African-German Co-operation in Higher Education supported by the German Technical Co-operation Agency (GTZ)

Experiences and Lessons Learned

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Summary

One development in the African states was the establishment of the Southern African Development Community (SADC), which is responsible for the interstate development. One of the SADC programmes is to strengthen the postgraduate training in faculties of agriculture under the Southern Africa Centre for Co-operation in Agricultural Research and Training (SACCAR) in SADC. The general goal is to contribute to agricultural development, food security and natural resources management. Four agricultural university centres, already running their local MSc programmes, were identified for strengthening in order to establish competitive and sustainable MSc programmes. The long-term institutional capacity building process was supported by GTZ from 1988 to 2001. This paper looks back at some experiences gained by managers, students and teachers in the programme. The programmes have up to date produced more than 250 MSc and PhD graduates. Since the programmes started there has been a trend towards more on-field than on-station research and encouraging more towards participatory and demand-driven research. As a whole, the training costs per student are lower than for studies overseas. The programme is being used as a blueprint by others and has been used as a spin-off to establishing some PhD programmes in the region. The multiplication effect is expected to generate a high return-to-investment in human resources. The sustainability of the regional training programmes depends largely on the provision of scholarships attracting highly qualified students. Due to difficult frame conditions, it remains a challenge for some universities to motivate national or foreign students to enrol in a regional programme. A standardised regional quality management system has to be established. Recruitment of candidates has to be based on an intensive selection process. The programme has to facilitate interdisciplinary research across countries more intensively while training specialists have to respond to specific stakeholders’ needs. Development and intensified use of information and communication technology (ICT) has the potential to reach new target groups and to support the paradigm change from teacher’s oriented to student’s centred learning. Knowledge management systems of research results, teaching resources and graduates have to be further developed. Sustainable institutional capacity building requires joint South-North programmes. The use of information and communication technology has the potential to reach new target groups.

Keywords: Higher education, postgraduate training, agricultural sector, SADC.

Introduction

The central role of higher education for development has been recently re-emphasised at various international conferences and in reports (UNESCO, 2000). Institutions of higher education should serve as a “gate to global knowledge” – the key factor for development. Knowledge is the critical factor in the ongoing process of globalisation. Figure 1 (see page 58) the number of students in tertiary education in SADC and the tremendous differences between countries in SADC. The level of higher education has an immediate impact on economic competitiveness and democratic development of the society (World Bank, 2000). In SADC the efficiency and effectiveness of universities is still insufficient to meet the national and regional demand for adequately trained personnel. In agriculture, the backbone of the economy in SADC countries and in the livestock sub-sector the situation is alarming. Land degradation, food insecurity and erosion of plant and animal genetic resources are some of the major challenges to be faced. Universities, therefore, should become innovators and key players in sustainable development of the region.

Since 1988 SACCAR has co-ordinated a regional programme on postgraduate training in relevant agricultural subjects at four universities within SADC. A competitive and sustainable programme of MSc courses covering the fields concerned and relevant to the SADC countries has been set up at four universities. The initial concept idea was to establish “centres of excellence” in the region. The long-term goal of the programme is to ensure that relevant postgraduate training in agriculture is available fulfilling the needs of the SADC region in high priority disciplines. The programme contributes to agricultural development, food security and management of renewable natural resources in SADC and was therefore eligible to be supported by the technical co-operation agreement between SADC and Germany through GTZ, the German Technical Co-operation Agency. SACCAR is the implementing institution that co-ordinates the postgraduate programme. GTZ has been supporting SACCAR and four universities in the SADC region namely, University of Malawi, Bunda College of Agriculture hosting the Animal Science Programme, University of Zimbabwe, School of Agriculture hosting the Crop Science Programme, Sokone University of Agriculture hosting the Land and Water Management Programme and University of Zimbabwe hosting the Agricultural Economics Programme.

In 1987/88 the project started with the secondment of a technical advisor to SACCAR for two years. Germany has awarded up to 40 postgraduate scholarships per annum, assisted in staff development and exchange, provided equipment for training and research and

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seconded long- and short-term experts to SACCAR and to the universities. The current and last project phase (1999–2001) was supported by GTZ up to the end of 2001. The technical support included the provision of short-term experts to all programme sites, scholarships and fundings to replace outdated equipment. The administrative and logistical support is provided through the local GTZ offices.

