

VLIR-UOS

Flemish University Council

University Development Cooperation



Mid-term evaluation of the ongoing cooperation with Jimma University, Ethiopia

FINAL REPORT MAY 2011

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ACRONYMS

AP	Annual Activity Plan
AR	Annual Report
CBE	Community Based Education
CBTP	Community Based Training Programme
CIDA	Canadian International Development Agency
CRC	Community Resource Center
CTG	Close the Gap
EARI	Ethiopian Agricultural Research Institute
ESDP	Education Sector Development Program
ETB	Ethiopian Birr
GIS	Geographical information system
GTP	Growth and Transformation Plan
HE	Higher education
HRD	Human resources development
ICT	Information and Communication Technology
IFS	International Foundation for Science
IR	Intermediate Result
ITM	Institute for Tropical Medicine, Brussels
IUC	Institutional University Cooperation
JU	Jimma University
JUCAVM	Jimma University College of Agriculture and Veterinary Medicine
KRA	Key Results Area
K.U.Leuven	Katholieke Universiteit Leuven
MDG	Millennium Development Goals
NGO	Non-governmental organisation
PASDEP	Plan for Accelerated and Sustained Development to End Poverty
PCM	Project Cycle Management
PP	Partnership Programme
PRA	Participatory Rural Appraisal
SDPRP	Sustainable Development and Poverty Reduction Program
SRP	Student Research Programme
TOR	Terms of Reference
TTP	Team Training Programme
UGent	University of Gent
VLADOC	Vlaamse doctoraatsbeurzen
VLIR	Vlaamse Interuniversitaire Raad (Flemish Interuniversity Council)
VLIR-UOS	VLIR University Development Cooperation
VUB	Vrije Universiteit Brussel

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FOREWORD

This evaluation commission has taken the position of ‘critical friend’ of the VLIR-UOS IUC Partnership Programme in general and of the IUC Partnership Programme at Jimma University (IUC-JU) in particular, with a view to highlighting evident challenges and areas of success, and suggesting changes of emphasis or direction for Phase 2, and possible new initiatives that might improve efficiency, effectiveness and overall impact.

It has been commented that this mid-term evaluation could have been more productive if one of the evaluation commission had a research background in a relevant scientific field (natural and health sciences). We concur with this view to an extent. However, we do not see it as the role of the mid-term evaluation commission, within the resource and time constraints imposed, to make substantive comments (critical or otherwise) about the scientific content or scientific quality of the research to date, nor the possible future research directions of research in terms of scientific content. In this we could add nothing to the expertise of JU and its Flemish academic partners, no matter what our own research and professional backgrounds might be.

The level of ownership of the mid-term evaluation process in the IUC-JU was high, as evidenced by both the self assessments completed by most North and South project leaders and the level of attention paid to the work of the evaluation commission during its visit to Jimma University (JU) from 14-19 January 2011. Opportunities for discussion, both formal and informal, with JU project team members, as well as the North and South Programme Coordinators, were exploited as far as possible during the visit. Conversely, the evaluation commission regrets that it was not possible to have more extensive and similar engagement with Northern project team members, only one or two of whom happened to be present in Jimma during the commission’s visit, through preceding or subsequent visits to Flemish universities. This would have provided a more balanced picture of the IUC-JU than the commission was able to obtain just from document review and interviews in Brussels with the seven Northern project leaders only.

The evaluation commission was particularly struck by the overall commitment and dynamism of JU itself and its response, in terms of investment, openness to policy and procedural change, and strategic planning, to the challenges and opportunities afforded by the IUC-JU. There is no doubt that the VLIR-UOS guiding philosophies for establishing and nurturing partnerships, including multidisciplinary approaches, identifying shared interests, participation and ownership, is serving JU well in its current phase of development.

The evaluation commission would like to express its appreciation to all of the individuals we met during the course of the evaluation, many of whom may not be listed in the annex to this report. The information, dialogue, and ideas shared with these individuals were instrumental in shaping our thinking on the current stage of the Partnership, as well as the prospects for the future.

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EXECUTIVE SUMMARY

Introduction

This is the final report of an external evaluation commission contracted by VLIR-UOS to undertake the mid-term evaluation of the VLIR-UOS Programme for Institutional University Cooperation (IUC) at Jimma University (JU) in Ethiopia.

The IUC-JU Programme is led by the University of Gent (UGent) and draws on expertise from five Flemish universities as well as non-university research institutes in Belgium. The Pre-Partner Programme began in 2006 and 2007 was Year 1 of the IUC-JU Programme.

The context for the IUC-JU is a national higher education system that has seen a period of rapid expansion (in terms of numbers of public universities) and growth (in terms of student numbers) since the early part of the last decade, with consequent pressures on academic staff numbers and quality, facilities and equipment. JU has played its part in this expansion, with an investment programme that has kept pace with the national goals in general and the requirements of the IUC-JU in expanding research programmes and improving research capacity and quality.

Overview of the Programme

The IUC-JU has seven projects, of a highly multidisciplinary nature, each with several sub-projects centred on a PhD research topic and scholar. The projects are as follows:

1. Zoonotic and Animal Diseases
2. Child Health and Nutrition
3. Environmental Health and Ecology
4. Epidemiology and Modelling
5. Soil Fertility
6. ICT and library
7. Research Coordination

Projects 1 – 6 all emerged from the pre-existing research and teaching priorities of JU, from the University's commitment to Community Based Education (CBE), and from the specific developmental issues pertaining to the region around Jimma and the Gilgel Gibe dam construction and expansion.

Capacity-building is the explicit or implicit goal of all the projects with the overall aim of building in JU a robust core of PhD qualified academic researchers and teachers.

The IUC-JU Programme is on track to achieve this aim, with 28 PhD studies ongoing at the time of this mid-term evaluation (see Annex 5) and another 20 envisaged for Phase 2. JU itself is clearly taking the issue of retention of qualified staff extremely seriously and is committed to offering a range of non-salary incentives for staff to remain at JU (e.g. housing, assistance with purchasing houses, good working environment and facilities, information and communications technology (ICT) support).

The major achievements of the Programme so far can be summed up as

- Contributing significantly (after only four years) to strengthened research capacity and increased research outputs;

- Laying the foundations of a dynamic and collaborative research culture, directed at critical social, scientific and public health issues of direct development relevance;
- Supporting IUC-JU (mainly with key expertise and training, but also with equipment) in making significant improvements to the research and teaching environment;
- Providing substantial support to JU's expansion of educational programmes through academic staff capacity-building.

In the Programme overall there have been five identifiable problem areas that have affected each of the projects to a greater or lesser extent:

- **Research was driven to a large extent by the PhDs**, which did mean that some of the possible PhD candidates who did not obtain scholarships were quite disappointed, sometimes to the extent that they left the projects. This was quickly recognized as a significant threat to the Programme's objective of building research capacity and a research culture within JU, and steps were taken by all projects and JU to mitigate the risk. However, most research teams only became really effective, moving forward with data-gathering and laboratory work, in 2009.
- A related problem of **team building and management** was encountered in Phase I, because the first project leaders in the South were in most cases recipients of the PhD scholarships, they had a difficult dual role to play, which did not lend itself to establishing good collaborative teams and team dynamics.
- A persistent factor has been delays and **difficulties in procurement** of equipment and materials. The procurement process of JU, in line with government regulations, was a bottle neck for all projects and the Programme initiated procurement from Belgium to expedite progress. JU has taken steps to overcome these problems, and these steps are beginning to have a positive effect, though there are outstanding procurement difficulties.
- At the start of the Programme the **Project Support Unit (PSU)** was weak and under-staffed and staff training and development inputs were not adequate to ameliorate the lack of capacity and skills in these very new areas. Financial management in particular was a challenge for the PSU and for project leaders. With the support of JU, as the capacity of the PSU improved and VLIR-OUS procedures became more familiar, so these problems have been largely overcome.
- Because the IUC-JU Programme has as its focus the Gilgel Gibe catchment area, including Jimma town it became apparent quite early on that **community fatigue** was going to be an ongoing problem. Communities needed to be engaged in and convinced of the benefits of research, as lack of their cooperation represented a serious risk to effective research. These issues have been tackled by individual projects in a number of innovative ways, but this will remain a challenge for Phase 2 and into the future.

Summary of main conclusions and recommendations

The evaluation commission has no hesitation in concluding that the IUC-JU overall is on track to reach and, in some cases, possibly to exceed the objectives set for the full Programme; nor in recommending that Phase 2 is implemented as planned from the end of 2011, with an emphasis on consolidating gains and building on new research capacities to achieve solid research results, and

looking to opportunities, such as those recommended by this commission, to support the sustainability plans of JU.

1. Expectations and assumptions

It is important that lessons are learned from the early expectations of rapid progress and mistaken assumptions about JU capacity in Phase 1. The Programme Coordinators and project leaders might consider whether the sustainability and quality of the IUC-JU might be better served by funding fewer new PhD scholarships than planned for Phase 2 and allocating those resources to consolidating the gains of Phase 1, for instance, through stimulating more active national research or teaching collaboration, providing structured post-doctoral support to completed PhDs, etc.

2. Towards Phase 2 - Research programme review

There have been numerous and possibly significant changes in international, regional (East African) and national economic, social and development policies and priorities that imply a changed planning environment for research programmes. It may be useful for the IUC-JU Programme to revisit the priority research areas of the Programme to ensure that emerging critical issues are also accommodated in so far as feasible and appropriate. We **recommend** therefore that Phase 2 commences (in 2011) with a research programme review exercise by the JU and North partners.

3. National and regional collaboration

We **recommend** that institutional approaches to national and regional (East African) collaboration are accepted, formalised and prioritised as part of the IUC-JU Phase 2, through activities such as building a regular IUC-JU events programme focusing on emerging results from IUC-JU research; and active encouragement and facilitation of joint funding proposal development by IUC-JU research team members with colleagues in relevant national and regional institutions.

4. Using Ethiopian co-promoters

Another way to build national networks and contacts would be to seek Ethiopian co-promoters from among other university and research institutions for the new PhDs in Phase 2, and possibly engage external Ethiopian academics in supervision of post-doctoral research in JU. We **recommend** therefore that in Phase 2 the IUC-JU actively explores opportunities to appoint co-promoters of new PhDs from within national academic and research institutions.

5. Post-doctoral support

We **recommend** that Phase 2 of the IUC-JU builds in formal mechanisms to support post-doctoral research, for example, to set post-doctoral research objectives in key areas from among the current projects and sub-projects; to provide resources (materials, access to IUC-JU facilities) to enable the completed PhDs to continue their research and to publish their results; and to fund opportunities for the completed PhDs to network nationally and regionally, and possibly to be supported by advisers from other Ethiopian universities.

6. Improving communication and support between North promoters and PhD students

At the level of individual PhD students, between the scholar in JU and their Northern promoter we found variation in communication practices and effectiveness. For much of the time, the crucial routine business of supporting, advising and communicating between student and promoter is reliant

on ICT, and we found that some North and South team members are better than others at exploiting ICT applications such as email, file sharing, Skype etc. We **recommend** that IUC-JU, perhaps assisted by VLIR-UOS for wider application in other IUC Programmes, drafts and agrees between all IUC-JU Partners a brief 'code of conduct' for promoters and PhD students; and that all Northern promoters and PhD students are required to use of the full range of ICT methods to communicate regularly and constructively.

7. Challenges of writing for publication

While most project team members were able to take advantage of the one-off training course on scientific writing delivered by a Flemish trainer and organised by project 5, one course is not sufficient. The university may consider looking at models of centres for academic writing, which are common among universities internationally. No doubt Flemish models for such centres exist: we **recommend** that the IUC-JU could facilitate some exchanges and advice on this issue, as well as providing further and more intensive training for PhD and Masters students and other project team members.

8. Using smart phone technology in field work

The work of the Data Centre could be immeasurably enhanced if, in future years, a significant proportion of research field work and data gathering were done using mobile and 'smart' phone technology. We therefore **recommend** that the IUC-JU considers introducing one or two pilot initiatives in using mobile telephony for field data gathering into existing projects and sub-projects, where research is progressing well and where teams are experienced and confident in their field work.

9. Collaborating to improve procurement

The issue of procurement of materials and reagents has recurred throughout Phase 1 as a major problem and constraint on progress. JU has already taken steps to consolidate procurement across the IUC-JU projects in order to try for economies of scale. But the requirement for these reagents must also be shared by other scientific research institutions in Ethiopia. We **recommend** that JU, under the auspices of the IUC-JU Programme, should explore as lead university the establishment of a purchasing consortium of national academic and research institutions to improve the procurement and flow of these chemicals and reagents. .

10. Project level recommendations

Project 1: Zoonotic and animal diseases

We **recommend** that reorganisation of research themes proposed in 2009 is properly implemented and research topics rationalised (including if necessary dropping one or two topics). This should be done before new PhD candidates are invited or accepted.

Project 6: ICT and Library

We recommend that, in Phase 2, consideration is given in using some project 6 resources to assist JU to address such issues as the long-term affordability of e-journal and e-information database access, the utility of increasing printed book collections, within the context of a strategic plan for the university's library services, key elements of which project 6 could then support to the limit of its restricted budget.

Project 7: Research coordination

We suggest that the Data Centre has the potential to become JU's own institutional repository, providing controlled access by international researchers to the university's research outputs, with the inclusion in the database of submitted, in press and published articles, conference papers and other research outputs associated with the data already being deposited.

We **recommend** that, in Phase 2, project 6 and 7 staff work together on researching and defining the scope, structure and development plan of such a repository, and ensure that the appropriate ICT infrastructures and applications planned for the Data Centre can also accommodate and secure effective storage and retrieval of other types of digital material.

1. INTRODUCTION

1.1 Background information on the Evaluation

1.1.1 The VLIR-UOS IUC Programme

The IUC Programme is an inter-university cooperation programme of the Flemish universities, focused on the institutional needs and priorities of partner universities in the South. The IUC Programme is in principle demand-oriented, and seeks to promote local ownership through the full involvement of the partner both in the design and implementation of the Programme. The Programme relates to 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 within a Programme located in the same partner university.

Support is directed towards the institutional development of the partner university, the improvement of quality of local undergraduate and postgraduate education, and the encouragement of south-south academic and research linkages. Each partnership consists of different education and research-oriented projects aiming at maximum institutional impact. The partnership may also include some projects aimed at improving the organisation, administration and management of the university as a whole. The identification of the fields of cooperation is in principle demand-based, but demands can obviously only be met to the extent that Flemish expertise is available.

1.1.2 The IUC Programme at Jimma University (IUC-JU)

The main theme of the Programme is 'Investigating the impact of the Gilgel Gibe dam. A multidisciplinary approach towards capacity building', and it builds on pre-existing research projects at JU. The Programme focuses on the impact of the Gilgel Gibe hydro-electric dam in terms of human and animal health, ecology and agronomy. Joint research is undertaken in different disciplines in Jimma town and the Gilgel Gibe area to improve the quality of life of local communities, and in addition to build the research and educational capacities of JU academic staff and students.

The overall academic objective of the Programme is:

To enhance the quality of teaching and research undertaken in JU through planned and targeted development of human resources and collaborative and multidisciplinary research of an international standard that addresses the priority problems of the local community and the country at large.

The overall academic objective of the partner programme (PP) is closely related to the vision, mission, strategic directions (goals) and objectives of the University as stated in 'The Transformation Agenda', the ten year strategic plan of JU. Phase I of the PP was aimed primarily at supporting teaching and research, contributing to the realisation of the vision of JU to become a leading university in the country, renowned in Africa and respected globally for quality and excellence of its training programmes and research undertakings as well as for the services it provides to community and society at large.

The PP supports the strategic directions (goals) mapped out in 'The Transformation Agenda', especially the following four major goals:

- enhancing quality of teaching and learning process;
- promoting quality and culture of research and scholarship;

- acquiring capacity for attraction, development and retention of qualified people; and
- developing adequate infrastructure and state-of-the-art ICT facilities.

The PP supports the mission, vision, goals and objectives of “The Transformation Agenda” by

- Developing human resources capacity of the University to deliver quality teaching and research through long-term scholarship opportunities at masters and PhD levels and short term skills training programmes;
- Resourcing collaborative research and promoting south-north, south-south and north-south-south links for advancement of knowledge and scientific work in priority areas of the partner university;
- Improving the availability of additional resources and expertise for enhancement of research undertaking in the University; and
- Providing expertise and professional support to ICT and library services of the University.

The overall developmental objective of the Programme is to improve the life of people in the Gilgel Gibe dam area and promote sustainable development through research in problems and issues of human and animal health, environmental health and ecology, food and nutrition and soil fertility and promoting evidence based interventions in the target area in collaboration with different stakeholders.

JU is the national pioneer in Community Based Education (CBE). CBE is not just a means of achieving educational quality and relevance. It is also a key means of playing an active role and supporting sustainable development efforts in the community in close cooperation with the community itself. Community involvement, community empowerment and inter-sectoral collaboration are some of the principles promoted by the University in its relationship with the community.

One of the goals of the University (Goal 7) in its strategic plan is ‘serving the society through effective collaboration with different partners’. In the past the University has supported local development efforts through interventions implemented in collaboration with different partners (mainly the community), through operational research in priority problems of the community, through skills training programmes organised for different sectors, through health services and health education provided to people living in the locality, and through human capacity building programmes addressing critical gaps in human power shortage both in quantity and qualifications in federal and regional governments and other organisations. The IUC-JU aims to contribute to the achievement of this goal through:

- Conducting research in the priority developmental issues and problems of the community and local authorities as well as the country at large;
- Organising workshops for community leaders, local authorities, policy makers and programme managers on research projects and their findings to disseminate the information;
- Designing and implementing evidence based interventions in collaboration with governmental and non-governmental organisations (NGOs) and the community;
- Creating access to ICT and library for the local community through Close The Gap (CTG);
- Creating a forum for discussions on developmental issues among government organisations, NGOs, multi-lateral and bilateral agencies as well as the community.

The preparatory year of the IUC-JU started In March 2006, by which time project proposals for the main research projects had been submitted. The matchmaking mission took place in November 2006. Phase 1 of the Programme began in March 2007 (Year 1 was 9 months in duration). It was a

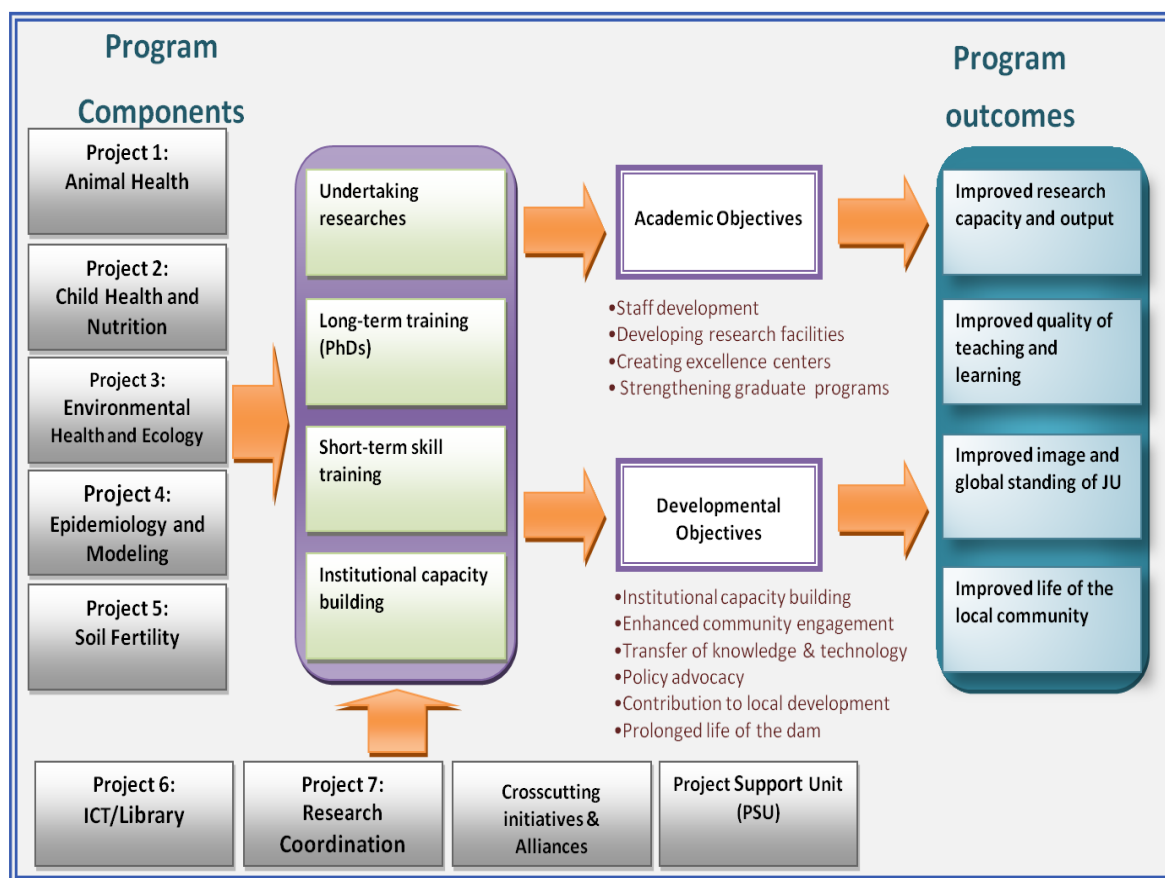
deliberate choice to have a short first year, during which Flemish academics were able to visit JU for the first time and to set up the necessary contacts to start up the research and to use the first year to develop the different sub-projects. Most of the project teams took the decision to postpone the start of PhD scholarships until 2008 (Year 2).

At the start of Phase 1 the IUC-JU Programme comprised seven agreed interrelated projects, each taking a share of the total budget for Phase 1 of €3,538,743 as follows (budget share shown in parentheses):

1. Zoonotic and Animal Diseases (17%)
2. Child Health and Nutrition (17%)
3. Environmental Health and Ecology (21%)
4. Epidemiology and Modelling (21%)
5. Soil Fertility (12%)
6. ICT and library (5%)
7. Research Coordination (7%)

Figure 1 presents an overview of the Programme components and expected outcomes.

