VLIR Vlaamse Interuniversitaire Raad
UOS University Development Cooperation

IUC Programme
Institutional University Cooperation

Final evaluation of the IUC partner programme with the University of Zimbabwe (UZ)

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Background and disclaimer

The VLIR-UOS Programme for Institutional University Cooperation (IUC), which started in 1997, is an interuniversity cooperation programme of the Flemish universities[1]. Based on a system of programme funding provided by the Belgian Government, the Programme is directed at a limited number of carefully selected partner universities in the South. Each partnership, covering nowadays a maximum period of ten years, consists of a coherent set of interventions geared toward the development of the teaching, research, and service functions of the partner university, as well as its institutional management.

Every three to five years, the cooperation with a partner is evaluated. All ongoing cooperation programmes are evaluated by an external, independent evaluation commission. The country visits of these commissions, usually composed of an international and a local expert, are preceded by an extensive self assessment process. All evaluation commissions have produced an evaluation report that, in principle, is meant to be self-contained, i.e. containing the essential factual information, as well as conclusions and recommendations.

This report represents the views of the members of the commission that evaluated the IUC Programme with the University of Nairobi (UoN); it does not necessarily reflect the opinions of VLIR-UOS. The evaluation commission bears sole responsibility for the report in terms of its content, as well as its structure.

The Evaluation Commission

The evaluation commission for the partnership programme with the University of Zimbabwe was composed of two experts familiar with the higher education sectors in Eastern and Southern African countries. Professor Emeritus Sinclair Mantell, team leader, is a senior consultant in scientific capacity building for sustainable development with Nakhlatec International Horticulture Advisors, Sweden. Sinclair has extensive experience of research, teaching and postgraduate training on British Council university partnership schemes with developing countries obtained during a university career spanning twenty years at the University of London, UK. He is currently a senior scientific advisor with the International Foundation for Science and has been involved recently with facilitating workshops on scientific proposal writing on behalf of VLIR-IUC at African universities participating in its partnership programmes located in Ethiopia, Kenya and Zambia. Neil Butcher is a consultant based in South Africa, who specializes in African higher education and in use of ICT in education systems. He has worked with various educational institutions, assisting with institutional transformation efforts that focus on harnessing the potential of distance education methods and educational technology as effectively as possible. Neil has travelled extensively through Africa conducting research on higher education, distance education, and educational technology for a range of organizations. He is currently working as an OER Strategist with SAIDE on its new OER Africa Initiative, which is funded by the Hewlett Foundation and is managing the Partnership for Higher Education in Africa's Educational Technology Initiative.

[1]For more details on VLIR and the IUC Programme, please refer to Appendix 2.

Acronyms and abbreviations - see at the back of this page >

Acronyms and abbreviations

AP	Annual Programme in the VLIR-IUC context
BEF	Belgian Franc
BES	British Ecological Society, UK
BTC	Belgian Technical Cooperation
CBO	Community Based Organization
DANIDA	Danish International Development Cooperation Agency
DFID	Department for International Development (UK)
DFST	Department of Food Science and Technology
DGDC	Directorate General for Development Cooperation of the Belgian Government
EA	East Africa
EC	Evaluation Commission
EU	European Union
GDP	Gross Domestic Product
GRAS	Graduate Research Assistant Scheme at UZ
HE	Higher Education
HRD	Human Resource Development
ICT	Information and Communication Technology
IUC	Institutional University Cooperation Initiative of VLIR-UOS
KRA	Key Result Area
KU Leuven	Katholieke Universiteit Leuven (Catholic University of Leuven)
LAN	Local Area Network (ICT connotation)
LUDIT	Leuven University Service Centre for Informatics and Telematics
NGO	Non-Governmental Organization
NORAD	Norwegian Agency for Development
NUFU	Long running development programme on UZ campus supported by NORAD
NSS	North-South-South collaboration between universities
OVI	Objectively verifiable indicators cited in a logframe matrix
PCM	Project Cycle Management (log-frames form basis of project structure)
PCU	Programme Coordination Unit
PL	Project Leader
RIP	Research Initiative Programme
SADC	South African Development Commission
SARUA	Southern African Regional Universities Association
SPSC	Strategic Plan Sub-Committee (UZ)
TOR	Terms of Reference
UA	University of Antwerp
UG	University of Ghent
USPIMC	Strategic Plan Implementation and Monitoring Committee (UZ)
UZ	University of Zimbabwe
US$	United States Dollar
VC	Vice Chancellor
VLAN	Virtual Local Area Network
VLIR-UOS	Vlaamse Interuniversitaire Raad - Universitaire Ontwikkelingssamenwerking
Z$	Zimbabwean Dollar

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Executive Summary

A total of €6.54 million was provided by VLIR-UOS for the institutional development of University of Zimbabwe (UZ) over the ten years from 1998 to 2007, in two phases: Phase I (1998 – 2002) and Phase II (2003 – 2007). Of this total, approximately two thirds was provided as capital investments in computer hardware at UZ, in association during Phase II with the planned development of specific e-learning applications on UZ campus. The remainder of funding was used to finance UZ staff postgraduate training at the Flemish university counterpart institutions, for specific research and academic teaching initiatives in the disciplines of Computer Science, Agricultural Meteorology and Aquatic Ecology (Fish Biology in Phase I, but subsequently broadened in Phase II to include many important aspects of ecology of aquatic resources), and for the travel and subsistence costs required for carrying out academic exchange visits over the ten-year IUC Partnership. The main collaborating Flemish university partner in the UZ-VLIR Programme was the Catholic University of Leuven (KU Leuven), with additional programme support provided by individual academic staff based at Hasselt University and the Universities of Leuven, Antwerp, and Ghent. A final evaluation of the Institutional University Cooperation between Flemish Universities and UZ (known as UZ-IUC) was carried out by an Evaluation Commission consisting of Emeritus Professor Sinclair Mantell (Sweden) and country expert Neil Butcher (South Africa).

The evaluation commission (EC) started its work with a briefing for the International expert at the Flemish University Council (VLIR-UOS) Secretariat in Brussels and at the Catholic University of Leuven on 15th and 16th December, 2008, followed by a desk study of all of the progress and summary reports submitted during the Partnership by the Flemish and UZ stakeholders. Minutes of key Programme meetings such as Local and Joint Steering Committees were also studied, as these represented a record of completed and proposed activities during the Partnership. A fact-finding mission of eight days from 18th to 26th March, 2009 to Harare was conducted by the EC to coincide with the official handing-over ceremony at which VLIR-UOS presented UZ with all investments made during the ten-year programme. This allowed the EC to interview the UZ and Flemish stakeholders who were also present in Harare for the closing ceremony. A draft evaluation report was submitted to VLIR-UOS three weeks after the Harare mission in mid-April, 2009. This allowed the UZ-IUC coordinator and his colleagues at UZ, the Flemish University stakeholders, and the VLIR-UOS secretariat to have adequate opportunity to make comments and possible factual corrections to the draft evaluation report over a one-month period. After taking into account comments and corrections received, the final version of the Evaluation Report was submitted to the VLIR-UOS secretariat in early June, 2009.

The aims of the evaluation were to: allow VLIR-UOS to identify strengths and weaknesses of the UZ-IUC collaboration and of IUC programmes in general; allow it

to assess the use made by UZ departments and/or research groups of the substantial support provided by the UZ-IUC Partnership Programme; allow formulation of recommendations to all stakeholders in terms of the follow-up plan that has been elaborated by the Northern and Southern project leaders; and identify possible venues for the future of the involved IUC projects in view of establishing sustainability. In addition to the primarily descriptive profile of results, both per project and in general terms, the EC evaluated these results in qualitative terms applying different qualitative criteria. The following evaluation criteria may be used as guiding tools by the evaluators both at the project and programme levels.

Once regarded as one of the best on the continent, Zimbabwe's education system was in a state of collapse in early 2009, with many rural and urban schools closed and those that were open under-resourced and with many buildings irreparable. Academic records were not digitized and many available records were unusable, which made efforts at reconstruction and development of education in the country difficult and extremely challenging for the Ministry of Education. The declining states of primary and secondary education in the country were exacerbated by the fact that, because of the economic situation, most parents were not able to provide food and tools needed by their children for optimal learning. In addition, at the tertiary level, academic staff at UZ and other national universities was not being paid regular monthly salaries and were therefore unable to carry out their normal teaching, research and administration duties in the latter part of Phase II of the Partnership.

The UZ first and second Strategic Plans coincided with Phase I and Phase II, respectively, of the UZ-IUC. They envisaged an ICT-driven institution that focused on increased postgraduate output, relevant developmental research of use to society, collaborations with industry, an entrepreneurial driven curriculum focus, and good quality management systems to achieve its goals. Implementation of the second UZ strategic plan however was inevitably influenced by the deteriorating economic and political developments in the country. Moreover, UZ was hit by the country-wide exodus of skilled people to neighbouring countries to seek better wages and quality of life. The degree of the brain drain effect was demonstrated by the fact that during February 2008, UZ had to resort to advertising 120 vacant academic lecturing staff posts.

An internal call for project proposals at UZ was made in 1996, in response to a general announcement from VLIR to stimulate IUC programmes. Proposals were received by the Vice Chancellor's (Rectors) office and 52 registered, of which three were chosen by UZ for discussion with VLIR-UOS. The projects were firstly, the Campus Wide Computer Network (CWCN) involving infrastructural investments, teaching, research, and administration to create a solid ICT base on the Mount Pleasant campus; secondly, a M.Sc. degree programme in Agricultural Meteorology to train professionals to support both the agricultural sector in industry and the various universities in the country and thirdly, Food Science and Technology. The latter topic however was subsequently replaced by another entitled 'Training of Fish Biologists' to support the fledgling fish-industry and to train staff in this topic for the various universities in Zimbabwe and the SADC region. Funding for Phase I of the UZ-VLIR Partnership was approved in 1997 and partnership activities started in 1998.

A mid-term evaluation of Phase I was carried out in September 2002 during the fifth year of UZ-IUC. Its report showed that the most important accomplishments of Phase I were the establishment of connectivity of UZ both locally and to the Internet and an increased ability for university personnel to use ICT resources through on-campus training activities; establishment of the Agricultural Meteorology programme as a regional programme and the training of researchers, which resulted in a collaboration of nine departments, spread over three faculties; activation of a research team in the field of Aquatic Ecology through installation of a fully-equipped laboratory and material for fieldwork. This started training of personnel for management of Zimbabwe's aquatic resources and a strong cooperation between scientists from the North and the South in a meaningful programme, leading to transfer of expertise and technology and to joint publications. Positive synergy was also established on other programmes in the University with respect to achieving meaningful results. The CWCN was regarded as particularly important for all aspects of UZ. All running programmes, including those not funded under the VLIR programme, benefitted from the UZ-IUC Phase I activities. However, the major problem encountered during Phase I, and that would continue to affect Phase II, was the continuous volatility of the Zimbabwean Dollar (Z$). This affected strongly finances during the later part of the fourth year and beginning of the fifth year. This also had a negative effect on local spending, with the result that there was, as reported in the Mid-term evaluation report, some overspending against the UZ budget. A second problem was lack of accurate information on the financial statement of local project accounts and, to a lesser extent, of Flemish accounts. Although there was no control possible for the problems mentioned above, effective actions were undertaken to remedy its consequences through the employment of a local bookkeeper who would be 'shared', in terms of funding the position, with the Norwegian Aid for Development NUFU programme. This was intended to ensure that up-to-date information of the local accounts would be provided in Phase II. The mid-term report concluded that in most respects Phase I had been a success. It noted that the three projects had achieved, or would in the near future achieve, the outputs which they set out to produce. All three projects had been of sufficient or good quality, as well as relevant. They had also been effective in reaching their original goals and in making a considerable impact at the university. Sustainability of some of the sub-projects, however, was more uncertain. All three projects were faced with the challenges of financial and academic sustainability in the long run.

The structure of the UZ-IUC Programme was revised therefore from that of Phase I in various ways. The Campus Wide Computer Network was subdivided into three sub-projects: Sub-project 1: Infrastructure, Sub-project 2: E-applications and Sub-project 3: development of a M.Sc. in Computer Sciences. The Agricultural Meteorology and Aquatic Ecology Projects would be continued in their original formats, but with modified specific objectives. No additional aims were intended at the beginning of Phase II except to consolidate the advances made to the M.Sc. in Agricultural Meteorology. Joint research projects between UZ scientists and their counterparts in the Flemish Universities were initiated and results of their collaborative work were leading to a number of joint publications. However, the main challenge for Phase II was the establishment of a M.Sc. programme in Aquatic Ecology and Water Resources, giving the degree courses a broader and more holistic approach than purely fish biology. The challenge was also to get other Departments or teachers from other Departments interested in teaching as well as supervising students on the prospective M.Sc. programme.

The project had to also seek to become self-sustaining by the end of the next five-year period. Like the other two projects, Aquatic Ecology recorded noteworthy achievements, including successful implementation of the M.Sc. programme and graduation of students who secured employment (some of whom have fortunately been able to be retained as staff in the Biology Department); enrolment in the third cycle of the M.Sc. programme of a student cohort funded entirely from sources outside the project; prolific success in producing research, much of which was published in A1 Journals; and the implementation of an active programme of staff and student exchanges between Zimbabwe and Flanders.

A qualitative assessment of the outputs of the UZ-IUC Partnership (outputs of Phases I and II combined against originally set targets) was made for the final evaluation by the EC using eight key result areas: namely, research, education, extension and outreach, management, human resources development, infrastructure, resource mobilization, and inventory. Research activity undertaken under the Programme was measured by the EC in terms of scientific publication outputs. In total, 36 conference papers, 31 conference contributions, 59 refereed scientific papers in international refereed scientific papers, three refereed scientific papers in national journals, five chapters in books, five technical papers, and seven training

manuals were produced directly from the academic activities supported by the Partnership. Senior authorship of refereed scientific papers and conference papers was achieved by UZ scientists in over 95% of the cases of the publications listed in the UZ-IUC Programme databases. From the perspective of education, relevant scientific literature in the form of books and scientific journals was able to be purchased through the UZ-IUC Programme for the M.Sc. courses in Agricultural Meteorology and Aquatic Ecology. Although subscription to scientific journals was supported initially by the UZ-IUC Programme during Phase I, a decision was taken at the planning stage of Phase II that UZ should take over this responsibility. However, because of diminishing financial resources within UZ as a whole due to the hyper-inflation situation, this anticipated support was not able to be realized. Fortunately because of the E-applications project, a great deal was invested in hardware and software for improvement of the digital library resources, and in continuous training and in upgrading the competence of library staff, the retention of which continues to be an ever-increasing problem for UZ. Extension and outreach activities led to the establishment of several South-South linkages leading to strong cooperation between the Aquatic Ecology team of UZ and the University of the Western Cape, South Africa, together with KU Leuven. Collaborative research and research links were established also with a dozen other universities/institutes in the South and in the North. There were also some individual contacts between the Agricultural Meteorology team and staff of the University of Stellenbosch, South Africa, leading to some funding from South Africa donors. The ICT infrastructure and the running of applications on the VLAN were considered to be compatible with international academic standards, taking into account all boundary conditions of the local situation in Zimbabwe. Only the bandwidth problem was not comparable to any international academic standard, though this continues to be due to external circumstances within Zimbabwe itself, a situation that is not likely to change unfortunately for the better in the near future. From the point of view of management, because of the fairly frequent visits of the Flemish coordinator to Zimbabwe, the monitoring and critical reviews of UZ-IUC progress could be still achieved despite the increasingly difficult economic and political situations in the country during the latter stages of Phase II. These special

personal commitments and inputs were highly valued by all of the UZ-IUC stakeholders. Flexibility and pragmatism were certainly strong points of the management of the UZ-IUC Programme. Without these characteristics, it was likely that the Programme would have been able to have survived from 2006 onwards.

The UZ campus-wide computer network is now an up-to-date and partially performing facility, although Internet connection with the outside world is virtually non-existent at times. This, it must be said, has been a problem that has been on-going from the beginning of Phase II. There does not seem either to be any immediate solution in sight, despite several promises and assurances by UZ senior management. The Infrastructure component of Phase II was therefore evaluated as having underachieved. Although all three projects (ICT, Aquatic Ecology and Agricultural Meteorology) received significant equipment inputs, most expenditure on infrastructure went to the three computer projects. Hardware is an extremely valuable capital input which, within certain operational constraints, can be deployed to great advantage in the future once infrastructural components (broadband backbones etc) are functioning properly. In the field of e-applications, especially e-learning, there have been several contacts within the SADC region, mainly through the interventions of the UZ Local Coordinator. Thanks to the involvement and interactions provided by the coordinating university KU Leuven, UZ is now becoming involved in an EU project (EDULINK) aimed at strengthening international cooperation of African Universities with European Partners. Ten European universities and 12 African universities are involved in the project. This could lead

to new contacts and create new international networks in the ICT domain. According to the mid-term evaluation report, the main challenge which the UZ projects faced when gearing up for Phase II was to increase income-generating activities to make the UZ-IUC Programme financially sustainable as well as to make contingencies for paying for and maintaining equipment it obtained during Phase I. The Flemish and UZ partners of the Aquatic Ecology project have been able to establish during Phase II strong academic links with several important regional research centres and have developed three important North-South-South links with additional competitive VLIR funding amounting in effect to an additional €95,300 for collaborative research activity in the field of aquatic resources.

Equipment purchased with VLIR funds for the Aquatic Ecology project included boat engines and other equipment and essential materials needed for field work on Lake Kariba and other lake and river locations. Vehicles (a pick-up, a minibus and a trailer), boats, engines and fuel tanks, computers and ancillary equipment, compound and stereo microscopes with additional light sources, a range of measuring devices including pH and conductivity meters, oxygen meters, spectrophotometers and centrifuges, cameras, Ground Positioning Systems, binoculars, balances, generators, 'electro-fishers', battery chargers, gas cylinders and stoves, office equipment, photocopiers, and LCD projectors.

High staff turnover and departure rates within UZ departments increased dramatically during the second half of Phase II due to the deteriorating economic situation in Zimbabwe from 2002 to early 2009. These conditions meant that, during the latter stages of Phase II, many employed staff at the university did not come to work regularly and hyper-inflation made normally simple financial transactions very difficult and time-consuming, thereby increasing dramatically the administrative burdens for those staff left in post.

Conclusions

The EC concluded that overall Programme performance was 'sufficient' and indeed in one case, human resources development, mean scores approached a value of 'good'. Although some individual projects fell short of their targets in significant ways, it was clear that given the difficult socio-economic circumstances in which the project operated, the work completed by the projects represents a significant achievement under very difficult circumstances. The UZ-IUC projects played a major role in enabling the participating projects to continue and be sustained by creating a regular supply of M.Sc. students who could be recruited onto the UZ academic staff. To date, the UZ-IUC support that was provided to individuals to pursue their Ph.D. programmes has gone a long way to strengthening the departments and the university institute. Although some of the doctorate staff have now left the country, the value they conferred to their departments during the short time they were at UZ was considered worthy of the VLIR investment. The postdoctoral staff is still in the SADC region and may therefore be more likely to return to Zimbabwe when political and economic conditions improve. A gender evaluation of UZ-IUC activities showed that 4/14 (29%) UZ M.Sc. graduates and 3/6 (50%) Flanders M.Sc. graduates who participated on the project were female.

The manner in which the VLIR-IUC Partnership Programme has evolved since the end of the 1990s, in giving the Southern university independent budgetary control and a certain flexibility (subject to ratification by the VLIR-UOS Secretariat in programming planned events), help promote ownership, funding alignments and donor-donor harmonization. Under the extraordinarily difficult financial conditions experienced in Zimbabwe post-2000, the fact that the UZ-IUC achieved many of its objectives at all is a testament to this flexible and adaptive approach. UZ senior management confirmed that overall the VLIR programme has been demand-driven and responsive to the needs of the University (through its similarity and parallel development alongside the university's own strategic plans). The executive of UZ backed the original selection of the three projects and UZ have found it particular useful in having a dedicated coordinator from the Flemish stakeholders who has been able to spend a considerable amount of time and effort in following up the programme at UZ through frequent visits to Harare.

The spending on so-called administrative costs over the ten-year period (Phases I and II) of between only <1 – 5% total budget is impressive from an economic point of view when compared to many other internationally funded institutional building programmes in which administrative overheads might run anything from 5-10% as reasonable and in Sub Saharan Africa countries may reach in some cases well over 20%. The UZ-IUC Partnership Programme has therefore been rather efficient in performing the task of institutional capacity building in which the combined operational and administration costs have been restricted to the 5-10% total budget range.

Although individual projects of the UZ-IUC fell short of their targets in significant ways, it is clear that, given the difficult socio-economic circumstances in which the project operated, the work completed by the projects represents a significant achievement. The academics – both from UZ and the Flemish universities – that persevered with the projects and contributed to the successes that were recorded, deserve commendation of the highest order for what they managed to achieve, particularly after the time when the formal economy in Zimbabwe effectively came to a standstill. The residue of academic competence that has been able to be retained in participating Departments

appears largely to be a direct function of the investments made by VLIR. This residue will provide an essential platform for reconstruction now that a Government of National Unity has been installed and there appear to be prospects for stabilization of the political situation and rebuilding of the economy.

Recommendations

The following recommendations are made by the EC: first, at the project and sub-project levels; second, at the overall Programme level and third, at the VLIR-UOS Secretariat level.

* At the project level, efforts to build learning media systems (LMS) for the two M.Sc. Programmes Aquatic Ecology and Agricultural Meteorology as was planned in Phase II should be initiated as soon as possible before any inertia and momentum created by the UZ-IUC Partnership becomes diluted out over time. This activity should provide the university with two good examples of the application of LMS to M.Sc. training and it will also likely lever further updating and academic improvement to these two M.Sc. courses in Agricultural Meteorology and Aquatic Ecology, which over recent years have undoubtedly weakened and suffered as a result of staff leaving both the university and the country.

* At the programme level, one possibility should be urgently considered: mechanisms should be found to enable the current UZ Ph.D. scholarships to be extended from end-September 2009 to the end-March 2010. The possibility that unspent funds within the Phase II 2003 – 2007 Programme earmarked for UZ Ph.D. students who started their programmes relatively late under the UZ-IUC Programme could be retained for a longer time. In most cases, these scholars, due to the prevailing difficult circumstances on campus, have not been in a position to submit their theses for examination. The application for extending the availability of the existing scholarship funds would have to be made by the UZ-IUC Programme specifically by the UZ senior management team with the unreserved support of the Flemish counterparts.

* At the project and sub-project levels, potential Ph.D. scholars who are to participate in degrees at the Flemish universities should be screened more thoroughly beforehand by both partners in order to minimize the dropout risks. This could easily take place on the occasion of a Joint Steering Committee. In order to achieve this, they should also be followed closely during their first year of the Ph.D. programme by a supervising committee, including the Flemish coordinator and the thesis supervisor. After the first year, a reporting and result presentation should be organized (preferably at each JSCM) and the supervising committee along with the coordination team then take a joint decision as to whether or not the Ph.D. scholar in question would continue to receive support. The chances of success of each Ph.D. would then be more objectively assessed.

* Scholarship funding structures should be reviewed so that amounts paid to IUC-partner institutions for scholarships reflect the full costs to each academic department (cost centre) of running M.Sc. and Ph.D. programmes, rather than simply using the official university fee structure as a basis for calculating this. This is because university fee structures in most cases massively understate the costs of

hosting a postgraduate research student (because fees are based on a more complicated internal funding formula that does not take into account direct costs), with the result that growth in postgraduate programmes can further burden already overloaded academic staff. If the full cost of implementing such programmes was accurately calculated during project design and then paid to UZ (with a proviso that the funds be ring-fenced for use by the relevant department), this would go a long way towards building academic capacity and retaining high quality staff (by providing funds either to provide additional financial incentives or to recruit in junior staff to take on other teaching/administrative responsibilities of those academics).

* At the VLIR-UOS Secretariat level, several recommendations can be made following the findings of the final evaluation. These are as follows: it might prove more beneficial in future IUC Partnership Programmes to engage the services of an evaluator(s) at commencement of the first or second phase of the Programme whose function would be to monitor and evaluate relative progress as it actually happens so that programme management decisions could be more informed. This would achieve various objectives: it would allow evaluators to complete a meaningful baseline of Phase II of the Programme, so that results can be benchmarked against an initial situation. This is very difficult to achieve simply by consulting post hoc documentation; it would provide an opportunity for the evaluators to review the initial project designs, and provide initial feedback. Such input could constitute a useful, objective (peer review) mechanism for avoiding overly ambitious project designs or for identifying potential concerns in proposed Results and Activities; it would allow more regular interaction between the evaluators and project teams (say, including annual or bi-annual visits) to provide formative evaluative input with a view to positively influencing Programme implementation; it would preclude evaluators from having to ask many questions of information and, in some cases, having to rely on human memory of up to five years to remember the circumstances under which certain events took place; sustained engagement of an evaluator across an entire Phase of the Programme could, therefore, have significant positive benefits, both to VLIR and to the Programme.

* More attention should be given in future VLIR-IUC Programmes to the following financial issue: replacing the per diem facility with a process of reimbursing travel expenses, in an effort to reduce exploitation of per diems as an alternative source of income. Should professional managers be appointed, as is the case of many of the more recent VLIR-IUC Partnerships, then a system of advances and reimbursement of receipts against the advance instead of per diems should be easily manageable.

* Future IUC activities should ensure that research costs for Ph.D. programmes cover full costs of research activities in the South, and not just the travel and subsistence costs involved. Several of the Ph.D. scholars interviewed stated that there were often substantial expenses involved in carrying out their individual field work during the holiday periods and weekends (times when they were more likely to be available to do their research away from regular academic teaching activities). Some consideration should therefore be given to in-country research expenses where these could be justified.

* Future VLIR-IUC Programmes consider implementing a more standardized and concise annual reporting structure. This would improve the work of the VLIR Secretariat staff and the mid-term and final evaluation commissions if reports were written up in a standard, much simplified summary pro-forma (of no more than 2 pages) attached to which can be, where necessary, annexes containing specific information which elaborates the main OVIs. For example each report might consist of the following components. Introduction and general narrative overview of the Programme; project by project reports of progress towards intermediate results and objectively verifiable indicators (presented in tabular format), as well as a summary of problems and challenges experienced in the previous reporting period; revised activity schedules for each project (with deadlines and responsibilities included); a budget variance report, presenting the original budget, expenditure to date, and proposed variance for budgetary expenditure for the remainder of the project). A series of relevant annexes presenting project results, statistical reports, Joint Steering Committee meeting minutes, and any other relevant source documentation could be attached, preferably in softcopy (scans in jpeg or pdf formats).

* IUC Programme reporting procedures, particularly those used by project and sub-project coordinators, be improved and shortened. One immediate improvement would be to get coordinators to complete the existing Excel datasheets with entries in strict chronological order and in distinct groupings of the various types of output. NB. This should also include the gender of all recipients of training and scholarships under the VLIR-IUC Programme. Although excel tabular formats were used in the current UZ to list inventories they were not effective at listing publications in chronological order or classification of output. It would save evaluators a great deal of time if outputs were listed in groupings ie. refereed papers in international scientific journals, refereed papers in national journals, technical literature, popular articles, training manuals, technical manuals etc., instead of these being mixed all together in a single table.

* Visits from all Flemish counterparts to the South should be made more frequently than they have been on the UZ-IUC Partnership Programme to ensure a truly balanced exchange of study and teaching experiences. However, there is much uncertainty as to how this can be realized due to the increasing conflicts of professional interest and high existing workloads of the Flemish academics. As long as university cooperation/collaboration activities are regarded by senior management teams of Flemish universities as relatively minor academic activities (in staff promotion considerations, for instance), the strength of the incentive for Flemish academics to become involved in long term university collaboration programmes like VLIR-IUC, particularly where transverse technology or methodology transferences are concerned, will weaken and may become an ever increasingly delicate issue. VLIR-IUC should consider developing new mechanisms whereby its Partnerships with some developing countries can avoid the tendency to invariably result in one-sided partnerships, that amount to a form of 'aid' rather than a really well-balanced academic collaboration. This could well be one of the reasons why the Aquatic Ecology project in the UZ-IUC Programme produced most of its predicted outputs whilst others did not since the former was firmly based upon strong mutual scientific and academic interests on the parts of both the South and

North partners in the specific collaborative activities it undertook.

* VLIR-UOS should seriously consider establishing some form of mentorship scheme for staff members based at the 'graduating' Southern counterpart universities. Support could be provided via email correspondence in most cases and supported by occasional workshops and mini-symposia. In the circumstances currently being experienced by younger member of academic staff at UZ (such as increasing teaching loads due to the departure of many more senior colleagues accompanied by relative inexperience in independent scientific research), mentorship from staff at Flemish universities or those based at other universities in SADC countries, particularly South Africa) would go a long way to sustaining confidence in the academic development of younger members of UZ staff who have benefited from training under the UZ-IUC Programme.

* For those universities 'graduating' from VLIR-IUC Programmes within a region, it might also be time to support a Southern Africa dialogue on how best to form meaningful and more local inter-institutional academic development programmes as the next stage in building upon the strong elements of fully fledged VLIR-IUC Partnerships, such as the one at UZ. This action would be in addition to the existing RIP, NSS and other VLIR sustainability initiatives. The VLIR Secretariat could take a leading role in providing a networking platform (perhaps the VLIR-Bridge Initiative?) for interactions between VLIR-IUC recipients to progress into a sustainable networking stage. Support could be initially be given at the level of a series of workshops to take place with clearly defined objectives to bring together key players (policy makers, senior university managers, researchers and teachers, ie potential stakeholders) who could then highlight and focus their efforts on complimentary academic areas of mutual benefit/interest. The outputs of such networking activity might then produce proposals that could be submitted to ongoing funded initiatives such as RUFORUM, ACP-ST, EDULINK and others. The establishment of well-founded LMS systems operating on, and even between, the partner campuses based in different countries could be one practical example of an inter-campus teaching platform. Advantages of such platforms will be to concentrate the best academic teaching resources available within a region into single consolidated courses being taught concomitantly at several universities. The Bridge initiative could act as a conduit through which new generations of updated and well-designed undergraduate and postgraduate courses could be locally developed in emerging thematic areas like global climate change, entrepreneurial land-based industries, indigenous knowledge and food security. This would make many SADC universities more competitive at attracting the best students, from not only within, but also from outside the region.

Foreword

The Final Evaluation of the Flemish Institutional University Cooperation with the University of Zimbabwe (UZ-IUC) was carried out by an Evaluation Commission consisting of international expert Professor Sinclair Mantell (Sweden) and local expert Neil Butcher (South Africa).

The Commission had as its main tasks:

* A briefing for the International expert at the Flemish University Council (VLIR) Secretariat in Brussels and at the Catholic University of Leuven on 15 - 16 December, 2008
* Examination of written self-assessment reports prepared by both the Flemish and the UZ stakeholders.
* A fact-finding mission of eight days in March, 2009. This was held over the period of the official handing-over ceremony at which VLIR-UOS presented UZ with the ownership of all investments made during the ten-year programme;
* Preparation of a draft report on the Final Evaluation for submission to VLIR-UOS by mid-April, 2009.
* Receipt of comments and reactions to the draft report by the coordinator and project leaders at UZ, Flemish University stakeholders, and VLIR within a one month period.
* Preparation of the Final Report, followed by its submission in both hardcopy and softcopy forms to VLIR-UOS, Brussels by no later than 10th July, 2009.

The Evaluation Commission acknowledges the extensive support it received from the VLIR–UOS Secretariat in Brussels in providing it detailed information and relevant documents required for an effective evaluation. The Commission also thanks the Programme Coordination Unit at UZ for its untiring assistance in organizing a programme of visits during which interviews were held with both South and North Stakeholders before, during, and following the UZ-IUC official closing ceremony held on 25th March, 2009.

This report represents the views of the members of the UZ Evaluation Commission, and does not necessarily reflect the opinions of VLIR-UOS. The Evaluation Commission bears therefore sole responsibility for the report in terms of its content and structure.

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7th June, 2009

1 Evaluation Methodology and Procedure

The terms of reference for the Evaluation Commission (EC) were to carry out a final evaluation of the UZ-IUC Partnership which finished its ten-year cooperation cycle in March 2008.

The EC was instructed by VLIR to generate conclusions that would allow:

* Identification of strengths and weaknesses of the UZ-IUC collaboration and of the IUC programme in general;
* VLIR-UOS to identify departments and/or research groups that have received substantial support from the IUC programme in Phase II and thus can present proposals for the 'IUC Research Initiative Programme';
* formulation of recommendations to all stakeholders in terms of the follow up plan that has been elaborated by the Northern and Southern project leaders; and
* identification and commentary upon possible venues for the future of the involved IUC projects in view of establishing sustainability

The EC was expected to report in detail on the following issues:

* Present implementation of the programme:
  - Evaluating the global state of implementation of the programme, both at the level of the overall programme and its constituent projects;
  - Evaluating whether the activities per project have met the original objectives set at the beginning of each Phase within the given timeframe and with the given means;
  - Evaluating the management of the programme, both in Flanders and at UZ, and formulating, if necessary, recommendations that could be of interest for the partnerships that are still ongoing.

* Nature of the programme:
  - Evaluating the quality, efficiency, efficacy, impact, development relevance, and sustainability of the UZ-IUC programme in the light of the overall goal of the IUC Programme, being institutional capacity-building of the University, as situated in the context of the needs of the local society;
  - Evaluating the cooperation between all parties involved and formulating, where necessary, recommendations that could be of interest for the partnerships that are still ongoing.

* The position of the IUC programme within the international cooperation activities of UZ:
  - Evaluating the added value of the IUC Programme for UZ, in comparison to other ongoing donor cooperation programmes.

- The follow-up plan of the UZ-IUC programme:
  - Evaluating the follow-up plan as should be elaborated in the UZ self assessment reports, in view of the continuation of the different activities that were launched within the framework of the IUC programme (Phase I) and the consolidation of the results as aimed for in Phase 2.

The evaluation methodology and procedures followed by the EC for final evaluation of the UZ-IUC partnership were the same as those which VLIR-UOS has developed especially for the purpose. It comprised the following elements.

Briefing of the International Expert in Belgium

A preparatory briefing of the international expert was given during a one-day mission to Brussels (and at the relevant partner Flemish university – in this case KU Leuven) in which arrangements were made for provision of information documents and a background presented on the IUC Programme Cycle and its Management Procedures in general and more specifically as these related to the UZ-IUC Programme.

Desk Research

The EC was provided a range of documents that included the ten annual reports and summary financial reports, minutes of key meetings such as the Local and Joint Steering Committee meetings. In advance of the EC's mission, all project leaders reported to the VLIR Secretariat on the levels of respective outputs achieved against the key indicators set at the beginning of Phase II using assumptions formulated at the project design stage within the framework of the self-assessment reports.

The contents of these were used as a basis for assisting the Commission to formulate its objectives and interview activities for the final evaluation mission conducted in Harare during March just prior to the official closing ceremony of the UZ-IUC programme. Key sources of written information included:

- *The logical framework*
  The logical frameworks (formulated at the beginning of Phase II and shown variously in Annexes 5, 10 and 13 for the three main projects) could not be used as a basis for evaluation of Phase I activities because PCM procedures were not in routine use by VLIR at the time the Partnership was initiated in the late 1990's. Logframes served as the basic reference documents in terms of the UZ-IUC programme objectives and verifiable indicators needed to assess actual progress and to quantify the significance of actual results obtained. It is significant that the performance indicators set down in the logical framework matrix follow those described in the second UZ Strategic Plan (Annex 17).

- *Descriptive indicators of results*
  In order to allow usage of some 'standard indicators' or key result areas (KRAs), all projects reported against these indicators, details of which are presented below. Such a reporting procedure is intended to document the actual outputs of each

project and allows retention of such information as a VLIR-UOS database that can be annually updated. The evaluation focused on eight KRAs, each one specified in terms of its corresponding indicators as described in Annex 3. Both quantitative and fully descriptive data were obtained where possible and used as a basis for making as objective evaluations of performance as possible. With the input of the VLIR-UOS Secretariat and the stakeholders concerned, a KRA table was completed for each project of the UZ-IUC programme (Table 3).