The strategy and action plan

Logical framework planning methods such as Goal Oriented Participatory Planning methods and management methods such as Project Cycle Management or strengths, weaknesses, opportunities and threats analysis were used to develop strategy and action plans. The purpose of the participatory planning process was to create a high degree of ownership, to reduce dependencies on external decision-making and to promote sustainability of the programme. The annual plan of operation was site specific but referred to the content and structure of the overall planning matrix. This was not very clear from the beginning but towards the second half of the programme an overall planning matrix was agreed upon. As time went on, it became more and more obvious that problems and constraints, solutions and restrictions were not unique but very similar in each university. In summary, the indicators for the establishment of a competitive and sustainable programme were established as follows:

- At least 80% of the graduates find appropriate employment
- Average course costs are 20% lower than overseas
- The demand exceeds the availability of places by 50%

The first and the third indicator are relatively easy to quantify whereas the economic aspects require a clear definition and thorough full cost benefit analysis. In this paper we define the cost as the equivalent cost including tuition fees, travel and stipend to a student enrolling in a similar two years MSc programme overseas. The project planning matrix was developed for all programmes. The individual, site-specific plans of operation refer to the overall planning matrix. In summary, the following six results and numerous indicators were defined:

1. A high standard is ensured in both teaching and research.
   Indicators:
   - Qualified staff fills all posts by 12/2001.
   - Lecturing material is systematically prepared and up dated by all lecturers by 12/2001.
   - Favourable assessment of both teaching and research by students.
   - Favourable assessment of course programmes by former students and employers.

2. A high rate of enrolment of well-qualified students from the region is guaranteed on a lasting basis.
   Indicators:
   - At least 10 students fulfilling the entry requirements enrol annually per programme.
   - On average, at least 50% of the students are drawn from the region.
   - The proportion of female students has increased by 50% since the last project phase.

3. Teaching and research facilities have been improved and are being used.
   Indicators:
   - The students for training and research use all available equipment.
   - All available and required equipment is operational and well functioning.

4. Relevance and efficiency of research by lecturers and students have improved.
   Indicators:
   - At least 75% of the theses projects are an integral part of the lecturers' research projects.
   - By 12/2001, at least 6 theses per course (60%) are published in peer-reviewed journals or presented at international conferences.
   - By 12/2001, at least 50% of research findings will be used and disseminated by agricultural extension services.

5. Regional integration of postgraduate research courses in SADC is ensured and international co-ordination of the courses has been strengthened.
   Indicators:
   - Lecturers from the region will teach at least 1 to 2 courses by 12/2001.
   - At least 30% of the research projects of the various departments will be carried out in co-operation with regional/international partners.
   - From 1999 all regional programmes will be considered by SACCAR research projects for further training purposes.

6. Efficient management and co-ordination of regional MSc courses are guaranteed.
   Indicators:
   - Diversification of donor and other support for all programmes through new scholarships and additional sources of funding, i.e. from 1/2001 all scholarships are provided by other donors or organisations than GTZ.
   - At least two-thirds of the current costs of the programmes are recovered through scholarships.
   - Annual steering committee meetings.
   - Advertising and marketing programmes.
The strategic planning process was assuming that:

- The political will of SADC member states to co-operate is maintained.
- The economic situation will not deteriorate in the region and
- The material incentives and salaries will continue to be attractive enough to recruit teaching staff and ensure that lecturers remain at the university or within the region.

The strategic plan is definitely very ambitious. The implementation is the responsibility of the individual department and university, which reports to SACCAR and the sponsoring agency. The monitoring and evaluation process included methods of self-evaluation, external examiners, independent reviewers from sub-Saharan Africa and international missions in regular intervals. The annual meeting of representatives of the steering committee (REPSCO) emerged to play a key role for the communication between the deans' committee, SACCAR and the individual departments. The chairperson of the department and the MSc co-ordinator from the same department represented each hosting university. At the beginning the programme was highly centralised and most activities were initiated from SACCAR, which had the status of a commission and was in the position to employ internationally recruited staff. However, it was not feasible for SACCAR to develop detailed plans, to administer scholarships and to monitor the day to day running of the programme from a central position. In fact, this is a genuine responsibility of the universities and the departments. Therefore, in the early 1990s decision-making and management were decentralised to the universities. The REPSCO committee with the task to develop regional policies, strategies and operations was installed. This committee reports to a regional committee of faculty deans, which provides feedback and forwards recommendations to their home institutions.

