presented in conferences will eventually be published in journals, though none have yet been published.

### **Relevance**

The Project was very relevant for institutional development of MU; it developed important ICT infrastructure and a skills base that addressed the connectivity needs between and within many campuses of MU. Gender mainstreaming needed to be understood clearly within the institution by administrative and academic staff and students. The concept was de-constructed through capacity and awareness-raising training. Specific OVIs for skills development have not been directly reported on, however, anecdotally the evaluators were told that all relevant training for ICT and Library staff in particular has taken place. such as

- Technical staff trained at undergraduate level
- Trainers trained on Cisco
- For Library staff ISIS training, finalization of Acquisitions Module Implementation, mail server set-up etc
- Training of Library staff from Branches on ABCD
- For ODL technical training on e-content development/evaluation.

### **Efficiency**

There was no wastage, misuse or misplaced priorities. All funds were properly utilised. Advertisements were put out for cross-cutting research funds. Some applications were received, however not as many as would have been expected. The funds disbursed were well utilized and research outputs properly reported. In particular the Project contributed to overall institutional efficiency through achievement of the following OVIs:

- ICT policy operationalized
- Procedures Manual and ICT Business Plan developed; work on the business plan is ongoing;
- Equipment to support implementation of library and repository services and access to the network procured

### **Effectiveness**

The Project had ambitious IRs OVIs and targets, with many different components that worked almost independently of each other. Not all of these have been achieved, in particular those relating to interdisciplinary research and collaboration. However, the Project stimulated academic interest, with joint supervision of postgraduate students and continuing enquiries about calls for possible new research programmes/projects.

The specific IR for Phase 2 of 'Strengthening Moi University Institutional departments servicing teaching, research and extension in general and more specifically in helping the main MU-K IUC projects to achieve their goals' identified many broadly defined OVIs, including research OVIs

- Staff trained at Masters Level (one was the target); one Masters completed and two are ongoing so OVI target exceeded.
- Staff trained at PhD Level (seven PhDs were set as a target); one PhD completed and three are ongoing.

The work on the planned Research Data Centre did not develop.

The ICT staff trained under the INSTDEV Project gained excellent expertise and skills that enabled them to manage big ICT infrastructure issues without having to outsource any tasks, including the design, installation and commissioning of new campus networks. This led to substantial savings.

In relation to gender issues the following key OVIs have been achieved:

- Establish gender desk (one in each school and administrative division) by 2017
- Monitor and evaluate implementation of the university gender policy

### **Impact**

The Project has had great impact for the ICT sector of the university. It contributed to the development of important ICT infrastructure that addressed MU's connectivity needs. The greatly improved internet access helped the other Projects in the IUC Programme to work better and has also had an influence on the study habits of students and research/work habits of lecturers and other staff. The IODL has seen a big rise in the number of courses put online, and blended learning methodologies have been introduced in many schools in the university.

### **Sustainability**

The subscription to the internet is now almost four times what it was at the beginning of the project, though demand continues to rise. MU is now planning to increase the subscription to about 600Mbps which will be almost six times the amount at the beginning of the IUC Programme. The Project was based on the assumption that MU would support the operationalisation of the ICT policy, however, one important aspect of cost-sharing has not yet been implemented and remains under discussion.

MU will continue to enhance the ICT infrastructure and introduce new online services. It is a trend unlikely to be reversed. The well trained ICT staff will continue to manage and sustain the infrastructure. IODL is another growth area for MU and the gains made in terms of infrastructure, knowledge transfer and human capacity development will be built upon.

The Project activities have been managed in the MU ICT Directorate, Library, IGERD, IODL, Schools of Engineering, Information Science and Biological & Physical Sciences. All these are key university units that will continue to exist in the foreseeable future. As a minimum, MU must allocate funds to sustain ongoing activities. However, there are possibilities of self-sustainability in some areas such as quality collaborative research and ICT network services.

Table 12 Evaluation criteria scores Project 6 INSTDEV

P6	Scientific quality	Relevance	Efficiency	Effectiveness	Impact	Sustainability
Score	2	3	3	2	3	3

### Overview of key result areas (KRA)

Table 13 Assessment of KRA scores Project 6 INSTDEV

Key result area	Summary of indicators	Score
<b>KRA 1 Research</b>	No articles were published in international or national journals though some of the 11 conference papers produced may eventually be published as journal articles	2
<b>KRA 2 Teaching</b>	Human and infrastructural (ICT and e-learning) capacity development has made significant changes in MU practice and approaches to teaching and learning	2
<b>KRA 3 Extension and outreach</b>	The ICT team has established important connections with national and regional ICT providers, services and networks	2
<b>KRA 4 Management</b>	Five institutional policies have been produced as planned  The Project had ambitious intermediate results and targets, with many different	3

	components that worked almost independently of each other. The dispersed nature of the project made it sometimes difficult for the Project Leader to have a firm grip of all the activities.	
<b>KRA 5 Human resources development</b>	<p>KRAs for Phase 2 indicated only 1 MSc; one has graduated, and two are ongoing so KRA target exceeded.</p> <p>Staff trained at PhD Level (seven PhDs were set as a target); one PhD completed and three are ongoing.</p> <p>Training of ICT, Library and IODL, and workshops for academic staff in research techniques and teaching methodologies have significantly changed practice and attitudes</p>	3
<b>KRA 6 Infrastructure management</b>	ICT infrastructure management and developed now in the hands of a highly trained and stable team of technical and managerial staff	4
<b>KRA 7 Mobilisation of additional resources/opportunities</b>	Funding of €200,000 was won through a separate VLIR-UOS ICT infrastructure call, which greatly enhanced the ICT infrastructure in seven MU campuses and greatly improved access to e-content. Three proposals were submitted and competitively won for computers from Close-the Gap.	4

### **Assessment of follow-up plan (way forward)**

The successes of the Project Team in winning additional funding and resources in Phase 2 increased team confidence to keep looking for opportunities for collaboration or funding through submitting proposals. The internal and external networks established during the project will be very useful in the success of future bids.

Members of the INSTDEV project were instrumental in the proposal writing and eventual implementation of the Digital Learning Programme (DLP) which the Kenya Government is undertaking. This mega project aims at providing digital learning materials to the primary school children in the whole country. MU and Jomo Kenyatta University of Agriculture and Technology were the two winners for this tender in the country, with MU attributing much of this success to the contribution of the VLIR-UOS IUC Programme

in human and infrastructural capacity building. This project provides very good future prospects and sustainability of ICT related activities since it is a long term strategy for the government.

ICT activities and provision will be further enhanced through the World Bank ACE II status won by MU.

## **2.3. Evaluation of the programme level**

### **2.3.1. General assessment**

During the mid-term evaluation, all the Projects had made a case for continuation in Phase 2. This was supported by both the Evaluation Commissioners in their report and VLIR-UOS in their communication granting Phase 2. However, changes involving a diminishing available budget from VLIR, the requirement to have a transversal project and problems associated with the operations of some of the Projects meant that the DSS component was dropped from the HEALTH Project 4 (with consequent implications the other Projects, some of which had planned to collaborate in research using the DSS), and the ICT Project and GEP were stopped with some activities amalgamated into the new INSTDEV Project.

Phase 2 was intended to be principally about consolidation and valorisation of the Phase 1 results. However, in some Projects in Phase 1 the capacity building activities were slow to start, with the continuation into Phase 2 of PhD studies started in Phase 1 being one of the reasons for the remediation process in 2012, in which all projects reoriented their activities to accommodate this. Several Projects were still engaged in research development and capacity building in Phase 2 (AGBIO was particularly affected as agricultural planting seasons were missed for research) with several PhD and Masters' students still to complete their studies in the final months of 2017. Accommodating this slower than expected scholarship completion rate has contributed to a lack of available staff in some Projects in Phase 2 to consolidate and implement the teaching curricula reforms (HEALTH) or to fully develop the planned lines of research (CSE); or to the lack of funding to meet planned extension activity targets (AGBIO).

