

# **Universities in Africa: Challenges and Opportunities of International Cooperation**

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### ***Foreword***

This paper is based more on published material about African universities and my own experience than on extensive site visits and interviews. My experience is confined more to eastern Africa and particularly to Addis Ababa University. However, during my tenure as a faculty member for over 21 years, I have had occasion to visit many universities in East, Central and Southern Africa. Unfortunately my knowledge of West Africa is limited to brief visits to just a few universities and even less is my knowledge of the Francophone universities.

African universities are very diverse and it is always dangerous to make generalizations. But I have made generalizations and would like to offer my apologies to those that are affected by them. I would like to acknowledge the assistance of many colleagues, friends who have offered very useful comments. They are: Bahru Zewdie, Beyene Petros, Brook Lakew, Ermias Dagne, Gizachew Alemayehu, Haile Lul Tebicke, Makonnen Dilgassa, Masresha Fetene, Theodros Solomon and Yoseph Assen and others. Special thanks go to W. Saint, the Coordinator of the DAE Working Group on Higher Education for his trust and confidence in me.

This is one of a set of eight papers by African authors on the future role and mission of African universities. The papers cover a range of contemporary higher education issues from a variety of sub - regional and disciplinary perspectives. The papers were commissioned by the Working Group "on Higher Education constituted under the Donors to African Education (DAE). They were funded by the Ford Foundation, the International Development Research Centre (IDRC), the Rockefeller Foundation, the Swedish Agency for Research Cooperation in Developing Countries (SAREC), and the DAE Secretariat. Copies can be obtained from the Association of African Universities, P.O. Box 5744, Accra-North, Ghana.

The findings, interpretations, and conclusions expressed in this paper are entirely those of the author, and should not be attributed in any manner to the DAE or any of its member organizations.

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### *Abbreviations and Acronyms*

AAAST	African Association for the Advancement of Science and Technology
AAS	African Academy of Sciences
AAAS	American Association for the Advancement of Science
AAU	Association of African Universities
ABN	African Biosciences Network
AERC	African Economic Research Consortium
AIHTTR	African Institute of Higher Technical Training and Research
ANSTI	African Network of Scientific and Technological Institutions
ARCT	African Regional Centre for Technology
ARPPIS	African Regional Postgraduate Programme in Insect Sciences
CASIS	Consortium of African Schools of Information Science
CEAO	The West African Economic Community
CIRES	Centre Ivoirien de Recherche Economique et Sociale
CODESRIA	Council for Development of Economic and Social Research in Africa
DAE	Donors to African Education
ECA	Economic Commission for Africa
ECOWAS	Economic Community of West African States
EEC	European Economic Community
ESAURP	Eastern and Southern Africa Universities Research Programme
IAEA	International Atomic Energy Agency
ICIPE	International Centre for Insect Physiology and Ecology
IDRC	International Development Research Centre
INRA	Institute of Natural Resources in Africa
IPICS	International Programmes in Chemical Sciences
ISP	International Science Programmes
IVST	International Village for Science and Technology
NAPRECA	Natural Products Research Network for Eastern and Central Africa
OAU	Organization of African Unity
PTA	Preferential Trade Area
PUST	Pan-African Union of Science and Technology
RCEAU	Regional Conference of Eastern Universities
	Southern Africa Development Coordination and Cooperation
SAREC	Swedish Agency for Research Cooperation with Developing Countries
SISA	School of Information Science for Africa
TOKTEN	Transfer of know-how through expatriate Nationals
TWAS	Third World Academy of Sciences
UEM	Eduardo Mondlane University
UNESCO	United Nations Educational, Scientific and Cultural Organization
WGHE	Working Group on Higher Education

## **1 Introduction**

A set of goals for an African university would not be different from that of any universities anywhere. A university is an institution of higher learning whose function is to transmit advanced knowledge, to generate new knowledge and to provide high level manpower. In addition to these “normal functions” a university in Africa should:

- truly understand and integrate indigenous cultures;
- provide inspiration for young nationals;
- generate new knowledge on natural resources;
- impart reputable scholarship to traditional know-how; and
- interact with appropriate universities and institutions anywhere to give and receive knowledge as well as generate, acquire, exchange and assimilate technologies.

The above cannot be achieved by an isolated African university. It is in this regard that this paper is entitled ‘Challenges and Opportunities of International Cooperation’. Various types of cooperation are surveyed. new perceptions and directions for cooperation are proposed.

### ***1.1 Historical Background***

There is no doubt that many centuries ago, educational institutions devoted to religious, philosophical and/or medical areas existed in Africa in such countries as Egypt, Ethiopia, Mali and Morocco (Dagne 1976, Wagaw 1979, Sherman 1990). However, the establishment of the first institutions of foreign tertiary education in Africa took place during the colonial era. These institutions were intended to produce good Christians who were needed to perform minor to middle level administrative tasks. Probably the first institutions of higher learning in Africa are Fort Hare in S. Africa and Fourah Bay College in W. Africa. The latter was founded in 1827 by the Church Missionary Society for the training of the clergy and lay teachers (Sawyer 1973). In 1959, after 83 years of affiliation with the University of Durham, it was given a Royal Charter as an independent institution and until the 1940s it may well have been the only degree granting institution in West Africa. Since 1966, it has been a constituent college of the University of Sierra Leone.

In the early stages, many universities in Anglophone Africa established during colonial times were linked to the University of London. Those in Francophone countries were similarly affiliated to the universities of Paris and Bordeaux, while the Belgian counterpart for the colonial university was the Catholic University of Louvain. The auspices of these universities in Europe were extended to the African counterparts under colonial administration and would not be classified as cooperation. Nevertheless, the relationships existed and the British, French and Belgian universities not only improvised the curricula and content, but also conducted the supervision and subsequent certification. In some cases, the African universities were allowed to make limited adaptations in the curricula in such areas as history, geography, government and law.

The 1960s marked the decade when African countries became independent. The initial phases of the post-independence period mark a time of harmonious relationship between universities and governments. Their mission was to provide clerical manpower to government administration.

Countries that did not have universities (e.g. Zambia) went ahead and established universities. In the 1960s, many African countries were regarded as economically healthy, and indeed it has been shown that the net return on investment in many of these countries was far better than in many of the South East Asian countries (Mjojo). In the early part of the 1970s, many countries were still economically doing well and were hopeful that they would continue to do so. Educational training was becoming increasingly available up to the secondary level and the demand for higher education was rising. As a

result, many more universities were established. The post-independence universities were founded by the joint efforts of expatriates and Africans attempting to respond to the growing demand for education. However, during these early stages, issues such as institutional structures, policies and practices of universities were addressed in an ad-hoc manner, without providing innovative and visionary solutions. So, these founders ended up duplicating the type of structures and curricula offered in Europe and North America. In 1972 the Association of African Universities held a workshop in Ghana, whose theme was *Creating the African University: Emerging Issues of the 1970s*, where issues like "African Academic Community, Africanisation of Higher Education Curriculum, Intellectual dependence" etc. were discussed. The proceedings were compiled into a monograph (Yesufu 1973).

During the 1980s and the early 1990s, many more universities were opened. Today, Nigeria alone has more than 30 universities. The total number of universities had grown from six in 1960 to over 100 at the present time. The total student population is about half a million. However, the last decade and a half has been a period of progressively increasing difficulties for African universities.

### ***1.2 Achievements of African Universities***

African universities, considering the fact that they have been in existence only for a few decades, should not be regarded as non-achievers. They have contributed greatly to the development of the human resources of Africa. A number of Africa's leaders, most of its policy makers, managers, and support personnel are products of African universities. Many African universities have managed to sustain quite a lot of high calibre professors who, despite the constraints they faced, have done exceedingly well. They have performed well under conditions that their counterparts in Europe and North America would not imagine. Africa should be proud of these special people and the many university leaders who have optimistically persisted despite the hardships. The top graduates of our higher educational institutions have gone overseas and many of them have done exceedingly well in American and European universities. Many such well qualified individuals have decided to remain abroad and while this decision is a brain-drain for Africa, they have become valuable additions to the skilled manpower of the developed countries. The United States alone had more than 34,000 African students in 1985, many of whom are unlikely to return to Africa; there are reported to be more than 70,000 trained Africans who have opted to remain in Europe (World Bank 1988).