Experiences

Some comments on the achievement of the planned results

It is not the purpose of this paper to evaluate the planned results in detail. However, we would like to comment on some important issues and provide some specific examples. Some indicators were easy to quantify whereas others require a more-detailed analysis, which is often based on subjective assessment by external experts. In the following paragraphs we are going to try to summarise our experiences and conclusions.

Based on information available at SACCAR all university departments have a sufficient number of qualified academic staff. The programme offered staff development through PhD scholarships or training on the job. On the average 50% of the enrolled students are drawn from the region with increasing numbers of female students. If the regional programme was published across the region in time, the demand was high and usually the number of places available allowed a high intensity of selection of candidates. The selection criteria were past academic performance, expression of interest through a short essay and recommendation provided by third parties. Several MSc graduates found employment as academic lecturers or researchers at agricultural institutions in the region. A pilot tracer study conducted by Mumba (2001, unpublished data) showed that the majority of graduates found high-calibre positions within the sector. To our knowledge all graduates found employment shortly after or even before completion of their studies. This verifies the stated high demand for qualified agricultural experts. With few exceptions selected PhD candidates completed their studies successfully, in time and returned to their home university. On the average 10 percent of the graduates proceeded to PhD studies at other universities after completing the MSc programme.

Updated and comprehensive teaching manuals are not yet available throughout the programmes and textbooks, and journals are unaffordable. The programme, therefore, supplied scientific books to lecturers, students and libraries. There is the example of a virtual library based on publications, conference proceedings or consultancy studies and other material generated by staff or postgraduate students. Such a library could also include published textbooks, if a copyright agreement could be arranged. With time, the material may serve as a source for teaching and research, which is urgently needed. Any new material could be added and distributed through internet.

Routine assessment of courses by students is taking place for some courses in some programmes but comprehensive results are not available or reported to SACCAR. There is an obvious lack of a comprehensive and well-structured quality assessment management system within programmes and at regional level. It is difficult for potential candidates, employers and sponsors to make an informative decision to enrol into a regional programme in an increasingly competitive education market. The conventional project monitoring and evaluation system appears to be insufficient to provide adequate and objective information about the overall quality of the programmes. Therefore, the accreditation procedure of any new regional programme is not yet standardised on a regional level.

In some cases, experiences and observations indicate a need for improvement in the area of programme management, which comprises administration of the application and enrolment procedures, and scholarship related issues, which were handled by the local university. Students often conduct their research in their home countries or in a third country that facilitates networking within the region, which resulted in high positive ratings by students throughout the years. The average the number of drop-outs was less than 10 percent per intake across programmes from which 50% could be attributed to poor academic performance and 50% due to illness, death or misuse of funds.

Most programmes exploit the student research results for publication and the number of publications has been multiplied since the start of the postgraduate programme. More than 30% of postgraduate research projects are carried out in collaboration with partners at the national, regional or international level. A more consistent quality of research through intensified supervision may result in a higher proportion of peer-reviewed publications. Since the numbers of publications are the major indicator for academic achievements, several
academic staff members experienced a promotion to full professorship over the course of the programme.

Facilities and equipment are fully used but maintenance and running costs remain a problem at most sites due to insufficient management capacity and the economic frame conditions. Across the universities more than 50% of the tuition fees are paid back to the departments, which contributes significantly to provide operational capacity at departmental level.

Regional workshops and international conferences were organised. In contrast to the student exchange programme, the initiated staff exchange programme was not used in the beginning. Few lecturers were willing to teach in other institutions. It appears that there is some "red-tape", which prevents flexibility. However, the Animal Science Department of the Universities of Zimbabwe and Malawi formalised and signed a linkage programme to facilitate the South-South exchange. The internal project progress report 2000 of the Department of Agricultural Economics and Extension describes the situation. Several contacts between the SADC based universities and institutions overseas exist but could be strengthened through a more formalised agreement between institutions.

The universities of Zambia, Zimbabwe and Malawi were successful in the acquisition of additional scholarships. However, provision of regional scholarship is the major constraint, which threatens the long-term sustainability of all the programmes. Due to lack of scholarships the SUA based programme postponed the next intake to 2001. The need for SACCAE and the programmes have recognised the necessity to conduct a tracer study. Graduates from the regional programme have drafted a proposal for an alumni organisation, which could contribute to the sustainability of the programme through networking and soliciting of funding of scholarships.