The difficulties in personal relations, communication and understanding between some North and South Project Leaders during Phase 1 were clearly dealt with in a sensitive and effective manner in order to allow the Programme to continue. However, the solutions found represented quite an upheaval in the Programme as originally planned, with complete changes in Programme Coordination and Project Leader personnel. Add to this quite a number of changes in North and South Project team staff – in Kenya due to staff mobility in an expanding HE sub-sector and in Belgium due to staff retirement and changes in project focus – and it is a testimony to the efforts of the Programme Coordinators in Phase 2 and all new Project Leaders that, in most projects, the teams have become or remained cohesive and productive, with positive gains evident through collaborative team-working.

The problem of 'brain drain' was most acute in Phase 1 when a number of trained Masters' scholars left to take up other posts. Its effects continued to be felt in Phase 2. MU created a bonding agreement for PhD scholars to ensure their retention, but few other incentives to retain staff were put in place.

Synergy between the MU IUC Programme Projects was a critical issue in the Programme in Phase 1, but the benefits of possible synergies were largely unrealised as the Programme transitioned into Phase 2. During the Phase 2 planning discussions were held at Joint Steering Committee level on once again on how to realise synergy benefits. The Partnership Programme Phase 2 document includes a table

proposing research areas of cross-Project and cross-disciplinary potential (Table 14), and noted that

*Projects like Health and CSE would have some activities such as malaria, reproductive health, and water quality at the DSS (with the DSS being supported by Moi University as is currently being planned) during phase II. Data collected during research in different projects will be used to operationalise the Research Data Centre and computer sciences to be developed under the INSTDEV Project.*

Table 14 IUC MU PP Phase 2 (dated April 2011 but finally released December 2012) summary of proposed research synergy between Projects

	CSE	AGBIO	HEALTH	TEXTILE	INSTDEV
CSE		Irrigation agriculture	Water sources and water quality	Natural fibres as reinforcement of building materials	e-content for e-learning platform;
AGBIO			Nutrition; food crops; food & HIV;	Cotton production and research, silk research	
HEALTH	Occupational Health hazards			Pulmonary diseases associated with handling natural fibres Infection associated with medical textiles	Anthropometric measurements of primary school pupils at the DSS e-content for e-learning platform
TEXTILE	Production and mechanical properties of natural fibres		Medical textiles (bandages, sanitary towels, surgical cotton)		e-content for e-learning platform
INSTDEV	Gender issues in housing Connectivity: Networking, database management	Gender in land ownership Gender issues in agriculture Connectivity: Networking, database management	Culturally harmful practices Database development at the DSS; ICT Policy; Connectivity: Networking, database management	Gender issues in the textile industry Social acceptability of sanitary pads produced by TEXTILE ICT Policy; Connectivity: Networking, database management Training on e-content and course development	The data centre and the synergic research and PhD fund was created to increase synergies between projects.

However, several factors militated against developing any significant cross-disciplinary research even in Phase 2, when cordial relationships between the different Projects in the Programme had been well-established. Firstly, there is no significant tradition in MU of inter-disciplinary research, and Faculties, Schools and even Departments typically work in silos (common enough in many other countries) with real resistance to cross-disciplinary collaboration such as sharing research facilities or data. Also most of the Departments in the IUC Programme suffered (at least in Phase 1) from capacity deficits, with academic staff struggling to deliver on their existing teaching (and sometimes other fee-paying work) and research obligations under the Programme; in this context the prospect of trying to launch new lines of enquiry involving unfamiliar departments and personnel was almost certainly too daunting. Finally, simply the fact that most of the IUC Programme Departments are widely separated in different physical

locations (campus and town) was an inevitable barrier to cross-Project collaboration. The implicit assumption that the IUC Programme could build a new inter-disciplinary approach to research within this context was over-ambitious.

One of the major achievements of the Programme has been to build a unifying and robust ICT infrastructure for MU and all its constituent parts, with associated highly-skilled teams of ICT technical and management staff and ICT policies developed and in place to ensure stability. This factor, complemented by ICT-based Library services targeting research, offering networked information services and an Institutional Research Repository, will undoubtedly facilitate more inter-disciplinary approaches to research in MU in future, and the Project teams in the IUC Programme are now well-placed to develop appropriate proposals for cross-disciplinary research funding if they are encouraged to do so.

### **2.3.2. Evaluation qualitative criteria**

#### **Relevance**

The MU IUC Programme in all its aspects had strong relevance to local, regional and national policies and priorities, and to MU's institutional development needs.

#### **Efficiency**

The management of resources in Phase 2 has been very good, despite a number of challenges. IUC procedures have been followed up more consistently and correctly with a full-time Programme Manager in place.

However, meeting the financial deadlines imposed by VLIR-UOS has often been difficult, mainly due to the bureaucratic procedures of the financial departments in MU and the Northern partner universities (e.g. orders and payments often delayed and difficult to follow up, delayed release of funds from DGDC to VLIR-UOS, to VUB and consequently to MU).

Programme plans and budgets proved difficult to follow. Each year, there were spending problems, with considerable underspending in one Project, which had to be addressed in time and ameliorated before the end of each VLIR financial year (which runs April – March, while MU financial year runs July - June). The underspending was variously a result of activities not taking place, a lack of research vision, delayed PhD progress and low response rates for specific research calls launched by the Programme (INSTDEV). Unfortunately, budgets for PhD students could not be transferred to the next financial years.

Wherever possible, capacity building funding was used efficiently through local scholarships when international scholarships proved difficult to fill; for example, the Programme launched local Masters' programmes as a cost effective alternative to sending Masters' students on scholarships to Belgium.

Some opportunities to increase efficiency through better cooperation and collaboration among Projects may have been lost, although so many scattered sites and locations militated against such collaboration.

Nonetheless, in terms of good programme and project management, effective and efficient use of funds which have produced visible and tangible results, the MU-K IUC Programme has been a success and provides a best practice 'Model Programme' for the University. The University has used this visible success to attract other externally funded projects, especially ACE II.

## **Effectiveness**

Human capacity building objectives have been largely met across the Programme, though the gains have been somewhat weakened by contextual factors such as difficulties of staff retention in and expanding HE system, and several Departments starting from a low capacity base. The capacity building plans were based on the assumption that MU would identify suitably qualified staff and grant them leave to carry out relevant studies and research. Identification of suitable and willing staff has not always been easy to achieve, and selection of appropriately qualified and able candidates proved to be challenging; MU management fully supported and released all scholars from official duties but were not always willing or (perhaps) able to provide other active incentives for candidates to take up further studies, or incentives to retain staff on their completion when other openings in the expanding HE system might have seemed more attractive. Some MU undergraduate and Masters' students, with the potential for career progression, have been found to lack the kind of learning skills that go beyond knowledge acquisition into creativity and intellectual enquiry.

## **Impact**

The Programme has transformed MU in some remarkable ways such as the development of the DSS in Phase 1, which has great research potential in health and allied fields, and already a strong research impact at community and regional levels in family medicine; ICT provision and services have developed the capacity of the University to work efficiently and effectively using modern ICT-based methods and engage in research collaboration. In other areas, such as policy change and gender equity the Programme has already been highly influential.

As a result of the IUC Programme MU's national visibility has been enhanced in key areas e.g. the national policy change in the Eurocodes work in Project 2 CSE; the establishment of the Department of Manufacturing, Industrial and Textile Engineering as part of the World Bank ACE II centre at MU.

However, unforeseen challenges associated with the rapid expansion of the HE sub-sector in Kenya may have weakened the overall impact of the programme in MU such as the loss of the Project 3 AGBIO and the Computer Sciences Department to the UOE.

## **Sustainability**

MU is now well-placed and better-placed, both in terms of programme/project management skills and research capacity, to bid for and win external research funding. Already the IUC Project departments are building sustainable links with government agencies and industry e.g. Project 2 CSE and Project 5 TEXTILE, and winning income-generating contracts, e.g. the ICT Directorate and the DLP contract, as a direct result of the capacity development activities in the IUC Programme.