### ***1.3 Crisis in African Universities***

The grave situation faced by higher education has been reviewed and several workshops and conferences have been held. A few of the most important references are: AAU (1990), ECA (1992), ECA-AAU (1991), ESAURP (1987), Eisemon and Kourouma (1991), Maliyamkono (1991), Mosha (1986), Odhiambo (1993), Saint (1992), Temesgen (1991), World Bank (1988). All the reports indicate that African universities are in deep trouble. They have large student enrolment and government support has steadily declined (at least in real terms). Many talented staff have given up and left for Western countries, or in a few cases to other African countries where terms of employment are more attractive. Libraries are no longer capable of supporting scholarly research or teaching. In short the learning, living and working conditions in many African universities have deteriorated greatly.

It is not only the prevailing economic crisis that has contributed to the present crisis that is faced by many African universities. The less democratic environments have also reinforced these problems. The restriction in freedom of expression in several countries, highly repressive totalitarian governments, absence of the private sector in countries that follow socialist ideologies, inability to attract and retain outstanding faculty including own nationals after they attend postgraduate education in foreign countries, hostile policies of some Western governments to support universities in countries led by

Marxist governments, and frequent clashes between students and governments leading to closures and disruption of programmes have all contributed to the present crisis of African universities.

One of the most important challenges that African universities have to face is to make a concerted effort to understand more deeply the reasons why they are in a crisis and why efforts made so far and funds provided have not led to effective solutions. It is indicated in this report that there are three main causes:

- Universities in Africa have done very little to serve the important goal of truly understanding and radiating indigenous cultures, because of a complex set of events that have made them culturally and intellectually over-dependent on the North.
- Many universities in Africa have not succeeded in their efforts to become socially relevant and as a result they are unable to establish interactive mechanisms with society by which societal needs in terms of R&D services are exchanged for financial support.
- Universities are greatly dependent on the State for finances. Almost all the African States have failed to achieve political stability and to sustain economic development. Because of the financial dependency, the crisis of the universities has deepened with the crisis of the State.

Several African scholars have written and analyzed our problems. While some lament these crises, others have underlined the need to take resolute measures and have made important proposals. Donors, in turn, have developed policies and strategies for future support to African universities. A "Donors to African Education" (DAE) forum has been set up based on the initiatives of the World Bank, which has established a number of working groups (one of which is a Working Group on Higher Education - WGHE). The WGHE has, so far, held six meetings in Africa devoted to the survey and analysis of the problems of higher education in Africa. Few universities in Africa have seriously undertaken the preparation of a consolidated and articulated short, medium and long term development plan. Such a plan and programme can only rationally emanate from us, Africans. The Association of African Universities has commissioned three senior scholars to undertake a retrospective study of university development over the past two decades. The WGHE is complementing this enterprise of the AAU by commissioning young academics to contribute reflective essays, which together with the former study may form the basis for holding a regional conference on "The Future of African Universities". This report, on the *Challenges and Opportunities of International Cooperation*, is one of the contributions of the latter category.

## **2 International Cooperation and Over-Dependency**

### ***2.1 Cultural Over-dependency on the North***

The introduction of education based on Western values into the African environment totally sidelined the importance and value of the indigenous educational system that existed for many centuries. Countries such as Egypt, Ethiopia, Mali and Morocco did have educational institutions devoted to religious, philosophical and/or medical areas dating in some cases as far back as 1000 AD (Sorour 1973, Dagne 1976, Wagaw 1979, Sherman 1990). The peoples of these countries survived and thrived on their traditional education, the derived know-how and practices for centuries. In Ethiopia, education was associated with the churches. Ethiopia is one of the few African countries with an indigenous civilization that enabled it to have two written languages, Amharic and Tigrigna, derived from an old, now obsolete, semitic language called Ge'ez. Church education was not devoted entirely to religion alone. For example, one of the church schools in central Ethiopia called Born Meda Selassie is said to have had 500 students divided among four professorial chairs of which only one was theology (Fetene 1993). The introduction of Western education to Ethiopia, about one hundred years ago, was made in such a manner as to totally neglect the traditional system as the mainstream for educational development. These traditional schools have persisted to the present day, but their influence is now

totally confined to the churches. The effect of the introduction of modern education has been stated by Gebregziabher (1990) as follows:

*The Europeans who started the so-called modern schools knew very little of these [traditional] values which, nevertheless, formed the school child they taught. Most of them considered the values as reactionary and not worth knowing. This is not to imply that all the teachers deliberately attacked native values. It is simply to state that what the teachers found looking like a challenge to their values automatically seemed incompatible with the 'proven' education they were there to give, which necessarily was based on their own values. This is not even to pass a value judgment to the effect that they were wrong or right in reacting so. It is only to show that a clash in values was inevitable, and the young school child's values, not fully formed, would give into the articulately expressed values of the teachers.*

*As a result, education in modern schools became a process of uprooting from the traditional society. The question may arise; if so, how is it that 'modern' education was accepted? Modern education was accepted because it was seen as the means for material gains, as the way to the European material culture. It is no accident that secondary schools continued to give free food and board until the beginning of the 1960s. Those who went to modern schools then joined the new 'modernized' civil service and found access to power and European goods and amenities. The school leavers, uprooted from their cultural milieu, were left hovering the Ethiopian towns....*

Such a view has been presented recently by Hove, a Zimbabwean writer and educationalist in an article entitled *The Earth Turns on a Foreign Axis*, where he maintains that "Education in Africa is an alienating experience and African educationalists and politicians are determined to keep it so." Hove makes reference to his own university experience and states that he encountered African Literature, African History, and African studies on his own, after leaving school, college and university.

An aspect of cultural dependency in African universities stems from the fact that the medium of instruction, the languages used in discussing scientific and technical issues in disseminating research results are borrowed European languages. These include English, French, Portuguese, Spanish and Italian. The relatively young university in Mozambique (UEM) uses Portuguese as a medium of instruction and English textbooks and journals. The medium of instruction in Somali University is Italian - except in the Faculty of Education where English is used. A further disadvantage to the cultural dependency is the lack of harmony in the region resulting from the use of so many languages. It is not the intent of this author to suggest that we completely abandon these European languages in our universities. We will have to continue using text books and journals that are published in English, French, etc. Our access to world literature and our ability to utilize it will depend on our proficiency in these languages. In fact, in the context of regional collaboration one can clearly see the need for having common languages for communication and, therefore, it is inevitable that English and French will continue to be important. It is clear that the use of English, French, Italian and Portuguese in any of the African universities during the colonial period was the choice of the colonizing power and not of the Africans themselves. The use of these languages continued in the universities that were established during the post colonial period. This was very much influenced by the relationships that existed after independence. Indeed, the international cooperation developed in a South-North manner by universities did not look into the appropriateness of the language that was used in the universities, but rather continued with the usage that was selected by "experts", which in most cases did not involve Africans.

Developing and using the local language(s) have a special advantage in overcoming cultural dependency which our universities can derive great benefits from. This may not be immediately obvious and will

also be difficult in the scientific and technical areas, but is particularly important in the social sciences. Many postgraduate courses in social sciences can be meaningfully associated with studies of one or more African languages. In this regard it is essential that universities might pay greater attention than they have hitherto in studying the local languages and the associated cultures and traditions. Foreign scholars abroad who specialize in African anthropology, history, languages, etc. do speak our languages and many are quite capable of lecturing in African languages. Staff hired to teach in some of our social science departments could be required to demonstrate proficiency in a major local language. This will also offer African scholars employment opportunities in other universities of the region. There are valuable lessons to learn from the experiences of others. Many countries use textbooks and journals written in the English language, but conduct classroom instructions as well as scientific meetings in their own languages. Japan and China are good examples of this. Malaysia and Indonesia have, for some time now, successfully been able to conduct classroom instructions in their respective languages even in higher education establishments. Hebrew, which was declining to obsolescence, flourished after the founding of the State of Israel and has been used with remarkable success as a medium of instruction in universities as well.

The main target in addressing the language issue is to gradually develop ways for cultural blending by enriching local languages and to enhance their utility for discussing scientific and technical subjects. The greater success in acquiring knowledge and skills by youngsters when taught in the mother tongue is now generally accepted (UNESCO 1991). Initially this would be most useful in the efforts of universities trying to popularize their research findings to the general public as well as to use local languages at lower levels of education. This would curtail the alienation of educational institutions where the language used for instruction is not widely spoken outside the university campuses and would contribute to enhancing the social relevance of the universities. Some university departments must assume the responsibility of popularizing sciences by writing scientific fundamentals in African languages. In doing so they will acquire very useful experience, can generate unique and relevant knowledge and will enhance the social relevance of the institution in the African community.