* *Self-assessment reports*
  The various stakeholders in the UZ-IUC partnership were invited, prior to the work of the EC, to make a self-assessment and to report back to the VLIR in the form of a number of self-assessment reports. The objectives of self-assessments were fourfold:
  – Allow reporting of perceptions of programme performance as set against the logical frameworks formulated at the beginning of Phase II;
  – Consolidate and provide both quantitative and qualitative information to the EC so as to complement the information contained in the formal programme documents;
  – Stimulate internal quality assurance by a strength-weakness-opportunities-threats (SWOT) analysis by all parties involved; and
  – Facilitate planning of the discussions between UZ staff/students with the evaluation commission and its mission on UZ campus in March, 2009.

The formats that were sent to the different stakeholders were intended to gather information on the quality and performance of the UZ-IUC interactions (partnerships) between the north and south counterparts as well as between each of the individual projects in the 10-year programme.

Interviews with Northern Stakeholders

As to giving the opportunity to the EC to have discussions about the partnership with the Northern stakeholders, these discussions were planned to be held both at on the occasion of the briefing of the international expert in Brussels during December 2008 and during the evaluation mission at UZ in March 2009 (Annex 1). Interviews with representatives of the Belgian Embassy and the Directorate General for Development Cooperation (DGDC) were not possible for the current final evaluation exercise due to the delicate political situation prevailing in Zimbabwe leading up to and during the EC's mission to Harare.

Evaluation Mission

During the evaluation mission itself, the EC interviewed in Brussels and Harare the main actors and stakeholders within the three major programmes making up the Phase II partnership programme. These were:

* Northern stakeholders (based at Universities of Leuven and Hasselt);
* Southern stakeholders (Staff and students on UZ campus);
* Members of UZ Senior Administration;

* Members of the VLIR-UOS Secretariat directly involved with administration of the UZ-IUC programme.

The EC was also given the opportunity to visit relevant facilities of UZ to verify at first hand some of the investments made by VLIR on UZ campus.

Representatives of the VLIR-UOS Secretariat were present during the latter part of the evaluation mission to provide logistical support, to elucidate in situ aspects, and to clarify expectations of VLIR-UOS vis-à-vis the EC's role in more detailed terms.

During the Harare mission, the EC presented its draft conclusions and recommendations to all UZ-IUC stakeholders and discussed its preliminary findings at a meeting with both Northern and Southern project leaders on 23 March, 2009 prior to the final JSCM at which many of the EC's preliminary findings could be presented and discussed so as to receive some initial feedback.

Deliverables

The Evaluation Commission was requested to draft an evaluation report, in English, based on written materials, discussions, interviews, and visits during the mission to Harare in March 2009.

The draft report is to be submitted for comments and feedback from UZ-IUC participants and stakeholders, via the VLIR-UOS to the respective Flemish and local coordinators. The three UZ coordinators will be expected to compile the reactions of colleagues to the draft report. The EC will decide, given its autonomy, whether or not to take into account the comments received. The final report is to be submitted to the VLIR-UOS by no later than 10th July, 2009.

Because of ongoing uncertainties about the Zimbabwean political and economic conditions during early January 2009, the final evaluation mission and closing ceremonies were postponed until the second half of March 2009. This resulted in a relatively short timetable of two days being made available for the EC to conduct its evaluation on the UZ campus in Harare. It should be mentioned at the outset, therefore, that the final evaluation exercise has involved extremely limited and only partial review of hardcopy documentation and brief opportunities to engage UZ and Flemish partners separately and in plenary. Consequently, only a cursory examination of a selection of the outputs of projects was possible in the timeframe allowed for interaction between the EC and members of the individual projects. Due to the nature of current monitoring and evaluation protocols operated by VLIR-UOS, the final evaluation has also been constrained by its largely post hoc nature.

In addition to the primarily descriptive profile of results both per project and in general terms the EC was invited to evaluate these results in qualitative terms applying different qualitative criteria. The following evaluation criteria may be used as guiding tools by the evaluators both at the project and programme levels. They were understood at the outset of the evaluation not to be compulsory, only indicative, and the EC was free to use them if desired.

2 Zimbabwe: National Policy Framework and Priorities in Higher Education

Faced with an uncontrollable economic downfall for the last ten years that has seen a significant part of the population relying on humanitarian aid for survival, the Zimbabwean government's main priority in 2009 has been to formulate and nurture a government of national unity between the Zimbabwe African National Union Patriotic Front (ZANU PF) and the two factions of the Movement for Democratic Change (MDC). The unity government came into effect on 11th February, 2009, with the swearing in of the Prime Minister, Morgan Tsvangirai, and the two Deputy Prime Ministers Thokozani Khupe and Arthur Mutambara. The 38[1] cabinet ministers from all three parties were sworn in on 12 February 2009.

Government Policy Framework

Given the current state of the country's economy, infrastructure, and public service system, the mandate of the new government no doubt is reconstruction and development of all facets of the Zimbabwean systems. The priorities of the new government are highlighted in the 2009 Zimbabwe budget as:

* Inflation reduction;
* Food security and productivity in agriculture;
* Water management;
* Guaranteed fuel and electricity supply;
* Improved delivery of health and education services;
* Infrastructure rehabilitation in transport (roads, railways and airports);
* Improved telecommunication systems;
* Efficiency of public enterprises;
* Stimulating the productive sectors, notably agriculture, manufacturing, mining, tourism and construction among others;
* Provision of housing, including for those in the public sector; and
* Social protection.[2]

The intended reconstruction and development is based on a macro-economic framework aimed at reducing inflation and ensuring economic growth. Several measures have been adopted in an effort to revive the economy. The economy has been liberalized so that multiple currencies are used in Zimbabwe. Public servants are now being paid in foreign currency so that they can access goods and services that are only sold using foreign currency. The foreign exchange rate framework has been reviewed to promote foreign exchange generation. The government is proposing financial and input support to farmers. Support will be provided to the mining sector to access foreign currency to revive and sustain their operations. There is need for intensive re-skilling to fill gaps

1 Mudzwiti, M. 2009. Mugabe announces full cabinet. The Times, 13 February 2009.
2 African Financials. 2009. Zimbabwe National Budget – 2009.
Available on: http://www.africanfinancials.com/Zimbabwe_Budget_2009.aspx

that have been created by the brain drain caused by the economic collapse.

However, in order for the government to provide support for development and stimulate the economy, intensive infrastructure development and repair is needed in power generation, road and dam construction, and water infrastructure. Funding for these activities will mostly depend on foreign donor funding, whose inflow at the moment is dependent on the success of the unity government. While some foreign governments are adopting a cautious approach of waiting to evaluate the success of the unity government before releasing funding, others seem to realize the urgency of the crisis. For example, Australia has ended the ban on non-humanitarian aid to Zimbabwe, and is providing A$10 million for water treatment chemicals in an effort to curb cholera and to remunerate health workers and nursing staff so that they can return to work.[3]

In relation to education, particularly higher education (HE), reconstruction and development will be framed within the National Action Plan: Education for All towards 2015, which addresses Zimbabwe's commitment to the Millennium Development Goals. Policy reforms in HE since 2001 reflect a shift in emphasis from mass HE access to quality improvement of education and training to achieve global competitiveness.[4] However, both student access and quality provision are being threatened by the state of the economy, as will be discussed below.

Governance of higher education in Zimbabwe is entrusted to the National Council for Higher Education Act, which created the National Council for Higher Education, responsible for:

* Quality assuring teaching, courses, examinations and academic qualifications
* Registration of new tertiary institutions
* Regulation of student admission procedures for higher education;
* Advising the Minister of Higher education on the establishment, maintenance and expansion of higher education and
* Coordinating all higher education institutions.[5]

The National Council for Higher Education Act and University of Zimbabwe Amendment Act are both regarded as restrictive policies that have the effect of curtailing academic freedom. These Acts give powers to the Higher Education and Technology Ministry to appoint chancellors, vice chancellors, deans of faculty, and most members of the university council. They extend the disciplinary powers of university authorities over staff and students. For example, deans of faculty vet and control content for examinations to avoid use of controversial content that threatens the 'national interest'.[6]

Challenges: State of Affairs

Although it was difficult to access current data on any aspect of Zimbabwe because of the recent unpredictability of the situation in Zimbabwe, it is important to present a picture of the current state of key developmental areas to realize the enormity of the task of reconstruction and development facing the unity government.

Socio-Economic Conditions

In January 2009, Zimbabwe's hyperinflation was officially set at 231 million percent.

3 IOL. 11 March 2009. Australia lifts ban on Zimbabwe aid. Available on: http://www.iol.co.za/index.php?set_id=1&click_id=68&art_id=nw20090311110045484C766213
4 SARUA. 2008. SADC public universities: Zimbabwe. Available on: http://www.sarua.org/?q=Zimbabwe
5 Chivore, B. R. S. 2006. Private higher education in Zimbabwe. In Varghese, N. V. (ed). 2006. UNESCO IIEP. Growth and Expansion of private higher education in Africa. Available on: http://unesdoc.unesco.org/images/0015/001502/150255e.pdf
6 Turkish Weekly. 2008 Human Rights Report: Zimbabwe. Available on: http://www.turkishweekly.net/news/65903/2008-human-rights-report-zimbabwe-html

Growth Domestic Product has contracted for the past eight years.[7] The unemployment rate at the end of 2008 was 94%.[8] Most of those formally employed earn very low salaries, and are employed in the public service. While payment in foreign currency will help to alleviate socio-economic conditions, the formally employed are very few and most of them have lost a good work ethic because of worsening economic conditions. For example, teachers have opted to stay away from work because of poor working conditions and remuneration, which has resulted in a collapse of education and created a backlog in high school exit-level examination marking.[9] One major concern is how the value of foreign currencies will be determined and maintained in their use in Zimbabwe.

Policies like the Indigenization and Economic Empowerment Act, §14 of 2007, which promulgates local procurement of at least 51% of the shares of every business operation, pose a threat to economic recovery as some companies have temporarily shut down to determine whether or not this policy will be upheld. Currently, companies fear that government is not interested in buying shares but forcibly acquiring them, hence foreign investors are holding back on any potential investment to gain clarity on the effects of this indigenization.[10] Added to this, agriculture, which has been the backbone of the Zimbabwean economy, is failing and land re-distributions that have been perceived by some as contributing to the economic collapse continue, even after the establishment of the unity government.[11] The land reform programme is perceived to be failing because of lack of financial resources for farm inputs and poor skills of recipients of the land.

Education

Once regarded as one of the best education systems on the continent, the Zimbabwean education system is in a state of collapse. Currently, many rural and urban schools are closed, those that are open are under-resourced, and many buildings are irreparable. Records are not digitized and available records are unusable, which makes reconstruction and development challenging for the Ministry of Education. It is not clear how many schools are open or closed, and how many teachers are still in the system. The new Minister estimates that, to get education back on track, a budget of US$ one billion is needed each year for at least the next few years.[12] The government's budget of about US$ 73 million in the 2009 budget highlights the extent of depleted funding in the country. The declining state of education is exacerbated by the fact that, because of the economic situation, most parents are not able to provide food and tools needed by their children for optimal learning.[13]

Health

The recent cholera outbreak exposed the difficult state of the health system in Zimbabwe, witnessed partly by the fact that South Africa helped to treat thousands of Zimbabweans who moved across the border to Musina to seek medical treatment. A recent report by Médecins Sans Frontières documents the closure of many health facilities or non-functioning of available facilities, which has caused deterioration in health care. The political crisis led to neglect of efforts to combat and provide treatment to HIV patients, with the result that life expectancy has dropped from 62 years in 1990 to

7 Kavishe, K. P. 2008. Analysis of Zimbabwe situation. Presentation at RIASCO, Johannesburg.
8 The Sydney Morning Herald. 30 January 2009. 231 million per cent inflation: Zimbabwe dumps currency. Available on: http://www.smh.com.au/news/world/231000000-inflation-zim-dollar-dumped/2009/01/30/1232818687057.html
9 African Financials. 2009. Zimbabwe National Budget – 2009. Available on: http://www.africanfinancials.com/Zimbabwe_Budget_2009.aspx
10 Karombo, T. 2008. Zimbabwe's indigenisation act now operational. Available on: http://www.mineweb.com/mineweb/view/mineweb/en/page67?oid=51519&sn=Detail
11 Voanews. 28 February 2008. Mugabe vows to continue Zimbabwe land reform. Available on: http://www.voanews.com/english/2009-02-28-voa25.cfm?renderforprint=1
12 The Zimbabwe Times. 4 March 2008. Education in desperate circumstances. Available on: http://www.thezimbabwetimes.com/?p=12837&print=1
13 Wellman, E. 2008. What is the state of education in Zimbabwe today? Available on: http://www.idasa.org.za/index.asp?page=output_details.asp%3FRID%3D1618%26oplang%3Den%26Pub%3DY%26OTID%3D4

37 years for men and 34 for women as a result of a weak health system, poor nutrition, and HIV and AIDS.[14]

Human Resources

Zimbabwe's economic decline has resulted in a serious brain drain in all sectors of the economy, as people have sought better quality of life elsewhere. The most affected areas are health care and education. The Zimbabwe Ministry of Education estimates that brain drain has contributed to a 50% drop in the teaching work force in primary and secondary schools.[15] Shortage of skills will impact on any reconstruction and development initiatives of the inclusive government.

The Higher Education Sector

The government has undertaken steps to avail the opportunity for higher education training to most qualifying high school graduates. Over the years, entry into universities has been extremely competitive. A lot of deserving and qualifying students have been not been afforded the opportunity to further their education. Establishment of additional state universities has been a partial response to this need. The government has also created an enabling environment for other organizations to establish universities, as the table below illustrates:

University of Zimbabwe	State	Traditional university with Bachelor Degrees, Postgraduate Degrees, and a Medical School
National University of Science and Technology	State	Technology Bias, Engineering, Sciences, and Business Schools
Africa University	Methodist Church	Theology, Agriculture, and Business
Bindura University of Science Education	State	Undergraduate mainly for Science Teachers
Catholic University	Roman Catholic	Theology and Business
Midlands State University	State	Traditional university with Bachelor Degree Programmes
Solusi University	Seventh Day Adventist	Theology, Business, Information Sciences
Chinhoyi University	State	Tourism, Technology
Great Zimbabwe University	State	Education, Science
Zimbabwe Open University	State	Distance Education in Business, Sciences, Social Sciences
Women University in Africa	Private	Business, Social Studies
Lupane University	State	Education, Social Studies, Sciences
Harare Institute of Technology	State	Sciences

14 Medical News Today. 20 February 2009. Decline in Zimbabwe's health system could spur increase in HOV/AIDS cases, MSF report says. Available on: http://www.medicinenewstoday.com/printerfriendlynews.php?newsid=139748

15 The Zimbabwe Times. 4 March 2008. Education in desperate circumstances. Available on: http://www.thezimbabwe-times.com/?p=12837&print=1

The University of Zimbabwe is one of nine publicly funded universities and one of four accredited publicly funded universities and colleges in the country. In total, Zimbabwe has 36 higher education institutions including the nine publicly funded universities, two private universities, eight publicly funded polytechnics and specialized colleges, four publicly funded accredited universities or colleges, ten publicly funded colleges, and three privately funded accredited teachers' colleges.[16]

The introduction of the Zimbabwe Open University, a spin-off from UZ, has been a reaction to the need for continuing education. This distance learning institution has, over the brief time it has been in place, been responsible for introduction and conducting of a range of programmes to diverse groups of students.

In a previous budget announcement, the government made available a significant part of the budget for the supporting of research at national institutions. Research has become of national importance, as can be seen by the establishment and continued support of the Scientific and Industrial Research and Development Centre (SIRDC). This latter institute is mandated to undertake research that is of immediate relevance to industry in Zimbabwe and in the region. SIRDC complements very well research being performed at the various universities. There are also a number of research institutions, including the Blair Research Centre, Research and Specialist Services, and Matopo Research Station.

The educational system in Zimbabwe is significantly reflective of the national values and institutions. Though the majority of the higher institutions are state funded there is becoming a significant number of institutions that are private in nature. Private institutions tend to be mainly religious-based.

Admission into universities in Zimbabwe is not automatic. There is competition for admission between the various universities, and within the individual universities themselves there is competition with regards admission to specific programmes. Each department determines the number of new intakes before the beginning of an academic year, and students are then selected according to their preference and to their final results in high school. The quality of programmes and the types of programmes at the various institutions have been developed with the express purpose to ensure quality and competitiveness. The major strengths of the Zimbabwe HE system are:

* Programmes in virtually all universities are peer reviewed both locally and externally. This ensures that the programmes are current and of world standard.
* The national council of higher education is a body of Vice Chancellors representing all of the universities in the country that maintains and ensures quality of the programmes the universities offer.
* The universities are diverse and very competitive with each other. This competitiveness encourages the maintenance of high levels of education.

Major challenges facing HE in Zimbabwe are currently:

* Helping the country to transform itself into a developed nation through contributing to solutions to the prevailing economic difficulties.
* Remaining solvent and functional under the current tough economic conditions.
* Attaining and/or maintaining competitiveness from both the regional and international perspectives.

16 SARUA. 2008. SADC public universities: Zimbabwe. Available on: http://www.sarua.org/?q=Zimbabwe

The government funds infrastructure development of public universities through the Public Sector Investment Programme. Funding is transferred to universities based on quantity surveyor reports on work carried out each month. However, because of hyper inflation, budget allocations are easily depleted before completion of projects. Publicly funded university students used to benefit from a government grant which covered tuition, subsistence, and accommodation costs. However, this grant no longer exists, so students are expected to pay their university fees through parental or other support. However, a means test is used to determine needy students who are then funded under a cadetship system which bonds them to work for the public service in return for funding.[17]

In summary, access to higher education is growing in Zimbabwe, with nine state and five private HE institutions. Despite the increased number of institutions, until recently, competition for admission was still quite stiff. The increased number of universities has positively led to improved quality as institutions compete with each other for students and to meet international standards. Until recently, the government met about 75% of all costs for publicly funded universities. Now, except for cases where a means test determines dire need, students are required to pay their tuition in US dollars. This is threatening the major efforts achieved at increasing access to higher education as most students cannot afford the US$1,800 tuition fees (which do not include accommodation and subsistence).

University of Zimbabwe (UZ)

In 2007, the University of Zimbabwe had a student enrolment of 11, 400 distributed by level of study and by faculty as shown in Table 2.

Science, Engineering, & Technology	2 058	1 375	9	194	16	588
Business, Management & Law	2 503	2 118	501	914	5	0
Humanities and Social Sciences	4 279	3 348	131	717	83	0
Health Sciences	2 052	1 558	56	173	22	0
Other (Agriculture)	508	444	0	49	15	0
TOTALS	**11 400**	**8 843**	**697**	**2 047**	**141**	**588**

The Humanities and Social Sciences Faculty had the largest share of student enrolment, enrolling 38% of the student population. The Faculty with the least students was Agriculture, which enrolled 4% of the student population. With 78% of total enrolment, undergraduate studies constituted the majority of student enrolment. Doctoral degree enrolment was very low at 1% of total enrolment. A majority of students enrolling at

17 Ibid

the University of Zimbabwe are contact students and Zimbabwean nationals. In 2007, only 63 students were from SADC countries and 39 from international, non-SADC countries.[18]

The university's 2003-2007 Strategic Plan (Annex 17) espoused an ICT-driven institution that focuses on increased postgraduate output, relevant developmental research that will be of use to society, collaborations with industry, an entrepreneurial driven curriculum focus, and good quality management systems to achieve its goals. To achieve the goals set out in the strategic plan:

* The university would enforce graduation with at least one course in ICT by its students, to ensure ICT competence among students;
* Graduate research assistant schemes were set up in several faculties to increase postgraduate research output and to ensure that relevant research was being conducted;
* Research would focus on use value production for example household goods, machine components, energy saving gadgets, vaccines etc that could be patented and produced commercially;
* The university would get into partnership for student placement so that students graduate with reasonable work based experience;
* Students would be introduced to business skills and how to run their own businesses so that this becomes a life option not a last resort after failing to find a job;
* Systems for quality management, performance evaluation, remuneration and staff development would be put in place to ensure efficiency of service provision, quality provision and staff retention.[19]

Implementation of this strategic plan has been affected by the economic and political developments in the country. The University of Zimbabwe has also been affected by the country-wide exodus of skilled people to other countries to seek better wages and quality of life. In February 2008, the university advertised 120 vacant posts in the Sunday Mail. The worst affected faculty was Medicine, where 18 lecturers were required at under- and post-graduate levels in the disciplines of cardiology, dermatology and tropical medicine. Other seriously affected departments were: Anaesthesia and Critical Care Medicine, where twelve posts were advertised, Physiology, with ten vacant posts; Biological Sciences, needing nine posts to be filled; departments of Obstetrics and Gynaecology; Clinical Veterinary Studies and Business Studies, needing to fill eight posts each, respectively, and the Department of History which had seven vacancies.[20]

The university closed for lectures on 6th February 2009, as about 90% of students could not pay tuition fees, which are now charged in US dollars.[21] The Government has declared that public universities in the country should charge US$350 in fees per semester per science student, and mandatory fees amount to US$154. Excluded from these fees are accommodation and food, as most universities have malfunctioning kitchens and uninhabitable halls of residence.[22]

18 SARUA. 2008. University of Zimbabwe. Available on: http://www.sarua.org/?q=uni_University+of+Zimbabwe
19 University of Zimbabwe. 2002. 5-Year Strategic Plan: 2003 - 2007
20 ZINASU. 29 February 2008. 120 posts vacant as brain drain decimates University of Zimbabwe. Available on: http://www.kubatana.net/html/archive/edutra/080229zinasu.asp?sector=ECON&year=2008&range_start=421
21 ChangeZimbabwe.com. 9 February 2009. Dollarisation hits University of Zimbabwe. Available on: http://changezimbabwe.com/index.php?option=com_content&task=view&id=1957&Itemid=2
22 Chipangura, T. 10 February 2009. Zim teacher strike continues despite government threats. Available on: http://jv.news24.com/City_Press/News/0,,186-187_2467194,00.html

The VLIR-UOS University Partnership Programme (VLIR-IUC)

The general objective of the VLIR-UOS programme *for Institutional University Cooperation* (IUC) is:

> Empowering the local university as an institution, better able to fulfil its role as a development actor in society.

The VLIR-IUC Programme emanates from the Specific Agreement signed by the Belgian State Secretary for Development Cooperation and the VLIR-UOS on 16th May, 1997. This agreement foresees a system of programme funding whereby, based on a Global Programme (1998-2002), the Belgian government provides funding for implementation of an annual programme (AP) submitted by the VLIR-UOS. Once the government has approved the VLIR-UOS AP, VLIR-UOS has the responsibility to implement the programme.

Each IUC Programme has the following general features:

- A partnership of the Flemish universities with one Partner University in the South;
- A long-term collaboration which is geared towards institutional development;
- The presence of financing and facilitating cooperation;
- A match between the priorities of the partner university and the interest and expertise offered by Flemish counterparts;
- A coherent set of interventions/synergetic projects guided by the strategic plan of the partner university;
- Building capacity in relation to the following activities, ie. academic pursuits (MSc/PhD education; research, publishing research papers and other academic materials); Internal service delivery (strengthening of ICT, library and other core facilities), external service delivery (services to society) and managerial capacity (planning, HRD, international relations etc.)

An IUC programme is usually focused on the institutional needs and priorities of partner universities in the South. The programme is therefore demand-oriented, and seeks to promote local ownership through full involvement of partners both in design and implementation of the programme.

Support is directed towards institutional development of the partner university, improvement of quality of local undergraduate and postgraduate education, and encouragement of south-south academic and research linkages. Identification of fields of cooperation is, in principle, demand-based, but demands can obviously only be met to the extent that Flemish expertise is available. Each partnership consists of a coherent set of interventions and projects geared towards development of teaching and research capacity of the university, as well as its institutional management.

At present, VLIR-UOS has 19 IUC partner universities in Africa, Latin America, and Asia, of which ten are fully-fledged IUC partner programmes. The first IUC programmes were launched in 1997, since when the programme and management structure has evolved considerably as have the intake and phase out strategies.

As such the IUC Programme Cycle comprises three stages:

* Phase-In (approximately two years);
* Partner Programme (ten years: two time blocks of five years each (known as Phase I and Phase II). For each time block of five years, a partner programme is drafted and the objectives have to be defined within a timeframe of five years;
* Post IUC Partner Programme Support (a total of five years including a phase out of two years followed by three years of optional participation in IUC competitive funds).

Several evaluations are foreseen in the IUC Cycle: the Programming Stage (Preliminary Evaluation Report), a mid-term evaluation (four to five years into the Phase I partner programme) and a final evaluation (during the beginning of the Phase-out Stage). At this moment, a mid-term evaluation has been performed for a number of IUC-programmes. Provided that the partner programme was positively evaluated, a partner university can continue its cooperation for another five years. In case of a negative outcome of the mid-term review, the cooperation can be stopped or re-oriented. Final evaluations have already been performed in the cases of three IUC partner programmes.

The IUC management system is based on the following division of tasks:

* VLIR is responsible for programming – including selection of partner universities, monitoring, and evaluation of the overall programme. VLIR is accountable to the Belgian government.
* Implementation of a partner programme is delegated to a Flemish university, which functions as the coordinating university in Flanders. The Flemish university of the VLIR-appointed Flemish coordinator functions as the coordinating university in Flanders. Administratively, the university base of the Flemish coordinator is responsible for day-to-day management of programme implementation, according to an agreement signed by the university and the VLIR.
* The university of the Flemish coordinator and partner university have responsibility to jointly manage implementation of the partner programme and constituent activity programmes based on an agreement signed by the Flemish coordinating university, the partner university (in this case UZ), and VLIR.
* The partner university also has to nominate a local coordinator, who functions as the key responsible person from local side.
* At the level of the partner university, a full-time professional manager is appointed in order to support the local coordinator, being an academic charged with numerous other responsibilities, in the various management duties associated with the implementation of a complex programme.
* Both in the North and the South, a steering committee (the Local Steering Committee Meeting or LSCM) is established to coordinate implementation of a partner programme. On an annual or bi-annual basis, both committees hold a Joint Steering Committee Meeting (JSCM).

Elaboration of the UZ-IUC Partnership

The strengths of UZ captured in the background to the first UZ strategic plan in 1997 pointed to the university's well-qualified staff and well-established infrastructure,

including the following characteristics, amongst others:

* The majority of UZ departments had established programmes that promoted research.
* The university attracted the best students in the country. At the time, it was concluded reasonably that this was most likely due to the perceived strengths of the degrees it offered and taught.
* Postgraduate programmes were producing staff members in the various departments. These initiatives also offered opportunities for research for the members of staff.
* The university possessed the human resources in the form of students, lecturers, and researchers to carry out most its development and community-related activities.

However, two of the most notable weaknesses noted by UZ management were: its poor track record in Human Resource Management and the university's relatively low level of financial independence. Other weaknesses identified were failure to:

* Finance research adequately.
* Retain senior and more progressive junior staff.
* Continue attracting the best students while warding off competition from other state and regional universities.
* Balance the delicate requirement for staff to teach, research, and perform community service. This is mainly in line with the challenging economic state.
* Continue being financially viable in the face of a shrinking allocation to education. This shrinking of the allocation is partly due to the increased number of institutions of higher learning in the country.
* Alter the perception that the university is an ivory tower. It was recognized that such an image has to be fought through various community efforts.

Opportunities for developing excellence in university education at UZ were recognized because of the steady availability of potential students with very good A-Level passes. Threats included increased competition from other universities and decreasing government funding. A major target in the first strategic plan was for the UZ to raise at least 50% of its annual operational budget from earned income by 2001. This target was unfortunately not met for several reasons (see UZ-IUC Mid-Evaluation Report), including the rapidly declining state of the Zimbabwean economy during the early 2000s.

One of the main motivations for VLIR in selecting UZ as a potential partner university for the IUC Programme was that the Belgian State Secretary for Development Cooperation stipulated that half of the strategic partners of VLIR should be institutions based in sub-Saharan Africa. The traditional partners in the region of the African Great Lakes were excluded as possibilities because of this region's well-known political and logistical problems. VLIR itself was convinced that it had to focus on Eastern and Southern Africa due to its stronger existing cooperation with several universities in this part of Africa. This mainly was the case for all other partners chosen in this region. Although it was the only partner where cooperation at that time was less extensive, the Flemish universities proposed the University of Zimbabwe as a possible partner to the VLIR for several strategic reasons:

* Zimbabwe used to be one of the more stable countries in the region with (at that

time) a prosperous future. It was thought that cooperation with the main university of this country would produce good results, given the level of its staff and the infrastructure present at UZ.

* VLIR presence could be useful for a geostrategic cooperation with the other partners in neighbouring countries such as Zambia.
* VLIR wanted to develop cooperation with fully-fledged universities so that most if not all of the expert disciplines in Flanders could be involved in possible cooperation activities.
* Zimbabwe was considered important because of its neighbourhood to South Africa where the Flemish Universities had also many contacts. A possible synergy in the cooperation was believed to be possible.

Values of having a partnership supported by VLIR rather than other donor agencies were identified by the Partnership Stakeholders as:

* The Campus Wide Computer Network (CWCN) would give enormous added value to all aspects of university activities at UZ in terms of teaching, learning, administration, and library.
* Training of postgraduate students in fields that are relevant to Zimbabwe would be an important added value.
* Realization of the CWCN would bring UZ regional recognition and prestige.
* The M.Sc. in Agricultural Meteorology, recognized as a key training resource in the SADC, would strengthen UZ's role as a regional centre. Academic cooperation would be encouraged through the holding of regional training workshops in Agricultural Meteorology.
* The Aquatic Ecology project would produce a large added value, because of the importance of water and the problems linked to water quality for the Zimbabwean society. Once the project was advertised, it was expected that outputs of the project would attract students from several African countries and the project's activities would give it an important boost to institutional sustainability for UZ.
* The three projects were fairly unique with potentially high visibility, not only at UZ, but also at national, regional and even international levels.

The IUC programme was based on an agreement (May 1997) between the Belgian Government and VLIR. The Belgian government provided annual funding for the programme and overall responsibility for implementation was vested in VLIR when the annual programme was approved. At around the same time, the UZ Senior Administration formulated the first strategic plan for the university covering the period 1998 to 2002 (coinciding with the UZ-IUC Phase I) and subsequently produced a second strategic plan for the period 2003 to 2007 (coinciding with the UZ-IUC Phase II).

An internal call for project proposals at UZ was made at the beginning of 1996 in response to an announcement from VLIR for IUC programmes. The call was issued, and proposals were received by the Vice Chancellor's (Rector's) office. Fifty-two proposals for collaboration were received. The Vice-chancellor met with VLIR in Brussels in the spring of 1996. The 52 proposals had by that time been reduced to three which were:

* Campus Wide Computer Network (CWCN): Encompassing infrastructural investments, teaching, research, and administration by creating a solid ICT base on the Mount Pleasant campus.

- Master degree programme in Agricultural Meteorology: Training of professionals in Agricultural Meteorology to support both the agricultural sector in industry and the various universities in the country.
- Food Science and Technology: The last project however was quickly replaced (due to reasons described below) by another entitled Training of Fish Biologists to support the fledgling fish-industry and to train staff for the various universities.

The latter change in Programme structure was because the UZ project team on Food Science and Technology had been seeking financial support from other international sources, particularly from a Dutch donor agency which had shown a keen interest in supporting the project. It was later accepted for funding by that agency.

The input of Flemish universities was sought with respect to each of the three projects mentioned above. The process was therefore demand driven as UZ had chosen the projects in which support from Flemish Universities was badly needed. The Flemish counterparts for the individual projects came to be located with the KU Leuven in Flanders. The overall coordinator on the Flemish side was also based at KU Leuven. The promoter-spokesperson for the Fish Biology Project was a staff member of the Section of Ecology and Systemmatics at the same university. The project in Agricultural Meteorology was on the other hand linked to the Laboratory of Plant Ecology, Faculty of Agricultural and Applied Biological Sciences at the University of Ghent. The CWCN was linked both the University of Antwerp and KU Leuven.

Stakeholders of the UZ-IUC Partnership

The names of individual academic staff involved in the formulation and delivery of UZ-IUC Partnership Programme outputs are summarized in Annex 2. In brief, their roles as main stakeholders of the Programme are described here.

University of Zimbabwe

- University of Zimbabwe senior management executives: the Vice-Chancellor and the Pro-Vice Chancellor closely monitored the programme. They were aware of the evolution of the projects and on several occasions positively intervened.
- Computer Centre: The local UZ coordinator was also Director of the Computer Centre. The Computer Centre team was vital for the success of the CWCN project. Several people from the Computer Centre were also key people in the project (Annex 2).
- Department of Computer Science: This department was closely involved in Phase II because of the M.Sc. programme, Ph.D. training and research was planned to be carried out in Computer Science.
- Central Administration: Several key people in the university's administration were to be closely involved in the programme because of the implications of e-applications in Phase II.
- University Library: Several key people for the university library were also to be closely involved in the programme also because of the e-applications component in Phase II.
- Department of Physics: the Agricultural Meteorology project was hosted in the Physics Department, UZ.
- Faculty of Science: The three proposed MSc programmes were hosted by departments belonging to the Faculty of Science. Therefore, the Faculty of Science in

general and the Dean of Science in particular were involved in the programme.

* Faculty of Agriculture: Several lecturers in the Agricultural Meteorology programme belonged to various departments within the Faculty of Agriculture.
* Department of Biological Sciences: The Aquatic Ecology programme was hosted in the Department of Biological Sciences.
* Faculty of Engineering: Some courses in the M.Sc. programme in Aquatic Ecology were to be drawn from the Faculty of Engineering.

Flemish Side

* KU Leuven: The Flemish coordinator belonged to the main Flemish partner university. The International Relations Office in this university closely monitored the programme. Financial administration of the project was done through the Finance Department. The main administrative collaborator of the Nuclear Physics section assisted the Flemish coordinator with the monetary issues of the programme.
* Computer Centre of the KU Leuven: The Director of the Computer Centre was also project leader of the Campus Wide Computer Network. His collaborators played particularly valuable roles during Phase I and this continued to be the case of staff which stayed at UZ during Phase II.
* Computer Centre of the Antwerp University: The Director of the Computer Centre was responsible in Phase I for the 'Infrastructure' part of the CWCN project during Phase I of the UZ-IUC.
* Laboratory for Plant Ecology, Ghent University: The head of this laboratory was project leader of the Agricultural Meteorology project. His unit, based in the Department of Physics at UZ, was to be involved in several aspects of this project, including sourcing and purchasing of equipment, hosting of Ph.D. students, training of a technician, and conducting collaborative research.
* Laboratory for Aquatic Ecology, KU Leuven: The head of this laboratory was project leader of the Aquatic Ecology project. The unit was involved in several aspects of the UZ-IUC programme: sourcing and purchasing of equipment, hosting of M.Sc. students, hosting of Zimbabwean staff when visiting Belgium, conducting collaborative research.
* AVNet, KU Leuven: This unit deals with new education modes. The Director was responsible for the E-applications sub-project, particularly the E-learning part, and their Flemish collaborators were also involved in other aspects of the ICT project.
* The Professor of Operations Management and Logistics staff at the University of Hasselt was centrally involved in development of the Computer Science training sub-project.
* Faculty of Bio-Engineering and Agriculture, KU Leuven: The Department of Land Management was centrally involved in the Agricultural Meteorology project.
* Department of Biology of the University of Antwerp: The Unit of Plant Ecology was involved in lecturing and research on the Agricultural Meteorology project.