Lessons learned

Marketing

It is of paramount importance to market the programme regionally through various channels. Advertising in the main daily papers yielded the most direct and highest effect whereas costly direct mailing to institutions did not result in any immediate or quantifiable reply. Posters were printed and mailed as well as flyers and brochures distributed. A website is under construction. In the beginning scholarships and the MSc programmes were combined in the advert, which resulted in a perception by some students that they will be "employed by a donor". Sometimes the applicant's expectations were very high and did not match with the actual standard of living in some countries.

To clearly differentiate the scholarship issue from the academic issue, the programmes were highlighted rather than the GTZ funded scholarships. The best "advert", however, was the report by former graduates. To build regional reputation of the institution takes a very long time and requires consistent output of excellent "products", i.e. graduates and publications as well as involvement in the development of the agricultural sector at various levels. A serious problem was the high rate of "non-shows" caused by students who have been awarded a place on a scholarship but who confirmed their interest but didn't show up. Therefore the scholarship and the place were blocked and it took several months to process another eligible applicant. As a consequence, the selection process has to start much earlier than in a national programme, i.e. six months or better one year before the actual programme starts.

The soliciting of additional scholarships to sustain the regional aspect of the programme is of highest priority. SACCAE needs to identify sources at the regional level whereas the universities should secure more local scholarships from their governments, the private sector and the donor community. Most development projects have a training component and the universities are challenged to rather utilise this potential to take a passive "wait and see" position. Accepting a leadership role of the university in the planning of development projects and Private-Public Partnership Programmes may result in the opportunities of securing scholarships are secured for a long period. The university, however, must ensure that the teaching and research programme fulfills academic standards and is not directed or influenced by the sponsor.

Integration of the academic programme in the sector

A higher degree of integration into various development programmes within the agricultural sector could profit the universities and their partners. National and regional postgraduate programmes are challenged to integrate and adjust their training and research agenda towards developmental issues. A shift from on-station conducted research to problem-oriented on-farm, farmer oriented or participatory community based projects can be observed.

Agricultural universities could gain impact on the development of the sector through pursuing various strategic options:

- In the education sector through training of teachers and managers in agriculture, reform of the educational sector through revision of curricula and development of relevant outreach and distance learning programmes.
- Focus on poverty reduction programmes through providing access to and transfer knowledge on technical, economic and political methodologies relevant to rural development and food production. This requires an integration of the institution itself into development programmes within and across the agricultural sector.
- Utilisation and conservation of natural, crop plant and farm animal genetic resources through development of concepts, management and action programmes. Collaboration with the Consultative Group of International Agricultural Research (CGIAR) system would ensure state-of-the-art application of methodologies.
Quality management

Agricultural and natural science universities have the potential to provide more and better training by utilising their tools and experiences. The challenge is to play a more active role and aim to gain leadership in the own field of expertise. This sounds far from reality under the given poor quality situation of many faculties where most undergraduate students cannot even afford a textbook and only “those students, who regurgitate a credible portion of their notes from memory achieve exam success” (World Bank 2000, p.23). Independent and flexible thinking and learning by problem solving is often not the standard in under-and even postgraduate classes of today. It is obvious that improvement of quality of teaching and research including regular curriculum reviews deserve high priority. Especially a transparent process of evaluation of teaching quality should be implemented as a standard measure. Universities must realise that they are now operating in a competitive postgraduate education market in the region, which is under pressure by institutions from overseas. The SACCAR co-ordinated programme has benefited from intensified collaboration with the CGIAR and German and other universities, which included staff and student exchange as well as collaborative projects.

At the regional level universities may submit proposals for the accreditation of new regional training programmes to SACCAR, which need to fulfill the following criteria (SACCAR 1993):

- Relevance and importance of the subject to SADC region
- The host institution must be able and willing to host and support the programme
- The host institution must have adequate staff and facilities and should be a recognised leader in their field
- A record of performance in training and research must be available and continuously updated
- The host institution should be in a position to attract financial and political support at various levels

Established programmes need to be reviewed in regular intervals and a “quality label” requires renewal as well.