Figure 1: Overview of IUC-JU Programme prepared by Programme Coordinators (Source: JU Programme Coordinator presentation to evaluation commission 15/01/11)



1.1.3 Terms of reference for the evaluation

The mid-term evaluation is meant to generate conclusions that will allow:

- VLIR-UOS to make a decision regarding the formulation of a second phase of the collaboration;
- the formulation of recommendations to all stakeholders in terms of the content and management of the Programme, including the overall policy framework;
- identification and comment upon possible venues for the future of the Programme.

The scope of the evaluation covers:

1. the present implementation of the Programme: evaluating the **global state of implementation** of the Programme, both at the level of the overall Programme and the constituent projects; evaluating whether the **activities**, per project, have generated **the intermediate results**, meeting the **objectives**, that had been defined by the actors involved, within the given timeframe and with the given means, as given in the logical framework;
2. the nature of the Programme: evaluating the **quality, efficiency, efficacy, impact, development relevance** and **sustainability** of the Programme in the light of the overall goal of the IUC Programme, being institutional capacity-building of the local university, as situated in the context of the needs of the local society;
3. the position of the IUC Programme within the international cooperation activities of the partner university (bench marking): evaluating the **added value of the IUC Programme** for the partner university, in comparison to other ongoing donor cooperation programmes;
4. evaluating the **management** of the Programme, both in Flanders and locally, and formulating, if necessary, recommendations for improvement;
5. evaluating the **cooperation** between all parties involved, and formulating, if necessary, recommendations for improvement.

1.1.4 The evaluation methodology

The methodology for mid-term 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 PPs. The current methodology relies upon

- self-assessment by IUC-JU project leaders and Programme Coordinators both North and South;
- external review by a team comprising an International and a National expert, familiar with higher education and development cooperation and country-specific issues.

The logical frameworks for the IUC-JU and for individual projects were used as the primary reference document in assessing progress. However, the variable quality of these logical frameworks and the diverse ways in which they had been used and updated (or not) throughout Phase 1 of the IUC-JU have limited their usefulness as both project management and assessment tools.

Key Results Areas

The evaluation terms of reference required a focus on seven key results areas (KRAs) for the Programme as a whole and for each project within it, with an option to add pertinent KRAs as an 'Other'¹ category. Each KRA is specified in terms of its corresponding set of indicators, and where possible, the evaluators were asked to obtain both quantitative and full descriptive data to use as a basis for evaluation. The seven specified KRAs are:

- research;
- teaching;
- extension and outreach;
- management;
- human resources development;
- infrastructure management;
- mobilisation of additional resources/opportunities;

Qualitative evaluation criteria

As stated in the terms of reference VLIR-UOS has defined a set of five criteria for evaluating the overall IUC Programmes, namely:

- efficiency
- impact
- development relevance
- sustainability
- change

For each project within the IUC Programme VLIR-UOS also defined six qualitative evaluation criteria:

- quality;
- effectiveness;
- efficiency;
- outcomes;
- development relevance;
- sustainability.

Rating scale

As required by the Terms of Reference a 5-point rating scale was employed by the evaluation commission in their assessment of each Project against both KRAs and qualitative criteria. Scale: 1 = very poor, 2 = insufficient/low, 3 = sufficient, 4 = good/high, 5 = excellent/ very high, N/A = Not Applicable.

The rating of Programme and project progress against this scale is inevitably subjective and at the discretion of the commission members, as there are no objective criteria that can be applied to

¹ Only in the Self-assessment report template does this KRA 8 'Other' include the example 'Inventory'. We have not included this KRA in any project assessment unless relevant 'inventory' information has been provided in self-assessment reports by project leaders. The evaluation commission has had no access to 'inventory' information.

determine ratings. The commission has tried to be consistent across projects and the overall Programme.

1.1.5 The evaluation activities undertaken

The evaluation began with an extensive review of available Programme and background documentation. Most of the self-assessment reports were completed by mid-December 2010, with only one outstanding (for project 1 – delivered to the evaluation team only during the field mission).

The International Expert had meetings (each of 1.5 hours duration) in VLIR-UOS headquarters in Brussels (14-15 December) with six Northern Project leaders and / or team members, including the North Programme Coordinator, Dr Luc Duchateau, and discussions with the relevant VLIR-UOS staff. One Project leader (for Project 3) was subsequently followed up by telephone. No provision within the contract was made for the International Expert to visit Flemish institutions for more substantive discussions with Northern team members, which would have been valuable, especially following the field mission to Jimma.

The evaluation commission visited Jimma for a five-day mission 14-19 January 2011. A comprehensive visit programme had been drawn up by the Programme Manager (see Annex 3) enabling presentations by and meetings with all available project leaders, deputy project leaders and informal discussions with team members from the seven IUC-JU Projects, as well as consultation with senior JU managers. Visits were arranged to JU facilities on campus and research sites in Jimma town and the Gilgel Gibe area. In addition, there were several opportunities to talk with the South Programme Coordinator, Kora Tushune, and with Dr Duchateau and several Northern team members in Jimma at that time.

In Addis Ababa the evaluation team had meetings with the Belgian Ambassador, Gunther Sleenwagen, and the VLIR-UOS Country Representative in Ethiopia, Dr Hans Bauer.

The evaluation team's enquiry focused completely on

- reviewing results of both the Programme and individual projects against the identified Intermediate Results and KRAs, and
- gathering quantitative, qualitative and anecdotal evidence to assess the Programme and projects against the identified evaluation criteria.

The evaluation field work concluded with a preliminary debriefing for the President of JU, Dr Fikre Lemessa, the Academic Vice-President, the South Programme Coordinator and Programme management staff (see Annex 4). This report in draft was submitted for comment in March 2011.

1.2 Contextual information

1.2.1 Ethiopia

Ethiopia is located in eastern Africa, bordered by Eritrea to the north, Sudan to the west, Djibouti and Somalia to the east, and Kenya to the south. The total population of Ethiopia is projected at 85 million², by 2009/10. More than 80% of the population lives in the rural areas with subsistence farming as its mainstay. The Ethiopian economy is based on agriculture which accounts for about 85% of total employment, 44% of GDP and 90% of exports, while livestock production accounts for 15% of the GDP and 12% of exports. The labour force of the country is about 38 million (2007), 85% of which is in agriculture, 5% in industry and 10% in services. Under Ethiopia's constitution, the state owns all land and provides long-term leases to the tenants.

The adult literacy rate is about 36%, with 50% for male and 35% for female. The adult literacy rate in the rural areas is much lower than that in urban areas. The country is a land of natural contrast and topography varies from 116 m below sea level in the Afar region to 4,553m above sea level at Mount Ras Dashen in Northwest Ethiopia. Sixty-one percent of the land area consists of hot lowland plains with elevations below 1,500m and a mean annual rainfall of less than 500mm. The highlands are home to nearly 85% of the population. Malaria, TB, and HIV/AIDS are among the prevalent diseases in the country.

1.2.2 Development potential and challenges

The country has the potential to become self sufficient in food. Ethiopia is the second most populous nation in Africa and the tenth-largest by area at 1.14 million square kilometres, of which 1.07 million square kilometres is land and 7.0 thousand square kilometres water. The available bodies of water have endowed the country with high potential for irrigation, hydro electric power (the second biggest hydropower potential in Africa), and other economic and social uses. The country also has one of the largest livestock populations in Africa. The country is further reported to have reserves of gold, platinum, copper, potash, gem, coal, natural gas, incense, and natural gum. The country is a centre of diversity for a number of food, oil and industrial crops, medicinal plants and animals, including the Semian fox, the mountain Nyala, Walia ibex and the Gelada baboon. About 12,296,000 hectares of Ethiopia (11.2% of land area) are forested, although the country is losing an average of 140,900 hectares or 0.93% per year to uncontrolled deforestation and poor conservation practice. Ethiopia has no significant fishing or forestry industries.

Despite its huge natural resources potential, the country continues to be one of the poorest countries in the world, ranking 171 out of 182 countries in 2009 with a Human Development Index of 0.414. Although the amount of potentially arable land is much larger, only about 20% of the total land area is under cultivation and almost all of it is dependent on rainfall. The country underwent a series of famines in the 1980s, and still experiences recurrent food shortages, drought and crop failure in some parts of the country. About 39% of the population is estimated to be below the poverty line and between 6 and 13 million people are at risk of starvation each year. Basic necessities such as clean drinking water and electric power supply are still far from adequate. Forest and soil degradation has also left the country vulnerable to natural calamities. With an average of 2.9% growth rate, population growth is regarded as one of the biggest development challenges to the country. The rural population

² 88 million according to the World Factbook at <https://www.cia.gov/library/publications/the-world-factbook/geos/et.html>

(more than 80% of the population) is basically agrarian and subsistence, requiring the major intervention if the country is to lift itself out of its poor current state of economic and social development. Urban poverty is also serious.

The Government of Ethiopia, however, is committed to address these challenges through different regimes. Bilateral, multilateral, unilateral and other development support from the international community also contribute.

1.2.3 Progress during the IUC-JU project period (2005/06-2009/10)

Since 2000 the country's development policies and strategies have been geared specifically towards addressing poverty reduction and meeting the Millennium Development Goals (MDGs). To realise these goals, the country has been implementing long term development plans particularly since 2002/03: namely, the Sustainable Development and Poverty Reduction Program (SDPRP) in 2002/03-2004/05; the Plan for Accelerated and Sustained Development to End Poverty (PASDEP) in 2005/06-2009/10; and the Growth and Transformation Plan (GTP) for 2010/11-2014/15 (Ministry of Finance and Economic Development, 2002, 2005, 2010). The GTP, endorsed in December 2010, builds on directions, lessons learned and achievements of PASDEP while in a similar way PASDEP built on SDPRP, ensuring continuity of directions and development goals for the country. The Government of Ethiopia has given emphasis to agriculture, education, and health as expressed in these development plans.

The GTP's vision for the economic sector is: "to build an economy which has a modern and productive agricultural sector with enhanced technology and an industrial sector that plays a leading role in the economy; to sustain economic development and secure social justice; and, increase per capita income of citizens so that it reaches at the level of those in middle-income countries." According to the plan, the country would have an average of 15% economic growth. Inflation will be held at a single digit during the plan period. The plan also shows commitment of the country to improve the country's infrastructure; including expanding the country's the hydro electric power production from the current 2000MW to 10,000MW. Exports of goods is also planned to increase by 28.4% on average during the plan period. The plan identifies, as did the earlier development plans, higher learning institutions as one of the critical resources to realise its goals. JU is one of the major public universities in the country expected to play important role in the development efforts of the country. The IUC-JU Programme has been formulated and implemented along the same lines as the PASDEP, the development plan of the country that was in effect during the IUC-JU Phase 1 Programme period (2005/6- 2009/10).

Mainly due to the visions of the development plans and commitment of the Government of Ethiopia to mobilise internal and external resources to implement the plans, the country has shown encouraging economic and social developments particularly during the period of implementation of Phase 1 of the IUC-JU Programme. Today Ethiopia has the biggest economy in East Africa due to a steady increase in growth in GDP (11% on average since 2003). Agriculture, industry and service have been growing at an average rate of 8%, 10.4% and 14.2% per annum, respectively (Ministry of Finance and Economic Development, 2010). The country is also one of the fastest growing economies in the world. The 2010 UNDP's annual Human Development Index report ranks Ethiopia as 2nd among the 135 countries that registered improvement (particularly in health, education, and basic standards of living) between 2000 and 2010 and first for the period 2005-2010. The inflation rate of the country has been improving (8.50 % in 2009) compared to 44.4% in 2008, 17.20 % in 2007, 13.00 % in 2006, and 11.60 % in 2005.

1.2.4 Education in Ethiopia

Education is one of the priority sectors of Ethiopia. The provision of education is the concurrent responsibility of federal, regional, and local governments, while the private sector is also emerging to make contributions particularly in higher education. The federal government plays a dominant role in the provision of post-secondary education, while also setting standards and providing overall policy guidance and monitoring and evaluation for the entire sector. Primary education in Ethiopia lasts 8 years and is divided into grades 1-4 (primary first cycle) and grades 5 – 8 (primary second cycle). Secondary education (4 years) is also divided into two cycles, each with its own specific goals. Grades 9 – 10 (secondary first cycle) provide general secondary education and upon completion, students are streamed, based on performance in the secondary education completion certificate examination, either into grades 11 – 12 (secondary second cycle) as preparation for university, or into technical and vocational education and training.

1.2.5 Higher education

Higher education in Ethiopia started in 1950 with the opening of University College of Addis Ababa. Until a decade or so ago the country had only two public universities. Since 1997/98, the expansion of higher education has been specifically guided by the nationwide education development plans known as Education Sector Development Program (ESDP) (i.e., ESDP I, 1997/98-2001/02; ESDP II, 2002/03-2004/05; ESDP III, 2005/2006 – 2009/2010; and ESDP IV, 2010/2011-2014/2015) (Ministry of Education, 1997, 2002, 2005, 2010). The Government of Ethiopia has been very committed to improving and expanding higher education and there have been dramatic changes in the past decade. Currently, the country has 21 public universities and more than 50 accredited private colleges and university-colleges (Ministry of Education, 2010; Ministry of Finance and Economic Development, 2010). The public universities are scattered throughout the country in line with the aim of the Government to bring about equitable distribution of higher education opportunities to all ethnic groups of the country. Basically, four delivery modes exist in higher education in Ethiopia: regular, evening, summer and distance education, although a recent ministerial instruction put some restrictions on the use of the distance education route particularly by the private universities. The oldest university in the country, Addis Ababa University, enrolls the largest number of students totalling 50,000 across all the delivery modes. Publicly funded universities with over 10,000 enrolments in regular programmes include Arba Minch, Bahir Dar, Gondar, Haramaya, Hawassa, Mekelle and JU. The Ministry of Education is mandated to oversee all higher education institutions in the country. JU was in 2010 identified as one of the leading universities of the country.

The key challenge faced by the public universities has been lack of qualified staff to teach and research. It has been difficult for the universities to ensure the overall quality of the programmes mainly due to lack of qualified academic staff and adequate infrastructure (buildings, laboratories etc.). The 2010 Public Expenditure Review notes that capital budgets for higher education have been much higher than the federal government has been able to execute, and that the persistent shortfall in capital budget execution is a sign of inefficiency in public expenditure. In addition, the Review notes that cost overruns have been largely due to rises in prices and poor project management, and it argues that there are strong reasons for the federal government to slow down the pace of public investment in higher education in the forthcoming review period.

To address the shortage of qualified academic staff, since 2008 /09 all graduate programmes in the public universities are open primarily to those who would serve as teaching staff in the public universities. With regard to quality assurance of education, the country has established Higher

Education Relevance and Quality Assurance Agency with responsibilities to accredit and audit both public and private higher education institutions.

The Government of Ethiopia has also laid down ambitious targets for the improvement and expansion of higher education institutions in the coming five years (2010/11-2014/15), including the following (Ministry of Education, 2010; Ministry of Finance and Economic Development, 2010):

- The number of public universities will increase from the current 21 to 31 by 2014/15;
- Total enrolment in undergraduate higher education (regular government programme) will increase from 185,788 in 2009/10 to 467,445 in 2014/15;
- Share of female enrolment will increase from 29% in 2009/10 to 40% in 2014/15;
- Ratio of intakes in science and technology relative to social sciences and humanities will evolve from 58:42 in 2008/2009 to 70:30 in 2014/15
- Admission for postgraduate programmes will increase from 4,878 in 2009/10 to 16,100 by 2014/15 (3000 PhD);
- Share of females in postgraduate study will increase from 10% in 2009/10 to 25% by 2014/15;
- Female graduation rates will increase from 2 % in 2009/10 to 6 % in 2014/15;
- Graduation rates overall will increase from 79 % in 2009/10 to 93 % in 2014/15;
- Staff to student ratio in public universities will evolve to 1:25 for science and technology, 1:15 for medicine and health sciences, 1:20 for agriculture and life sciences, and 1:30 for social and human sciences (SHS) by 2014/15;
- Number of teachers will be 23,000 by 2014/15, including (75%) masters and (25%) PhD OR the share of qualified (minimum Master's level) university teachers will increase from 53% in 2009/10 to 85 % in 2014/15;
- Share of female academic staff will be 20% of the total by 2014/15;
- Number of quality audited higher education institutions will increase from 20% in 2008/2009 to 100% in 2014/15;
- Number of higher education institutions having quality assurance offices will increase from fewer than 10% in 2008/2009 to at least 75% in 2014/15.

1.2.6 Jimma University

History

JU, based in Jimma town (Oromia region), is one of Ethiopia's publicly funded universities that are run by the Ministry of Education . It was established in 1999 by merging Jimma Institute of Health Sciences and Jimma College of Agriculture. Teaching, research, extension and public service are the core tasks of the university. The University is guided by its own strategic plan (currently 2006-2015)³.

The bulk of the University's funding comes from government capital and recurrent budgets. A student cost-sharing scheme is operational. University research is also supported through grants obtained from external sources (national and international).

In 2010 the Ministry ranked JU as the leading university out of the 21 public universities in Ethiopia.

³ Draft Strategic Plan of Jimma University: The Transformation Agenda (Extract). February 2007

Structure and size

JU has been expanding in terms of its student population since its inception. Currently there are over 33,000 students enrolled in regular, continuing education and distance programmes, of which just 1075 are postgraduate students. There are 3110 staff members comprising 1260 academic and 1545 administrative staff, and 305 health professionals.

In 2009 the University undertook a business process re-engineering exercise (the Business Process Review) which resulted in a major rationalisation and restructuring of academic departments. JU is now organised into the following Colleges, Schools and Institutes:

Colleges

- College of Agriculture and Veterinary Medicine
- College of Public Health and Medical Sciences
- College of Business and Economics
- College of Engineering and Technology
- College of Natural Sciences
- College of Social Sciences and Law

Schools

- School of Graduate Studies

Institutes

- Institute of Health Sciences Research
- Institute of Education and Professional Development

Within this structure JU currently runs 51 undergraduate and 46 postgraduate programmes through regular, extension/continuing and distance education. Four of the Colleges are participating in the IUC-JU Programme.

The Ministry of Education handles student selection and placement centrally. Practical training through CBE is emphasised. CBE is implemented through a Community Based Training Programme (CBTP), a Team Training Programme (TTP) and a Student Research Programme (SRP), all involving some degree of community participation, especially in health sciences. University research is supposed to focus on public and community problems in the fields of health, agriculture, natural resources, and topics in social sciences.

Facilities

The University has pursued an active facilities expansion programme since 2007 and now has four campuses: the Main Campus, the College of Agriculture and Veterinary Medicine (JUCAVM), the College of Business and Economics, and Kito Furdisa which will accommodate the Institute of Engineering and Technology. A new university hospital is also under construction adjacent to the Main Campus. New classrooms, lecture halls, libraries, laboratories, workshops, student dormitories and cafeterias, and staff accommodation are being added in all campuses to meet the needs of the growing student population.

International collaboration and donor support

JU currently receives support from and collaborates with the following:

- VLIR-Institutional University Cooperation, Belgium
- Tulane University, USA
- Yale University, USA
- Brown University, USA
- Nova Scotia Agricultural College, Canada
- McGill University, Canada
- Munich Maximilian University, Germany
- Copenhagen University, Denmark
- Wageningen University, The Netherlands
- Menschen für Menschen
- Canadian International Development Agency (CIDA)
- NUFFIC
- CDC-Ethiopia
- Clinton Foundation
- World Health Organization TDR
- Various NGOs

1.3 Structure of the evaluation report

This report begins with a description of the evaluation methodology employed followed by the establishment of a context for the IUC-JU. Following this section, findings are presented at the project, Programme and institutional levels including a section on Programme management issues.

The report concludes with recommendations for future directions for JU and actions to consider for Phase II of the IUC-JU.

The Annexes include a list of the KRAs and qualitative evaluation criteria (Annex 1), an overview of the structure of the Programme within JU (Annex 2) the evaluation field mission programme (Annex 3), a list of persons consulted in Brussels and Ethiopia (Annex 4), a list of current PhD scholars (Annex 5), and a list of external document references (Annex 6).

2. EVALUATION FINDINGS

2.1 General overview and assessment

The IUC-JU Programme has seven projects in all, five of which are multidisciplinary research projects, which cover between three and six related research themes; one project (ICT and Library) is a support project with no academic objectives, although team members are being supported to undertake Masters and (one) PhD; one project (Research coordination) combines support services to the whole IUC-JU Programme with elements of socio-economic research relating to public health and social welfare.

Projects 1 – 6 all emerged from the pre-existing research and teaching priorities of JU, from the University's commitment to CBE, and from the specific developmental issues pertaining to the region around Jimma and the Gilgel Gibe dam construction and expansion. The developmental relevance of the research, therefore, is not in doubt. Because of the highly important role that hydro-electric power plays in Ethiopia's national development plans, the research also has the potential to lead to results and activities that have international and national as well as regional significance.

Capacity-building is the explicit or implicit goal of all the Projects, with the overall aim of building in JU a robust core of PhD qualified academic researchers and teachers, with well-developed and high quality research expertise and research management skills, capable of running and expanding postgraduate programmes and overseeing increasingly high quality undergraduate teaching. The IUC-JU Programme is on track to achieve this aim, with 28 PhD studies ongoing at the time of this mid-term evaluation (see Annex 5) and another 20 envisaged for Phase 2. What the IUC-JU Programme cannot do, however, is to ensure that the recipients of the PhD scholarships remain working at JU at the end of the Programme, although it is clear that the Programme has made already a significant contribution to building a lively, interesting and rewarding research culture that will do much to attract scholars commitment in the short- to medium-term. JU itself is clearly taking the issue of retention of qualified staff extremely seriously and is committed to offering a range of non-salary incentives for staff to remain at JU (e.g. housing, assistance with purchasing houses, good working environment and facilities, ICT support).

There are two very distinctive features notable in the IUC-JU Programme projects: the first is the highly multidisciplinary and cross-departmental nature of the Projects (**Table 1****Table 2**), the result of both the nature of the research themes (with high socio-economic impact potential) and a deliberate strategy to build synergies between projects and involve researchers, where appropriate, in contributing to more than one project or research theme within a project.

The second feature is the very large size of most of the project teams both from the North and South (see Table 3). This is a reflection of the multidisciplinary nature of the projects and could also be seen as evidence of the levels of interest generated by the IUC-JU Programme among and within the Flemish universities. Within the Northern teams, however, it is common to find a relatively small number of academics being very actively involved in the projects.