Other European University staff members

From time to time during the 10 year period of the UZ-IUC Programme, staff members of other universities based in Europe were involved as co-supervisors and trainers, in some of the academic activities organized by the Partnership (see Annex 2).

This only but helped broaden and enrich the academic opportunities that the UZ-IUC Programme provided UZ staff and students.

Most of the above stakeholders at KU Leuven were directly involved in the formulation of both the Phase I and Phase II Partner Programmes although, due to the course of normal events, one or two of the more senior professors retired during the course of the ten year period of the Partnership. Although retirements occurred, there was no apparent disruption to the Programme as a consequence since colleagues in the Partner universities were able, despite other heavy academic commitments, to take on the various responsibilities of coordination and supervision of planned Programme activities.

Programme Structure for Phase I

As already mentioned, Phase I of the UZ-IUC Partnership programme consisted of three components:

* Design of the CWCN;
* The Agricultural Meteorology project; and
* The Fish Biology project.

Each is described briefly below.

Campus Wide Computer Network Project

This project comprised design of the CWCN and establishment of a team to oversee the project through its ten-year implementation. Design of the CWCN was a collaborative venture between UZ and Flemish counterparts, and consisted of installing cables, servers, and local area networks (LANs) between the main buildings in the institution and installing computer laboratories in selected departments and the computer centre. After installation of the network, the project embarked on testing it through use by designing and running Information Technology (IT) courses.

The objectives of the CWCN were to:

* Link hardware equipment;
* Increase use of software and the network by the university population;
* Provide easier access to the Internet; and
* General staff development of those involved in the project.

In the first phase of the project, there was an 85% achievement rate in installation and operation of a basic CWCN between major buildings. Specifically, the tangible achievements were:

* Cables between buildings (5.5 km of multimode fibre in PVC conduits, UTP cables for the whole area covered by the network);
* Data cabinets (one 48 U free standing cabinet, 16 25U free standing cabinets, numerous wall mounted cabinets);
* Installation of 16 servers;
* Deployment of 16 uninterrupted power supply packs;
* Network active devices (167 switches, three routers, 15 hubs, testing equipment);
* Six Dial-up modems;
* Core local area networks;
* Creation of computer laboratories (610 desktop computers, six sets of presentation equipment, and six laptops);
* Comprehensive workshop toolkit;
* Software (including antivirus programmes).[23]

23 Murphy, C. & Claes, P. 2002. Midterm evaluation of the Institutional University Co-operation with the University of Zimbabwe: Final Report from the External Evaluation Commission.

To increase use of software and network by students and staff, 610 computers were purchased for student computer laboratories, and additional office computers were purchased for academic and administrative staff. Availability of this infrastructure increased enrolment on the university's Computer Science programme that was run prior to the IUC project, and improved the course's quality.

Increased access to computers increased Internet access. Although the internet connection was of reasonable speed, compared to other comparable institutions and organizations, the university planned to upgrade it as this was not in the scope of the project and actually was the responsibility of the university.

Successful design and installation of the CWCN resulted in invaluable capacity building for university staff, that acquired and improved their skills in designing and managing an ICT project to its completion. The project also provided training to staff at the computer centre. Additional informal professional development took place through exchanges between Flemish and University of Zimbabwe staff during project implementation. University of Zimbabwe staff working in the project visited Flemish institutions with similar infrastructure to learn more about the infrastructure. University of Zimbabwe staff attended courses abroad on Cisco network devices, building multiplayer, networks, building scalable networks, network security as well as on advanced Private Internet Exchange (PIX).

Agricultural Meteorology Project

This project was implemented within the context of an already existing M.Sc. programme in Agricultural Meteorology. The role of the IUC was to provide funding support for Information and Communication Technology (ICT) infrastructure and other laboratory equipment to improve quality of the programme, as well as to support output of graduates from the programme.

The objectives of this project were:

* Training of agricultural meteorologists of M.Sc. and above in the Department of Physics;
* Training of scientific and technical staff (capacity building);
* Acquisition of meteorological equipment and sensors;
* Acquisition of eco-physiological equipment;
* Acquisition of modelling skills;
* Outreach and consultancies.[24]

By 2002, 15 students who had received full or partial financial support from VLIR had graduated with a M.Sc. in Agricultural Meteorology. Five students were in the process of completing their degrees, and had IUC funding. Students were also benefiting from computers purchased for student use and instrument laboratories acquired for teaching and for use by the students.

In terms of training of scientific and technical staff, in 2002, two staff members were embarking on their Ph.D. studies and a third was about to begin his Ph.D. studies. Two technicians on the programme were trained on instrumentation, electronics, and computers, and two graduates of the programme were recruited as teaching assistants in the Department of Physics. These recruits were pursuing studies financially supported by the IUC.

24 Ibid

The basic equipment that had been planned to be purchased for the project was in place in 2002. The purchase of such equipment raised the level of the department to international levels. IUC funding also supported the upgrading of a lecture room, a computer laboratory, an instrument laboratory for teaching and learning, a study area for students and an office for staff. Two vehicles were acquired for the project, one for research work, and the other for field trips. Books for an expansion of a small library were also supported with the IUC funding.

Through participation in the programme, UZ staff acquired modelling skills through purchase and use of computer-based models for climate systems. The staff also benefited from mentoring, lectures and seminars by Flemish staff, on how to understand essential elements of agro-meteorological models.

UZ staff used their acquired skills through cooperation with Flemish staff to offer expertise to others. Staff held two workshops for external users of agro-meteorological instrumentation and advised and provided to the Southern African Development Centre (SADC)-run Drought Monitoring Centre. Staff members supervised M.Sc. and Ph.D. students working in the area of their acquired expertise in Agricultural Meteorology.

Fish Biology Project

The Fish Biology Project provided funding for five M.Phil. students and one D.Phil. student to complete their research and visit other research institutions in Belgium, as well as attend international conferences and present their research.

The objectives of the Fish Biology Project were to:

* Train a number of Zimbabwean students to M.Phil. level, and give them international contacts;
* Increase the research output of staff in the Department of Biological Sciences by providing facilities and equipment, and give them the opportunity to interact with scientists outside Zimbabwe;
* Establish joint research projects involving both Zimbabwean and Belgian scientists, and students.

Regarding the training of students for M.Phil. degrees giving them exposure to international contacts, one of five M.Phil. students had completed their studies by 2002 and the other four were nearing completion. One D.Phil. student was also nearing completion of his studies. Students were given an opportunity to visit Belgian research institutions and attend and present their research at an international conference in South Africa.

Basic research equipment was acquired in order to increase Fish Biology staff research output. Staff members were also introduced to Flemish scientists for networking in relation to research. In 2002, the research output in Fish Biology was high, with twelve articles published in international refereed journals, five articles submitted for publication, and two nearing completion. The spokesperson of the IUC at the university published a book, *The Fishes of Zimbabwe*.

Three joint projects were established between University of Zimbabwe and Flemish staff, leading to several joint publications. The financial support offered by IUC also

enabled the staff in the Department of Biology to establish their own independent research projects.

Overview of Phase I Achievements (by Project and within the University of Zimbabwe)

The most important results and accomplishments of Phase 1 were:

* Connectivity of the university both locally and to the Internet and ability to use ICT resources.
* Establishment of the Agricultural Meteorology programme as a regional programme and the training of researchers, which resulted in a collaboration of nine departments, spread over three faculties.
* Activation of a research team in the field of Aquatic Ecology through installation of a fully-equipped laboratory and material for fieldwork. This started training of personnel for management of Zimbabwe's aquatic resources.
* Cooperation between scientists from the North and the South in a meaningful programme, leading to transfer of expertise and technology and to joint publications.
* Positive synergy established on other programmes in the University with respect to achieving of results. The CWCN was regarded as particularly important for all aspects of UZ. All running programmes, including those not funded under the VLIR programme, benefitted from Phase I activities.

The major problem encountered during Phase I, that would continue to affect Phase II, was the continuous volatility of the Zimbabwean Dollar (Z$). This affected strongly finances during the later part of the fourth year and beginning of the fifth year. This also had a negative effect on local spending, with the result that there was, as reported in the Mid-term report, some overspending against the UZ budget (see also Section 6). A second problem was lack of timely accurate information on the financial statement of local project accounts and, to a lesser extent, of Flemish accounts. Although there was no control possible for the major problem mentioned above, effective actions were undertaken to remedy its consequences through the employment of a local bookkeeper who would be 'shared', in terms of funding the position, with the Norwegian Aid for Development NUFU programme. This was intended to ensure that up-to-date information of the local accounts would be provided in Phase II.

From the point of view of senior UZ management at the end of Phase I, UZ had good facilities for postgraduate work. In drawing up the second UZ Strategic Plan in 2002, several major achievements in the execution of the first plan were recorded. These included:

* Engagement of 'Appointed Deans' to lead the process of decentralized management of the Faculties. All ten Deans were appointed by the end of 2001.
* Phenomenal progress with implementation of the CWCN project.
* Increase of tuition fees to more realistic levels, and direct disbursement of 50% of such fees to faculties as a means for financing the much-needed resources for improving academic programmes;
* Launching of the Graduate Research Assistant Scheme (GRAS), within which young graduates could actively participate in meaningful research work while expanding the postgraduate activities of the University.
* Recording substantial monetary savings, which were later used to pay awarded

increases in staff remuneration.
* Visible improvements in the physical state of the University roads.
* Marked increase in the number of first class honours graduates from 26 in 1997 to over 50 in 2002.

According to Senior UZ Management in 2002, the performance of the university in the period of the first strategic plan was considered to be 'satisfactory, though not spectacular', given difficult economic conditions which were triggering a noticeable exodus of experienced university staff to neighbouring countries, notably South Africa, Botswana, and Namibia. Hence, at that time, it made sense for UZ to increase efforts at producing larger numbers of M.Sc. and Ph.D. graduates. These increased numbers would be expected to go into lecturing in the new universities and also provide much-needed higher-level intellectual inputs to national development processes. It was envisaged that, by the end of 2006, at least 25% of the UZ student population would be made up of postgraduate students.

According to the UZ senior management team in 2002, all three projects of Phase I had been of 'sufficient' or 'good' quality, as well as being relevant, and had also been effective in reaching their original goals and making a considerable impact at UZ. Sustainability of some sub-projects however was more uncertain. All three projects faced challenges of financial and academic sustainability in the long run. It was recommended that all three projects should be continued, that the programme should seek to maintain some of its strengths (flexibility in management, close interaction between Flemish and UZ counterparts), and deal forcefully with some its shortcomings (financial management, project management procedures, quality assurance). Success of the IUC programme was partly ascribed to former experience of Flemish staff in designing and running projects in developing countries, the close and convivial personal ties between staff at Flemish Universities and at UZ, the dedication and team spirit in the IUC programme, and flexibility and the un-bureaucratic manner in which the UZ-IUC Programme was being run.

Mid-Term Evaluation Report

A mid-term evaluation of the UZ-IUC Programme also took place in 2002 and this recommended that the amount of paperwork related to planning, reporting, and assessing VLIR-IUC programmes and projects be reduced. It was recommended that VLIR-UOS should also look into the possibility of finding simpler and easier project management procedures. In addition, the individual projects should also look more carefully into ways to cooperate in teaching, research or otherwise (for example, income generating activities).

In relation to recommendations pertaining to the ICT project (Annex 9), the main challenges for the next phase identified by the mid-term evaluators concerned the application of VLIR funding to maintenance and updating of the network and computer equipment. Decisions had to be made with regard to how much should be funded by the University and how much could or should be funded through the IUC programme. The other main challenge was in optimal deployment of the ICT network for academic and management purposes for the benefit of the University as a whole. This included use of e-learning and e-administration tools.

The mid-term report concluded that in most respects Phase I had been a success. It noted that the three projects had achieved, or would in the near future achieve, the outputs which they set out to produce. All three projects had been of sufficient or good quality, as well as relevant. They had also been effective in reaching their original goals and in making a considerable impact at the university. Sustainability of some of the sub-projects, however, was more uncertain. All three projects were faced with the challenges of financial and academic sustainability in the long run. Overall, the mid-term evaluation recommended that all three projects should be continued, but the Programme should seek to maintain some of its strengths (identified as flexibility in management and the ongoing close interaction between Flemish and UZ counterparts) and deal forcefully with some of its shortcomings (financial management, project management procedures and quality assurance).

Phase II of the Programme

Programme Structure for Phase II

In 2002, many UZ Faculties were already operating the GRAS (the Graduate Research Assistant Scheme). This scheme was a promising vehicle through which postgraduate student numbers could be increased, while ensuring that postgraduate research being undertaken was meaningful. A possible target in 2002 was that at least 50% of all permanent senior members of the academic staff should be supervising at least one graduate research assistant each by the end of 2006. It was also envisaged that the impacts that could be realized with VLIR intervention in Phase II and support included the following attributes:

* Staff development through M.Sc. and Ph.D. programmes and through exchanges between the Flemish partners and staff of UZ would lead to collaborative research and other academic activities.
* UZ would increase its abilities to offer improved training, especially in sectors vital for Zimbabwe: ICT, Agriculture, and Aquatic Resources. The partner universities would increase their research activities and research outputs in sectors vital for development in Zimbabwe. This was planned to be realized through the proposed M.Sc. and Ph.D. programmes as well as through exchange between the Flemish experts and UZ postgraduate students and staff.
* UZ would be further provided with equipment/hardware. Most equipment was planned to be delivered and installed during Phase I of the IUC programme. Phase II would therefore see consolidation of existing equipment, with emphasis on upgrading where necessary.
* UZ would be provided scientific literature/information and specialized personnel who could work with the new information search and delivery technologies.
* UZ would increase its attractiveness to students/and staff as a place to work and develop their professional careers. It was expected that the presence of the CWCN, and all the benefits that went with it, would have some positive impact on staff retention.
* The Agricultural Meteorology programme would become well known and attract students from all over Southern Africa. This would be important for sustainability. There was a possibility that the Aquatic Ecology project would see a similar evolution, given the importance of water resources for the whole of Southern Africa and even further afield.

- UZ would be able to establish international/regional university networks. This would lead to the establishment of possible South-South cooperation matrices, which were still in their exploratory stages. It was expected that, with increased access to the outside world via the CWCN, more international contacts would be established.
- UZ would render services to society. The CWCN experience was being used to establish similar networks at other universities. Staff of UZ involved in the CWCN was likely to be solicited increasingly for consultancy work in the public and private sector. The Agricultural Meteorology programme was planning to organize workshops for the training of technicians in Agricultural Meteorology for the local agricultural industry. This was likely to have positive consequences for sustainability.

During Phase II, the Phase I hardware CWCN project was subdivided into three sub-projects aimed at continuing to upgrade the established CWCN and in applying ICT to administration, teaching, and library uses. The three sub-projects were called Infrastructure, E-Applications, and Training in Computer Science. The level of cooperation among Flemish academics in the context of the IUC programme was planned particularly in the E-applications components of the Phase II structure. Given that Agricultural Meteorology and Aquatic Ecology were among the pilot projects indicated for E-learning, this was predicted in 2002 to lead to cooperation between people from the E-learning project and those dealing with the aspects of e-learning in Agricultural Meteorology and Aquatic Ecology. These interactions would most probably lead also to bilateral contacts between people (not only in the South but also in the North) dealing with E-learning aspects from Agricultural Meteorology and Aquatic Ecology.

The structure of the UZ-IUC Programme which was revised from that of Phase I was as follows:

- Project 1. Campus Wide Computer Network
  - Sub-project 1: Infrastructure
  - Sub-project 2: E-applications
  - Sub-project 3: Training in M.Sc. in Computer Sciences
- Project 2: Agricultural Meteorology
- Project 3: Aquatic Ecology

Project 1: Campus Wide Computer Network

The implementation of the Campus Wide Computer Network Project presented an opportunity for the UZ to take a distinct lead in the area of producing graduates who would be competent in ICT. To this end, the UZ Strategic Plan for 2003-2007 (Annexes 16 and 17) called for every student who passes through the UZ to pass at least one compulsory course in ICT, irrespective of the discipline taken at the UZ. It would then be increasingly known that graduates from the UZ are ICT competent, with the necessary competitive edge.

The Second Strategic Plan also had a defined Enabling Condition/Output focused on ICT, as well as relevant major activities (Annex 16) as follows:

> Enabling Conditions / Outputs 1: Suitable infrastructure, equipment, facilities, and common services provided / expanded, and maintained at appropriately high levels of functionality (Hardware).[25]

AO1-2: Ensure that the Campus-wide Computer Network is expanded (when necessary), well maintained and operational at all times.

Although there was an 'interlocking' logical framework for the overall ICT project, each sub-project had its own logical framework which contained the core of intended results for the Campus Wide Computer Network Project. Consequently, the results of each sub-project were analysed by the EC separately, *as documented in the Programme for Institutional University Cooperation (IUC) University of Zimbabwe Campus Wide Computer Network* and in the various logical frameworks supplied during the evaluation interviews by the UZ Programme Coordinator and his colleagues.

The structure of the CWCN during Phase II programme was modified from Phase I. The overall objective of this project during Phase II was, as stated in the Phase II logical framework (Annex 5): 'In Zimbabwe and in the SADC Region, UZ is a leading academic institution in terms of providing quality ICT training and technical services (external) and integrating ICT in its management and academic activities (internal)'. The specific objective of Phase II was that UZ practises high standard academic and managerial ICT services.

Sub-project 1: Infrastructure

This sub-project's specific objective was that UZ staff and students enjoy reliable and high standard access to ICT services.

The expected results and indicators for the sub-project were:

* The capacity of the backbone meets the demands of the users:
  a) A Giga bit Ethernet network is installed on the backbone with at least 100 Mbps network on the rest of the campus network by the fifth year.
  b) Backbone speed upgraded from 100Mbps to 1Gbps by the fifth year.
* The backbone is sufficiently secured:
  a) Security firewalls and security devices to all VLANs (currently 17) upgraded each year.
* Users enjoy an acceptable rate of connectivity and speed of the Internet:
  a) Bandwidth to the Internet is increased by at least 50% every year for the five-year period.
  b) All three high speed modems to the Internet upgraded to accommodate new levels of bandwidth.
* Reputable outreach and training programmes are put in place:
  a) Three network courses are conducted every year for the five years.
  b) To conduct regional professional workshops.
* After 5 years all teaching lecture theatres will have access to video conferencing.
* An average of one extensive network is designed every year.

Sub-project 2: E-Applications

This sub-project's specific objective was that the efficiency and effectiveness of the learning and administration processes/practices will have been advanced.

25 ibid. p. 8.

The expected results and indicators for the sub-project (as stated in its logframe) were:

* Communication via the E-mail, Intranet and electronic document exchange has increased by at least 50% by the fifth year.
* Through e-learning, the effectiveness of the teaching-learning process has been enhanced in academic departments:
  a) E-learning selection team with at least four persons set up by the first month of the first year.
  b) E-learning system acquired and implemented by the 3rd quarter of the first year.
  c) E-learning implementation team with at least four persons in place by the end of the first quarter of the first year.
  d) Prototype e-learning courses for ten departments, including Computer Science, Agricultural Meteorology, and Aquatic Ecology are in place by the end of the second year.
  e) By the second year at least 20% of the teaching staff is fully conversant with the learning environment.
  f) At least 60% of all courses have online presence (minimum of outline, reference material, utilization of communication tools) by the 5th year after implementation of e-learning.
* Use of digital library and electronic resource facilities increased by 70% by the fourth year of implementing e-library.
  a) An e-library implementation team with four persons is put in place by the second quarter of the second year.
  b) E-library system implemented by 4th quarter of second year.
  c) A fully integrated training programme in place for use by all users by end of second year.
  d) All users fully conversant with the e-library system by the end of the 4th year.
* Administrative paperwork (publishing of examination results, students registration, course confirmations) reduced by 20% each year, after implementation of e-administration.
  a) An e-administration implementation team with four persons is in place by the second quarter of the third year.
  b) E-administration system implemented by 4th quarter of the third year.
  c) A fully integrated training programme in place for all users by end of first quarter of fourth year.
  d) Increased use of the e-administration system of 20% each year from the second year.
* E-Applications Integration
  a) By 4th year, 20% of the e-applications are integrated.
  b) By the 5th year, all the e-applications are totally integrated.

Sub-project 3: Training in Computer Science

This sub-project's specific objective was that successful and sustainable quality Ph.D. training and a M.Sc. programme in Computer Sciences is delivered.

The expected results and indicators for the sub-project were:

* An M.Sc. in Computer Science is established and is active by the first year:

a) An average of 10 M.Sc. students has graduated each year from the third year onwards.
b) By the fifth year, the programme has been totally integrated into the Faculty of Science postgraduate degree programmes.

* Three Ph.D. candidates are active in research from the first year:
  a) Three Ph.D. students have successfully defended their thesis by the fifth year.
* Training courses are offered from the first year:
  a) An average of one professional course scheduled every quarter from the middle of the first year.
  b) Syllabuses of all extension courses are updated annually.
  c) An external body certifies at least three of the courses on offer by the second year.
* Training infrastructure of high standard is established:
  a) A fully configured postgraduate hardware laboratory is in place by the second year.
* Research programmes successfully implemented:
  a) From the second year onwards, at least one A1 publication and two other publications are accepted for publication each year.
  b) Two professional workshops are hosted by the fifth year.

Project 2. Agricultural Meteorology

The mid-term evaluation report indicated that the M.Sc. programme in Agricultural Meteorology had been consolidated as a result of the Phase I activities and was an academically sound one. The project had been effective in reaching its original goals as measured by the amount of regional and international recognition it was gaining at that time. It had been a well thought-out and run M.Sc. programme and was considered by the evaluators at that time as unique to Sub-Saharan Africa. A substantial amount of high-quality equipment had been purchased through the project and it had increased its capacity to carry out research and advisory services for the private sector in it having a well-equipped research and teaching laboratory. The project was recognized by the mid-term evaluators as having a major potential for linking up with major regional and international research projects involved with issues connected to global climate change. Such funding and research opportunities do not seem to have been taken up as vigorously as one might have been expected in the latter years of the UZ-IUC Programme.

No additional aims were therefore intended at the beginning of Phase II except to consolidate the advances made to the UZ's M.Sc. in Agricultural Meteorology. With this in mind, the overall aim of the project was 'Agricultural production and food security in Southern African Development Community (SADC) is increased, in part through the application of Agricultural Meteorology (AGMET)' and the specific objective stated in the logical framework was that 'The University of Zimbabwe is internationally recognized as a viable centre of excellence in the field of AGMET which provides high quality services in research, teaching and extension in the SADC region'

The expected results and indicators for the project (as stated in the project logframe presented in Annex 10) were:

* Research output from the Agricultural Meteorology group is of international standard.
  a) At least one publication is accepted internationally per year.

b) At least three conference/workshop papers presented by members of staff per year.
c) At least three conference posters presented per year.

* Meteorology and climatology are better used by agricultural research institutes and organizations:
  a) Staff members undertake consultations, averaging 2/year/member.
  b) Number of requests for AGMET information received in Met Offices increases by minimum of 20%/year.
* The MAGM (ie. AGMET's M.Sc. programme) is operational and sustainable:
  a) It is envisaged that there will be, on average, 8 students per intake (biennial) with a minimum of two students from outside Zimbabwe.
  b) It is anticipated that a minimum of 2 students per intake will be sponsored by agencies other then the university and VLIR.
  c) The AGMET programme is formally recognized by SADC, the World Meteorological Organization (WMO) and the Food and Agricultural Organization (FAO).
  d) 30% of students enrolled in the programme are from outside Zimbabwe.
  e) Graduates from the programme are employed in related work areas.
  f) The AGMET programme is advertised by SADC and WMO.
* Capacity building is completed and sustainable:
  a) By the end of Phase II of the Project, there will be at least four members of staff with DPhil qualifications.
  b) There will be at least one full-time technician seconded to the MAGM programme and another technician in the Physics Department with training on maintaining repairing and calibrating agro-meteorological equipment.
  c) UZ staff outside Physics using meteorology (minimum of four projects/ consultations).
* The calibration and demonstration laboratory is functional:
  a) It is hoped that at least 20 agro-meteorological sensors per year will be calibrated for owners outside the group, assuming that the calibrating equipment is functional.
  b) Equipment for calibrating temperature, humidity and radiation sensors is functional.
  c) In addition, a minimum of five consultancies per year will be conducted.
* Support services are functional:
  a) 10 computers function fully.
  b) Lab and field equipment is functional (> 75% of inventory used each year).
  c) Library is updated with new books and periodicals (>20 additional volumes from all sources per year).
  d) Office is fully equipped and organized.
* An operational communication system is in place between the MAGM group and agricultural practitioners and adviser:
  a) Three issues of an MAGM newsletter are planned per year. (NB. logical framework only specified two newsletters per year).
  b) There will also be two reports with guidelines for good agro-meteorological practice.
  c) AGMET web site is fully operational, with at least 50% scientific content
  d) Web site records minimum of 500 hits per year.
* By year 5, the project will have attracted sufficient funding to continue beyond

the second phase, including:
a) Scholarships, with bench fees;
b) Funded research projects;
c) Earned income from technical services.

Project 3. Aquatic Ecology

According to the mid-term evaluation findings, the VLIR programme rescued and revitalized the field of fish biology and aquatic ecology at UZ. This was a major achievement in itself and a major output from the project had been the purchase and rehabilitation of research and teaching equipment. Research output had been high and the quality of the research work excellent. Joint research projects between UZ scientists and scientists in the Flemish Universities had been established. The research work was leading to a number of joint publications. However, the main challenges for the next phase were the establishing of an M.Sc. programme in Aquatic Ecology and Water Resources. This also included giving the M.Sc. a broader and more holistic approach than purely fish biology. The challenge was also to get other Departments or teachers from other Departments interested in teaching as well as supervising students on the prospective M.Sc. programme.

The project had to also seek to become self-sustaining by the end of the next five-year period. The promoter spokesperson must be supported academically and administratively in making the M.Sc. programme possible. Another challenge was to generate and lobby for funding for the M.Sc. course including upgrading and equipping a teaching laboratory. This also involved promoting the programme nationally and regionally to attract students and funding for scholarships.

The specific objective of this project during Phase II was that the Department of Biology becomes a sustainable centre of excellence for research and teaching in the field of aquatic ecology, with relevance to developmental issues.

The expected results and indicators for the project (logframe shown in Annex 13) were:

* A high quality M.Sc. programme is put in place:
  a) By year 5, two M.Sc. cycles, each lasting two years, have been completed, each with an intake of 10 students, with 30% being regional students.
  b) External examiners reports favourably on standard of written papers and theses.
* An adequate number of well-trained academic and technical staff is in place:
  a) Three new staff members with D.Phil. by year 5.
  b) One well-trained technician in the field of Aquatic Ecology, operating within the Department of Biology by Year 2.
* Research programmes are successfully implemented:
  a) Each year, three A1 Papers will be published/accepted, as well as three lower ranked.
  b) At least 50% of publications are result of joint research work between UZ and the Flemish universities.
* Research results are successfully disseminated:
  a) Staff members have presented a paper at six international conferences after 5 years.
  b) One local and one regional workshop will have been held and proceedings

distributed to all relevant stakeholders.

c) An Aquatic Ecology website is developed

* An effective revenue generating strategy is in place:
  a) The total operating funds available in year 5 equal to the operating funds that were available in year 3; the balance made up by funds from other sources.
  b) Most (>50%) scholarships in second M.Sc. cycle supported by outside funding.
  c) 100% funds to organize the local and regional workshops obtained.
  d) Funds obtained for the publication of at least one book.
  e) At least three new external projects will be obtained in year 5.
* There will be a significant increase in the number of scientists trained in aquatic ecology:
  a) By year 5, the project should have produced a total of fifteen M.Sc. and three D.Phil. graduates which represents a significant increase in the number of trained personnel.

3 Evaluation Findings

Individual Project Performance

Detailed analysis of the performance of each project against results and indicators (OVI's) is contained in summarized tabular form in Annexes 6, 7, 8, 11 and 14. The use of a tabular format facilitates transverse comparisons between intended results and the actual achievements. A brief summary of the main performance, however, of each project is presented below.

Project 1. Campus Wide Computer Network

A report compiled by Carpenter et al in 2007[26] identified specific constraints on, and barriers in, Phase II for implementation of these ICT projects some of which are worth re-stating here:

- The increasingly difficult social and economic situation, with rampant inflation and currency volatility.
- Staff retention and motivation issues, significantly related to previous issue. The Infrastructure project suffered from the departure of the hardware manager.
- The bandwidth for Internet traffic remained a problem, with more and more computers connected to the network, which aggravated the problem. Parties North and South, including the Vice-Chancellor, were aware of this problem but no remedy has been implemented to-date. Thorough bandwidth management has been indicated by the coordinator to alleviate the problem somewhat.
- In 2006 the Flemish coordinator noticed that the focus on the pedagogical aspects of E-Learning had been scaled down in favour of the more technical aspects, and recommended that efforts should be made to revamp the pedagogical aspects. The barrier here appeared to consist, in part, of the composition and specific interests of the UZ team.[27]

These observations retain their relevance even upon project conclusion. This project was significantly disrupted by the ongoing departure of key staff during implementation, with the consequence that many defined results were not achieved as expected (details of which are presented in Annex 7 and therefore not repeated here). In summary, most targets in the E-Applications project were either not achieved or only partially achieved, while upgrades to the network are still some way off being completed and the sub-project did not see successful graduation of any Ph.D. students. These problems were exacerbated by declining institutional budgets and other operational challenges caused by the socio-economic problems experienced in Zimbabwe during project implementation. So, for example, the expected benefits which could have been derived from deployment of the CWCN were undermined by the inability of the university's ISP to deliver the reliable Internet access as had been originally been anticipated. Consequently, stated targets for increases in Internet connectivity could not be achieved.

26 VLIR-UOS 2007. Evaluation of ICT-related projects: Project Summaries. p79 - 84
27 VLIR-UOS 2002. Mid-term Evaluation Report UZ-IUC. pp. 89

Notwithstanding these problems, the project clearly made an important contribution to sustaining the computer network during the project, while also facilitating other important achievements. Examples worth noting include:

* Upgrade of modems and successful maintenance of firewalls and security devices on campus;
* Successful delivery of courses to reasonably large numbers of professionals in industry during the project which, while temporarily disrupted in 2008, have now been resumed in 2009;
* Sharing of expertise developed through the project with other universities in Zimbabwe by supporting deployment of networks at those institutions;
* Successful deployment of an LMS and some signs of its use during the project;
* Expansions to the functionality of the Library Management System on UZ campus;
* Successful implementation of the M.Sc. Computer Sciences programme and graduation of students who are in demand on the national job market (some freshly graduating students have also been retained as staff in the Computer Sciences Department); and
* Production of 12 conference papers

These achievements constitute important building blocks for the normalization of university life at UZ as the political situation in Zimbabwe stabilizes.

In analysing performance, the final evaluation was significantly restricted in its function by the fact that several of the means of verification had either not been generated or were not made available to the EC. In particular, significant emphasis is placed on statistical reports of different kinds as measures of performance, but no statistical reports were available. In addition, some of the stated targets and objectively verifiable indicators (OVIs) were not sufficient in their precise definition to enable meaningful evaluation assessments. For example, the project design specified that 'by the second year, at least 20% of the teaching staff is fully conversant with the learning environment', but this is very difficult to measure without a clear definition of the meaning of 'fully conversant'. Furthermore, some OVIs were highly ambitious, the danger of which is to create a sense of failure even where some successes have undoubtedly been achieved. For example, the project targeted that 'by the 5th year, all the e-applications [would be] totally integrated'. Again, imprecise definitions make it difficult to know what is meant by 'total integration', but – in any event – defining this as an objective in the same five-year period in which these applications were being procured and/or developed was, with the benefit of hindsight, overly ambitious. More is mentioned about appropriate objective setting in Section 8 of this report.

Project 2: Agricultural Meteorology

In the Agricultural Meteorology project, some success was initially achieved in having this Department recognized by external examiners as 'a viable centre of excellence'. However, there are difficulties in sustaining the Department at this commendable level given current staffing constraints, which are again largely a function of significant staff departures during the life of the project. The Department currently has only six full-time staff, down from a total of 18 at the start of Phase II. In addition, as the detailed commentaries contained in Annex 11 illustrate, there have been many challenges in delivering the results of this project, with several results not being delivered as planned.

For example, completion of capacity-building did not proceed as forecasted, with the result that a full-time technician for the Department is still not in place, while the two staff who successfully secured D.Phil. qualifications regrettably left the Department during the project. Likewise, targets for use of the calibration and demonstration laboratory were only partially achieved, while targets for putting in place a communications system were largely not met. Consequently, development of a strategy to ensure sustainability of the Department and to enable it to continue delivering high quality services will be a major priority in the short term.

Nevertheless as with the CWCN project, the Agricultural Meteorology project did record some important achievements. These included:

* Production and publication of a research paper in a national refereed journal, jointly developed between UZ and Flemish counterparts;
* Successful establishment of Agricultural Meteorology as an important subject at UZ and some raising of awareness both within Zimbabwe and in the SADC Region about this topic's importance and value in agricultural production and disease forecasting;
* Establishment of working relations with the agricultural sector in Zimbabwe and conclusion of some initial consultancies;
* Successful implementation of the Agricultural Meteorology M.Sc. programme and graduation of students (some of whom have been retained as staff in the Department); and
* Establishment of a functional calibration and demonstration laboratory and relevant support services.

Project 3: Aquatic Ecology

The pattern for Aquatic Ecology is largely similar to the above two projects. Significant achievements were made and recorded in the project reports, particularly in the area of research. Like other projects, the achievement of the project's objective has been significantly hampered by the loss of key staff, but the capacity that remains in the Department of Biological Sciences would, to a significant extent, not be in place were it not for the UZ-IUC project. Again, achievement of the Ph.D. programme targets was hampered both by a relatively rapid departure of successful graduates and by the fact that staff departures have increased workloads of the remaining staff which has, in some cases, hampered their efforts to conclude planned studies.

As with other projects, Aquatic Ecology did record noteworthy achievements, including:

* Successful implementation of a M.Sc. programme and graduation of students who secured employment (some of whom have fortunately been able to be retained as staff in the Biology Department);
* Enrolment in the third cycle of the M.Sc. programme of a student cohort funded entirely from sources outside the project;
* Prolific success in producing research, much of which was published in A1 Journals; and
* Implementation of a successful programme of staff and student exchange between Zimbabwe and Flanders.

It should be noted that sustainability remains a major concern, partly due to depar-

ture of key staff and partly due to the absence of a clear forward-looking sustainability strategy. Some thoughts on sustainability were included in the self-assessment reports, but these now need with some urgency to be shaped into a clear and targeted strategy to ensure that the platform created by the UZ-IUC Programme is sustained (see Section 8, Recommendations,).

Analysis by Key Result Areas

Below is an assessment of the quality of each of the seven Key Result Areas (KRAs) generated by each of the projects and sub-projects within the two phases of the UZ-IUC Programme (1998 – 2007).

KRA 1: Research

One significant finding of the mid-term evaluation report was that the UZ-IUC Programme faced challenges in developing further joint research projects and in increasing international publications. Research outputs in most cases had been met and had maintained commendable targets, especially in Aquatic Ecology.

The research activity undertaken under the Programme was measured in terms of scientific publication outputs. These are summarized in quantitative terms in Table 4.

Senior authorship of refereed scientific papers and conference papers was achieved by UZ scientists in over 95% of the cases of publication outputs listed in the UZ-IUC Programme databases. The seven submitted publications produced by the Aquatic Ecology team resulting from the UZ-IUC Programme have now been accepted and published in high impact international peer reviewed journals in 2007/2008.

Scientific publication output in international refereed journals from the three main projects during Phase II exceeded original targets set at the Phase I /II transition since 60% of the total refereed publication output from the Programme was in fact delivered when the latest publications (2008) are taken into consideration. However, it is flagged that AGMET did manage to improve its output in international and national refereed scientific journals (by 100%) probably because of the fruits of the two Ph.D. projects completed under the Partnership for this project during Phase II. As far as participation in conferences and presentation of conference abstracts are concerned, all projects made contributions to a commendable level during Phase II, whereas in Phase I this activity was totally absent. This probably reflected the benefits accruing from UZ project teams collaborating with their respective Flemish partners at international scientific gatherings as a direct result of the Partnership.