Examination of the curricula of the departments of languages and linguistics in many African universities reveals that inadequate attention is being devoted to African languages and relative excesses in European languages. Those in Eastern Africa mention the offering of courses in Latin, German, Italian and French. It is however, important to recognize the relevance and significance of the regional languages like Arabic, Kiswahili and Somali. Universities should orient and revitalize some of the social science departments to look more closely to such areas as sociology, anthropology, law, etc. and introduce research-based post-graduate studies with mandatory knowledge of local African languages related to these fields of research. The importance of these languages in the future economic integration and development of the region is worth mentioning. Radio broadcasts from Ethiopia are heard in two of these languages. It is in fact surprising that the importance of offering these languages in the universities has not been recognized, specially by the advisors and experts from the UK and USA where schools of oriental studies, semitic languages, etc. flourish in such universities as London and California (USA). Advice along these lines has regrettably been lacking during the establishment of tertiary level educational institutions in Africa.

Mazrui (1992) proposes remedies to counteract cultural dependency on the North. Two of these are presented here with the belief that such efforts require the collaboration of intellectuals in many African countries as well as other specialists in the Near East as well as Asian countries.

The first suggestion is the "Therapy of Domestication" where he proposes ways by which indigenous African cultures and practices have to be infused into the teaching, staff recruitment, and the general

structure of the educational system. This includes the requirement of proficiency in one African language for admission into an African University, the teaching of African dance and music in high schools, permitting indigenous culture to penetrate more into the university, by allowing the medical education to address such topics as herbal medicine, sorcery, witchcraft etc.

The second suggestion is the "Therapy of Diversification" which advocates a shift for the African university from being a "multinational corporation" to a "multicultural corporation". He argues that one way of overcoming cultural dependency on the North is in fact to diversify by introducing subjects that dilute the major focus that exists now dealing with Eurocentric studies. Accordingly, the study of Indian and Chinese civilizations, Islamic studies, etc. would be appropriate for African universities. He draws attention to the fact that although many countries in Africa have considerable Muslim communities, the universities do not commonly give Arabic studies its due place in the university programmes (Mazrui 1992).

## **2.2 Intellectual Over-dependency on the North**

The majority of experts and advisors that have influenced the decisions and actions of our governments in almost all sectors - education, agriculture, health, defence and industry - have been largely, if not overwhelmingly, from the North. Sherman (1990) points out that since most African governments are considerably dependent on aid from governments, multinational companies and international and bilateral donor agencies of the North, they too look to such bodies for research and policy directions that emerge therefrom, thereby reducing opportunities for African universities in research and consultancy. It is an often stated fact that the highest concentration of skilled and intellectual personnel in Africa is, unlike in the industrialized countries of the North, concentrated in the Universities. It is therefore most unfortunate that the skill and knowledge available in our universities is, in most cases, underutilized. Many donor organizations, including the UN agencies, consider grant proposals more seriously only when prepared by overseas consultants. This is not to say that this approach is totally without merit. But often we find that these so-called experts are not as knowledgeable about Africa's problems and solutions as some of our own people in our universities. Ekong (1992) has expressed his observation recently as follows:

*... On their part, African governments tend to look outside Africa for expertise and solutions to local problems without first ascertaining whether these human resources are available in their own country or elsewhere in Africa. The result is that sometimes it is the consultant from outside Africa who identifies the expertise available within Africa, from which source the consultant obtains information required, repackages it, and sells it to the government at a high price. Our approach to this problem is to encourage the universities to be proactive in making their services available to the public sector and in establishing linkages with the private sector.*

Overcoming intellectual dependency was the subject of a keynote address by Eicher at the 1972 AAU meeting on Creating the African University. The main theme of Eicher (1973) was to point out that African education is intimately linked with international aid; the dependence of Africans on donors of the North has inhibited the development of African institutions that are socially relevant and financially feasible. He urged each country in Africa to develop a firm base of empirical evidence in such areas as population policy, scientific research criteria and evidence for determining levels and types of investment in education in the future.

Our challenge is how to reduce intellectual over-dependence on the North. Our universities must work hard to make their presence felt and also to present their skills and special abilities not only to their policy makers and developmental agencies but also to other countries in Africa. The goal and challenge

of international cooperation here is to enhance greater interdependence within our region while maintaining appropriate levels of useful North - South relationships. Some suggestions that can contribute to the lessening of intellectual dependency on the North by enhancing cooperation among African universities are presented in the following section.

### **3 Regional and Sub-Regional Collaboration**

#### ***3.1 Review of Past Efforts***

Perhaps the greatest challenge that African universities will face in the future is to optimize their interdependence. Ultimately, their salvation will probably depend on it. Conceptually the issue of collaboration in higher education goes back to the colonial period. The East African University was created to serve the needs of the East African community in present day Kenya, Uganda and Tanzania. However, it broke up with the breakdown of the community in 1977. In Southern Africa there was the University of Botswana, Lesotho and Swaziland serving the three countries. The University of Lesotho broke away first and later the two universities of Botswana and Swaziland emerged.

The post-independence move made by African Universities was the establishment of the Association of African Universities (AAU) in 1967. Immediately after its creation, the AAU identified several areas of cooperation which include: exchange of students, staff, information and publications; reform of curricula from a regional context, external examinations, conferences and workshops, regional training of veterinarians, educators and librarians, etc. (Maliyamkono 1991:358). These are indeed appropriate areas, but unfortunately progress in these activities on regional and sub-regional levels has been very slow.

On a sub-regional level, as far back as 1968, the Regional Conference of Eastern African Universities (RCEAU) was formed to coordinate regional cooperation activities in the Universities of Eastern and Southern Africa. In 1979 the Universities also launched the Dar es Salaam based Eastern and Southern Africa Universities Research Programme (ESAURP) with responsibilities to promote higher education in the region through research, conferences, workshops, to establish data bases on capacities and research activities of institutions; and to facilitate regional collaboration programmes through inter-institutional linkages. ESAURP has been very active in research on higher education, and has held conferences and also produced valuable monographs that address important issues confronting universities of the region.

Universities in SADCC countries have also started a common Basic Science Programme, which is receiving Dutch support through the University of Amsterdam and also further support from EEC. The basic sciences (biology, chemistry, physics and mathematics) are critical to properly understand modern technologies and to adapt these to suit local conditions. They are also necessary to build capacities to generate new knowledge on Africa's indigenous resources. A high quality training in basic sciences and research experience is necessary. The programmes in basic sciences should not only be high quality but also should acquire international compatibility. It is in this regard that one should attach special importance to the sub-regional programme in basic sciences of the SADCC countries. Such collaborative South-South-North programme in the basic sciences is a good way to start cooperation and will help to develop mechanisms for the more complex issues that would have to be faced when moving to running sub-regional programmes in other areas of university education.

The West African Economic Community (CEAO) has set up higher training and research institutions in various fields of science and technology, such as renewable energies, mining and geology, fisheries science and technology, and textile industries. In addition, and with UNESCOUNDP assistance, CEAO has undertaken a survey of the science and technology potentials of its member states.

### ***3.2 Framework and Commitments for Collaboration***

The framework for regional and sub-regional cooperation in science is set at the highest level in Africa by the Organization of African Unity (OAU) in such policy documents as the Lagos Plan of Action (OAU 1981) and CASTAFRICA (UNESCO 1987). There have also been declarations in which African university leaders have clearly recognized regional cooperation as a critical strategy for the promotion and development of teaching and research in tertiary educational establishments. Mention may be made of the Mbabane Programme of Action (1985), the Harare Statement of 1987 and the Conclusions of the Conference of Rectors, Vice-Chancellors and Presidents (COREVIP) of universities in West Africa in 1989. However many of these: "Top-down" approaches have not been very effective. There is also no argument about the importance of high-level political commitment, umbrella agreements, etc. in facilitating the functions of the latter type of schemes. The main problem appears to be the lack of implementing follow up plans and programmes and failure to allocate the required leadership and finances. The levels of commitment have not advanced to such stages as to enable the allocation of resources on a rational basis regionally and sub-regionally. On the other hand, a number of networks established on the basis of the "Bottom-up" principle appear to be working very well. Of course, "Bottom-up" schemes will never be heard of unless they are working.