Table 1: Cross-disciplinary nature of the Programme (from the Programme Coordinators presentation to the evaluation commission 15/01/11)

	Disciplinary make up of the program					
Thematic areas of research	Clinical medicine	Public health	Natural sciences	Social sciences	Agriculture	Veterinary medicine
Animal health and zoonotic diseases					X	X
Child health and nutrition	X	X	X	X	X	
Environmental health and ecology		X	X		X	
Infectious diseases epidemiology and modeling	X	X	X			
Soil fertility and agro-forestry					X	
Support research projects						
Research coordination		X	X	X		
ICT/Library (Non-research project)						

Table 2: IUC-JU Projects: lead Colleges, Departments and collaborating units within JU

Project	JU Lead College/Institute	School /Department	Other collaborating units
Project 1: Zoonotic and animal diseases	College of Agriculture and Veterinary Medicine	School of Veterinary Medicine School of Agriculture, Department of Animal Science	College of Public Health and Medical Sciences
Project 2: Child health and nutrition	College of Public Health and Medical Sciences	Department of Pediatrics Department of Obstetrics and Gynaecology Department of Population and Family Health Department of Health Education	College of Agriculture and Veterinary Medicine, School of Agriculture, Department of Horticulture College of Natural Sciences, Department of Chemistry Department of psychology
Project 3: Environmental health and ecology	College of Public Health and Medical Sciences	Department of Environmental Health	College of Natural Sciences, Departments of Biology, Geography, and Chemistry College of Agriculture Continuing Education Department of Natural Resource Management
Project 4: Epidemiology and modelling	College of Public Health and Medical Sciences	Department of Environmental Health Department of Pharmacy	College of Natural Sciences, Departments of Biology and Statistics College of Agriculture and Veterinary Medicine

Project	JU Lead College/Institute	School /Department	Other collaborating units
			Institute of Health Sciences
Project 5: Soil fertility	College of Agriculture and Veterinary Medicine	Continuing Education Department of Natural Resource Management	Department of Agricultural Engineering Department of Crop Science Department of Horticulture
Project 6: ICT and Library	ICT Centre	ICT Centre	University Library College of Engineering and Technology, Department of Computer Science Department of information Science
Project 7: Research coordination	College of Public Health and Medical Sciences	Department of Epidemiology Department of Population and Family Health	College of Agriculture College of Business and Economics, Department of Economics College of Social Sciences and Law, Department of Sociology College of Natural Sciences, Department of Statistics

Table 3: Staff participation in the Programme (adapted from the Programme Coordinator's presentation to the evaluation commission 15/01/11)

	Subprojects	Membership		No of research topics	Short term training	Masters training	PhD training
Thematic research projects		South	North				
Animal health and zoonotic diseases	5	17	9	9	7		4
Child health and nutrition	5	11	10	6	6	2	3
Environmental health and ecology	4	28	33	10	5		8
Infectious diseases epidemiology and modeling	3	36	10	11	10	1	9
Soil fertility and agro-forestry	4	13	6	5	4	1	4
Support projects							
Research coordination	4	13	6	2	2		2
ICT/Library (Non-research project)	2	29	5		30	2	
		147	79	43	64	6	30

2.2 Project level findings

2.2.1 Project 1: Zoonotic and animal diseases

Description of the Project

The Jimma zone has a large number of livestock, but overall productivity is low. The major causal factors for the low productivity are highly prevalent animal diseases, animal feed shortage, poor animal husbandry practices, underdeveloped marketing infrastructures and poor veterinary services (including shortage in supplies of veterinary drugs). The low livestock productivity has constrained human well-being and poverty alleviation.

The JU units collaborating under this project are the School of Veterinary Medicine and the Department of Animal Science in the School of Agriculture in JUCAVM, and the College of Public Health and Medical Sciences (for sub-project 4). The major activities of the units are teaching followed by research and some other activities such as community and consultancy services.

The Flemish lead unit for the project is the Department of Virology, Parasitology and Immunology at the Faculty of Veterinary Medicine, UGent. The Department of Animal Health, Institute of Tropical Medicine (Antwerp) is also involved because of their wide experience in tropical diseases and previous collaboration.

The academic overall objective is capacity-building in the field of veterinary medicine and animal sciences at JU.

The developmental overall objective is to alleviate food insecurity and poverty by increasing animal productivity and reducing the impact of zoonotic diseases.

The academic specific objectives are

- to strengthen the local capacity of applied research on livestock diseases, nutrition and zoonotic infections and
- to organise and undertake postgraduate studies for Masters and PhD levels.

The developmental specific objectives are:

- To study the epidemiology of trypanosomosis, fasciolosis, GI nematodes, and mastitis;
- To study the zoonotic importance of cysticercosis and hydatidosis;
- To study feed resources of livestock in terms of quantity and quality;
- To develop appropriate control measures/recommendations of the important animal diseases and zoonotic infections.

To meet these objectives project 1 has five sub-projects

6. Epidemiology and control of bovine trypanosomosis
7. Epidemiology and control of helminth infections in cattle
8. Epidemiology and control of mastitis in Jimma town
9. Epidemiology and importance of zoonotic diseases
10. Animal nutrition

Progress and achievements in Phase 1

Progress against the IRs agreed for Phase 1 has been slow and the project has never managed to spend the allocated annual budget. Two PhDs were started, but unfortunately one of the PhD scholarship holders died and was replaced in 2009. Another two PhD's were successfully launched in 2010 and one PhD is about to start in 2011, meeting the target total of five PhDs in the project.

Slow progress overall appears to be the result of

- The relatively low capacity and capability of the Veterinary School e.g. experience in research, laboratory techniques, organisational expertise (samplings etc), availability of laboratory equipment;
- Related to capacity there were early difficulties in promoting collaboration between researchers and research groups and research team building. A new collaborative approach/concept of the project was proposed in 2009 in order to adapt better to the local capacity and capability of the Veterinary School, to improve collaboration between researchers and research groups and increase the number of scientists involved in the project, and to exploit research opportunities relevant to the region and the whole country including urbanisation. This approach organised the research into three themes (incorporating the five original research topics): urban environment related veterinary topics, rural environment related veterinary topics and zoonotic diseases. However, there are no indications from discussions with JU project team members or in the Self-assessment report for the project that this reorganisation has been embedded into practice or had a positive impact on collaboration across sub-projects.
- Early problems with identifying research questions within the JU environment that can be effectively pursued through research within the local community, both rural and urban.
- Insufficient commitment and engagement in the early stages on the part of some Northern project leaders and promoters, due to time pressures and their academic commitments in Belgium; different North team members were brought in for additional capacity. It is difficult for the evaluators to assess ongoing levels of commitment and engagement since we have not had the opportunity for discussions with Northern team members other than the project leader. However, there are indications that all has not been going smoothly; for example, anecdotal evidence of poor communications between North and South from conversations with South team members; the project Self-assessment report was produced late and has contributions only from the South partner.

Two sub-projects in particular have suffered setbacks and capacity problems: in sub-project 2 (Epidemiology and control of helminth infections in cattle) no significant progress was made during Phase 1. New research topics will be identified in 2011 and research team capacity-building will be a focus. In sub-project 3 there were also key personnel changes: the JU leader of sub-project 3 (and the first PhD candidate for the project) died in Year 2 (2008), and the overall South Project Leader unexpectedly left the university in 2009.

The Northern coordinator of the trypanosomosis sub-project (sub-project 1) from the Institute of Tropical Medicine also died suddenly in 2009.

The Zoonotic and animal diseases project is particularly dependent upon collaboration with the surrounding urban and rural community for data-gathering and investigation. During Phase 1 the project encountered problems with community distrust of researchers (e.g. testing cattle and collecting

samples for several of the sub-projects within urban and rural areas) and evident community fatigue with continual research interventions in urban areas. To overcome the latter they have proposed that JU offers some services to their research sites and communities, e.g quality control of milk and feed, a mobile animal clinic.

Communications and collaboration between project 1 and other projects (for instance, with the Faculty of Medicine in project 2 Child Health and Nutrition) has been constrained in Phase 1 by the distance between the JUCAVM and other campuses. These constraints have been mitigated by the increasingly efficient inter-campus ICT infrastructure and capacity and imminent improvements in transport availability.

Table 4: Project 1 Zoonotic and animal diseases: key result areas

Key Result Areas	Comments	Rating: 1 = poor 5 = excellent
Research	2 articles published on animal nutrition in international peer reviewed journals. 9 conference abstracts produced and published. Posters produced for conference displays	3
Teaching	Mastitis and milk quality diagnostic laboratory and the parasitology laboratory are used for practical and demonstration purposes to students. MSc in Veterinary Epidemiology students are attached to the sub-projects for their theses research.	2
Extension and outreach	A Practical Manual on Nutrition and Feeding Management in Dairy Cattle translated into the local languages and distributed to small holder dairy producers of Jimma town A mobile animal clinical service has been proposed to JU. Mastitis and milk quality consultancy and diagnostic laboratory services have been made available to the community	4
Management	Training in laboratory management delivered to local project team members. Ethical Clearance document for research produced and Ethical Commission for Veterinary Research established	2
Human resources development	5 JU project members with PhD scholarships 3 MSc students from the School of Veterinary Medicine were involved in the research teams. 6 local project members were trained in Belgium	4
Infrastructure Management	Various types of equipment purchased for the microbiology, parasitology and nutrition laboratories; the mastitis and milk quality diagnostic laboratory was established. One motor bike(Bajaj) will be purchased for urban research transportation	3
Mobilisation of additional resources/opportunities	7 Flemish MSc students and 1 Flemish PHD student conducted their research in JU	3

Table 5: Project 1 Zoonotic and animal diseases: qualitative evaluation criteria

Qualitative evaluation criteria	Comments	Rating: 1 = poor 5 = excellent
Quality	Research got off to a slow start in Phase 1, with one sub-project producing no significant outputs, and others being constrained by capacity gaps and personnel changes. As a result there are limited research data to work on, although data-gathering has proceeded well in two of the five sub-projects.	3
Effectiveness	The research is now on-track to achieve the specific objectives, with the exception of that related to helminth control, but lack of effectiveness in three key areas-identification of feasible research subjects, research collaboration within teams, relevant research expertise and management capacity – has made progress in Phase 1 much slower than envisaged.	3
Efficiency	Capacity gaps – in research expertise in the chosen fields, and in research process and protocols – have significantly reduced efficiency in the Project. Laboratories and technical staff capacity have required considerable upgrading and enhancement. The Project has been consistently and significantly under-spent each year and resources have been reallocated to other Projects.	2
Outcomes	<p>The School of Veterinary Medicine has been considerably strengthened through the Project and the investment of the JU – in laboratory space and equipment, and staff capacity – and is now more capable of taking the research themes forward to produce potentially important results for both local community well-being and international research.</p> <p>Several spin-off services, such as consultancy, animal clinics and production of manuals for community members are in the pipeline or planned. The work with urban farmers (e.g. in mastitis) is already producing results of improved local practice in animal husbandry.</p>	3
Development relevance	<p>The Project research topics are highly relevant to the needs and circumstances of the local communities, rural and urban, but the research team members have encountered problems with engaging the trust and collaboration of local people. This has been effectively addressed in the urban areas through awareness-raising, community training and service provision by JU.</p> <p>The Project has been effective, after slow start, in transferring know-how and awareness in some areas to the local community and finding ways of engaging its collaboration and interest.</p>	4
Sustainability	<p>Some doubt exists as to the continuation of the helminth and trypanosomosis sub-projects because of personnel and capacity gaps and uncertain commitment on the part of Flemish academics. It may be that real interest in the selected research topics is lacking among Flemish universities and without mutual interest and reward developing sustainable research capacity in these areas may not be possible.</p> <p>JU financial investment and community-based commitment to the Project is assured.</p>	3

2.2.2 Project 2: Child health and nutrition

Description of the project

The project addresses two major problems. The first one is trying to improve child survival, growth and development through understanding the determinants of nutritional status in the community and designing appropriate and locally adapted interventions. Work focuses on improving clinical management of malnourished children in the health facilities and spreading the documented successful experience of hospital management to lower health care delivery systems. At the same time preventive and promotional strategies will be developed particularly to improve child feeding practices. The second problem to be tackled is the lack of research capacity mainly in human nutrition, food science, including food technology, and child development. The project focuses on addressing the two problems in an integrated manner so that both the problem of child survival, and growth and development will be improved at the same time as the development of human and physical capacity in the university.

This Project brings together different health and non –health related disciplines in JU to address the problem via interdisciplinary approaches (health, agriculture, nutrition, and food technology, psychology and special needs)

There are several JU units and departments in the College of Public Health and Medical Sciences involved, including the Departments of Pediatrics, Obstetrics and Gynaecology, Population and Family Health, Health Education, and Health Service Management. Also collaborating is the School of Agriculture, Department of Horticulture; the College of Natural Sciences, Department of Chemistry and the College of Social Sciences and Law.

The main Flemish partner is the unit of Food Chemistry and Human Nutrition associated with the Department of Food Safety and Food Quality at the Faculty of Bio-Science Engineering, UGent.

The academic overall objective is to build capacity in the area of nutrition research.

The developmental overall objective is to contribute to improved child growth and development

The specific objectives are:

- Management of malnutrition is improved and decentralised to front line health services;
- Infant feeding and child care are improved in the target region, interlinking interventions with improved household food security;
- Human and physical capacity is developed at JU for research in child health and nutrition.

To meet these objectives there are teams working on four sub-projects, with a fifth under consideration for Phase 2:

1. Improving the management of severe acute malnutrition in a health care setting
2. Improving complementary feeding for young children
3. Improving Food safety and quality
4. Food insecurity and adolescent health and nutritional status
5. Maternal counselling and child growth and development (under development)

Progress and achievements in Phase 1

Progress towards achieving the agreed IRs has been slower than anticipated, due to the following difficulties

- time and work pressures on South project team members prevented early take up of research and PhD opportunities and constrained the development of 'team spirit' (a particularly important issue in this very multidisciplinary research area); the project leaders called on JU to be more proactive in encouraging multidisciplinary research and addressing workloads to enable proper engagement of team members, among which are numbered nutritionists, paediatricians, neuroscientists, psychologists, occupational therapists and physiotherapists, chemists and a special education professional;
- difficulty in ensuring adequate investment of time from North project leaders and promoters: intensive supervision and follow-up has proved very difficult until the JU team was augmented by a Belgian Vlaamse doctoraatsbeurzen (VLADOC) PhD student, which improved project support;
- lack of research capacity and technical skills among the South team members; and
- equipment procurement delays.

Despite the slow start, by the end of 2009 all the sub-projects had developed effective research protocols and research methods based on international standards and laboratory skills training have been provided. The 2009 Annual Report noted that the research coordination and internal coherence had improved and that the different sub-projects were supporting each other more intensively.

At the end of Phase 1 all the research teams are engaged in data-gathering, laying the foundations for research outcomes in Phase 2.

Three PhDs were launched in Phase 1, with prospective end dates in 2011 and 2014. The Project originally envisaged 3 full-time Masters' scholarships at Flemish universities but when the first two MScs completed their studies and did not return to JU, the Masters scholarship was changed from an international to a local scholarship with one candidate taking up his Masters at Hawasa University:

The reasons are cost, since the local Master is a fraction of what the international Master costs. In addition we have noticed that the motivation for doing a Master abroad is not compatible with returning and supporting the research in Jimma. So far, experience has shown that the Master candidates are usually senior (these are selection criteria) who after their studies do not return to Jimma or look for the quickest way to improve their working position. With a local master we will be able to attract younger people who will continue to work in the project. (AP 2010)

Three further PhD calls will be made as soon as the nutrition laboratory at the Department of Chemistry is completed.

In 2008-09 (Year 2) sub-project 1 (Improving the management of severe acute malnutrition in a health care setting) introduced a new dimension into the research through the involvement of a new Flemish partner organisation, the PHL-Healthcare department of the Limburg Association of the University of Hasselt; this dimension is a study of the effect of psychomotor-psychosocial stimulation on nutrition rehabilitation. The study was designed as a stimulation programme, and following the involvement of the University of Hasselt includes the concept of 'play therapy' to stimulate the child and a training curriculum for play leaders. Play equipment for the Paediatric Unit of the hospital was purchased and a play room and area designated by JU. Play leaders are being trained to work with severely malnourished children. The Paediatric Unit subsequently decided to refer some other sick children to these stimulation sessions, which was accepted in order to improve the integration of the play room activities into the Paediatric Unit and to create more opportunities for the play leaders to practice their skills. By the end of Phase 1 the teams are ready to begin research data-gathering.

The intention of the study is to provide evidence to support the integration of psychomotor-psychosocial stimulation into current nutrition rehabilitation strategies (dietary and medical) at the hospital and health centres in the region. However, we foresee a risk of 'mission drift' in this area of research.

Psychomotor-psychosocial stimulation through play is a new area for child development and psychology specialists in Ethiopia, and the importance of play itself is new to children, families and communities in the area, and in some respects incompatible with the circumstances and pressures on most families. While the focus of the research is important and innovative, it has the potential to expand and shift to include new, related lines of enquiry that address other environmental and social factors that constrain therapeutic play and the overall developmental status of the child within the local community, thus losing the initial focus on dietary and medical issues. This potential to shift focus could absorb increasing resources within the IUC-JU Programme and result in a research agenda that is too wide-ranging to be sustainable for JU once direct involvement of Flemish partners phases out. This risk needs to be recognised and managed in Phase 2.

In project 2 in particular research in the community has involved a wider range of interested parties from JU and project leaders have had to recognise and manage the real risk of community fatigue (in common with other projects in the IUC-JU Programme) with a focus on a relatively small geographical area and communities. One lesson learned has been to limit the number of Flemish Masters students undertaking their field work as part of the project.

Table 6: Project 2 Child health and nutrition key result areas

Key Result Areas	Comments	Rating: 1 = poor 5 = excellent
Research	Two articles have been submitted for publication. Preliminary results were presented at the Public Health Nutrition conference in Porto in September 2010. International research tests for screening cognitive and behavioural problems in preschool children have been adapted to the local context and teachers and nurses received training in their use. A nutritional status and determinants study has been evaluated and analysed.	2
Teaching	A training package on play based and family centred psychomotor/psychosocial developmental stimulation was developed	3
Extension and outreach	Policy brief to be prepared on child feeding practices in the community using local language. Phase 1 has been focused on identifying problems, and this in the end will lead to involvement of the local and national stakeholders in policy advocacy, decentralising the nutrition service down to the lowest level of the health care delivery system, and possibly replicating the experience to other regions of the country, etc.	3
Management	Research protocols have been written for a mycotoxin study, a food analysis study, the psychomotor development study, the complementary food study and the food intervention study.	3

Key Result Areas	Comments	Rating: 1 = poor 5 = excellent
Human resources development	<p>Two international MScs completed</p> <p>Three PhDs started</p> <p>One training placement on mycotoxin control took place in Tanzania and one training course on child development evaluation in London.</p> <p>2 lab technicians received three cycles of tailored trainings on food analysis and mycotoxin analysis in the lab in Belgium</p> <p>School teachers and nurses were trained locally in assessing the development status of children and two nurses have been trained to give play therapy and psycho-motor -psychosocial stimulation to infants and young children.</p> <p>2 Belgian Masters (Physiotherapy) and 1 Bachelor student in nursing have done their Masters theses in Jimma; 1 Bachelor Occupational Therapy did a clinical training.</p>	3
Infrastructure Management	<p>The chemistry laboratory was upgraded.</p> <p>A play ground for psychomotor-psychosocial stimulation of malnourished children was constructed. A play therapy and psycho-motor stimulation room was set up and equipped in the hospital.</p>	3
Mobilisation of additional resources/opportunities	<p>One VLADOC PhD was successfully applied for and the PhD student receives two-yearly travel grants for a maximum of 6 months per trip.</p> <p>Two travel grants for a Flemish physiotherapist have additionally been secured by the PHL university college of Hasselt</p> <p>VLIR-UOS REI travel grants were given to 3 Flemish students of the PHL from Hasselt and their local costs covered by PHL for two years.</p>	4

Table 7: Project 2 Child health and nutrition qualitative evaluation criteria

Qualitative evaluation criteria	Comments	Rating: 1 = poor 5 = excellent
Quality	<p>Progress in actual research during Phase 1 has been slower than expected, but solid foundations have been established for research data-gathering and outcomes in Phase 2.</p> <p>The innovative nature of the psychomotor - psychosocial stimulation research has stimulated considerable interest and is effective in engaging multidisciplinary teams.</p> <p>The play area and facilities contributed by JU and the IUC-JU Programme have potential to become important and influential community resources.</p>	3
Effectiveness	<p>It is too early to comment on the effectiveness of the actual research, though the preparation (in terms of capacity-building and infrastructure) for research has been effective to date.</p>	3

Qualitative evaluation criteria	Comments	Rating: 1 = poor 5 = excellent
Efficiency	The non-return of the two international MSc scholars on completion of their studies and other unanticipated capacity gaps and issues have reduced the efficiency of the Project in Phase 1, though timely and adequate steps have been taken to overcome these constraints.	2
Outcomes	Research outcomes are not yet apparent. Data-gathering has begun at the end of Phase 1 on nutritional levels and status, food insecurity and psychomotor stimulation among SAM children and the data are all likely to provide a rich and important research resource for multidisciplinary interventions at JU and within public health in the community.	3
Development relevance	The Project focus is research to contribute to improved child survival, growth and development through understanding the determinants of nutritional status in the community and designing appropriate and locally adapted interventions. Community and public health service collaboration and continued engagement will be essential if research results are to translate into changes in public health practice and nutrition: the innovative nature of aspects of the multi-disciplinary research may make these changes challenging to achieve, given the many other factors impacting upon child health and capacity for stimulation through play within families and communities (e.g. the burden of work on women, the need for children to also be carers and work in the fields).	3
Sustainability	The commitment of the current North and South project teams and of JU itself is now beyond doubt. The innovative psychomotor - psychosocial stimulation aspects of the research have wide-ranging implications and relatively open-ended potential: a risk exists that this line of research may be unsustainable at sufficiently resourced levels once the Flemish inputs end.	3

2.2.3 Project 3: Environmental health and ecology

Description of the project

Rapid population growth in Ethiopia directly or indirectly causes loss of natural forest cover and biodiversity, increased risk of erosion and increased siltation at different hydro-electric power dams, such as the Gilgel Gibe dam. Increasing industrial activities and use of agrochemicals also result in environmental pollution, reduction of aquatic resources, and a general deterioration of public health. The project aims to study ways to conserve ecosystems and improve public health through four complementary sub-projects in

1. Environmental health and sanitation: identifying the effects of wastewater and contaminant discharges on the availability of adequate fresh water, and the consequences of environmental and human exposure to solid waste generation and release of pesticides. The sub-project ultimately aims at delivering sound waste (water) management technologies and strategies for Jimma town.