Conference Proceedings	12(12)	3(3)	21(12)	36(27)
Conference Contributions (Posters, Lectures)	1(1)	19(19)	11(11)	31(31)
Refereed Scientific Papers (International)	0(0)	54(30)	5(5)	59(35)
Refereed Scientific Papers (National)	1(1)	1(0)	1(1)	3(2)
Chapters in Books	0(0)	5(3)	0(0)	5(3)
Technical Papers	1(0)	5(4)	0(0)	5(4)
Training Manuals	7(7)	0(0)	0(0)	7(7)

* Data compiled from a combination of project databases and verifications of published materials made during the EC's mission in Harare.

** Figures in parentheses show publications that were produced in Phase II.

ICT								
a) Infrastructure	na	3	4	3	4	4	5	3
b) E-applications	2	3	1	2	3	2	2	2
c) Training in Computer Science	2	3	3	2	3	3	3	3
Aquatic Ecology	5	4	3	4	5	4	4	4
Agricultural Meteorology	4	4	4	4	4	4	3	3
Mid-term evaluation mean scores	3.5	3.3	2.5	3.0	3.7	4.6	na	na
****EC final evaluation mean scores**	3.3	3.7	3.0	3.0	3.8	3.4	3.0	3.4

* A five-point evaluation scale was used to assess the qualitative outputs of performance as follows: 1 = (very) poor; 2 = insufficient / low; 3 = sufficient; 4 = good / high; 5 = excellent / very high; and + = results have been achieved but are outside the scope of the Project's specific objectives. na = not applicable.

** For comparison purposes, the mean KRA scores allocated by the Mid-term evaluators are presented in Row 7 of the table. The mean scores generated by the EC final evaluation show, in general, similar trends with the one notable exception relating to the score allocated by the EC for 'Infrastructure'. An explanation for this difference is given in the text.

Since the beginning of Phase I, eight Ph.D. programmes started, with co-supervision coming from partners in the North. One student graduated, the others (7) are currently in various stages of completion and it can be expected that the vast majority will graduate by the end of 2009. Only in the case of one Ph.D. student is there a serious problem because the work was not of sufficient quality to award him a Ph.D. at the University of Ghent. Negotiations are now underway to have him graduate at UZ. Many research papers have been written or are

For reasons unknown to the EC, the only access it had during the Harare mission to hardcopy of scientific publications produced by UZ project teams was that provided by the Aquatic Ecology project and the ICT project (training manuals). No verification of hard copies of scientific publication output was provided by any of the other projects and sub-project teams. It was therefore quite difficult for the EC to assess effectively the quality of publication output across the different projects.

KRA 2: Education

As a result of the activities supported by the UZ-IUC Programme during Phase II, the M.Sc. programme in Computer Science was revitalized. This was particularly important as Computer Science in Zimbabwe is a relatively new area and there is only the Scientific Industrial Research and Development Centre (SIRDC), based close to UZ in Harare, which has the capability for doing research on developing software for local needs related to database systems, information systems and e-applications. The Agricultural Meteorology programme received a tremendous boost through the availability of relevant equipment, as well as from the exchanges of visitors from Flanders from 2003 onwards. Unfortunately this activity was prematurely curtailed as a result of one of the Flanders team being attacked and mugged during a partnership visit to Harare. This incident adversely affected the remaining planned activities. Through the Aquatic Ecology project, the M.Sc. in Aquatic Ecology programme, which had been 'dormant' for several years, was reactivated and was actually running in 2007 for its third intake of students.

Relevant scientific literature in the form of books and scientific journals was able to be purchased through the UZ-IUC Programme for the M.Sc. courses in Agricultural Meteorology and Aquatic Ecology. Subscription to scientific journals was supported initially by the UZ-IUC Programme during Phase I to a limited degree. It was decided at the planning stage of Phase II that UZ should take over this responsibility. However, because of diminishing financial resources within UZ as a whole due to hyper-inflation, this support was not realized to its full extent. However, through the E-applications project, a great deal was invested in hardware and software for improvement of the digital library resources, and in continuous training and in upgrading the competence of library staff.

Until 2004, the Agricultural Meteorology programme was well known and attracted M.Sc. students from various countries in Africa, particularly from the SADC region. As long as VLIR scholarships were offered, there was an abundance of students, even in more recent years when the economic and political situations started to deteriorate. The next intake of M.Sc. students was to be in February 2009 but uncertainty remains as to whether or not staff will be paid salaries and students will return for the new semester at the end of March 2009. It will be a crucial test to see whether or not the M.Sc. in Agricultural Meteorology (MAGM) will be able to successfully sustain itself by attract-

ing some students from the region and be able to mount an effective course after losing so many staff members in recent months.

The same situation is valid for M.Sc. students related to Aquatic Ecology. Here the situation could be even more worrisome because at the second intake, there were no students with scholarships other than from VLIR, which was not the intention. Here too, the short-term evolution will be of critical importance. Five students were selected for the third intake, without VLIR scholarships, two of whom dropped out. Two personal grants made available by the Flemish project leader were (inexplicably) not taken up.

The M.Sc. programme in Computer Science is not expected to have any problem in attracting students, but here the main problem is the acute staff shortage because of the brain drain. As has been mentioned before, staff retention continues to be an ever-increasing problem

KRA 3: Extension and Outreach

Establishment of the South-South cooperation has been relatively successful with strong cooperation between the Aquatic Ecology team of UZ and the University of the Western Cape, South Africa, together with KU Leuven. Collaborative research and research links were established with a dozen other universities/institutes in the South and in the North.

There have also been some individual contacts between the Agricultural Meteorology team and staff of the University of Stellenbosch, South Africa, leading to some funding from South Africa donors. There have also been individual contacts (for example, Mr Chipindu, AGMET) with scientists in the Faculty of Agriculture at Mekelle University, Ethiopia (another VLIR-IUC partner university). One student from Mekelle even graduated from UZ. It was noted by the overall UZ-IUC coordinator that it is much more difficult to organize and enrol African students for a programme in another African university compared to their counterparts in Europe. This is due to the financial guidelines of the VLIR-IUC Programmes restricting mobility of students to Belgium and no other country.

The ICT infrastructure and the running of applications on the VLAN were considered to be compatible with normal academic standards, taking into account all boundary conditions of the local situation in Zimbabwe. Only the bandwidth problem was not comparable to any international academic standard, though this is due to external circumstances within Zimbabwe itself, a situation that is not likely to change for the better in the near future. All programmes of Ph.D. research in Agricultural Meteorology were thoroughly discussed with the project leaders before the Ph.D. research activities were started. A report was requested from each candidate in which the objectives and timing of their Ph.D. programme were to be stipulated. In most cases, the initial programme was closely followed, except for one case. The Flemish Partners' self assessment reports stated 'the external examiners of the completed submitted theses appreciated both the quality of students and their work. The quality of the M.Sc. course in Aquatic Ecology was rated as 'very high' by external examiners'. In the case of Agricultural Meteorology, the MAGM external examiner was Professor Sue Walker of the Department of Agrometeorology, University of the Free State, Bloemfontein, South Africa and for Aquatic

Ecology (second intake) the external examiner was Professor A. Oldewage, University of Johannesburg, South Africa. On the matter of verification, the EC was surprised that no efforts were made by the projects to provide such significant accreditation statements during its Harare mission to corroborate peer review attestations on the courses. These would have provided the strongest proof that the academic level of the M.Sc. courses being taught is of an internationally recognized standard. This apparent lack of motivation and strong academic interest on the part of the staff members involved in mounting these two M.Sc. courses, may have been a reflection of deteriorating staff salary situations on UZ campus which were still happening at the time of the EC mission.

KRA 4: Management

In the self-assessment report of the northern partners (Format No 2), it was confessed that communications between the North and the South Partners were at times 'a little difficult' on due among other things to slow postal mail and a dysfunctional internet connection on UZ campus. Because of the fairly frequent visits of the Flemish coordinator, Professor Odeurs to Zimbabwe, the monitoring and critical reviews of Programme progress could be achieved nevertheless to an approximate annual schedule. These personal visits proved to be even more necessary when the local situation in the country deteriorated drastically from 2005 onwards. This required increasing numbers of personal interventions by Prof. Odeurs for the benefit of the local staff, and hence of the Programme itself. The absence of a full-time UZ-IUC Programme Manager at Mount Pleasant was therefore in part substituted for through the personal monitoring which could be carried out by the Flemish coordinator in situ. The significance of this input has been appreciated very much by all the UZ-IUC stakeholders in the North and the South.

During Phase I, and at the beginning of Phase II, during programme planning and budgeting, there were no serious problems experienced in coordination of the Programme, with exception of financial planning of how expenditure would be spread over the complete budget year. During Phase II of the programme it was stressed that all stakeholders should take care when planning budgets for any given year especially when the Zimbabwean dollar was being devalued. While the transfer of money to Zimbabwe occurred at the official exchange rate, local UZ invoices took into account the 'real' value of the Zimbabwean dollar, which was much less than the official rate and which at times fluctuated widely.

Flexibility and pragmatism were certainly strong points of the management of the UZ-IUC Programme. Without these characteristics, it was highly likely that the Programme would not have survived from 2006 to 2008. Much appreciation was noted on the part of many of the stakeholders about VLIR-UOS Secretariat staff who invariably exercised great understanding and empathy in allowing the UZ and Flemish partners a freer hand to cope with the difficult local situations in Zimbabwe over this period. Consultation and participation of partners did not appear to be a problem in general except perhaps during the final period of the Programme when the situation in Zimbabwe degenerated to such a degree and it became clearer that there would not be a change for the better in the very near future.

There were annual North Steering Committee Meetings as well as Joint Steering Committee Meetings which were all organized in Zimbabwe, except for the last one

in 2007 which was held in Leuven because it was felt that the local situation would not permit an efficient meeting in Harare. During these meetings, the activities of the current year were compared with the annual activity plan and a future outlook was given in comparison with original the activity plan for next year. The structure of the annual report allowed comparisons of the expected results with the actual ones obtained.

KRA 5: Human Resource Development

Four M.Sc. graduates in Agricultural Meteorology have been pursuing a Ph.D. and two in Aquatic Ecology to date using project funds that were especially dedicated to scholarships. In Computer Science, two M.Sc. students have been pursuing Ph.D. degrees in Flanders, also using project funds. Many more M.Sc. graduates from projects falling under the UZ-IUC Programme have also been pursuing a Ph.D. but by using other resources (see the individual project reports).

A total of 2,618 students at Mount Pleasant were trained in computer techniques between 2005 and 2009 (an average of 650+ enrolled students per annum). Thus the ICT infrastructure project, with its associated training activities, has undoubtedly made a substantial contribution towards the training in computer use by undergraduate and postgraduate students on UZ campus, thereby satisfying the UZ Strategic Plan's declaration 'to eventually train all students passing through the university degree programmes'.

A total of 13 postgraduate research students and academic staff from UZ attended an IFS/VLIR workshop on scientific research proposal writing held at the University of Zambia from September 8 - 13, 2008, thereby contributing towards sustainability aspects of the Programme by ensuring that stakeholders were in a stronger position to submit competitive scientific proposals to international grant schemes like IFS and so win grants for their individual research activities.

KRA 6: Infrastructure

The self-assessment reports claimed that 'the CWCN enabled [all] programmes in the university to put material on the net to the extent that students can now be trained in IT-related knowledge'. This observation is incorrect, however, since materials still can not be put on the Intranet, as there is no reliable Internet access and most programmes are not using the LMS. The observation might have been potentially correct had it been the case that such materials were able to be placed on the LMS in the case of a number of even a small number of selected courses. But regrettably this is still not the case. Considering the existing situation at UZ (as far as the Internet connection and the limitations of e-learning activities are concerned), it is unclear how the project has enabled 'UZ students to be trained in IT-related knowledge'. What is clear is that although the CWCN is now an up-to-date and partially performing facility, Internet connection with the outside world is virtually non-existent at times. This it must be said has been a problem that has been on-going from the beginning of Phase II (and which is sadly also a continuing problem elsewhere on the African continent). There does not seem either to be any immediate solution in sight, despite several promises and assurances by UZ senior management. This situation has had nothing to do with the UZ-IUC programme itself as such, because UZ and institutions like it have been under such extraordinary logistical and financial pressures from the prevailing external socio-economic situations in the country. These caused the computer network throughout

the two Programme phases to be unable to use its full potential operating capacity. The Infrastructure component of Phase II was therefore evaluated as having underachieved and this is reflected in the lower score of 3.4 allocated by the EC, as against the higher rating of 4.6 allocated by the mid-term evaluators.

Although all three projects (ICT, Aquatic Ecology and Agricultural Meteorology) received significant equipment inputs, most expenditure on infrastructure went to the three computer projects. The major portion of the latter as expected (and planned) was deployed to the computer infrastructure project. Well over 70% total expenditure of the UZ-IUC Partnership Programme went into hardware infrastructure development for the various projects and sub-projects on UZ campus. Hardware is an extremely valuable capital input which within certain operational constraints can be deployed to great advantage in the near future once infrastructural components (broadband backbones etc) are functioning properly.

The range of the Agricultural Meteorology material ranged from basic equipment, such as sensors and data acquisition systems, to calibration and eco-physiological equipment. In addition, modelling skills were developed by staff within this project which could only have been achieved with the acquisition of essential equipment for generating reliable data sets. The Aquatic Ecology project has acquired good basic equipment for the execution of its laboratory and field activities (see Inventory below).

KRA 7: Resource Mobilization

According to the self assessment reports, the number of ICT experts at KU Leuven willing to cooperate in VLIR-IUC projects is very limited because of heavy workloads in the home university and relatively poor academic incentives provided by interactions at UZ. Due to this, the ICT-related parts in the programme were all too often 'one-man' activities and as such no long-standing relationships with the Flemish team members are likely to be developed. Nevertheless, the working relationship between the three local coordinators at UZ appeared to be good.

In the field of e-applications, especially e-learning, there have been several contacts within the SADC region, mainly through the interventions of Dr Hapanyengwi. Thanks to the involvement and interactions provided by the coordinating university KU Leuven, UZ is now becoming involved in an EU project (EDULINK) aimed at strengthening international cooperation of African Universities with European Partners. Ten European universities and 12 African universities are involved in the project. This could lead to new contacts and create new international networks in the ICT domain. During the Partnership staff, the ICT was able through its own initiatives to source computer hardware from several local companies off campus. These included Blue Track Investments, the First Lady, and Shurugwi Mine. In the opposite direction, the ICT unit acted as a conduit in a community-strengthening initiative by supplying two local schools second hand computers provided through the activities of the Belgian NGO 'Close the Gap'.

Through the UZ-IUC partnership, the Flemish partners of the Aquatic Ecology project have been able to establish strong academic links with several important regional research centres and have developed three important North-South-South links with additional competitive VLIR funding (details of these projects are given in Annex 19)

amounting in effect to an additional €95,300 for collaborative research activity in the field of aquatic resources.

These contacts will be maintained as much as possible, and the northern partners have pledged to continue looking for other funds for UZ from sources such as IFS, BES, and RIP and assisting UZ to develop and submit competitive proposals. They will also assist Ph.D. students complete their studies, provide further second hand useful equipment (microscopes and various types of field equipment), try to find funds from agencies such as the Tropical Institute, the World Fish Centre, FAO, EU and others to continue activities in the South in collaboration with UZ. They also stated that they will be willing to assist in the provision of student grants for the M.Sc. in Aquatic Ecology.

A major benefit of the IUC project is that it forged strong personal and academic links between the UZ staff and the laboratories of the Flemish project leaders. In the case of Aquatic Ecology, a close scientific collaboration with the Unit of Applied Ecology at KU Leuven is expected to continue after the UZ-IUC Programme finishes. The writing of joint papers, exchanges on the functioning of instrumentation, and establishment of collaborative experimentation are expected. A good example of the continuing Agricultural Meteorology is the joint research programme of AGMET and the Laboratory of Plant Ecology (University of Ghent) with the Citrus Board of South Africa.

KRA 8 Inventory

Listings of investments made by the Programme have been given in the pages of the Excel database reports for each project. Equipment purchased with VLIR funds for the Aquatic Ecology project included boat engines and other equipment and essential materials needed for field work on Lake Kariba and other lake and river locations. Vehicles (a pick-up, a minibus and a trailer), boats, engines and fuel tanks, computers and ancillary equipment, compound and stereo microscopes with additional light sources, a range of measuring devices including pH and conductivity meters, oxygen meters, spectrophotometers and centrifuges, cameras, Ground Positioning Systems, binoculars, balances, generators, 'electro-fishers', battery chargers, gas cylinders and stoves, office equipment, photocopiers, and LCD projectors.

The ICT Infrastructure project purchased mainly Cisco switches which were located in strategic positions where needed for the VLAN around the UZ campus supporting the ICT CWCN function. Other equipment included routers, over 30 desktop computers (Dell or HP models), and five printers. The E-applications sub-project mainly purchased software items to support the development of different systems while the Computer Training sub-project purchased 50 Compaq desktop computers, 12 Sun Blade Solaris computers, a fax machine, a Laserjet printer, a photocopier (that now needs repair), a scanner, a binding machine, a laminating machine, office furniture (25 typist chairs and wooden tables), library textbooks, and a Hitachi Computer Blower. The EC was informed that the 12 Sun Blade Solaris computers were not being used (as originally intended) by the Computer Science students as a medium for software programming. More Compaq computers (60 Compaq Presario units) had therefore been purchased to satisfy the requirements of student groups using the Computer Training and Computer Centre computer laboratory facilities.

In summary, all of the UZ-IUC projects and subprojects had purchased relevant equipment and materials with the possible exception of the Sun Blade Solaris computers which appeared to have been under-used during the life of the Partnership Programme. These computers were used only by those students who desired that platform for their individual project. They were also released occasionally for undergraduate honours students and postgraduate students from other departments to use. Total cost of investments provided by VLIR to the whole Programme was €4.15 million out of a total of €6.54 million for the whole Programme, ie. well over 60% of the total provision, went into important university infrastructure and facilities. This clearly has meant a great deal to UZ and the project and sub-project groups involved. Certain key characteristics of the investments made by VLIR to the different sectors of the Programme are also mentioned in additional detail in Annexes 6, 7, 8, 11, and 14 on performances against stated OVIs as presented in the logframes at the start of Phase II (for ICT, Agricultural Meteorology and Aquatic Ecology as shown in Annexes 5, 10, and 13, respectively).

Programme Performance

According to the mid-term evaluation report, the main challenges which the UZ projects faced when gearing up for Phase II were to increase income-generating activities to make the UZ-IUC Programme financially sustainable as well as to make contingencies for paying for and maintaining equipment it obtained during Phase I. It also recommended that the UZ-IUC Programme secure and maintain voluntary participation by staff from other Departments and Faculties.

Staff turnover and departure rates within UZ departments increased dramatically during the second half of Phase II due to the deteriorating economic situation in Zimbabwe from 2002 to early 2009. This meant that there was little continuity in personnel and participating Departments are now chronically under-staffed. These conditions also meant that, during the latter stages of Phase II, many employed staff at the university did not come to work regularly and hyper-inflation made normally simple financial transactions very difficult and time-consuming, thereby increasing dramatically the administrative burdens for those staff left in post. The Programme staff in both the North and South showed extreme dedication to the activities of the Programme thereby allowing the UZ-IUC Programme to proceed according to the planned timetable. Inevitably, certain activities were going to be curtailed as a result of the economic constraints imposed by the prevailing political situation in the country.

General Comments

A significant problem for the EC with evaluating the performance of the UZ-VLIR Programme has been trying to sort through the design of individual projects. For example, project logical frameworks were not included in the project design documents provided to the evaluators, and so had to be sourced separately on a rather ad hoc basis. In some instances, there were minor variations between the logical frameworks and the project design reports. Most importantly, though, there is often not a tight enough correlation between the intermediate results and the project activities. For example, in the Computer Infrastructure Project, there is an activity called 'to conduct regional workshops', but there is no corresponding target or OVI for this activity. A general principle of project design is that activities should be organized according to results

(outputs), but this has not been systematically done, particularly in the design of Phase II of this project. This both complicates evaluation and has had potentially negative consequences for project implementation.

Evaluation of the UZ-IUC Programme was most usefully done by analysing performance at the project level (as presented in the Achievement tables in Annexes 6, 7, 8, 11, and 14). The overall mean scores for all of the KRAs as assessed by a scoring system (Table 3) across all projects and sub-projects showed that, in the case of all components, average scores of 3.0 and above were achieved Programme-wide. This infers that overall Programme performance was 'sufficient' and indeed in one case, HRD, mean scores approached a value of 4 inferring that in this activity impact and quality was assessed as 'good'. Although detailed analyses of the project performances have been presented above separately, it is possible to provide a summary of project performance. It is clear to the EC that although some individual projects fell short of their targets in significant ways, it is equally clear that, given the difficult socio-economic circumstances in which the project operated, the work completed by the projects represents a significant achievement under very difficult circumstances. The academic staff – both at UZ and the Flemish universities (Annex 2) – persevered admirably with the projects and contributed to the collective successes that were recorded. What they managed to achieve, particularly after the formal economy in Zimbabwe effectively came to a standstill, is a remarkable collective achievement. Having noted this general observation, the following specific points need highlighting:

* The residue of academic competence that is being retained in participating UZ Departments appears largely to be a function of the investments of VLIR. This core of staff will provide an essential platform for reconstruction of the university now that a Government of National Unity has been installed and that there appear at present to be some good prospects for stabilization of the political situation and rebuilding of the Zimbabwean economy. The VLIR projects have played, therefore, a major role in enabling the participating projects to continue and be sustained by creating a regular supply of M.Sc. students who could be recruited onto the UZ academic staff.

* All projects have struggled to produce Ph.D. graduates according to the initially agreed timetables. This is not surprising given the difficult circumstances under which these students were required to work, and the growing work responsibilities they were often accorded due to departure of staff colleagues. From this perspective, it would be sad to see the investments in their academic careers lost, and it is therefore recommended that Ph.D. scholarship grants be extended at least until February, 2010 to give people time to complete their studies satisfactorily (see Recommendations).

* Verification of project results has been hard to achieve, as very little access was supplied to the EC of the products of projects (ie. research papers, curriculum documents, statistical reports, workshop reports, and so on). This problem could quite easily be resolved by ensuring that hardcopy of these products were exhibited openly at the time of the evaluation mission. It led to difficulties in the EC establishing at times the causal relationships between some Intermediate Results, their OVIs, and the associated activities.

- Some intermediate results and activities have limited, if any, direct connection to the Overall Project Objectives and were not substantively funded by the Project. Their removal might have created simpler design, reduced management and reporting requirements, kept expectations realistic, and enabled stronger focus on the core objectives of the project.

- The project evaluation exercise was made more complicated because of discrepancies between AP documents, while the initial project design does not organize activities according to the Intermediate Results.

According to the self assessment of the Southern partners, the way of doing business was profoundly changed after the installation of the campus wide network. The university became truly modernised and in the end a number of services could be built on top of this solid infrastructure. The M.Sc. programmes in Aquatic Ecology, Agriculture Meteorology and Computer Science became 'very solid' programmes as a result of the support from the UZ-IUC Partnership Programme. The quality of tuition and the academic qualities of the students produced was 'very good' as can be measured by the type of employers who were taking on the resultant students. To date, the UZ-IUC support that was provided to individuals to pursue their Ph.D. programmes has gone a long way to strengthening the departments and the university institute. Although some of the doctorate staff have now left the country, the value they conferred to their departments during the short time they were at UZ was considered worthy of the VLIR investment. The postdoctoral staff is still in the SADC region and may therefore be more likely to return to Zimbabwe when political and economic conditions improve.

UZ senior management considered that it did everything possible to ensure that the outputs and achievements of the Programme were sustained even under the exceptional adverse circumstances. In conclusion, ownership by the UZ institution of the Partnership Programme itself was ensured by a combination of concentrated and continuous involvement of the university's senior management (particularly the VC's office), the local UZ coordinator and the various project and sub-project leaders on UZ campus, most of who (significantly) were in post throughout both phases of the UZ-IUC Programme cycle.

Cross-Cutting Issues

Gender Mainstreaming

It is of interest to determine the degree to which gender mainstreaming was observed during the two Phases of the UZ-IUC Programme. Unfortunately the listings of training and research outputs from the various projects as presented in the summary Excel databases do not allow distinction between male and female participants. During the EC mission in Harare, one project supplied a gender breakdown of the M.Sc. in Aquatic Ecology from the UZ and from the Flanders perspectives. This information showed that 4/14 (29%) UZ M.Sc. graduates were female and 3/6 (50%) Flanders M.Sc. graduates who participated on the project were female. In conclusion, indications at the disposal of the EC are that gender mainstreaming issues were being addressed adequately by the UZ-IUC Programme, albeit in an ad hoc way, without any deliberate policy at its outset as such.

Synergy between UZ and KU Leuven Project Teams

As has been mentioned before, synergy between the various projects and sub-projects of a given VLIR-IUC Programme was not considered as an important component at the time, in 1997/98, when the UZ-IUC Programme was conceived. Therefore according to the UZ-IUC stakeholders (both North and South), synergy was not one of the main goals of the programme. During Phase I it was obvious that Agricultural Meteorology and Training of Fishery Biologist (later Aquatic Ecology) benefited from the computer infrastructures, like all other departments, institutes and other services of UZ. For Phase II, the computer project was split into three sub-projects, E-applications, Computer Training and Computer Infrastructure. Synergy occurred naturally between these sub-projects as follows:

* The computer infrastructure developed in Phase I was used for various E-applications and UZ staff and students involved in Computer Infrastructure were also involved in E-applications (namely E-learning, E-library and E-administration).
* One UZ staff member, Mr Samuel Chikasha, an active member of the Computer Training sub-project and a lecturer and researcher, has been pursuing Ph.D. studies in the domain of E-learning, supervised by Prof Van Petegem, KU Leuven, Project Leader of E-applications. Furthermore, the Flemish E-learning expert was a guest lecturer on UZ campus supporting teaching on the Computer Training project.
* Although the complete integration of the M.Sc. programmes in Agricultural Meteorology and Aquatic Ecology was not possible, discussions have been going on to share at least two common courses on the two M.Sc. programmes. So far, these discussions have not led to any concrete proposition (for reasons which could not be established during the evaluation mission), although it is considered to be vital because of the acute shortage of lecturers in both fields.
* Occasionally, project vehicles were shared between the projects, but this has certainly not been a great achievement in terms of synergy but one more of necessity.
* The computer team has given a 'preferential treatment' (priority) to the other UZ-IUC projects in terms of advice or problems related to computer issues, although this has not apparently always been recognized and appreciated as such by the beneficiaries.

Comparison of the VLIR-IUC Model with Similar Programmes Run by Other Donors

Because donors of UZ withdrew their offices and programmes from Zimbabwe around the time of the UZ-IUC Phase I/Phase II transition, it is not possible to make direct comparisons with these activities and the UZ-IUC Programme, as far as institutional-building in the context of Zimbabwe is concerned. However, it can be stated that, from experience with donor activities of a similar nature based at other universities in Sub-Saharan Africa, the VLIR-IUC model is particularly unique and special. When compared with many other northern donor-mediated university collaboration programmes (for example, the Swedish Sida-SAREC university collaboration programme, UK's The British Council Higher Education Development Initiative and the Dutch NPT university collaboration model), VLIR-UOS is special in terms of its longevity of sustained support and in its ability to support multiple horizontal and vertical levels of

interaction for developing effectively academic capacity on campuses in the South. This support proceeds too in tandem with the goals of bilateral aid aimed at improving the education standards and enabling trained individuals to rise above the poverty threshold in many countries.

The manner in which the VLIR-IUC Partnership Programme has evolved since the end of the 1990s, in giving the Southern university independent budgetary control and a certain flexibility (subject to ratification by the VLIR-UOS Secretariat in programming planned events), satisfies many of the requirements of the Paris Declaration. These attributes help promote ownership, funding alignments and donor-donor harmonization. Under the extraordinarily difficult financial conditions experienced post-2000, the fact that the UZ-VLIR achieved many of its objectives at all is a testament to this flexible and adaptive approach. The two-year preparatory stage allows sufficient time for decisions and collaborative plans to be laid out in detail so that a meaningful relationship between the North and South university institutions can develop. The two-phase 5-year + 5-year periods of academic collaboration (subject to satisfactory completion of Phase I) allow also for the development of a meaningful interaction between project teams based in the South and the North, provided the project programmes for Phase II are not too ambitious and can be supported adequately by the scaled down funding timetable operational in Phase II. Even if collaborations falter by the end of Phase I, there appears to be a sense of commitment created by the interwoven structure of the projects and coordination mechanisms so that there is likely to be an appropriate exit strategy for VLIR and the partnered university. All of these characteristics of the VLIR-UOS model (and the fact that it lasts for 17 years in total) provide the best chances that truly sustainable outputs will be produced in some of the projects in any given Partnership. As previously stated, lessons learned on the VLIR-IUC initiatives running during its formative stages (1997-2002) have helped (through a lessons learned approach) to build more satisfactory and productive IUC Programmes between Flemish university teams and other universities based in the developing world.

There are many challenges with programmes like the VLIR-IUC for both the senior management of a recipient institution and the VLIR-UOS Secretariat in monitoring the many academic activities within a Programme over such a protracted cycle of 17 years. For senior management on the university campuses, preventing divisions between departments and research teams is a real challenge. For instance, departments which are included in a long term cooperation where the opportunities are many for strengthening a discipline through scholarships and equipment purchases can be viewed, it might be expected, resentfully (or enviously) by neighbouring groups who may feel excluded rather than involved in a team (i.e. the campus community) benefiting from a valuable initiative. The provision of essential ICT core services helps to reduce this possible feeling of exclusion. The NORAD support to UZ has generally been distributed over the whole UZ campus and is therefore perhaps more akin to 'budget' rather than 'project' support. By contrast, VLIR supports project-specific activities that are strongly result-orientated and which, to a certain degree, could be selected to match the Flemish universities' own strengths and interests, instead of perhaps focussing on the immediate needs of the collaborating institution. In considering UZ-IUC, this was certainly not the case as the hardware contribution to the cross-campus ICT activities was substantial and has been much appreciated by UZ senior management and staff in departments other than the ones directly involved with the Partnership. There was therefore cer-

tainly no evidence of an 'imposed' form of North-South university collaboration in the case of the UZ-IUC Programme.

UZ senior management confirmed that overall the VLIR programme has been demand-driven and responsive to the needs of the University (through its similarity and parallel development alongside the university's own strategic plans. The executive of UZ backed the original selection of the three projects and UZ have found it particular useful in having a dedicated coordinator from the Flemish stakeholders who has been able to spend a considerable amount of time and effort in following up the programme at UZ through frequent visits to Harare. The close contact and interaction between the Northern and Southern stakeholders in the overall coordination and running of the programme has, according to the executive, been a vital component in its success. The UZ-IUC Programme and the individual projects within it have experienced a high degree of managerial leeway in running the programme. UZ has

interpreted such flexibility in management (accompanied by empathetic understanding of the local difficulties which emerged as the Programme proceeded) a most positive characteristic of the IUC support matrix, as compared to other international donor programmes of a similar institutional building type.

Assessment of Programme Management

General Comment

The University of Zimbabwe has operated under unique, and incredibly difficult, socio-economic circumstances for most of Phase II of the VLIR-IUC Programme. These had particular consequences for the Programme:

Under these circumstances, it is almost surprising that anything could have been achieved during the latter years of the Programme, yet significant gains were achieved during this time. It is clear though that applying normal criteria to evaluation of these achievements is extremely difficult, if not untenable, as the circumstances in which the project operated were so unusual. Consequently, a major challenge for the evaluation team has been to try to separate (a) implementation problems that arose as a direct or indirect consequence of Zimbabwe's broader political and socio-economic problems, and that might therefore not yield useful lessons for future projects implemented under more stable circumstances from (b) implementation problems that would likely have arisen under more normal and stable operational circumstances.

It was noted with some concern during the mid-term evaluation and in the current final evaluation that the Programme Coordinator was also a Project Leader of the largest project within the Programme. Clearly, this meant that a significant workload was placed on the shoulders of one individual, a problem that no doubt worsened as staffing problems on campus increased. This also generated some perceptions of conflict of interests, although there is no substantive evidence that such conflicts of interest ever actually led to improper behaviour on the part of any staff member directly involved in the Partnership activities. The recommendations of the mid-term evaluation were only partially implemented with the addition of an Assistant Programme Manager, as this person in Phase II did not take on the full set of responsibilities proposed by the mid-term evaluation. Duties expected of the incoming Assistant Manager, whose salary

would be funded partly from VLIR and partly from the NUFU programme on UZ campus, were to:

* Act as the main liaison between the project coordinators and the Bursar's department
* Verify the requisition forms after they have been signed by the coordinators
* Prepare monthly financial statements in collaboration with the Bursary
* Prepare annual financial statement
* Facilitate claiming of sales tax from Government as per the project proposal
* Assist in clearing of goods through customs
* Assist in sourcing quotations
* Service project meetings as required
* Perform any other 'relevant' duties as assigned by the coordinators.

These duties were very much akin to the role of an 'assistant' rather than an 'assistant manager' with the incumbent clearly having no executive powers as such.

Upon reflection, the EC is unclear whether or not this latter issue constituted a problem, given that the Programme managed to function reasonably effectively under very difficult circumstances. However, we believe that some design modifications would have helped to reduce workload of the Programme Coordinator to the benefit of the project:

* Establishment of a separate Computer Science Project, with its own project leader;
* Reduction in the results and activities of the remaining ICT projects, particularly by significantly scaling back expected achievements in deployment of the LMS;
* Reversal of the approval procedure so that the Assistant Programme Manager did much more work to ensure compliance of administrative paperwork before (rather than after) financial requests were submitted to the Programme Coordinator.

It appears that the installation of the Assistant Programme Manager created the false perception that the bursar's office was not capable of undertaking necessary financial quality control procedures, and this impression created tensions apparently between the Bursar's Office and the UZ-IUC Programme Office. This antagonism could well have led to, and increased the potential of, delays in approval of expenditure. Whether or not these tensions were real or perceived, the situation nevertheless suggested that installation of Programme processes should, to the greatest extent possible, seek to shore up capacity of institutional structures rather than to the creation of parallel structures. With the benefit of hindsight, one possible alternative may have been to use the Programme's overhead budgets to support the salary of someone inside the bursar's office to ensure financial compliance, rather than creating two duplicate processes of financial control.

Because of the frequency of visits to UZ by the Flemish coordinator mentioned above, it was asserted by him and other Flanders partners (self assessment reports), that the 'monitoring and critical review of the programme could be thoroughly done'. As to whether this could in fact be achieved by individuals close to the scientific and academic activities of the UZ-IUC Programme is a matter of conjecture. In relation to monitoring and evaluation of VLIR programmes in general, a specific recommendation is made in Section 8. It has to be stressed that the frequent visits made by the Flanders coordinator permitted the close monitoring of the deteriorating local situation, which in turn led

to several personal interventions on his part for the benefit of the local staff, and hence of the Programme itself. It was concluded therefore that the absence of a programme manager on UZ campus was partly substituted for by the regular monitoring which could be provided by the Flemish coordinator.

It was noted that there were regular annual Local Steering Committee Meetings in the North as well as appropriate Joint Steering Committee Meetings, which were all organized in Zimbabwe, except for the last one in 2007. This was held in Leuven because it was considered that the local situation in Harare would not permit an efficient meeting. During these meetings the activities of the current year were compared with the annual activity plans for each project and a future outlook agreed upon that took account of the original activity plan.