### ***3.3 Attitudes towards Regional Collaboration***

The existing North-South relationship has been one of economic, cultural, intellectual and even psychological over-dependence. In view of this, African students or faculty members often seek professional training and employment opportunities in the North before they look for such possibilities elsewhere-- in Africa. An African scientist who has grants for travel to attend conferences may be more inclined to use this travel money to go to a professional meeting in Europe or North America rather than in Africa. Admittedly the scientific level and the state-of-the-art-ness of the regional meeting may not rate favourably with the North meeting. On the other hand, the relevance and the appropriateness of the peer review that can be obtained from the regional meeting would be more useful to the African professional. Professionals who have organized scientific conferences in Africa will no doubt have encountered numerous instances where initial announcements and call for papers will elicit responses from only few individuals who make it clear that they will attend only if the organizers will provide the necessary cost of travel, per diem and waiver of registration fees. On the other hand, these same individuals somehow find ways of attending conferences in Europe and the United States, meeting all the high living costs and hefty registration fees and banquet dinners. These dependency syndromes will gradually lessen as young, foreign trained professionals begin to obtain benefits from regionally conducted programmes.

Experience in running certain programmes in the sciences on a regional level that provide opportunities for faculty members to visit research laboratories in the region reveal that funds earmarked for such categories are not effectively utilized. Yet there are staff members who try very hard to get such opportunities to go to a North laboratory and are not successful. One reason is lack of information about these programmes as well as the lack of knowledge about appropriate laboratories to visit in Africa. Equally important, in the opinion of the author, is the bias that faculty members have against a visit to other laboratories in the region.,In the same category as the foregoing is the issue of sabbatical leaves. There are many staff members who forgo their right to go on sabbatical leave, because of a failure to get suitable offers in the North. Yet, many of these staff do not even consider sabbatical opportunities in our region.

### ***3.4 Communication within the Region***

The most logical way of initiating collaboration is between universities of neighbouring countries. One

can imagine the advantages of this in terms of the ease and lower costs of transportation and communication. The development of the various economic communities in Africa (e.g. PTA countries in Eastern and Southern Africa and the ECOWAS countries in West Africa) should facilitate the cooperation of universities sub-regionally. This could be done in many ways including circumventing the problem of currency exchanges. However, experience in our region indicates that transportation and communication still pose considerable problems. Political unrest and civil strife also make travel in some regions of Africa unsafe. Present day travellers may complain and relate horror stories in their efforts to travel within Africa by Air. The truth is that there are now more air routes and even better possibilities for over-land travel within Africa.

Another aspect of communication is in the area of telephone, facsimile and other electronic communications. The development of technologies in these areas is opening up vast opportunities for the universities. These have greatly eased communications among researchers and will make increasingly, more important contributions in facilitating regional collaboration.

### ***3.5 Strategies for Regional Cooperation***

Regional or sub-regional cooperation may be pursued through several models as described above. The "Centre of Excellence" model often requires heavy investment to acquire "state of the art" equipment and facilities and is usually donor driven. Often the host country provides substantial support. Contributions from other countries in the region are either very marginal or totally absent. The main concern with regard to centres of excellence is the heavy dependence on the donor and less accountability to the community or even the state that they are located in. Often they pursue their routine tasks and so long as the donor support continues to flow, they are insensitive to the changing needs and requirements of the community they are in. In many cases they are self-contained islands, like embassies, and interact very little with teaching and research institutions around them. One among many cases is the International Livestock Centre for Africa, with headquarters in Ethiopia, which has virtually no institutionalized contact with Addis Ababa University or Alemaya Agricultural University. Very little attempt is made to share staff or facilities nor to jointly organize meetings and seminars for mutual benefit. The author believes that Centres of Excellence should take up added responsibility to involve themselves in capacity building efforts of universities around them. ICIPE's decision to be involved in postgraduate training, although after more than a decade of existence, was a judicious one and has greatly enhanced the role it plays in the region. The main risk with Centres of Excellence is the problems they face when donor interest wanes.

The alternative model is the "Division of Labour" approach which, as mentioned earlier, is advocated by CASTAFRICA II (UNESCO 1987:81) for sub-regional training programmes. The main feature of this approach is the co-involvement of the participating institutions in the offering of the training programme. The cost-sharing possibility and the sense of joint ownership will improve the sustainability of the programme. Such programmes, as long as they are truly based on need, have a greater chance of continuation even when donor support declines. A set of conditions for effective cooperation that have been proposed (UNESCO 1987:80) include:

- a shared and unequivocal desire to co-operate, i.e. the determination of each member to maintain support of the joint undertaking before any national endeavour in the field concerned;
- a clear and unambiguous perception of the aims of the joint undertaking and a commonly agreed definition of its short-, medium-, and long-term objectives, together with their reflection in precise projects;
- a detailed evaluation of the contribution (of human, institutional and financial resources) of each of the members; this is essential since a member will be unable to derive maximum benefit from

the exchanges of experience and information unless it has at least some facilities capable of carrying out part of the joint programme and using the results;

- a prior consensus between the members concerning their respective rights and obligations regarding the execution of the joint project and the sharing of results and spin-off;
- an agreement on the degree of integration of the project, on the phases to be the subject of co-operation (feasibility study, implementation, publication of results, use by industry, etc.) and on the procedures for implementation (exchange of information and ideas through personal contacts, concerted action taking the form of a jointly managed programme, or the establishment of a new joint institution).

### ***3.6 Promotion of Postgraduate Studies***

It has often been stated that Africa's top calibre research personnel are concentrated in the universities. It is also stated that the research output of Africa in general is very low although it has been relatively increasing during the last decade or so. The increase in output can be correlated to the level of activity in postgraduate studies. This is because such programmes facilitate the generation and utilization of new and relevant knowledge considerably.

Postgraduate education and research are still not optimally developed in many African countries. There are several reports that indicate that in the few universities where in-house postgraduate training programmes exist, they are in fact funded to a large extent from external sources. In many of these countries, the local funding extends only to cover the imputed costs and salaries of staff. The Swedish agency SAREC has, for over a decade, been extending considerable support for the research dissertation of MSc and PhD programmes in Addis Ababa University. Similar SAREC support is presently offered to universities in Mozambique and Botswana. All donors agree that graduate level training and research are vital for a university to address country specific social, economic and political issues, to catalogue and investigate indigenous resources, to understand the basic knowledge behind the products of current science and technology, etc. In short postgraduate programmes, especially PhD training, provide the basis for economic development and to reduce Africa's intellectual over-dependency. It is also noteworthy that postgraduate training overseas does not usually provide opportunities to work on African problems, and so while one recognizes the high level of training offered in such universities, their relevance in the African context may be questionable (ESAURP 1987). In spite of the foregoing, it is generally observed that support for establishment of post-graduate training and research programmes in Africa is not very popular among donors. This issue has been addressed by one of Africa's senior educators, D. Ekong (1992) who also notes that donors recognize the importance of in-country postgraduate education in Africa,

*...support the creation or upgrading of facilities and structures for graduate education and research, especially Ph.D. programmes in Africa. Agencies that have' no difficulty in providing large sums of money for short 2-week courses or workshops for technicians and junior researchers, or even larger sums of expensive graduate education in Europe or North America for a few Africans, develop reservations about graduate education within Africa, even though it is relatively less expensive and reaches a larger number of people. Our view is that attempts by donors, in their assistance to African higher education, to de-link capacity building in research from development of viable graduate programmes should be dismissed as a faulty approach to the challenge of revitalizing research or regenerating higher education and should be resisted by African universities.*

The World Bank (1988:73) recognizes that research programmes and postgraduate education based in universities are the "breeding grounds for the mastery of science and technology", but then adds a paradoxical statement "Ironically, no African nation can afford to have such programmes in the short

run, yet none can afford not to have them in the long run".

