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The Brain Drain in Africa: An Emerging Challenge to Health Professionals' Education

Delanyo Dovlo*

Abstract

A health crisis is facing sub-Saharan Africa. The population has increased markedly. In recent decades, communicable diseases and 'new' noncommunicable disease epidemics have intensified. HIV/AIDS is perhaps the biggest health challenge. However, the supply of health workers remains low and has been worsened by their migration to developed countries. This paper reviews health professionals' 'brain drain' using data from Ghana and other African countries, with proxy data supplying some information on which direct data do not exist. Not only is retention of health professionals a serious challenge, but training output has also remained limited. There are few studies of how stakeholders, including institutions of tertiary education, can moderate the effects of brain drain. Sub-Saharan Africa cannot compete economically with industrialised countries in the same health labour market. This paper discusses ways in which educational systems and the health sector can collaborate to mitigate the effects of health professionals' migration and to sustain health services including (a) new modes of selecting candidates for the professions, (b) establishing new and relevant curricula, (c) profiling new cadres that are better retained, and (d) co-ordinating with the health sector on bonding and community service schemes to facilitate retention.

Résumé

L'Afrique subsaharienne est confrontée à une crise sanitaire. La population de cette zone a connu une forte croissance. Au cours des dernières décennies, les épidémies de maladies contagieuses et de « nouvelles » maladies non contagieuses se sont intensifiées. Parmi celles-ci figure le SIDA, qui pose un défi majeur. Or, le nombre

* Delanyo Dovlo is Chief of Party, USAID-supported Community Based Health Planning and Service Population Council, Inc., Accra, Ghana, P.O. Box CT5203, Accra, Ghana; e-mail: dovlod@yahoo.com. When this article was prepared, he was a consultant for Independent Human Resources for Health, Accra. He is a member of the Africa Working Group of the international Joint Learning Initiative on human resources in health.

des travailleurs de la santé demeure de plus en plus faible du fait de leur migration vers les pays développés. Cette communication analyse le phénomène de « fuite des cerveaux » touchant les professionnels de la santé, sur la base des données récoltées au Ghana et dans d'autres pays africains, en exploitant les données indirectes pour déterminer les données directes inexistantes. L'arrêt de cette « hémorragie » est devenu un véritable défi. De même le système de formation dans ce domaine a donné des résultats peu probants. Il n'existe que très peu d'études sur la manière dont les parties prenantes, parmi lesquelles figurent les institutions de l'enseignement supérieur, suppléent aux effets du phénomène de fuite des cerveaux. D'un point de vue économique, l'Afrique subsaharienne n'a pas les moyens de rivaliser avec les pays industrialisés, sur le marché du travail de la santé. Cette communication présente la manière dont les systèmes d'éducation et le secteur de la santé peuvent collaborer pour atténuer les effets de la migration des professionnels du milieu, et améliorer la qualité des services de santé, (a) grâce à de nouveaux modes de sélection des professionnels du milieu, (b) en mettant en place de nouveaux programmes plus adaptés, (c) en formant de nouveaux cadres motivés à rester dans le pays, et (d) en mettant en place un système de contrats d'engagement et de services communautaires, pour mieux retenir les professionnels du secteur.

Introduction

Africa faces a health crisis occasioned by a number of important factors that have arisen over the past two decades. Perhaps the most important is the HIV/AIDS epidemic; however, according to Sanders et al. (2003) the re-emergence of old communicable diseases such as tuberculosis and malaria, development, and the apparent paradox that changing lifestyles has resulted in concurrently increasing levels of noncommunicable disorders rather than improved health have also increased the disease burden considerably. In addition, perennial problems stem from the economic difficulties of countries in sub-Saharan Africa, which affect health systems through low funding and a deterioration of the infrastructure of health systems.

Sanders et al. (2003) further provide evidence to show that substantial improvements had indeed occurred in health in sub-Saharan Africa in the period following independence but they suggest that the past two decades have witnessed serious resurgences of the 'old' communicable diseases (e.g., tuberculosis, malaria and cholera) in addition to 'new' epidemics in HIV/AIDS and to such diseases of the 'epidemiological transition' as cardiovascular ailments. The net result is that these combined problems have eroded the health gains made in earlier decades. Indeed seventeen of forty-eight countries in sub-Saharan Africa experienced a reduction in life expectancy between 1981 and 1999.

Central to this difficult scenario is the health professional, who is a critical part of the health system and perhaps the most essential of the resources needed for a fruitful health sector. However, in sub-Saharan Africa, human resources remain in short supply and, even where available, are poorly motivated and are increasingly attracted into the wider international labour market. Statistical information from the World Health Organization (2003b) shows wide global variations in health professional availability, ranging for doctors from 2.3 to 664 per 100,000 population; but of the lowest fifth of countries in this range, twenty-eight of thirty-seven are sub-Saharan African countries.

Defining the Problem: A Link Between Brain Drain and Education?

The brain drain of health professionals from African (and other developing) countries has recently become a topical issue, especially in the face of serious health challenges facing the continent. Several factors influence the state of health professionals' retention; and Africa, like many other countries, faces many of these challenges.

Brain Drain

Brain drain is described by Lowell and Findlay (2001), as the emigration abroad of tertiary-educated persons at such levels and for such lengthy durations that their losses are not offset by their remittances home, by transfer of technology, or by investment or trade from the recipient country. This description however skirts the issue of permanent versus temporary migration and re-inforces the fact that it is difficult to discern the true intentions of migrant professionals. Health professionals in Africa often specialize in countries other than their own, spending long periods of time in post-graduate professional training which often leads to continued residence in the country of training. In this paper, brain drain is considered to have occurred once a professional is not in the employ of the home or source country. Return may occur when conditions change at home, but such movement in and of itself does not give clear-cut indications of migrants' intentions.

Health Professional

The term "health professional' in this paper refers to mostly tertiary-trained (meaning training at the post-secondary university level) persons and generally includes doctors, pharmacists and graduate nurses.

Push/Pull Factors

'Push' factors were used by Meeus (2003) and Dovlo (1999) in some studies on the brain-drain phenomenon to describe factors within source countries that compel professionals to emigrate whilst "pull' factors arise within recipient

countries and attract intellectuals into their own systems. Padarath et al. (2003), however, describe a system of push factors that exist in both source and recipient countries but which are mitigated in recipient countries by what they described as 'stay' factors and in source countries by 'stick' factors.

Most health professional education in Africa is provided and subsidised by governments, and professionals are produced for the health sector by publicly funded universities and colleges managed by the education sector. It was suggested at the World Health Organization/World Bank (2002) conference on 'Building Strategic Partnerships in Education and Health in Africa' that a disconnect existed between health reforms and policy formulation on one hand and the education of the health workforce on the other, which may well influence matching the professional to the community's needs. Such a situation would exert a push factor.

Stalker (2001:21–22) recently defined the influencing factors in terms of individual and structural approaches to migration. The structural approach refers to factors outside the control of the individual professional such as the political and social problems within a country. The individual or 'human capital' approach emphasizes those factors that constitute personal motivation and incentives to migrate.

The Roles of Education

The education of health professionals may be said to interface with their retention and motivation in a number of ways. Boelen and Heck (1995) proposed that medical schools have social accountability to the communities served, suggesting that medical schools must adapt so that they respond to or proactively help shape the future of their health systems. They also suggest this definition for medical education: 'It is the art and science of (1) preparing future medical graduates to function properly in society and (2) influencing the environment in which these graduates will work, to the greatest satisfaction of the health consumers, the health authorities and the graduates themselves'. Thus, it may be extrapolated that medical education has a role to play in creating the systems that ensure the retention of its graduates to serve its communities. Furthermore, the value of medical schools will be enhanced by their relevance, quality, cost-effectiveness and equity responsiveness. For example, Lehman, Andrews and Sanders (2000) show that deliberate equity criteria used in selecting candidates for medical education in South Africa has changed the profile of students and that students selected from deprived communities were more likely to remain in those communities for longer terms of service (personal communication from Professor Steven R. Reid, Center for Rural Health University of Natal, South Africa, April 2004). Translating these tenets into

the true retention and mitigation of the brain drain of health professionals remains a major challenge.

This review is based on an analysis of the factors influencing the brain drain of health professionals in Africa. It undertakes a qualitative evaluation of various pieces of evidence on the status of the brain drain, especially the strategies that various countries have adopted to mitigate the effects of brain drain. It attempts to elicit what roles the education of health professionals can play in these strategies. Whilst health professionals encompass a wide range of people with skills working in health, the main focus of this paper is on the medical profession.

Magnitude of the Problem

The numbers of African health professionals joining the brain drain appear to have increased in recent years in response to the high demand from developed countries; however, Dovlo and Nyonator (1999) show that Ghana, for example, also loses professionals (especially physicians) to other developing countries, especially to South Africa. However, the main demands have come from demographic changes in industrialised countries that have resulted in aging populations and a reduction in the availability of young people to recruit into the health workforce. For African countries, the loss of health professionals, combined with increased internal demand for health professionals due to the health crisis described earlier, threatens the entire development process in sub-Saharan Africa and its ability to meet health-related millennium development goals. Kurowski (2003) estimates from staffing norms (based on the requirements with which Latin American countries reached infant mortality rate targets) that low-income sub-Saharan countries will require about 720,000 doctors and 670,000 nurses to achieve the same results.

Even with current low baseline staffing levels, evidence adduced from studies by Dovlo and Nyonator (1999) and Buchan and Dovlo (2004) indicate that staff vacancy estimates from public health services in Ghana, for example, have increased by 100 per cent for nurses between 1998 and 2002. Doctors' vacancy rates increased from 42.6 per cent in 1998 to 47.3 per cent in 2002 despite supply rates of over 100 doctors per annum. Studies on migration of doctors trained by the University of Ghana Medical School show that, in the ten years between 1986 and 1995, 61 per cent of the output of the Ghana Medical School had left the country.

Table 1: New Registrations of Doctors in the United Kingdom, Based on Place of Primary Medical Qualification

Full Registrants	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
United Kingdom	3,675	3,657	3,710	3,822	3,920	4,010	4,242	4,214	4,462	4,288
EEA*	1,188	1,444	1,779	2,084	1,860	1,590	1,392	1,192	1,237	1,448
Overseas	2,500	2,539	3,327	4,047	3,678	3,580	2,889	2,993	3,088	4,456
Total	7,363	7,640	8,816	9,953	9,458	9,180	8,523	8,399	8,787	10,192

Source: United Kingdom General Medical Council
*European Economic Area

Data on the registration of health professionals in the United Kingdom show the problem as it emerges in a recipient country. The new annual registration of overseas doctors by the General Medical Council of United Kingdom in 2002 was 38 per cent above the 1993 figures (Buchan & Dovlo 2004). Martineau and Decker (2002) quote estimates showing that England alone will need 25,000 more doctors by 2008 than it did in 1997, making changes in health professional demand unlikely in the short to medium term.

A further analysis of 'overseas' registrations (Table 2) illustrates the increasing level of recruitment of doctors to the United Kingdom from selected source countries including three African countries.These three African countries alone supply 7,873 general duty doctors and 1,384 specialists registered in the United Kingdom. The number of Ghanaian doctors and specialists on full registration represents about 20 per cent of the stock in public service in Ghana.

The situation is worse with the nursing profession. Currently about 45 per cent of all new entrants onto the UK nursing register are from international sources, compared with between 12 and 15 per cent in 1996. Table 3 shows the top ten countries of origin of nurses issued with work permits in 2002 in the United Kingdom. It includes six African countries, including some with relatively small health professional stocks such as Mauritius.

Table 2: Registered Doctors by Registration Status and Country of Qualification – Selected Developing Countries, 27 May 2003

Country of Qualification	Full Registration Only[a]	Full & Specialist Registration[b]	Limited Registration [c]	Provisional Registration[d]
Bangladesh	562	71	62	—
Barbados	150	—	—	50
Burma	526	64	79	—
Egypt	1,644	512	154	—
Ghana	207	71	46	—
India	14,252	2,473	3,842	24
Iraq	955	400	198	1
Jamaica	732	66	—	19
Nigeria	1,248	324	350	—
Pakistan	2,939	621	707	8
South Africa	6,418	989	—	80
Sri Lanka	1,427	450	211	1

Source: United Kingdom General Medical Council. Data excludes a small number of temporary registrations.

a Persons allowed unrestricted rights to practise in the United Kingdom.
b Persons with specialist qualifications who are fully registered to practise their specialty.
c Persons registered for specialist training purposes, research, etc., for a limited period or activity.
d A temporary measure to allow for certain restricted professional activities.

As an indicator of intent to migrate, Buchan and Dovlo (2004) studied nurses seeking verification of their qualifications from the Ghana Nurses and Midwives Council to work in other countries. Some 3,087 Ghanaian nurses sought verification between 1998 and May 2003; their main destination was the United Kingdom, followed by the United States. Comparatively, Ghana's outputs from nursing training schools from recent supply data (2000–02), averaged only about 50 per cent of verification requests (See Table 4).