The EC noted on several occasions during its encounter with members of the Partnership, the strong sense of team spirit which appears to have prevailed throughout the ten years of the UZ-IUC Programme. Many strong personal ties have also developed as a result which augers well for the ideological sustainability of existing linkages well into the future. The EC wishes also to recognize the general notable devotion to the Partnership on the part of all stakeholders, but particularly on the part of the UZ-IUC Flemish coordinator, Professor Odeurs and the local UZ-IUC coordinator, Dr Gilford Hapanyengwi, for working extremely hard to make the Partnership work under trying and difficult circumstances.

4 Budgetary Issues

The mid-term evaluation reported that a major weakness in the VLIR-IUC Programme is the impossibility of transferring unspent money from one year to another. It was considered by the Mid-term evaluators that this may be an inefficient way of managing the IUC programmes. It had already been strongly recommended by the Mid-term evaluators that the Belgian government reconsider their allocation policy with regard to the VLIR-IUC programme to make it possible to transfer between say 10 or 15% of the allocation from one year to another. The EC for the final evaluation is also inclined to support this recommendation (see under its recommendations listed in Section 8). The mid term report also stated that the financial management of the programme at the University of Zimbabwe left something to be desired and with this in mind it also stressed the point that 'a plan should be worked out to ensure the availability of sufficient VLIR-funds towards the end of the second phase (for upgrading of equipment), rather than having the larger budgets in the first years (as intended by the system of declining funds from 2003 to 2007)'.[28]

Overall Expenditure

Although Programme expenditure was claimed by the self assessment reports to have 'always been according to the overall budget', the EC noted that total expenditure incurred by the Programme for years 2001 and 2002 (the two last years of Phase I and the subject of scrutiny by the midterm evaluators) was over-budget by approximately 4 and 3%, respectively (Annex 18). The mid-term evaluation also pointed out that there was, over the whole five year Phase I period (1998 – 2002), an over-expenditure of around 10% total budgets. Thereafter in Phase II, expenditure was under greater control and it followed the usual recommended budgetary limits according to a planned scaling down of VLIR-IUC financial support during years 7, 8, 9 and 10 (the actual amounts of expenditure being €744,419; €634,789; €559,953 and €333,372, ie. 100, 85, 75 and 45% original budget of a maximum of €745,000 per annum, respectively). That this degree of budgetary control was able to be maintained, despite all of the challenges posed by hyper-inflation, is a testament to the hard work of all of the coordinators and administrative support staff at UZ and KU Leuven. Except for the last year (year 10), a large part of the annual budgets had to be spent during the last two months of each financial year. This situation occurred notwithstanding warnings by the Flemish coordinator on a perennial basis. This often placed a great deal of inordinate pressure and burden on the Flemish coordinator and his team when faced with an approaching deadline for appropriate expenditure within any one particular financial year.

Shifts between Budget Lines and Projects

The EC observed that there had been on occasion shifts between budget lines and

28 Murphy, C. & Claes, P. 2002. Midterm evaluation of the Institutional University Co-operation with the University of Zimbabwe: Final Report from the External Evaluation Commission. Unpublished report. pp. 45-46.

projects, in some cases by as much as over 200%. A great part of this was due to the fact that the up to the minute financial monitoring of the project funds in Zimbabwe was never possible because of the extraordinary hyper-inflationary conditions. This was a problem which had occurred from the very beginning of Phase I in 1998 and that never could apparently be solved in a completely satisfactory way throughout the remainder of the Programme. In recent years, an even more serious problem occurred when the difference between the 'official' exchange rate and the 'parallel' rate, on which all local expenses were based, fluctuated wildly. All transfers were initially done at the official exchange rate until the situation got so drastic that the UZ-IUC Programme would have had to be stopped because it would not be able to finance itself and be viable anymore. At that juncture, the so-called 'UNESCO exchange rate' was negotiated between the university and the Zimbabwean Government Authorities, which was a large improvement, even though the exchange rates were still to some degree lower than the actual 'international' ones. It meant also that it was impossible to have precise figures of current expenditures because the Z$ was being devalued on a weekly basis.

Expenditure in the North versus the South

Because of the situation over the rapidly fluctuating Z$, it was decided in early Phase II by the KU Leuven coordination unit, in collaboration with the UZ partners, that most of the purchases for the Programme would be done forthwith in the North since costs would have been prohibitively high if done in Zimbabwe. In general, the programme requirements were planned according to the available resources, at least for the purchases done in the North. Just before the application of the UNESCO exchange rate, the budget available in Zimbabwe was insufficient because of the depressed exchange rates. The UZ institutional budget was mostly an unknown variable and, according to the Flemish Coordinator, the partner programme did not take sufficiently this factor into account (see below). To reduce the threat to the Partnership Programme and its schedules, the senior management of UZ, with the Vice-Chancellor as its main advocate, always set the university's funds aside to cover some of the recurrent costs of ICT operations. This meant that the provision of staff in the ICT domain proved not to be a problem throughout the duration of the Partnership, contrary to the situation with provisions for academic staff based in other departments. This underlined the importance being attached to the UZ-IUC initiative in trying to build an effective ICT facility on campus as stressed in the university's own Strategic Plans (Annexes 16 and 17). It was the opinion of the local UZ-IUC coordinator that the VLIR-IUC funds allocated to each of the South and North partners have always been used in a satisfactory manner, except for the period when there was an impression that VLIR funds 'evaporated' but this could be attributable to the special hyperinflation conditions prevailing in Zimbabwe at that juncture. There was never an obvious alignment of VLIR budgets with the institutional budget of UZ, except that the VC always promised the Flemish coordinator to set special funds aside for ICT in which the UZ-IUC programme invested so much. On most occasions this promise was honoured, with one serious exception that had nothing to do directly with financial management per se, ie. the increase of the UZ campus bandwidth issue which has been a discussion point for many years. The VC at UZ had promised to look into the problem to remedy it, but so far without success. Given the situation in the country, there were only a few external sources of funding available to UZ. As it has turned out, the UZ-IUC Partnership Programme has been by far the largest external donor to UZ during the period 2002 to 2007. Regrettably during this same period, the limited funds which UZ had at its disposal could not even cover the

payment of reasonable salary rates to its academic and technical staff. This factor alone has probably been one of most significant reasons why several of the projects and sub-projects in Phase II fell short of their intended performances.

Assessment of strengths and weaknesses of the status of financial management taking into account the issues mentioned above

The precise planning of expenditures was a problem at times because too many expenses occurred at the very end of each budget year. The Overall UZ-IUC coordinator tried to remedy this situation, but with limited success. The adherence to the allocated budgets was a problem because of the relatively imprecise information on the local financial situation and the wildly fluctuating Zimbabwean dollar.

It was of the opinion of the Flemish Coordinator that during Phase I and Phase II of the Programme, planning and budgeting procedures did not create serious problems, except for the financial planning of the expenditures spread over the complete budget year. During Phase II, the possibility to budget carefully was heavily compromised due to the ever-increasing devaluation of the Z$ and the fact that the transfer of money to Zimbabwe occurred at the official exchange rate, whereas the local invoices took into account the 'real' value of the Z$, which was much less and at times wildly fluctuating.

It is heartening to the EC that the self-assessment reports indicated that the quality of consultation between the Flemish team and the UZ in cases of deviation and/or rejected expenses by either the Flemish university, VLIR-IUC, or the Belgian DGDC was never in question throughout the ten-year university partnership. Apparently there had been a clarity and transparency in the programme level procedures which was appreciated by both the South and North partners. Towards the end of the ten-year partnership, it was acknowledged that there was a better understanding of keeping to budget lines than at the beginning of the Programme. It could be stated, therefore, that partnerships of the kind supported by VLIR-UOS take time to mature and develop into what, in the case of the UZ-IUC partnership, has and continues to be a long lasting fruitful association under difficult academic circumstances.

Flexibility and pragmatism when it came to financial matters were certainly very strong cohesive points about the UZ-IUC Partnership. Without these characteristics, it is quite likely that the UZ-IUC Programme would not have survived the extraordinary upheaval of an extraordinary economic period, particularly during the last three years (2005 – 2007). It was also pleasing for the EC to note that in the opinion of the Northern stakeholders VLIR-UOS Secretariat staff always had a benevolent attitude toward the difficult local financial operating situations in Zimbabwe. Understanding of local conditions was therefore much appreciated and emphasized by counterparts at UZ.

5 Overall Programme Assessment

A total of €6.54 million was provided by VLIR-UOS for the institutional development of UZ between 1998 and 2007 (Annex 18). Of this total amount, approximately three quarters was provided as investments in hardware to UZ. The spending on so-called administrative costs over the 10 year period (Phases I and II) of between only <1 – 5% total budget is impressive from an economic point of view when compared to many other internationally funded institutional building programmes in which administrative overheads might run anything from 5-10% as reasonable and in Sub Saharan Africa countries may reach in some cases well over 20%. The UZ-IUC Partnership Programme has therefore been rather efficient in performing the task of institutional capacity building in which the combined operational and administration costs have been restricted to the 5-10% total budget range. The majority of funds has therefore been deployed into the areas most needed (hardware and software infrastructure) and has also led to a meaningful upgrading of training among staff not only within the university itself, but also in the country and in the SADC region as a whole. Importantly, the main thrust of the funds has therefore not been absorbed into largely recurrent costs in the domains of operating and administrative costs.

The UZ-IUC programme has therefore made a real contribution towards university institutional development at UZ, with support to three M.Sc. programmes significant to the country and the SADC region, with eight staff members enrolled in Ph.D. programmes using project funds that were especially earmarked for scholarships (see however previous remarks). It has provided an important physical infrastructure, especially in ICT, in which many staff members have been trained and from which others on and off UZ campus are now enjoying direct benefit. Other Ph.D. programmes are also underway where the bulk of the funds come from other sources. The programme, however, contributed directly (in many cases) or indirectly (in a few instances) to these Ph.D.s (see project assessment reports). The long-term evolution of the UZ campus, however, is still strongly compromised despite the 10-year VLIR-IUC support. This is due to circumstances which were often beyond the control and influence of academic staff and senior university management.

Although individual projects of the UZ-IUC fell short of their targets in significant ways, it is clear that, given the difficult socio-economic circumstances in which the project operated, the work completed by the projects represents a significant achievement. The academics – both from UZ and the Flemish universities – which persevered with the projects and contributed to the successes that were recorded, deserve commendation of the highest order for what they managed to achieve, particularly after the time when the formal economy in Zimbabwe effectively came to a standstill. The residue of academic competence that has been able to be retained in participating Departments appears largely to be a direct function of the investments made by VLIR. This resi-

due will provide an essential platform for reconstruction now that a Government of National Unity has been installed and there appear to be prospects for stabilization of the political situation and rebuilding of the economy.

In those areas of the UZ-IUC Partnership which did not achieve their originally proposed objectives, a combination of reasons can be identified for such events. The core of this evaluation report records the successes and short-falls and in some cases identifies likely reasons why these occurred.

The EC regrets to report that there are notable deficiencies in the planning of future activities to ensure the sustainability of existing academic activities that have been supported by VLIR-IUC Partnership Programme. Some mention is made of proposals to hold an in-country seminar on the topic of sustainability of the three M.Sc. Programmes Computer Science, Agricultural Meteorology and Aquatic Ecology (with a possibility that one or two might be merged and consolidated), regional networking and interdisciplinary activities, the development of a digital repository (database) to capture all of the UZ-IUC Programme results that have been produced in respect of field trips, theses, scientific experiences and methodologies as well as the participation of UZ staff in African conferences on e-learning at the university level. However, these are still rather superficial ideas and proposals that are only just being started to be discussed among the stakeholders of the UZ-IUC Programme. These aspects should really have been started during the first or second year of Phase II so as to have developed a firmed up strategy for sustainability after the Programme came to an end in March 2008.

6 Conclusions and Recommendations

The financial support provided over the last ten years by VLIR-UOS to the tune of €6.54 million for the development of institutional capacity at UZ was most gratefully acknowledged by all stakeholders of the UZ-IUC Partnership Programme interviewed during the EC's mission to Harare. It was also recognized that the academic and moral support of the individual staff members of Flemish universities, as well as the personal and dedicated contributions of the coordinators and project/sub-project leaders based at UZ during the UZ-IUC Partnership Programme, are much appreciated by all stakeholders, including notably members of the senior university management team interviewed by the EC (Annex 1).

The Flemish and UZ partners acknowledged also the substantial role that the UZ-IUC Programme has played in enabling the participating projects to continue to perform in the face of adversity by creating a regular supply of qualified postgraduates who could be recruited onto the staff of UZ and other national universities.

Although many specialist researchers and professional scientists trained to the M.Sc., D.Phil. and Ph.D. levels under the UZ-IUC Programme have left Zimbabwe, they have nevertheless been retained largely within the SADC region (particularly South Africa and Botswana). This means that the UZ-IUC Programme can be viewed as having made a most positive contribution to the academic resources of the SADC hinterland. Zimbabwean scientists and technicians are more than likely going to return to their home country once a satisfactory and a mutually agreeable process of reconstruction is formulated in the coming months/years. In effect, therefore, the 'loss' of so many qualified academic staff (brain drain) trained under the Programme from UZ should not necessarily be viewed as having been a failure for the university when viewed in the medium- or long-term. It must be said though that in the short term, inability of UZ to retain staff severely affected UZ-IUC Programme performance and obviously the eventual levels of impact that the Programme could deliver at both the institutional and community levels.

The service to community aspect of the UZ-IUC Programme has been substantial. The Close the Gap Initiative donated hundreds of second-hand computers to two local schools in the Harare District close by the UZ campus. The Campus Wide Computer Network experience is not only being used to establish similar networks at other universities but also at other HE institutions in Zimbabwe and the SADC region. Staff of the Computer Centre involved in the Campus Wide Computer Network has been solicited for consultancy work in both the public and private sector, as has staff on the other two projects Agricultural Meteorology and Aquatic Ecology. In this respect, one objective of the UZ Second Strategic Plan has been partially realized – that the university lose its 'ivory tower' image and create conduits for involvement of its staff

in addressing problems and challenges which face society. Two projects were initiated in the region (with primary schools and hospitals), through the ICT project. The Agricultural Meteorology programme has been organizing workshops for the training of technicians in Agricultural Meteorology for the local agricultural industry in the citrus, sugar cane and ornamental crop sectors (see project report). The Aquatic Ecology project has provided also consultancy services to several public authorities and industry on matters related to water quality and sustainability of water bodies as future sources of clean drinking water (see project report).

In conclusion, the University of Zimbabwe would appear to have been fortunate to have had the Catholic University of Leuven as a partner. The guidance which was provided by this Northern partner university through the UZ-IUC Coordinator, as well as its International Office, proved to have been very crucial for the proper execution and coordination of the Programme. Discussion with members of the other Southern VLIR-IUC Programmes in SADC has confirmed that this indeed has been the case with nearly all of the completed and ongoing partnerships with universities in the Region. This indicates the continuing commitment of staff of Flemish universities to the IUC Programme as a whole, despite the urgent need for VLIR-UOS and other agencies to address the issue of increasing incentives to academics in Flanders to allow them to commit themselves to participation in long term academic initiatives of the IUC Partnership Programme type (see also Recommendations).

There are some fundamental issues of concern for the individual projects and the benefit of lessons learned which relate to the following.

Project Design

A significant problem for the EC when evaluating the success of the various projects has been sorting through the original designs of projects. Project logical frameworks were not always included in the project design documents provided to the evaluators, and so had to be sourced separately. In some instances, there were significant variations between the logical frameworks provided and the objectives and activities given in project design reports. Most importantly, though, there is often not sufficiently strict correlation between the intermediate results and the project activities. For example, in the Infrastructure Project, there is an activity called 'to conduct regional workshops', but there is no corresponding target or OVI for this specific activity. A general principle of project design is that activities should be organized according to anticipated results, but this has not been systematically done in the design of many of the UZ-IUC Phase II projects. This both complicates evaluation and has potentially negative consequences for ensuring proper implementation of projects.

Project Reporting

Reporting on individual projects within the Programme has been undertaken predominantly through annual reports, which have included minutes of Local and Joint Steering Committee meetings. The frequency of these reports is appropriate, but many of the projects become overly encumbered by a requirement to submit too many reports.

The present formats of these reports make it difficult for the EC to undertake even simple (cursory) comparative reviews of progress between and within the UZ-IUC projects over time. In particular, the following problems are noted from a constructive viewpoint:

* Integration of the reports on individual projects sometimes makes it difficult to find specific data on those projects, as the reports switch between projects during the narrative rather than focusing on providing systematic analyses of each project and progress towards the results and indicators defined.

* Too much emphasis is placed on reviewing progress in implementing activities and not enough on assessing the extent to which activity progress is leading to achievement of the results and indicators. It would seem more logical to have annual reports organized more explicitly around the intermediate results and objectively verifiable indicators of the projects.

* It was particularly difficult for the EC to track the extent to which any joint decisions were taken to modify the results and indicators of the projects in response to challenges faced with implementation, and how this affected budgets. For example, references are made in joint steering committee meeting minutes to modifications to budgets, but the annual reports do not reflect clearly how these joint decisions affected the budget items.

Project Performance

Evaluation of a VLIR-IUC Programme is most usefully done by analysing performance at the project level. Detailed analyses of the projects have therefore been presented separately in this report under Section 5 and presented in full tabular format under the Achievements of respective projects and sub-projects in Annexes 6, 7, 8, 11 and 14.

* All projects have struggled to produce Ph.D. graduates according to the initially agreed timetables. This is not surprising given the difficult circumstances under which these students were required to work, and the increasing work responsibilities they were often accorded due to departure of staff colleagues. From this perspective, it would be sad to see the investments in their academic careers lost, and it is therefore recommended that Ph.D. scholarship grants be extended at least until February, 2010 to give scholars time to complete their studies satisfactorily.

* Verification of project results (particularly for assessing academic quality) has been hard to achieve, as very little access has been supplied to the EC to the actual products (outputs) of a given project (research papers, curriculum documents, statistical reports, workshop reports, and so on). This problem might easily be resolved in the future by ensuring that such products are included as soft format annexes to annual reports (and not merely as listings in the Excel databases).

* c) It would be very helpful to evaluators if all projects, as part of their self-assessment reports, generated SWOT analyses of their activity areas (as in fact instructed to do so by the VLIR-UOS Secretariat), so as to define status before and after

activities are undertaken. NB. As far as the EC is aware only one SWOT analysis was produced by a project for the current evaluation.

* The requirements for production of such materials and analyses need to be notified to the Partnership project leaders by the VLIR-UOS Secretariat in good time (say at least one month before the actual evaluation commission carries out its review).

The following recommendations are made by the EC and targeted at three levels: firstly at the project and sub-project levels; secondly, at the overall Programme level and thirdly, at the VLIR-UOS Secretariat level.

Project Level Recommendations

At the project level, efforts to build learning media systems (LMS) for the two M.Sc. Programmes Aquatic Ecology and Agricultural Meteorology as was planned in Phase II should be initiated as soon as possible before any inertia and momentum created by the UZ-IUC Partnership becomes diluted out over time. This activity should provide the university with two good examples of the application of LMS to M.Sc. training and it will also likely lever further updating and academic improvement to these two M.Sc. courses in Agricultural Meteorology and Aquatic Ecology, which over recent years have undoubtedly weakened and suffered as a result of staff leaving both the university and the country.

Programme Level Recommendations

At the programme level, one possibility should be urgently considered: mechanisms should be found to enable the current UZ Ph.D. scholarships to be extended from end-September 2009 to the end-March 2010. The possibility that unspent funds within the Phase II 2003 – 2007 Programme earmarked for UZ Ph.D. students who started their programmes relatively late under the UZ-IUC Programme could be retained for a longer time. In most cases, these scholars, due to the prevailing difficult circumstances on campus, have not been in a position to submit their theses for examination. The application for extending the availability of the existing scholarship funds would have to be made by the UZ-VLIR Programme specifically by the UZ senior management team with the unreserved support of the Flemish counterparts.

At the project and sub-project level, potential Ph.D. scholars who are to participate in degrees at the Flemish universities should be screened more thoroughly beforehand by both partners in order to minimize the dropout risks. This could easily take place on the occasion of a Joint Steering Committee. In order to achieve this, they should also be followed closely during their first year of the Ph.D. programme by a supervising committee, including the Flemish coordinator and the thesis supervisor. After the first year, a reporting and result presentation should be organized (preferably at each JSCM) and the supervising committee along with the coordination team then take a joint decision as to whether or not the Ph.D. scholar in question would continue to receive support. The chances of success of each Ph.D. would then be more objectively assessed.

It is recommended that scholarship funding structures should be reviewed so that amounts paid to UZ for scholarships reflect the full costs to each academic department (cost centre) of running M.Sc. and Ph.D. programmes, rather than simply using the official university fee structure as a basis for calculating this. This is because university fee structures in most cases massively understate the costs of hosting a postgraduate research student (because fees are based on a more complicated internal funding formula that does not take into account direct costs), with the result that growth in postgraduate programmes can further burden already overloaded academic staff. If the full cost of implementing such programmes was accurately calculated during project design and then paid to UZ (with a proviso that the funds be ring-fenced for use by the relevant department), this would go a long way towards building academic capacity and retaining high quality staff (by providing funds either to provide additional financial incentives or to recruit in junior staff to take on other teaching/administrative responsibilities of those academics).

VLIR-UOS Secretariat Level Recommendations

At the VLIR-UOS Secretariat level, several recommendations can be made following the findings of the final evaluation. These are as follows:

Changes to Evaluation Structures for VLIR-IUC Programmes

It is regrettable that the final evaluation of the UZ-IUC Programme entailed limited and only a partial review of actual hardcopy of project output documentation (ie for the purposes of OVI verification) and only one brief opportunity to engage both UZ and Flemish partners at a debriefing session on 23 March, 2009 in Harare. Above all, its scope has been constrained by its post hoc nature. From this perspective, it might prove more beneficial in future IUC Partnership Programmes to engage the services of an evaluator(s) at commencement of the first or second phase of the Programme whose function would be to monitor and evaluate relative progress as it actually happens so that programme management decisions could be more informed. This would achieve various objectives:

* It would allow evaluators to complete a meaningful baseline of Phase II of the Programme, so that results can be benchmarked against an initial situation. This is very difficult to achieve simply by consulting post hoc documentation.

* It would provide an opportunity for the evaluators to review the initial project designs, and provide initial feedback. Such input could constitute a useful, objective (peer review) mechanism for avoiding overly ambitious project designs or for identifying potential concerns in proposed Results and Activities.

* It would allow more regular interaction between the evaluators and project teams (say, including annual or bi-annual visits) to provide formative evaluative input with a view to positively influencing Programme implementation.

* It would preclude evaluators from having to ask many questions of information and, in some cases, having to rely on human memory of up to five years to remember the circumstances under which certain events took place.

* Sustained engagement of an evaluator across an entire Phase of the Programme could, therefore, have significant positive benefits, both to VLIR and to the Programme.

Changes to Budget Structures

More attention should be given in future VLIR-IUC Programmes to the following financial issues:

* Replacing the per diem facility with a process of reimbursing travel expenses, in an effort to reduce exploitation of per diems as an alternative source of income. Should professional managers be appointed, as is the case of many of the more recent VLIR-IUC Partnerships, then a system of advances and reimbursement of receipts against the advance instead of per diems should be easily manageable.

* Ensuring that research costs for Ph.D. programmes cover full costs of research activities in Zimbabwe, not just the travel and subsistence costs. Several of the Ph.D. scholars interviewed stated that there were often substantial expenses involved in carrying out their individual field work during the holiday periods and weekends (times when they were more likely to be available to do their research away from regular academic teaching activities). Some consideration should therefore be given to in-country research expenses where these could be justified.

Modifications to VLIR-IUC Reporting Procedures and Formats

It is recommended that future VLIR Programmes consider implementing a more standardized and concise annual reporting structure. This would improve the work of the VLIR Secretariat staff and the mid-term and final evaluation commissions if reports were written up in a standard, much simplified summary pro-forma (of no more than 2 pages) attached to which can be, where necessary, annexes containing specific information which elaborates the main OVIs. For example it might look like something as follows:

* Introduction and general narrative overview of the Programme;
* Project by project reports of progress towards intermediate results and objectively verifiable indicators (presented in tabular format), as well as a summary of problems and challenges experienced in the previous reporting period;
* Revised activity schedules for each project (with deadlines and responsibilities included);
* A budget variance report, presenting the original budget, expenditure to date, and proposed variance for budgetary expenditure for the remainder of the project).

As indicated above, a series of relevant annexes presenting project results, statistical reports, Joint Steering Committee meeting minutes, and any other relevant source documentation could be attached, preferably in softcopy (scans in jpeg or pdf formats).

It is recommended that IUC Programme reporting procedures, particularly those used by project and sub-project coordinators, be improved and shortened. One immediate improvement would be to get coordinators to complete the existing Excel datasheets with entries in strict chronological order and in distinct groupings of the various types of output. NB. This should also include the gender of all recipients of training and

scholarships under the VLIR-IUC Programme. Although excel tabular formats were used in the current UZ to list inventories they were not effective at listing publications in chronological order or classification of output. It would save evaluators a great deal of time if outputs were listed in groupings ie. refereed papers in international scientific journals, refereed papers in national journals, technical literature, popular articles, training manuals, technical manuals etc., instead of these being mixed all together in a single table.

Possibilities to Improve Sustainability of VLIR-IUC Programmes

Visits from all Flemish counterparts to the South should be made more frequently than they have been on the UZ-IUC Partnership Programme to ensure a truly balanced exchange of study and teaching experiences. However, there is much uncertainty as to how this can be realized due to the increasing conflicts of professional interest and high existing workloads of the Flemish academics. As long as university cooperation/collaboration activities are regarded by senior management teams of Flemish universities as relatively minor academic activities (in staff promotion considerations, for instance), the strength of the incentive for Flemish academics to become involved in long term university collaboration programmes like VLIR-IUC, particularly where transverse technology or methodology transferences are concerned, will weaken and may become an ever increasingly delicate issue.

VLIR-IUC should consider developing new mechanisms whereby its Partnerships with some developing countries can avoid the tendency to invariably result in one-sided partnerships, that amount to a form of 'aid' rather than a really well-balanced academic collaboration. This could well be one of the reasons why the Aquatic Ecology project in the UZ-IUC Programme produced most of its predicted outputs and other sub-projects did not since the former was firmly based upon strong mutual scientific and academic interests on the parts of both the South and North partners in the specific collaborative activities it undertook.

VLIR-UOS should seriously consider establishing some form of mentorship scheme for staff members based at the 'graduating' Southern counterpart universities. Support could be provided via email correspondence in most cases and supported by occasional workshops and mini-symposia. In the circumstances currently being experienced by younger member of academic staff at UZ (such as increasing teaching loads due to the departure of many more senior colleagues accompanied by relative inexperience in independent scientific research), mentorship from staff at Flemish universities or those based at other universities in SADC countries, particularly South Africa) would go a long way to sustaining confidence in the academic development of younger members of UZ staff who have benefited from training under the UZ-IUC Programme.

For those universities 'graduating' from VLIR-IUC Programmes within a region, it might also be time to support a Southern Africa dialogue on how best to form meaningful and more local inter-institutional academic development programmes as the next stage in building upon the strong elements of fully fledged VLIR-IUC Partnerships, such as the one at UZ. This would be in addition to the existing RIP, NSS and other VLIR sustainability initiatives. The VLIR Secretariat could take a leading role in providing a networking platform (perhaps the VLIR-Bridge Initiative?) for interactions

between VLIR-IUC recipients to progress into a sustainable networking stage. Support could be initially be given at the level of a series of workshops to take place with clearly defined objectives to bring together key players (policy makers, senior university managers, researchers and teachers, ie potential stakeholders) who could then highlight and focus their efforts on complimentary academic areas of mutual benefit/interest. The outputs of such networking activity might then produce proposals that could be submitted to ongoing funded initiatives such as RUFORUM, ACP-ST, EDULINK and others. The establishment of well-founded LMS systems operating on, and even between, the partner campuses based in different countries could be one practical example of an inter-campus teaching platform. Advantages of such platforms will be to concentrate the best academic teaching resources available within a region into single consolidated courses being taught concomitantly at several universities. The 'Bridge' initiative could also take the form of consortia of researchers and teachers based on at least three campuses who could put forward a South-South-North university collaborative programme that will not only support mutually interesting research and teaching (especially in-service and possibly distance learning training), but could also act as a conduit through which new generations of updated and well-designed undergraduate and postgraduate courses could be developed in emerging thematic areas like global climate change, entrepreneurial land-based industries, indigenous knowledge and food security. This would make many SADC universities more competitive at attracting the best students, from not only within, but also from outside the region.

ANNEXES

Annex 1. Interviews held during the UZ-IUC final evaluation missions to Brussels and Harare on 15 – 16 December, 2008 and 18 – 26 March, 2009

Date/Time	Affiliation	Persons interviewed	Email contact details
15 December 2008	VLIR-UOS ICT Team at AVNet, KU Leuven	VLIR-UOS Secretariat Staff Prof. W. Van Petegem, Prof. R. Florizoone, Jan Du Caju, Dr Gilford Hapanyengwi (visiting)	christophe.goosens@vliruos.be info@avnet.KU Leuveneuven.be
16 December 2008	KU Leuven, Univ.Hasselt, KU Leuven	Prof. F. Ollevier, Prof. G. Janssens, Prof. J. Odeurs (Flemish University Coodinator)	aquabio@bio.KU Leuveneuven.ac.be gerrit.janssens@uhasselt.be jos.odeurs@fys.KU Leuveneuven.ac.be
18 March 2009	Arrival on SA 022 12.30 from J'burg	Met by Maxwell Barson and taken to Pandhari Lodge	
19 March 2009 09.00 – 09.30	Courtesy call on Senior Management Team	Dr W. Mujaji (PVC, Acting VC) Mrs Magosvongwe (Director of Information) Dr Maud Muchuweti (Act. Dean of Sciences) Mr Daniel Chihombori (Dir. Intern. Relations)	infor@admin.uz.ac.zw dean@science.uz.ac.zw daniel@admin.uz.ac.zw
10.00 – 12.30	Aquatic Ecology Project Team	Maxwell Barson (Coordinator) Portia Chifamba Tamuka Nhiwatiwa	barson@science.uz.ac.zw barson001@yahoo.co.uk pcchifamba@science.uz.ac.zw pcchifamba@yahoo.co.uk tnhiwatiwa@science.uz.ac.zw tnhiwatiwa@yahoo.co.uk
12.30 – 14.00	Lunch		
14.00 – 16.30	ICT Project team	Dr Gilford Hapanyengwi (UZ-VLIR Coordinator) Phillip Peters Simbarashe Bonga Benny M. Nyambo	director@compcentre.uz.ac.zw babaticha@gmail.com philpetszw@yahoo.ca ppeters@compcentre.uz.ac.zw sbonga@compcentre.uz.ac.zw samba.bonga@gmail.com nyambo@yahoo.co.uk nyambo@science.uz.ac.zw
20 March 2009 09.00 – 11.30	Agricultural Meteorology Project team	Barnabas Chipindi (Coordinator) Emmanuel Mashonjowa Teddious Mhizha	chipindi@science.uz.ac.zw emash@science.uz.ac.zw emash5@yahoo.co.uk tmhizha@science.uz.ac.zw
11.30 – 13.00	Assistant Programme Manager UZ-VLIR	Alex Gummi	
13.00 – 14.30	Lunch		
14.30 – 15.00	E-applications	Reviewing progress on e-learning platform implementation	
15.30 – 17.00	Debriefing	Dr Gilford Hapanyengwi (UZ-VLIR Coordinator)	
21 March 2009		Drafting UZ-IUC Final Evaluation Report	
22 March 2009			
09.00 – 16.00		Drafting UZ-IUC Final Evaluation Report	
16.00 – 18.00	Flanders Partners	Interviews with Flanders Project Leaders, Overall Coordinator, Flemish Project Leaders	

23 March 2009			
09.00 – 12.00	Participants of the JSCM	Presentation of preliminary findings of the EC mission	
14.00 – 17.00	Interviews	Recent M.Sc. Computer Science graduates now junior lecturers Bernard Mapako, Charles Kaondera	bemapako@gmail.com charleskaondera@gmail.com
		Drafting UZ-IUC Final Evaluation Report	
24 March 2009			
09.00 – 17.00		Drafting UZ-IUC Final Evaluation Report	
20.00		Joint Dinner for UZ and Flemish counterparts	
25 March 2009		Drafting UZ-IUC Final Evaluation Report	
26 March 2009		Departure from Harare 13.20	

Annex 2. Roles of different university academic staff from the South and the North in the UZ-IUC Partnership Programme

Southern Partners (key academic staff involved)

Name	Function/Specialization
Dr. Gilford T Hapanyengwi	Local UZ Coordinator and UZ Promoter of CWCN
Mr. Tamuka Nhiwatiwa	Local UZ Promoter – Aquatic Ecology
Mr. Maxwell Barson	Aquatic Ecology
Mr. Simbarashe Bonga	Local UZ Promoter – Infrastructure
Mr. Admire Mutsikiwa	Local UZ Promoter – E-Applications
Mr. Philip Peters	E-Applications
Mr. Ben Nyambo	Local UZ Promoter - Training in Computer Science
Mr. Barnabas Chipindu	Local UZ Promoter – Agricultural Meteorology
Mr. Emmanuel Mashonjowa	Agricultural Meteorology
Mr. T Mhizha	Agricultural Meteorology
Mr. Alex Gumi	Financial Person

Southern Partners (key academic staff involved)

Name	Function/Specialization
Professor Jos Odeurs	Partnership Programme Coordinator
Professor Raoul Lemeur	Project leader Agricultural Meteorology
Professor Frans Ollevier	Project leader Training of Fish Biologists
Professor Piet Rypens	Project leader Computer Infrastructure (Phase I)
Professor Rene Florizoone	Project leader CWCN
Professor Wim Van Petegem	Project leader E-applications
Professor Gerrit Janssens	Project leader Computer Training, University of Hasselt
Jan Du Caju	Project leader Computer Infrastructure (Phase II)
Professor Max Meixnert	University of Mainz, Max Plank Institute, Germany
Professor François De Troch	University of Ghent, Laboratory of Hydrology
Professor Dirk Raes	University of Louvain, Laboratory of Land and Water Management
Martine Dekoninck	Institutional Coordinator for University Cooperation at KU Leuven

Annex 3. VLIR-IUC Programme Evaluation Methodology

Evaluation of Programme Outputs

All project leaders were requested by VLIR to provide their own versions of the outputs of the Programme within the framework of the self-assessment reports (Format No 1) as defined against the key indicators as well as the assumptions formulated at the project design stage (objectives in the case of Phase I and logical frameworks in the case of Phase II).

The Logical Framework

The logical framework served as the basic reference document in terms of the objectives and indicators specified to assess actual progress against the objectives and results formulated.

A logical framework was not established as a planning tool at the beginning of Phase I of the UZ-IUC partnership. It was only made a requirement by VLIR in 2002 when a policy for use of programmed consolidated management was introduced as standard in all future VLIR-UOS Interuniversity programmes. Accordingly, the objectives made at the start of Phase I are used as target criteria and the logical framework formulated at the beginning of Phase II as a structure upon which the Final Evaluation can be made.

The evaluation focused on seven areas of key (programme/project) results areas (KRAs), each one specified in terms of its corresponding indicators (listed below). Where possible, both quantitative and full descriptive data were obtained and used as a basis for the evaluation:

KRA 1: Research

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 criteria where appropriate.

KRA 2: Teaching

Number of courses/training programmes developed; New of substantially updated curriculum; Textbook development; Learning packages developed (distance learning, CD-ROM etc.); Laboratory manuals; Excursion guides; other materials where appropriate.

KRA 3: Extension and outreach

Leaflets, flyers or posters for extension; Manuals or technical guides; Workshop or training modules packages; Audio visual extension materials; Consultancy / contract research; Policy advice/papers; Other materials where appropriate.