2. Aquatic ecology: characterising aquatic ecosystems based on biotic (macro-invertebrates, plankton, fish) and physical-chemical parameters and at determining residues of pesticides in different parts of the aquatic environment. By studying interactions with various land use patterns and urbanisation around the river Gilgel Gibe and its tributaries, the ultimate aim is to provide a better understanding of how these factors may affect the ecology of the Gilgel Gibe dam area.
3. Terrestrial (forest) ecology: characterising the age structure, composition and regeneration patterns of economically and/or ecologically important tree species (with special focus on coffee) and assessing levels of natural seed dispersal and its effect on reproductive success and genetic diversity both within and between forest fragments. The ultimate aim is to formulate practical management guidelines for sustainable forest restoration and conservation.
4. Spatial analysis and land use dynamics: developing up-to-date GIS maps of the different study areas and mapping present-day land use patterns in the Gilgel Gibe catchment area. This will allow modelling of past and present land use and - in collaboration with the three other sub-projects - to predict the environmental impacts of land use change.

The JU partner is the College of Public Health and Medical Sciences, Department of Environmental Health along with Departments of Biology, Geography, and Chemistry in the College of Natural Sciences, and the College of Agriculture Continuing Education Department, Natural Resource Management unit.

The Flemish partners are the Terrestrial Ecology Unit of the Department of Biology (Faculty of Sciences) at UGent; and at K.U.Leuven the Laboratory of Plant Ecology, the Division Forest, Nature, and Landscape, the Physical and Regional Geography Research Group and the Chemical Engineering Department.

The academic overall objective is the development of a centre of excellence in research and education in environmental health and ecology.

The developmental overall objective is to improve the ecosystem and environmental health in Jimma town and surroundings, and the Gilgel Gibe area.

The academic specific objective is to build the local capacity of academic staff in ecology and environmental health.

The developmental specific objectives are to study and improve the aquatic and forest ecosystems, and investigate and develop environmental health measures and sanitation.

Progress and achievements in Phase 1

Progress towards the achievement of the IRs has been good overall. Eight PhDs have been started (one of which as a result of budget reallocations from under spent projects 1 and 2), with a further two planned for Phase 2.

The biggest challenge was to get both North and South teams (which are both very large) to work across departmental divisions, something that the JU staff in particular were not used to doing, but which the multidisciplinary nature of the sub-projects demanded.

Early expectations that all team members would obtain PhD opportunities resulted in some disappointment, loss of interest and uncertainty about roles, but efforts to build a better research

culture and inclusive teams has produced positive results. There are now effective research teams clustered around PhDs with Masters and BSc students working together. One of the steps taken to encourage this (within the forest ecology sub-project) was the allocation of a small amount of money to specific MSc student projects embedded within the PhD project but conducted independently by MSc students. This resulted in a better scientific atmosphere and in improved capacity building.

During 2009 new team members have been accepted and new areas of research initiated within sub-projects (e.g. on genetic diversity of *Coffee arabica* under forest ecology).

Procurement has been a significant problem in project 3 (in common with several other projects), particularly of chemicals and reagents, but JU has been working hard to improve this. Capacity gaps in laboratory skills with using and maintaining new equipment, and lack of transportation (e.g. for waste and sanitation field work) have also constrained progress in producing research outputs, though the project leaders note that training and skills transfer efforts resulted in a steep increase in the expertise of the local staff (PhD-students and their colleagues), although more work will be required to consolidate these efforts and to disseminate the acquired knowledge and skills via the undergraduate and Masters teaching programmes.

In the environmental health and sanitation sub-project collaborative links with Mekelle University were established focusing on the development of wastewater treatment techniques. Despite the fact that the aims and scope of research differ, exchange of information, ideas and experiences between doctoral students has proved very fruitful.

There was less success in collaboration with other departments of JU not involved in the IUC-JU Programme: for example, the Project would have welcomed assistance and input from the chromatography unit for analyses related to pesticide use.

Table 8: Project 3 Environmental health and ecology: key result areas

Key Result Areas	Comments	Rating: 1 = poor 5 = excellent
Research	Three PhD manuscripts were submitted for publication; four PhD manuscripts have been prepared for submission 2 posters were contributed for the conference and , 2 articles are prepared for international peer review journal by Environmental sanitation and Forest ecology subprojects	2
Teaching	More than 10 modules were developed by staff of the Department of Environmental Health Sciences for distance learning supported by JU	3
Extension and outreach	The project provides technical support for Jimma Municipality in the area of liquid and solid waste management	3
Management	Reallocation of resources to better support engagement of MSc students in research teams.	2
Human resources development	8 PhDs ongoing with one PhD candidate about to finish: Two MSc researchers completed dissertations Three team members attended courses in Belgium on eco-technology and ecological modelling. Local short term training by Flemish partners for forest ecology	5

Key Result Areas	Comments	Rating: 1 = poor 5 = excellent
	team members on forest inventory, mapping and classification; training on sampling of reservoirs was given to aquatic ecology team members by Mekelle University researchers A short term bird ringing training course was given to forest ecology team members.	
Infrastructure Management	Laboratory equipment and materials acquired but procurement delays and difficulties encountered	2
Mobilisation of additional resources/opportunities	2 Flemish students were involved on project field activities in Jimma	2

Table 9: Project 3 Environmental health and ecology: qualitative evaluation criteria

Qualitative evaluation criteria	Comments	Rating: 1 = poor 5 = excellent
Quality	Research activities have principally focused on data-gathering during Phase 1, so there are a limited number of research results to show. Despite early constraints on progress in engaging the large research teams and reaching consensus on research objectives, good progress in field research is now evident, and laboratory skills and techniques among team members have improved.	3
Effectiveness	The research teams are undertaking effective data-gathering field research in coherent and growing teams; no specific research results are yet evident.	3
Efficiency	Lack of efficiency arose in early years due to procurement problems and capacity gaps. These are being resolved. Efficiency could still substantially improve if cooperation between the different departments at JU could be optimised.	3
Outcomes	No research outcomes are yet evident though at least one PhD is close to completion: data-gathering is proceeding well and is likely to result in potentially important research findings.	3
Development relevance	The Project addresses some key development and environmental issues that impact upon the life and well-being of the urban and rural community in the Gilgel Gibe dam area and Jimma. So far the Project has resulted in an increased environmental awareness, mainly at the campus of JU, but also among individuals in Jimma town, as they were involved in surveys and monitoring programs with respect to waste generation. More tangible developmental results will be obtained during Phase 2 when a more systematic strategy for improvements can be adopted.	4
Sustainability	The JU Department of Environmental Science and other local multidisciplinary partners are committed to and increasingly capable of continuing and expanding the lines of research in the Project, which is establishing a solid expert foundation through PhDs and MSc training.	4

2.2.4 Project 4: Epidemiology and modelling

Description of the Project

Malaria is the number one cause of morbidity and mortality in Ethiopia followed by tuberculosis/HIV (as a cause of mortality). In addition to the existing problems nationwide, water resource development (such as the Gilgel Gibe dam development) is associated with marked change in the epidemiology of infectious diseases. It aggravates existing vector borne diseases. JU, the local community, the Ministry of Health, the Ministry of Water Resource Development and the Ethiopian Electric Power Corporation are stakeholders and beneficiaries in the research area of the project.

The Epidemiology and Modelling Project has two major objectives:

- the first one is the building of statistical capacity needed to support the scientists that are involved in the study of infectious diseases and needed to create a Masters programme in biostatistics at JU;
- the second is to gain insight in the epidemiology of important infectious diseases (malaria, schistosomiasis, TB and HIV). This insight is needed to reduce morbidity and mortality related to these diseases. For malaria and schistosomiasis, the project is aimed at undertaking screening and control and research to get a better understanding of the epidemiology of these diseases. For vector dynamics, the project also aims to achieve a better understanding of the relation between malaria and vector *Anopheles*. For TB and HIV, the project is also aimed at the control and evaluation of the new WHO diagnostic and treatment guidelines, and increasing the laboratory capacity at JU.

The overall development objective: reduce the infectious diseases burden to improve human health and increase production of the targeted community.

The overall academic objective: develop a centre of excellence in epidemiology and modelling of infectious diseases and vector control.

Specific objectives are

- developing human capacity at JU for infectious diseases epidemiology and modelling research, and
- the study of the epidemiology of the most important infectious diseases in order to reduce morbidity and mortality related to these diseases.

JU partners in project 4 include the College of Public Health and Medical Sciences, Departments of Environmental Health, and Pharmacy, the College of Natural Sciences, Departments of Biology and Statistics, the College of Agriculture and Veterinary Medicine and the Institute of Health Sciences.

The Flemish partners are led by the Centre for Statistics at Hasselt University and include staff from UGent, K.U.Leuven, the Institute for Tropical Medicine (ITM), University of Antwerp, and Vrije Universiteit Brussel (VUB).

There are three sub-projects in Project 4:

1. Parasitology: including research on dynamics and trends of malaria in relation to anopheline mosquito ecology, distribution and knockdown resistance in Gilgel-Gibe dam area; anti-malarial drugs in Ethiopia, a pharmaceutical regulatory framework and quality assessment; and diagnosis, epidemiology and control of soil-transmitted helminths among school-aged children in Jimma.

2. Modelling: including development of statistical and mathematical models for HIV infection, statistical analysis of Jimma longitudinal studies, and statistical analysis of spatially correlated survival time to malaria data in south western Ethiopia.
3. TB and HIV: including evaluation of the operational performance of the revised recommendations and algorithms for improving the diagnosis of TB in HIV prevalent settings, and mycobacteriological aspects of predictors of immune reconstitution inflammatory syndrome in TB and HIV co-infected patients.

Progress and achievements in Phase 1

Project 4 is currently the biggest project in the IUC-JU Programme with 8 PhD students in the field of biomedical sciences, epidemiology and biostatistics. Progress towards achieving the IRs is good. Data-gathering and analysis under the sub-projects is progressing well, with articles on potentially ground-breaking interim results already published in international journals. Research capacity building and the development of collaborative teams has been effective.

In Phase 1 the project has established a taught Masters programme in biostatistics in collaboration with other universities in Ethiopia, which will be able to provide sustainable statistical support to future research and help JU to attain critical mass of capacity in statistical modelling and analysis.

The development of statistical support services is closely allied to the work of project 7 Research Coordination, of which the project leader is a PhD candidate in the Modelling sub-project of project 4. In particular project 7 has taken over the task of developing the JU Research Data Centre (see below), so that statisticians can then use the data from all projects in collaboration with the scientists, data are shared throughout the JU community, and Masters students will be able to do statistical modelling using examples and data from their own community.

In late 2008 a new project leader and deputy project leader for project 4 were elected by the team members. Also the research themes of malaria / schistosomiasis and vector dynamics were merged to become the Parasitology sub-project, enabling more efficient utilisation of resources and collaborative work within and between teams. The content of the TB / HIV sub-project was not finalised until 2008.

The vector dynamics work in sub-project 1 in particular has achieved significant progress in field activities and the PhD candidate will complete in 2011. In 2010 the promoter of the PhD work on malaria and schistosomiasis left Antwerp University and new promoters for two PhDs needed to be found. As a result the PhD projects were changed quite dramatically, but the changes have worked well.

The project, with investment and premises provided by JU, has equipped a TB laboratory at JU Hospital and the new joint molecular biology laboratory and pharmaceutical quality control laboratory that will serve all the research projects in the IUC-JU Programme.

Procurement problems have been the main constraining factor on progress in project 4, resulting in delays in getting equipment, materials and reagents.

Table 10: Project 4 Epidemiology and Modelling: key result areas

Key Result Areas	Comments	Rating: 1 = poor 5 = excellent
Research	Three articles published in international peer reviewed journals (Vector dynamics). One article published by TB/HIV sub-project Four conference abstracts (Malaria and TB/HIV sub-project)	3
Teaching	Initiation of Masters program on Biostatistics at JU. Books/course materials developed: Survival analysis, Foundations of Linear Models, Principles of Statistical Inference. Molecular Parasitology course for Medical Parasitology Masters students Practical and theoretical training on pathology service and important topics for pathology staff and students at JU. Courses delivered on Parasitology, Pathology and statistics for Masters students and staff	4
Extension and outreach	The TB/HIV sub-project organized an annual TB research conference at JU and two scientific works from the TB prevalence survey were presented	3
Management	Research protocols were developed by 8 PhD students and approved by the University ethical review board	3
Human resources development	Eight PhDs and 1 (local) Masters ongoing. Statisticians from Jimma, Hawasa and Addis Ababa Universities participated in a short course in Belgium. Abdominal-ultrasound training was given for Jimma university hospital doctors The vector dynamics team organised training on GIS for IUC-JU and other PhD students at Jimma University	5
Infrastructure Management	Molecular biology laboratory is being established by collaboration between IUC–JU Programme and JU The TB laboratory is being established by JU and equipped by the project.	3
Mobilisation of additional resources/opportunities	TB/HIV sub-project and vector dynamics team managed to solicit funds from WHO/TDR for two PhD projects. VLIR North-South-South collaborative project funding secured for capacity development on statistical methodology for JU, Hawasa and Addis Ababa Universities.	4

Table 11: Project 4 Epidemiology and Modelling: qualitative evaluation criteria

Qualitative evaluation criteria	Comments	Rating: 1 = poor 5 = excellent
Quality	Relatively early and significant research results have emerged from the Parasitology sub-project. The first stages of the Masters in Biostatistics have produced good results, drawing on resources from Northern partners.	4
Effectiveness	Considerable evidence exists of the effectiveness of both management and research processes (e.g. effective team building and collaboration across sub-projects, quality of emerging results) in pursuit of the overall and specific objectives.	4
Efficiency	Efficiency gains were achieved in the merging of two research themes within one sub-project (Parasitology) and capacity is effectively shared and exploited in collaboration across sub-projects and teams. Investment by JU and the IUC-JU Programme in the molecular biology lab and other shared facilities has the potential to improve efficiency in this and all other research Projects.	4
Outcomes	Phase 1 research and data analysis is already yielding important and ground-breaking results which have been published internationally. The modelling sub-project has great potential to improve future research outcomes and create statistical capacity within research teams.	4
Development relevance	The project focuses on the major public health problems (TB, HIV and Malaria/schistosomiasis). In addition, the project builds the capacity of JU for research on public health issues.	4
Sustainability	JU capacity in statistics is not yet strong enough to support the Masters in Biostatistics. They developed a curriculum for the programme modelled on a North partner and the partners have supported them with course materials etc. Phase 2 will allow opportunity to consolidate these gains.	4

2.2.5 Project 5: Soil fertility

Description of the Project

Low land productivity and subsequently low incomes threaten the ability of 85% of Ethiopians to meet their basic human needs of food, shelters and clothing. Food insecurity is a major barrier to development in Ethiopia. This is due to a number of factors including the degradation of renewable natural resources, such as land, water and forests. South West Ethiopia, where JU is located, has a strong potential for increased agricultural productivity as it generally receives adequate rainfall and the soils are relatively fertile. However, environmental challenges, mainly deforestation and hence soil erosion and nutrient depletion, have had a profound effect on this region.

The Gilgel Gibe catchment area is of great economic importance for the country as it provides water for the Gilgel Gibe dam - the largest hydro-electric power dam in the country. The 4225 square

kilometre catchment area is occupied and cultivated by a large number of smallholding farmers. Poor land management practices coupled with the rugged topography and erosive rainfall in the area pose major threats both to the livelihood of the farmers and the life span of the dam.

Project 5 aims to support the mission of the Department of Natural Resource Management in bringing change in the living conditions of the farming community through improvement of soil productivity and promoting the sustainable use of renewable natural resources. The Project's principle mechanism to achieve this aim is building research expertise and training capacity in specific areas, such as quantifying and monitoring river sediment flows, soil degradation and crop performance.

The lead project partner in JU is JUCAVM, Continuing Education Department of Natural Resource Management with research team members from the Departments of Agricultural Engineering, Crop Science, and Horticulture.

The Flemish lead partner is the Division of Soil and Water Management at K.U.Leuven and other Northern team members are drawn from UGent Geological Institute, Department of Soil Management and Soil Care and the Laboratory of Applied Physical Chemistry.

Project 5 has four major research themes or sub-projects:

1. Assessment of soil degradation, sediment transport and soil and water conservation measures
2. Assessment of the soil characteristics and the spatial distribution of soils in the Gilgel Gibe watershed
3. Improving grain legume – cereal cropping systems
4. Agro-forestry options

The developmental objectives of Project 5 are that

- land productivity in the Gilgel Gibe catchment area is improved through integrated soil fertility management systems, and
- the lifespan of the Gilgel Gibe hydro-electric power plant is extended by minimizing sediment deposition in the reservoir.

The overall academic objective is to establish a research and teaching centre of excellence in integrated soil fertility management at JUCAVM

The specific academic objective is to strengthen the research capacity of JUCAVM to develop agricultural technologies that improve soil fertility.

Progress and achievements in Phase 1

Progress towards achieving the IRs is good overall, though slower than anticipated in the planning stages. Four members of the project are working on their PhD and one MSc has already been completed at Hawasa University. The project is expected to take on three more PhDs in Phase 2.

The self-assessment report from project 5 reports that all original assumptions in the logical framework have been partially or completely fulfilled. The only assumption partially fulfilled is that the most important international journals in the field of soil fertility were still not available through Library sources, though North and South team members were employing strategies to get around this lack (e.g. PhD students obtaining e-journal articles while in Belgium).

The most obvious and positive developments have been in the establishment of a research culture within the multidisciplinary teams, and not just as a result of the start of four PhDs:

Most of the project team members now started research activities (some of them in the framework of MSc or PhD research), and research capacity is basically built in a 'learning by doing' mode with technical support from team members from the north, but also by information sharing by JU team members and by working in teams on project activities. The strengthening in research capacity is already quantifiable in terms of a number of research techniques (field/lab/data analysis) that were new to the team and are now being used by team members in Jimma. (Project 5 self-assessment report)

Although research and data-gathering is progressing well, project 5 has not yet produced research results in terms of articles in international peer-reviewed journals, or technologies and recommendations that can be disseminated to the ultimate beneficiaries (the rural communities in the catchment area). The first articles are in preparation, and some of the data gathered and analysed (e.g. emerging from the jointly conducted Participatory Rural Appraisal) are underpinning emerging findings of potential importance (e.g. on source of the sediment going to the dam reservoir).

The Project teams have also been very effective in establishing good links with various key stakeholders in the Gilgel Gibe watershed, such as the Jimma Agricultural Research Centre, the Ministry of Water Resources, the Ethiopian Electric Power Authority, the Jimma zonal agriculture and rural development office.

There is considerable potential (as yet unfulfilled) for collaboration between the Soil Fertility Project and other Projects in the IUC-JU Programme, especially with Project 2 (Child Health and Nutrition) and Project 3 (Environmental Health and Ecology), part of which focuses on coffee production, trees, cereals and legumes.

Specific problems and constraints on progress included:

- some early changes in project coordination personnel,
- early difficulties in engaging multidisciplinary research team members without the promise of a PhD scholarship opportunity: these were overcome through providing other opportunities and incentives, such as short term training grants, participation in local training and 'learning by doing' and being cited as authors on published articles;
- the challenges of procuring chemicals and reagents through the official university system, which was slow and bureaucratic making it difficult to plan research.

Table 12: Project 5 Soil Fertility: key result areas

Key Result Areas	Comments	Rating: 1 = poor 5 = excellent
Research	Southwest Oromia People's Livelihood paper No.1 published by Dereje et al. 2010 On the Origin of Planosols: the process of ferolysis revisited (submitted for publication for a peer reviewed journal) by Van Ranst et al. 2009)	2
Teaching	Nitisol and other soil profiles done during the characterisation of soils of the catchment area (IR-1) are being used as teaching aids	3

Key Result Areas	Comments	Rating: 1 = poor 5 = excellent
	in the course soil science at JUCAVM The Participatory Rural Appraisal report is used as reference material	
Extension and outreach	A national workshop on “Challenges and prospects of integrated watershed management on people’s livelihoods and sustainability of dams in Ethiopia” was organised at JU, bringing together an audience of about 80 stakeholders in watershed management from Jimma , the dam catchment area and from other parts of Ethiopia.	3
Management	A laboratory head (for the soil laboratory) was elected and appointed by project members.	2
Human resources development	Two PhDs started their PhD in UGent and KUL respectively A third PhD started his pre-doc training in Belgium A fourth PhD was launched at the end of Phase 1. One project member completed his MSc at Hawasa University All the project members gained training on scientific writing skills. Two project members trained in soil and plant analysis and GIS respectively in Belgium for three months each. All IUC-JU projects attended a scientific writing training organized by the Soil Fertility project in 2009	4
Infrastructure Management	Laboratory equipment has been purchased and the research teams are setting up a soils laboratory in JUCAVM, after some delays in finding appropriate space.	2
Mobilisation of additional resources/opportunities	Flemish MSc students attracted to do their MSc thesis research in the south	2

Table 13: Project 5 Soil Fertility: qualitative evaluation criteria

Qualitative evaluation criteria	Comments	Rating: 1 = poor 5 = excellent
Quality	Although few research results have yet emerged from the Project, good progress has been made with building research capacity in terms of human resources and research infrastructure, and undertaking baseline studies and data-gathering. Early reluctance to engage by non-PhD candidates has been successfully overcome and new applications to join research teams continue to arrive.	3
Effectiveness	The team started a whole range of research activities within the Gilgel Gibe catchment area, and through that they have gained experience with field research methods and deepened their insight in the cropping systems, the physical environment and in the constraints faced by farmers. This is important as it helps the team to enrich their teaching (relevance for the local conditions) and	4

Qualitative evaluation criteria	Comments	Rating: 1 = poor 5 = excellent
	better target research activities to the needs of the society.	
Efficiency	The scientific writing training provided by project 5, which benefited all IUC-JU Projects, has resulted in improvements in the scientific writing process within teams. Collaboration between sub-projects (e.g the joint Participatory Rural Appraisal) has underpinned efficient and effective data-gathering and sharing.	4
Outcomes	The relationships already built between project teams and external stakeholders in the Soil Fertility research are likely to ensure that the research will be highly influential on national policies and future research programmes. The research teams have identified several issues that can be addressed and can lead to recommendations, technologies or interventions that will improve livelihoods among the local communities (e.g. improved cereal/grain legume systems, trees/shrubs to stabilise river banks and land slides).	4
Development relevance	The research is highly relevant to the immediate and significant problems of the rural communities in the Gilgel Gibe catchment area, though it is too early to expect results in terms of improved livelihoods. The research teams now have good knowledge of the constraints faced by the community and potential beneficiaries.	4
Sustainability	Team members now share information and work together in teams (as was e.g. demonstrated in the Participatory Rural Appraisal conducted by a large team). It is however clear that the efforts to build research capacity need to be sustained for at least 5-6 more years in order to take full benefit of the investments and reach self-reliance in terms of research capacity.	4

2.2.6 Project 6: ICT and library

Description of the Project

The JU Strategic Plan (The Transformation Agenda) for 2006-2015 includes the specific objective of integrating ICT into working systems and services provided by the University. The Plan includes the development of ICT infrastructure and the expansion and development of University libraries under Strategic Objective E6 'The development of adequate infrastructure and state of the art facilities.' It was therefore decided during the Pre-Partnership Phase by JU and the Flemish coordinator to include the ICT and Library project primarily to support the research projects originally proposed and endorsed for the IUC-JU Programme and to further support the strategic plans of JU.