However, like many Kenyan universities, MU has traditionally a greater commitment to teaching than to research, and is under pressure to expand its various campuses and attract increased undergraduate student enrolment. There is a risk that institutional funding for research will remain limited, with negative implications for the effective maintenance of VLIR-supported facilities, laboratories and research activities and their required running costs. A significant proportion of available funding in MU is currently used for institutional management, with limited resources for research. Without external funding, researchers may not be able to work in the field, or to maintain contacts with their external stakeholders and partners.

### **2.3.3. Added value of programme level**

#### **Pre-partnership and match-making**

In the IUC programme model the direct engagement between university partners in the North and South without the intervention of an intermediary organisation, means that projects are negotiated between the joint university teams, managed and reviewed together and changes or contentious issues negotiated and resolved university to university. This has great potential for strengthening real academic partnership and collaboration.

In the case of the MU IUC Programme, the Pre-Partnership planning and match-making negotiations appear to have been driven mainly by Flemish professors (in engineering and agricultural sciences particularly) with their Kenyan ex-students on the MU academic staff who had previous experience of study in Belgium and good understanding of the Flemish universities and research culture. While these close links smoothed the planning process, they might have led to some assumptions about the Kenyan context and Flemish partner interests going unchallenged or not fully examined. Not all South and North Project team members were equally able to embrace the opportunity of real academic partnership and collaboration offered by the IUC model; most of the South Project team members had not benefitted from previous study in Belgium, and many of the North members had no previous experience of Kenya.

#### **Length of IUC engagement**

The length of time for engagement and funded activities between North and South partners that IUC programmes allow is unique in among international development-funded interventions in the HE sub-sector. The two-phase, 10 to 12-year programme encourages long-term thinking and planning in collaboration between the South university and the Flemish partners, and the reshaping of projects to meet changing circumstances. Its goal is significant institutional impact and long-term change.

While MU management fulfilled its role defined in the Procedures Manual, and left operational matters to North and South Project Leaders and the Programme Coordinators, there is little evidence that the MU management were really fully engaged or interested in exploiting the IUC opportunity for real strategic long-term institutional thinking provided by extensive partnership with Northern universities. The evaluators found that individual IUC Projects have transformed and shaped individual Departments but, aside from the ICT and Library gains, there is little evidence of this kind of IUC added-value from the Programme level other than good working relationships between Steering Committee members.

#### **Mutual interests**

Similarly, although the relationship between North and South teams in Phase 2 has been largely amicable and productive, it appears predominantly to have taken the form of provision of support to the South from the North. The most successful North-South partnerships in IUC programmes occur when there is mutual interest in the work being done. There is not much evidence of this added-value or motivation for engagement by Northern teams in the MU IUC Programme. In most of the Projects exchange and collaboration with Flemish universities have been confined to advisory or supervision visits by North Project leaders, with little face-to-face contact from other Northern Project team members.

## **2.4. Evaluation of the management of the programme**

### **2.4.1. Evaluation of the management by the partner university**

MU made available appropriate premises for the VLIR-UOS IUC Programme management office, and provided financial advisory, processing and facilitation, including enhanced procurement processes. MU management has fully supported scholars with study leave, visa processing and acquisition of research permits support to the MU-K IUC programme.

MU management (though represented on the Management Board of the Programme) left the planning and operational aspects of management to the Programme Coordinators and Joint Steering Committee, though the remediation process after Phase 1 was done in close consultation with the senior management team. However, MU management were sometimes slow to intervene when needed (e.g. in staff performance issues, motivation and incentives for retention of staff, and forward planning), although, to set this in context, MU itself has been experiencing high senior management staff turnover and the management has been under both political and economic pressure as national HE policy changes and the sub-sector expands.

The management of resources in Phase 2 by the South Programme Coordinator, John Githaiga, and the Programme Manager have been very good, despite a number of challenges. IUC procedures have been followed up more consistently and correctly with a full-time Programme Manager in place. However, meeting the financial deadlines imposed by VLIR-UOS has often been difficult, mainly due to the bureaucratic procedures of the financial departments in MU and the Northern partner universities (e.g. orders and payments often delayed and difficult to follow up, delayed release of funds from DGDC to VLIR-UOS, to VUB and consequently to MU).

### **2.4.2. Evaluation of the management by the Flemish coordinating university**

The Mid-Term Evaluation Report noted some difficulties with Programme Coordination at VUB in Phase 1, which were attributed to the appointment of an academic as Programme Coordinator and not an experienced project manager. The report pointed out that

*The project management requirements of this function are significant, and require specialized expertise to manage the complex relationships across all the projects and within the Joint Steering Committee, as well as to oversee the Programme finances... Ideally, the coordinators should coordinate academically and the programme manager should take over the administrative and financial tasks.*

In Phase 2 the Interim and then de facto Programme Coordinator from VUB, Georges Eisendrath, brought considerable experience in IUC programme coordination and project leadership to the job, as well as extensive experience of working in Kenya. Management of Phase 2 has been efficient and effective, marked by good relationships between all parties. The task of programme coordination is a labour-intensive one at the best of times. An argument has been put forward that the ICOS in the Northern IUC partner university could take on more of the routine management.

### **2.4.3. Evaluation of the cooperation and coordination between all parties**

#### **Management responsibilities**

In the MU IUC Programme Phase 2 there was a clear distribution of responsibilities between North and South Programme Coordinators, and communication and cooperation between the Coordinators, the Programme Manager in MU and the ICOS in VUB was excellent, which was positive for the Programme. All issues were extensively discussed by both coordinators during and between visits to either Belgium (South Coordinator) or Kenya (North Coordinator).

Several Projects suffered from poor communication and lack of attention to administrative detail among Project Leaders and teams (North and South), which resulted in poor quality and late reporting and occasional delays in activity progress.

#### **Lack of engagement by Northern project teams**

From a general perspective, more benefit was gained by the South partner MU than by the Flemish university partners, and in that respect the MU IUC Programme could be said to have been rather unbalanced. However, there is little evidence of where greater Northern interests might have been realised. Research done within Projects was based on MU and Kenyan priorities and needs, not particularly on Northern interests, with capacity building for the South partner being the principal goal. Flemish university partners mainly benefited from completed Belgian PhDs, an indicator of departmental performance.

This lack of mutual research interests, or even of more general academic development interest in the content of the MU IUC Programme on the part of Flemish partners, may account in part for the overall lack of face-to-face time with MU Project teams on the part of Northern Project team members (through visits to Kenya) during Phase 2. The considerable change of personnel between Phase 1 and Phase 2 in both South and North teams may also have contributed to a narrowing rather than widening of exchange and engagement from the North. This lack of engagement was noted by the North Programme Coordinator as one possible reason for lack of progress and activity at times during the IUC Programme.

Flemish universities appear not to recognise the time and effort required of North team members if an IUC programme is to be successful. Unless North-South research and other interests are completely aligned there is little incentive for ordinary North project team members to be particularly active in seeking and taking-up opportunities to visit the South partner in an IUC programme. To make matters worse for the MU IUC Programme, in Phase 1 the Kenyan political and security situation was at times volatile, and team members in the North were further discouraged from visiting the country.

#### **PhD student experiences**

Related to this, the engagement or otherwise of Northern Project team members has affected the experiences of some PhD students studying in Belgium in the sandwich PhD model. Students' experiences appear to have varied very widely in a number of respects, depending on subject discipline, the maturity and academic experience of the student and their economic and social circumstances. This kind of wide variation is, of course, to be expected across any PhD student intake, however, in the MU IUC Programme the following two aspects in particular had an impact on PhD student experience.

#### **Supervision**

Some PhD students had only one Belgian supervisor (in some but not all cases the North Project leader) with whom they were able to benefit from active and constructive supervision while studying in Belgium. However, regular and consistent supervisory contact was often not sustained during the eight months of the year that they were pursuing their studies in Kenya. The North Project leaders visited MU at least annually, which guaranteed at least one face-to-face supervisory meeting in Kenya, but if supervisors were not Project leaders this rarely happened. Inevitably, Flemish academics with heavy teaching and research schedules were often unavailable for skype calls or slow to answer emails and the quality of the supervisory relationship was diminished, leaving some PhD students feeling isolated. At least one PhD student never saw his supervisor even while studying in Belgium for eight weeks; others apparently had Flemish supervisors that had never visited the PhD research site or indeed Kenya.