KRA 4: Management

New institutional procedures / policies; Lab or departmental management inputs;

Systems development (e-management, software etc.); Research protocols; Other outputs where appropriate

KRA 5: Human resources development

Training at various levels achieved, ie B.Sc.; M.Sc.; Ph.D.; Pre-doc; Training in Belgium; Other types of training.

KRA 6: Infrastructure Management

Physical infrastructure (incl. land); ICT-equipment; Library equipment (incl. books); Laboratory equipment; Transport

KRA 7: Resource Mobilization

Flemish travel grants; Flemish Ph.D.'s; Other Ph.D.'s; Spin-off projects; other resources developed

KRA 8: Inventory

Capital items of equipment still in regular use by the institution(s) supported under the VLIR-IUC Partnership Programme

Qualitative Evaluation Criteria

This consisted of a description of quality, effectiveness, efficiency, impact, development relevance and sustainability of each project activity and a quantitative assessment of these outputs.

1) Quality - this was the main criterion, being the result of all other criteria.
   Possible indicators of 'quality' were:
   a) quality of **research**: the extent to which the results have been incorporated in local or international refereed journals
   b) quality of **education**: the extent to which alumni easily get a job which fits their education profile; the number of fellowships acquired from foundations
   c) quality of **rendering services to society**: the extent to which the university/faculty/department is involved in feasibility studies/consultancies
   d) job opportunities created
   e) strategic vision

2) Effectiveness - the extent to which the specific objectives have been achieved (the level of the results).

3) Efficiency - the relationship between the objectives and the means used to reach the objectives. The degree to which the installed capacity (human/physical/financial resources) is used; goals/means ratios in respect of human, physical and financial resources. Possible indicators of 'efficiency' at the level of the programme: the extent of flexibility in the programme implementation, e.g. reallocation of resources during implementation.

4) Impact – not just actual but also (given time limitations) potential impact (at level of goals), looking at consultancy, policy advise and accreditation models. Possible indicators of 'impact' were:
   a) impact **at the level of the private sector:** the amount of money earned on

the market

b) impact **at policy level:** the extent to which academics, involved in the IUC programme, are called upon by the government for policy advice

c) impact **at the level of the own university or other universities:**

d) renewed curriculum functions as example for other universities/departments

e) the new style of teaching has become a model for teaching (e.g. the systematic use of teaching in combination with laboratory work)

5) Development relevance - the extent to which the programme/project addresses immediate and significant problems of the community, looking at the amount of self-finance, demand from state and private actors

6) Sustainability (especially financial and institutional sustainability) – possible indicators of institutional commitment in the South were:

a) co-funding by the partner university (matching funds)

b) incorporation of costs into the budget of the partner university

c) capacity to attract new funds

d) retention of highly qualified staff

e) the partner university sets aside funds for operations and maintenance of physical infrastructure. Each project team was asked also to produce a SWOT (strengths, weaknesses, opportunities and threats) analysis as related to their project area and to indicate, where appropriate, Future Plans whereby the project activities might be continued, developed and strengthened in the future.

6) Possible indicators of mutual interest for the South and North stakeholders were:

* did 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?
* were Flemish academics personally committed (e.g. spend their holidays working in the partner university)?
* were there joint research projects which were interesting both to the Northern and Southern academics involved?
* did the partner universities also commit their own funds to the programme (matching funds)?
* • was there a good quality follow-up plan for implementation after the 10 year period of partnership with earmarked funding?

A five-point evaluation scale as shown below was used to assess the six qualitative descriptors of performance described above:

1 = (very) poor
2 = insufficient / low
3 = sufficient
4 = good / high
5 = excellent / very high
6 + = results have been achieved but outside the scope of the Project's specific objectives

Annex 4. Interview formats – types of questions asked

A. Origins and concepts of a VLIR-IUC Programme with UZ

* Who were the key stakeholders involved in the origin and conceptualisation of the VLIR-IUC Programme? What roles did they play?
* What were the main driving approaches behind becoming involved in a VLIR-UOS Programme? Who were the main people involved?
* What is it about the Programme that made it acceptable to stakeholders?
* Did the Programme face any resistance? If yes, where did the resistance come from? What was the rationale behind the resistance that you were aware of? How did the resistance manifest itself? How was it overcome?
* Who were the key supporters of the Programme? How did they sell it to UZ stakeholders, if indeed that was necessary?
* Can you recall how the policy decision to approve the Programme was made?

B. Focus on the development and implementation of the Programme at UZ

* Please can you describe the development of the UZ-IUC Programme – why did it develop in the way it did?
* What key factors most facilitated the development of the Programme at UZ?
* What factors were particularly important in the sensitisation and training for the Programme on UZ Campus?
* What are the specific successes of the Programme?
* What specific problems have you encountered?
* What do you think are the key lessons learned in terms of:
* firstly, the successes and strengths of the VLIR-IUC Programme in general (not UZ specifically)? And secondly, the weaknesses and failings of the IUC Programme, if any?

C. Programme sustainability

* What measures are you taking as an institution to ensure sustainability of the outputs of the VLIR-IUC Programme at UZ?
* How and in what ways has the UZ-IUC Programme influenced the rest of the University?
* What might UZ do to increase the levels of sustainability of activities initiated and developed during the 10 year UZ-IUC Programme?
* What effects do you consider the UZ-IUC Programme had on teaching and learning on the UZ campus?
* What effects has it had on gender equity in the institution?

D. Do you have any other comments to make on the UZ-IUC Programme?

Annex 5. Logframe of Phase II ICT CWCN Infrastructure Project

Project Description	Objectively Verifiable Indicators	Sources of Verification	Assumptions
Overall Objective University of Zimbabwe practicing high standard academic and managerial ICT services. Through ICT at academic and institutional level, the efficiency and effectiveness of the University of Zimbabwe learning and management processes/practices has been enhanced.	* After five years University of Zimbabwe has at least 10 web sites of repute within SADC * All students and staff at the University of Zimbabwe have full access to the network and network services by the third year.	* Statistics from use of ICT in SADC * Statistics of usage by students and staff	
Specific Objectives University of Zimbabwe staff and students are enjoying reliable and high standard access to ICT services.	* A Giga bit Ethernet network is installed on the backbone with at least 100mbps network on the rest of the campus network by the fifth year. * Bandwidth to the Internet is increased by at least 50% every year for the five-year period. * After 5 years all teaching lecture theatres will have access to video conferencing	* Reports from the measured network performance * Measurement of Internet bandwidth * Network configuration records	University of Zimbabwe maintains the current level of maintenance support.
Results 1. The capacity of the backbone meets the demands of the users. 2. The backbone is sufficiently secured 3. Users enjoy an acceptable rate of connectivity and speed to the Internet 4. Reputable outreach and training programs are put in place	1. Backbone speed upgraded from 100mbps to 1Gbps by the fifth year 2. Security firewalls and security devices to all VLANs (currently 17) upgraded each year 3. All three high speed modems to the Internet upgraded to accommodate new levels of bandwidth 4.1 Two regional workshops are conducted during the five year period 4.2 Three network courses are conducted every year for the five years 4.3 An average of one extensive network is designed every year	* Reports from the Network management software * Statistics from intrusion detection software * Network configuration records * Workshop participation registers * Conducted courses statistics * Network diagrams and associated documentation	University of Zimbabwe pays monthly Internet bill

Result/OVI/Activity*	Commentary
1. The capacity of the backbone meets the demands of the users: a) A Giga bit Ethernet network is installed on the backbone with at least 100 Mbps network on the rest of the campus network by the fifth year. b) Backbone speed upgraded from 100Mbps to 1Gbps by the fifth year.	The sources of verification defined for this Result included reports from the measured network performance, measurement of Internet bandwidth, network configuration records, network management software, and statistics from usage by students and staff. None of this information could be sourced by the evaluators, making it impossible to verify by any objective standards whether or not the result was achieved. This becomes potentially problematic in certain instances. For example, the 2007 Annual Report notes that 'statistics have shown a continuing increasing use of the campus wide network' (p. 3) (an observation also repeated in previous Annual Reports – see, for example, 2006 Annual Report, p. 3), but no statistics are provided in the report itself and none were available when requested by the evaluators. Also of concern is that repeat of the identical line, and similar identical paragraphs, in multiple Annual Reports suggest a copy-and-paste approach to compiling the reports rather than updates to project descriptions occurring to reflect changes in circumstances and achievements. The 2007 Annual Report notes (p. 10) that several tasks were not implemented (for example, 'install a hot standby directory and authentication server running l dap' and 'install a hot standby for proxy and webmail'). It also lists several completed activities under this result that seem to have no specific connection to the result (for example, 'Purchase a spare server', 'centralizing of services and its manageabilities', and so on). It is unclear how these kinds of activities connect to the original project design or what, if any, financial contribution was made by the project to implementing them (although presumably the primary contribution of such activities was purchase of hardware such as additional servers and ongoing capacity-building implemented throughout the project). The Computer Centre estimates that this task is only 30% complete, although all hardware has been procured and deployed. The remaining challenge is to configure all hardware to effect the speed upgrade. Given competing priorities, it is estimated that this will be completed within one year (i.e. completed by March, 2010). The delay in this work has been caused by staffing problems, which it is hoped will now stabilize.
2. The backbone is sufficiently secured: a) Security firewalls and security devices to all VLANs (currently 17) upgraded each year.	The Computer Centre reports that upgrades to firewalls and security devices are being completed annually, but there has been no independent information supplied to verify this. These were reported to include IOS updates, firewall rules updates, software upgrades, and so on. As UZ has deployed Open Source Software (OSS) firewalls, there has been no need to pay ongoing licensing or upgrade fees to achieve this target. The 2007 Annual Report notes that some intended activities listed under this OVI were not implemented (for example, 'additional log server' and 'provide more redundancy and high availability for the crucial core network services') (p. 11).
3. Users enjoy an acceptable rate of connectivity and speed of the Internet: a) Bandwidth to the Internet is increased by at least 50% every year for the five-year period. b) All three high speed modems to the Internet upgraded to accommodate new levels of bandwidth.	During Phase II, the Computer Centre reports that upgrades to the modems were completed, but access to the Internet became a major bottleneck, progressively worsening over the five years and with significant disruptions to Internet services continuing to the present day. In the 2002 Annual report, it is noted that 'use of the [Internet] services continued at a very fast pace. There has been increased use by both students and members of staff. The University of Zimbabwe has chipped in by increasing the bandwidth of the Internet connectivity from 1Mbps to 1.5Mbps. The University had anticipated and budgeted for an increase up to 4Mbps. However, the provider could not supply the required bandwidth'. This problem persisted in the coming years. Thus, there was strong intent on the part of UZ to invest in bandwidth to achieve this target. However, as the Internet was seen as a key strategic facility by the Zimbabwean government, access was controlled and state institutions were prevented from establishing relationships with private Internet Service Providers (ISPs). Current delivery by the state ISP is now unreliable and sporadic, which has prevented sustainable achievement of this target. However, it is hoped that stabilization of the political situation will facilitate resumption of normal services. This activity provides a good example of an intermediate result which is dependent on multiple inputs. It appears that the inputs of this project comprised procurement of new hardware, provision of training to technical staff, and technical assistance with configuration from the Flemish partners, while increases in bandwidth were to be paid for by UZ. It is thus unclear why the specific result of 'Bandwidth to the Internet is increased by at least 50% every year for the five-year period' was included in this project logical framework, when it was to be funded by non-project sources of funding.

Result/OVI/Activity*	Commentary
4. Reputable outreach and training programmes are put in place: a) Three network courses are conducted every year for the five years. b) To conduct regional professional workshops	Courses have been run for professionals in industry during Phase II of the Programme, which were not just restricted to Networking courses. Delivery of such courses is noted from the 2002 Annual Report, which notes that 'the ability to offer these courses has significantly been gained from the experiences as a result of implementation of the campus wide network' (p. 1). A variety of topics was covered in courses over the life of the project. These courses attracted fees from participants, pitched in 2009 at around US$100 per participant per course, and had maximum enrolments of 20 participants per course (with average enrolments of around 16). Fees were used to pay trainers consulting fees, while the project contributed the infrastructure on which the courses were run and initial capacity building that enabled trainers to run the courses successfully. No detailed inventory was provided on what courses have been run, with the KRA spreadsheet for this sub-project noting that 'since 2003 training programmes which include Networking Essentials, Managing CISCO devices, Linux Network Services and Security have been developed and are being offered to the public'. Annual reports list courses run, but do not specify enrolments. They also include reporting on, for example, 'ICDL or Equivalent Training for students' (2007 Annual Report, p. 21), although it is unclear how these connect to the Infrastructure Project (seeming to belong more logically under the e-Applications sub-project). The following enrolment numbers were secured in training courses offered by the Computer Centre: 570 in 2006; 680 in 2006; 1,051 in 2007; 266 in 2008; and 51 to date in 2009, a total enrolment of 2,618. Mention is made of course delivery, however, as early as in the 2002 Annual Report, with the report noting that 'virtually all faculties have introduced or are planning to introduce courses on Information Technology. This is going to have a long lasting effect on the quality of education at the University of Zimbabwe. The posting of course material on the Intranet has seen to increased quality use of the network' (p. 18). Copies of posted materials were, however, not accessible by or provided to the evaluators, so it is not possible to comment further on the quality or potential impact. Courses were disrupted in the final year of the project, due to economic uncertainties and subsequent unwillingness of businesses to invest in professional development, but have resumed from February, 2009, with a menu of options in February and March including: PC Maintenance and Servicing; Oracle 9i SQL; Web Development; Cisco – Hands-On Bootcamp (Prerequisite Networking); Windows Server 2003 Administration; Linux Administration; Computer Networking Essentials; and VB.Net. Given that these are fee-paying courses are not integral to the functions of the university, it is unclear why this target was included in the initial project design, as it appears to have limited relevance to the overall project objective. Although conducting regional professional workshops is not noted as either a result or OVI in the logical framework, it is included as an activity. The Computer Centre reports that no such workshops were held during Phase II, as the cost of holding regional workshops was underestimated during project design. Instead, national workshops on IT and related matters were held in Zimbabwe. The Computer Centre notes that these workshops did generate change in practice at universities, as well as generating exposure for the University that subsequently led to additional consultancy work, both for individuals working at UZ and for the institution. The evaluators have not received copies of the reports on these workshops, so there is no further detail on the scope of coverage, attendance, and impact of the workshops.
5. After 5 years all teaching lecture theatres will have access to video conferencing.	This is included as an OVI in the logical framework, but not noted in the corresponding project design document. It does not appear that any progress was made towards this OVI during Phase II of the Programme.
6. An average of one extensive network is designed every year.	This target refers to installation of large-scale networks outside the university, using the capacity created through this project. The Computer Centre reports success in helping to put networks in place at the following institutions: Great Zimbabwe University, Midlands State University, National University of Science and Technology, Chinoyi University of Science and Technology, and the Bindura University of Science Education. This suggests that the target of designing one extensive network every year was achieved. No independent verification of the quality of this work was possible within the constraints of this evaluation, and no information was available from any of those institutions to report on the success of this work. Again, given that the primary cost in achieving this target was the time of the Computer Centre personnel (which were not covered by the project) and the target was not integral to the functions of the university, it is unclear why this target was included in the initial project design, as it appears to have limited, if any, relevance to the overall project objective**.

Result/OVI/Activity*	Commentary
* The capacity of the backbone meets the demands of the users: * A Giga bit Ethernet network is installed on the backbone with at least 100 Mbps network on the rest of the campus network by the fifth year. * Backbone speed upgraded from 100Mbps to 1Gbps by the fifth year.	The sources of verification defined for this Result included reports from the measured network performance, measurement of Internet bandwidth, network configuration records, network management software, and statistics from usage by students and staff. None of this information could be sourced by the evaluators, making it impossible to verify by any objective standards whether or not the result was achieved. This becomes potentially problematic in certain instances. For example, the 2007 Annual Report notes that 'statistics have shown a continuing increasing use of the campus wide network' (p. 3) (an observation also repeated in previous Annual Reports – see, for example, 2006 Annual Report, p. 3), but no statistics are provided in the report itself and none were available when requested by the evaluators. Also of concern is that repeat of the identical line, and similar identical paragraphs, in multiple Annual Reports suggest a copy-and-paste approach to compiling the reports rather than updates to project descriptions occurring to reflect changes in circumstances and achievements. The 2007 Annual Report notes (p. 10) that several tasks were not implemented (for example, 'install a hot standby directory and authentication server running l dap' and 'install a hot standby for proxy and webmail'). It also lists several completed activities under this result that seem to have no specific connection to the result (for example, 'Purchase a spare server', 'centralizing of services and its manageabilities', and so on). It is unclear how these kinds of activities connect to the original project design or what, if any, financial contribution was made by the project to implementing them (although presumably the primary contribution of such activities was purchase of hardware such as additional servers and ongoing capacity-building implemented throughout the project). The Computer Centre estimates that this task is only 30% complete, although all hardware has been procured and deployed. The remaining challenge is to configure all hardware to effect the speed upgrade. Given competing priorities, it is estimated that this will be completed within one year (i.e. completed by March, 2010). The delay in this work has been caused by staffing problems, which it is hoped will now stabilize.
* The backbone is sufficiently secured: a) Security firewalls and security devices to all VLANs (currently 17) upgraded each year.	The Computer Centre reports that upgrades to firewalls and security devices are being completed annually, but there has been no independent information supplied to verify this. These were reported to include IOS updates, firewall rules updates, software upgrades, and so on. As UZ has deployed Open Source Software (OSS) firewalls, there has been no need to pay ongoing licensing or upgrade fees to achieve this target. The 2007 Annual Report notes that some intended activities listed under this OVI were not implemented (for example, 'additional log server' and 'provide more redundancy and high availability for the crucial core network services') (p. 11).
* Users enjoy an acceptable rate of connectivity and speed of the Internet: a) Bandwidth to the Internet is	During Phase II, the Computer Centre reports that upgrades to the modems were completed, but access to the Internet became a major bottleneck, progressively worsening over the five years and with significant disruptions to Internet services continuing to the present day. In the 2002 Annual report, it is noted that 'use of the [Internet] services continued at a very fast pace. There has been

Annex 7. E-Application Sub-Project Achievements

Result/OVI/Activity*	Commentary
The efficiency and effectiveness of the learning and administration processes/practices have been enhanced.	Achievement of this specific objective is best determined by detailed review of the individual intermediate results. However, by way of summary, it seems reasonable to conclude that some enhancements to efficiency and effectiveness of the learning and administration processes/practice were achieved, but that these were limited and on a significantly smaller scale than initially envisaged. Reasons for this are outlined per result below.
1. Communication via the E-mail, Intranet and electronic document exchange has increased by at least 50% by the fifth year.	This target is quite a modest one, given that Phase I of the project saw implementation of a new network for the institution, that the plan has been to increase network capacity tenfold, and that a 50% increase in network traffic over five years is very small in relation to growing file sizes, increased use of email, and the deployment of enhanced facilities for the library system. Consequently, it seems reasonable to assume that this target was attained and most likely significantly exceeded. However, no statistical reports have been provided to verify attainment of this target.
2. Through e-learning, the effectiveness of the teaching-learning process has been enhanced in academic departments: a) E-learning selection team with at least 4 persons set up by the first month of the first year. b) E-learning system acquired and implemented by the 3rd quarter of the first year. c) E-learning implementation team with at least 4 persons in place by the end of the first quarter of the first year. d) Prototype e-learning courses for ten departments, including Computer Science, Agricultural Meteorology, and Aquatic Ecology are in place by the end of the second year. e) By the second year at least 20% of the teaching staff is fully conversant with the learning environment. f) At least 60% of all courses have online presence (minimum of outline, reference material, utilization of communication tools) by the 5th year after implementation of e-learning	In this area, success was achieved in terms of selecting and deploying an e-learning system or Learning Management System (LMS), but less progress was noted in terms of the extent to which this enhanced the effectiveness of the teaching and learning process in academic departments. In the 2003 Annual Report, a selection team is reported to have been set up in August, 2003 (slightly behind schedule, but comprising six people) and to have visited Belgium as part of the decision-making process. It is unclear why a decision was taken to visit Belgium to review LMSs, and there may have been more merit in visiting institutions deploying LMSs under circumstances more similar to UZ (for example, installed LMSs in other developing countries). The Computer Centre reports that it successfully reviewed a series of e-learning platform options, but ultimately decided on an OSS platform called 'Claroline', which it acquired in January, 2004. The rationale behind this decision was documented in a conference paper produced by Hapanyengwi and Van Petegem in 2004. However, more detail on the choice of LMS was not available as the paper was not shared with the evaluators. The e-learning environment was installed in February, 2004 and the server hosting it upgraded in March, 2004 (although it may have made sense to reverse the sequence of these tasks, upgrading the server before the first installation). It should be noted here, though, that there is some discrepancy in the 2004 Annual Report, as the activity grid reports indicate that these tasks were completed but the narrative contradicts this slightly. For example, activity 2.7 'to upgrade the server where the e-learning environment will sit' is reported as 'Implemented March 2004' in the activity grid (p. 5), but the narrative then notes 'the servers have been ordered and await delivery' (p. 13). Annual reports also note successes in establishing implementation teams, but – particularly in the final years of Phase II – report on extensive staff departures affecting the stability and continuity of this team, with the result that the maintenance of a sustainable, competent e-learning implementation team has been difficult to ensure. However, during the periods where these implementation teams are in place, annual reports note that training of academic staff was ongoing. This applies right through to the 2007 Annual Report, which notes that 'about twenty members of staff trained every month. This is in line with the programme at UZ of keeping members of staff abreast with the latest developments' (p. 16). However, no information has been provided on total numbers of staff trained, on the scope of this training, or of its success in enabling staff to use the LMS successfully. The 2005 Annual Report does note that a three-tiered curriculum for the training (basic, intermediary, and advanced) was created, but does not provide further information on what each tier comprised. There is also no additional information provided on other forms of support provided to academic staff when setting up and running e-learning courses, but it is assumed that additional support of some kind was provided. For example, in the 2007 Annual Report, noting that the Centre had only succeeded in adding two e-learning courses with multimedia (against an initial target of 20), it notes that the key constraint was availability of staff in the Computer Centre (p. 16), suggesting that additional support may have been provided to academic staff seeking to use the e-learning platform.

Result/OVI/Activity*	Commentary
	It is thus not possible to comment on whether the target of 20% of teaching staff being fully conversant with the learning environment was achieved, as no numbers for training have been provided and there is no definition of what would be required to become 'fully conversant' with the system. The Computer Centre has indicated, however, that the need to train users in use of the LMS has fallen away, as the system has become easier to use since deployment. It does, however, note that a booklet has been produced for new students outlining the computer facilities on campus, a copy of which was provided to the evaluators and appears to contain useful information for students. As has been noted, the absence of statistical reports make it difficult to assess objectively the extent of progress towards a target of 60% of all courses have an online presence. The 'Claroline' administration system indicates a total of 2,584 courses on the LMS and 9,738 users. However, these data are not particularly meaningful, as courses will be registered as online as soon as their title and course code is uploaded in the system, so would not necessarily qualify in terms of the minimum criteria defined for online presence in this sub-project's logical framework. Likewise, it was not possible to ascertain what precisely is meant by 'users', but in conversation it was noted that this probably includes all past users of the platform. The system statistics on 20th March, 2009 indicated 572 logins in the past 31 days, a relatively low number which is unsurprising given that the University is closed owing to the economic difficulties currently experienced in Zimbabwe. The system also notes 31,952 clicks on documents and links, 14,323 on course descriptions, 14,246 on assignments, 8,684 on exercises, 7,704 on announcements, 6,185 on users, 5,348 on learning paths, 5,243 on agendas, 4,407 on groups, 3,162 on forums, 2,891 on chats, and 661 on wikis. Again, it is presumed that these are cumulative statistics since installation. Analysis of the above statistics, combined with cursory review of a sample of e-learning courses, confirms that the target of 60% of online courses was not reached. The Computer Centre estimates that close to 50% of courses have an online presence comprising at least an outline and reference materials, but only around 25% are using the communication tools. Conversations with two Computer Science MSc. Graduates did, however, confirm the potential value of the LMS, as they both reported that they had used the system in their programme and found it very helpful for accessing materials and engaging in discussions. Unfortunately, no further progress was made in project integration, as no courses were deployed from either the Aquatic Ecology or Agricultural Meteorology Departments. The statistics above suggest that use of these facilities across the approximately 9,000 users has been limited, and that particularly the communication tools have not been used to any significant degree. This is not unusual in the early days of LMS deployment, where expectations tend to project much higher use than is actually achieved. In moving forward, it would be advisable to shift from a broad approach of sensitizing all staff and running generic training on the LMS towards a system where dedicated support is provided to early adopters of the LMS to enable them to become institutional champions of e-learning and then use this to build critical mass of users and sustainable momentum for e-learning.

Result/OVI/Activity*	Commentary
3. Use of digital library and electronic resource facilities increased by 70% by the fourth year of implementing e-library: a) An e-library implementation team with 4 persons is put in place by the second quarter of the second year. b) E-library system implemented by 4th quarter of second year. c) A fully integrated training programme in place for use by all users by end of second year. d) All users fully conversant with the e-library system by the end of the 4th year.	Prior to this project, UZ had already deployed a proprietary e-library system called 'Millennium', which it continues to use presently. Consequently, this intermediate result focused instead initially on upgrade of the server environment for that system, as well as procurement of additional modules for Millennium and further OSS systems to provide complementary digital library facilities. Activities against this Intermediate Result are only reported from 2005 onwards, suggesting some delays in implementation. In 2005, the project implementation team decided not to replace the existing e-library system, but rather to enhance it by purchasing 'Millennium Access Plus' (MAP), which included modules called 'Webbridge', 'Metafind', and 'Web Access Management Tools'. The Computer Centre also notes that additional OSS systems, such as 'eThesis' and 'DSpace' (used to create an Institutional Repository) were deployed during the period, but no mention is made of these in annual reports, so it is unclear whether or not these deployments were a consequence of this project or took place separately. Current Awareness databases accessed include African Journal Online (AJOL) and the British Library. Documents were delivered from the British Library Document Supply Centre (BLDSC) and African Journals Online(AJOL). Full-text database access to journal articles were possible from AGORA, BIONE, BLACKWELL, CAMBRIDGE, EBSCO, JSTOR, MCB/EMERALD, OXFORD and SPRINGER. The library also has access to 'free' resources. These resources are not free per se, but access is possible as a result of the low GDP of Zimbabwe, otherwise the Library was supposed to pay for the subscription. These databases include: BioMedical Central, Emerald Engineering, BMJ Journals Online, Electronic Journal Library, EOLSS, Directory Of Open Access Journals (DOAJ), Free Medical Journals, HINARI, IOP Electronic Journals SciELO. The databases that the UZ Library were subscribing too were the same for the last seven years except that in 2009, the Library is no longer subscribing to the EBSCO HOST database. Specialized training for librarians on these modules, together with a range of generic ICT literacy training exercises, was held in 2006. In addition, a training workshop on Institutional Repositories was held in 2006, comprising 24 participants from ten state universities. Reports are provided from 2005 onwards of training being provided for staff and students on use of the e-library system. By the time of the 2007 Annual Report, this is noted as follows: 'the training is part of a freshmen's course (Information Literacy Skills) and also for Masters students during their first year'. All new academic and administrative staff undertakes a training session on use of Library Systems during their induction period' (p. 17). However, it is not possible to verify independently or objectively whether or not all users are fully conversant with the e-library system. It is worth observing that such an indicator is, in fact, not objectively verifiable without extensive research, so may have been an inappropriate target for the Intermediate Result. From the above, it appears that progress was made towards achieving this Intermediate Result. Again, however, the absence of statistical reports makes it difficult to verify whether or not the target of 70% increased use of digital library and electronic resource facilities was achieved, but this seems likely as the increase in use is not major over a five-year period. It should be noted that, in 2007, the 'Metafind' module licence was not renewed, as it was placing undue demands on the bandwidth available to the institution. As the 2007 Annual Report notes, 'the way the module worked was through interrogation, over the Internet, of different sources of material' (p. 17).

4. Administrative paperwork (publishing of examination results, students registration, course confirmations) reduced by 20% each year, after implementation of e-administration: a) An e-administration implementation team with 4 persons is in place by the second quarter of the third year. b) E-administration system implemented by 4th quarter of the third year. c) A fully integrated training programme in place for all users by end of first quarter of fourth year. d) Increased use of the e-administration system of 20% each year from the second year.	Reporting on this Intermediate Result commences in the 2004 Annual Report, when an e-administration implementation team comprising seven members was assembled. At this point, it was decided to 'utilize the Oracle platform for development'(p. 15),but no further detail on the rationale for either for deciding to develop rather than to procure or for deciding to procure on the Oracle platform was provided in that Annual Report. Members of the implementation team were sent to the Oracle University for training courses. The 2005 Annual report notes that a requirements specification was produced, but this has not been shared with the evaluators so it is not possible to comment on its scope and quality. The 2005 Annual report notes a slowing in progress with development of the e-administration platform due to departure of a key member of the team. It notes ongoing training of the team at the Oracle University of South Africa, and progress in development of the system representing 60% of total effort. This includes completion of Entity Relationship Diagrams and tables for the database, as well as an environment to deploy forms for the system. It is noted that these results are deployed on the UZ website, but the evaluators were unfortunately unable to access these as Internet services at the University have been disrupted continually since commencement of the evaluation. The 2006 Annual Report notes further training being provided to the team, but no further progress with development. However, the 2007 Annual Report regrettably notes that 'no new modules were developed. This has been the case since the departure of the core of the implementation team' (p. 18). Consequently, the e-administration system was not successfully deployed during the project, with the result that UZ is still relying on its old, home-grown system. The Computer Centre notes that the system is largely complete, and remains hopeful that its development can be concluded and the system deployed once the University has again stabilized. Non-deployment of the system has also, of course, meant that no training was completed and that no statistics could be generated regarding increased use of reduced paperwork.
5. E-Applications Integration: a) By the 4th year, 20% of the e-applications are integrated. b) By the 5th year, all the e-applications are totally integrated.	The 2004 Annual Report notes that 'the integration of the e-applications was done through the DBMS' (p. 15). The 2007 Annual Report also notes that 'TSIME and Open Access initiative ensured access of materials from E-learning and E-library' (p. 18), and that an integrated interface was provided for this on the Internet. However, it is assumed that the primary objectives of integration would, amongst others, be to ensure streamlined user authentication systems, sharing of data between systems, and upload of relevant administrative data into the e-administration system. There is no clarity on whether any such objectives were achieved, while non-delivery of the e-administration system would have prevented complete integration of all e-applications. Thus, it seems reasonable to conclude that e-applications integration was not 'total' by the end of the fifth year. It is possibly worth highlighting that an objective of 'total' integration of e-applications was an over-ambitious target, particularly as total integration of systems can often become counter-productive if pursued as an end in itself. If this remains a desired objective, it is proposed that some effort be put into defining the specific objective of, and areas for, desirable systems integration.

Annex 8. Training in Computer Science Sub-Project Achievements

Result/OVI/Activity*	Commentary
Successful and sustainable quality Ph.D. training and M.Sc. programme is delivered.	Detailed information is provided against the Intermediate Results below. In summary, though, success here was largely limited to the M.Sc. programme, which has produced graduates who appear to be in demand in the job market. As the programme is continuing, a degree of sustainability has been achieved, but this may yet be undermined by the absence of several senior staff in the Computer Science Department. The Ph.D. training (which is not, in any case, offered by UZ, so is not sustainable in and of itself) has not yet yielded a successful graduate, while the research and training programmes also delivered limited results.
1. An M.Sc. in Computer Science is established and is active by the first year: a) An average of 10 M.Sc. students have graduated each year from the third year onwards. b) By the fifth year, the programme has been totally integrated into the Faculty of Science postgraduate degree programmes.	The M.Sc. programme commenced according to schedule in 2003, with ten students enrolled, from an original batch of 41 applications. Of these, seven were given scholarships. In this first year, handouts and brochures for the programme were also produced (but have not been seen by the evaluators). Also, from this first year, one course (on Computer Simulation) was identified as requiring supporting from the Flemish partners, so Prof. G. Janssens travelled to UZ for two weeks to teach the course. It is noted already in the 2003 Annual Report that 'some of the students who have scholarships are doubling up as teaching assistants in the department and thus relieving the pressure on the human resources requirements of the department' (p. 28). Of this first enrolment of ten, six students graduated, while, of the remaining four, one repeated one of the courses and three repeated their dissertations. It is reported that the six graduates were employed in various sectors in Zimbabwe. In the 2004-2005 enrolment, 15 students were admitted, including two from Zambia (both sponsored by VLIR). Four students were provided scholarships and another five Graduate Teaching Assistant (GTA) posts to help with funding. At this time, no additional sources of funding for scholarships had been secured despite efforts to locate such funding. However, a relatively high percentage of enrolled students were therefore self-funded. In 2004-2005, the curriculum was modified to include Multimedia applications, while the e-learning platform was also harnessed for teaching two of the courses. Again, visiting professors from Flanders (Prof. G. Janssens and Prof. W. Van Petegem) visited UZ to assist with teaching courses and to provide an international dimension to the programme. It is noted that 9 students graduated from this group. In 2005-2006, ten students were enrolled from an application pool of 60. Of these three were funded through the VLIR project, two by UZ GTA posts, and five from other sources. Two new courses were introduced – Graphics & Multimedia and Artificial Intelligence & Data Mining – in response to demands from the private sector. Again, visiting professors from Flanders (Prof. K. Van Hoof and Prof. W. Van Petegem) visited UZ to assist with teaching courses and to provide an international dimension to the programme. In 2006-2007, eleven students were enrolled from an application pool of 65. Of these, one was funded through the VLIR project, five by UZ GTA posts, and five from other sources. Again, a visiting professors group from Flanders (Prof. W. Van Petegem) visited UZ to assist with teaching a course. In 2007-2008, ten students were enrolled, with one sponsored by VLIR, four through GTA posts, and five through other sources. No professors visited from Belgium during this year. This report notes that 'the quality of research by the Master's students has improved as there are more stringent measures for them in presenting their work. This is through the need of oral defence of their proposal, their experiments, and their results' (pp. 34-35). No data has been provided on the graduation rates for 2006-2007 or 2007-2008. Various references are made to business planning for the M.Sc. For example, in the 2006 Annual report, it is noted that 'there is a very good chance, with the correct business plan, that this programme could be self-sustaining' (p. 39). However, such a business plan appears not to have been developed yet. Nevertheless, the programme is continuing in 2008-2009. The same Annual report notes that 'the main challenge is to make it (course) an acceptable regional programme' (p. 39), which may now be difficult given the departure of so many senior staff from the Department.