Table 3: Top Ten Countries from Which Applicants for Nursing Work Permits Originate (2002)

Country	Number of Work Permits Issued
Philippines	10,424
India	3,392
South Africa	2,835
Zimbabwe	2,346
Nigeria	1,501
Ghana	528
Australia	503
Pakistan	385
Kenya	354
Mauritius	351
Other	2,983
Total	25,602

Source: Work Permits United Kingdom.

Factors Influencing Migration

Dovlo (1999), Martineau, Decker, et al. (2002), Meeus (2003), Padarath et al. (2003) and others have discussed the reasons underlying the brain drain in various papers. A number of push and pull factors, have been cited as influencing the decisions of health professionals to leave their countries of origin. Push factors refer to events in the country of origin that motivate professionals to leave whilst pull factors are the deliberate and/or unintended actions from recipient countries that attract health professionals to their health services. Examples of push factors include low remuneration, poor working conditions, low job satisfaction, lack of professional development and career opportunities and political and ethnic problems including civil strife and poor security.

Table 4: Ghana Nurses Seeking Verification and Country Verified For

Destination Country	Number and Year Verification Sought						Per Cent of Total	
	1998	1999	2000	2001	2002	2003*	Total	Per Cent
USA	50	42	44	129	81	80	426	13.80
United Kingdom	97	265	646	738	405	317	2,468	79.95
Canada	12	13	26	46	33	10	140	4.50
South Africa	9	4	3	2	6	—	24	0.77
Others	4	4	8	8	5	—	29	0.94
Total	172	328	727	923	530	407	3,087	
Compared Training Output			386	486	357			

Source: Nurses and Midwives Council, Ghana
*Dovlo (2002)

Poor governance of health services and the lack of technology and equipment to perform professional tasks are also important factors. Pull factors are caused by increased demand for health professionals in developed countries and include attractive remuneration, new career and personal development prospects and active recruitment by those countries. The common use of a professional language such as English and similarities in professional training and systems arising from the colonial experience of African countries are also thought to enhance the pull factors.

An individual's threshold decision to migrate probably arises from a combination of both push and pull factors, and it has been suggested that these are reflected in terms of gradients or tensions in the influence of these factors between source and recipient countries (Dovlo 2003). The key influences are:

1. Income gradient, or the difference in remuneration and living conditions between the home and recipient countries. For example, Vujicic et al. (2004) has calculated that income gradients may range from two times for nurses in South Africa to twenty-two times for nurses from Ghana.

2. Job satisfaction gradient. The perception of a good working environment and professional and technical proficiency that allows for international peer recognition is important for tertiary-trained professionals.
3. Organisational environment/career opportunity gradient. This factor expresses how fair and accessible opportunities are for career advancement and for professional specialisation. It is also related to governance, politics and ethnicity as factors in demotivating professionals.

The governance gradient involves differences in the efficiency with which health services are managed, including the amount of administrative bureaucracy. Other factors include corruption, nepotism and political instability.

The protection/risk gradient means that the lack of protective wear at work coupled with a perception of increased occupational risk arising from the HIV/AIDS epidemic makes the receiving country more appealing to some health professionals deciding to work abroad.

The social security and benefits gradient is concerned with security after retirement. Retirement and pension benefits are thus important motivation factors. In Ghana, one of the reasons that nurses give for their decision to work abroad is so they can save money for housing and sustenance for retirement (Buchan & Dovlo 2004).

Whilst data on the impact of the loss of health professionals are lacking, some reports from a recent meeting in South Africa sponsored by the Commonwealth Secretariat (2003) described some of those effects: a decline in quality of care caused by increased workloads and the loss of support and supervision of experienced professionals. A net economic loss also occurs as most health professionals in sub-Saharan Africa are trained at public expense. Nayak (1996:3) estimated that India alone must have lost US$3.6–5.0 billion in terms of the costs invested in training an estimated 83,000 doctors who have emigrated since 1951. The United States with its estimated total of 130,000 foreign medical graduates has gained an estimated US$26 billion in training costs saved. Between 1986 and 1995, Ghana lost an estimated US$5.96 million in tuition costs alone from the 61 per cent of medical graduates who emigrated from a single medical school (Dovlo & Nyonator 1999). Hidden costs may well include costs of preservice training investment (primary and secondary education), loss of professionals' contributions to the gross domestic product (GDP) and taxes of their home countries, the costs of illness/morbidity caused or aggravated by shortages of professionals and the costs incurred from substituting less qualified staff, having to increase the training of new professionals or having to import expatriates to fill vacant posts.

How Have Countries Coped?

Countries in Africa have attempted to mitigate the problems created by the brain drain in health through various means, which are discussed below.

Incentive and Motivation Systems

Remuneration levels are probably the most important factor in retention. A conference of Commonwealth African countries (Commonwealth Secretariat 2003) elicited a variety of local and general incentives tried by countries, though many have not met with significant success. For example, participants from Botswana suggested that significant rises in allowances for nurses did not slow migration. Indeed, at times the perceived unfairness of incentives and disparities between what is paid to different professions appear to fuel the migration of the cadre at a perceived disadvantage. For example, Ghana introduced additional duty hours allowance (ADHA), which increased incomes significantly for doctors but less so for nurses and other professionals. Consequently, despite a net increase in incomes, such initiatives have apparently resulted in nurses' increased de-motivation and an migration. In South Africa, the Department of Health recently instituted new 'skills and location incentives schemes targeting highly needed skills and deprived areas' aimed at providing incentives to retain certain specific highly demanded specialties within the country and to retain staff in unpopular work locations (South Africa Department of Health 2004).

The role of incentives and incomes is, however, mixed. A recent WHO Africa Regional Office study on migration showed that Uganda, which had much lower pay levels than South Africa, appeared to have had better retention success, with many fewer staff members expressing intentions to migrate compared to the wealthier country (Awases et al. 2003).

International Recruitment and Inter-Country Arrangements

As mentioned earlier, richer African countries such as Botswana, Namibia and South Africa have recruited health professionals from other countries. Dovlo (1999) reports that in 1998 some 27 per cent of doctors registered in South Africa were non-citizens. In rural Kwazulu Natal Province, for example, the proportion rises to 78 per cent. South Africa recently developed an arrangement with Southern African Development Community (SADC) countries to limit the flow of their medical doctors into their country. On the other hand, many countries in Africa have had agreements with Cuba and have received groups of doctors especially for rural and deprived-area work. Ghana and Jamaica in the mid-1990s had arrangements that allowed agreed numbers of nurses from Ghana to work for specified periods of time in Jamaica.

Bonding and Compulsory Service Schemes

Bonding health professionals to work in public services has not worked well due to the poor efficiency of human resource (HR) management systems; however, several African countries have such policies. Such policies require new graduates to work in assigned locations for a number of years (usually two or three) before becoming fully registered, becoming eligible for specialist training or becoming fully certified to practise. Often there is lack of agreement between the tertiary-education sector and health policymakers about how to implement such arrangements. South Africa implements a 'community service' program that requires two years of service in underserved areas before the health professional can attain full professional registration; however, Reid (2001) has noted some reservations about this program in terms of the support and supervision availed to such young professionals.

Skills Substitution and Delegation

A number of locally designed health professionals can be found in Africa. These cadres do the tasks normally undertaken by internationally recognised professionals. For example, Malawi and Zambia have 'clinical officers' and Mozambique has 'surgical and medical technicians' who are permitted to perform major surgery. In Tanzania 'assistant medical officers' also perform surgical, obstetric, and orthopedic operations that are usually reserved for physicians. Generally, the established health professions have been reluctant to accept these 'substitutes', due to concerns about quality of care. However, Pereira et al. (1996) and Vaz et al. (1999) compared the performance of obstetric and surgical technicians respectively to that of physicians in Mozambique and found only minimal differences in the outcomes to clients. In addition, these cadres were well retained within their countries and are considered less expensive to train and remunerate.

Management of Migrants' Return

The International Organization for Migration (IOM) has collaborated with some countries to encourage citizens in the diaspora to return to their countries of origin. The IOM instituted a program termed Return of Qualified African Nationals (RQAN) in the early 1990s, which has now been replaced with the Migration for the Development of Africa (MIDA) program. MIDA is coordinating with the New Partnership for Africa's Development (NEPAD) and other organisations to facilitate the temporary return by professionals to offer their skills in specialised services and investments (International Organization for Migration 2000). These activities include part-time teaching and service

delivery by specialists in the diaspora as well as co-ordinating the establishment of technology resource centres.

Export Management

It may be argued that migration has brought benefits to source countries in the form of remittances and investments. Several African countries indicate that financial transfers made by nationals living abroad now constitute a major foreign exchange source. The Africa Union's Labour and Social Affairs Commission data show that remittances are now beginning to rival foreign direct investment and overseas development aid in some countries. Nigeria, for example, received about US$1.3 billion in remittances compared with US$152 million in Official Development Assistance (ODA) between 1995 and 1998 whilst Eritrea, which operates a system that requires its international citizens to pay a 2 per cent income tax, received US$172 million in remittances, or approximately 85 per cent of Official Development Assistance (African Union 2003).

Extended Retirement Age

Some countries have changed (or plan to change) the official retirement age in order to extend the working life of health professionals. In Ghana, professionals can routinely work beyond the official 'compulsory retirement' age of sixty until they become sixty-five. Southern African countries such as Malawi and Lesotho are reconsidering their policy of compulsory retirement at age fifty-five with a view to utilizing qualified staff for some additional periods. Such extensions to the official retirement age help to fill losses in critical skills such as those of trainers and high-level specialists.

Coping Strategies in Educating and Training Professionals

A number of strategies that relate to health professionals' training and profiling have been proposed in some countries to stem the outflow of health professionals and to mitigate shortages. Some are discussed below.

Profiled Selection of Training Candidates

The use of quotas or geographical criteria for selecting candidates for health professionals' training have been proposed in some countries. Pure academic merit has been faulted for producing elitist professionals, because candidates coming from deprived communities with poor educational infrastructures are simply unable to compete with candidates from the elite urban schools. Lehman et al. (2000) profiled medical schools in South Africa that target candidates from the previously disadvantaged communities with good results in changing

the mix of entrants into medical education. What may need to be confirmed is whether the selection profile translates into the retention of professionals, especially in the deprived rural areas. Dr. Suwit Wibulpolprasert, Deputy Permanent Secretary of Ministry of Public Health (MOPH) in Thailand, in a personal communication, asserts that the emigration of health professionals from Thailand declined significantly once training was conducted entirely in Thai, and not English, thus reducing the health professionals' attractiveness for the key recipient countries.

Using New Community-Based Curricula

A number of medical schools in Africa, (including Yaounde, Cameroon; Ile-Ife, Nigeria; Jimma, Ethiopia; Transkei, South Africa, etc.) have adopted innovative student-centred, problem-solving and community-based approaches to health professional education and have been praised as producing professionals with locally relevant skills and a community service orientation. A key constraint, however, is an unmet need for the re-orientation of medical educators away from existing traditions that emphasised the 'international' standards and methods of medical education (Ndumbe 2004).

Tertiary Education's Involvement in Training 'Substitute' Professionals

As mentioned previously, Tanzania, Mozambique, and Malawi produce 'assistant medical officers', 'surgical technicians', (and other staff-run services in rural hospitals) who carry out many of the tasks of doctors. These cadres are usually not university trained and medical education has not shown significant interest in their development. They are country-specific professionals who are not internationally tradeable and are retained especially in rural areas. Some studies (e.g., Vaz et al. 1999) have shown that little difference existed in outcomes of care given by these cadres and that given by doctors. However, medical education appears reluctant to be involved in training these cadres.

Increasing the Output of Training Institutions

Increasing the supply of health professionals has often been the immediate response of countries to brain drain and shortage of personnel. Expanding production of trained human resources without an improvement in retention incentives, however, cannot be an effective response. An aspect of brain drain is the loss of tutors which may affect training quality in the face of an expanded intake. Whilst the number of professionals leaving already reflect a pressing problem, the loss of key trainers and specialists undermines the capacity to respond to the brain drain. The Ghana External Health Sector review

in 2003 showed that the recently doubled intake of trainee nurses barely reaches 50 per cent of the requests received from nurses to work abroad (Ghana Ministry of Health, 2003). Incentives targeted towards strengthening the training system and retaining trainers should be a necessary aspect of any policy on health professional migration.

Conclusions

The health crisis in Africa has intensified with the advent of the HIV/AIDS epidemic. The plans to extend anti-retroviral treatment to 3 million sufferers by 2005 proposed by the World Health Organization (2003a) will further expand the demand for well-qualified health professionals. Creating a critical mass of retained health professionals to meet these huge tasks will be a tremendous challenge, and fairly drastic remedial measures need to be taken, in much the same way that industrialised countries have taken steps to recruit health professionals from poorer countries to meet their health demands. The heavy loss of health professionals poses the threat of collapsed health services and major risks to the lives of Africa's poor.