Some students had a Belgian supervisor and joint local supervisor (in MU, if an appropriately experienced and qualified member of staff could be identified; otherwise in another Kenyan university). Access to a local supervisor clearly helped students to maintain progress in their studies when in Kenya and overcome, to an extent, the sense of isolation. It is not clear to the evaluators why some Flemish university partners and MU Departments were able to use a joint supervision model and some were not. Remuneration for joint supervisors under VLIR-UOS IUC procedures is one issue with obvious budgetary implications. In some cases local supervisors apparently could not be officially recognized (in PhD theses, in publications) or their expenses remunerated, though this appears to differ among Flemish universities. Some Flemish universities are apparently unwilling or unable to appoint joint supervisors (from any country) while others (or other Faculties perhaps?) would accept them, including from a third country (e.g. the Netherlands in one MU PhD scholar's case).

#### **'One-size-fits-all' sandwich PhD model**

Several PhD students and their Departmental colleagues and South Project leaders expressed the view that the 'one-size-fits-all' VLIR-UOS sandwich PhD model, requiring the student to complete a maximum of 24 months in Belgium over four years, seemed unreasonably inflexible. In fact, within IUC programmes in general Flemish universities and individual supervisors have considerable flexibility to decide on how much research time should be spent in Belgium by individual candidates, within this maximum. Any requirement to exceed the maximum, of course, has funding implications. In the absence of any contingency fund in the MU-K IUC budget it has been challenging for Programme Coordinators to find additional funding if scholars needed extra research time in Belgium.

Quite contentious issues were raised during discussions of the sandwich model. For example, the opportunity cost for some students of taking up scholarships, especially medical doctors who were consultants or general practitioners, was relatively high due to loss of income while studying in Flemish universities. There was a general feeling among Northern partners that a scholarship was a unique opportunity to gain a Belgian PhD, which for those pursuing an academic career should take precedence over other considerations. However, in the Kenyan context of medical practice and teaching (in other academic fields as well as medicine) a PhD has not been necessary to have an academically and professionally rewarding career, and income-generation to cover family needs and social aspirations can take precedence.

On the other hand, several students in different circumstances needed or would have welcomed more time studying in Belgium: PhD research in agriculture, biological and applied sciences can be subject

to highly variable climatic and other experimental conditions, not necessarily easy to foresee, and with the potential to delay completion of PhD studies. Also MU lacks (even with IUC investment in infrastructure) sophisticated laboratory equipment that was essential for some PhD students' research (in AGBIO and TEXTILE Projects in particular) thus putting them under considerable pressure to complete all necessary experimentation and analysis while studying in Belgium.

## 3. Conclusions and lessons learned

### 3.1. Concerning the programme and its projects

#### 3.1.1. Impact of the Programme

The strength and impact of the MU IUC Programme lies in two areas:

- its research and education relevance to the local, regional and national priorities and needs, in engineering, agriculture and biotechnology and health, ICT and computer sciences and
- in its success at building teaching and research capacity in these areas, under challenging and changing HE sub-sector circumstances, which has resulted in dedicated research groups, involving academic staff and students cohering around the relevant research themes, and experienced in constructive team working.

There is no doubt, however, that the impact of the Programme could have been stronger but for a number of weakening factors:

- Kenyan HE institutions traditionally place greater emphasis on teaching, acquisition of knowledge and qualifications appropriate to career advancement, rather than on research. Multi-disciplinary research is uncommon and not yet an established part of academic traditions.
- The HE context has changed dramatically during the Programme in terms of government policy, political pressures and student expansion (including the introduction of 'Module 2' or PSSP admissions). All public universities, including MU, have expanded into new regions of Kenya and increased the number and variety of courses on offer, while new public universities are constantly being created in 'underserved' regions. This has inevitably had a deleterious effect on retention of IUC trained staff and selection of Masters and PhD candidates.
- MU senior management, despite formally recognising the MU IUC Programme as the largest single collaboration programme at the university and acknowledging its impact on MU's visibility, seems not to have fully embraced the IUC Programme in the early planning stages of Phase 1, and certainly not during Phase 2 implementation, as potentially a whole-institution programme of change and strategic opportunity, but rather as a series of separate though important project interventions needing only operational support.

#### **Lessons learned**

Implementing cross-disciplinary and cross-cutting Project activities required more structured dialogue, preplanning and shared vision among and between the Project teams (North and South) and MU management to avoid inevitable implementation challenges.

The INSTDEV Project, with its plans to actively promote and facilitate cross-cutting Project work and multi-disciplinary engagement, came too late as a Phase 2 initiative. Much earlier concrete efforts were needed to build cross-Programme teams and common understanding of all the Projects to enable better exploitation of identified synergies between Projects.

### 3.1.2. Planning assumptions

The MU IUC Programme, as noted above, was mainly negotiated in the Pre-Partnership and match-making stages by academics from both sides familiar with the external contexts in each country, Belgium and Kenya. It seems likely that, because of this familiarity on both sides, a number of assumptions were made about there being a common understanding of the external context for research (Kenyan economic and social realities, the social circumstances and family pressures on academics and researchers), the institutional situations in both North and South (policies, practices, culture), without any full and frank discussions taking place about the very different research and HE contexts in Kenya and Belgium and their implications for the Programme. When these contextual and academic culture issues inevitably arose during implementation (e.g. the pressure on academics to keep up with fee-paying work during their PhD studies in order to maintain their family obligations, the more ambivalent attitudes in Kenya towards the value of PhD qualifications) they were more difficult to address because they were largely unanticipated by Northern teams, while being sensitive and somewhat difficult to explain by the South team members.

For whatever reason, a number of flawed (or not properly tested) assumptions were made and written into Phase 1 and 2 Partnership Programme documents, such as:

- The implicit assumption that the IUC Programme could build a new inter-disciplinary approach to collaborating in research through identifying and encouraging synergy between Programme Projects (a goal common to most IUC programmes). Any in-depth discussions on this subject would have revealed the lack of a robust multi-disciplinary research culture in MU; indeed, it might have been pertinent to ask at the time how common multi-disciplinary research and collaboration really was between departments (of Medicine and applied sciences, for example) in the Flemish university partners at the time.
- The assumptions about staff retention on which the logical framework was based seem also to be poorly thought through and did not take into account the realities of Kenya's socio-economic and HE context: it was assumed that actions within the control of the IUC Programme alone - improved and active research environments, developed ICT infrastructure, developed network with stakeholders and hence new initiatives – would “inspire opportunities for individual research and consultancies, the lack of which normally leads to departure of staff.”
- Poorly tested assumptions about capacity building underpinned the Partnership Programme's “strategies to maintain and further enhance research culture” mainly through “capacity building, training workshops on preparation of research proposals, conducting research and writing of research reports and papers”. It was assumed that through these, together with the improved and active research environment and developed ICT infrastructure, the research culture would be “entrenched”. However, in making these assumptions, there was failure to take into account the realities of the rapidly changing HE sub-sector in Kenya in which research capacity development is not accorded high priority.

These and other poorly developed or untested assumptions all turned, one way or another, into risks to implementation and the smooth progress of the MU IUC Programme.

### **Lessons learned**

There is a need for honest, open and collaborative planning of an IUC programme in the preparation stages, that encompasses all potential North and South team members, and aims to mitigate big differences in research cultures and build real understanding and awareness of the local South context (social, cultural, economic etc.) and North academic priorities and requirements.

The strength of assumptions made in planning stages need to be better thought through and tested, and serious risk assessment exercises included in preparation and planning: risks are assumptions that have been proved wrong.

### **3.1.3. PhD model**

Arguably, the relatively low capacity of graduate and post-graduate students at MU to absorb new knowledge and to exercise initiative and creativity in their learning has created some challenges for the IUC Programme and possibly contributed to difficulties in identifying suitably qualified PhD candidates to take up the scholarships on offer and to the slow progress towards completion. The background to this might be cultural, perhaps due to the Kenyan education system's emphasis on progression by examinations and gaining certificates to aid social mobility as a priority.