The concept of “Regional Centres of Excellence”

An additional four regional programmes were established indicating a high acceptance of the regional concept. The four initially selected universities require long-term external support to build their own capacity and operate under relatively weak economic and unstable political conditions, which negatively affects the position of the universities. It is therefore questionable whether the original concept to establish “Regional Centres of Excellence” is the best strategic choice. Today, the SADC region offers opportunities for intensified networking, which would allow the more efficient use of specific resources, i.e.

the knowledge and experiences of a certain group or department or specific equipment. A decentralised approach could result in synergetic effects, contribute to a higher efficiency of locally available resources and may build capacity throughout the region. Capacity building in higher education takes a very long time, 15 years or more, which is usually beyond the conventional duration of a development project of six to nine years. Networking and communication could be improved through the effective use of the internet. The universities could strengthen their links within and outside the region with other academic and non-academic institutions through offering jointly tailored courses for specific target groups or demand oriented research programmes. The development of new topics and the use of multimedia in teaching and research should be envisaged to support and improve the teaching situation of residential and non-residential students. In future, training programmes will incorporate production of information and communication technology (ICT) based modules aiming to reach new target groups and to support the paradigm change from teachers’ oriented to students’ centred learning.

Conclusion

The purpose of the project, the establishment of competitive and relevant regional postgraduate programmes, was achieved and human resources capacity was built in the region. Due to difficult frame conditions it remains a challenge for some universities to motivate highly qualified national or foreign students to enrol in a regional programme in Southern Africa. The provision of scholarships, intensive academic supervision and realistic strategic and operational planning and implementation are the key success factors in a regional postgraduate programme. Overall, the multiplication effect through trained staff and students is high and, therefore, the return on direct investment in human resources is most likely yielding high compared to other development-oriented projects. Mechanism to achieve a better integration of research, training and extension are needed, which would support the technical impact of the practical research. The programmes should further develop their capacity to conduct interdisciplinary research across countries more intensively, which could directly contribute to the improvement of the quality of life of the majority of the human population, who depend on a diverse agriculture and utilisation of natural resources in a livelihood oriented agricultural system in Southern Africa. On the one hand the experiences and lessons learned should be utilised to improve undergraduate teaching and, on the other hand, to develop a regional programme focusing on relevant PhD programmes in SADC. The efficiency of the tertiary education system could be possible improved through use of multimedia technology and internet targeting new groups of potential students. The development of sustainable funding mechanisms for scholarships and a transparent quality management system should be prioritised. The promotion of South-South and South-North programmes is highly recommended.
Figure 1: Tertiary students enrolled in SADC in comparison to average in sub-Saharan Africa and world average (students per 10,000 inhabitants).

Number of students in tertiary education per 100,000 inhabitants in SADC 1995
(Source: World Bank 2000)

References


Chances for Innovative Postgraduate Studies in Direct Cross-Border Co-operation

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The main goal of this paper is to present a project in the framework of the Stability Pact for South-Eastern Europe entitled Bulgarian-Romanian IntenUniversity Centre for Europe. I am going to show the opportunities this project reveals for innovative postgraduate studies in a direct cross-border cooperation. Given this, the presentation will include the following components:

- An overview of the University which I am representing and its location in a border area
- The changing profile of the university as a consequence of the post-communist transformation in Bulgaria
- The support through a new Network of European studies in South-Eastern Europe financed with funds for the Stability Pact for South-Eastern Europe by the Association of Universities and Other Higher Education Institutions in Germany (HRK) and the German Academic Exchange Service (DAAD)
- The initiative of HRK with the Stability Pact funds of the Ministry of Education and Research in the year 2000 for establishing direct cross-border co-operation through BRIE – a joint cross-border academic structure
- Conclusions about the opportunities to develop innovative elements in joint international study programmes through cross-border and international co-operation and dialogue.

Rousse is the largest Bulgarian city on the Danube. It is a major junction of the East-West waterway and the North-South motorways and railways. Located in a border area, the city links Bulgaria and Romania through the Danube bridge, which is spanned to the town of Giurgiu. The bridge is 2.8 kilometres long and is suspended 30 meters above the water on two levels – for trains and for other vehicles. It provides the shortest railway connecting the North and the Near East European countries. The bridge has been considered for many years as the major construction on the Danube.

In the course of centuries, this favourable location has been adding value to the town of Rousse. Starting from the 18th century, the town has been perceived as the Bulgarian gateway to Europe and as a symbol of Bulgarian modernisation and pioneering endeavours. The first Bulgarian railway station was built here to connect the town of Varna, the first newspaper printed in Bulgarian was published here, the first bookshop was opened here, the first teachers' association and the first scientific and technical society were set up here,