As suggested by Boelen and Heck (1995), the health and education sectors in African countries need to consult and co-operate in order to devise strategies that will help countries to benefit from the health professionals they produce. The Ghana Health Service held a forum on Human Resources for Health that made certain suggestions. These recommendations included re-instituting bonds for health trainees and withholding qualification diplomas and certificates until a certain number of years have been served in the country. Such remedies require political will, agreement and collaboration from the training institutes and education authorities.

Changing educational methods and curricula to reflect better relevance to conditions in Africa also requires intensive consultation, consensus building and the re-orientation of educators, many of whom may have difficulty relating to the realities of the economic and health problems of Africa because of their own training in the developed countries.

Most of the health professionals emigrating from sub-Saharan Africa go to a few recipient countries, mainly, the United Kingdom and the United States. This direction of flow should make it relatively less complicated to establish inter-country arrangements to manage migration. However, bilateral agreements in Africa so far have been among developing countries with little involvement by the major recipient countries. Developed recipient countries have to temper the economic realities of migration with moral imperatives to ensure that recipients of African professionals assist source countries to restore and

maintain health services through increased investment in the education of health professionals.

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The South African Experience with Developing and Implementing a Funding Formula for the Tertiary Education System

Pundy Pillay*

Abstract

The funding framework developed in South Africa for institutions of higher education during the apartheid era raises serious concerns related to equity (access, particularly of the disadvantaged black majority) and efficiency (of outputs and outcomes, particularly, but not only, at historically black institutions). The new funding framework proposed in the government's 1997 White Paper reconceptualises the relationship between institutional costs and government expenditures. This framework is seen as a distributive mechanism to allocate government funds to individual institutions in accordance both with the budget made available by government and with government's policy priorities. Institutions now receive (a) block funds (research funds, teaching funds determined by student numbers and outputs, and institutional funds for redress purposes), and (b) earmarked funds for specific purposes (e.g., student financial aid and research development). This framework has important implications for equity and efficiency including predictability; the recognition of a hard budget constraint; promoting institutional autonomy and equity; rewards for research outputs; rewards for graduate outputs that supply the country's human development needs; and enhanced equity through capacity building, research development, and foundation programmes.

Résumé

Le cadre de financement mis en place par l'Afrique du Sud à l'intention des institutions de l'enseignement supérieur durant l'apartheid soulève des questions fondamentales liées à l'égalité (particulièrement l'accès de la majorité noire défavorisée) et à l'efficacité (entre autres, le rendement des institutions

* Pundy Pillay serves as Senior Research Economist for the Research Triangle Institute, South Africa and is also the Executive Director of the Sizanang Centre for Research and Development in Pretoria.

traditionnellement « noires »). Le nouveau cadre de financement proposé dans le Livre blanc du gouvernement de 1997 permet de reconsidérer la relation entre les coûts institutionnels et les dépenses du gouvernement. Ce cadre est considéré comme un mécanisme de répartition permettant d'allouer les fonds gouvernementaux aux institutions individuelles, en conformité avec le budget prévu par le gouvernement et suivant les priorités de politiques publiques qu'il a définies. Les institutions reçoivent désormais (a) un financement global (financement pour la recherche, financement pour l'enseignement, déterminé par le nombre d'étudiants et les résultats obtenus, ainsi qu'un financement institutionnel pour des besoins d'ajustement) et (b) des fonds spéciaux pour des besoins spécifiques (aide financière aux étudiants et développement de la recherche). Ce cadre comporte d'importantes implications en matière d'égalité, d'efficacité et de prévision, entre autres ; il favorise la promotion d'une certaine autonomie et d'une certaine égalité institutionnelle ; il récompense la «productivité » en matière de recherche ; récompense le rendement des diplômés, qui comblent les besoins en développement humain du pays ; et accroît l'égalité à travers le renforcement des capacités, le développement de la recherche et les programmes de base.

Introduction

Before the advent of democracy in 1994, the South African government's tertiary education funding policies mirrored apartheid's divisions and the different governance models which it imposed on the higher education system (Bunting 2002). The original funding framework was introduced in 1982–83 when the main focus of government was to address the needs of the historically white institutions, specifically the historically white universities.

Between 1994 and 1997, there were no substantive changes to the funding framework. In 1997 the government announced its intention to introduce a new funding framework which was intended as a mechanism for steering the higher education system towards the goals and targets established in the national plan for the transformation of the higher education system (South Africa Department 1997a).

The original funding model which was developed during the apartheid era had two key features. First, it treated students as agents who were able to respond rationally to the demands of the labour market: It assumed that their choices of institutions, qualifications and major fields of study followed labour market signals and their reading of these signals. As a consequence, the only role which the model gave to government in the national higher education system was that of funding student demand and of correcting any market failures which might occur.

The main concerns with the original funding framework related to equity (access, particularly of the disadvantaged black majority of the population)

and efficiency (of outputs and outcomes, particularly, but not only, at the historically black higher education institutions).

The 1997 Education White Paper rejected this student-as-rational-agent model. It stated that the model had not worked in South Africa and added that this rationale had to be dropped if higher education were to emerge from its apartheid past. The White Paper replaced the student-as-rational-agent model with a planning-steering model of higher education funding that aimed to bring equity and efficiency into the system. In this new model, government takes account of labour market signals but does not adopt either a narrow 'manpower' planning stance or the 'hands-off' stance which is embedded in the student-as-rational-agent model (South Africa Department 1997a).

In a dual economy such as South Africa's, the student-as-rational model was only partially successful. It worked for a relatively small proportion of students (largely from the minority population groups who were mainly city-based), for whom adequate labour market information and career guidance was available. For the majority of the black population, such labour market information was extremely limited. Poor labour information coupled with an almost total absence of vocational counselling at black schools has resulted in a failure of the student-as-a-rational-agent model for many. Furthermore, the new government felt that the higher education system needed some 'guided intervention' as the 'market' does not always ensure optimal outcomes in terms of developing countries' human resource needs.

The new model represented a major change in focus. It emphasised that the primary purpose of higher education is to teach, conduct research and play a pivotal role in the improvement of the social and economic conditions of the country. Hence, government would fund institutions for training students, conducting research and assisting with the development needs of society and the economy. The 'production process' would be left in the hands of the institutions.

The process of consulting with the tertiary education institutions in the development of the funding formula has been extensive. A formal consultative structure comprising nominees of the South African Universities Vice-Chancellors Association (SAUVCA) and the Committee of Technikon Principals (CTP) has been established. This group comprising finance specialists from the various institutions liases with the Ministry of Education on the development of the formula. In addition, amendments to the formula are sent to all institutions for formal comment.

The second feature of the apartheid model was that it contained an implicit assumption that government is the funder of last resort of the higher education system. As the funder of last resort, the government provides subsidies for

universities and technikons (institutions of technical higher education) that are supposed to be based on (a) determinations of the actual costs of reasonably efficient institutions, and (b) decisions on which of these costs should be covered by government subsidies. The costs not covered by government subsidies would have to be met by institutions from their sources of private income, primarily their student tuition fees.

The new model's view on prices is radically different from that of the old model. In a sense, government first decides how much it can afford to spend on higher education and then allocates the funds according to its needs and priorities. It would be possible to determine the underlying unit costs for the activities; but within this new framework, the government's starting point for the allocation routine is not computed unit costs. For the operation of the model, the old prices and costs are not the 'frontline matters for discussion'. The institutions have the freedom to design their activities in line with available funds.

The capacity of the institutions to understand and work with the formula varies substantially, particularly between the historically white and black institutions. With the old formula, the government provided bulky and incoherent supporting documents, a substantial disincentive to enhancing the understanding of the workings of the system. With the new formula, the Ministry of Education is planning the production of succinct explanatory documents to foster a greater understanding of the formula. In addition, the merger process currently underway in the higher education system, which will link many (but not all) historically black institutions with historically white institutions, will undoubtedly ensure further progress in this area.

The 'Apartheid Era' Formula

The subsidy formulae developed during the apartheid era (hereafter referred to as the 'original formula') for universities and technikons began by dividing subsidisable courses into two broad categories: (a) natural sciences (which includes the health sciences, engineering, the life and physical sciences, agriculture and the mathematical and computer sciences), and (b) the humanities (which is a catch-all category for all other disciplines). Various co-efficients per subsidy student in the humanities and per subsidy student in the natural sciences were then derived. The relationship between these co-efficients and subsidy students was based on studies of actual institutional costs, as well as on certain normative assumptions about what efficient student-to-staff ratios and costs should be in higher education institutions, given certain numbers and categories of students.

Table 1: Gross and Net Government Subsidies (R'million)

	Universities		Technikons		Total	
	2001–02	2002–03	2001–02	2002–03	2001–02	2002–03
1. 'Ideal income' totals	9,633	10,312	3,542	3,747	13,195	14,059
2. Govt. share before a-factor	7,649	8,187	2,923	3,097	10,572	11,284
3. Earmarked funds	518	515	286	286	814	846
4. Institutional subsidy expectation	8,167	8,702	3,209	3,383	11,376	11,866
5. Net subsidy after a-factor	4,881	5,193	1,837	1,930	6,718	7,123
6. Total government actual funding (row 3 + row 5)	5,399	5,708	2,123	2,216	7,532	7,969

Note: The net subsidy for 2002–03 reflected in row 5 includes government payments for the teacher training colleges which were incorporated into universities and technikons at the beginning of 2001.

Furthermore, the assignment of monetary (South African Rand) values to the various cost units needed to change each year, to take account of inflation and of changing cost patterns. Once the Rand values of the cost units were determined for a given year, the application of the approved co-efficients, together with the number of students submitted by higher education institutions, generated a figure of what the income from all sources should be for a higher education system.

Table 1 offers an example of how such a subsidy system was supposed to work. It shows that the 'ideal income total' for an efficiently operating higher education system was supposed to be R13 195 million in 2001–02 and R14 059 million in 2002–03 (row 1). The formulae required the first step to be that of deducting institutional or private income shares from these totals (the amounts required to cover non-subsidisable costs), leaving the balance as the 'government's share' of the ideal total (row 2). Various earmarked sums must

then be credited to institutions (row 3), making the totals reflected in row 4 the final subsidy amounts which institutions could expect from government. This is often read as a 'subsidy entitlement', that is, as an indication of what government ought to make available to higher education. For example, many institutions had in the past read the totals in row 4 as the subsidy formula amounts which government ought to have paid to universities and to technikons in the 2001–02 and 2002–03 financial years, even though these totals were unreasonably large ones in the context of government's overall financial commitments.

The reference above to the institutional subsidy expectations as 'unreasonably high' undermines the assumption that government will be the funder of last resort as far as universities and technikons are concerned. The previous government found, soon after the formula for universities was introduced in the early 1980s, that it could not meet the amounts generated by the formula. From an early date, it therefore introduced cuts to the subsidy totals through the application of 'a-factors' ('a' for 'adjustment') which were, in effect, the reductions necessary to bring the 'ideal income' total less institutional share in line with government's budgetary provision for universities and technikons. The final amounts paid by government to institutions thus became from an early date: government share times a-factor plus earmarked allocation—that is, the amounts reflected in row 6. In 2002–03 these amounts in row 6 were for universities 53 per cent and for technikons 55 per cent of the sum of the 'ideal income' total reflected in row 1 plus the earmarked total reflected in row 4. This shows, contrary to the model underpinning the original formulae, that government funding of higher education has increasingly been based on expectations that substantial proportions of institutional costs had to be met from private income sources.

The New Funding Framework

The new funding framework proposed in the 1997 White Paper reconceptualised the relationship between institutional costs and government expenditure on higher education. The new funding framework is seen as a distributive mechanism—that is, as a way of allocating government funds to individual institutions in accordance both with the budget made available by government and with government's policy priorities. The new framework is not dependent on either calculations of institutional costs or on calculations of 'ideal income' totals for efficient universities and technikons. The new framework, in effect, recognises that institutional costs tend to be functions of income: of what is available to be spent. Government funds for institutions of higher education are not therefore designed to meet specific kinds or levels of

institutional cost but are intended, rather, to pay institutions for delivering the teaching-related and research-related services specified by government-approved plans.

The various mechanisms in the framework come into operation only after government has determined (a) the total of public funds that should be spent in a given year on higher education and (b) what services should be delivered by the higher education system. For example, the new mechanism would have come into operation in financial years 2001–02 and 2002–03 only after the planned inputs and outputs of the system had been determined by government and after decisions had been reached about the total funds available for distribution to universities and technikons. Institutions of higher education play no role in the determination of the overall amount of funds for higher education. This is primarily an outcome of the government's budgeting process. However, institutions are required to submit to the Ministry of Education, three-year rolling plans indicating their planned inputs and outputs (South Africa Department, 1997b).