At the start of the project use of ICT and library services in JU was limited, due to such factors as insufficient coverage of the ICT infrastructure, lack of skilled ICT staff and library professionals, and lack of awareness and ICT skills among the JU academic, administrative and student communities.

The primary JU units involved in project 6 are the ICT Centre and the Library. The Departments of Computer Sciences and Information Sciences also play a significant role in the project. As there is shortage of human resource in ICT and the Library, most staff members also have teaching

responsibilities in these departments, and students from these faculties are also used as part-time workers to support service development.

The Flemish partners are the computer centre of Hasselt University, which provides services for the academic community of the university and assumes responsibilities for the management of the campus wide computer network, and UGent. Library expertise is also provided from the University of Antwerp.

The developmental overall objective is to increase the use of appropriate ICT and library infrastructure to enhance the quality of university activities in general and IUC research activities in particular.

The developmental specific objectives are:

- To enhance communication services internally (Intranet) and externally (Internet) for the whole academic community in general and the IUC projects in particular.
- To provide the Community Resource Centres (CRCs) in the Gilgel Gibe area with appropriate ICT infrastructure to communicate important IUC research results to the local community.
- To enable the Library to provide information services using both its own library materials and the relevant part of the virtual stock of knowledge available worldwide.

Progress and achievements in Phase 1

The ICT and Library project is unique in current VLIR-IUC Programmes because there is no academic or research element – it was designed specifically as a support project to develop institutional capacity in support of the IUC-JU programme in particular and JU development in general.

Project 6 has made very good progress towards achieving the IRs related to ICT infrastructure and staff capacity and skills, a testament both to the effectiveness of the North and South teams as well as to JU's commitment to investment in infrastructure and staff to achieve its goals.

In Year 1 it was realised that the original budget allocated to the project was too small for the required levels of early investment in equipment and training, upon which all the subsequent project results would depend. Significant early overspending was inevitable, balanced by more moderate budget requirements once the early investment had been made.

From the start the ICT aspects of the project were well-defined, key problems identified and appropriate solutions proposed that were within the scope of the IUC-JU and JU's capacity to invest in ICT development. Collaboration between JU staff and the Flemish team members was very positive and the emphasis was on building local capacity to extend and develop new services on the back of new or enhanced equipment and infrastructure and to support the Library and user communities within JU.

A series of focused short training sessions for ICT and Library staff (in Belgium, JU and elsewhere in Ethiopia) were provided. The concept of 'train-the-trainers' has been adopted, which has proved to be effective within the ICT cadre in achieving a critical minimum of trained staff members quickly. Another approach adopted has been capacity-building through hands-on practice in JU, led by Flemish team members, and detailed follow-up.

This approach is considered to be much more cost-effective (although also very labour-intensive) as compared to other donors, where sometimes 'one-shot-efforts' are being observed without any follow-up or evaluation afterwards. (Project 6 self-assessment report)

Among the most impressive achievements of project 6 (as cited in the self-assessment and validated by the evaluation team) are:

- Fully controlled JU e-mail system;
- Bandwidth fully under control: by using open source software, JU is now able to monitor the actual bandwidth offered by the Ethiopian Telecommunications Company, while other open source software now limits bandwidth usage on a personal level avoiding misuse (e.g. real time video, heavy downloads, etc), resulting in very adequate bandwidth availability and Internet connectivity for the whole JU community;
- Fully trained and motivated ICT-staff: the aim is to minimise the interventions from the North, and to create a fully independent ICT department.

To these we would also add the model of devolved ICT technical support initiated by the local project leader, where ICT Centre staff are placed in colleges, which then nominate an ICT 'champion' or coordinator from among academic or administrative staff who represents the college user needs to the embedded ICT Centre and technical staff (JUCAVM is the first example of this devolved structure).

The main problems and constraints on progress with ICT development during Phase 1 were:

- Initial high turnover of ICT staff: most of these staff were on short-term contracts with JU and as such were not able to participate in planned short- and long-term training commitments. Without these incentives many staff members moved on. This problem was addressed by JU through recruiting and appointing staff to established posts within the ICT Centre and providing, with the IUC-JU Programme, significant skills upgrading and staff development opportunities.
- Delays in the development of the planned CRCs because of delayed procurement of Close the Gap computers and the identification of suitable premises in the Gilgel Gibe area: by 2009 four CRCs (Agaro, Serbo, Shebe and Yebu) had computers installed. Delay, however, has been an unforeseen advantage because the ICT Centre can now use mobile communications technology to link CRCs to JU rather than the necessity of cable-laying.

The Library elements of project 6 focus exclusively on IT-based services (IR2 Library IT facilities and services improved) and the objectives of the project appear to have been less well-defined: the logical framework key indicators and targets are rather large, open-ended and difficult to measure, for example:

- Improved content development and acquisition system;
- Improved electronic repository system to make library content locally available;
- Improved information literacy for the university staff;
- Improved infrastructure for the university libraries;
- Increased usage of the ELM by both staff and students

These are big targets for a project with a very limited budget. While JU has made a significant commitment to upgrading the Library and library services, mainly in staffing and building new library buildings, this does not seem to have been underpinned by a concrete and detailed strategic plan for those services, key elements of which project 6 could support to the limit of its restricted budget.

Key achievements in the area of the Library have been

- the installation, population and maintenance of an open source automated library management system (ABCD), with around 75% of the current book stock catalogued onto the system in preparation for the launching of an online public access catalogue on the university intranet. Staff training has accompanied this work;
- e-journals databases have been made available through web pages, and staff and user training in their use has been instigated;
- A Library computer room has been set up with software installed on new ICT Centre server linked to 50 thin client computers;
- ICT Centre has set up a Computer Centre in the Library staffed mainly by students from the Department of Information Sciences; the aim is that, through capacity-building of library ICT staff (e.g. in using Linux, and the library management system), the Library will have its own ICT capability to address Library problems, as in the college-level model described above.

The main problem and constraint on progress with the Library aspects of project 6 has been high staff turnover and a high proportion of vacant posts: the Head Librarian has changed three times since the start of the Project and two very important staff members of the Library left JU for further study in 2009, which had an impact on the performance of the library system.

Table 14: Project 6 ICT and Library: key result areas

Key Result Areas	Comments	Rating: 1 = poor 5 = excellent
Research	N/A	
Teaching	The Samba server configuration and installation in JUCAVM has provided teaching staff with powerful classroom-based file sharing, storage and presentation facilities. Many of the ICT and Library staff also have teaching duties and the inputs from the Project have undoubtedly improved their capacity and knowledge base as teachers.	4
Extension and outreach	Progress on the CRC development has been limited during Phase 1. Equipment is now in place. Two International training events for Ethiopian and African Universities conducted	2
Management	The ICT elements of the Project have been planned and managed effectively during Phase 1, with timely and appropriate interventions having significant and positive impact upon the administrative, academic and student communities in JU. Library management system and user administration system installed	5
Human resources development	2 Local Masters 30+ participants trained in Belgium, Kenya, Tanzania and Jimma Capacity-building has been the main thrust of the project and the methods and approaches adopted have been highly effective. The development of well-trained, motivated and committed ICT staff cadres has been constrained only by early high turnover of staff. In the Library the project has not been able to have quite such an impact, due mainly to high turnover and shortage of properly	3

Key Result Areas	Comments	Rating: 1 = poor 5 = excellent
	qualified and trained staff. The project's capacity-building efforts have been focused only on relatively narrow areas of ICT-based service development: within this limitation improved staff skills are evident.	
Infrastructure Management	Overall planning and management of ICT infrastructure development, equipment and software provision, and bandwidth management appears to have been exemplary.	4
Mobilisation of additional resources/opportunities	ICT Infrastructure Fund (2007): servers and switches. several cross-cutting initiatives Close-the-Gap computer offers The combined skills of the North and South teams have enabled the rehabilitation and use of previously unused equipment acquired at considerable expense by JU in 2006.	2
Other	Critical IT equipment and software provided under IUC-JU e-Books and e-journal subscriptions to augment Library collections CTG computers for Library and CRCs provided under accompanying projects	3

Table 15: Project 6 ICT and Library: qualitative evaluation criteria

Qualitative evaluation criteria	Comments	Rating: 1 = poor 5 = excellent
Quality	The quality and effectiveness of ICT infrastructure, services and network management on existing JU campuses has improved dramatically during Phase 1. Staff and student communities now have the opportunity, and are acquiring the skills, to make full use of ICT facilities on intranet and through the internet, to access learning and research resources internationally and to communicate within JU and externally.	4
Effectiveness	The Project has used highly effective, flexible and innovative means to achieve its objectives in ICT development at JU. The Library elements have so far been less effective as progress has been slow and the project is working within the context of underdeveloped library management capacity and service delivery, and low user expectations.	3
Efficiency	The joint team efforts to bring to life redundant 'thin client' machines acquired by JU in 2006 achieved significant efficiency gains through re-activating 300 'sleeping' devices (and thus saving JU 200.000 + 250,000 Birr). The use of Close the Gap computers acquired through add-on projects has been an efficient way to achieve improved student/computer ratios, particularly for roll-out of undergraduate facilities.	3
Outcomes	Phase 1 has achieved – in ICT infrastructure and capacity-building –	4

Qualitative evaluation criteria	Comments	Rating: 1 = poor 5 = excellent
	most of its planned outcomes and made an incremental impact upon the working conditions of researchers, teachers, students and administrators in JU. The IUC-JU Projects in particular have benefited from these outcomes in greatly improved communications with Flemish team members and PhD promoters and their access to international sources of data and information.	
Development relevance	All universities in Ethiopia that aspire to play a role in international research and academic endeavour need to be supported by robust and extensive ICT infrastructure and services. Library facilities and services to support research, teaching and learning are also absolutely essential, though these need to be carefully and strategically planned to meet user needs, exploit ICT potential and remain affordable in the long-term. The project has not been able to address these underlying issues of development relevance and strategic direction and the relevance of some of its modest interventions may be questionable.	3
Sustainability	The project has adopted and promoted open source software solutions to avoid proprietary lock-in and ensure sustainability. The affordability of e-journal and e-information database access once the project and other external support (e.g. INASP PERI subscriptions) ends is open to question. JU needs to address these issues within the context of a more strategic plan for the Library than that provided by the project plan.	4

2.2.7 Project 7: Research coordination

Description of the Project

At the start of the IUC-JU preparatory year, it became clear that there are substantial overlaps between the different projects in the IUC-JU Programme: for instance, nutrition issues are themes in at least three different projects (project 1 Zoonotic and animal diseases, project 2 Child health and nutrition, and project 4 Epidemiology and modelling). It was apparent that such overlaps could lead to important collaboration and more efficient research, for instance by setting up common laboratories and sharing research data. Such collaboration across subject disciplines is difficult to achieve, even though research themes may demand a multidisciplinary approach. Additionally, applied research often lacks a socio-economic component or dimension.

Another identified problem among the IUC-JU research groups was an absence of sufficient knowledge to safely store research data, maintain databases and use them in an appropriate way.

The objective of the research coordination project is to address and where possible remedy these problems or shortcomings within the context of the IUC-JU Programme, on the assumption that the project will provide a model for JU as a whole.

The overall academic objective is JU academic staff adhere to a multidisciplinary approach

The overall developmental objective is that JU generates research output with high societal relevance and disseminates and stores these research results.

The specific developmental objective of the research coordination project is that the IUC generates integrated, publishable research results of high quality and socio-economic value.

The specific academic objective of the research coordination project is to build adequate and sufficient capacity of academic staff to promote a multidisciplinary approach to research.

The lead partner in JU is the College of Public Health and Medical Sciences, Department of Epidemiology, with inputs from other professionals from the Department of Population and Family Health and in collaboration with the College of Agriculture, College of Business and Economics, Department of Economics, the College of Social Sciences and Law, Department of Sociology, and the College of Natural Sciences, Department of Statistics.

The lead Flemish unit contains academics from different research units of different universities (UGent, K.U.Leuven and VUB) as broad expertise is required in this project.

Progress and achievements in Phase 1

Project 7 has been something of a work in progress during Phase 1. Progress towards achievement of the IRs has been mixed.

Initially (Years 1 and 2) the project planned to review Activity Plans and Partnership Programmes of the different IUC-JU Projects to determine whether and how a socio-economic dimension could be added. While an experienced and well-respected local project leader was in place in project 7 these kinds of planning discussions seemed feasible; but on his retirement and replacement with a very able but younger colleague, this level of active intervention in research planning was rejected by other projects. Subsequently the Research Coordination team has come to recognise that, while “research coordination remains essential for such a broad programme as IUC-JU, containing a lot of different scientific disciplines”

the objective to incorporate in each single and individual research topic.....was far too ambitious and maybe not completely relevant. A substantial part of the research remains to a large extent technical; one often needs to do first some basic research before the socio-economic dimension can be added. (Project 7 self-assessment)

Another IR was predicated on the assumption that there would be a willingness, commitment and capability within the IUC-JU research projects to collaborate in proactive ways on, for instance data-sharing and research field work. By Year 2 it had become apparent that these activities were not to be easily accomplished:

The main problem for the research coordination project was the lack of collaboration with the other projects, for instance in supplying information on indicators to be added to the questionnaire. There were little contacts and few meetings took place. This is mainly due to the fact that the projects had to find their way themselves to start with, and that most academic staff has very little time anyway. (AP 2007)

Links and genuine collaboration between project 7 and some of the other research projects were more easily promoted where Research Coordination team members are actively involved in those other projects as well, for example, with project 4 Epidemiology and modeling. Project 7 team members were also able to step in to resolve practical coordination problems between the different IUC-JU projects; for example,

when conflicts arose between a Project in the IUC-JU Programme and one outside the IUC-JU framework due to the fact that the two projects wanted to investigate (with randomised interventions) the same villages. It would have ruined both setups, but partially due to the intervention of the research coordination project, both projects are thriving now. (Project 7 self-assessment)

The project 7 team itself was able to accomplish the planned baseline survey of socio-economic factors within communities in the research area in 2007, though not all other projects contributed to it. These data provided the basis for setting up the online server-based database and use of GIS (e.g. for house coordinates).

In Year 2 two PhDs with socio-economic themes were started; while in 2009 two other PhD scholarships and budgets, originating in project 7, were transferred to project 4, thus allowing project 7 to concentrate on research coordination and on socio-economic research. These transfers signalled some very significant revision and reconfiguring of the project and expected IRs, which acknowledged the need to revise earlier assumptions and redistribute resources.

Subsequently the project has focused its resources and activities around:

- research team work around the two PhD themes;
- the obvious potential of data-sharing and the establishment of a joint research database in which data from the different projects can be entered, stored effectively to enable re-use, analysed and visualised using GIS. Technical support on database systems and configuration are provided by the ICT Centre.
- fully-fledged Data Centre launched in 2009 and intended to manage and quality assure the growing database, to support all projects in the IUC-JU with data entry and analysis services,;
- the development, equipping and staffing of a joint laboratory for molecular biology, in collaboration with project 4, for which JU has provided and prepared the premises and which will be functioning soon.

Table 16: Project 7 Research coordination: key result areas

Key Result Areas	Comments	Rating: 1 = poor 5 = excellent
Research	No published articles or research results have yet been produced from the two PhDs. The Project team members have multiple responsibilities, including research within project 7 or other projects, and progress in PhD research has been consequently slow.	
Teaching	N/A	
Extension and outreach	N/A	
Management	The planning and management of the Data Centre development and collaborative initiatives such as the joint molecular biology lab appear to have been, so far, effective.	3
Human resources development	Two PhDs launched on socio-economic research themes	3
Infrastructure Management	Data Centre has been established, staffed and equipped by the project with substantial additional investment from JU Molecular Biology laboratory equipped and resourced with substantial investment from JU.	4
Mobilisation of additional	Both a national and international network has opened up. A North-South-South collaboration on the further development of	3

Key Result Areas	Comments	Rating: 1 = poor 5 = excellent
resources/opportunities	<p>the Data Centre will be requested jointly with the IUC Programme of Moi University, Kenya.</p> <p>The molecular biology laboratory is also supported by the molecular biology laboratory in Debre Zeit that was established in the context of a VLIR-UOS Own Initiative project.</p>	

Table 17: Project 7 Research coordination: qualitative evaluation criteria

Qualitative evaluation criteria	Comments	Rating: 1 = poor 5 = excellent
Quality	<p>Too early to make assessment of quality of research in this project.</p> <p>The Project has been more focused on enhancing collaboration and synergy between the different IUC-JU projects to improve the quality and social relevance of the research undertaken.</p>	3
Effectiveness	<p>Overall the objectives of the project for Phase 1 have been achieved, though pragmatic revision of those objectives in the light of early experience, and the prioritising of new emerging activities suggest a work in progress rather than effective planning.</p>	3
Efficiency	<p>The project managed to achieve most of the planned activities within the foreseen budgets. The transfer of PhDs to project 4 had no financial repercussions as budgets were also transferred between projects. Other activities that emerged as of high priority during Phase 1 were added and the budget adjusted accordingly, redistributing money over projects according to their needs.</p> <p>The research database will provide a platform to bring all data generated in the Gilgel Gibe region together, to store and visualise the data. This effort should avoid overlap of efforts of different projects and lead to more efficient sampling. JU is making a significant contribution.</p>	4
Outcomes	<p>Early indications are that the concrete outcomes of the project – the functioning Data Centre and the joint Molecular biology laboratory – will have significant potential impact on the IUC-JU and JU itself.</p>	3
Development relevance	<p>The project addresses primarily the need for effective multidisciplinary approaches to research within the overall aims of the IUC-JU, and the evident importance of sound practice in data collection, storage and preservation for the benefit of JU and other stakeholders in the long-term.</p>	3
Sustainability	<p>Investment in the Data Centre will have a multiplier effect and allow the JU to lay firm foundations for future research .</p> <p>The project managed to set up important tools and services that will benefit the IUC-JU Programme and then later on JU as a whole as these services are fully embedded in the university. For instance, the technician that is fully responsible for the molecular biology laboratory is already fully paid by JU will continue to be so, as are</p>	4

Qualitative evaluation criteria	Comments	Rating: 1 = poor 5 = excellent
	the staff and other costs for the Data Centre.	

2.2.8 Summary of project-level ratings

The attribution of scores for each project against KRAs and qualitative evaluation criteria is inevitably a subjective exercise, open to different interpretations. We have tried to base the scores on reported progress by project leaders and Self-assessment reports, mediated by our findings in the field.

Table 18 summarising KRA ratings per project reflects the real achievements of the projects during Phase 1 in **human resource development** and capacity-building (PhDs launched, team building, development of research cultures, training in essential skills, etc), and the gains in **infrastructure management** (JU investment in buildings and facilities, overcoming the challenges of procurement to equip laboratories, develop ICT infrastructure, etc.).

Table 18: Summary of ratings on Key Result Areas (KRAs) by Project

Project	KRA 1 Research	KRA 2 Teaching	KRA 3 Extension and outreach	KRA 4 Management	KRA 5 HRD	KRA 6 Infrastructure management	KRA 7 Resource mobilisation	Average score per project ⁴
1: Zoonotic and animal diseases	3	2	4	2	4	3	3	3
2: Child health and nutrition	2	3	3	3	3	3	4	3
3: Environmental health & ecology	2	3	3	2	5	2	2	2.7
4: Epidemiology and modelling	3	4	3	3	5	3	4	3.5
5: Soil fertility	2	3	3	2	4	2	2	2.5
6: ICT and Library	N/A	4	2	5	3	4	2	2.8
7: Research coordination	1	N/A	N/A	3	3	4	3	2
Average score per KRA	1.8	2.7	2.5	2.8	3.8	3	2.8	

It also reflects the relatively slow start in actual **research** (bearing in mind that Year One was only 2007) and the development of functioning and sustainable **extension and outreach** services. These are clearly areas that can and will be addressed in the IUC-JU Phase 2 Programme.

⁴ Average scores should be regarded with caution – in some areas all projects are not comparable (i.e. project 6 has no research element, project 7 has no teaching or extension and outreach elements)

With regard to the qualitative evaluation criteria by which we rated projects, Table 19 indicates the high **development relevance** of the projects and the positive outcomes that are already evident from the Phase 1 work in, particularly, building a research culture and research teams, and engaging in multidisciplinary research that has wide reach within JU.

It also reflects the challenges that the IUC-JU Programme has faced, and overcome in many cases, relating to **efficiency** in terms of use of resources (human, financial and facilities) during Phase 1 and the relatively long lead in time taken to build efficient and effective research teams. It indicates the fact that **quality** of research, education and services to society cannot reasonably be assessed in several of the projects as they are yet in the early stages, or not engaging in research (i.e. project 6). Phase 2 will build on existing gains and make up evident but understandable shortfalls in these areas.