PhD supervision, and compatibility between student and supervisor, is so critical in any successful PhD study, and possibly even more so where sandwich PhD students from the South are supervised only by a Northern academic and need to maintain their research and study momentum once back in their own homes.

The view held by many in MU that the 'one-size-fits-all' VLIR-UOS sandwich PhD model seemed unreasonably inflexible may have been mistaken, as VLIR-UOS permits considerable flexibility at individual scholar level. However, any requirement to exceed the maximum time in Belgium allowable has funding implications, and it has been challenging for Programme Coordinators to find additional funding if scholars needed extra research time.

### **Lessons learned**

It might be expected that Flemish universities would adopt a more uniform approach to the supervision of PhD students for IUC Programmes, with common policies on joint supervision and the quality of the supervisory process.

The perceived rigidity of the sandwich PhD model added significantly to the capacity building challenges encountered in implementation of the MU IUC Programme. In the absence of any contingency fund in the IUC budget it is challenging for programme coordinators to find additional funding if scholars need extra research time in Belgium.

There is a need for anyone supervising PhD students in the North to acquire appropriate knowledge and understanding of local context (e.g. social and economic realities, research conditions) through at least annual visits to the research location.

### 3.2. Concerning the management of the programme

The MU IUC programme has been a success due to its good management, effective and efficient use of funds which has produced visible and tangible results making it a best practice 'Model Programme' for MU. The university has used this visible success to attract other externally funded projects, especially the ACE II project funded by the World Bank where the Department of Manufacturing, Industrial and Textile Engineering will be a major beneficiary.

IUC procedures have been followed up more consistently and correctly with a full-time Programme Manager in place. However, meeting the financial deadlines imposed by VLIR-UOS has often been difficult, mainly due to the bureaucratic procedures of the financial departments in MU and the Northern partner universities (e.g. orders and payments often delayed and difficult to follow up, delayed release of funds from DGDC to VLIR-UOS, to VUB and consequently to MU).

#### Lessons learned

The MU IUC Programme provides an example of best practice in the recruitment of a full-time VLIR-UOS Programme Manager from outside the IUC Programme beneficiary schools or departments in MU.

Inflexibility in VLIR budgeting and accounting rules (e.g. difference in financial years, no rollover of funds into the next financial year, no significant contingency fund) can limit the potential effectiveness of the IUC programme in implementation

### 3.3. Concerning the coordination between all parties

The MU IUC Programme was a large and complex programme with many planned activities within each Project. Ideally some of the Project teams in the North and South could have been larger – North teams, often limited to the people who showed interest during the matchmaking and members of the Department of the North Project leader, may have seemed large on paper but the actual number of visits and exchanges involving a range of academic staff from the North was limited in Phase 2. Small Project teams in the South meant that the responsibilities (and associated benefits) of the IUC Programme activities were limited to only a small number of people in some Projects, resulting also in work overload for Project leaders and, on the whole, poor project reporting.

Communication at Programme level was very good, with regular consultation between Programme Coordinators, ICOS and Programme Manager maintained by email or personal contacts. However, between the Programme and the Projects, and within the Projects, the quality of communication was rather mixed, in some going smoothly and in others with more difficulty, resulting in late reporting, inadequate feedback and irregular follow up of activity related problems.

#### Lessons learned

The evaluators understand that VLIR-UOS already has in hand major revisions to the reporting requirements and formats for IUC programmes and individual projects, and the hope is that new procedures will simplify the reporting formats and make them more meaningful, less formulaic and more useful as a self-evaluation tool for North and South partners.

Northern project team members need to be appropriately motivated (and possibly rewarded) to engage fully and actively in IUC programmes and able to commit time to project activities and follow-up.

## 4. Recommendations

### 4.1. Recommendations for programme and projects

**Recommendation 1:** MU should build on the programme and project management expertise developed by the Programme Coordinator, Programme Manager and PSU office staff to develop an active University unit to source international and national research funding and support project proposal writing and submission.

**Recommendation 2:** IUC Programme Project teams (particularly AGBIO in UOE, CSE, TEXTILE) should take the opportunity of the Phase Out of the IUC Programme, with its specific objective to provide logistical, administrative and financial support in proposal writing, research and funding for sustainability, and creating forums to share best practices, to seek out multi-disciplinary, cross institution research funding that will enable team members to build on their increased capacity, confidence and team-working. In this way they have an opportunity to demonstrate multi-disciplinary approaches to other departments and schools in MU.

### 4.2. Recommendations for VLIR-UOS

**Recommendation 3:** VLIR-UOS should consider, in future IUC programme Pre-Partnership and match-making negotiations, the use of an independent facilitator in early problem-identification and planning meetings between North and South teams, to ensure that there is full and frank airing of views and testing of assumptions on both sides, including a properly documented risk assessment. The aim should be to ensure that proposals for IUC programmes are better grounded in commonly understood realities, and that the natural tendency (in all development programmes and projects) for the North to 'lead' and the South to demur and avoid raising potentially negative issues is overcome.

**Recommendation 4:** VLIR-UOS should consider ways in which it can demonstrate (perhaps through qualitative evidence-gathering from past programmes) the real but qualitative benefits (professional, personal and academic) that accrue to Flemish academic staff in being involved in teaching, training or researching with South partners within an IUC partnership programme. As 'demand-led' programmes IUC programmes must find a difficult balance between the needs of the South and the interests of the North partners. However, it is often the sheer exposure to exchanges of experiences and example in active academic partnerships that have the most lasting effect on South (and North). VLIR needs to consider how IUC programme budgets and regulations can be adapted to enable more junior staff and research students from the North to become involved in IUC programme activities and spin-offs, to ensure that real partnerships are built with wider influence beyond the South PhD and Masters' scholars, and the North Project Leader supervising, advising and mentoring the South Project teams.

**Recommendation 5:** In IUC Programmes for PhD scholars on sandwich PhD programmes in Flemish partner universities joint supervision should be the default position, and there should be clear and consistent rules on joint (North and local) supervision for all Flemish partners to follow. If full academic local supervisors cannot be found in the relevant research area (either in the South partner university or elsewhere in the country) a more junior member of academic staff (either in North or South partner

institutions) with similar research interests could be appointed as co-supervisor to mentor and guide the student rather than taking a full supervision role. The principle here is that every PhD student should have more than one person on their supervisory panel. Flemish universities should be able to provide the appropriate official appointment documentation to enable local supervisors to be acknowledged and reimbursed appropriately.

**Recommendation 6:** In an IUC Programme, for PhD students on sandwich PhDs there should be a consistent and clear framework for research supervision reporting, agreed and followed by all Flemish university partners. The framework should mandate the minimum requirements to be followed, which should include

- a progress review panel meeting at the start of each of the PhD students' annual visits to Belgium, attended by both supervisors and/or junior researcher co-supervisors or mentors from either North or South (see Recommendation 5 above);
- minimum requirements for meetings and communications (face-to-face, skype or electronic/email) between supervisors and PhD students (every two weeks is considered best practice), with these meetings recorded in progress logs kept by the students themselves and verified by the supervisory panel in the annual progress review meeting.

**Recommendation 7:** VLIR-UOS should consider amending financial regulations (if DGD rules allow) to make it possible to transfer capacity building budgets allocated to PhD scholarships from one financial year to the next in order to align expenditures to the progress of the students.

# ANNEXES

## Annex 1: Terms of Reference

### Purposes of the evaluation

A final evaluation has 3 different standard purposes:

1. Learning: on the basis of the analyses made by the evaluation team, lessons can be learned about what worked well, what didn't and why. The formulation of these lessons learned will contribute to the quality of on-going and future IUC programmes in terms of the content and management of the programme, including the overall policy framework;
2. Steering: on the basis of the analyses made by the evaluation team, recommendations will be formulated to support decision making processes of the IUC (at different levels);
3. Accountability: by independently assessing the performance of the IUC programme (and validating or complementing the monitoring), different actors (HEI, VLIR-UOS, etc.) can fulfil their accountability requirements.