Main Elements

In terms of the new higher education funding framework, higher education institutions receive the following:

1. Block funds, which are undesignated amounts made available to each institution and which consist of: (a) research funds generated by approved outputs; (b) teaching funds generated by planned full-time equivalent (FTE) student enrolments and by approved teaching outputs; and (3) institutional factor funds (South Africa Ministry 2002).

   Institutions will know in advance the total amount of block funds they have been allocated. However, because of National Treasury regulations these funds are disbursed over the first eight months of the fiscal year as follows: a three-month allocation paid in April, the first month of the fiscal year; in May another three-month allocation; in June-October, a one-month allocation per month; in November, the remainder of the allocation. The process is further complicated by the fact that the fiscal (April–March) and academic (January–December) years do not coincide. Some institutions are obliged to obtain bridging finance from commercial banks (and, hence, at some cost) for the first three months of the academic year.
2. Earmarked funds, which are designated for specific purposes.

The details of these various elements in the new funding framework are outlined below.

The Separation of Teaching and Research Funds

The new block funding formula includes requirements that (a) teaching and research funds be separated and (b) teaching funds be standard across institutions.

The two central features of the new funding framework are therefore:

1. Teaching funds, which are based on teaching inputs and teaching outputs. In allocating teaching funds to institutions, the model treats all institutions—namely, technikons and universities—equally.
2. Research funds, which are based on research outputs and on earmarked funds for specific developmental purposes. The new framework makes no separate provision for a 'blind' research element or so-called 'research input funds'—that is, a subsidy amount which institutions will receive regardless of whether or not they engage in research activities. Research training is regarded as a sub-component of teaching, and provision for research training has therefore been made within teaching funds (South Africa Ministry 2002).

Block Grant Funding

Block grant funding has four components: research output funds, teaching funds based on outputs, teaching funds based on inputs, and institutional factor funds (South Africa Ministry 2002).

1. Research Output Funds. With the new funding arrangements, the total funding available for research is divided into earmarked and block-grant funds. The earmarked component is to be used for such activities as capacity development, collaborative research projects and research student scholarships. Between 10 per cent and 15 per cent of the research total will be allocated each year to the earmarked component. The block-grant component is based on the research outputs of institutions. The total to be allocated in the form of block grants for research outputs will be based on publication units, on research masters' graduates, and on doctoral graduates. In future years, as new national research policies are developed and implemented, these outputs will be subjected to quality evaluations; and additions will be made to the set of outputs on which research funds will be based. Because of delays in obtaining data from institutions, research output funds for year *n* will be based on the publication units and research masters' and doctoral graduates of year *n–2*.

   The weightings employed are: publication units 1, research masters' graduates 1 and doctoral graduates 3. These weightings are intended to

emphasise the need for the doctoral graduate total to increase and to give added incentives to institutions to achieve these goals. Initially it was intended that the allocation of research output funds would be based on a proposal that the price per output unit should be determined by dividing funds available for allocation by the output unit total. This proposal was reconsidered because it generated no incentives to the higher education system to increase the number of research output units. On the other hand, if the total amount available for research outputs is set in advance, then a decrease in the total of research output units will increase the Rand price per research output unit, and an increase in the output total will result in a decrease in the Rand price per research output unit.

It was therefore decided that the unit prices of research outputs will be determined (a) by setting benchmark research output totals for the permanently appointed academic/research staff of universities and technikons, (b) by generating a normative total of research outputs for a given year *n* by relating these benchmarks to the academic staff complements of universities and technikons in year *n,* and (c) by dividing the amount available for research outputs by the normative total of outputs.

The benchmarks for research outputs are set as ratios of weighted research output units to full-time permanent academic/research staff members. The initial benchmarks are (a) 1.25 weighted research units per full-time permanent academic/research staff member per annum for universities, and (b) 0.5 for technikons. It is expected that these benchmarks will need to be revised upwards from time to time.

2. Teaching Funds Based on Outputs. The National Plan for Higher Education (South African Ministry 1997a) emphasised that student graduation rates must improve from their current low levels. Incentives designed to encourage institutions to increase their graduation rates have thus been included in the new funding framework. These incentives take the form of a teaching output subsidy built into the new funding framework.

   Teaching output funds for year *n* are based on the total of non-research graduates produced in year *n-2.* Research masters' and doctoral graduates are not included in the teaching output subsidy because they are major components of the research output subsidies discussed earlier. Teaching outputs are weighted according to the ratios shown in Table 2.

Table 2: Weighting Factors for Teaching Outputs

Universities and Technikons	
First certificates and diplomas of two years or less	0.5
First diplomas and bachelor's degrees: 3 years	1.0
Professional first bachelor's degree: 4 years and more	1.5
Postgraduate and post-diploma diplomas	0.5
Postgraduate bachelor's degrees	1.0
Honours degrees/higher diplomas	0.5
Nonresearch masters' degrees	0.5

The allocation of teaching output funds is based on a proposal similar to that dealing with the allocation of research output funds. The proposal, in effect, is that the price per teaching output unit should be determined (a) by setting aside for output funds a specific proportion of the total available for teaching, and (b) by dividing this Rand total by the teaching output unit total. However, this proposal generates no incentives to the higher education system to increase the number of teaching output units.

The argument used in the case of research outputs applies again: if the total Rand amount available is set in advance, then a decrease in the total of teaching output units will increase the unit price; and an increase in the unit total will result in a decrease in the unit price of a teaching output. For this reason, it was decided that the unit prices of teaching outputs must, like the price for research output units, be determined at least in part in a normative way. The process to be followed is the following:

A set of benchmark graduation rates, based on those contained in the National Plan for Higher Education, will be used to generate a normative total of graduates/diplomates for the head count enrolment total for a given academic year. Initial benchmarks for this purpose are set at 90 per cent of the national plan's benchmarks. The normative total of graduates/diplomates derived in this way will be divided into a teaching output unit total and a research output unit total. The total of government funds available for teaching will each year be divided into 70 per cent for input funds and 30 per cent for output funds. The price of a teaching output unit will then be determined as: Rand total available for teaching outputs divided by normative teaching output total.

Table 3: Funding Grid for Teaching Inputs

Funding Group	Disciplines
1	Education, law, librarianship, psychology, social services public administration
2	Business/commerce, communication, computer science, languages, philosophy/religion, social sciences
3	Architecture/planning, engineering, home economics, industrial arts, mathematical sciences, physical education
4	Agriculture, fine and performing arts, health sciences, life and physical sciences

The total of government funds available for teaching inputs and outputs in 2002–03 would be determined as the balance remaining, once research funds plus amounts for foundation programmes and institutional factors (see below) have been taken into account. It has been decided that the proportion of this remaining balance to be assigned to teaching outputs will be in the range of 20 per cent to 30 per cent. Calculations based on data applicable to the 2002–03 financial year show that the price per teaching output unit would have been (a) R14,000 per unit if the proportion were set at 30 per cent and (b) R9,000 per unit if the proportion were set at 20 per cent.

3. Teaching Funds Based on Inputs. Inputs for teaching funds for year *n* are based on two main elements: (a) a funding grid based on aggregations of educational subject matter categories and course levels, and (b) Full-time equivalent (FTE) student places and/or planned FTE student enrolments.

The funding grid for teaching inputs is displayed in Table 3.

On the basis of cost studies, a fixed set of ratios should hold between the average costs per FTE students in the various funding groups. The ratios between funding groups in the funding grid are respectively: 1.0 (Funding Group 1), 1.5 (Funding Group 2), 2.5 (Funding Group 3), and 3.5 (Funding Group 4).These are shown in Table 4.

Table 4: Weightings within the Funding Grid

Funding Group	Undergraduate & Equivalent	Honours (4th year) & Equivalent	Masters' & Equivalent	Doctorate & Equivalent
1	1.0	2.0	3.0	4.0
2	1.5	3.0	4.5	6.0
3	2.5	5.0	7.5	10.0
4	3.5	7.0	10.5	14.0

FTE enrolments in the funding grid are weighted according to course level as well. They are: undergraduates (1), honors and equivalent (2), master's and equivalent (3), and doctorates and equivalent (4). These weightings take account of (a) the high priority the national plan gave to the need to increase postgraduate student enrolments, especially at masters' and doctoral levels, and (b) the argument that, given how FTE enrolments are calculated, weighted totals of FTE enrolled postgraduate students constitute better strategic incentives to institutions than the unweighted ones.

Table 4 sets out the full funding grid which is used to generate teaching input subsidies for universities and technikons.

The funding formula had to make provision for both FTE student places and for planned FTE student enrolments as the primary input values for the new block formula. It refers in particular to planned FTE student places because of the necessary link between funding and planning in the new funding framework. This link implies that teaching funds cannot be paid to institutions solely on the basis of historical student enrolments. These inputs have to be moderated by approved institutional three-year rolling plans.

A key issue for the new block formula is that of finding a proxy for FTE student places. Given that most institutions still lack the capacity to provide acceptable forward projections of their student enrolments, it was decided that enrolled data for year *n-2* would have to be used as proxies for student places in determining the input teaching subsidies of institutions. Provisions are made for later adjustments to these figures on the basis of actual enrolments and other necessary modifications.

The prices per cell in the teaching input funding grid are determined through calculations and procedures based on the following:

- For the purposes of funding in a given year *n,* preliminary system-wide totals for each cell in the grid will be determined, based on institutional submissions for year *n-2*.
- These submissions will be modified/adjusted before the end of year *n-1* in accordance with the parameters set by the national planning framework and also in accordance with institutional plans approved by the Minister of Education.
- The prices for each cell in the grid are then determined, taking account of early indications of what the government budget for higher education is likely to be in year *n* and what amounts need to be set aside for various earmarked funds and for teaching and research output funds (South Africa Ministry 2002).

The new framework does not include regular inflation-based adjustments of the Rand values of cost units, as was the case in the original formula. Since the proposed model contains no cost units, inflation is dealt with in terms of government's annual budgetary allocation for higher education, the assignment of planned FTE enrolled students to institutions and the calculation of prices per cell in the funding grid.

4. Institutional Factor Funds. The original formulae for universities and technikons made provision for institutional set-up subsidies. These are amounts which universities and technikons received to compensate them for basic running costs, irrespective of the size of their student body. These set-up subsidies had an important effect on the block funds of higher education institutions. They increased the unit subsidies of smaller institutions (their subsidy payments per enrolled student) and dampened those of larger institutions. In so doing, they took account of economies of scale.

In the new funding framework, the set-up subsidies are replaced by institutional adjustment factors, which take account of three sets of institutional circumstances: (a) the proportion of contact (or on-campus) full-time equivalent (FTE) student enrolments from previously disadvantaged groups, (b) the approved size of each institution in terms of FTE student enrolments, and (c) the approved shape of the institution in terms of FTE student enrolments in the teaching input funding grid. In each case, the FTE student enrolment total is unweighted—that is, one which does not take account of the weightings by level built into the new funding grid. A further important point is that these institutional adjustment factors are applied only to the teaching input funds of

each institution. They are not applied to teaching output and research output funds.

Students from disadvantaged or poor backgrounds are, for this purpose, deemed to be African and coloured students who are South African citizens and who are enrolled in contact education programmes. It is recognised that these population group categories are too broad to serve as long-term indicators of disadvantage; in the longer term, some new factor will need to be developed as a proxy for 'disadvantaged'.

The institutional factor for disadvantaged is determined as follows: Only African and coloured FTE students who are South African citizens are included in the calculation. The proportion which these students represent of the total (unweighted) FTE contact student enrolment will be determined. The institutional disadvantage factor weighting will be 1.0 up to a proportion of 40 per cent and will thereafter increase linearly to a maximum weighting of 1.1 at a proportion of 80 per cent. The weighting will remain 1.1 for proportions of between 80 per cent and 100 per cent.

The institutional factor for the approved size of institutions will be based on contact as well as distance FTE students. It is designed to take account of the need for additional support to be given to small institutions as well as to institutions with limited opportunities to increase the size of their student enrolments. These institutions will tend to be located in rural areas.

The institutional-size factor is also designed to take account of the economies of scale which are generated by student enrolment increases. A study undertaken when the current subsidy formulae were being reviewed in the early 1990s suggested that economies of scale for an institution set in at an enrolment size of about 11,000 FTE students and could continue up to an enrolment size of about 16,000 FTE students.

The institutional factor for size is determined as follows:

The institutional size factor weighting is 1.15 up to a total of 4,000 (unweighted) contact students plus distance FTE students, after which it will decrease linearly to a weighting of 1.0 at a total of 20,000 (unweighted) contact students plus distance FTE students. The weighting remains at 1.0 for institutional sizes larger than 20,000 FTE enrolled students.