There is no question that university postgraduate research is expensive, especially in the scientific and technical areas. The required infrastructure, including capital equipment, are costly. Facilities for procurement and maintenance of equipment are not fully available. It would be difficult to rationalize putting in place these requirements in every field and sub-field for each university or even for each country in Africa. In this regard a key strategy is regional cooperation where existing capabilities are assessed and programmes for enhancing them are developed and implemented. For example, it may be possible to coordinate, support and promote the growth of chemical science among four departments in four sub-regional universities. In this way one department in country A that is already strong on theoretical chemistry will be encouraged and supported to develop its capabilities in this area strongly and will assume the training and research responsibilities for the sub-region. A second department in country B may build on what it has achieved - say - in basic chemistry, including synthesis and analysis. A third, ill country C, may build capabilities in natural products while a fourth, country D, could develop industrial chemistry. The model to follow would be the "Division of Labour" model for regional development in chemical sciences. There are many regional postgraduate programmes and also various networks that are devoted to regional postgraduate training and university research in Africa. Some examples will be given here based on available literature and from firsthand knowledge and experience of the author in Eastern, Central and Southern Africa. Unfortunately, the author is less knowledgeable about programmes in Francophone countries of West Africa. Many of these programmes have rather characteristic strategies. Some operate more or less on the "Centre of Excellence" model having been chosen on the basis of already demonstrated competence in a given area, high level of commitment to the cause and particular relevance of the chosen field of study to the location of the centre. Others follow the "Division of Labour" approach. Interestingly it is the latter scheme which has been recommended by CASTAFRICA II (UNESCO 1987:81) as a model for sub-regional cooperation. Examples of these sub-regional training programmes include the following:

### ***3.6.1 Centres Offering Regional Postgraduate Training and Research***

1. The School of Information Science for Africa (SISA). This is an IDRC supported programme based in Addis Ababa University which offers postgraduate (Masters degrees) and short term training programmes in information science for nineteen countries in Eastern and Southern Africa. It also undertakes consultancy services in information systems and services (Roberts 1986).
2. The African Regional Postgraduate Programme in Insect Science (ARPPIS). This programme links the International Centre of Insect Physiology and Ecology (ICIPE) with 22 African universities. The programme enables the student to enrol for PhD training at the home university. Courses and research are offered at ICIPE under joint supervision of ICIPE scientists and university professors. The excellent facilities of ICIPE are, in this manner, extended to several African students. The Network, which was launched in 1983, has produced (until 1992) 86 PhD and 10 MSc graduates, all of whom, according to Tindimubona (1992), are presently working in Africa.
3. Graduate Training and Research in Agriculture in SADCC countries is a programme following the "Division of Labour" approach offered by the universities in these countries. Participating universities join hands in offering training and research facilities on a particular branch or sub-field.
4. MA Programme in Economics by African Economic Research Consortium (AERC). This

programme follows an innovative strategy in that it incorporates flexibility to allow for variations in the regulations of the participating universities. It calls for ensuring local support for the programme and enables full participation in the programme delivery by all the collaborating university departments. AERC was founded in 1988, with 11 sponsoring member institutions. It supports economic research and training activities in more than 20 Sub-Saharan countries (Kasangu 1992: 13).

5. Post-graduate Training Programme in Agricultural Economics for Francophone West and Central African Countries. This is a "Centre of Excellence" located in the Centre Ivoirien de Recherche Economique et Sociale (CIRES) in Cote d'Ivoire.
6. The International Village for Science and Technology (IVST), Arusha, Tanzania. This is in a way a "Centre of Excellence" apparently conceived on the model of the International Centre for Theoretical Physics based in Trieste, Italy. It offers teaching, learning and research opportunities for staff and post-graduate students. Arrangements are also in place to enable graduate students to carry out portions of their dissertation research while they are registered for a degree programme in a university in the region.

### **3.6.2 *Networks and Associations Promoting Regional Postgraduate Teaching and Research***

7. The African Network of Scientific and Technological Institutions (ANSTI). This is a UNESCO Network that was established in 1980 as a follow up of the recommendations of CAST AFRICA I. It has a full-time coordinator located at the UNESCO-ROST A office in Nairobi. The main activities of the Network include postgraduate fellowships (so far slightly less than 200 MSc training), network seminars (71 seminars so far) and scientific publications (28 issues of the African Journal of Science and Technology).
8. The Natural Products Research Network for Eastern and Central Africa (NAPRECA). This multidisciplinary Network was established in 1984, although it became involved in promoting regional research and post-graduate, training programmes only since 1988. It offers post-graduate scholarships to African university staff development fellows to study in the universities of any of the member countries of the Network. In addition, it has an Exchange of Researchers Scheme for researchers to make short sojourns to the facilities of a researcher in a member country. NAPRECA also operates biannual symposia and a Summer School programme where it features the popularization of certain laboratory techniques or simply arranges a series of seminars on various natural product topics. The member countries are Ethiopia, where the coordinating office is located, Kenya, Madagascar, Rwanda, Sudan, Tanzania, Uganda and Zimbabwe. A typical feature of this Network is its ability to use the existing facilities of the universities in the region and the strong coordinating efforts of the officers who are themselves active scientists in their fields of specialization.
9. African Biosciences Network (ABN). This is located at the Dakar (Senegal) based UNESCO-BREDA office and aims at strengthening research in biology in sub-Saharan universities.
10. The Association of African Universities (AAU). This pan-African institution has recently celebrated its silver jubilee. It is the principal forum, established by African universities themselves, for consultation, reflection, exchange of information and cooperation. AAU presents itself as a non-governmental organization providing leadership in planning collaborative programmes (AAU 1993). AAU has several activities that promote staff development and training, seminars, workshops, staff exchange and fellowships/scholarships which include the

Staff Exchange Programme, the Inter-African Scholarship Scheme and the Africa-2000 Scholarship Programme for Women. It has also other activities in the areas of communication, information and documentation. AAU had times of relative dormancy, but presently it appears to be revitalizing its efforts.

Two new centres that are just established are the Consortium of African Schools of Information Science (CAS IS) and the Institute of Natural Resources in Africa (INRA), the latter under the auspices of the United Nations University. CASIS will constitute the already existing Schools and Departments of Information Sciences of Addis Ababa University, University of Botswana and the University of Ibadan as the pioneer members. The INRA is a research and training institute whose administrative offices are based in Nairobi. Postgraduate studies in the Africa region is one of the activities of the centre.

Other centres and networks include: The African Academy of Sciences (AAS), African Regional Centre for Technology (ARCT), the Pan-African Union of Science and Technology (PUST), the African Institute of Higher Technical Training and Research (AIHTTR), the African Centre for Technology Studies, the Council for Development of Economic and Social Research in Africa (CODESRIA), West African Science Association, African Association for the Advancement of Science and Technology (AAAST), African Mathematical Union etc. AAU has recently published a report which presents the profiles of many of these organizations (AAU 1992).

### **3.7 Multidisciplinary Programmes of Relevance to Africa**

There is no reason why the highest capabilities cannot be built in Africa in those areas that are based on unique and available resources and those that are central to the development of each sub-region of the continent. Perhaps such endeavours should not be made entirely as a South - South operation but rather as a South - South - North effort where the regional programmes get financial as well as intellectual support from the North. Such a South - South - North collaborative triangle has been proposed elsewhere (Edqvist *et al.* 1993). Mazrui (1992) queries the validity of adhering always to the conventional Western disciplinary categorization and indicates the greater relevance of establishing "Schools of Rural Studies" encompassing agriculture, anthropology, preventive medicine in rural conditions and the like, as well as a "School of Urban Studies" dealing with pertinent subjects appropriate to an African urban setting. This author did not, however, mention the University of Juba (Sudan) which has pioneered in this approach when in 1975 it established colleges organized across disciplines and set up the college of Natural Resources and Environmental Studies, the College of Social and Economic Studies and the College of Adult Education and Training. However, political problems and the general instability of the region have not permitted assessment of the actual impact of the experiment (Sherman 1990). Interestingly the University of Ghent (in Belgium) three years ago launched a new programme in Eremology, a term used to describe studies dealing with "desert science". This programme is intended for postgraduate level training of developing country personnel in areas of inadequate water supply and recurrent drought. The non-conventional nature of the programme is indeed noteworthy and for this reason students with a first degree in any of the natural sciences and even related disciplines are eligible for enrolment into the programme.

### **3.8 Publications**

An important area for collaboration of African universities is in publications. There is a dire need for good text books and other scholarly publications. The increasing cost of books and journals as well as the decreasing Government support has essentially reduced the libraries of our universities to museum-like repositories for outdated books. In 1989, the Addis Ababa University Library had to discontinue subscriptions to 1200 serial titles. Although the university now has services based on CD-ROM in addition to a few journals obtained through donations and subscriptions, it is unlikely that it will fully

restore the type of services that it used to render prior to 1989. Most universities are no longer capable of supporting scholarly research and teaching. The local preparation and broad use of text books and other scholarly publications will make significant contributions to ameliorate the bleak situation that exists today. Collaboration in this effort would not only enable the identification of the most competent scholars to write text books but would also offer a big market for the sale and distribution of the books. There are also many serial publications published by universities and professional associations. African universities should develop more interest in these publications and find ways of acquiring them either by subscription or exchange and where applicable to use these for exchange with publications outside the region. Libraries can play a much more aggressive role in this regard. They should also look into devising schemes for inter-library exchange of information and literature among libraries in the region.