Table 19: Summary of ratings on qualitative evaluation criteria by Project

Project performance relative to the qualitative evaluation criteria							
Project	Quality	Effectiveness	Efficiency	Outcomes	Development relevance	Sustainability	Average score per project
1: Zoonotic and animal diseases	3	3	2	3	4	3	3
2: Child health and nutrition	3	3	2	3	3	3	2.8
3: Environmental health & ecology	3	3	3	3	4	4	3.3
4: Epidemiology and modelling	4	4	4	4	4	4	4
5: Soil fertility	3	4	4	4	4	4	3.8
6: ICT and Library	4	3	3	4	3	4	3.5
7: Research coordination	3	3	4	3	3	4	3.3
Average score per criteria	3.2	3.2	3.1	3.4	3.5	3.7	

2.3 Programme level findings

This section presents findings about the Programme as a whole, which is more than the sum of its parts. Though individual projects within the Programme may be progressing at variable speeds and encountering unforeseen challenges, the cumulative results and progress towards ultimate Programme goals are impressive.

2.3.1 The present stage of implementation

The IUC-JU Programme has been implementing for only four years (by February 2011) and the majority of ongoing PhDs did not start until 2008, after rigorous and transparent selection procedures.

The first year of the Programme (only 9 months long) was used to firm up research proposals for PhD scholarships, which also formed the basis for most of the 'sub-projects' or themes within projects, around which research teams have coalesced with varying degrees of effectiveness. We concur with the North Programme Coordinator's view that the scope of the IUC-JU Programme is so broad that the natural entities are actually the sub-projects, and it is at this level that the most effective multidisciplinary work is being done 'organically' so to speak (for example, in project 2 in the psychomotor - psychosocial stimulation work; in project 4 in vector dynamics), with cross departmental collaboration arising from research needs and interests, rather than through external coordination efforts or cajoling.

JU has been a very active – indeed pro-active – partner in the IUC-JU Programme, making good on its commitment to research and its strategic goals of

- promoting quality and culture of research and scholarship;
- acquiring capacity for attraction, development and retention of qualified people; and
- developing adequate infrastructure and state-of-the-art ICT facilities.

Overall the Programme is well on track to achieve its goals, and much credit for this must go to the effectiveness of Programme coordination and leadership by both the North (Dr Luc Duchateau from UGent) and South (Kora Tushune, also the Vice-President Administration) Programme Coordinators.

Major achievements of Phase 1

We concur with the North and South Programme Coordinators in the view that the major achievements of the Programme so far can be summed up as

- Contributing significantly (after only four years) to strengthened research capacity and increased research outputs – specifically through launching 28 PhDs, but also in attracting other research team members, and providing important technical and research methodology training;
- Laying the foundations of a dynamic and collaborative research culture, directed at critical social, scientific and public health issues of direct development relevance;
- Supporting IUC-JU (mainly with key expertise and training, but also with equipment) in making significant improvements to the research and teaching environment, through investment in new laboratories, ICT infrastructure and technical support, etc.
- Providing substantial support to JU's expansion of educational programmes through academic staff capacity building, supporting the development of new curriculum and helping to establish new Masters courses (e.g. biostatistics), etc.

Most of the research activities planned for the Programme are still ongoing, and some still in early data-gathering stages. Nonetheless, there have been encouraging early results with 16 articles published in local and international publications and many more in the pipeline.

Key problems and constraints

In the Programme overall there have been five identifiable problem areas that have affected each of the projects to a greater or lesser extent, and each of which has been mitigated in part at least by action taken by JU the institution or the Programme Coordinators and team members:

- The first was an issue of Programme design: **research was driven to a large extent by the PhDs**, which was indeed the only way to move ahead given the pre-existing lack of research capacity and qualified academic staff in JU. It did mean that some of the possible PhD candidates who did not obtain scholarships were quite disappointed, sometimes to the extent that they left the projects. This was quickly recognised as a significant threat to the Programme's objective of building research capacity and a research culture within JU, and steps were taken by all projects and JU to mitigate the risk and engage non-PhD researchers into dynamic, multi-level research teams, still clustered around the PhD themes. Overall the measures adopted – short-term training opportunities in Belgium, on-the-job training in research skills and techniques, improved working conditions and research facilities, etc. – have been largely successful and team members have realised that projects offer opportunities for starting research activities outside of a PhD often with additional funding (e.g. IFS grants, local MSc grants). However, addressing this issue took time, and most research teams only became really effective, moving forward with data-gathering and laboratory work, in 2009.
- A related problem of **team building and management** was encountered in Phase I: because the first project leaders in the South were in most cases recipients of the PhD scholarships, they had a difficult dual role to play, which did not lend itself to establishing good collaborative teams and team dynamics. With so few PhDs in JU at the time of the start of the IUC-JU Programme, this situation could not be avoided and has improved over time as teams have coalesced around research themes. In Phase 2 the current PhD scholars will have completed their PhDs and will then be in a much better position shortly thereafter to take up such research management responsibilities.
- A persistent factor that was not as easily controlled by the IUC-JU has been delays and difficulties in **procurement of equipment and materials**. The procurement process of JU, in line with government regulations, was a bottle neck for all projects and the Programme initiated procurement from Belgium to expedite progress, although this incurred extended delays with customs clearance and extra expense. JU has taken steps to strengthen its Liaison office in Addis Ababa and improve procurement procedures related specifically to the Programme. We were told that these steps are beginning to have a positive effect, though there are outstanding procurement difficulties.
- At the start of the Programme **the Project Support Unit (PSU)** was weak and understaffed and staff training and development inputs (in Belgium on VLIR-UOS procedures, on Project Cycle Management, etc) were not adequate to ameliorate the lack of capacity and skills in these very new areas. Financial management in particular was a challenge for the PSU and for project leaders, and the Programme Coordinators noted in several Annual Reports and in the Self Assessment that VLIR-UOS could play a more active role in

supporting the administration and management of IUC Programmes. The North Programme Coordinator himself spent a great deal of time in JU trying to improve administrative procedures and staff capacity in PSU, and it remains questionable as to whether this could be considered the best use of academic staff time. With the support of JU, as the capacity of the PSU (in terms of additional staff and expertise) improved and VLIR-OUS procedures became more familiar, so these problems have been largely overcome.

- Because the IUC-JU Programme has as its focus the Gilgel Gibe catchment area, including Jimma town, and also because the different Projects share common themes of community-based research, investigation of environmental, agricultural and public health themes, it became apparent quite early on that **community fatigue** (with being constantly subjected to data-gathering enquiry and sampling field work without fully understanding or appreciating the purpose) was going to be an ongoing problem. Communities needed to be engaged in and convinced of the benefits of research, as lack of their cooperation represented a serious risk to effective research. These issues have been tackled by individual projects in a number of innovative ways (e.g. awareness raising activities, provision of services, etc), but this will remain a problem for Phase 2 and into the future, and needs to be recognised as a key issue in research methodology and management training.

2.3.2 Qualitative evaluation of the Programme

In this section we raise issues relating to the overall Programme under each of the Programme level qualitative evaluation criteria.

Efficiency

Financial management

Early problems in financial management (e.g. reconciling JU and VLIR-UOS systems and procedures) have been largely overcome but at significant cost in time, effort and overall efficiency (e.g. use of staff resources).

Coordination

The IUC-JU Programme Coordinators and project leaders recognised early on that, although the individual projects overlapped and drew on shared resources (departmental staff, laboratories etc), there was inadequate coordination and collaboration in sharing Programme facilities, field work and research data. Teams for different projects were visiting the same areas and communities within short spaces of time, contributing to community fatigue, and duplicating effort in many cases. This has been partly resolved through project 7 activities, resulting in some early efficiency gains for the Programme and for JU, and the Data Centre has considerable potential to increase efficiency in future, though it is early days as yet. Collaboration and coordination between project teams (both North and South) still need improvement – only two projects are actively and constructively collaborating with project 7.

The very large teams of project collaborators from the North may also be inherently inefficient (though it was difficult for the evaluation commission to properly assess this in the time available and without any opportunity to hold discussions in Flemish universities). By no means all North team members share or are able to offer the same levels of commitment and enthusiasm for the IUC-JU Programme. In very large teams coming from, perhaps, five different Flemish institutions, it is difficult to see how

efficient coordination of effort and collaboration can be achieved. In Flemish universities cross-disciplinary and cross-institutional collaboration can be quite as challenging as it is in JU. The North Programme Coordinator noted in the Self Assessment that

North project leaders and team members need to have the right expertise and willing to put a lot of time and idealism into their respective projects. It is better to include such a restricted number of academics rather than an exhaustive list where nobody knows who is doing what.

PhD candidate selection

The choice of PhD students from among JU academic staff and IUC-JU Programme team members was considered a crucial success factor. It was recognised that it is important to choose a good candidate from an academic ability and research perspective; but also candidates needed to demonstrate loyalty to JU and to Ethiopia. Considerable effort went into devising good and transparent regulations for PhD candidate selection, which broadly speaking has paid off in that only a very few of the selected candidates proved to be mistaken choices, which were speedily and effectively corrected.

PhD model

The use of the sandwich PhD model has also proved to be a highly efficient and cost-effective way of delivering PhD scholarships, with positive effects on team building, quality of research and retention of staff. However, the investment by the Programme in two-year Masters scholarships (full-time study in Belgium) proved to be exactly the opposite and critical lessons were learned by the failure of this model, so only local Masters studies have subsequently been funded by the Programme.

Impact

It is obviously too early to see significant impact from the Programme research, as there are so far a limited number of research outputs and outcomes (though some research results are emerging already with national and international potential impact).

However, positive impact of the IUC-JU Programme is evident in the following areas:

- The effects of working in partnership and collaborating across North and South Project teams has had an incremental impact already on staff capacity, research methodology and techniques in field and laboratory work in some projects. To a lesser extent the Programme has managed to stimulate cross-departmental working in JU itself and working in multidisciplinary teams (more effective in some projects than in others), the impact of which will become more apparent in Phase 2.
- ICT infrastructure and capacity development, based principally on JU investment and Programme expertise, has had an extremely positive impact on ways of working and communicating within JU, and this impact will continue to grow as new technologies (e.g. wireless) are rolled out to more of the JU community.
- Community engagement (despite difficulties of community fatigue) is beginning to have positive results relating to the JU CBE and development goals.
- The Programme has begun to have an impact on teaching and learning activities in JU through provision of support to graduate programme expansion, the involvement of graduate students in research teams, and the provision of ICT to support classroom teaching (in JUCAVM).

With the exception of the Memorandum of Understanding with Moi University in Kenya, the IUC-JU Programme has not so far been very active in promoting and stimulating national and regional (e.g. East Africa) collaborative research activities, particularly in institutions where the IUC model, Programme teams and their research findings might have significant potential interest.

Development relevance

The IUC-JU research themes and projects are very relevant to national and international development goals and priorities, and are specifically aligned with the immediate development needs of the local community and South West area of Ethiopia.

The Programme involved government bodies and NGOs in the design of some of the research projects and key external stakeholders are kept informed of the research progress. The community is benefiting directly from interventions (e.g. anti-malaria bed nets), awareness and information inputs improve productivity particularly in the areas of soil conservation, animal health, prevention of TB, malaria and HIV/AIDS, environmental health and sanitation and others.

Sustainability

There is an evident risk to Programme sustainability in its heavy dependency on the direction, influence and active participation of the North and South Programme Coordinators. It was not clear to us that sufficient management and leadership capacity, expertise and commitment exists among the IUC-JU project leaders (North and South) to ensure that current momentum and progress towards the key Programme goals can be sustained if these two people are absent for any length of time or if there were personnel changes.

We concur with the North Programme Coordinator that

the PhD's will make this programme sustainable. They will have the background to take over the research efforts. The main challenge for Phase II is to accommodate the JU academic staff members that have finished their PhD and give them proper research and supervising opportunities. (Self-assessment North)

Other factors that underpin sustainability are, however, evidently in place:

- The research capacity and volume of data within most of the projects has reached critical mass to ensure that individual sub-projects can be completed and new ideas and research themes pursued as they arise;
- The overall development relevance of the research topics and areas is likely to continue to attract collaborators and funding nationally and internationally;
- JU's continuing support and commitment is evident (e.g. in policy changes to facilitate research and publication of results, and in levels of investment).

Change

There have been very significant capacity gains already from the IUC-JU Programme, and not only restricted to the PhD scholars, but across some of the research teams, and in other academic and service support areas (e.g. ICT and Library skills upgrading).

The determination and increased confidence of the academic staff involved in project research teams is evident in

- Improved capacity to write up research results and to get published;
- Management of research projects and resources;

- Engagement with community members for mutual benefit;
- Fund-raising for new projects in multidisciplinary teams and engaging in joint capacity development.

2.3.3 Value of the IUC programme in comparison to other donor funded cooperation programmes

There are a number of other donor-funded initiatives and projects ongoing in JU that address issues of research and teaching capacity-building, and in the past there has been significant engagement with both Irish and Norwegian government funded programmes. Currently, there is a comparator project funded by CIDA running in JUCAVM (see box below), which has not dissimilar, though more limited aims to the IUC-JU Programme.

Post-harvest management to improve livelihoods

In a six-year project funded by CIDA McGill University in partnership with the lead institution, Nova Scotia Agricultural College, is working with JUCAVM to strengthen its research, training, outreach, and other activities aimed at improving the country's systems of handling, storing, processing, and marketing agricultural products. The project includes creating a network of 30 university, industry, government and community groups with expertise and interest in these issues. With a budget of \$4.65 million, the project aims to contribute to the country's agricultural planning and policy development capabilities. The project includes training, curriculum development, community outreach and policy.

The main value and unique strengths of the VLIR-UOS IUC Programme model as implementing in JU, in comparison with other donor funded interventions, appear to be

- The length of VLIR-UOS engagement in the IUC Programme: including the Pre-Partner Programme and the Phase Out, the partners will be working together with external funding for over 12 years;
- The partnership in active joint research, involving shared research vision and goals, and not only South beneficiaries but also Northern ones (Flemish Masters students), as well as more conventional transfer of skills from North- South through capacity-building and training;
- The unique nature of the sandwich PhD model, though challenging for the PhD scholars (in maintaining momentum in their studies when not in Belgium, with competing priorities, obligations and pressures on their time, with often limited access to and communication with their Flemish promoters), which has proved its efficacy over more conventional full-time scholarships in grounding PhD research in locally relevant themes that are JU institutional and not just personal priorities, in enabling the PhD scholar to build and benefit from collaborative research teams, and in binding the scholar more closely to their own institution.

2.4 Management of the programme

2.4.1 Evaluation of the management by JU

As has been noted, overall programme and project management was problematic during Phase 1, until the PSU developed sufficient capacity and resources to effectively harmonise the VLIR-UOS and JU systems and procedures. VLIR-UOS was also very instrumental in supporting this capacity development by providing Peach Tree software for double accountancy. The PSU also received substantial help from the more experienced PSU at Mekelle University.

Financial management and administration in particular were weak at first, so much so that we understand that two audits failed to sign off the IUC-JU records. This was an area, however, that the evaluation commission had little time to explore in any detail and we are reliant for what evidence we have gathered on verbatim reporting about improvements by the Programme Manager, and the reporting in the North and South self-assessments. In so far as we can judge we would say that the IUC-JU Programme management has certainly attained level 3 in the 'evaluation of internal control procedures' table in Annex 1 of the mid-term evaluation terms of reference: that is, "Defined : control measures are available, standardised, documented and are being applied (plan+ do- phase)".

The North Programme Coordinator feels that the administrative and financial follow up of the IUC-JU Programme should be taken over by the Programme Manager and the PSU (with its augmented staffing) to a larger extent than is currently the case. We concur with this view, although this would not absolve the Northern Programme Coordinator from oversight and control.

We understand that the North Programme Coordinator had early expectations that the VLIR-UOS Country Representative would play an active role in management of IUC Programmes in Ethiopia; expectations that were not shared by VLIR-UOS. The Country Representative currently plays no such role, nor in our view ought he to do so.

On the specific management issues upon which self-assessments are required to report, we have the following comments:

Communication, monitoring and critical review

Overall communication within the Programme (between Programme Coordinators, between PSU and project Leaders, North and South project leaders etc) appears to be working well, although there are some projects (e.g. project 1) where communication has obviously failed in the past.

As noted above, the North Programme Coordinator would like to see PSU taking a more proactive role in monitoring project outputs and financial activity, reviewing financial items in a more stringent way. However, it is very evident that only the North and South Programme Coordinators have a real understanding and overview of the whole Programme, and therefore the capacity to be effective programme rather than project managers, lies at present only with them.

Planning and budgeting

At the end of Phase I, planning and budgeting is now devolved to the different project leaders (North and South). As this had only just been decided, it was not possible for the evaluation commission to assess how effective this devolution is, though the need for PSU monitoring is apparent.

Flexibility and pragmatism

The North and South Programme Coordinators and JU itself have encouraged and practiced flexible and pragmatic approaches to Programme management, finding innovative and practical solutions to

management problems as they arise (e.g. procurement, management of vehicle use, providing incentives to retain team membership, use of a website to store the documents), and generally using the overall budget in pragmatic ways, sometimes reviewing and revising logical frameworks as necessary to accommodate changes.

Consultation and participation

Discussion and consultations are encouraged at all levels - Programme, project and sub-project. There are regular meetings at every level and North and South participants have an annual joint forum for discussion on issues of mutual interest. In practice, however, although consultation on decisions is taken, it would be unlikely (and impractical) that all team members in every project actually participate in Programme-level decision making. The Programme Coordinators of North and South are persuasive and powerful figures, with a detailed grasp of project and Programme level issues, and likely to be the main influence on decision-making.

Result tracking

It is clear from the quality of reporting and from discussions with South project leaders and team members that the use of logframes for planning and results-oriented monitoring and tracking of project progress has been and continues to be challenging. Within JU using the required logframes appears to be mainly a mechanical exercise rather than recognised as a useful way to track results.

Although the IUC-JU website exists as a forum for information flow and exchange, this area could be improved, to enhance understanding, coordination and collaboration between projects and facilitate monitoring.

Academic standards

As all PhDs are supervised by academics from the North, and PhDs have to meet the standards and requirements of the Flemish universities since they are defended there, the academic quality of the research is considered to be guaranteed.

The quality of teaching and research is clearly improving with the capacity-building and other inputs of the Programme.

2.4.2 Evaluation of the management by UGent

From the perspective of the evaluation commission, the North Programme Coordinator is the de facto leader and manager of the Northern partner contributions to the IUC-JU, with a key role in every level of administration and decision-making, even where project leaders from the North come from universities or institutions other than UGent.

Most of the expenditure is in the North, due to the fact that high scholarship costs are paid in the North, and that most of the material, especially the expensive equipment is bought in the North and then sent to the South; even the purchased vehicles were paid for in the North. The purchase, shipment and clearance were very problematic in Phase 1. Information and procedures have apparently been set up on the IUC-JU web site, which, it is hoped, will improve the system substantially in the second phase.

The North Programme Coordinator has not felt well-supported in administrative aspects during Phase 1, in part because the ICOS capacity in UGent has not been adequate to the work load and in part because he wished to see greater inputs to administrative aspects by VLIR-UOS staff.

His retrospective view on what might have been done differently in the design of the Programme⁵ summarises these issues: he would

- 1. Make clear agreements on the financial follow up and administrative responsibilities of the PSU. Too many responsibilities needed to be taken up by the Flemish coordinator up to now. Additionally, the building up of the PSU should have been much faster, and supported by VLIR-UOS.*
- 2. Make clear agreements with the ICOS and other personnel of the rectoral secretariat taking care of development cooperation. During Phase I, too much administrative and financial follow up tasks needed to be taken up necessarily by the Flemish coordinator.*

From our perspective we recognise the management and administrative challenges that must have been involved during Phase 1, and sympathise to a degree with the North Programme Coordinator's view that a greater part of the administrative burden in IUC Programmes (as opposed to the academic management of the Programme) might reasonably be expected to be handled by, presumably better qualified, administrative staff in VLIR-UOS, or by suitably resourced and adequately remunerated administrative units within the Lead Partner Flemish university. However, we also recognise that these are unlikely to be models adopted by VLIR-UOS, not least because it would have considerable resource implications if it were to be extended to all IUC Programmes.

2.4.3 Other management and financial management issues

Reporting

The evaluation commission found that the quality of planning documents (e.g. logframes, APs) reports (e.g. ARs, self-assessments), and other documentation from projects was highly variable, and with information sometimes simply inadequate or missing: for example, few of the Self-assessment reports gave any details against the required KRAs; logframes in APs and ARs were not consistently updated so that activities, inputs and results could not easily be traced.

While the VLIR-UOS templates provide a degree of uniformity and consistency, in our view they are complex and overly detailed and they require a very high-level of repetitive detail from those reporting (e.g. repetition of the same basic information about the Programme and projects as preliminaries in every report or AP, qualitative questions phrased in ambiguous ways that encourage North and South Programme and Project staff to say the same things from slightly different perspectives).

The inevitable result of this level of over-detailed and bureaucratic reporting requirements is that creating the reports and plans becomes a largely mechanical exercise – cutting and pasting text into report templates without reflection or revision, ticking boxes for the sake of completeness – and the creative aspects of planning and reflection on lessons learned are mostly lost.

⁵ from the Programme Self-assessment (North report)

2.5 Evaluation of the cooperation and coordination between all parties concerned

It is apparent that JU and the IUC-JU management share the same vision and that, in so far as it is possible in a partnership in which capacity, expertise and experience levels between North and South are as yet unequal, the IUC-JU is 'owned' by JU.

Largely because of the personalities, status and competence of both the North and South Programme Coordinators, who have succeeded in encouraging an open, dynamic and participatory environment at JU within which the Programme has developed, coordination and cooperation between parties is now generally good, a view which is endorsed in discussions with many JU team members. It has not, however, been possible for the evaluation commission to meet with and consult more than a handful of North team members on this issue.

Communication between the North and South project leaders and their team members is deemed to have been mostly satisfactory, apart from some early problems from which lessons have been learned. Some of the PhD candidates reported that communication and engagement with their Flemish promoters and supervisors when they are at home in Jimma could be difficult: like all PhD students they are heavily reliant (especially in the early stages of their studies) on guidance, advice and regular communication with their promoters, and long-distance communications are not always satisfactory in this respect, nor Northern team members responsive enough to provide the level of support needed.

3. CONCLUSIONS AND RECOMMENDATIONS

3.1 Concerning the programme and its projects

We have the following conclusions and associated recommendations based on our findings in this mid-term evaluation.