Finally, the institutional factor for the approved shape of institutions will be based only on contact FTE enrolled students. It is designed to take account of the need for additional support to be given to institutions which have larger than average proportions of contact FTE students in the first two groups in the funding grid. These will be institutions which, in terms of their approved shape, have to place more emphasis on business/management and other humanities programmes than on science/technology programmes.

The institutional factor for shape is determined as follows: The proportion which students in funding groups 1 and 2 represent of the total (unweighted) FTE contact student enrolment will be determined. The institutional shape factor weighting will be 1.0 up to a proportion of 67 per cent (which is the average of all institutions) and will increase linearly to a maximum weighting of 1.15 at a proportion of 100 per cent.

Earmarked Funding

The government has decided that earmarked funds will be used primarily for the following broad purposes: the national student financial aid scheme; research development; foundation programmes and teaching development; interest and redemption payments on approved loans; approved capital projects, as and when funds for these purposes are made available as part of the national higher education budget; and any other purpose either identified in the current national higher education plan or determined by the Minister of Education from time to time.

The funding framework ensures that funds for foundation programmes are included in the funding grid by the addition of a further row ('level 0') to each institution's table of approved FTE places. This proposal implies that approved totals of FTE foundation programme students will be allocated to cells in level 0 across the four price groups, at subsidy prices equivalent to those for standard undergraduate cells. The proposal further implies that foundation students will always be additional FTE student places awarded to an institution and that they will generate more for it in block funds than the institution would otherwise receive.

It has been decided that foundation programmes will be funded in this way for at least the first five years of the operation of the new funding framework: A total equivalent to about 15 per cent of the expected FTE enrolment of first-time entering undergraduate students in contact education programmes will be assigned each year to foundation programmes. This proportion will be increased in the future if assessments of institutional foundation programmes suggest that appropriate provision can be made for larger totals of first-time entering undergraduate students. These FTE foundation students will be funded at the price applicable to funding group 1 in the teaching input grid. The foundation funds generated will be earmarked, in the sense that they will have to be used for foundation purposes only. These funds will be allocated to institutions by the Ministry when assessments are being made of their three-year rolling plans.

Conclusion

The new funding framework developed for tertiary education in South Africa has a number of important implications for equity and efficiency.

1. Predictability. Implementing a formula-driven approach ensures a level of predictability, particularly with regard to 'certainty of revenue'. Institutions are aware of the factors driving the formula and will know, within certain parameters, the magnitude of resources that will flow to them over a certain period. Such certainty undoubtedly enhances institutional planning.
2. Recognition of a hard budget constraint. The new funding framework is driven by the availability of public resources for higher education rather than by the costs of provision. The various mechanisms in the framework come into operation only after government has determined (a) the total of public funds that should be spent in a given year on higher education, and (b) what services should be delivered by the higher education system.
3. Promoting institutional autonomy and equity. By using a mixture of block and earmarked grants, the formula achieves both of these goals. Block grants confer a degree of freedom of use of funds by institutions while earmarked grants by definition are directed towards the attainment of specific goals such as equity—for example, in research development and through foundation programmes for the historically disadvantaged.
4. Efficiency incentives. The formula-driven framework encourages efficiency in three ways. First, the block grant component rewards efficiency of outcomes in research. Grants are based on the output of publications and of masters' and doctoral graduates. Research grants are, moreover, not based on a pre-determined monetary amount but against benchmarks based on academic capacity. Second, inadequate research performance by the system as a whole will result in surpluses of funds allocated for research. These funds provide a further incentive to stimulate output in that they are distributed on a pro-rata (output) determined basis.

   Third, the formula is designed to reward the output of certain categories of graduates more than it does others (for example, professional bachelors' degrees as against other bachelors' degrees). Such a funding mechanism enables the government to stimulate the development of skills that are in short supply. As with research, teaching output funds are not determined by pre-set amounts of funding but are developed against a set of benchmark graduation rates based on the National Plan for Higher Education. Thus, the formula promotes differential funding in line with the country's human development needs (for example, agriculture and health sciences

rather than librarianship and psychology). Fourth, through institutional funding, the framework promotes economies of scale and thus lower institutional unit costs.

5. The enhancement of equity. It furthers this goal in three ways: (a) through earmarked funding inter alia, for capacity building, research development and foundation programmes for the historically disadvantaged; (b) institutional factoring for students from historically advantaged (African and coloured) backgrounds; and (c) institutional factoring for small institutions, especially those in rural areas.

However, the difficulties in introducing or changing to a new formula should not be underestimated. In the South African context, the principal difficulties related to obtaining 'buy-in' from both historically white institutions, which feared the possible redistributive implications of a new formula, and historically black institutions, which were sceptical of the formula's potential to adequately address historical imbalances. Some of these fears have been addressed through the consultative process set up between the Ministry of Education, the South African Universities Vice-Chancellors Association, and the Committee of Technikon Principals. It is too early to say whether this institutional mechanism and process have been sufficient. As the consequences of implementing the formula are seen and understood, more difficulties may arise which may require new and probably more intensive processes of consultation between the government and the broader higher education community.

While South Africa has gone a long way towards developing and introducing a new funding formula to address the challenges of equity and efficiency, the system and the processes are far from perfect. First, it would have been immensely useful to have had some pilot studies on the implications of introducing the new formula rather than introducing it system-wide. Second, substantial capacity-building exercises appear necessary to help university personnel improve their understanding of the formula and its implications for equity and efficiency. Very little of this has been done or planned. Third, much more needs to be done to ensure that historically black institutions can indeed increase their teaching and research outputs given their increased funding. In this regard, increased institutional collaboration around post-graduate teaching, research and staff development must be seen as a necessary condition to ensure that real benefits accrue to the historically disadvantaged institutions from the funding formula.

Given the South African experience, key practical considerations that other developing countries adopting a funding formula should note are:

1. Simplicity. Design a formula that is simple and can be understood by the broadest possible section of the higher education community.
2. Promote understanding and acceptance of the formula by institutions through designing appropriate consultative mechanisms and by undertaking training programmes.
3. Develop effective data management systems at both the institutional and government levels to ensure that the formula (particularly with respect to the input and output elements) can be implemented effectively.
4. Develop linkages between higher education and the labour market. Design an effective system to monitor the outputs and outcomes of the higher education system in relation to the needs of the labour market and economy.

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Income-Generating Activities in Higher Education: The Case of Kigali Institute of Science, Technology and Management (KIST)

Albert Butare*

Abstract

The Kigali Institute of Science, Technology and Management (KIST), Rwanda's first higher education institution of technology, has taken the lead in entrepreneurial activities. In 2002 KIST generated 35 per cent of its budget from its various entrepreneurial activities. By 2008, this figure is projected to surpass 50 per cent. From its inception, it has combined conventional teaching with technology transfer initiatives. Particularly successful have been projects involving renewable energies, waste-water management and food-processing. Products developed have included, for example, low-cost hand- and foot-powered water pumps, rainwater-harvesting systems, a crop dryer that uses either sunshine or biomass (such as rice husks, sawdust or firewood), etc. Using feedback from its community development officers, many of whom are women, KIST has modified simple machines to make them easier for women, trained rural women's groups in business practices, and trains all of its students in basic business skills. KIST's Information and Communication Technology Centre has become the country's second biggest Internet service provider, as well as a major supplier of software and computer training. Another income source is providing paid part-time studies for working adults.

Résumé

Le *Kigali Institute of Science, Technology and Management* (KIST- Institut de science, technologie et de gestion de Kigali), première institution supérieure de technologie du Rwanda, a été la première à mener des activités entrepreunariales. En 2002, 35% du budget du KIST provenait de ses diverses activités entrepreunariales. En 2008, ce pourcentage devrait dépasser la barre des 50%. Dès

* Eng. Albert Butare is Vice-Rector (Academic) at the Kigali Institute of Science, Technology and Management (KIST), BP 3900, Kigali, Rwanda; email: abutare@kist.ac.r; Website: http://www.kist.ac.rw.

le début, l'institut a combiné l'enseignement professionnel aux initiatives relatives au transfert de technologies. Les projets portant sur les énergies renouvelables, la gestion des eaux usées et la transformation de produits alimentaires ont connu un grand succès. Parmi les produits développés figuraient les pompes à eaux actionnées à la main ou par le pied, les systèmes de recueillement des eaux de pluie, un séchoir solaire ou fonctionnant avec l'énergie fournie par la biomasse (balles de riz, sciure ou bois à brûler), etc. Grâce aux rapports fournis par leurs agents de développement communautaire, dont la plupart sont des femmes, le KIST a pu modifier de simples machines en en facilitant l'usage pour les femmes ; l'institut a également formé des groupes de femmes des zones rurales à la gestion ; il dispense également à tous ses étudiants une formation de base en techniques de management. Le Centre de technologies de l'information et de la communication du KIST est devenu le second fournisseur de services Internet du pays ; il fournit également des logiciels et dispense parallèlement des cours d'informatique. L'institut dispose d'un programme de cours payant à temps partiel réservé aux professionnels adultes.

Introduction

Rwanda is a small land-locked country, with a land area of 26,000 square kilometres and a population of about 8 million. It is rated as one of the most densely populated countries in Africa, with the majority of the population living in rural areas (94 per cent). The annual population growth of Rwanda is estimated to be 3.6 per cent. The country's population is relatively young with a high proportion of the population (60 per cent) under the age of 20. Women constitute the majority (54 per cent) of the population and labour force, particularly in agriculture. The Rwandan economy is predominantly subsistence agriculture with 91.1 per cent of the working population (compared to 70 per cent for sub-Saharan Africa) actively involved in the agricultural sector. Only 1.7 per cent (7.5 per cent for sub-Saharan Africa) of the working population is in the industrial sector, while 7.2 per cent (22.5 per cent for sub-Saharan Africa) is in the service sector of the economy (Rwanda Development 2002).

KIST's Role within the Rwandan Perspective

The Kigali Institute of Science, Technology and Management (KIST) is the first technological Institution of Higher Learning to be established by the government of Rwanda. Prior to its establishment in 1997, the country had endured years of economic decline and in 1990–94, war and genocide which claimed many lives, including those of skilled personnel. Human resource gaps were left in both the public and private sectors of the economy.

The 1994 tragedy, coupled with a massive return of Rwandan refugees who had left the country in 1959 and 1973, posed new challenges for the government of Rwanda. With regard to the educational system, Rwandan returnees

had experienced many different socio-economic, socio-cultural, educational and linguistic systems. The government of Rwanda had to put in place new measures to consolidate a more diverse, multi-cultural and multi-lingual population. The government's bilingual policy is one of the measures established to meet this challenge. KIST was established to rebuild the country's human resources in the fields of science and technology for overall economic development.

Problems Associated with Financing Higher Education

General Trends of Financing Higher Education

Over the last decade, there has been continued decline of public funding in developing countries, while the demand for student enrolment continues to grow (KIST 2002–03). The greatest challenge faced by institutions of higher learning worldwide is maintaining and improving the quality of education and continuously expanding enrolment while actual resources available to these institutions are dwindling. For example, the average expenditure per student in a public university in North Africa and the Middle East has fallen from US$3200 to US$1900 in the past decade alone. Similarly, in sub-Saharan Africa, the average expenditure per student has declined from US$6300 to US$1500 (World Bank 1988:74). As a result, institutions of higher learning have been forced to reduce expenditure, seek new sources of funding and improve the utilization of existing resources. Subsequently, there is a need to change mechanisms, techniques and styles of institutional management to cope with emerging trends in funding systems worldwide.

Financing Higher Education in Rwanda

Problems associated with funding higher education in Rwanda manifest themselves in several areas, some of which are outlined below.

1. There are always competing interests in the national budget for the meagre and often borrowed resources. Rwanda is heavily dependent on donor funds, which very often do not meet the national budget sufficiently. Funding for the educational sector is 15 per cent of the national budget, of which 9.5 per cent is allotted to higher education. Fifty-five per cent of those funds go to student upkeep such as accommodation, food, transport, health and pocket money. Salaries range from $200 (85,000 Frw) for an assistant lecturer to $350 (140,000 Frw) for a professor, supplemented by allowances for transport, utilities and housing.

Rwanda has no national association of faculty; nor has concern for a more involved role for faculty been widely expressed. In the absence of an enabling

salary plus other attractive incentives, and considering that there are still undercurrents of instability in the area, brain drain or the vacating of posts by well-qualified Rwandan nationals is the more likely trend.

2. There has always been a tendency to lump general and technical education together, with a larger portion of the budget being allocated to general education at the expense of technical education. The budget allocation for KIST for the last four years has always been based on the average student unit cost (US$1,310,000) per year.

This budget was calculated without taking into consideration either the student's academic discipline or the institutional orientation. A recent study carried out by the Ministry of Education and the World Bank has indicated that the student unit cost at KIST stands at US$4,076 while a law and humanities student requires only about US$1,385 (Sunday-Kayemba and Associates 2004).