Result/OVI/Activity*	Commentary
2. Three Ph.D. candidates are active in research from the first year: a) Three Ph.D. students have successfully defended their thesis by the fifth year.	According to the 2003 Annual report, three candidates were identified in 2003, two of whom had been assigned supervisors. However, the Computer Centre reports that, due to problems with selection, the PhD students were only active from 2004 (having had their proposals accepted by their host universities in Belgium). Unfortunately, of the three candidates enrolled, one student dropped out in 2004 while another dropped out the project (but not the PhD), moving to the University of Johannesburg. This left one remaining candidate in the PhD programme. This person has now also subsequently been appointed as the Head of the Computer Science Department, due to the flight of senior staff from that Department, which greatly reduces time available to pursue a Ph.D. Consequently, it is not expected that he will be in a position to complete his studies until February, 2010, which is substantially later than the VLIR cut-off date of September, 2009.
3. Training courses are offered from the first year: a) An average of one professional course scheduled every quarter from the middle of the first year. b) Syllabus of all extension courses are updated annually. c) An external body certifies at least three of the courses on offer by the second year.	This Intermediate Result overlaps strongly with a similar result in the ICT Infrastructure sub-Project, which raises the question of why such a similar result appears in both sub-projects. The first course offered was in 2004, on Oracle Database Management, thus somewhat behind schedule. The 2005 Annual report notes that 'it was realized that the load on the persons in the department was quite huge'. Though the idea of such courses was commendable, implementation of these was going to compromise the quality of the teaching and research of the department (p. 21). UZ has not yet been successful in having external bodies certifying any of these computer training courses.
4. Training infrastructure of high standard is established: a) A fully configure postgraduate hardware laboratory is in place by the second year.	The 2003 Annual report notes that the M.Sc. laboratories were equipped with hardware, software, and furniture in that year. There are two laboratories, one comprising 12 PCs and one comprising 12 Solaris machines (i.e. a thin-client network). IT was reported by the Computer Science Department that these were not deployed as hardware laboratories, despite the initial intention, and were instead used as software laboratories. It is reported that the laboratories remain configured and functional, but this was not independently verified.
5. Research programmes successfully implemented: a) From the second year onwards, at least one A1 publication and two other publications are accepted for publication each year. b) Two professional workshops are hosted by the fifth year.	These research targets were generally not achieved, although some papers were produced over the period. Specifically, according to the project database, five conference papers were produced, one in 2004 and two each in 2005 and 2006. Of these, one was produced by UZ, one by a Flemish university, and three were co-authored. No A1 publications were produced in the period. It should be noted, though, that Annual reports do make reference to some papers that are not listed in this database, so the above data may not be complete. There are also various references to research visits by UZ employees to Flanders. The professional workshops were converted into workshops for the Master's students, with the result that no professional workshops could be held during Phase II of this sub-project. The 2004 Annual Report notes that 'a seminar series, every Thursday, has commenced in the Department. This has resulted in a good platform for delivery of research results and work in progress' (p. 26). Further details on this have not been supplied. In 2005, a research seminar was organized for M.Sc. students on how to carry out successful research, by Prof. K van Hoof from the University of Hasselt.

Annex 9. ICT Project Mid-term Evaluation Recommendations

Result/OVI/Activity*	Commentary
Although the current economical situation in Zimbabwe is not making things easy from a financial point of view, the University will make all efforts to provide the IUC programme with assurances that the computer wide network will be sufficiently funded for maintaining and partially up-grading the network. Basic maintenance of the network should be left to the University.	This largely appears to have been carried out initially, with the University maintaining the network successfully during this period. In particular, there was also commitment to increasing investment in Internet bandwidth, but this could not be supplied by the University's ISP.
The programme should focus on in what way the computer wide network can make an enabling environment in which research and teaching can be planned and carried out in a more efficient manner.	Efforts were made to respond to this recommendation, but, as the above analyses demonstrated, disruptions caused by the broader socio-economic context hampered them. In addition, the evaluators believe that unduly ambitious objectives were put in place in response to this recommendation, which may have diffused energies instead of focusing them on fewer, more attainable targets. Nevertheless, some enhancements have been recorded during Phase II.
The project should focus on optimal use of the network to enhance teaching, research as well as management of the University. Special focus should be directed towards training of staff and students in use of computers and computer software, post-graduate training at M.Sc., D.Phil. or Ph.D. level in computer science, using the net for educational purposes, administration at the University and library services.	Again, efforts were made to respond to this recommendation, but disruptions caused by the broader socio-economic context hampered them. The M.Sc. programme has been generally successful, but use of the Internet has been largely rendered impossible by supply disruptions.
A plan should be worked out to ensure the availability of sufficient VLIR-IUC funds towards the end of the second phase (for up-grading of equipment), rather than having the larger budgets in the first years (as intended by the system of declining funds from 2003 to 2007).[29]	

[29] Murphy, C. & Claes, P. 2002. Midterm evaluation of the Institutional University Co-operation with the University of Zimbabwe: Final Report from the External Evaluation Commission. Unpublished report. pp. 45-46.

Annex 10. Logframe of Phase II Agricultural Meteorology Project

LOGIC OF PLAN	OBJECTIVELY VERIFIABLE INDICATORS	SOURCES OF INFORMATION/ VERIFICATION	ASSUMPTIONS
Overall objectives Agricultural production and food security in Southern African Development Community (SADC) is increased, in part through the application of Agricultural Meteorology			
Specific Objective The University of Zimbabwe is internationally recognized as a viable centre of excellence in the field of Agricultural Meteorology which provides high quality services in research, teaching and extension in the SADC Region	The AGMET programme is formally recognized by SADC, the World Meteorological Organization (FAO) 30% of students enrolled in the programme are from outside Zimbabwe Graduates from the Programme are employed in related work areas The AGMET programme is advertised by SADC and WMO By Year 5, the project will have attracted sufficient funding to continue beyond the second phase, including: * Scholarships with bench fees * Funded research projects * Earned income from technical services	Official certification and announcements Student statistics Student records WMO Bulletins SADC Brochures University accounts	Academic and support staff remain in post University fo Zimbabwe pays salaries of AGMET staff Agricultural science is being developed in the region WMO and SADC produce and distribute bulletins and brochures University of Zimbabwe continues to offer space to the AGMET Programme

Annex 11. Agricultural Meteorology Project Achievements

Result/OVI/Activity*	Commentary
The University of Zimbabwe is internationally recognized as a viable centre of excellence in the field of Agricultural Meteorology which provides high quality services in research, teaching and extension in the SADC region.	Some success was initially achieved in having this Department recognized as a viable centre of excellence. However, there are difficulties in sustaining the Department as a Centre of Excellence given current staffing constraints. The Department currently has only six full-time staff, down from 18 at the start of Phase II. In addition, as the detailed commentaries below demonstrate, there have been many challenges in delivering the results of this project, with some results not delivered as planned. Consequently, development of a strategy to ensure sustainability of the Department and to enable it to continue delivering high quality services will be a major priority in the short term.
1. Research output from the Ag. Met. Group is of international standard: a) At least one publication is accepted internationally per year. b) At least 3 conference/workshop papers presented by members of staff per year. c) At least 3 conference posters presented per year.	The process of producing publications in this project started late, because key staff left early on during Phase II of the project and because the remaining students were busy with their Ph.D.s, which impeded research output. The project database records only papers produced from 2004 to 2006. The Ag. Met. project reported that additional papers were produced after 2006, but were not included in the database as the project had already concluded by that time. The database records publication of 11 full conference papers (6 produced by UZ staff and 5 produced jointly between UZ and Flemish University staff), 11 conference abstracts (3 produced by UZ staff and 8 produced jointly between UZ and Flemish University staff), and 6 articles in peer-reviewed journals (all produced jointly between UZ and Flemish University staff). These are slightly, but not significantly, below the targeted research output, particularly if one takes into account the delayed start to research publication to Phase II. During Phase II, there were some visits between Flanders and Zimbabwe, but these declined steadily. In particular, after an unfortunate incident where a Flemish academic was attacked in Harare, visits by Flemish academics to Zimbabwe ceased. In the 2007 Annual report, it is noted that 'no visits to Belgium by the UZ-IUC project leader were arranged because of pressure of work...no visits to Belgium by the UZ staff were arranged due to limited funds' (p. 22). Annual reports also noted on various occasions (see, for example, 2004 Annual Report, p. 21, 2005 Annual Report, p. 24, and 2007 Annual Report, p. 22) that 'visits for Flemish students were not arranged because there were no Flemish students interested in doing research in Zimbabwe'.
2. Meteorology and climatology are better used by agricultural research institutes and organizations: a) Staff members undertake consultations, averaging 2/year/member. b) Number of requests for AGMET information received in Met Offices increases by minimum of 20%/year.	Agricultural Meteorology is a new subject, which therefore generates significant need for awareness-raising and sensitization amongst the agricultural, academic, and research communities. Consequently, much lobbying is needed which the Ag. Met. Department reported having done successfully. VLIR funded some international travel to promote the subject and to participate in workshops, and also contributed to travel and related costs for local advocacy and consultancies. The Department conducted some consultancies for the local agriculture industry, and was paid a small fee (but not a market rate) for these services. For example, the 2006 Annual Report references collaborative projects with 12 organizations, including Mazowe Citrus Estate, Zimbabwe Meteorological Services Department, Triangle Limited, Mwenezana Estates, and the Cotton Research Institute. Where such collaborations are mentioned, no further information is supplied on the nature and scope of these projects. It is expected that these consultancy activities might be turned into a marketable service in the future, but uncertainties in the agricultural sector in recent years have left farmers reluctant to invest substantially in research activities. No detailed information was provided to the EC on numbers of consultancies undertaken each year, or the target clients.

Result/OVI/Activity*	Commentary
	Annual reports mention various related activities. For example: * 'A workshop on basic instrumentation for AGMET stakeholders was held in the Physics Department in June 2003' (2003 Annual report, p. 18). * 'A workshop on basic and advanced instrumentation for AGMET stakeholders was held in the Physics Department in March 2005' (2004 Annual Report, p. 22). * 'An AGMET Stakeholders' meeting was convened by the AGMET staff at the Cresta Oasis Hotel, Harare, Zimbabwe from 13 to 14 March 2006. It was attended by 32 stakeholders and the stakeholders made very useful comments towards the M.Sc. programme' (2005 Annual Report, p. 26). Other than the information supplied above, no further information on the coverage of workshops, attendances, or evaluations were provided to evaluators. Reports also note certain activities that did not take place as planned. For example: * 'Workshops on advanced instrumentation and AGMET modelling could not be convened due to increased workload on the AGMET staff' (2003 Annual Report, p. 18). * 'The workshop on AGMET applications could not be convened due to increased workload on the AGMET staff' (2004 Annual Report, p. 22). * 'The planned workshop on instrumentation was not conducted because of pressure of work' (p. 28). The Department notes that it hopes to resuscitate workshops in future.
3. M.Sc. programme is operational and sustainable: a) It is envisaged that there will be, on average, eight students per intake (biennial) with a minimum of two students from outside Zimbabwe. b) It is anticipated that a minimum of two students per intake will be sponsored by other agencies. c) The AGMET programme is formally recognized by SADC, the World Meteorological Organization (WMO) and the Food and Agricultural Organization (FAO). d) 30% of students enrolled in the programme are from outside Zimbabwe. e) Graduates from the programme are employed in related work areas. f) The AGMET programme is advertised by SADC and WMO.	In 2003, six students were enrolled for the M.Sc. programme, of whom five graduated in July, 2005. Two of these students were from outside Zimbabwe, and all received funding from VLIR (five full funding and one partial funding). In August, 2005, twelve students enrolled for the programme, two of whom were again from outside Zimbabwe (thus below the 30% target). Of these, nine received full funding from VLIR and three partial funding. However, it is noted in 2006 that the two external students were awarded scholarships by the World Meteorological Organization from July, 2006, while one Zimbabwean student was awarded a Government Technical Assistant post. Of these students, ten successfully completed the programme in August, 2007. The M.Sc. programme is still operational in 2009, with nine students currently enrolled (from an original enrolment of ten), who are expected to graduate in December, 2009. All of these students are currently supported by sources of funding other than VLIR, which suggests a certain degree of sustainability. However, the project noted that fees charged by the University do not cover the full cost of delivering the programme, and are also delivered back to the central government fiscus rather than being made available to the Department of Physics to cover operational costs. This has potential to undermine long-term sustainability. Due to socio-economic circumstances in Zimbabwe, it was not possible to attract students from outside of Zimbabwe to the programme. There is some reporting on modifications to the curriculum, but these are limited. Already, in 2003, the Annual Report notes that 'the MAGM syllabuses have been updated and distributed. There has been little progress in the completion of the Part 1A modules because of increased workload on UZ staff' (p. 18). The observation regarding Part 1A modules is repeated in the 2004 and 2005 Annual reports. In the 2006 Annual Report, it is noted that 'the MAGM syllabus was not reviewed because most members of staff were concentrating on their Ph.D. studies and they also had heavy teaching loads' (p. 28). This observation is repeated in the 2007 Annual Report, which suggests that the programme's curriculum is now in urgent need of review and updating. In summary, the programme managed to reach most of its targets for student intake. However, no information was provided on whether or not the programme secured formal recognition from SADC, the WMO, and FAO, although there is a statement in the 2002 Annual Report that the MSc programme is 'recognized as a 'SADC Regional Programme'' (p. 3). Also, it should be noted that WMO did award some scholarships for two students, which suggests a measure of recognition. No information was provided on what employment was secured by graduates. It is also not clear whether or not the programme is currently advertised by SADC and the WMO.

Result/OVI/Activity*	Commentary
4. Capacity building is completed and sustainable: a) By the end of Phase II of the Project, there will be at least four members of staff with DPhil qualifications. b) There will be at least one full-time technician seconded to the MAGM programme and another technician in the Physics Department with training on Agromet equipment. c) UZ staff outside Physics using meteorology (minimum of 4 projects/consultations).	By the end of the project, two staff had been awarded their D.Phil. qualifications, but they have subsequently left the university to work in South Africa. Of the remaining staff members, one has completed his thesis but has not been able to defend it successfully yet due to complications arising between his co-supervisors in Flanders. He is currently arranging an alternative arrangement to enable him to defend the thesis through another university, possibly UZ itself. Two other staff members are currently busy completing their D.Phil. qualifications, and are hoping this will be achieved by the end of 2009. Delays in completing these programmes are reported largely to be due to the increased workload caused by ongoing departure of other staff members. However, it is also noted in some Annual Reports that disruptions in Internet connectivity and low bandwidth also made it difficult for some students to log onto websites and LMSs at Flemish universities, also leading to delays. A full-time technician was seconded to the M.Sc. programme in 2003. Unfortunately, however, he absconded during a subsequent visit to Flanders, and is currently believed to be in the United Kingdom. A second technician was also appointed to the Physics Department, but has departed for Australia. Consequently, there is currently no full-time technician within the Department. Thus, although training was reported to have been provided as planned in this result, it has not proved sustainable due to the intervening departures of staff. No additional information was supplied on UZ staff outside Physics using meteorology, so it is assumed that engagement were limited to those reported under the Intermediate Result 2 above.
5. The calibration and demonstration laboratory is functional. a) It is hoped that at least 20 Agromet sensors per year will be calibrated for owners outside the group, assuming that the calibrating equipment is functional. b) Equipment for calibrating temperature, humidity and radiation sensors is functional. c) In addition, a minimum of five consultancies per year will be conducted.	The calibration and demonstration laboratory is reported to be functional. The evaluators were taken on a brief tour of the facilities, and noted the existence of various kinds of equipment (such as a transit-time porometer, data logger for field measurements, Assmann Psychrometer, Sunscan Ceptometer, and temperature/humidity sensor and 'screen', as well as various calibration devices) but had no opportunity to verify independently its functionality. A full list of equipment procured is contained in the database for this project. The target of calibrating at least 20 Agromet sensors per year has not been met, apparently largely because people using such equipment in the field cannot use the equipment properly and so are not clear when sensors require calibration. However, it is noted that some repairs were done over the period, although this appears to have been somewhat below the stated targets. The first reports of such activities are in the 2005 Annual Report, where it is noted that 'the AGMET group has repaired and commissioned a data logger for Zimbabwe Sugar Association Experimentation Station. The AGMET group installed and commissioned an automatic weather station for Hippo Valley Estates. A leaf area meter for the Chiredzi Experiment Station was repaired. The Meteorological sensors for Triangle and Zimbabwe Sugar Association Experiment Station were calibrated' (pp.27-28). In the 2006 Annual Report, a more general report is provided that 'the AGMET group calibrated and issued certificates for sensors for various organizations. The AGMET group commissioned a data logger for Hippo Valley Estates and automatic weather stations for Hippo Valley Estates and Mwenezana Estates' (p. 31). In the 2007 Annual Report, it is noted that 'the AGMET group commissioned a weather station for Hippo Valley Estates' (p. 27).

Result/OVI/Activity*	Commentary
6. Support services are functional. a) 10 computers function fully. b) Lab and field equipment is functional (> 75% of inventory used each year). c) Library is updated with new books and periodicals (>20 additional volumes from all sources per year). d) Office is fully equipped and organized.	A computer laboratory was established during Phase I of the VLIR Programme, and it is reported that all computers are fully functional (although this could not be independently verified). On a brief tour of the computer laboratory, it was noted by the EC that some students were in the laboratory making use of the computers, so this suggested certain degrees of functionality. It was noted that at the time of the evaluation, the Department was experiencing serious problems with computer viruses on these machines. It was reported that the laboratory and field equipment are functional, although again no data or reports were provided to the EC to confirm this. There was also no information provided to confirm whether or not over 75% of inventory has been used each year, as planned. It is worth noting however that annual reports from 2004 to 2007 all reported a need to replace broken sensors which implies that there is an ongoing cycle of equipment breakdown repair and replacement. As the department reports that it has no recurrent operational budget, the future sustainability of the equipment purchased through the UZ-IUC Programme is uncertain. In the project database, 554 titles are listed under the 'Books' worksheet. This includes both books and journals, presumably purchased during the project. It is unclear what this list means (i.e. does it cover books purchased for the library or included book purchases for students within the Department of Physics as well) and whether it covers books procured over both phases of the project or just during Phase II. The evaluators were shown the mini-library in the project's laboratory area, which did not appear to include as many titles as this, so it is possible that some are stored in alternative locations. The EC was also shown the office, which was originally full equipped and organized, and staff by a Department Secretary. This Secretary is no longer employed because her salary can not be covered by VLIR in terms of financial policies, and so the office is no longer occupied and appeared to be in need of a certain amount of re-organization before it could function effectively again. Equipment purchased – including a fax machine, laminating machine, bookbinder, and photocopier – seems to be functional, but, in some instances lacking funds for operation (for example, the photocopier has run out of toner and there is no budget currently to purchase additional toner). Additional equipment was also purchased, for example three laptop computers, two printers, a television set, video cassette recorder, and digital video recorder, which it assumed are still functional and owned by the Department (some, such as the television set and video recorder were shown to the evaluators in the Department's storage room).
7. An operational communication system is in place between the MAGM group and agricultural practitioners and adviser. a) Three issues of an MAGM newsletter are planned per year. (NOTE: logical framework only specifies two newsletters per year). b) There will also be two reports with guidelines for good agro-meteorological practice. c) AGMET web site is fully operational, with at least 50% scientific content d) Web site records minimum of 500 hits per year.	With respect to the targets identified here, the following can be observed: * A brochure was produced for the M.Sc. programme and reported to be widely distributed. A copy of this brochure was supplied to the evaluators. It appears not to have been updated since 2005 (and was designed for the 2005 and 2007 intakes), but will presumably be updated in time to advertise the next student intake. * No newsletters were produced in 2003 or 2007. One was reportedly produced in 2004, 2005, and 2006 respectively. The evaluators were not supplied copies of these, so are not able to comment on the scope or quality of the ones which had been produced. * The 2005 Annual report notes that 'Members of AGMET were involved in writing or reviewing sections of the Guidelines for Agricultural Meteorological Practices being written by the World Meteorological Organization. The guidelines will be distributed once they are published' (p. 28). This is noted again in the 2006 Annual report * The 2005 and 2006 Annual reports refer to establishment and maintenance of a network of AGMET stakeholders, but no further information on the function, membership, and activities of this network is mentioned. However, a workshop was held in 2007, which was been noted under Intermediate Result 2 above. * The 2005 Annual report notes that 'a substantial effort was made to trace all the former graduates of the programme so that they can submit copies of their thesis to AGMET' (p. 28). No information is supplied on what this search yielded. * It is reported that the website was maintained, but not regularly updated as access was limited. It is further reported that the link to the website was lost during a recent UZ website upgrade. No statistics were provided on numbers of hits, and it was not possible for evaluators to access the site to review its quality and scope of information/services.
8. By year 5, the project will have attracted sufficient funding to continue beyond the second phase, including a) Scholarships, with bench fees; b) Funded research projects; c) Earned income from technical service	This target has only been minimally achieved. The M.Sc. programme is currently running, with students enrolled paying for their own studies, but it is noted that the fees are insufficient to cover operating costs of the programme. No information was supplied on additional funded research projects. The Department noted that it has not yet been able to earn meaningful income from delivery of technical services (fees paid have generally only covered incidental expenses, and even these were often cross-subsidized by VLIR). Consequently, a strategy to secure sustainability for the Department will be a high priority activity in the immediate future.

Annex 12. Agricultural Meteorology Project Mid-term Evaluation Recommendations

Result/OVI/Activity*	Commentary
The project should strive to improve and extend team-building efforts in order to secure academic sustainability of the Agricultural Meteorology programme.	While efforts were made during the project to respond to this recommendation, the high level of departure of staff has hampered team-building effort, with the result that academic sustainability of the programme is not yet assured. There is also a need to reinvest in curriculum updating for the M.Sc. programme, which has not been changed for several years.
The project should try to achieve more joint research work and research publications between UZ staff and staff involved from the Flemish universities.	There was evidence of joint publications, but limited joint research work. This appears largely to be due to reluctance of Flemish researchers and students to travel to Zimbabwe, particularly in the latter stages of Phase II.
The programme still needs the assistance of scientific staff that is well known and recognized internationally in the field of agro-meteorology. This is also essential in order to increase the income-generating capacity of the programme. The team therefore recommends that the University shall continue to engage internal and external assistance for this programme (e.g. visiting professors).	Again, there is some evidence of this, but of a limited kind. This was further hampered by reluctance of Flemish professors to travel to Zimbabwe, particularly in the latter stages of Phase II, particularly after the key professors was attacked in Harare. There is no evidence that sustainable integration of such external assistance has been secured to increase the income-generating capacity of the programme, while internal assistance has been undermined by high levels of staff departure from UZ.
The project should try to further broaden its horizon by setting up a network of contacts within the SADC region. [30]	Some efforts in this regard are noted, but it is unclear whether or not a sustained network of contacts within the SADC Region remains in place on project closure.

30 Murphy, C. & Claes, P. 2002. Midterm evaluation of the Institutional University Co-operation with the University of Zimbabwe: Final Report from the External Evaluation Commission. Unpublished report. pp. 45-46.

Annex 13. Logframe of Phase II Aquatic Ecology Project

Project description	Indicators			Sources of verification	Assumptions
Overall objective The capacity to manage and develop aquatic resources in Zimbabwe and the region is increased					
The capacity of the UZ to carry out teaching and research in aquatic ecology at postgraduate level is enhanced					
Specific objective The Department of Biology of the University of Zimbabwe becomes a sustainable centre of excellence for research and teaching in the field of aquatic ecology with relevance to developmental issues	By Year 5, the project will have attracted sufficient funding to continue beyond the second phase. Research output reflected in A1 publications and conference proceedings reflecting the outstanding research quality of the researchers involved	Baseline Yr 6	Year 10	UZ records Conference Proceedings Scientific Publications	Academic authorities continue to support the Department of Biology in the field of Aquatic Ecology
Results 1. A high quality M.Sc. Programme is put in place	1.1 By Year 5, two M.Sc. cycles, each lasting two years, have been completed each with an intake of 10 students, with 30% being regional students 1.2 External examiners report favourably on standards of written papers and theses	1.1 Recruitment of six local M.Sc. students done	1.1 Two cycles of M.Sc students (total 11) were successfully recruited and completed their studies, including Zambian students	UZ records UZ Department records	The Department of Biology fully supports the M.Sc. Programme and research activities. Other departments expected to contribute in teaching. Students from the region wish to study in Zimbabwe
2. An adequate number of well-trained academic and technical staff is in place	2.1 3 new staff members with D.Phil. by Year 5 2.2 One well-trained technician in the field of aquatic ecology, operating within the Department of Biology by Year 2	Three D.Phil. students recruited, one well trained technician also recruited in Year 2	Two Ph.D. students about to complete while one dropped out. Technician still employed	UZ records Project report	Faculty assigns a technician to be trained
3. Research Programmes successfully implemented	3.1 Each year, three A1 papers will be published/accepted as well as three lower ranked 3.2 At least 50% of publications are result of joint research work between UZ and the Flemish Universities		Publications produced as to plan. Joint research publications still being finalized	Project report Publications	Staff and students from the Flemish universities will be able and willing to visit Zimbabwe

Project description	Indicators			Sources of verification	Assumptions
4. Research results successfully disseminated	4.1 Staff members have presented a paper at six international conferences after 5 years 4.2 One local and one regional workshop has been held and proceedings distributed to all relevant stakeholders 4.3 An aquatic ecology web site is developed		International conferences were attended by staff members. One local workshop and two regional training workshops were attended by staff. Webpage available on UZ website	Proceedings available	Conferences/workshops are designed to efficiently disseminate project work
5. Effective revenue generating strategy in place	5.1 The total operating funds available in Year 5 equal to the operating funds that were available in Year 3; the balance made up by funds from other sources 5.2 Most (>50%) scholarships in second M.Sc. cycle supported by outside funding 5.3 100% funds to organize the local and regional workshops obtained 5.4 Funds obtained for the publication of at least one book 5.5 At least three new external projects will be obtained in Years 3-5		5.1 Not fully achieved although some alternative funds were found. 5.2 Not achieved as most students still assisted by project. 5.3 This was not achieved 5.4 This was achieved 5.5 This was not fully achieved	Project report UZ records and project report Book available Project reports	External donors will continue to provide funds for the UZ. Dissemination of results and quality of the Masters programme will improve the chances of obtaining external funding
6. There will be a significant increase in the number of scientists trained in aquatic ecology	6.1 15 M.Sc. and three D.Phil. graduates by Year 5				
Intermediate results Quality M.Sc. Programme established					
Adequate number of well-trained academic and technical staff					
Research programmes are successfully implemented					
Research results successfully disseminated					
An effective revenue generating strategy					
Significant increase in the number of scientists trained in aq. ecology					

Annex 14. Aquatic Ecology Project Achievements

Result/OVI/Activity*	Commentary
The Department of Biology becomes a sustainable centre of excellence for research and teaching in the field of aquatic ecology, with relevance to developmental issues.	Significant achievements were made and recorded in the project reports particularly in the area of research. Like other projects, the achievement of this specific objective has, however, been significantly hampered by the loss of key staff, but the capacity that remains in the Department of Biological Sciences would, to a significant extent, not be in place were it not for the VLIR project. Detailed reports are presented below on individual results. However, it should be noted that sustainability remains a major concern, partly due to departure of key staff and partly due to the absence of a clear forward-looking sustainability strategy. Some thoughts on sustainability are included in the self-assessment report, but these now need with some urgency to be shaped into a clear and targeted strategy to ensure that the platform created by the UZ-IUC Programme is sustained. This project was the only one for which a self-assessment report was received. It reports that 'the project has opened up significantly in the last 2 years to collaboration with other departments/and faculties, this has increased its profile in the university. The M.Sc. Tropical Hydrobiology and Fisheries programme is now the only source of trained aquatic scientists at postgraduate level in the country with graduates being taken up by other universities leaving still excess demand..The success of the project has managed to steer the department to focus on its areas of research strength which is now mainly aquatic ecology (as against only fish biology when the IUC Partnership activities started in 1998. The Aquatic Ecology project has become increasingly involved in interdisciplinary research mainly in the field of eco-hydrology. During the last five years the number of regional and internal collaborations increased considerably which was a significant achievement from the second phase' (p. 15). In addition, the self-assessment reports various other achievements that are not specific to the Results below but highlight some additional successes. It is not stated what, if any, specific contribution the VLIR programme made to these achievements, but in some it is clear that the project played a significant role: * Collaboration with National Parks on management of lakes and rivers. * Fish parasite consultancy studies at Malilangwe Conservancy. * Consultancy for Lake Harvest Aquaculture Company. Four undergraduate students have been taken for vacation attachments. * The project is also now an affiliated Member of WATERNET (Aquatic Ecology Self-Assessment Report, p. 11).

Result/OVI/Activity*	Commentary
1. A high quality M.Sc. programme is put in place: a) By year 5, two M.Sc. cycles, each lasting two years, have been completed, each with an intake of 10 students, with 30% being regional students. b) External examiners reports favourably on standard of written papers and theses.	There have been three cycles of the M.Sc. programme during Phase II of this project, the last of which is still running. The first, running from 2003 to 2005, enrolled six students (all Zimbabwean and all funded by the project), all of whom graduated. The Department notes that it did not attain the target of 30% of regional students in this first intake because it did not advertise widely enough regionally. In the second cycle, running from 2005 to 2007, five students were enrolled, including two from Zambia (again, all funded by the Project). Problems were reported with assessing the quality of students (i.e. Recognition of Prior Learning), but the Zambian students performed well in the programme. Again, all students from this intake graduated successfully. In the final intake, running from 2007 to 2009, five students were enrolled, again all Zimbabwean, in this instance because students from other countries have become nervous about visiting Zimbabwe due to the prevailing political situation. These students have not yet graduated, but two have subsequently dropped out of the programme. These students are funded from outside the project, with some receiving funds from Student Research Assistantships. Graduates from the programme have gone on to employment in national museums, national parks, and universities (as junior lecturers). The 2005, 2006, and 2007 Annual Reports note that 'in general, the students compete well in the job market and most of the first [and second] intake have gone on to further academic studies or have found employment on graduation'. A lthough these numbers are below the projected targets of ten per intake, the Department notes that programmes coordinators were reluctant to admit large student enrolments in a context of high staff turnovers, as they felt it would be difficult to ensure quality. Under the circumstances, this seems to have been a sensible approach. The Department also made extensive use of external lecturers and partners from the Flemish universities to run the programme during the project, to compensate for staff shortages. However, it is noted in the 2005 Annual Report that this dependence on external support declined as more staff were appointed internally, while scheduling conflicts in 2005 also prevented the participation of Flemish academics in teaching the programme. Likewise, across years, plans to have the students travel to Belgium did not materialize as it was felt that this was no longer necessary and was not financially possible. The 2004 Annual Report notes the appointment of an external examiner from the University of the Free State in South Africa, whose function was to review examination questions, check students' examination scripts and comment on standard of marking, make comments on course content, and discuss research projects with the students. However, few comments are made in Annual Reports on whether or not the external examiner reported favourably on standards of written papers and theses (for example, the 2005 Annual report simply notes that 'has reported favourably on the programme, both in relation to the taught courses and the theses' (p. 36), an observation repeated verbatim in 2006). The evaluators were not provided any external examiner's reports, so are not able to comment on attainment of the second OVI for this Intermediate Result. The EC was supplied an overview of the current curriculum for the M.Sc. programme. It is a matter of some concern that the document supplied dates back to 2003, and thus the EC found no evidence that it had been updated regularly, although an indication from one of the Flemish partners suggests that such updates were occurring on an ongoing basis during the project. It is not possible to ascertain much about quality of curriculum from the document supplied, but the level of learning does appear somewhat 'introductory' in nature for Master's level programme. Several of the course descriptions are described as intending to introduce students to topics, which seems unusual for a programme at this level.

Result/OVI/Activity*	Commentary
2. An adequate number of well-trained academic and technical staff is in place: a) three new staff members with D.Phil. by year 5. b) 1 well-trained technician in the field of Aquatic Ecology, operating within the Department of Biology by Year 2.	During the period, one student based at the Lake Kariba Research Station completed a Ph.D. through the University of Cape Town (partially funded by VLIR), but has subsequently left the university to work as a private consultant (but still assists the Aquatic Ecology teaching). Two graduates of the MSc programme are currently pursuing Ph.D.s through Rhodes University in South Africa. Although these are not funded by the project, they have received some assistance from VLIR (the precise nature of which was not defined). There are also other employees of the Lake Kariba Research Station pursuing Ph.D.s, which the project has co-funded, but again the relative contribution of the VLIR project to these is hard to define. Finally, two current members of staff are due to complete Ph.D.s in 2009, funded through the VLIR project. Various visits are also reported on in Annual Reports. For example: * 'Prof Luc Brendonck and Mr Eddie Holsters, accompanied by several students from Belgium, visited the University of Zimbabwe during the course of their research expedition in July-August 2003' (2003 Annual Report, p. 20). * 'Prof Ollevier came to Zimbabwe in September 2003 for the Joint Steering Committee meeting and was able to visit the University Lake Kariba Research Station to familiarize himself with the situation there and meet the staff (2003 Annual Report, p. 20) * 'Prof Brendonck and Dr Maes visited Zimbabwe to teach on the MSc while Prof Marshall visited Belgium as did the three doctoral students' (2004 Annual Report, p. 23). * Prof Brendonck and Dr Muylaert visited Zimbabwe in July/August 2005 to lead the expedition and to work with Miss Ndebele at Lake Kariba, respectively. Prof Chimbari (Director, ULKRS), in February 2006, Mr Barson and Mr Nhiwatiwa, in September 2005, all visited Belgium during the year but Prof Marshall did not visit Belgium because of financial concerns that, in the end, proved to be unfounded' (2005 Annual Report, p. 29). * Mr Barson and Mr Nhiwatiwa visited Belgium during the year. Mr Barson and Ms Chifamba attended a GIS training course at the University of Western Cape as part of the staff training programs under the NSS programme...Prof Brendonck and Dr Muylaert visited Zimbabwe in February 2007 to lead an expedition and to work with Mr Barson and Mr Nhiwatiwa on their Ph.D.'s at the Save Valley Conservancy' (2006 Annual Report, p. 34). * 'The Flemish Project Leader visited Zimbabwe for one week in November 2007 to attend a local mini-symposium organized by the Aquatic Ecology Project and to join the fieldwork in the Save region. Various other issues were also discussed including Ph.D. progress and sustainability issues...Prof Marshall was able to travel from Uganda to participate at the final mini-symposium, held in November 2007. During his visit, he was also able to give a course to the new group of M.Sc. students (2007 Annual Report, p. 29). * Although no additional information is supplied on these visits, it is assumed they played a valuable role in provided support to, and capacitating local academic and technical staff. A full-time technician was appointed in 2004. She visited Belgium in July, 2005, presumably to develop competence in her work by learning from the Belgian experience.

Result/OVI/Activity*	Commentary
3. Research programmes are successfully implemented: a) Each year, three A1 Papers will be published/accepted, as well as three lower ranked. b) At least 50% of publications are result of joint research work between UZ and the Flemish universities. 4. Research results are successfully disseminated: a) Staff members have presented a paper at six international conferences after 5 years. b) One local and one regional workshop have been held and proceedings distributed to all relevant stakeholders. c) An Aquatic Ecology website is developed	Given the dualistic nature of the two Results, they are reported on together. The Aquatic Ecology project was prolific in its production of research. In total, during the project, the database notes publication of: * 39 articles published in international peer reviewed journals, 28 of which were produced by UZ and eleven jointly. * Six articles submitted to international peer reviewed journals, three produced by UZ and three produced jointly (note that the evaluators subsequently received information on seven articles published in journals, which includes several of those submitted here – these were not included in the database as their publication post-dates the project). * One chapter in a book (based on peer review), produced by UZ. * One book with international distribution submitted to a publisher, produced by UZ. * Five working/technical papers/popularising literature/articles in national journals, electronic journals etc, all of which were produced by UZ. * Three conference proceedings (full paper), two of which were produced by UZ and one jointly. * 19 conference contributions (posters, lectures), 18 of which were produced by UZ and one by a Flemish academic. This significantly exceeds the targets set. Several research visits between Zimbabwe and Belgium also took place in the production of this research output. A quality assessment of the Aquatic Ecology research publication outputs is provided under Research: KRA1 in Section 5. The self-assessment report notes that an Aquatic Ecology Mini-symposium was held on 26th November, 2007, at which eleven team members of the Aquatic Ecology project gave presentations. The attendees included three international professors, one regional professor, and about 40 local staff and students (Aquatic Ecology Self-Assessment Report, p. 11). The project also invested in additional infrastructure to support research, both through the Campus Wide Network project (for example, new computers) and more generally. For example, a minibus was procured for the project to facilitate travel, as were three new outboard motors for boats at the Lake Kariba Research Station, new printers and a photocopier, a range of scientific equipment, and generators for an electrofisher. A full inventory of items procured is contained in the project database. The Aquatic Ecology website was reportedly not completed, but a brochure on the Department was uploaded on the UZ website. Website management is done centrally, so this has not been updated recently. Reasons cited for lack of progress on the website were pressure of work and lack of technical skills within the Department.