3.1.1 Expectations and assumptions

Despite the long Pre-partner Programme engagement between JU and UGent, and the various match-making and preparatory visits back and forth between Flemish universities and JU in Year 0, the Northern teams in particular appeared to have begun the IUC-JU with some over-ambitious early expectations of how quickly research teams might be established and PhD candidates launched in their studies in Phase 1. These high expectations were evidently based, on the Northern side, upon lack of experience of the realities of academic life in Ethiopia and lack of understanding of the work and social pressures on individual academic staff members in JU; and from JU staff perspectives a lack of research experience and appreciation of critical quality issues, combined with significant gaps in research facilities. It has been greatly to the credit of the Programme Coordinators and most of the project and sub-project teams that these challenges and issues were addressed head-on, in flexible and pragmatic ways, and have been largely overcome. This should enable the focus of all the project team members in Phase 2 to be firmly on achieving progress in the research and building on new skills and competences to improve research quality, increase research outputs etc.

It is important, however, that lessons are learned from these early expectations and mistaken assumptions: the Programme is a very large and multidisciplinary one in which not all projects and sub-projects are progressing at the same pace, nor do all project teams cohere in the most positive and productive ways. In Phase 2 the Programme aspires to add 20 more PhDs to the current total of 28. We advise considerable caution and care in making decisions as to the placement of new PhDs within the current IUC-JU, so as not to overbalance emergent project teams and expanding Departments, or to add additional research pressures unless it is certain that they can be properly resourced (with both suitably committed Northern promoters and JU research teams at non-PhD levels). We suggest that Programme Coordinators and project leaders might consider whether the sustainability and quality of the IUC-JU might be better served by funding fewer new PhD scholarships and allocating those resources instead to consolidating the gains of Phase 1, for instance, through stimulating more active national research or teaching collaboration with other universities, providing structured post-doctoral support to completed PhDs, etc. (see 3.1.5 below).

3.1.2 Towards Phase 2 - Research programme review

Projects 1 – 6 all emerged from the pre-existing research and teaching priorities of JU, from the University's commitment to CBE, and from the specific developmental issues pertaining to the region around Jimma and the Gilgel Gibe dam construction and expansion in during the early part of the last decade. There have been numerous and possibly significant changes in international, regional (East African) and national economic, social and development policies and priorities that imply a changed planning environment for research programmes. It may be useful for the IUC-JU Programme to revisit the priority research areas of the Programme to ensure that emerging critical issues are also accommodated in so far as feasible and appropriate.

We **recommend** therefore that Phase 2 commences (in 2011) with a research programme review exercise by the JU and North partners that will include consideration of the following:

- Possible reorientation of the Programme to include research areas of critical importance to the Jimma area and wider national significance, opening up the possibility of a slight shift away from the focus on issues of relevance to the Gilgel Gibe dam catchment area;
- Criteria for involving new Programme partners from among the JU faculties, institutes and departments that have played no significant role in Phase 1;
- Areas that might open up opportunities for further collaboration with other national academic and research institutions (see 3.1.3 below) and that might attract new sources of external funding.

3.1.3 National and regional collaboration

During the period of the IUC-JU Phase 1 much has changed and continues to change in other public universities in Ethiopia. At the start of the Programme there were relatively few other PhD-led research initiatives in the priority areas of the IUC-JU; some have emerged and other universities are developing their capacity in agricultural, environmental and public health research. We suggest that the second Phase of the IUC-JU could do more to support JU in its strategic plans to build and lead national networks and develop joint programmes with other Ethiopian universities. To date collaboration has arisen through individual and personal contacts of the JU academic staff, and through other ad hoc opportunities.

We **recommend** that institutional approaches to national and regional East African (in addition to the Memorandum of Understanding with Moi University, Kenya) collaboration are accepted, formalised and prioritised as part of the IUC-JU Phase 2, through activities such as

- building a regular IUC-JU events programme focusing on emerging results from IUC-JU research, with events hosted at Jimma or co-hosted with other institutions in Addis Ababa or elsewhere;
- more active encouragement and facilitation (through modest travel grants for example) of joint proposal development by IUC-JU research team members with colleagues in relevant national and regional institutions to access other VLIR-UOS funding opportunities (Own initiatives, South initiatives, North-South-South cooperation) and other international funding.

3.1.4 Using Ethiopian co-promoters

Another way to build national networks and contacts would be to seek Ethiopian co-promoters for the new PhDs in Phase 2. We recognise that identifying suitable co-promoters during Phase 1 would have been challenging, due mainly to the paucity of PhD scholars in Ethiopian universities, and that JU believes that the situation in Ethiopia and experiences it has had to date with other universities in the country do not support this approach. We also understand that the researchers now completing their PhDs will be expected during Phase 2 to themselves supervise PhD scholars and act as co-promoters, even though their post-doctoral experience will be limited. However, several PhD holders and scholars among the JU project team members told us how much they would value or would have valued having a local co-promoter from another Ethiopian higher education and / or research institution, to provide them with more locally relevant advice and inputs, and to ensure support at times when their main Flemish promoters may be unavailable.

It is common practice internationally for PhD students to have more than one supervisor or promoter, especially in PhD research of a multidisciplinary nature. Promoter/supervisor support to PhD students is known to be the most critical element in PhD success. We believe that it should now be possible to identify suitable national co-promoters for forthcoming PhDs and if these are located in other universities and research institutes it will assist JU in building academic and research networks for the future.

Supervision of post-doctoral research (see 3.1.5) in JU may be another area in which national collaborators from other universities and research institutions might be sought, to collaborate with Flemish PhD promoters and project team members in ensuring the sustainability of the research themes and sub-projects post-PhD.

Despite JU reservations, we **recommend** that in Phase 2 the IUC-JU Programme teams actively explore opportunities to appoint co-promoters of new PhDs from within national academic and research institutions, and are enabled to use modest IUC-JU funding to facilitate such appointments (e.g. travel grants, support for conference and meeting attendance etc).

3.1.5 Post-doctoral support

It is common internationally for new PhDs to spend two to three years as a post-doctoral research associate or fellow, under supervision of a more experienced academic, before being considered as a full academic staff member. At present the IUC-JU does not include any formal support elements for post-doctoral researchers, nor, we understand, does JU have post-doctoral career structures or mechanisms in place. We suggest that the IUC-JU Programme could, in Phase 2, move beyond the basic research capacity building prioritised in Phase 1, to contribute in this area to the sustainability plan of the University, advising on the institutional requirements necessary to support post-doctoral research.

We **recommend** that Phase 2 of the IUC-JU builds in formal mechanisms to support post-doctoral research, for example,

- to set post-doctoral research objectives in key areas from among the current projects and sub-projects, which would build on the multidisciplinary nature of the IUC-JU Programme and provide post-doctoral researchers with new collaborative opportunities to further develop their expertise and research, free from the pressure of PhD completion but within a sufficiently structured and supervised research environment;
- to provide resources (materials, access to IUC-JU facilities) to enable the completed PhDs to continue their research and to publish their results;
- to fund opportunities for the completed PhDs to network nationally and regionally, visiting other academic and research institutions, conference attendance etc., and possibly to be supported by advisers from other Ethiopian universities (see 3.1.3 above).

3.1.6 Improving communication and support between North promoters and PhD students

Taking the IUC-JU Programme overall communication between North and South partners has been good, and the evidence of that lies in the project teams' generally successful efforts to address and overcome early difficulties and periodic setbacks. Increasingly, during Phase 1 communications have been facilitated and improved by better ICT infrastructure and managed bandwidth at JU.

At the level of individual PhD students, between the scholar in JU and their Northern promoter, however, we found some variation in communication practices and effectiveness. Northern team members and PhD promoters are under considerable pressure from their Flemish academic duties and are able, in general, to visit JU only once a year, while their PhD student may be in Belgium for a period of months once a year. At other times, for the crucial routine business of remotely supporting, advising and communicating between student and promoter, the teams are reliant on ICT, and the commitment on the part of the North promoters to be as responsive and communicative as it is possible for them to be.

For the PhD student in any country, regular, reliable and timely communication with their promoter is probably the single most important factor in their successful PhD studies. Both student and promoter in the IUC-JU are greatly dependent upon being able to communicate problems, issues and answers in written English, which is often a bigger challenge than explaining these things in spoken English: Skype voice and web video communication can be a powerful tool in these circumstances. We found that some North and South team members are better than others at exploiting ICT applications such as email, file sharing, Skype etc.

We **recommend** that

- IUC-JU, perhaps assisted by VLIR-UOS for wider application in other IUC Programmes, drafts and agrees between all IUC-JU Partners a brief 'code of conduct' for promoters and PhD students to ensure that both North supervisors and South students are fully aware of the extent of one another's responsibilities, to enable both to understand the promoter/supervisor's contribution within the context of an IUC Programme to supporting the student and where the promoter/supervisor's responsibilities end, and to establish minimum commitments and time frames for communication and responsiveness on each part;
- All Northern promoters and PhD students are given appropriate training in the use of ICT applications that can facilitate good communication and exchange of materials and information e.g. Skype, shared time scheduling, file sharing applications such as DropBox⁶, etc. The use of these methods in the promoter/PhD student relationship should be mandatory, so it is essential to overcome individual reluctance to engage with these technologies or lack of confidence in using them.

3.1.7 Challenges of writing for publication

An important pre-requisite for building national and international networks and collaborating with others in research is to improve the writing and communication skills of the JU academic staff. During Phase 1 the focus has been almost exclusively on writing up research results for publication in international journals, and preparing conference posters about the projects and sub-projects. While writing for research publication in international sources is undeniably a critical skill, there are other aspects of importance: such as writing research proposals for funding, communicating research ideas and outlines effectively through correspondence, workshop and conference presentations, and communicating scientific research to non-scientific audiences.

While most project team members were able to take advantage of the one-off training course on scientific writing delivered by a Flemish trainer and organised by project 5, one course is not sufficient. JU is already taking steps to establish more permanent research and proposal writing support. The

⁶ <https://www.dropbox.com/home#>

university may also consider looking at models of centres for academic writing, which are common among universities internationally, and which offer students individualised advice as well as regular workshops and e-learning modules on how to organise an academic argument, to improve grammar and sentence structure in writing articles, reports, grant proposals, dissertations, theses, etc.

No doubt Flemish models for such centres exist: we **recommend** that the IUC-JU could facilitate some exchanges and advice on this issue, as well as providing further and more intensive training for PhD and Masters students and other project team members.

3.1.8 Using smart phone technology in field work

The work of the Data Centre (see 3.1.16 below) could be immeasurably enhanced if, in future years, a significant proportion of research field work and data gathering were done using mobile and ‘smart’ phone technology. There are international precedents for this in the field of environmental and biological research (e.g. at the Imperial College, London⁷).

We therefore **recommend** that the IUC-JU considers introducing one or two pilot initiatives in using mobile telephony for field data gathering into existing projects and sub-projects, where research is progressing well and where teams are experienced and confident in their field work. These pilots will enable JU to explore the use of smart phone technology in data collection and transmission of research data directly from the field to the Data Centre, and to gain an insight into what fieldwork design, staff skills and technology factors might need to be in place if such methods were to be scaled up.

3.1.9 Collaborating to improve procurement

The issue of procurement of materials and reagents has recurred throughout Phase 1 as a major problem and constraint on progress. The problem is particularly acute, we understand, with certain types of chemical reagents required in small quantities for laboratory work across all types of scientific enquiry. These reagents are not normally and regularly available from sources within Ethiopia but have to be ordered from abroad. They are expensive and volatile and suppliers are frequently reluctant to order the required small quantities. JU has already taken steps to consolidate procurement across the IUC-JU projects in order to try for economies of scale.

But the requirement for these reagents must also be shared by other scientific research institutions in Ethiopia (including other public universities), who must also share the same frustrations and constraints.

We **recommend** that JU, under the auspices of the IUC-JU Programme that allows it to predict fairly accurately its needs for such reagents over the next five years, should explore as lead university the establishment of a purchasing consortium of national academic and research institutions to improve the procurement and flow of these chemicals and reagents. First advances might be made to two or three well-known collaborators from among the public universities.

⁷ EpiCollect: Linking Smartphones to Web Applications for Epidemiology, Ecology and Community data collection. PLoS One, 16 September 2009. David M. Aanensen, Derek M. Huntley, Edward J. Feil, Fada'a al-Own, Brian G. Spratt.

3.1.10 Project 1: Zoonotic and animal diseases

A new collaborative approach/concept of the project was proposed in 2009 in order to adapt better to the local capacity and capability of the Veterinary School, to improve collaboration between researchers and research groups. This approach organised the research into three themes (incorporating the five original research topics): urban environment related veterinary topics; rural environment related veterinary topics; and zoonotic diseases. However, there are no indications from discussions with JU project team members or in the Self-assessment report for the project that this reorganisation has been embedded into practice or had a positive impact on collaboration across sub-projects.

We **recommend** that this reorganisation is properly implemented and research topics rationalised (including if necessary dropping one or two topics) as part of a Programme-wide research programme review exercise in Phase 2 (see 3.1.2) to ensure a more coherent and viable research agenda for the project. This should be done before new PhD candidates are invited or accepted.

3.1.11 Project 2: Child health and nutrition

The focus of the research is important and innovative, but has the potential to expand and shift to include new, related lines of enquiry that address other environmental and social factors that constrain therapeutic play and the overall developmental status of the child within the local community. This potential to shift focus away from dietary and medical issues could absorb increasing resources within the IUC-JU Programme and result in a research agenda that is too wide-ranging to be sustainable for JU once direct involvement of Flemish partners phases out. This risk needs to be recognised and managed in Phase 2.

3.1.12 Project 3: Environmental health and ecology

The biggest challenges in this project have been associated with the highly multidisciplinary nature of the sub-projects, achieving coherent collaboration across sub-projects and across different departments in both JU and Northern partner institutions. Overall the project has met these challenges well and maintained momentum in research data-gathering and outputs

3.1.13 Project 4: Epidemiology and modelling

This project is the largest project in the IUC-JU Programme and, to date, has produced the most impressive results in terms of research outputs and contributions to teaching. The MSc programme in biostatistics being developed under this project has the potential to support all IUC-JU Programme projects and other research at JU in the medium- to long-term, though in Phase 2 it may be necessary to attract additional external funding to sustain the Masters programme development.

3.1.14 Project 5: Soil fertility

Despite a slow start due mainly to changes in personnel, the Soil fertility project has regained momentum, and the project teams have been especially effective in establishing good links with various key external stakeholders in the Gilgel Gibe watershed, such as the Jimma Agricultural Research Centre, the Ministry of Water Resources, the Ethiopian Electric Power Authority, the Jimma zonal agriculture and rural development office. These links have the potential in Phase 2 to support the sustainability of the research through leveraging additional external funding.

3.1.15 Project 6: ICT and Library

University library facilities and services, to support research in particular, need to be carefully and strategically planned to meet user needs, to exploit ICT potential and remain affordable in the long-term. Project 6 has not so far been able to address the underlying issue of strategic direction for library services and the relevance to research of some of its modest interventions to the Library (focusing, for example, on automating the book collection catalogue) may be questionable in a strategic context.

We **recommend** that, in Phase 2, consideration is given in using some project 6 resources to assist JU to address such issues as the long-term affordability of e-journal and e-information database access, the utility of increasing printed book collections within the context of a strategic plan for the university's library services, key elements of which project 6 could then support to the limit of its restricted budget.

3.1.16 Project 7: Research coordination

The Data Centre has the potential to develop, during Phase 2, into a highly effective research data sharing facility for JU, which could streamline research and data analysis processes and greatly improve efficiency in terms of data entry, analysis and re-use. It will also enable the secure storage and re-use of research data, and make it possible to make that data nationally and internationally available for research collaboration purposes. We suggest that the Data Centre also has the potential to become JU's own institutional repository, providing controlled access by international researchers to the university's research outputs, with the inclusion in the database of submitted, in press and published articles, conference papers and other research outputs associated with the data already being deposited.

Initially while it is under development, the Data Centre/Institutional Repository need not be opened to internet access, and parts of the database and holdings may always be restricted to JU users only.

The key advantages of a properly organised and structured institutional repository, from JU's perspective, would be that it:

- Showcases the university to interested constituencies – prospective staff, prospective students and other stakeholders
- Collects and curates digital outputs
- Manages and measures research and teaching activities
- Provides a workspace for work-in-progress, and for collaborative or large-scale projects
- Enables and encourages interdisciplinary approaches to research
- Facilitates the development and sharing of digital teaching materials and aids

We **recommend** that, in Phase 2, project 6 and 7 staff work together on researching and defining the scope, structure and development plan of such a repository, and ensure that the appropriate ICT infrastructures and applications planned for the Data Centre can also accommodate and secure effective storage and retrieval of other types of digital material.

3.2 Concerning the management of the programme

3.2.1 KRAs and qualitative evaluation criteria

The IUC-JU Programme has been particularly successful during Phase 1 in KRAs:

- human resources development; and,
- infrastructure management

This is evidence of the effective management of the complex and wide-ranging research programme by the two Programme Coordinators, and to the commitment of JU in providing investment and appropriate facilities in timely manner.

KRAs at the programme level in which the IUC-JU Programme needs to expand and improve during the remainder of Phase I and during Phase 2 are:

- research; and
- extension and outreach (particularly in terms of academic outreach);

In terms of qualitative evaluation criteria, the IUC-JU Programme achievements are most impressive in the areas of development relevance and the value of the Programme outcomes (specifically its impact upon the institution in building a research culture and introducing multidisciplinary research themes).

3.2.2 PSU and financial management

Administrative and financial follow up of the IUC-JU Programme in Phase 2 should be primarily the responsibility of the Programme Manager and the PSU. If it is judged that PSU staff require additional training and hands-on support to enable them fully to take on this role, appropriate staff development inputs should be provided by the IUC-JU Programme.

3.2.3 Devolution of management responsibilities to project leaders

At the end of Phase 1, we understand, planning and budgeting is now devolved to the different project leaders (North and South). This is an important step that will need to be carefully monitored to ensure actual implementation. Northern project leaders will be able to relieve some of the apparent burden of hands-on monitoring and management by the North Project Coordinator. South project leaders, especially those nearing the end of their PhD studies, need capacity-building in research management and project management in order to take up their post-PhD responsibilities as research leaders in JU, and this devolution will contribute to that.

3.2.4 Procurement

Procurement challenges are likely to lessen in Phase 2, since most of the essential laboratory and ICT equipment will have been purchased in Phase 1. The challenge of continuing procurement of consumables, such as reagents for laboratory work, will not diminish, however, and maximum effort on the part of JU will be needed to ensure that current improvement in procurement procedures are maintained and national level impediments are robustly addressed.

3.3 Concerning the coordination between all parties involved

The Programme overall has been well coordinated by JU and UGent, led by example and good practice by the Programme Coordinators North and South. In the early stages, staff turnover and change in both the JU and Flemish teams impeded progress in team building and the establishment of shared research goals, standards and culture, but these have been largely overcome through dialogue, discussion and mediation by the Coordinators. There are two issues that need to be addressed in Phase 2:

3.3.1 Heavy reliance on Programme Coordinators

In Phase 2, with the devolution of more management responsibilities to North and South project leaders and the PSU, a reduction should be possible (and should be actively sought) in the current dependency on the North and South Programme Coordinators for direction, influence and hands-on problem-solving in the coordination and management of projects.

3.3.2 Coordination in research between projects

Phase 2 will offer an opportunity to consolidate the gains in team-building and the inculcation of a research culture within JU through a determined focus on increasing active coordination of research between projects. This should include coordination of research data-gathering, growing use of the new research database to store and share research data, improved sharing of plans and project information, as well as emerging research findings, across project and sub-project teams. As has already been noted, there are particular opportunities to coordinate and collaborate in these ways between projects 2, 3 and 5.

3.4 Overall conclusions and recommendations to VLIR-UOS and towards phase II

3.4.1 Role for VLIR-UOS country representative

We foresee a possible role for the VLIR-UOS Country Representative in the IUC-JU Phase 2 Programme in two areas:

- Engagement with the JU and North partners in placing the recommended (3.1.2) research programme review in 2011 in a wider perspective on national policy and development priorities to provide a VLIR-UOS voice and offer;
- Collaboration with JU and the IUC-JU partners and project teams in identifying key national research and academic institutions and units that could offer opportunities for research collaboration with the IUC-JU Programme during Phase 2 (see 3.1.3).

3.4.2 Funding for new activities within IUC-JU Phase 2

We have recommended (3.1.5) that consideration is given by VLIR-UOS and the IUC-JU partners to the introduction of a new post-doctoral support element to the Programme in Phase 2. We recognise that this will have funding implications in terms of the redeployment of existing allocations within the IUC-JU Programme, as well as the possibility of leveraging additional funds. VLIR-UOS may also wish to consider the implications of introducing this new element for wider IUC Programmes and develop more general policies and approaches in this area.

3.4.3 Logframes and planning /project management skills

The logical framework approach proved to be a useful planning approach for Phase 1, although it has proved to be a somewhat cumbersome tool in subsequent results tracking and monitoring by project teams. Due to changes in personnel during Phase 1 it is likely that several project leaders and deputy project leaders in JU have not received adequate training in the purpose and use of logframes. Such training (formal or informal) that has been delivered within Phase 1 clearly needs augmentation, and perhaps, can be improved upon in Phase 2. This will be especially critical as project leaders in JU take up greater responsibilities for planning, monitoring and budgeting.

3.4.4 Mid-term evaluation methodology

In this mid-term evaluation, opportunities for discussion, both formal and informal, with JU project team members were exploited as far as possible during the field mission to Jimma. However, the evaluation commission regrets that it was not possible to have more extensive and similar engagement with Northern project team members, only one or two of whom happened to be present in Jimma during the commission's visit. This would have provided a more balanced picture of the IUC-JU than the commission was able to obtain just from document review and interviews in Brussels with the seven Northern project leaders only.

We suggest, therefore, that in future mid-term evaluations contractual time is always allowed, and arrangements made for the international evaluation commission member to visit selected Flemish universities to hold discussions with Northern project team members after the field mission to the South Partner university and before report writing commences.

3.4.5 Overall recommendation to VLIR-UOS

The evaluation commission has no hesitation in concluding that the IUC-JU overall is on track to reach and, in some cases, possibly to exceed the objectives set for the full Programme; nor in recommending that Phase 2 is implemented as planned from the end of 2011, with an emphasis on consolidating gains and building on new research capacities to achieve solid research results, and looking to opportunities, such as those suggested and recommended by this commission, to support the sustainability plans of JU.