Such a gap, which is substantial, can easily compromise the quality of teaching if no intervention measures are also undertaken.

3. Generally, education and training were traditionally considered to be a social service, with less recognition of the fact that sustainable development can be achieved only with substantial investment in human capital.

4. Historically, postcolonial Rwanda did not focus on the development of human resources. For example, until 1994, Rwanda had only one university, the National University of Rwanda. By 1994, when it had been in existence for thirty-one years, the university had graduated only two thousand Rwandans, most of them in the humanities.

Little appreciation for the need to focus on skills development has meant that, in the past, higher education in Rwanda was not prioritised and thus not proportionately funded. Consequently, the country has been largely dependent on foreign expertise to meet its human resource requirements.

Responding to the Funding Challenge: The Concept of Income Generation Employed at KIST

Since 1994, higher education has been on the top of Rwanda's political agenda and also the top priority on the national budget. By 2002, a total of thirteen institutions had been established in the country. Six are government owned while seven are private institutions. KIST is the first technological institute in Rwanda.

The government supports expatriate and local staff salaries, local staff training abroad and a humble investment in infrastructure. However, a budget deficit remains, which must be borne by the institute. Expenses borne by KIST are usually to meet basic requirements in order not to compromise the quality of education. Examples include buying computers, hiring laboratory facilities in

Kenyan universities and subscribing to Internet Satellite Connectivity at an average rate of US$10,000 per month.

KIST is conscious of the government's limited resources and has undertaken several initiatives to generate income and diversify revenue. Diversification of study programs, introduction of distance learning and fostering closer links with the private sector are some of the efforts made by KIST to ensure that study programs remain relevant to the market. This measure, in return, attracts a diverse range of students.

Such initiatives, coupled with a policy of rewarding innovative staff, particularly those who initiate income-generating activities, has enabled the institute to diversify its revenue while retaining its vision of offering high-quality education. Following are some examples of income generation at KIST.

Information and Communication Technology (ICT) Centre

Driven by the desire to offer high quality IT education as well as to provide basic IT services to the Rwandan community, KIST established its ICT Centre in 1999. Through the centre, KIST has become one of the major Internet Service Providers (ISP) in Rwanda, second only to the national telecommunication company, Rwandatel. The centre provides Internet service for dial-up and wireless connections, sells Internet accessories for both wide and local area networks and operates an Internet cafe. In addition to providing Internet services, the ICT Centre also provides to the public other computing services and consultancies such as: Webpage design and hosting; networking; developing software packages, e-mail and Internet access; secretarial services, etc. The competitive prices offered by the institute make it the best choice for many customers.

The centre is also engaged in preventive maintenance by servicing computer hardware and other electronic equipment. Other major activities at the ICT Centre are: PC upgrading, computer assembling, training personnel and maintaining computers and associated electronic equipment. In a brief period, the centre has expanded to become self sustaining and capable of supporting an ever-increasing number of customers while making a reasonable profit. To further strengthen its competitiveness, the ICT Centre is negotiating a joint venture with Mediapost, an IT private company in Rwanda. The joint business plan includes establishing a private television company, the first ever in Rwanda.

Table 1: Income Generation by the ICT Service Centre in 2002 and Projections for 2003

Operation	Income, 2002 (US$)	Projected Income, 2003 (US$)
Internet subscriptions	99,350	145,300
Equipment sales	20,150	45,200
Internet café	24,385	16,800
Networking services	220,000	298,000
Total	363,885	505,300

The ICT Intermediate Skills Training Centre

Rwanda has a shortage of skilled technicians to maintain and repair the growing stock of ICT equipment and infrastructure in the country. KIST has established five state-of-the-art computer laboratories equipped with 170 Pentium IV Compaq computers. With support of the Department for International Development (DFID) in the United Kingdom, the institute initiated and is currently running an intensive training programme for ICT technicians to maintain computing hardware, software and networks. Through partnership with Glasgow Caledonian University (Scotland), specialists are brought in regularly to evaluate the ICT training programmes; and continuous improvements are made where necessary. This procedure translates into high-quality training programmes, which have attracted participants from government ministries, private companies, and the entire Rwandan community. This programme, which was officially launched in September 2002, has, as of May 2003, collected US$45,608 in revenue.

Students' Portfolios

Fee-Paying Students in Full-time Programmes

Since the establishment of the institute, there has been substantial growth of student numbers, from 209 students in November 1997 to current (May 2003) enrolment at slightly above 4,000 (Kelly et al. 1989). Growing demand from employers and employees for higher education that will provide professional upgrading, retraining and continuous learning has encouraged the further expansion of teaching facilities.

With an annual intake of 600 students, KIST reserves 100 places for full-time privately sponsored students. This policy has enabled the institute to generate income through tuition fees paid by students.

Table 2: Income Generation from Students' Portfolios

Item	Income 2002–03 (US$)	Projected Income 2003–04 (US$)
Registration fees	22,200	25,984
Tuition fees	680,350	715,140
Examination fees	20,210	22,920
Total	722,760	764,044

The Centre for Continuing Education

The Centre for Continuing Education consists of three departments: (a) The Part-Time Studies programme, (b) the African Virtual University (AVU) or Distance Learning Education, and (c) the In-Service Training Programme (see www.kist.ac.rw).

Part-Time Studies

Many employed Rwandans wish to pursue further studies to advance their professional careers but cannot have time off their jobs to engage in lengthy professional study programmes. In response to this need, KIST established the Department of Part-Time Studies, which has well over one thousand self-sponsored evening students pursuing degree and diploma courses under the Faculties of Management and Technology.

In addition, the institute occasionally offers on demand short courses such as basic computer courses, ACCA, CISCO and Microsoft certified programmes. Part-time study programmes have responded positively to community needs at no extra cost to the institute because they are priced at market rates and are therefore self-sustaining.

The In-Service Training (IST)

The main objective of the In-Service Training Department is to enhance human resources for various target groups through seminars, workshops and tailor-made short courses. These courses are provided upon demand and are largely focused on the fields of management, technology, computer skills, food science and entrepreneurship.

Income from the In-Service Training Department is a function of marketing strategies and the realisation of higher business volumes. The income for 2002 and projected income for 2003 are US$7,744 and US$41,556 respectively.

Table 3: Income Generation by AVU for 2002 and 2003

Course	Income, 2002 (US$)	Projected Income, 2003 (US$)
Short courses	–	6,240
Diploma/degree programmes	–	100,000
Total	–	106,240

The African Virtual University and Distance Learning Education

KIST utilises Internet resources to offer quality distance learning education through the African Virtual University (AVU). The cost effectiveness of this programme is due to its non-reliance on physical human resources. Students interact with instructors through Internet mailings, telephones and fax.

The centre offers short and long courses in the areas of management and technology, normally sourced by the AVU itself. Currently the centre offers degree and diploma courses in computer science offered by the Royal Melbourne Institute of Technology (RMIT) based in Australia and other short courses such as Web Design, JavaScript, TOEFL, etc.

More degree and diploma study programmes are planned for 2003 in collaboration with the Royal Melbourne Institute of Technology. The expected income is summarised in Table 3.

Outreach Programmes

The Promotion of Cottage Industries

In addition to the academic programmes available to both full-time and part-time students, KIST continues to impart to Rwandan society entrepreneurship and innovation skills that exemplify different, appropriate and innovative technologies promoted by the institute through outreach programmes. The Department of Cottage Industry was established in 2000 with the following objectives:

1. To train and empower as many people as possible in entrepreneurship skills that will enable them develop viable businesses.
2. To serve as an income-generating unit from the sales of manufactured items.
3. To serve as a demonstration unit for students undertaking related technology courses.

The department installed the machinery to train and demonstrate to the community simple technologies to manufacture goods such as wire nails, chalks, candles, paper napkins, plastic conduit pipes, toilet papers, etc. This department is funded through fees collected from the students attending short entrepreneurship courses, normally between one month and one year long, as well as from the sales of items manufactured within the department. In addition, the department offers regular consultancy services to the community, ranging from providing vital information on cottage industries; sourcing equipment; and installing, commissioning and servicing machinery.

A modest income has been generated through the sales of such items and the provision of these services. In addition, the unit serves as an internal training unit in food-processing courses through a food-processing unit. Although the primary objective of this department was not income generating, it has still managed to generate US$15,000 during the first two years of its existence.

The Centre for Innovations and Technology Transfer (CITT)

In Rwanda, there has never been a culture of income generation within the university undertakings. In 1998, one year after KIST's inception, it received permission from the Ministry of Education to sponsor its first income-generating activity, namely the establishment of a centre for continuing education. Four years later, the National University of Rwanda and the Kigali Institute of Education followed suit. However, since 1999, KIST had innovated other income-generating activities falling within its technological education focus. These include community-based outreach technologies such as waste management, energy supplies, water supply, etc. Such special features are distinctive elements of KIST's identity.

The Centre for Innovations and Technology Transfer (CITT) (see www.kist.ac.rw), which is slowly emerging to be a real centre for the people, is also something of a new experience for KIST. For instance, a group of women from a remote rural area found their way to CITT, explained that they had passion fruit, and requested food-processing technology that could add value to it. This assistance is paid for by the CITT-DFID training fund. Based on feedback from KIST's community development officers, many of whom are women, KIST has designed lighter vegetable oil presses, for example, that are easier for women to use. The officers also work with rural women's groups, helping them improve their businesses with the aid of simple technological improvements. As a result, some groups have started supplying restaurants with fruit juices, dried mushrooms, tomato concentrates, jams, and honey because the introduction of better food-processing devices and techniques have guaranteed more consistent quality.

With Rwanda's economy poorly developed, and few jobs available, the Institute's students also receive training in basic business skills so that they will be better equipped to start their own businesses. Such instruction has not been common in the culture of universities, yet we find it of vital importance in contributing to the nation's economic development.

Following the CITT mission that stresses contributing to the reduction of poverty in the country, the emphasis has been on rural-based technologies including supplying water for irrigation and household use; developing energy resources, waste management, food processing and storage; low-cost housing; and the maintenance of rural roads and bridges. Of these, the fastest growing technologies are those of energy development and community-based waste management.

As noted above, based on careful research to identify the socio-technological needs of rural communities, CITT focused its operations on the following areas:

1. Developing adequate water supplies for domestic and agricultural purposes. CITT has developed and adapted seesaw and treadle pumps that are low cost compared to traditional petrol and electricity primed pumps. Field trials have shown that the pumps are effective in moving water from low levels to uphill points within a head of 9.5 meters, a range that is sufficient for small-scale irrigation and for home use. Women and children can easily operate such pumps. Efforts are underway to introduce hydraulic ram technology for the same purpose.

   Similarly, CITT has developed off-the-shelf designs of rainwater harvesting systems that are standardised and suited to household and community needs as an alternative to water piped from public mains. Available sizes of tanks range from 200 to 100,000 litres. Installation costs are incredibly low because the tanks are built mainly of brick with no metal reinforcement except for a few pieces of chicken wire. The institute raised US$16,000 in 2002, and the projected income for 2003 is US$30,000.

2. Agro-processing and food storage. KIST has developed a dual crop dryer that utilises sunshine or biomass (rice husks, saw dust, firewood) as a source of energy. The unit can process products like fruits, vegetables and meat, yielding value-added products with a longer shelf life. Another CITT innovation is grain storage bins, designed to improve food storage and enhance food security by ensuring that grain will be available both in season and also out of season when prices are much higher. Projections from these and other related agro-processing projects indicate good prospects for income generation in 2003–04.

3. Alternative energy supply systems (renewable energies). Solar photovoltaic systems have been set up on campus to demonstrate street lighting and other applications that normally utilise electricity. Radios and televisions have successfully been operated by this system. Several households have been fitted with solar lighting systems innovated by CITT.
4. Solar thermal systems. Standard solar water-heating systems have been developed and field tested. Users reported substantial savings in electricity bills and found such systems more convenient as a source of hot water. A double-glazed water heater has been installed in one of the provincial hospitals to provide hot water for the sick. Several other units have been installed in other places in the country. Reducing the cost of inputs to make solar technology more affordable and improving the marketing strategies are some of CITT's current efforts to attract more users.
5. Biogas technology. KIST has constructed several biogas plants in which the gas has replaced slightly more than 60 per cent of the wood normally consumed as fuel. In addition to direct construction works, CITT develops the skills of biogas technicians and artisans through various training courses in the planning, construction and servicing of biogas systems. Constant follow-up in the field is made in order to ensure continued technical support and maintenance of the units.
6. Waste water and solid waste management systems. CITT has developed and installed anaerobic treatment plants for the safe disposal of organic wastes, particularly toilet waste. It is essentially the biogas plant design with enhanced post-treatment and composting provisions. To date three anaerobic digesters of 60, 110, and 550 cubic metres have been installed. The fourth and the biggest digester, which measures 1000 cubic meters, is under construction as of this writing (May 2003).