The AAAS can be singled out as the most effective partner in terms of assisting African Universities and research institutes through its Journal Distribution Programme. This programme, funded by grants from the Carnegie Corporation of New York, the Ford Foundation and the US Agency for International Development provides current subscriptions to scientific and scholarly journals to libraries in 35 countries in Sub-Saharan Africa.

A worthy area of involvement for African university and other research libraries is in CD-ROM technology. Quite a few libraries are already involved in this area. The Addis Ababa University Library subscribes to six bibliographic databases on CD-ROM. AAAS has recently issued a report based on a 1990 survey entitled: "CD-ROM Compatibility in Sub-Saharan African University and Research Libraries" (Levy, Undated). It has also run two CD-ROM seminars for academic decision makers. AAS/AAAS supplies bibliographic and full-text databases on compact disk to research libraries in 38 Sub-Saharan countries.- More recently it is about to launch a three-year pilot study involving six universities in Eastern and Central Africa to enhance the role of CDROM in meeting the needs of researchers on a sustainable basis.

#### **4 Collaboration Countries with Newly-Industrialized and Other Countries**

Many Africans who are trained in Europe and North America are fairly exposed to the two extreme ends on the scale of development. On one occasion when I was a colloquium speaker in a US university a compatriot, who was sitting in the back seat of the lecture room came immediately after the lecture, pumped my hand in a feeling of satisfaction and admitted to me that he had no idea that the type of results I presented in the lecture could have been obtained at the Addis Ababa University. He had probably chosen a seat in the back row, with his head down, not to get embarrassed over what I could have said. Like my Ethiopian colleague many African scholars are not aware of what could be done back home but had concluded that no scientific work of any repute could be carried out in their home countries. In general, however, many young Africans who obtain their university education in the high-tech universities of Europe and North America have very little imagination of countries whose level of development is intermediate. In fact there are a lot of countries in Asia that have made great advances during the last 20-30 years and have acquired various levels of developmental achievements. Exposure to such countries will make one realize that development is a "multi-step" process. Universities in the newly industrialized countries of Southeast Asia seem to have succeeded in making themselves socially relevant. Social relevance is important because it provides an interactive process whereby society is able to make a R&D service demand on the university and the latter is in turn able to respond to the requirements of the former. Universities in India have made many positive contributions in the development of the country during the last two decades. And there are as many universities in India as there are in North America. Yet there are not many programmes linking universities in India and Africa. Selecting the most appropriate universities in Asia and finding workable mechanisms for interaction, and also developing ways of obtaining the required financial resources is a worthwhile challenge that

African universities should consider facing.

The author is aware of several short as well as long-term training opportunities that are available from India, China, Philippines etc. but those from the other countries are far fewer. In many cases, these trainings are financed from other international sources. However, many of these newly industrialized countries have well organized trade and commercial schemes with African countries involving hundreds of millions of dollars annually. It would be very worthwhile for African countries to introduce cooperation in the area of higher education with these countries.

Some form of South-South collaboration based on a common European Language exists between Brazil and Portuguese-speaking countries of Africa. An example\* of this is between the State University of Campinas and Eduardo Mondlane University in Mozambique involving the exchange of know-how on university administration and information systems.

## **5 North - South Collaboration**

Intellectual cooperation of African universities is primarily with counterparts in Europe and North America and to a lesser extent with the former Soviet Union, Japan and Australia. In most cases strong links that have been continuation of the former colonial relationships exist. Even though the number of universities in Sub-Saharan Africa prior to 1960 was only six, universities that were established after independence continued their affiliations with the United Kingdom and France. As already discussed above these relationships were inherently characterized by intellectual overdependency.

### ***5.1 Postgraduate Training***

One of the modes of North - South cooperation has been and continues to be the training of Africans for higher degrees. The most numerous scholarships were offered at the outset by Great Britain and France and large numbers of students obtained higher degrees. Some decided to return to their countries while others opted to remain in Europe or moved to the US. The US responded to the need of the newly independent countries of Africa to train nationals to replace expatriates by offering scholarships to pursue graduate studies. The main donors were the Rockefeller foundation and USAID. Large numbers of students were trained. By the mid 1970s, these donors began to realize that many students were not returning to Africa. Many Africans went to the best schools in the US and received training that prepared them more for professional employment abroad than in their own countries. Those that were patriotic decided to return anyway in the hope that they would be able to do professional work in Africa. Some managed *to* do so. Others, out of fear of intellectual isolation or other pretexts, stayed away permanently. Many writers have explained the reasons why such professionals emigrated. The naive ones assume that the reasons are economic, and indeed this may be so for a few of them. Others believe that the main reason is the failure of the African countries to provide good working conditions that would enable them to contribute professionally. Or as Gebregziabher (1990) put it, it is the lack of the intellectual featherbed in the home country. According to the World Bank, in 1985 there were 34,000 African students in US universities and colleges many of whom are unlikely to return to Africa. Similarly more than 70,000 trained Africans have also opted to remain in Europe (World Bank 1988). The original plan of offering postgraduate scholarships to help Africa meet its high level man power needs appears not to have been a successful one. According to the World Bank again, there are 100,000 foreign experts working in African countries at an annual cost of over four billion US dollars.

Many university departments, leaders and policy makers have realized this problem, but only few have developed satisfactory remedies. Donors who are involved in successful South - North postgraduate training with minimum brain drain are even fewer. A growing number of universities are following the "Sandwich" model (also called the "split site" model) for postgraduate training for building their trained

human resource needs. The trainees enrol in the home university for the advanced degree and travel abroad for relatively short periods of up to one year to a university in the North. This provides an opportunity for the trainee to take courses that are not offered in the American university and also access to well stocked libraries to facilitate the writing of scholarly theses. The advantage of this approach is that the trainee is not dislocated from his/her home setting for a long period. He/she also usually gets to work on a research project that is of some relevance to his/her institution or country.

One programme that is worth mentioning in this connection is the International Science Programmes (ISP) of Uppsala University (IPICS 1992). This programme aims at capacity building in selected departments of certain universities in developing countries through postgraduate training and gradually building research infrastructure. Postgraduate training follows the so called "Sandwich model" which involves several visits to a North university for periods of six to ten months. Each return home provides the occasion to take back some items of research equipment, supplies and literature in order to enrich the research facility in the South laboratory. The ultimate goal is to establish a research group with research facilities and with intellectually cooperating research group in the North. The *modus operandi* has slowly evolved over a long period and the achievements of the programme are respectable. In Africa, the Department of Physics of the University of Dar es Salaam has benefited greatly from this programme. Other departments that are at a relatively early stage are the corresponding departments in Addis Ababa and Makerere Universities. An added feature of this programme is the interdependence it has created among these three departments in the three universities. The ISP is also establishing a network of Seismology Departments incorporating the relevant departments in the universities along the East African Rift Valley. The efforts include the postgraduate and short term training of personnel, the setting up of seismic stations and the publications of bulletins. The South department is intimately involved in the planning and development of the programme and it is encouraged to approach other donors to contribute to the building of research facilities. It is observed that SAREC and the International Atomic Energy Agency (IAEA) have become positively contributing partners to ISP. SAREC is, in fact, the major donor to the activities and programmes of ISP.

### ***5.2 Post-doctoral and Other Professional Training***

Other North - South schemes that contribute to professional development of qualified university staff are those of the Humboldt Foundation (Germany), Fulbright fellowships (USA), IDRC Professional Development Awards (Canada), the Matsumae Foundation (Japan). Of special significance in this regard is the IAEA-UNESCO run International Centre for Theoretical Physics at Trieste - the Associateship Scheme whereby distinguished scientists working and living in developing countries have a guarantee of spending from six weeks to three months at the Centre at times of their own choice, three times during a period of six years. Some 430 physicists working in the Third World are presently Associates of the Centre. After 24,400 visits made during the last 26 years by research physicists from the Third World, the Centre claims that there has not been a single case of brain drain from among the Associates and Fellows who have come to work at this prestigious Centre (Salam 1991).