Result/OVI/Activity*	Commentary
5. An effective revenue generating strategy is in place: a) The total operating funds available in year 5 equal to the operating funds that were available in year 3; the balance made up by funds from other sources. b) Most (>50%) scholarships in second M.Sc. cycle supported by outside funding. c) 100% funds to organize the local and regional workshops obtained. d) Funds obtained for the publication of at least one book. e) At least three new external projects will be obtained in year 5.	In overall terms, the objective of putting an effective revenue-generating strategy in place was not achieved, as there is no written document that outlines this strategy or monitors its success in implementation. In addition, no calculations of the actual costs (including personnel costs) of running the M.Sc. programme have been undertaken, which would be the cornerstone of a revenue-generating strategy. No data was supplied on the extent to which operating funds in year 5 match operating funds in year 3, or what funds were secured from alternative sources. The target of over 50% of scholarships in the second MSc cycle being supported by outside funding was not achieved, but all students in the third cycle were supported by outside funding, which indicates a strong measure of success in this area. However, as no calculation of the total operating cost (including personnel costs) of running the MSc has been completed, it is not possible to ascertain whether or not the programme is operating on a financially sustainable platform. In addition, Zimbabwe's economic problems have severely curtailed UZ's operating budgets, leading to significant reductions in operating budgets. It is hoped that this problem will be reversed during 2009. The Project has been successful in opening new doors and creating new networks, particularly in Europe. However, no information was supplied to the evaluators on whether or not funds were secured to organize local and regional workshops or to publish a book. It was noted that some small short-term grants have been secured from IFS, UNESCO, TWAS, and the British Ecological Society. The Department is also working on a new VLIR North-South-South grant with the University of the Western Cape. It appears, however, that the overall objectives of securing new funds were not fully achieved.
6. There will be a significant increase in the number of scientists trained in aquatic ecology: a) By year 5, the project should have produced a total of 15 M.Sc. and 3 D.Phil. graduates which represents a significant increase in the number of trained personnel	This Intermediate Result is not really a separate Result, rather bringing together aspects of Intermediate Results 1 and 2. It is unclear why it was added to the project design, as it seems superfluous. The Result was only partially achieved, with only 11 M.Sc. graduates and 1 D.Phil. graduate having been produced. However, the latter target will hopefully be met by the end of 2009, the delay understandable given the competing teaching priorities placed on these candidates by staff departures. Importantly, half of the staff currently in the Department of Biological Sciences are a product of the VLIR project, underlining its importance to its future sustainability. Nevertheless, there remains a need for more M.Sc. students to feed Ph.D. programmes and more Ph.D. graduates to replace departed staff.

Annex 15. Aquatic Ecology Project Mid-term Evaluation Recommendations

Recommendation	Commentary
The Department of Biology and the University shall make a concerted effort in supporting the promoter spokespersons at UZ for the fish biology project in establishing a multidisciplinary M.Sc. programme in Aquatic Ecology and Water resources.	The current title of the programme is Master of Science in Tropical Hydrobiology and Fisheries, so it was unclear during the evaluation whether this refers to a separate M.Sc. programme or to the same one. It was apparently the same one according to comments made at the draft stage of this report*.
The Department of Biology and the Faculty of Science should assist in creating a team of teachers and researchers to develop and run the prospective M.Sc. programme.	This has been implemented successfully throughout the project, ensuring that staff was on hand to run the programme. However, limited progress has been made in further development of the programme since its initial launch, which is cause for some concern.
Proper mechanisms, agreements and incentives between Departments and possible Faculties should be set up for teachers involved with the prospective M.Sc. programme.	Where such teachers were used, there were no problems reported regarding mechanisms, agreements, and incentives, so it is reasonable to conclude that this was successfully implemented.
The project should set up a proper steering committee for the prospective M.Sc. programme modelled on the set-up of MAGM.	The Steering Committee was set up and ran for the duration of the project.
The project shall strive to achieve more joint research work and research publications between UZ staff and staff at the involved Flemish universities.	This recommendation was very successfully implemented.
The university should consider attaching a technician (on a part-time basis) to the project to be responsible for maintaining and use of research equipment.	A technician was attached to the Department. It is unclear whether or not she remains in the employ of the University. NB The technician is still with the department according to comments received at the draft stage of this report.
The project should try to further broaden its horizon by setting up a network of contacts within the SADC-region. [31]	The self-assessment report notes establishment of collaborative research links with University of the Western Cape, University of Limpopo, University of KwaZulu Natal, University of Johannesburg, Rhodes University, University of Pretoria, University of Cape Town, and the University of Zambia. Details on the nature of these links are not supplied, although some information on specific relationships has been provided in the project analysis.

* Comment received at the draft stage of the report: when the project decided to broaden its scope during the Phase II, it became known as the "Aquatic Ecology" project. In line with recommendations from the phase I assessment, the MPhil (research masters) programme was replaced by a tutored MSc programme. However instead of naming the MSc programme after the new project name (Aquatic Ecology), the department found it "legally" easier to resurrect the name of the MSc in Tropical Hydrobiology and Fisheries which had priorly been dormant for many years due to lack of funding. In effect this MSc's syllabus covered all the broad topics espoused in the Aquatic Ecology project. It would take more time and resources to officially start a new MSc programme than to register an existing one.

31 Murphy, C. & Claes, P. 2002. Midterm evaluation of the Institutional University Co-operation with the University of Zimbabwe: Final Report from the External Evaluation Commission. Unpublished report. pp. 45-46.

Annex 16. Major activities proposed in the University of Zimbabwe Second Strategic plan

The major activities envisaged for delivering the Output/Enabling Conditions.

Enabling Conditions / Outputs 1: *Suitable infrastructure, equipment, facilities, and common services provided / expanded, and maintained at appropriately high levels of functionality (Hardware).*

AO1-1: Implement appropriate policies and procedures for the upkeep and proper maintenance of UZ buildings, grounds and roads, and sporting facilities

AO1-2: Ensure that the Campus-wide Computer Network is expanded (when necessary), well maintained and operational at all times.

AO1-3: Ensure that laboratories, lecture theatres, seminar rooms, libraries and reading rooms, offices, and hostels are in safe and clean condition at all times.

AO1-4: Provide/acquire adequate teaching (and learning) and laboratory equipment and ensure that all equipment is in functional and safe condition at all times. Damaged equipment must be attended to without unnecessary delays.

AO1-5: Ensure that the University Library and sub libraries are well-equiped and provided with relevant up to date materials

AO1-6: Ensure UZ sporting facilities are in safe and clean conditions at all times.

AO1-7: Improve facilities and employ qualified personnel at the vehicle workshops to ensure that cost effective maintenance and service of UZ vehicles are undertaken

AO1-8: Initiate the prototyping of selected laboratory equipment (for use in schools and Universities in the country), and other equipment, as this would contribute to savings in foreign exchange, and boost income for UZ.

AO1-9: Construct appropriate graduate students' accommodation on campus

Enabling Conditions / Outputs 2: *The Ordinances and policies (Admission, Research, Fees, Income Generation, Code of Conduct, Communication, Collaboration Agreements, etc.), and Rules and Regulations for staff and students, are developed, reviewed and/or updated when necessary to advantageously accommodate emerging issues and ensure that UZ functions efficiently and effectively (**Software**).*

AO2-1: Hold consultations with stakeholders (Alumni, Government, Customers / Clients, Cooperation Partners, Staff and Students) on the University Act, Ordinances (for fees, faculties, and departments), and Degree Regulations, and revise and/or make recommendations for amendments where necessary

AO2-2: Adopt and promote an effective Policy on Information and Communication Technology (ICT), emphasizing the requirements that all students graduating from the UZ will be computer literate.

AO2-3: Put in place a transparent process of appointment and promotion, which ensures speedy appointments of best-qualified personnel. In particular restrict candidature for senior posts (VC, Pro VCs, Deans, Chairpersons, HOD, Directors) to senior individuals who can command respect within and outside the University, and provide the necessary leadership.

AO2-4: Adopt a comprehensive Human Resource Development Policy covering such details as Capacity Building, Code of Conduct, Performance Appraisal and incentives.

AO2-5: Review, and update the admission policy to ensure that students are given the opportunity to develop and excel in areas where they have the greatest potential and interests, including sports.

AO2-6: Put in place comprehensive policies (guidelines) on research, consulting and advisory services, and short courses, clearly articulating income generation aspects where necessary, and adopt effective systems for the decentralized management of these.

AO2-7: Forge strategic alliances with selected institutions interested in promoting mutually agreed upon projects and programmes.

AO2-8: Develop and effectively disseminate to staff and students, standard procedures with regards to health (including HIV/Aids), safety and security, and the handling/maintenance of UZ facilities.

Enabling Conditions / Outputs 3: *Appropriate numbers of well educated (in various disciplines), highly computer literate, innovative, and diligent graduates at various levels (certificates, diplomas, bachelor, masters, and doctorate) who uphold the value of integrity are produced (**Human-ware**).*

AO3-1: Hold consultations with stakeholders (Alumni, Government, Customers / Clients, Cooperation Partners, and Staff) for inputs into curriculum development for both existing and new courses, to ensure that the UZ programmes are clearly needs oriented.

AO3-2. Incorporate Information and Communication Technology (computers,/ ICT) components into all programmes

AO3-3: Implement appropriate programmes on Character Building (Good Leadership, Integrity, Fair play, Decency, etc.) to ensure that UZ members develop into responsible citizens who respect others and have a positive attitude to life.

AO3-4: Introduce compulsory Industrial or community attachments for selected undergraduate programmes, as this would make the graduates them more marketable.

AO3-5: Introduce a system in which lecturers are encouraged to polish up their lecture materials to a high standard that can be published by UZ publications, thus providing core texts for courses offered at UZ.

AO3-6: Revamp the system for visiting external examiners to ensure that UZ programmes are reviewed by international peers, and are internationally recognized.

AO3-7: Introduce new needs-oriented Masters degree programmes for selected subject areas using Joint Modular courses with other Universities in Zimbabwe, the Region and internationally, if necessary.

AO3-8: Introduce cross-disciplinary degree programmes, which will enhance the profiles of UZ graduates. Also, introduce Entrepreneurship training in selected programmes.

AO3-9: Run / attend undergraduate and post graduate programmes, conduct research, and train and perform in sports according to approved plans and ensure that the high standards agreed upon with stakeholders are met.

Enabling Conditions / Outputs 4: *UZ is effectively and efficiently managed (Management).*

AO4-1: Put in place a Quality Management System, (e.g. a Management Information System with integrated databases of student and other records, UZ-wide computerisation, networking and links to the WWW, a Quality Assurance System, transparent and effective Resource Allocation procedures, and Participatory Planning Practices), which would foster a sense of commitment and ownership on the part of both staff and students, thus contributing to peace.

AO4-2: Continue to implement a system for decentralizing the administration of finance, income generation, research, consulting / advisory services, and the running of short courses to Faculties / Units, but maintain a coordinating function to ensure that activities are planned and implemented in a complementary manner which eliminates duplications and add value to the work of UZ as a whole.

AO4-3: Implement the various aspects of Income Generation (e.g. market value added solutions from the UZ, and ensure that the UZ takes the lead in work in potential economic growth areas), and manage the finances of the UZ in a transparent manner

AO4-4: Implement the HRD policy to cover pro-active Staff Development Programmes for both Academic and Support Staff in order to improve their skills for efficient and effective functioning (e.g. Team Building, Communications, Research etc.), and necessary incentives to stem the exodus of staff (e.g. realistic support for house and vehicle ownership, school fees, etc.). Also, ensure that the performance appraisal system is effectively managed

AO4-5: Improve the system of internal communication in UZ (e.g. hold regular Team Briefings) and ensure that the common VISION and MISSION are kept in focus at all times, and undertake effective Public Relations, to improve the image of UZ. Also, encourage staff to participate in conferences and workshops, and play leading roles in Professional Associations

AO4-6: Fill the position of Planning and Development with the function of facilitating/coordinating the on going planning and implementation of the strategic plan.

ARRANGEMENTS FOR IMPLEMENTATION

The implementation of the strategy will be the responsibility of all UZ members under the leadership of the Vice Chancellor (for UZ as a whole), Deans and Directors (for Faculties and other Units), Chairpersons and Heads (for their respective departments). In particular, the Vice Chancellor will continue to take the lead in mobilizing the necessary resources, and ensuring that the University is well managed. Deans of faculties will ensure that faculty strategic plans are prepared to dove tail into the overall UZ strategic plan and that annual operational plans for their faculties are completed on a timely basis. Each Faculty and Department will construct bar charts showing which activities are to be undertaken in which time periods, and by which staff members. The effect of this is that it can be 'seen at a glance' what has to be done and by whom, when implementing the strategy. These plans will be submitted to the University's Strategic Plan Implementation and Monitoring Committee (USPIMC) for approval. Thereafter, faculties and units will proceed with the implementation of the various plans.

PROPOSED APPROACH TO MONITORING AND EVALUATION

A University' Strategic Plan Implementation and Monitoring Committee (USPIMC) was formed for the purpose of monitoring the implementation of the first strategic plan. This committee will continue with the monitoring function for the overall implementation of the second strategic plan.

On the whole, the implementation of the strategic plan will be monitored according to milestones specified for detailed activities in the annual plans. This would be a major responsibility of the Deans, Chairpersons and Heads of Departments and Units. In addition, the Vice Chancellor and the University Council will receive regular reports on progress covering both technical and financial aspects. Issues raised in the reports and feedback from the authorities would be addressed with appropriate levels of urgency. Also, an independent mid-term evaluation of the implementation of the strategic plan will be commissioned by the start of the second half of 2005. This evaluation will provide external assessment of the performance of the University in implementing the strategic plan.

EXPECTED BENEFITS, IMPACTS AND RISKS

It is expected that the community at large will benefit from the contributions made by UZ to the various sectors by providing highly trained Human Resources and high quality research, consulting and advisory services. With an enabling environment created in the UZ, the intellectual capabilities of its members will definitely be utilized in solving developmental problems. It is expected that several innovative and practical solutions for poverty alleviation, conservation / environmental protection and value added production, will emerge from the UZ during the life of the 5-Year Strategic Plan. The expected impacts of these can therefore only be positive. Also, as increasing num-

bers of graduates from the UZ venture out into businesses of their own, making use of the education and skills acquired during their stay at the University, their contributions to the prosperity of Zimbabwe will be increasingly recognized and the part played by the UZ rightly acknowledged.

The major risk accompanying the implementation of the 5-Year Strategic Plan is that the UZ will be heavily reliant on both the Government and other cooperation partners, as it manages the change process and establishes itself as a quality and sustainable entity. The agendas of Government and the other cooperation partners should thus permit them to support the University's efforts. Developments in this regard will have to be closely monitored and corrective actions effected as and when the need arises, if the accompanying risks are to be minimized. UZ will put in place the necessary risk management procedures for the successful implementation of the 5-Year Strategic Plan.

BUDGET

On the whole, it has been estimated that the funds necessary for successful implementation of the 5-Year Strategic Plan would be in the region of Z$8.7 billion and Z$1.5 billion for Recurrent and Capital Expenditures respectively, in 2003. These sums are to be increased by appropriate percentages in line with inflation, for each of the remaining years of the plan. As noted above, the annual plans of operations would contain itemised budgets for the various University units.

Annex 17. Logframe of Second University of Zimbabwe Second Strategic Plan

SYSTEMS-WARE MODEL OF THE LOG FRAME	THE UNIVERSITY OF ZIMBABWE 5-YEAR STRATEGIC PLAN	PERIOD: 2003 – 2007	Sheet: 1 of 5* August 2002
SUMMARY OF OBJECTIVES AND ACTIVITIES	**PERFORMANCE INDICATORS (OBJECTIVELY VERIFIABLE INDICATORS)**	**SOURCES OF VERIFICATION**	**EXTERNAL CONDITIONS**
VISION (OVERALL GOAL): Our vision is to be (and be recognized by others as) a leading University working for prosperity, peace, and dignity in Zimbabwe and beyond.	**PIV1:** The UZ is a first point of reference for problem solving and leadership in addressing important developmental issues. **PIV2:** Increasing numbers of stakeholders from all sectors annually report that the UZ is indeed a leading University.	**SVV:** Correspondences, reports, Invitations and citations	
MISSION (PURPOSE): Our mission is to enable our clients and customers to make meaningful contributions to sustainable development in Zimbabwe. To this end we provide high quality education, training and advisory services on a needs oriented basis. We guarantee the above by maintaining excellence in Teaching, Learning, Research and Service to the community.	**PIM:** Increasing numbers of our clients / customers (students, public and private sectors, civil society), from all sectors of the economy, report in surveys conducted in 2004 and 2006 that they are fully satisfied with our products and services, and that they are using these in their own efforts for prosperity, peace, and dignity	**SVM:** Survey reports	**ECM-1: Sectors external to the UZ are also working for prosperity, peace and dignity.** **ECM-2: The political climate is favourable to economic development.**
OUTPUTS/ ENABLING CONDITIONS:	**PERFORMANCE INDICATORS**	**SOURCES OF VERIFICATION**	**EXTERNAL CONDITIONS**
Enabling Conditions / Outputs 1: Suitable infrastructure, equipment, facilities, and common services provided / expanded, and maintained at appropriately high levels of functionality (**Hardware**).	**PIO1:** The Library, Computer Centre, Clinic, Site and Transport, Buildings (Lecture rooms, Offices, Laboratories, Hostels, etc.), and the necessary equipment (including the Campus-Wide Network) are in place and operational to at least 90% of their planned and agreed upon capacities and standards on an annual basis	**SVO1:** Monitoring and Evaluation Reports and audited accounts	**ECO1:** Partners continue to support the efforts of the UZ
Enabling Conditions / Outputs 2: The Ordinances and policies (Admission, Research, Fees, Income Generation, Code of Conduct, Communication, Collaboration Agreements, etc.), and Rules and Regulations for staff and students, are developed, reviewed and/or updated when necessary to advantageously accommodate emerging issues and ensure that the UZ functions efficiently and effectively (**Software**).	**PIO2:** Work on new policies or necessary revisions are completed within six months of commencement (at the latest), and the necessary implementation mechanisms put in place and operated.	**SVO2:** Minutes of meetings of various bodies (Council, Senate, Academic, Budget & Planning, Salaries and Conditions of Service, and Strategic Plan Monitoring and Implementation Committees, etc.)	**ECO2:** Government continues to be supportive

Enabling Conditions / Outputs 3: Appropriate numbers of well educated (in various disciplines), highly computer literate, innovative, and diligent graduates at various levels (certificates, diplomas, bachelor, masters, and doctorate) who uphold the value of integrity are produced (**Human-ware**).	**PI03-1:** Masters and Doctorates make up at least one quarter of the total number of graduates on an annual basis, by 2006 **PI03-2:** Every UZ graduate passes at least one compulsory ICT course, making them highly computer literate by 2006. **PI03-3:** At least one major work reflecting innovation and, or creative expression (e.g. patent, book, Art, Software) is produced by students and, or staff per year from 2004 **PI03-4:** At least one current or former UZ student represents the country in a medal winning sports team in international competitions annually.	**SV03-1:** Academic Registry and official graduation records. **SV03-2:** Academic Registry and official graduation records. **SV03-3:** Patent Office, and (Book) Reviews **SV03-4:** Sports Commission, Students Affairs, and Alumni Association	**EC03-1:** Partners continue to support the efforts of the UZ **EC03-2:** Partners continue to support the efforts of the UZ **EC03-3:** Partners continue to support the efforts of the UZ **EC03-4:** Partners continue to support the efforts of the UZ
Enabling Conditions / Outputs 4: The UZ is effectively and efficiently managed (Management).	**PI04-1:** UZ Academic Staff: Student Ratio stabilises around 1:20 by the year 2005, with student numbers around 12 000. **PI04-2:** UZ managed with a maximum of 10% negative deviations from approved annual operational plans (e.g. Budget, HRD) on an annual basis.	**SV04-1:** Personnel and student records **SV04-2:** Audited accounts	**EC04-1:** None **EC04-2:** Partners continue to support the efforts of the UZ
ACTIVITIES (for delivering the outputs): (See sheets 2 to 5)	***BUDGET:*** Z$8.7 billion and Z$1.5 billion for Recurrent and Capital expenditures respectively, for 2003 with appropriate increases (in line with inflation per year) for the strategic plan period.		(See sheets 2 to 5)

* Only one sheet of a total of five is presented here in order to indicate the four main thrusts of the Second UZ Strategic Plan.

Annex 18. Overview of financial expenditure for Phase I (1998 – 2002) and Phase II (2003 – 2007) of the UZ-IUC Partnership Programme

	*1998	*1999	*2000	2001	2002	2003	2004	2005	2006	2007	% totals**
B. Investment Costs	24,096,083	22,259,051	21,096,029	468,855	489,777	433,028	433,028	169,278	124,818	39,786	74
C. Operational Costs	215,276	2,268,871	2,092,009	75,808	100,689	142,468	142,468	142,788	142,392	59,034	6
D. Personnel Costs	864,444	801,613	801,613	16,853	26,997	18,020	18,020	18,525	18,274	20,053	3
E. Scholarship Costs	488,098	1,534,770	2,046,004	68,857	28,351	31,487	31,487	97,249	97,536	57,934	4
F. International Costs	572,340	855,890	750,346	23,614	37,145	33,957	33,957	57,369	48,358	56,257	3
G. Residential Costs	887,249	1,092,180	1,408,513	42,574	41,550	33,504	33,504	78,470	61,379	51,148	4
H. Shipment Costs	115,786	96,566	756,350	21,046	3,564	13,281	13,281	33,975	16,289	8,896	1
K. Administration Costs	0	0	0	0	0	0	0	0	0	0	0
K1. Belgium	1,361,994	1,435,556	1,447,543	35,880	35,840	34,633	34,633	29,425	25,452	14,655	5
K2. UZ	0	36,228	54,054	19,940	4,251	4,041	4,041	7,710	25,455	25,609	<1
Totals	**28,601,270**	**30,380,725**	**30,452,461**	**773,427**	**768,164**	**744,419**	**744,419**	**634,789**	**559,953**	**333,372**	

* Amounts shown for years 1998 – 2000 are in BEF; remainder of values for 2001 – 2007 are in EUR
** Approximate proportions of total expenditure

Annex 19. NSS initiatives established by the Aquatic Ecology Project

NSS project 2006

Integration of concepts and standardization of methodologies in hydrology/hydrogeology and aquatic ecology for sustainable management of water resources in southern Africa

SUMMARY SHEET

A. Full details of the Flemish promoter

- Full name: **Frans Ollevier / Luc Brendonck**
- Institutional position (title, department, university): **FO, LB:** Prof., Biology, KU Leuveneuven
- Link to the IUC partner programme with the lead partner university: **FO:** Flemish project leader of project 'Aquatic Ecology'; **LB:** Flemish team member in project 'Aquatic Ecology', lecturer of the course aquatic ecology in the masters programme at UZ and organizer of yearly expedition with local and Flemish researchers and technicians within the IUC framework KU Leuveneuven/ UNZI.

B. Full details of person responsible at the level of the IUC lead partner university (LPU) as well as the Flemish project leader:

- Full name of Flemish project leader: **Frans Ollevier**
- Full name responsible at IUC lead partner university: **Brian Marshall/ Tamuka Nhiwatiwa**
- Position: **BM:** Prof.; **TN:** Lecturer
- Address, phone, fax and e-mail address: University of Zimbabwe, Dept. of Biological Sciences, P.O. Box MP 167, Mt. Pleasant, Harare, Phone: +263 4 303211 Ext. 1446/34, Fax: +263 4 333407, Email: bmarshall@science.uz.ac.zw, tnhiwatiwa@science.uz.ac.zw
- Link to the IUC partner programme with the lead partner university (LPU): **BM:** Local project leader of project 'Aquatic Ecology'; **TN:** obtained masters degree within the project 'Aquatic Ecology', participated in all joint expeditions KU Leuveneuven / UZ within the IUC activities, was coorganizer together with LB of the last expedition in Gonarezhou.

C1. Full details of person responsible at the level of the IUC partner university 1 (PU1) as well as the Flemish project leader:

- Full name of Flemish project leader: **Luc Brendonck**
- Full name responsible at IUC PU1: **Yongxin Xu**
- Position: Prof.
- Address, phone, fax and e-mail address: University of the Western Cape, P. Bag x17, Bellville 7535, South Africa, Phone +27 21 9593882, Cell +27827769612, Fax +27 21 9593118, Email: yxu@uwc.ac.za

* Link to the IUC partner programme with the IUC partner university 1: project leader of project 4 within the IUC programme: 'Sustainable use of subterranean water for the improvement of the quality of life'.

D. Budget summary in EUR:

VLIR-UOS	
Flemish Partner	12 230
Lead PU	13 730
PU 1	13 830
TOTAL	**39 790**

E. Please summarize the collaborative project proposal in max. 250 words (content, problems, objectives, results):

Title of project: **Integration of concepts and standardization of methodologies in hydrology/hydrogeology and aquatic ecology for sustainable management of water resources in southern Africa**

There is a growing pressure on aquatic resources in southern Africa. Especially scientific capacity in eco-hydrology is lacking to provide sustainable solutions. The University of Zimbabwe's 'Aquatic Ecology' project and the University of Western Cape's 'Sustainable use of subterranean water for the improvement of the quality of life' project are both currently sponsored by VLIR-UOS. Specialization in these two institutions in the teaching and research in aquatic ecology and hydrology, respectively, has tended to underestimate the value of the other. This NSS cooperation will therefore seek to bring a mutual appreciation of these disciplines through curriculum development and practical training of students, academic and technical staff from both institutes. The development of scientific conversancy in both disciplines is vital for both partners in order to be able to address the challenges facing the region, especially in relation to water resource management policies enshrined in their legislation. There is also need to develop standard procedures for hydro-ecological fieldwork that is relevant for the region and that can be recommended for use by all stakeholders. As the KU Leuveneuven laboratory is represented by a project leader in each of the projects, it will trigger networking initiatives between UZ and UWC and help in training, research and curriculum development.

Expected results will be the further integration of the concepts of hydrology/hydrogeology and aquatic ecology in ongoing research at both universities, in curriculum development and the further optimization of protocols for the study of the interaction between hydrology and structure and functioning of vulnerable aquatic systems.

NSS project 2007

Eco-hydrology: a new approach to the study and management of freshwater systems in southern Africa.

A. Full details of the Flemish promoter

- Full name: **Frans Ollevier / Luc Brendonck**
- Institutional position (title, department, university): **FO, LB:** Prof., Biology, KU Leuveneuven
- Link to the IUC partner programme with the lead partner university: **FO:** Flemish project leader of project 'Aquatic Ecology'; **LB:** Flemish team member in project 'Aquatic Ecology', lecturer of the course aquatic ecology in the masters programme at UZ and organizer of yearly expedition with local and Flemish researchers and technicians within the IUC framework KU Leuveneuven/UZ.

B. Full details of person responsible at the level of the IUC partner university 1 (PU1) as well as the Flemish project leader:

- Full name of Flemish project leader: **Frans Ollevier**
- Full name responsible at IUC lead partner university: **Tamuka Nhiwatiwa/ Maxwell Barson**
- Position: **TN:** lecturer; **MB:** lecturer
- Address, phone, fax and e-mail address: University of Zimbabwe, Dept. of Biological Sciences, P.O. Box MP 167, Mt. Pleasant, Harare, Phone: +263 4 303211 Ext. 1442, Fax: +263 4 333407, Email: tnhiwatiwa@science.uz.ac.zw
- Link to the IUC partner programme with the lead partner university (LPU): **TN:** Acting local project leader of project 'Aquatic Ecology'; obtained masters degree within the project 'Aquatic Ecology', participated in all joint expeditions KU Leuveneuven / UZ within the IUC activities, was coorganizer together with LB of the last two expeditions in Gonarezhou and Save Valley; **MB:** obtained masters degree within the project 'Aquatic Ecology', participated in all joint expeditions KU Leuveneuven / UZ within the IUC activities, was coorganizer together with TN and LB of the last two expeditions in Gonarezhou and Save Valley.

C1. Full details of person responsible at the level of the IUC partner university 2 (PU2) as well as the Flemish project leader:

- Full name of Flemish project leader: **Luc Brendonck**
- Full name responsible at IUC PU1: **Yongxin Xu**
- Position: prof.
- Address, phone, fax and e-mail address: University of the Western Cape, P. Bag x17, Bellville 7535, South Africa, Phone +27 21 9593882, Cell +27827769612, Fax +27 21 9593118, Email: yxu@uwc.ac.za
- Link to the IUC partner programme with the IUC partner university 1: project leader of project 4 within the IUC programme: 'Sustainable use of subterranean water for the improvement of the quality of life'.

D. Budget summary in EUR:

VLIR-UOS	
Flemish Partner	15 618
PU 1	11 329
PU 2	12 915
TOTAL	**39 862**

E. Please summarize the collaborative project proposal in max. 250 words (content, problems, objectives, results):

Title of project: **Eco-hydrology: a new approach to the study and management of freshwater systems in southern Africa.**

The UZ's 'Aquatic Ecology' project and UWC's 'Sustainable use of subterranean water for the improvement of the quality of life', came together in the first NSSCF award with the purpose of establishing synergies and determining standard protocols that could be used for eco-hydrological assessments. All the three partners now appreciate the need for a holistic approach that is relevant for water resources management that includes both surface and groundwater aspects of wetlands and they have decided to continue the cooperation with a view of solidifying ecohydrology as a new and viable tool.

This project aims to build on the first NSSCF to expand the training and exposure of students from UZ and UWC to eco-hydrology and geo-hydrology methods and applications and to facilitate exchange of teaching staff from all the three partners (UZ, UWC and KU Leuven) in developing curricula at M.Sc. level to ensure that ecohydrology becomes a significant component of the learning content. Research activities in this phase will now focus on the concept of water allocations for ecosystems which was conceived and is being applied in South Africa as Resource Directed Measures (RDM), but is yet to make in-roads in Zimbabwe. The Water Act (No. 31 of 1998, gazetted into law in 2000) makes reference to water for ecosystems but there has been no implementation up to now. The National Environmental Policy document (2003) specifically emphasizes that water is required to support the functioning of natural ecosystems, and that the government would 'encourage research to determine environmental flows needed to maintain the functioning of major river systems in the country'.

However, funding has not been forthcoming to undertake such studies, and this remains a major challenge for government and its stakeholders. It is envisaged that this study will be the first one in this respect, and is thus important. Despite a lot of work on RDM that has been done in South Africa, this study will be one of the very few that involve an integrated approach that will involve and forge links between ecologists, geologists/hydrologists at UZ with their counterparts at UWC. Such an interdisciplinary approach will also promote synergies within UZ for the ultimate benefit of students. The UZ project has been working on the ecology of the Save River floodplain, the largest internal river system in Zimbabwe, for a number of years and eco-hydrological methodologies were tested in wetlands of this floodplain during the first NSSCF funding phase (2006-7). The next logical step is then to apply RDM approaches to this system to determine its environmental flow requirements during the wet and dry

seasons. This will be the key activity of this project.

Expected results will be the further integration of the concepts of hydrology/ hydrogeology and aquatic ecology in ongoing research at both universities, curriculum development and the implementation of the first intensive determination of water needs for aquatic and associated ecosystems in Zimbabwe.

NSS project 2009-2010

Integrated ecological and hydrogeological study of anthropogenic impacts on the Lower Runde River system (Zimbabwe)

I. SUMMARY SHEET

A. Full details of the Flemish promoter

- Full name: **Luc Brendonck (LB)**
- Institutional position (title, department, university): Prof., Biology, KU Leuven
- Link to the IUC partner programme with the lead partner university: Flemish promoter of the project 'Sustainable utilization of subterranean water resources for improvement of quality of life'
- Addresses: KU Leuven, Laboratory of Aquatic Ecology and Evolutionary Biology, Charles Deberiotstraat 32, 3000 Leuven, Belgium. Phone: +32 16 32 37 14; Fax: +32 16 32 45 75. Luc.brendonck@bio.KU Leuveneuven.be

B. Full details of the Flemish coordinator of the leading Partner University (LPU=UZ):

- Full name: **Jos Odeurs**
- Position: Professor
- Address, phone, fax and e-mail address: KU Leuven,
- Afdeling Kern- en Stralingsfysica, Celestijnenlaan 200d - bus 2418, 3001 Heverlee, Belgium.
  Phone +32 16 32 78 22; Fax +32 16 32 79 85; jos.odeurs@fys.KU Leuveneuven.be

C1. Full details of person responsible at the level of the IUC partner university 1:

- Full name responsible at IUC PU1: Tamuka Nhiwatiwa **(TN)** and Maxwell Barson **(MB)**
- Position: **TN:** Lecturer **MB:** Lecturer (UNZI)
- Address, phone, fax and e-mail address: University of Zimbabwe, Dept. of Biological Sciences, P.O. Box MP 167, Mt. Pleasant, Harare, Phone: +263 912 439 922, Fax: +263 4 333407, Email: tnhiwatiwa@yahoo.co.uk; barson001@yahoo.co.uk

Link to the IUC partner programme with the lead partner university (LPU): **TN:** Deputy project leader of project 3 'Aquatic Ecology', **MB:** Team member of the project 'Aquatic Ecology'

C2. Full details of person responsible at the level of the IUC partner university 2

* Full name responsible at IUC PU2: **Yongxin Xu**
* Position: Prof, UNESCO Chair of Hydrogeology (UWC)
* Africa, Phone +27 21 9593882, Cell +27827769612, Fax +27 21 9593118, Email: yxu@uwc.ac.za
* Link to the IUC partner programme with the IUC partner university 2: project leader of project 4 within the IUC programme: 'Sustainable use of subterranean water for the improvement of the quality of life'.

Add as required

D. Budget summary in EUR:

VLIR-UOS	
Flemish Partner	16 372.25
PU 1	20 921.25
PU 2	22 575.00
TOTAL	**59 868.50**

E. Please summarize the collaborative project proposal in max. 250 words (content, problems, objectives, results):

Title of project: **Integrated ecological and hydrogeological study of anthropogenic impacts on the Lower Runde River system (Zimbabwe)**

The objectives of the two previous NSS projects of networking between all partners and establishment of long term collaboration were achieved through joint field expeditions and training programmes that built very strong links between groundwater and surface water and between hydrology and ecology. This project builds on this strength to prepare a predictive model addressing a case study in the low veldt (Zimbabwe), where agricultural activities are suspected of negatively affecting the Lower Runde River system. Seasonal flooding and drying in flood-plain rivers and connected dynamics in alluvial aquifers generally play important roles in maintaining biodiversity and ensuring sustainable water supply in the semi-arid regions. In the Lower Runde River, these ecosystem processes and functions are affected by activities such as abstraction for irrigation by sugar estates, leaching of nutrients and siltation. Expected linkages existing between subterranean and surface flows are poorly understood for lack of an integrated approach. This project aims to assess the impacts of anthropogenic disturbances, in particular flow modification and agricultural runoff on alluvial aquifers and on abiotic conditions and biotic diversity in the Runde River and associated wetlands. The water quality of alluvial aquifers and recharge dynamics will be investigated and correlated with surface flow regimes. The expertise of the respective partner programmes will be integrated to give a holistic approach to this case study. The results of this cooperation will be combined with historical data to develop a predictive model of the linkages between surface and groundwater quality and quantity in relation to anthropogenic impacts.

Acknowledgements

The evaluation commission would like to express its sincere appreciation for the extensive support it received from the VLIR–IUC Secretariat in Brussels and the Flemish University Partners in providing both members with information and all of the relevant documents required for evaluating the overall performance of the whole University of Zimbabwe partnership programme. The commission also thanks the Programme Coordination Unit on Mount Pleasant campus, under the leadership of Gilford T. Hapanyengwi, for its assistance in providing important additional information and for organizing a programme of visits and events involving both South and North Stakeholders before, during, and following the VLIR-IUC official closing ceremony held on 25th March, 2009.

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