   It is worth noting that the government of Rwanda has been spending over US$1 million every year to provide wood for fuel in provincial prisons. KIST is constructing bio latrines in those prisons to save government funds and protect the environment. In the process, KIST generates considerable income. Officials at KIST were greatly pleased when the head of state, President Paul Kagame, asked officials of schools and prisons: 'Why are you wasting money with expensive firewood? Why don't you talk to these people at KIST?'

   Income generated through the treatment of wastes and the subsequent production of biogas totalled US$210,000 in 2002 with significant increases expected in 2003, since several projects are underway at this writing.

Table 4: Income Generated by CITT

Product	Income, 2002 (US$)	Projected Income, 2003 (US$)
Biogas and waste management units	208,999	404,000
Cook stoves	39,464	661,920
Water solar heaters	3,000	8,000
Water tanks	16,000	29,596
Bread ovens	18,000	14,000
Others*	15,000	25,000
Grain storage/processing	–	86,800
Low-cost housing	–	140,000
Total	300,463	1,369,316

*These other projects include instant showers, training, agro-processing, rural road networks, irrigation water pumps, etc. KIST also has a standing order of supplying improved cookstoves to schools in the country.

7. Improved household and community cook stoves and bread baking ovens. CITT continues to refine the design and manufacturing techniques of cook stoves and bread ovens to attain higher performance and to sustain the quality of every unit thus produced. About 460 improved cook stoves and 20 improved bread ovens have been manufactured and installed in institutions such as schools, prisons, hospitals, orphanages, etc. This area has high potential for generating income, as illustrated in Table 4. KIST's popular bread oven won the first international award on renewable energies in London in October 2001. The stove uses only one piece of wood to bake about 4,000 scones in three hours. Currently, the entire KIST student and staff community is dependent on this oven for its bread supply. Income generated from the sale of bread ovens is about US$20,000.
8. Animal traction for transport and cultivation. CITT is continuing work in the adaptation and field-testing of low-cost transportation systems in the form of pushcarts and ox-carts. The carts are made of locally available materials and can be fabricated in the villages. Some pushcarts are already

in the field and in operation, but wider popularisation demands hands-on courses plus equipping ex-trainees with basic equipment. This area is still under marketing and has not yet generated any income.

9. Labour-intensive rural roads and bridges. In 2002, three students from the Civil Engineering and Environmental Technology Department pioneered the design and installation of a suspended bridge spanning 45 metres that crosses the River Mbirurume and connects Kibuye and Gikongoro provinces. The previous route of five kilometres was reduced to only 45 metres. Following that, CITT provided consultancy services on improving the access road to Shyira Hospital in Ruhengeri, as well as other road networks in Kibungo Province, an activity that is ongoing. Only about US$18,000 has so far been generated, but more income is anticipated, once KIST's expertise is better known and appreciated.
10. Low-cost housing. The housing unit has developed low-cost building techniques and methods that provide affordable houses to low- and medium-income earners. Contributing to this initiative's success are skills in the choice and use of stones, the use of stabilised blocks and fired tiles and the use of design optimisation techniques now employed worldwide in the building industry. A structure large enough to accommodate fifty families was set up in Kanombe Military Barracks on behalf of the Ministry of Defence. A total of US$140,000 worth of work was invested in this cost-effective housing scheme, in exchange for land valued at that amount. KIST would have otherwise had to pay that amount of money to a contractor. More income is expected, since there is already significant appreciation for this technology.

To summarise: The total revenue generated by the Centre for Innovations and Technology Transfer was US$300,463 in 2002, while an income of US$1,369,316 is projected for 2003 (See Table 4). It should be noted that CITT did not have a specific budget when it began. It started with nominal funds under various departments. Currently, the centre has attracted funding from the British government through DFID, which has provided a total of US$1.7 million to strengthen CITT infrastructure, expand production centres, and create more research and development initiatives.

Research, Consultancy and Collaboration with the Private Sector

Consultancy work conducted at KIST has been growing alongside KIST's growth. Major areas of focus include:

1. Cross-cutting studies ranging from commerce and trade, formal and informal sector business growth in the country, infrastructure, a social sector

including education, health (water supply and sanitation, HIV-related studies), etc.

2. Other consultancy projects have been undertaken in collaboration with the World Bank on rural-based water supplies and energy supplies. In these collaborations, KIST has played the role of local consultancy back-up, owing to its capacity in staff and also its ability to provide students trained as enumerators.

These services have served as major income generators. As a result, KIST has done well in partnering, not only with different organisations and local government (province-based) agencies, but also with organisations in the private sector.

In 2002, KIST generated income amounting to US$132,000, which included research work for Kigali Economic Development Strategy, fees for providing document translations, and other small consultancies. However, much of the business was still in progress by the end of 2002 and would therefore be reflected in the statement for 2003, for which the projected income is US$174,000.

Institutional Capacity Required to Meet Revenue Diversification Needs

In 2002, KIST's income-generating units (viz., CITT, consultancy work, In-Service Training, part-time studies, and ICT activities) produced total revenues of about US$1.5 million (See Table 5). Revenues were far below the target, due to low volumes in sales and services. However, projected revenue for 2003 is about US$3.0 million.

It should be noted that revenue figures are reported as gross. On the actual net level, revenues generated are around 35 per cent of the institute's total recurrent budget. Yet the rapid expansion of enrolment and the demand to ensure the development and maintenance of academic excellence have emphasized the need for more infrastructure and teaching facilities.

KIST is diversifying its financial base through a well-thought-out expansion of income-generating activities. The establishment of the Regional ICT Training and Research Centre, the strengthening and expansion of CITT, the commercialisation of activities, the diversification of programmes to attract private students from both within and outside of the country and the enhancement of consultancy activities are tops on KIST's agenda to enable the institute to generate 50–60 per cent of its total budget by 2008.

KIST's finance department is finalising the transformation process of all income-generating centres into independent cost centres. That way, the expenses of some elements like utilities (water, electricity, etc), which are cur

Table 5: Revenue from Major Income-Generating Areas

Unit	Income, 2002 (US$)	Projected Income, 2003 (US$)
CITT	300,643	1,369,316
Part-time studies	722,760	766,064
ICT	363,885	551,000
In-service training	7,744	40,000
African Virtual Uni.	—-	106,240
Consultancy services	132,000	174,000
Total	1,527,032	3,006,620

rently borne by the central institute budget, will be transferred to the respective centres. Eventually, it will be easy for KIST to appraise the level of sustainability of such centres based on their real-income status.

In addition, KIST has initiated the 'graduate employment scheme' to ensure that KIST graduates start their own businesses and create self-employment opportunities. This scheme, coupled with the Centre for Business and Technology Incubation, which is still in its initial stages of development, will further strengthen the link between KIST and Rwanda's private sector. This step will ensure the sustainable growth and development of an institute that is responding to the country's needs.

Conclusions and Practical Advice

Several factors contribute to the establishment of a successful self-sustaining institute of higher education. A few of the most important aspects that KIST has identified are:

1. Developing a positive attitude towards income generation. The idea that pursuing aggressive income-generating activities in an academic setting will compromise the quality of education is not correct. It is actually a wrong conservative attitude. On the contrary, teaching and learning themes should be translated into market commodities and services in order to increase the relevance of the institute's study programmes.

2. Teaching and research staff should be encouraged—actually, compelled—to relate their research and teaching to tangibles, which should be translated into transferable goods and service.
3. Entrepreneurial culture with subsequent entrepreneurial undertakings should be made a pertinent feature of the institutional set-up whether the university is oriented towards technology or towards the humanities.

   There has always been a gap between academic institutions and private-sector undertakings in most of the developing countries. Partnership with the private sector should be a key institutional strategy.

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Cross-Border Education as Trade: Issues for Consultation, Policy Review and Research*

Jane Knight**

Abstract

This paper provides background information and an analytical framework to study the implications of cross-border provision of higher education in Africa—especially in the context of an increased emphasis on commercial provision and the existence of the General Agreement on Trade in Services (GATS). The major principles related to GATS rules for trade in education services are addressed and a summary of GATS commitments made by African countries to higher education is provided. A discussion of rationales and risks associated to the commercial import and export of education leads to an examination of potential policy implications related to increased cross-border mobility of higher education institutions/providers, programmes and student/scholars. Finally, key questions and issues are identified upon which education leaders and stakeholders may reflect for their relevance to the African context and the need for further research, policy review and consultation.

Résumé

Cette communication présente des éléments de références, ainsi qu'un cadre analytique permettant d'étudier les effets du phénomène de l'enseignement supérieur transfrontalier en Afrique, particulièrement dans le cadre d'un renforcement du caractère commercial de ce phénomène et de la mise en place du GATS (AGCS : Accord général sur le commerce des services). Les principes majeurs concernant les règles du GATS relatives au commerce en matière de services d'éducation sont mentionnés, ainsi qu'un résumé des engagements relatifs à cet accord, manifestés

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** Jane Knight is Adjunct Professor at the Centre for Comparative, International, Development Education Centre, Ontario Institute for Studies in Education, University of Toronto, 252 Bloor Street West, Toronto, Ontario, Canada M5S 2X3; e-mail: janeknight@sympatico.ca.

par les pays africains par rapport à l'enseignement supérieur. Une présentation des arguments et risques associés à l'import/export commercial de services d'éducation nous amène à examiner les éventuelles implications en matière de politique publique, liées à l'accroissement de la mobilité transfrontalière des institutions / spécialistes de l'enseignement supérieur, des programmes, et des étudiants / universitaires. Enfin, des questions clés sont identifiées. Les dirigeants du secteur de l'éducation, ainsi que les parties prenantes dans ce domaine pourraient mener une réflexion pour déterminer si ces questions sont vraiment adaptées au contexte africain, mais également pour déterminer les éventuels besoins en recherche approfondie, en réforme de politique publique et en consultation.

Introduction

While academic mobility and education exchange across borders has long been a central feature of higher education, it is only during that last ten to fifteen years that education has been thought of as a commodity or service to be traded on a commercial basis across borders. And it is only in the last several years that trade agreements have clearly identified education provision as a lucrative trade sector. Thus, at the beginning of the 21st century, international educators need to become more aware of the new opportunities, as well as potential risks, that trade liberalisation can bring to higher education and, in particular, the international dimension.

The education sector has become increasingly aware and involved in thinking about GATS. Stakeholder groups are talking about risks, benefits and potential new opportunities, actively speculating on different countries' negotiating positions for increased liberalisation of trade in education services. In short, GATS is beginning to appear on the education agenda. Further evidence of this presence is that the commercialisation and trade of higher education is identified as a critical issue by the Association of African Universities (Sawyerr 2002) and that it was the theme of a pan-African workshop on the implications of the World Trade Organisation (WTO) and General Agreement on Trade in Services for higher education convened by the African Association of Universities (AAU) in April 2004 (see http://www.aau.org/wto-gats/).

At the same time, many trade experts and educators note that the international mobility of students, teachers, education, and training programmes has been happening for a very long time. They therefore question why there is such a current interest in the prospect of expanding the import/export of education services. The answer partially lies in the fact that, while cross-border education is an important aspect of the internationalisation of higher education, it has not been subject to international trade rules and, until recently, has not really been described as commercial trade. GATS, which clearly identifies

education as a service sector to be liberalised, is relatively new territory for the education sector. This is why the debate within national and international education communities is necessary and welcomed. However, the discussions need to move from speculation towards informed analysis. The introduction of GATS serves as the catalyst for the education sector, first, to examine how trade rules may or may not influence higher education policy; and second, to determine whether the necessary national, regional and international education frameworks are in place to deal with the implications of increased cross-border education, including commercial trade.

Terminology

A few comments about the use and meaning of terms used in this paper may help to provide some context. When terms from the trade sector migrate to the education sector and vice versa, there is fertile ground for confusion and misunderstanding. This is to be expected. Therefore, it is important to lay out how the principal concepts are interpreted and used by these two sectors. Three common terms used by the education sector to describe the international nature of education are 'internationalisation,' 'cross-border education' and, more recently, 'trade in education.' There is a hierarchy to these terms, with 'internationalisation of education' being the most comprehensive, 'cross-border education' being one component of internationalisation and then 'trade in education' being used to characterise some, but not all, cross-border activities (Knight 2004b).

'Cross-border education' is a term that educators are using to capture a wide range of education activities that are part of international academic linkages and agreements, international development/aid projects and international commercial trade initiatives. Therefore, educators usually interpret 'trade in education services' as a subset of cross-border education; for the most part, it is described as those activities which have a commercial or for-profit nature or purpose to them (Knight 2003a). This interpretation is much narrower than that used by economists or the trade sector. From their perspective, even if a cross-border education activity is seen to be non-commercial in purpose—for instance the exchange of students or professors for a semester—there is still export value in a country's balance of payments from accommodation, living expenses, and travel; therefore, there are commercial implications (Larsen and Vincent-Lancrin 2002).