ANNEXES

ANNEX 1 Key Result areas and qualitative evaluation criteria

Key result areas	Indicators (quantitative and full descriptive data)
KRA 1: Research	<ul style="list-style-type: none"> Articles in international peer reviewed journals Articles in national peer reviewed journals Conference proceedings (full paper) Conference abstracts Chapters in books (based on peer review) Books with international distribution (author or editor) Working/technical papers/popularising literature/articles in national journals, electronic journals etc. Conference contributions (posters, lectures) Patents. Other
KRA 2: Teaching	<ul style="list-style-type: none"> Number of courses/training programmes developed New or substantially updated curriculum Textbooks development Learning packages developed (distance learning, CD-rom etc.) Laboratory manuals Excursion guides Other
KRA 3: Extension and outreach	<ul style="list-style-type: none"> Leaflets, flyers or posters for extension Manuals or technical guides Workshop or training modules package Audio visual extension materials Consultancy / contract research Policy advice/papers Other
KRA 4: Management	<ul style="list-style-type: none"> New institutional procedures / policies Lab or departmental management inputs Systems development (e-management, software etc.) Research protocols Other
KRA 5: Human resources development	<ul style="list-style-type: none"> Bsc. Msc. Phd. Pre-doc Training in Belgium Other
KRA 6: Infrastructure Management	<ul style="list-style-type: none"> Physical infrastructure (incl. land) ICT-equipment Library equipment (incl. books) Laboratory equipment Transport
KRA 7: Mobilisation of additional resources/opportunities	<ul style="list-style-type: none"> Flemish travel grants Flemish PhDs Other PhDs Spin off projects other
KRA 8: Other	<ul style="list-style-type: none"> Inventory

In terms of collaboration at the level of the programme, the following criteria can be applied as a reference.

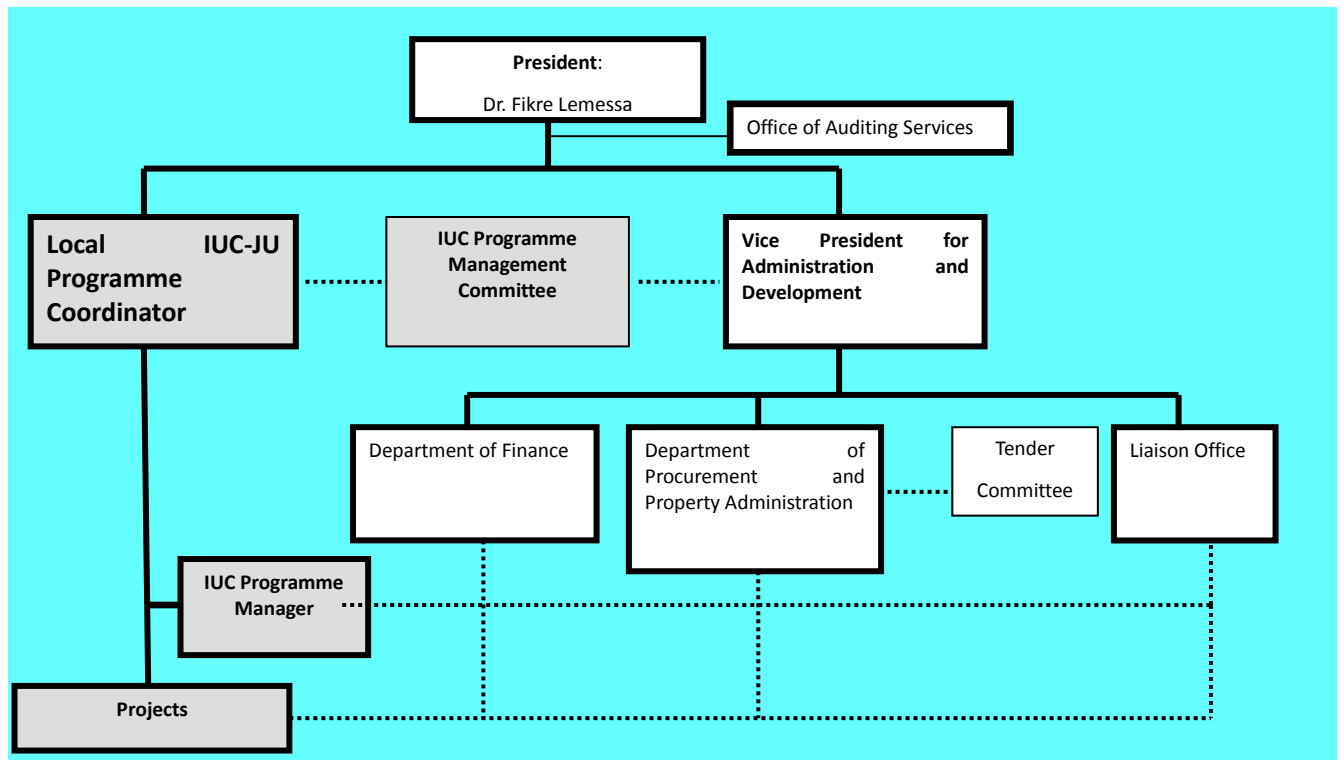
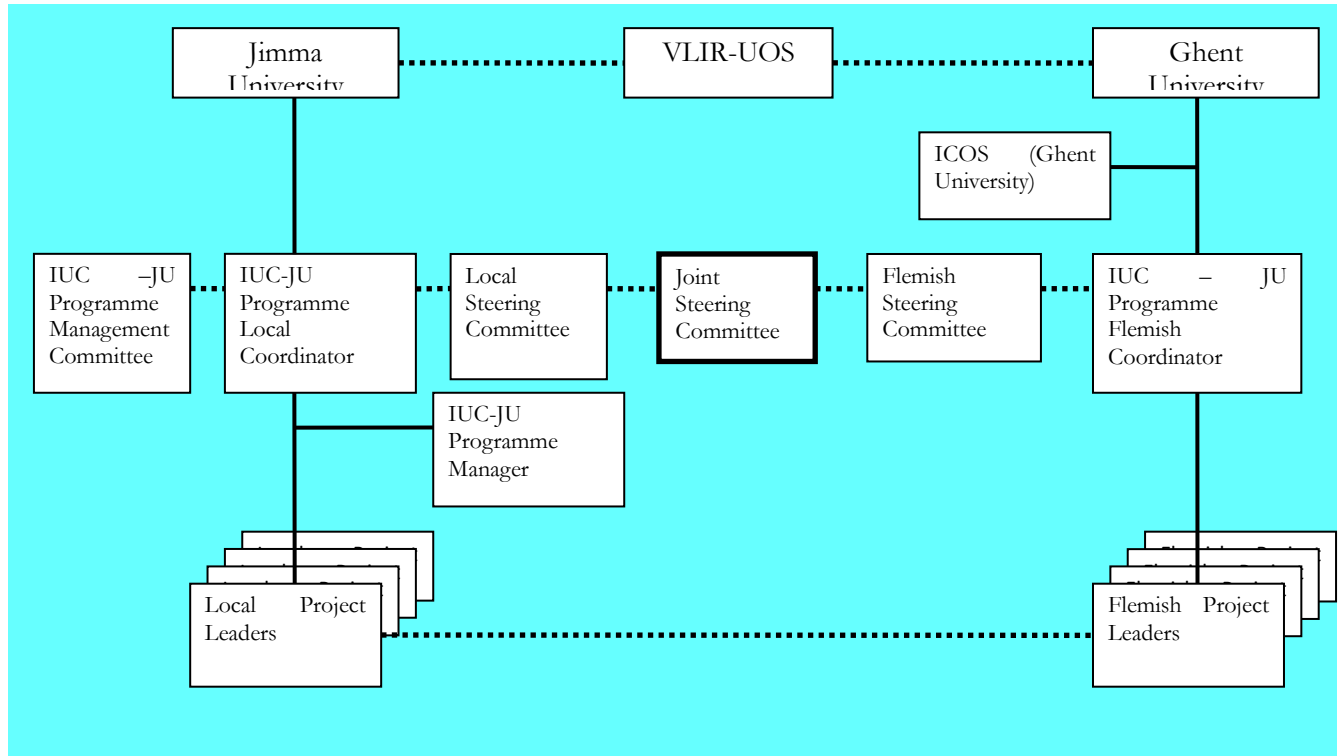
Criterion	Indicators
1. Efficiency	<p>The relationship between the objectives and the means used to reach the objectives.</p> <p>The use and application of the means earmarked for collaboration.</p> <p>The actual net result in terms of the achieved efficiency through collaboration.</p> <p>The extent to which collaboration can contribute to solving institutional needs and problems.</p> <p><u>Possible indicators of “efficiency” :</u></p> <p>At the level of the programme : existence of systems for continuous alertness for opportunities to enhance efficiency through cost-sharing/economies of scale etc.</p>
2. Impact	<p>Not just actual but also (given time limitations) potential impact.</p> <p><u>Possible indicators of “impact” :</u></p> <ul style="list-style-type: none"> • impact at the institutional level : the extent to which the collaboration has sparked other departments to initiate interuniversity collaboration, joint capacity building, fund raising etc. • impact at regional developmental level: the extent to which the collaboration has led to joint developmental activities or similar collaborative models at the regional level • impact at policy level : 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
3. Development relevance	<p>The extent to which the planned collaboration is addressing immediate and significant problems and needs of the concerned partners as well as regional and national policy makers, with reference to the MDGs, PRSP and other multilateral policy papers (e.g. PASDEP).</p>
4. Sustainability	<p>Financial, institutional and academic sustainability</p> <p><u>Possible indicators of institutional commitment in the South :</u></p> <ul style="list-style-type: none"> • co-funding by the partner university (matching funds) • incorporation of costs into the budget of the partner university • the partner university sets aside funds for operations and maintenance of physical infrastructure • Ability to attract extra-muros funds • Ability for full financing or co-financing events, workshops, congresses, mobility, grants, investments, infrastructure • Strengths and weaknesses of the institution in terms of institutionalising the collaboration • Intensification and/or formalisation of interuniversity consultations (North-South and South-South) • Ability to produce joint proposals (fund raising, research) • Collaboration and exchanges outside of VLIR-UOS-programme • Curbing brain drain into sustainable brain circulation, installing incentives, “pull factors” against “push factors”
5. Change	<ul style="list-style-type: none"> • changes in awareness, knowledge, skills • increases in the number of people reached • policy changes • changes in behaviour • changes in community capacity • changes in organisational capacity (skills, structures, resources) • increases in service usage • improved continuity of care

In terms of collaboration at the level of the projects, the following criteria can be applied as a reference.

Criterion	Indicators
1. Quality	<p>This is the main criterion, being the result of all other criteria.</p> <p><u>Possible indicators of "quality" :</u></p> <ul style="list-style-type: none"> • quality of research : the extent to which the results have been incorporated in local or international refereed journals • quality of education : the extent to which alumni easily get a job which fits their education profile; the number of fellowships acquired from foundations • quality of rendering services to society : the extent to which the university/faculty/department is involved in feasibility studies/consultancies, extension work, spin-offs, strategic vision, participatory farmer's education etc...
2. Effectiveness	the extent to which the specific objectives have been achieved (the quality of the results)
3. Efficiency	<p>The relationship between the objectives and the means used to reach the objectives. The degree to which the installed capacity (human/physical/financial) is used; goals/means ratio in human, physical and financial resources</p> <p><u>Possible indicators of "efficiency" :</u></p> <p>At the level of the project : the extent of flexibility in the programme implementation, e.g. reallocation of resources during implementation</p>
4. Outcomes	<p>Not just actual but also (given time limitations) potential outcomes, looking at consultancy, policy advice, accreditation models, extension work, etc...</p> <p><u>Possible indicators of "impact" :</u></p> <ul style="list-style-type: none"> • impact at the level of the private sector : the amount of money earned on the market • impact at policy level : the extent to which academics, involved in the IUC programme, are called upon by the government for policy advice • impact at the level of the own university or other universities : <ul style="list-style-type: none"> - renewed curriculum functions as example for other universities/departments - the new style of teaching has become a model for teaching (e.g. the systematic use of teaching in combination with laboratory work) - the library has experienced a clear increase in number of visitors
5. Development relevance	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 actors, the level of transfer of know-how and technology
6. Sustainability	<p>Especially financial and institutional sustainability</p> <p><u>Possible indicators of mutual interest :</u></p> <ul style="list-style-type: none"> • do the Flemish universities commit their own university funds to the programme, for instance by giving fellowships or by allowing academics to go to the field ? • are Flemish academics personally committed? • are there joint research projects which are interesting both to the Northern and Southern academics involved ? • do the partner universities also commit their own funds to the programme (matching funds)?

ANNEX 2: Structure of the IUC-JU Programme within JU

Source: JU Programme Coordinator's presentation to the evaluation commission 15/01/11



ANNEX 3: Jimma field mission visit schedule

Date	Time	Activity	Place/Venue	Responsible
DAY I - ARRIVAL AND OFFICIAL RECEPTION				
1 14-Jan-2011	1.00 PM	arrival of the IUC evaluation team and accommodation	Central Jimma Hotel	evaluators
	3.00 - 5.00 PM	Introduction to JU president, Vice Presidents, Senate members and members of the senior management of JU	Main Campus, JU	
	5.00 - 6.00 PM	Return to hotel	Central Jimma Hotel	evaluators
	6.30 - 9.00 PM	Dinner reception	Honeyland Hotel	JU president, Dr Fikre Lemessa
DAY II - THE IUC PROGRAMME AND PROJECTS: RESEARCH SYMPOSIUM AND POSTER SESSION				
15-Jan-2011	8.00 - 8.30 AM	Arrival of participants of the IUC Programm research symposium	JU auditorium, President's bldg, main campus	IUC-JU Programme
	8.30 - 8.40 AM	Welcome address	do	JU president, Dr Fikre Lemessa
	8.40 - 8.50 AM	Overview of IUC-JU programme	do	Prof Luc Duchateau and Mr Kora Tushune, programme coordinators
	8.50 - 9.00 AM	Presentation of Project 1	do	Dr Mulugeta Tefera
	9.00 - 9.10 AM	Presentation of Project 2	do	Mr Teklu Gemechu, Prof Tefera Belachew
	9.10 - 9.20 AM	Presentation of Project 3	do	Mr Tadesse Getahun
	9.20 - 9.30 AM	Presentation of Project 4	do	Mr Zeleke Mekonnen
	9.30 - 9.40 AM	Presentation of Project 5	do	Mr Amsalu Nebiyu
	9.40 - 9.50 AM	Presentation of Project 6	do	Mr Girum Ketema
	9.50 - 10.00 AM	Presentation of Project 7	do	Mr Yehenew Getachew
	10.00 - 10.10 AM	Programme Support Unit??	do	Mr Jemal Abafita
	10.10 - 10.40 AM	Discussion		Moderators to be assigned
	10.40 - 10.55 AM	Health Break		
	11.00 AM - 12.00 PM	IUC poster session and photo exhibition	Learning Resource Center Bldg	PSU, PhD students and PLs
	12.30 - 1.30 PM	Sandwich Lunch	JU staff lounge, main campus	JU staff lounge
DAY III - VISITS (OFF-CAMPUS: Gilgel Gibe)				
16-Jan-2011	2.00 - 9.00 AM	Trip to Gilgel Gibe		
	9.00 AM - 3.00 PM	Visits in Gilgel Gibe area		
		CRCs	Serbo or	Mr Girum Ketema

Date	Time	Activity	Place/Venue	Responsible
			Asendabo town	
		Field lab facility, malaria research	Asndabo health center	Mr Delenasaw Yewhalaw
		sediment monitoring, guaging stations	Asendabo, Nada areas	Mr Endalkachew Kissi
		Manbarnootaaf, 'For Schools' project	Kara Gemina, Bore	Manbarnootaaf members
		CBE activities of JU	Asendabo Health Center	Prof Abebe G/Mariam
DAY IV & DAY V - MEETINGS, DISCUSSIONS AND VISITS				
17-Jan-2011	8.00 AM - 12.00 PM	Meetings and discussions with JU leadership, IUC coordinators,	Main Campus, JUCAVM, ...	evaluators
	2.00 - 5.00 PM	on-campus visits (vet labs , molecular lab, TB/HIV lab, ict/library facilities, playground, PSU, smart classrooms, graduate program, etc)	Main Campus, JUCAVM, ...	Dr Moti, Dr Tadele, Zeleke, Gameda, Girum, Teklu, Yehenew, Zenebe)
18-Jan-2011	8.00 AM - 12.00 PM	Meetings and discussions with IUC-JU project leaders/deputy leaders, PhD students and some team members		
	2.00 - 5.00 PM	visits in Jimma town		
		dairy farm	Jimma town	Dr Tadele Tolosa+F34
		solid waste experimental site	JUCAVM	Mr Tadesse Getahun
		visit to a couple of selected local offices like education office, health office, municipality , city admin, zone admin, ...		
	6.30 - 8.30 AM	Farewell dinner reception	JUCAVM	PSU
19-Jan-2011	9.00 - 11.00 AM	Debriefing JU President, IUC Programme Coordinator and staff	JU President's office	
	12.00PM Onwards	Departure		

ANNEX 4: People consulted

VLIR-UOS personnel

Christophe Goossens ,
Dr Luc Janssens de Bisthoven,
Dr Hans Bauer

Flemish University partner personnel

Jan Diels (UGent)
Luc Lens (UGent)
Patrick Kolsteren (UGent)
Luc Duchateau (UGent)
Pierre Dorny (UGent)
Marc Thoelen (UHasselt)
Paul Janssen (UHasselt)
Geert Janssens (UGent)

Jimma University personnel

Dr Fikre Lemessa, President
Kora Tushune, Vice-President Administrative Affairs
Dr Taye Tolemariam, Vice-President Academic Research and Student Affairs
Dr Derbew Belew, Dean, JUCAVM
Jemal Abafita, IUC-JU Project Manager

JU project team members

Gemeda Abebe
Tefera Belachew
Teklu Gemechu
Yehenew Getachew
Tadesse Getahun
Girum Ketema
Zelege Mekonnen
Amsalu Nebiyu
Sultan Suleman
Mulugeta Tefera
Tadele Tolosa
Delenesaw Yewhalaw
Moti Yohannes

Others

Belgian Ambassador, Gunther Sleeuwagen

ANNEX 5: List of PhD scholars and Masters students

Name of PhD student	PhD Topic
Belay Duguma	Feed resources and nutritional status of cattle around the Gilgel Gibe dam in relation to soil erosion
Dr. Tadele Tolesa	Mastitis and milk production in Jimma town
Dr. Feyisa regasa	Update of the bovine trypanosomiasis situation and the level of trypanocidal drug resistance in the Ghibe and Didessa river basins of Ethiopia
Yisehak Kechero	Tannins and animal nutrition
Mekitie Wondafrash	Improving food intake from complementary foods in infants with a specific emphasis on food quality and safety
Tefera Belachew	Improving the case detection and treatment of malnourished children. Particular emphasis should be placed on the development of appropriate strategies that can be implemented through the health system both at primary and referral level
Teklu Gemechu	Child Development and Nutrition
Fantahun Wassie	Environmental and human health risk assessment of pesticide use in the Jimma Zone (Ethiopia)
Seid Tiku	The ecology of surface waters in the Gilgel Gibe catchment: the impact of marshland integrity on the ecology of Gilgel Gibe river and Gilgel Gibe reservoir
Kitessa Hundera	Effects of management and fragmentation on plant communities and regeneration patterns in the humid afro-montane forests of the Geba Catchment, Jimma, SW Ethiopia
Tadesse Getahun	Sustainable management of solid waste in Jimma town, Ethiopia by application of environmental technology: development of a generic strategy
Alemayehu Hadis	Remediation of environmental pollution in Jimma town, Ethiopia, caused by waste and wastewater discharge
Kefelegn Getahun	Detection and spatial analysis of recent land use changes in SW Ethiopia
Haile Yineger	Adverse effects of forest fragmentation on bird communities and seed dispersal in SW Ethiopia
Gezahegn Berecha	Genetic diversity of wild coffee (<i>Coffea arabica</i>) in its region of origin in SW Ethiopia: assessment, threats and in situ-management
Sultan Suleman	Anti malaria drugs in Ethiopia: Pharmaceutical I regulatory frame and quality assessment
Zelege Mekonnen	Epidemiology, diagnosis and control of soil transmitted helminthes (STH) in Jimma schools
Delenasaw Yewhalaw	Dynamics and trends of malaria in relation to anopheline mosquito vectors ecology, distribution and insecticide resistance in Gilgel-Gibe area of Southwestern Ethiopia
Gemeda Abebe	Predictors of Immune Reconstitution Inflammatory Syndrome in Mycobacterium tuberculosis and HIV co infected Patients: Mycobacteriological Aspects
Yehenew Getachew	The statistical Analysis of Spatially Correlated Survival Data with an Application in Spatially correlated Malaria-Anopheles Data
Wondwossen Kassahun	The statistical Analysis of Jimma Logitudinal Family Survey of Youth
Fasil Tesema	Statistical and Mathematical model for HIV infection in Ethiopia
Endalkachew Kissi	Sediment sources in the Gilgel Gibe catchment

Name of PhD student	PhD Topic
Amsalu Nebiyu	Improved cereal production in the Gilgel-Gibe catchment via N and P efficient legume genotypes
Ayalewu Talema	Multipurpose trees and shrubs to stabilize riverbanks, landslides, and gullies in the Gilgel Gibe catchment.
Tizita Tilahun	Male perceptions on reproductive health and rights of women in Jimma Zone (Ethiopia)
Kora Tushune	National Health Extension Workers Program of Ethiopia: an Evaluation of the Effectiveness, Sustainability, Potential Health and Human Resources for Health (HRH) Impact of the Program Using Global Evidences and Lessons from Past Similar Programs
Amare Deribew	Evaluation of the diagnostic and operational performance of the revised recommendations and algorithms for improving the diagnosis of TB in HIV prevalent settings
Name of MSc student	MSC Topic
Abebayehu Aticho	Soil nutrient cycle analysis, Ethiopia
Birtikuan Tsehayneh	Ma thematical modeling, Ethiopia
Belay Birehan	Nutrition, Belgium
Abdulaziz Ali	Nutrition, Belgium

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