### Specific evaluation objectives

The evaluation's primary objective is to evaluate the performance of the IUC (programme level and project level). This is the basis of every IUC evaluation. Next to this objective, final IUC evaluations also analyse the prospects for the post-IUC period:

- A. The performance of the IUC needs to be evaluated on the basis of the OECD-DAC criteria for development evaluation (+ one additional criterion): **scientific quality, relevance, efficiency, effectiveness, impact, and sustainability**. For final evaluations, a particular focus needs to be given to **sustainability** and **effectiveness** (progress towards the achievement of the specific objectives). Cf. evaluation criteria below.
- B. The follow-up plan of the programme for the post-IUC period (cf. self-assessments) is also evaluated. The follow-up plan needs to further guarantee sustainability at institutional level (and research groups), and the impact of the university on development processes in the surrounding community, province and eventually in the country.

### Evaluation criteria

As mentioned, the evaluation will use the OECD-DAC criteria (+ a criteria on scientific quality) as criteria to evaluate the IUC: **scientific quality, relevance, efficiency, effectiveness, impact, and sustainability**. Any priorities regarding criteria are mentioned in 3.2.

Below a brief definition of the criteria is provided and the interpretation of the different criteria (at programme level and at project level) is provided through the formulation of a number of questions/descriptors that specify the VLIR-UOS interpretation of the criteria. These descriptors are indicative. It is up to the evaluators to develop a more detailed set of sub-questions to assess the criteria.

The different criteria need to be analysed and assessed by the evaluators. They also need to provide a score for every criterion using a four-point evaluation scale. The scale is as follows:

- 1 = (very) poor
- 2 = insufficient/low
- 3 = sufficient/good
- 4 = very high/excellent

These scores - expressing in quantitative terms an overall and synthetic yet differentiated qualitative judgement - should facilitate the task of evaluation and should be applied for the IUC programme level and for each project within the IUC programme.

## Programme level

Criterion	Descriptors
<b>1. Relevance</b>	<p>“The extent to which the objectives of a programme are consistent with beneficiaries’ requirements, country needs, global priorities and partners’ and donors’ policies.”</p> <p>The extent to which the programme is addressing immediate and significant problems and needs of the concerned partners (institutional) as well as regional and national policy makers, with reference to the MDGs, PRSP and other multilateral policy documents.</p>
<b>2. Efficiency</b>	<p>“A measure of how economically resources/inputs (funds, expertise, time, etc.) are converted to results.”</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Sufficient “economy” considerations by the programme</li> <li><input type="checkbox"/> The use and application of the means earmarked for collaboration.</li> <li><input type="checkbox"/> The management of the programme both in Flanders and locally: <ul style="list-style-type: none"> <li>○ results-orientation of management</li> <li>○ cooperation between all parties involved (between projects and programme level, between projects, within projects, between programme and local university)</li> <li>○ quality of communication between all parties involved (between projects and programme level, between projects, within projects, between programme and local university)</li> </ul> </li> </ul>

	<ul style="list-style-type: none"> <li>○ External communication</li> </ul>
<b>3. Effectiveness</b>	<p>“The extent to which the programme’ s objectives are expected to be achieved, taking into account their relative importance.”</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Overall effectiveness of the programme, taking into account the attainment of specific objectives at project level</li> <li><input type="checkbox"/> changes in awareness, knowledge, skills at institutional level</li> <li><input type="checkbox"/> changes in organisational capacity (skills, structures, resources)</li> </ul>
<b>4. Impact</b>	<p>“Potential positive and negative, primary and secondary long-term effects produced by the programme, directly or indirectly, intended or unintended.”</p> <p>Not just actual but also (given time limitations) potential impact.</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Added value of the IUC programme for the institutional performance of the university</li> <li><input type="checkbox"/> Policy changes at institutional level? Changes in behaviour at institutional level?</li> <li><input type="checkbox"/> Added value of the IUC programme for the role of the university as a development actor</li> <li><input type="checkbox"/> the extent to which the collaboration has sparked other departments to initiate interuniversity collaboration, joint capacity building, fund raising etc.</li> <li><input type="checkbox"/> the extent to which the collaboration has led to joint developmental activities or similar collaborative models at the regional level</li> <li><input type="checkbox"/> the extent to which the collaboration has raised interest of policy makers and academics, and how the partner university is called upon or is pro-actively developing collaboration models that could be fed into policy advice</li> </ul>
<b>5. Sustainability</b>	<p>“The continuation of benefits after the programme have been completed.”</p> <p>Financial, institutional and academic sustainability:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> co-funding by the partner university (matching funds)</li> <li><input type="checkbox"/> incorporation of costs into the budget of the partner university</li> <li><input type="checkbox"/> the partner university sets aside funds for operations and maintenance of physical infrastructure</li> </ul>

	<input type="checkbox"/> Ability to attract external funds <input type="checkbox"/> Ability for full financing or co-financing events, workshops, congresses, mobility, grants, investments, infrastructure <input type="checkbox"/> Strengths and weaknesses of the institution in terms of institutionalising the collaboration <input type="checkbox"/> Intensification and/or formalisation of interuniversity consultations (North-South and South-South) <input type="checkbox"/> Ability to produce joint proposals (fund raising, research) <input type="checkbox"/> Collaboration and exchanges outside of VLIR-UOS-programme <p>Curbing brain drain into sustainable brain circulation, installing incentives, “pull factors” against “push factors”</p>
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## Project level

Criterion	Descriptors
<b>1. Scientific quality</b>	<p>“The extent to which a project has a ground-breaking nature and ambition (excellence).”</p> <ul style="list-style-type: none"> <li>▪ quality of research : the extent to which research - sufficiently involving stake-holders - is cutting edge; Extent to which the results have been incorporated in local or international refereed journals</li> <li>▪ quality of education : the extent to which new education practices – developed while sufficiently involving stakeholders - are cutting edge; Extent to which alumni easily get a job which fits their education profile; the number of fellowships acquired from foundations</li> </ul>
<b>2. Relevance</b>	<p>“The extent to which the objectives of a project are consistent with beneficiaries’ requirements, country needs, global priorities and partners’ and donors’ policies.”</p> <p>The extent to which the project addresses immediate and significant problems of the community, looking at the amount of self-finance, demand from state and private ac-tors, the level of transfer of know-how and technology. Synergy and complementarity with other (Belgian) actors.</p>
<b>3. Efficiency</b>	<p>“A measure of how economically resources/inputs (funds, expertise, time, etc.) are converted to results.”</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> The extent to which intermediate results (outputs) have been delivered</li> </ul>

	<input type="checkbox"/> The relationship between the intermediate results and the means used to reach the intermediate results. <input type="checkbox"/> The relationship between the objectives and the means used to reach the objectives. <input type="checkbox"/> Efficiency of project management (e.g. the extent of flexibility during implementation)
<b>4. Effectiveness</b>	<p>“The extent to which the programme’s objectives are expected to be achieved, taking into account their relative importance.”</p> <input type="checkbox"/> the degree to which the specific objectives have been achieved <input type="checkbox"/> the “use of outputs” <input type="checkbox"/> changes in behaviour <input type="checkbox"/> the extent to which the university/faculty/department has created the conditions for impact (e.g. by facilitating uptake)
<b>5. Impact</b>	<p>“Potential positive and negative, primary and secondary long-term effects produced by the project, directly or indirectly, intended or unintended.”</p>

## Actors involved

### General

The following actors will be involved in the evaluation:

- the VLIR-UOS secretariat;
- the stakeholders (both in Flanders and in the partner country) involved in the ongoing IUC cooperation programmes;
- the members of the evaluation team;
- the Direction General for Development Cooperation (DGD), i.e. the Belgian government administration for international cooperation
- other relevant stakeholders;

### The evaluation team

#### Expertise in management, academic content and country context

The following expertise need to be represented in the evaluation team:

- International development management expertise: knowledge of and experience with processes of institutional/organisational development, capacity building and methodological issues in general and in higher education in particular;
- Academic expertise regarding the core theme(s) of the partner programme such that the academic quality may be assessed;
- Country expertise: knowledge of and experience in the national issues at hand in terms of higher education and research in the country concerned.