### ***5.3 Collaboration with Expatriate Nationals***

As mentioned earlier, there are very many trained Africans that are now residing outside the continent in Europe, North America and elsewhere. Many of these highly trained individuals are, unfortunately, not employed professionally. However, there are a reasonably good number that are professionally successful and occupy key positions in the UN system, in national and multinational corporations, in universities as well as in high technology industrial establishments. Many of these have now become either residents or citizens of other countries. These highly skilled and successful professionals have been targeted by UNDP for intellectual North - South collaboration with their "root" countries, through a programme called "*Transfer of Know-how Through Expatriate Nationals*" (TOKTEN). African

universities can target these groups of professionals for a worthwhile and fruitful collaboration. It is believed that returning expatriates have made significant contributions to the prosperity of South Korea (Salam 1991).

A group of over 100 successful expatriate Ethiopians living in the US have established the Ethiopian Scientific Society in North America. Some of the objectives of this Society include the amelioration of the working environment of faculty and students at Addis Ababa University. In this regard the Society is making modest contributions in interacting professionally and also facilitating electronic mail communications, making journal donations, and instituting awards for scientific contributions including academic achievement award for students.

#### ***5.4 Ethical Aspects of North-South Collaboration.***

One of the top priority concerns of our time is conservation of biodiversity and genetic resources. Africa is mainly located in the tropics and many countries in this part have been classified as among the poorest of the poor of nations frequently dependent on humanitarian aid. However, these countries have many untapped resources. One of these resources is in the area of biodiversity and genetic resources. Many of these nations are appropriately referred to as the *genetically affluent countries*. These nations can gain considerable economic benefits from the proper utilization of these resources. They need to develop better managerial and technical skills together with the ability to engage in a North - South collaboration that recognizes them as equal partners and ensures them to benefits from commercially viable R&D ventures (Cuningham 1993). Universities (Faculties of Law, Pharmacy, Medicine, Science, etc.) which would form part of such R&D systems have great responsibilities in considering the ethical and legal aspects of their collaboration with professionals of the North.

### **6 University - Donor Interactions**

University donor interactions in Africa have existed for as long as the universities themselves. Almost all major decisions taken by universities in Africa have, more often than not, involved one or more donors. A retrospective analysis of these decisions and an assessment of how these decisions have led to the present predicament of African universities have enabled the formulation of a set of criteria by donors for direct and/or indirect investment in the higher education of the South. As kindly pointed out by a referee to this paper\* the advice given by experts today would consist of the following: (i) be more efficient in the use of resources that are available to you (i.e. issue of "cost-efficiency"); (ii) increase the beneficiary contributions (issue of "cost-recovery"), (iii) do not expect much more and- perhaps even less from the donor(s) (i.e. issue of "sustainability"), (iv) develop postgraduate programmes focusing on the study of indigenous resources, practices (issue of "relevance"), (v) give greater emphasis to quality instead of quantity (issue of "pedagogical efficiency") and finally, (vi) enrol more women and minorities (issue of "access and equity". These are, no doubt, the most critical issues that should guide the development of our universities in the future. However, 'it is doubtful if any of the African universities in Africa, including those that have heavily relied on "expert advice" from the North ever conducted programmes which meet the criteria that are enumerated above.

A director of a Norwegian donor agency recently stated that after 20 years of involvement in development aid to developing countries, the greatest lesson to learn is the importance of allowing the recipient countries themselves to formulate their critical needs and to provide catalytic support to meet these needs.

Meaningful university - donor interactions can only be possible if African universities are empowered to handle university affairs in a peaceful, responsible and accountable way. For this reason I want to deal

with the issue of empowering universities first.

### ***6.1 The Need for Empowering Universities to Find Solutions***

The purpose of a university is to educate intellectuals from among whom emerge leaders, policy makers, the managers, the technical cadres etc. Universities should have academic freedom to think freely and to seek truth. Universities must be able to provide opportunities for students to be mature and responsible citizens. University students are in their formative years of adulthood. They learn how to collect and analyze data, to live and work with others that have different backgrounds, different beliefs and convictions. They learn how to look at alternatives before making decisions, etc. Governments are in general aware of the importance of universities and have always supported them. But with the support, they have sought to exercise restrictive control of the universities. It is hoped that as African governments become more and more democratic, they will realize that the support they give is out of duty and not charity. Because of their support they should have a right to supervise but not to control these institutions. The leaders of a university must also face their responsibilities and should do their utmost to get the support and understanding of their nation leaders. Universities should enjoy academic peace and tranquillity in order for the staff and the students to pursue their search for knowledge to the maximum. No effort must be spared to acquire peace and stability for a university. Universities should be granted functional autonomy that allows them to develop proper governance structures and at the same time become honourably accountable to the society they are in. This is also an essential condition that many donors usually require to agree to extend support to a university.

University presidents, at least the few that this author has known, are so bogged down with routine administrative tasks that they have very little opportunity to devote their time to university development and long range plans. Such a situation is not an empowering situation. It is only when they have time to think and reflect on the university's future that they can lead the universities. It is precisely for this reason that many of Africa's university presidents have not written their experiences and their visions for the future development of Africa. It is often other intellectuals who are either abroad and have time to reflect on our problems or others who are commissioned by donors and international agencies who write about university problems and developments. The need to draw the attention of the donor community to support efforts to address and understand such issues as: Government - University relations, university governance and student affairs has been made in a 1991 report to the Ford Foundation and the Rockefeller Foundation (Coombe 1991).

### ***6.2 The Need to Identify Problems and Formulate Solutions***

There has recently been a growing hue and cry that something should be done about the deteriorating situation of many African universities. The situation in the universities is part and parcel of the general predicament in all sectors in many African countries. Partly, the crisis of our universities reached present levels because of fears felt by leaders of our universities and higher education and other political authorities. Several committees and task forces were set up as far back as the late sixties and early seventies which addressed the problems of higher education (e.g. the Educational Sector Review of Ethiopia in the late 60s). Several of these reports indicated that crisis was imminent unless drastic changes were introduced. Suggested solutions to the problems required considerable attention and funds. It was not possible to hold debates on these suggested changes and policies. Anxiety was expressed that making some of the issues and findings public would invite protests and riots in the campuses. Some leaders feared that they would not survive politically if such reports were made public and decided to shelve them.

The current decade has begun with the breakup of the USSR and many countries in Eastern Europe and

Africa are addressing political and economic issues at levels that were completely unexpected before. The issue of higher education in Africa should also be reviewed and widely debated. It should be debated among students, faculty members and the general public which is undoubtedly deeply concerned about the state of higher education. It should be possible to distil from such broad consultations and debates, clear and lasting goals and strategic plans that change very little during - say - one or two decades, so that they are retained for a given nation even when governments or institution leaders change by whatever process.

The reform exercises are so important that institutions should allow adequate time for them. It is often found that reform exercises and planning meetings in many of our countries are done in an unsatisfactory manner. The exercises are conducted in haste and usually under pressure from donor deadlines. There is no doubt that most of the responsible participants have the best intentions; however, they have seldom been successful in developing efficient mechanisms to do the job very well. Plans and proposals are submitted without reaching consensus through serious debate internally among the academic community. Papers presented at workshops are not discussed satisfactorily and are not sent to experts for assessment. The proceedings are not well put together by upgrading the presented papers through expert and peer reviews. Often there are long delays before they become available and sometimes are overtaken by events. Sometimes they appear after a change of leadership and are not followed up due to the sudden emergence of a different set of politically driven priorities. As an example, the proceedings of a workshop entitled "A Development Strategy for Higher Education in Ethiopia" which appeared in 1990 contains very general and in some cases irrelevant keynote speeches by political leaders. Some interesting papers were presented but the majority were totally irrelevant to the theme of the conference.

Some universities have already taken the initiative recently of preparing a sufficiently far-sighted medium and long term development plans and have proceeded further in involving donors in meaningful discussions. Eduardo Mondlane University (UEM) was able to successfully develop a strategic development plan in this manner acquiring internal as well external consensus among donors. In a recent monograph on *"Universities in Africa: Strategies for Stabilization and Revitalization"* in the chapter dealing with *"Initiating Reform"*, Saint (1992 p. 124) singles out the exercise undertaken by Eduardo Mondlane University as a fine example of undertaking reforms and describes the processes followed for internal appraisal. Some of these exercises have resulted in the preparation of proceedings one of which, entitled: *Review of Governance, Planning and Management*, has been published (Commonwealth Secretariat 1992). UEM has apparently succeeded in obtaining credit from the World Bank to invest in institutional rehabilitation and development. The author had the privilege to visit the university in March 1993. and had the occasion to meet one of the top officials of the university and in the informal discussion that followed the official remarked that universities in Africa must be run like companies. Another faculty member of the same university disagreed with the comparison of the university to a company and objected to the adoption of the "cost recovery" issue as the sole driving force for running the university. This faculty member stressed that the success of UEM in getting two-thirds of its budget from external donors is not due to the "company management style" of the university, but rather to the personal commitment of the staff and the special interest shown by the international donor community to invest in an experience of African Capacity Building.