The above fields should be accommodated by the joined expertise of two external evaluators. These experts should be neutral. This means that evaluators (1) have not been involved in the implementation of the intervention being evaluated (2) and have no contractual relationship, now or in the past, with any of the partners involved with the project/programme under review.

The experts should have a proven experience and expertise with evaluation in a development context.

The executive board of VLIR-UOS will decide on the composition of the evaluation team, based on the analysis and assessment of offers by the VLIR-UOS secretariat .

### **Division of tasks among the members of the evaluation team**

The evaluation is to be undertaken by both members of the evaluation team.

One expert will act as team leader (chairman). In this capacity he/she will lead the meetings that have been programmed and will coordinate the report drafting. He/she will be invited to use his/her experience with international cooperation in the field of higher education and research as reference for the evaluation, especially when formulating recommendations for improvement of the global set-up and management of the programme. A second expert, country expert, will be invited to situate the partner university and its IUC Programme in its larger national context, taking into account local legislation relating to higher education, etc.

### **The Northern stakeholders involved in the ongoing IUC co-operation programmes**

What is meant by the Northern stakeholders is: all persons from the Flemish universities who are involved in one of the ongoing IUC cooperation programme. This means: the top management of the Flemish coordinating university, the Flemish coordinator, the Flemish project leaders and team members, Ph.D. student promoters, the Institutional coordinator for University Development Cooperation of the Flemish coordinating university (the so-called ICOS), the financial officer(s) of the Flemish coordinating university, VLIR-UOS programme officer, students, Belgian development actors, etc.

### **The Southern stakeholders involved in the ongoing IUC co-operation programmes**

What is meant by the Southern stakeholders is: all persons from the partner university and the local government(s) and community who are involved in the respective IUC partnership. This means:

- the top management of the partner university, the authorities at faculty level, the local coordinator, the programme manager, the local project leaders, their deputies (if applicable) and team members, the staff of the local coordinating unit of the IUC programme (secretaries, accountants, ...), the students funded by the programme, the student supervisors and/or promoters, technicians, staff from other donor-sponsored cooperation programmes being implemented at the partner university, etc.;

- representatives from central, regional and local government agencies and from civil society (e.g. local chambers of industry, employers' association, ...), officials of the Ministry of Education and of Foreign Affairs, and of the Belgian Embassy, ...

## **The VLIR-UOS-secretariat**

The VLIR-UOS-secretariat will function as organiser of the evaluation, as well as resource centre for the evaluation team. The evaluation team will be closely assisted by the programme officer of the respective IUC programme within VLIR-UOS.

## **DGD**

The Directorate General for Development Cooperation, will be invited to have a separate discussion with the evaluation team, if so desired, and to participate in debriefing meetings with the evaluation team.

# **Methodology**

## **Methodology**

The evaluators are expected to detail an overall methodology for the evaluation in their offers (methodology ≠ data collection method). This methodology needs to be in accordance with the evaluation objectives, taking into account the context of the intervention and the budget of the evaluation.

Input into the evaluation will be provided through various information sources/methods. These are explained below.

## **Information sources/methods**

### **Programme documents**

Prior to its mission the evaluation team will receive from VLIR-UOS, apart from basic information on the IUC Programme, a number of documents relating to the respective IUC partnership, such as the university strategy paper, the IUC partner programme, annual reports, management manual, etc. Two other information sources will also be included:

### **The Logical Framework**

The logical framework and its indicators will serve as the main reference document to assess progress towards the objectives and results formulated.

All project leaders will therefore in the framework of the self-assessment report (see further) report on the key indicators of the logical framework as well as the assumptions formulated at project design stage. However, the expectation is that the availability of logical framework monitoring data will be somewhat limited (especially at outcome level), having a negative influence on the evaluability of the IUC. Until now “older” IUC programmes, including the IUC under review, were mainly asked to report on **eight key (programme/project) results areas (KRAs)**, each one specified in terms of its corresponding set of standard indicators. All IUC projects report against these indicators. They are essentially output-oriented and quantitative. Such a reporting contributes to documenting the actual outputs and retaining such information in a database that is annually updated and in view of the final evaluation: at the end of phase II. Data about these key result areas (and some other information, see below) will be provided by the Northern and Southern stakeholders through self-assessment formats and will be at the disposal of the evaluation committee. As a result of this focus on KRA’s, the monitoring for the specific logframe indicators is often rather limited.

### **Self-assessment reports**

The stakeholders in a given IUC partnership are invited, prior to the mission of the evaluation team, to make a self-assessment and to report on it to the evaluation team in the form of a number of self-assessment reports.

The objectives of the self-assessment are manifold:

- a. Reporting against the **logical framework**;
- b. Analysis of progress made and achievements;
- c. Consolidation and/or completion of Key Result Areas;
- d. **internal preparation for the discussions with the evaluation team** and its visit to the partner university;
- e. **Reflection** about the sustainability, lessons learned and the follow-up of the programme

The following **3 formats** will be used in the context of the IUC evaluations. These formats have been refined and consolidated:

- format n° 1 : self-assessment per project
- format n° 2 : collective self-assessment North
- format n° 3 : collective self-assessment South

### **Focused interviews with all stakeholders**

The evaluation team members will visit the partner university where they will have focused discussions with all stakeholders of the IUC partnership, both the Southern and Northern ones.

The interviews will be preferentially face-to-face but classical (group) interviews (e.g. students, authorities,...) are possible as well. Exceptionally, unavailable persons may be interviewed by telephone, E-mail, or by sending a questionnaire.

It is left at the discretion of the evaluation team to choose the right interviewing method and data analysis methods.

## **Visits**

The evaluation team is encouraged to visit all relevant facilities of the university, with special attention to infrastructure, the central offices involved in the programme (Programme Support Office or PSU), the classrooms and laboratories involved, research sites, field stations, development projects with a link to the IUC programme, ....

In the context of the evaluation methodology for the IUC evaluations a separate meeting will be held in Brussels with the international expert in order (i) to brief on VLIR-UOS, its programmes on university development cooperation, and the respective IUC partnerships and (ii) to allow discussions with the respective Northern stakeholders who cannot be present in the South at the time of the mission (e.g; in case there is no joint steering committee in that particular period).

## Annex 2: Mission programme

### Interviews with North Project Leaders/Programme Coordinators

Georges Eisendrath	VUB	Phase 2 Programme Coordinator Project Leader INSTDEV (P6)
Bernard Manderick	VUB	Phase 1 Programme Coordinator
Danny Van Hemelrijck	VUB	Phase 2 Project Leader CSE (P2)
Patrick De Wilde	VUB	Phase 1 Project Leader CSE
Roel Merckx	KUL	Project Leader AGBIO (P3)
Davy Vanden Broeck	UG	Phase 2 Project Leader Health (P4)
Lieva Van Langenhove	UG	Project Leader Textiles (P5)
Jannes Motmans	VUB	ICOS

### Kenya mission programme

MONDAY, 17 <sup>TH</sup> APRIL 2017	
	Meeting and lunch with John Githaiga, Phase 2 Programme Coordinator
TUESDAY, 18 <sup>TH</sup> APRIL 2017	
TIME	ACTIVITY/ITEM
09:00 – 11:00	<p>Courtesy call on Professor Nathan Ogechi, Deputy Vice-Chancellor Student Affairs and Acting Deputy Vice Chancellor Administration, Planning and Development</p> <p>Opening meeting with Deputy Vice-Chancellor and members of South Steering Committee:</p> <p>John Githaiga (Programme Coordinator)</p> <p>Edwin Ataro (Project Leader INSTDEV)</p> <p>Emmy Kipsoi (Team member (Gender) INSTDEV)</p> <p>David Biwott (Team member (ICT) INSTDEV)</p> <p>Andrew Obala (Project Leader HEALTH)</p> <p>Cox Sitters (Project Leader CSE)</p> <p>Cynthia Mutuku (Programme Manager)</p> <p>Kirwa Chirchir (Accountant, PSU)</p>