Other universities in Africa are also conducting reform exercises. These include universities in Tanzania, Senegal, Zambia, Botswana, Asmara, Benin, Natal etc. (AFTED 1992: Attachment II).

Several reviews of the problems of African universities (World Bank 1988, Saint 1992 and others) indicate that they are in many cases very similar. Therefore appreciable benefits could possibly be

gained from fora for common discussions of these problems, and for combining efforts to tackle some of them and opportunities to interest donors to support some of these activities. Many African scholars at individual level, a few institutions and several donors have strongly expressed the need to reassess the missions of higher educational institutions, to find ways of diversifying sources of finance, to develop better governance for universities, as well as to address such important issues as quality and relevance of programmes, access and equity etc. Considering the present economic crisis in almost all of the countries of sub-Saharan Africa, it is unlikely that the required additional finance to undertake strategic planning exercises, at least in the immediate future, would be fully available from local government sources. On the other hand many donors, probably in a state of fatigue, are less willing to continue to support programmes unless they feel reasonably certain that future support would result in the revitalization of our universities.

### **6.3 Donor policies towards African Universities**

A number of donors have already enunciated their policies for assistance to developing countries in the domain of education, while others are in the drafting stage. Mention may be made of IDRC's policy document *"Empowerment Through Knowledge: The Strategy of the IDRC"*, which states that IDRC has been engaged in a process of reflection and debate on how it could most effectively contribute in the 1990s. In 1991 SAREC issued a document entitled *"The SAREC Model: Institutional Cooperation and the Strengthening of National Research Capacity in Developing Countries"* (Bhagavan 1991) and more recently a second important draft document entitled *The Ownership and Cultivation of Knowledge: The Rationale for Swedish Support to Universities in Developing Countries* (Olsson 1992). The World Bank held a Senior Policy Seminar on Higher Education in Harare in 1992 and has subsequently developed a Higher Education Policy Paper which was presented at the fifth DAE-WGHE meeting held in Maputo in November 1992 (AFTED 1992). The Netherlands has also produced a new policy paper in 1990 entitled *"Development Cooperation and Education in the 1990s"*. These various policies were discussed in the Maputo meeting, in which 18 representatives of donor agencies; 8 rectors, vice chancellors and deputy vice chancellors of African universities; 2 senior government officials with higher education responsibilities and 9 other representatives of higher education institutions in the region (including S. Africa) participated. The reader is referred to the document on the World Bank seminar in Harare for a succinct summary of the various policy documents and reactions of the participants to them. Some of the statements regarding donor policies expressed in this meeting are:

*...It appears that a number of donors are moving in directions advocated by the DAE Working Group on Higher Education. These include greater emphasis on long-term institutional development, on the utility of strategic planning exercises, on the use of institutional linkages rather than individual technical assistance contracts, on greater flexibility in the structuring of assistance so that management choices become meaningful, and on management capacity-building as an integral part of any university project. Growing use of regional training resources and local consultants. In Sweden, SIDA and SAREC are moving towards greater institutional support for universities. This is a response to the growing need of resources, quality, dependency and management that afflicts African universities. It is based on the assumption that donor support is more effective when: (a) it occurs in a supportive policy environment which includes institutional commitment to key objectives; (b) an institutional strategy to enhance research capacity and reduce external intellectual dependency is present, and (c) universities are able to coordinate donors. A portion of Swedish activities will seek to encourage a regional debate on the role of research and higher education. Future funding support will mix assistance for strategic planning with funding for specific faculties and core functions such as libraries, research and training. Where appropriate, more flexible funding arrangements will be explored in the effort to make management choices meaningful...*

The Netherlands Organization for International Cooperation in Higher Education (NUFFIC) has also recently produced a document describing a programme called the MHO programme which is a "Joint Financing Programme for Cooperation in Higher Education" (NUFFIC 1993). An interesting aspect of this programme is the policy principle which includes a framework for strengthening of institutions of higher education in developing countries by establishing inter-institutional linkages between these institutions and one or more Dutch institutions of higher education (NUFFIC 1993:5). The MHO programme is available in "those countries that have been targeted for bilateral development cooperation by the Dutch government. Those in Africa are classified by/region as follows: the Nile and Red Sea Region (Egypt, Sudan, Ethiopia and Yemen); East Africa Region (Kenya, Tanzania, Uganda and Rwanda); Southern Africa (Angola, Botswana, Lesotho, Malawi, Swaziland, Mozambique, Zambia and Zimbabwe); The Sahel and Other Region (Burkina Faso, Mali, Gambia, Guinea-Bissau, Cape Verde, Mauritania, Nigeria, Senegal, Chad and Benin); and West Africa Region (Ghana and Cameroon). Although this programme has provisions for inter-institutional linkages among developing countries and between such group and Dutch institutions (i.e. South - South - North), no clear guideline is provided for how such a framework can be established.

A challenge for African universities is therefore to address the above issues in a thorough manner, with full consultation of the stakeholders of higher education and come out with realistic development plans which build on what have already been achieved and pragmatic strategies for their implementation.

## 7 Conclusions

A lot has been said about the problems of African universities. Our universities have lost large numbers of highly qualified professionals. Our libraries no longer receive the journals and books that used to arrive regularly in the 1970s and the early 1980s. Our undergraduate laboratories no longer have the functioning teaching instruments, the hardware and supplies. The laboratories, lecture halls, dormitories, dining halls, etc. are very crowded and have deteriorated beyond belief. A major rehabilitation drive is critical. But this has to be done in a way that revitalizes our universities. Can this be done by the year 2000? How? African universities should group themselves in some rational way and tackle their problems. They should be willing to deploy internal resources. Many of the problems are common and common solutions can be sought. The universities have Africa's brightest intellectuals and they should have the solidarity to stand for a common cause and prescribe a series of remedial measures for the problems of the universities. These measures must specify what each university can undertake on its own and what should be done sub-regionally, regionally and internationally. But the universities cannot do the task alone. They need the support of their governments, the society and the donor community. Are the governments ready to go beyond paying lip service to sub-regional and regional collaboration by allocating resources? Are our university intellectuals willing to reduce their dependence on the North and to develop keen interest to work with their colleagues in Africa? Are donors going to give greater emphasis to South - South and South - South - North than to North - South cooperation? These are the critical issues our immediate future. Some modest suggestions are presented in this paper which may be useful.

1. The problems of the universities should be identified and issues debated by all concerned. What needs to be done now is an in depth study of already produced data analyzing the problems and conduct further investigations to complete these studies.
2. Consultations should be made not only locally but also sub-regionally and regionally. Donors should be invited to take part in the discussions of problems and in proposing solutions. *The goal of such consultations should be to draft a national, sub-regional and regional agenda for university development in Africa.*
3. Since many of the problems of African universities are similar, some of the problems can be

collaboratively tackled by the universities in the region. Regional and sub-regional collaboration must be viewed as a most viable and promising venture. Countries should be convinced of the importance of such efforts and should begin to allocate resources to this South - South effort. Existing top level policies and plans must be followed up by the development of rational basis for grouping universities in a given sub region. It is proposed that concrete plans be drawn and a programme of action developed to bring at least *four universities in a sub-region*. Universities should *raise at least 50% of the cost of programmes* they propose for external donor support in local currencies. Each programme that requires external donor support must have a *phase out scheme* for the external support over a specified period (5-10 years).

4. African universities must aim to eventually break the cultural and psychological over dependency on the North and emerge on a more independent platform. This can be done by increasing the interdependence among the universities themselves.
5. African universities would benefit a lot from strengthened relations- with universities in more developed countries other than those in Europe and North America. There are many countries who have achieved incredible successes only during the last two-three decades. Valuable lessons will be derived from association with universities in the Newly Industrialized Countries of Asia and Latin America.
6. The role of African experts as consultants not only in their own countries but also in the sub-region and region should be promoted. Universities would do well by developing mechanisms for institutionalizing consultancy services.
7. *Peace and stability* within the university are essential to win the confidence of their staff, to attract foreign expatriates and expatriate nationals and donors to participate in their programmes. University-Government, Student-University administration and Student University administration-Government relations need to be looked at not only to find less acrimonious ways of settling differences but to maintain the proper conducive atmosphere for thinking, learning and research.

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