11:00 – 11:30	Visit VLIR IUC PSU office
11:30 -13:00	Meeting with INSTDEV (Project 6) Emmy Kipsoi, IGERD
1400-1700	Meeting and library visit with INSTDEV (Project 6) Edwin Ataro (Project Leader ICT) David Biwott (ICT team member) Solomon Mutai (Library team member) David Gichoya (School of Information Science)
18:30	Welcome dinner at Hotel Sirikwa (Guests with management and Steering Committee members)
<b>WEDNESDAY 19TH APRIL 2017</b>	
8.30 – 09:00	Visit to University of Eldoret: meeting with Vice-Chancellor, Professor Teresa Akenga, Deputy Vice-Chancellor Academic and Student Affairs, Professor Ruth Otunga
9:30 - 13.30	Meeting and laboratory site visits with AGBIO (Project 3) Florence Wamunga (Project Leader) Abigael Nasimiyu (Team member) Ruth Njoroge (Team member) Other PhD and Masters students
14:00 – 1700	Meeting and site visit to HEALTH (Project 4) Professor Paul Ayuo, Principal, College of Health Sciences Andrew Obala (Phase 2 Project Leader) Dr Barasa Otsyula (Phase 1 Project Leader) Ms. Mercy Kananu, Project Member (Administrator/Secretary). Dr. Irene Marete (Team member) Dr. Dina Chelagat (Team member) Dr. Jeremiah Laktabai (Team member) Ms. Rose Kimosop (Team member)
<b>THURSDAY 20<sup>TH</sup> APRIL 2017</b>	
9:00 – 09:30	Courtesy call to Vice-Chancellor's (VC) office: Acting VC Professor Laban Ayiro was away from the University and Professor I N Kimengi, Deputy VC Academic, Research and Extension received the evaluators on his behalf.
9:30 – 12:30	Meetings and laboratory visits with CSE (Project 2) Cox Sitters (Phase 2 Project Leader)

	<p>Joel Kibiiy, (Phase 1 Project Leader)</p> <p>Other project team members and PhD/Masters students:</p> <p>Dr J.R. Kosgei (Team member)</p> <p>Bernard Omondi (Team member)</p> <p>Ms V.J. Saibei (Team member)</p> <p>Miss. P.K. Njeru (Team member)</p> <p>Mr P.O. Jangaya (Team member)</p> <p>Ms V.A. Okumu (Team member)</p> <p>Mr E.M. Akivaga (Team member)</p>
12.30 – 13.00	Courtesy call to TEXTILE (Project 5) Project Leader, Eric Oyondi
14.00 - 15.30	Visit ICT infrastructure / installations in Main Campus: David Biwott and other IN-STDEV team members
15.30 – 1600	Meeting with IUC Programme Accountant, Kirwa Chirchir
16.00-17.00	Meeting with Programme Manager, Cynthia Mutuku
<b>FRIDAY 21<sup>ST</sup> APRIL 2017</b>	
09.00 – 09.30	<p>Courtesy meeting with Managing Director, Rivatex East Africa Ltd., Professor Thomas Kipkurgat</p> <p>Meeting and laboratory visit with TEXTILE (Project 5)</p> <p>Eric Oyondi (Phase 2 Project Leader)</p> <p>John Githaiga (Phase 1 Project Leader)</p> <p>Charles Nzila (Team member)</p> <p>Josphat Mwasvagi (Team member)</p> <p>Benson Dulo (Team member)</p> <p>David Tuigong (Team member)</p> <p>Naftali Kiplagat (Team member)</p> <p>Diana Madara (Team member)</p> <p>David Njuguna (Team member)</p> <p>Sheila Odhiambo (Team member)</p> <p>Rivatex factory visit, including DLP warehouse and assembly sites</p>
<b>15:00 – 15:45</b>	Closing meeting with MU and UOE management and Local Steering Committee members

## ABOUT VLIR-UOS

VLIR-UOS supports partnerships between universities and university colleges in Flanders and the South that seek innovative responses to global and local challenges.

We fund cooperation projects between professors, researchers and teachers. In addition, we award scholarships to students and professionals in Flanders and the South. Lastly, we contribute to strengthening higher education in the South and internationalizing higher education in Flanders.

VLIR-UOS is part of the Flemish Interuniversity Council and receives funding from the Belgian Development Cooperation.

More information: [www.vliruos.be](http://www.vliruos.be)

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# Evaluation Management Response

## General

<b>Evaluation title:</b>	Final evaluation of the Institutional University Cooperation with Moi University, Kenya
<b>Evaluation year:</b>	2017
<b>Authors:</b>	
<b>How was this <u>management response</u> developed and validated ?</b>	The management in one of its consultative forum, received the evaluation report and discussed it. The management noted the positive feedback therein, and tasked the DVC AP&D to dialogue with the Programme Coordinator and Administrator for in-depth insights/perspectives. A comprehensive outlook was provided

## Appreciation of evaluation

<b>How has the <u>evaluation report</u> been discussed and used in the programme and the university?</b>
The evaluation report was tabled and discussed in the University Management Board meeting. At the Programme level, the Local Steering Committee (LSC) met and discussed the report. The recommendations were appreciated and partially incorporated into the activities planned during the Phase Out stage. Although the University has not used this report so far, the overall positives of the report will be used as a proof of prudent resource mobilisation while sourcing for future projects.
<b>What is your general appreciation of the evaluation report?</b> <b>Were there shortfalls or limitations in the process and/outcomes? Are there any additional insights not articulated in the recommendations?</b>
We appreciate the report as a positive feedback. To the best of our knowledge there were no shortfalls in the process and its outcomes. The report captured the realities and evolution of the programme both in Phase 1 & 2.

## Management response to recommendations of the evaluation

For every recommendation, please fill out a table:

<b>Recommendation 1:</b>	MU should build on the programme and project management expertise developed by the Programme Coordinator, Programme Manager and PSU office staff to develop an active University unit to source international and national research funding and support project proposal writing and submission.	
<b>Management Response</b> (Agree, partially agree, disagree):	Agree. The university has always and continues to support the PSU in the execution of VLIR-IUC activities and its spinoff projects. However, there exists established university research directorate and an established projects department	
<b>If recommendation is rejected or partially accepted, report reasons:</b>	N/A	
<b>Actions Planned</b>	<b>Implementation stage</b> (not started, underway, completed, cancelled) + <b>timeframe</b> (action finalised):	<b>Actions taken</b>
The PSU continues with the execution of the spinoff projects and support of continuing PhD Scholars	underway	Management of activities continues

<b>Recommendation 2:</b>	IUC Programme Project teams (particularly AGBIO in UoE, CSE, TEXTILE) should take the opportunity of the Phase Out of the IUC Programme, with its specific objective to provide logistical, administrative and financial support in proposal writing, research and funding for sustainability, and creating forums to share best practices, to seek out multi-disciplinary, cross institution research funding that will enable team members to build on their increased capacity, confidence and team-working. In this way they have an opportunity to demonstrate multi-disciplinary approaches to other departments and schools in MU.	
<b>Management Response</b> (Agree, partially agree, disagree):	Agree. The University Management together with the Local Steering Committee planned and executed activities that supported the projects for sustainability during Phase Out. The Programme provided the logistics, administrative and financial support in the organisation of forums	

	towards hosting of the workshops. University Management invited identified Donors, Keynote facilitators and stakeholders	
<b>If recommendation is rejected or partially accepted, report reasons:</b>		
<b>Actions Planned</b>	<b>Implementation stage</b> (not started, underway, completed, cancelled) + <b>timeframe</b> (action finalised):	<b>Actions taken</b>
Wow effect workshop	Completed – in Dec 2017	Organised workshop for project team members on how to write fundable project proposals
PCM workshop	Completed – in Dec 2017	Trained team members and other university staff to competitive win and manage projects successfully
SDGs Workshop	Completed – in Dec 2017 and Feb 2018	Organised workshop on SDGs with Donors, stakeholders, team members, university management and staff where project concepts were developed and presented to prospective donors with collaboration with stakeholders. A local donor (NDMA) co-sponsored the Dec. 2017 workshop