It is not an easy task to have a clear and shared interpretation of what 'trade in education services' really means across the two sectors. It may be dangerous to oversimplify how the different sectors perceive and use the term 'trade in education services', but the clear message is that more effort is needed to

help the two sectors understand the different approaches to using and defining the term. It is equally important to have clarity and assurance as to which international cross-border education activities would fall under the purview of international/regional trade agreements and be labelled as trade. As will be noted later, there is ambiguity in GATS on this point.

Assumptions

This article is based on a number of assumptions. First, this paper is written from an educator's point of view, not from an economic or trade perspective. Second, it emphasises an international approach, meaning that implications for the higher education sector in both developed and developing countries are noted. It does not focus exclusively on the situation in Africa. Instead it raises questions for African education leaders, experts and policy makers to address.

Third, it recognises that trade issues are closely related to the larger issues of commercialisation and commodification of cross-border education. More attention is given to the delivery of education/training courses and programmes across borders than to the movement of students to study in foreign countries. The intention is to take a balanced approach in discussing the risks, benefits, opportunities, and challenges involved in cross-border education and, in particular, increased commercial trade in education services.

Overview of GATS

Structure and Purpose of GATS

The General Agreement on Trade and Services is the first-ever set of multilateral rules covering international trade in services. Previous international trade agreements covered trade in products, but never services. The GATS was negotiated in the Uruguay round of World Trade Organisation meetings and came into effect in 1995. It is administered by the World Trade Organisation (WTO) which is made up of 146 member countries (WTO 1999a).

Modes of Trade in Services

GATS defines four ways in which a service can be traded. These four modes of trade (also called 'modes of supply') apply to all service sectors in GATS. Table 1 defines these modes, applies them to the education sector and comments on the relative size of the market supply and demand.

GATS covers 12 service sectors, including, for example, transportation, communication, finance, tourism, health and education. These 12 sectors are sub-divided into 160 subsectors. The four modes of supply described above apply to all 160 subsectors.

Table 1: Four Modes of Supply

GATS Mode of Supply	Explanation	Examples in Higher Education	Size/Potential of Market
1. Cross Border Supply	Providing a service which crosses a border. Does not require the consumer's physical movement.	Distance education. E-learning.	Currently a relatively small market. Seen as having great potential through the use of new ICTs, especially the Internet.
2. Consumption Abroad	Providing a service involving the consumer's movement to the supplier's country.	Students who go to another country to study.	Currently represents the largest share of the global market for education services.
3. Commercial Presence	The service provider establishes or has commercial facilities in another country to render the service.	Local branch or satellite campuses. Twinning partnerships. Franchising arrangements with local institutions.	Growing interest and strong potential for future growth. Most controversial, as it appears to set international rules on foreign investment.
4. Presence of Natural Persons	Persons travelling to another country temporarily to provide service.	Professors, teachers, researchers working abroad.	Potentially a strong market, given the emphasis on mobility of professionals.

Source: Knight (2002).

Trade in education is organised into five categories or sub-sectors of service. These categories are based on the United Nations Provisional Central Product Classification (CPC) and are Primary, Secondary, Higher, Adult, and Other (WTO 1998).

Key Elements and Rules of GATS

The overall framework contains a number of general obligations applicable to all trade in services regardless of whether a country has made a specific commitment to sectors or not. These are called unconditional obligations. Each WTO member lists in its national schedules those services for which it wishes to provide access to foreign providers. In addition to choosing which service sector(s) will be committed, each country determines the extent of commitment by specifying the level of market access and the degree of national treatment it is prepared to guarantee. Market access refers to the degree to which a country grants market access to foreign providers in specified sectors. Each country determines the limitations on market access for each committed sector. National treatment is an extremely important element of GATS. It requires equal treatment for foreign providers and domestic providers. Once a foreign supplier has been allowed to supply a service in a country, there should be no discrimination in treatment between the foreign and domestic providers. This provision applies only where a country has made a specific commitment and where exemptions are allowed; however, GATS critics believe that this provision can put education as a 'public good' at risk.

Another principle of GATS is the most favoured nation (MFN) treatment, which means treating one's foreign trading partners equally and consistently. Under GATS, if a country allows foreign competition in a sector, equal opportunities in that sector should be given to service providers from all WTO members. This equality extends also to mutual exclusion treatment. For instance, if a foreign provider establishes a branch campus in Country A, then Country A must permit all WTO members the same opportunity/treatment. Or if Country A chooses to exclude Country B from providing a specific service, then all WTO members are excluded. MFN has implications for those countries which are already engaged in trade in educational services and/or which provide access to foreign education providers.

GATS is described as a voluntary agreement because countries can decide which sectors they will agree to cover under GATS rules (EI/PSI 1999). This agreement is reached through the preparation of their national schedules of commitments and through the 'request-offer' negotiation rounds. However, there are aspects of the agreement that question its voluntary nature, notably the built-in progressive liberalisation agenda. The process of progressive

liberalisation involves two aspects: (a) extending GATS coverage to more service sectors and (b) decreasing the number and extent of measures that serve as impediments to increased trade. Therefore, in spite of each country's right to determine the extent of its commitments, with each new round of negotiations, countries are expected to add sectors or sub-sectors to their national schedules of commitments and to negotiate the further removal of limitations on market access and national treatment.

GATS Commitments for Trade in Education Services

Status of Existing Commitments and New Offers

Table 2 summarises the education commitments that were made during the 1994 Uruguay round when GATS was established. Only forty-four countries made a commitment to education; thirty-five involved higher education. It is interesting to note that there is a great deal of speculation about the level of knowledge and 'rationality' behind these commitments. During the early 1990s, few trade teams were well informed about trade and education services. Furthermore, during this round, there was little consultation with education experts on the commitments. Only three African countries have made a commitment to higher education.

The second set of negotiations, known as the Doha round, started in 2000 and will continue to 2005, at least. It is expected that, during this round, additional offers will be made to further liberalise trade in education services. Offers are conditional and become commitments only at the end of a round. The new offers can include additional countries making an offer or countries further liberalizing existing commitments. As of April 2004, five countries have put on the table an offer for higher education, two of which have strengthened their existing commitment (Japan and Turkey) and three of which are new ones, none from Africa. Four new countries, none from Africa, have made offers involving adult education. Therefore, there has been little action in terms of offers in the higher or adult education sectors during the Doha round. In all, education is one of the least active and committed sectors of GATS.

It is important to remember that negotiations involve both offers and requests. An offer is usually responsive to another country's request for access to the domestic market through the removal of a barrier or through the application of a 'most favoured nation' exemption. However, it is very difficult to obtain solid information on which countries are making requests and the content of their requests. This is because the requests are made bilaterally and because it is not necessary to make them public.

Table 2: Existing Commitments for Foreign Access to Domestic Education Markets

Country	Primary	Secondary	Higher	Adult	Other
Congo			X		
Gambia	X			X	X
Ghana		X			X
Lesotho	X	X	X	X	X
Mali				X	
Rwanda				X	
Sierra Leone	X	X	X	X	X
Africa Total	3	3	3	5	4
Other Countries	29	33	32	29	15
Total	32	36	35	34	19

Source: Constructed from information in Latrille (2003).

That said, information on a number of requests, especially from large countries, leaks out. It is understood, but not confirmed, that several African countries have put requests on the table, including Mauritius, Morocco, Tunisia, Egypt and Kenya. Kenya's involves education. However, detailed or reliable information is not available on the other offers.

In sum, Table 2 shows that education has not been a priority sector for GATS trade negotiations. Only a handful of countries have made requests or offers to date. There is also very little concrete information on access to education markets. The targeted date to end this round of negotiations is January 1, 2005; given the slow rate of offers reaching the table, this deadline will likely be extended. An extension will allow time needed by the education sector to become better informed and better prepared for the potential implications of increased trade. In some cases, it will mean that countries can take whatever steps are necessary to ensure that trade in higher, adult and other educational services is carried out within the parameters of necessary national, regional or international education regulatory frameworks.

While the low and slow response rate is providing time to become better informed and better prepared, it can also be troublesome. Very few developing countries have submitted either requests or offers. There are several possible

reasons for this situation. First, there is the question of capacity. Because GATS covers 160 subsectors, it takes both time and extensive knowledge to be informed on all subsectors. Some technical assistance is available to developing countries through multi-lateral agencies and bilateral donors, but the level of expertise and the time commitment should not be underestimated. Second, many countries use an element of 'wait and see' in their trade negotiating strategies. Given that commitments on market access made for one country are automatically applied to all WTO members (due to the `most favoured nation' obligation), it is not necessary for all countries to make official requests. It is clear that the majority of WTO members are not ready to put their offers on the table. As a result, the four most influential countries (the United States, Japan, European Union (EU) and Canada, collectively known as 'the quad') plus several other OECD member countries, are taking the lead and shaping the substance of the negotiation process. This may not be a surprise, but it may have some unintended consequences.

At the recent WTO Ministerial meeting in Cancun, Mexico, the group of twenty-two developing countries led by Brazil, Argentina, China and India took a firm stand on the issue of the agricultural subsidies which is part of the GATT (products) negotiations but which has important ripple effects for the GATS (services) round. The issues at play here are very complex—technical, legal and political—but the net effect is a greater awareness of the implications of (and often inequalities for) the poorer countries of the world. In general, there is a significant slow-down on the pace and number of requests and offers being made during the Doha round (Kwasi 2002).

The Removal of Barriers

The purpose of GATS, as stated by the WTO, is to reduce or eliminate barriers to promote further trade. It is important to note that the national policies and regulations established by some countries to control the importing of education and training services into their country are, in fact, seen by exporting countries as trade barriers that need to be removed. One of GATS' principles is that countries can determine the degree of market access they will give to foreign providers. This principle is seen as a certain kind of safeguard. However, safeguards can be interpreted as barriers. Therefore, when one considers GATS principle of progressive liberalisation, one questions whether these so called safeguards will, in fact, be able to withstand the pressure of liberalisation in future rounds of negotiations. It should also be noted that barriers to trade seen from the exporting country's point of view, may be seen by the importing country as fundamental aspects of domestic higher education policy.

Risks and Opportunities: Views from Africa

Much more has been written on why countries are cautious and guarded about the impact of trade than on the benefits of trade, especially for developing countries. For instance, the Minister of Education in South Africa, has stated very clearly:

> It is important that we remain vigilant to ensure that increased trade in education does not undermine our national efforts to transform higher education and in particular to strengthen the public sector so that it can effectively participate in an increasingly globalizing environment. Trade considerations cannot be allowed to erode the public good agenda for higher education. (Ensor 2003)

At the same time, he warned against parochialism and narrow chauvinism and stressed the need for genuine international collaboration in education.

Professor Goolam Mohamedbhai, Vice Chancellor of the University of Mauritius, commented on the WTO proposal to liberalise trade in education services through GATS. He noted that globalisation might have some positive effects from the point of view of increasing access in higher education and reducing the knowledge gap in developing countries, but it also has negative aspects which could seriously threaten universities in those countries (Mohamedbhai 2003). He believes that foreign providers have helped to provide courses locally and at a significantly lower cost than would have been required for students to travel abroad to take the programme; however, foreign providers do not share the same national values and priorities. Their purpose is to provide education in the most cost-effective way. He also expressed concern that developing countries might be flooded with foreign and private providers, whose focus on immediately marketable skills would make them serious competitors to local universities, leaving the latter to provide degrees in the arts, humanities, science and technology, which, though less profitable, are still vital for a country's development.

Kenya is another country that recognises that education is a major foreign exchange earner and that trade has economic advantages:

> Government policy favours trade in higher education. The government has underscored the earnings it made from higher education and the fact that the government supports the parallel degree programmes and the establishment of more private universities is an indication of this. The government's emphasis is on reducing the flow of revenues from

> Kenyan students to foreign universities and attracting more foreign students to enrol in Kenyan higher education, especially from the region. (Jowi 2003:47)

These observations are a good illustration of the type of analysis being done to assess new opportunities and potential risks associated with increased international trade in higher education.

Implications and Issues: For Consultation, Policy Review and Further Research

The primary purpose of this section is to summarise the key issues that require further investigation and consultation with regards to cross-border education in general and trade in education services in particular. The implications and issues are divided into three groups: (a) those that are especially relevant to education policy, (b) those that relate to the GATS agreement per se, and finally (c) those that raise implications for other policy domains.

Issues for Education Policy

There is much discussion and debate over four rather controversial trends or "-isations" of higher education. They are: commercialisation (buying and selling including commodification), privatisation (private ownership and/or funding), marketisation (allowing the market to determine supply and demand) and liberalisation (the removal of trade barriers). Some would even add a fifth, globalisation, and point to it as an underpinning cause for the others. These trends can be found in both the domestic and cross-border provision of higher education; however, this section deals only with cross-border transactions. These trends or '-isations' are closely related to each other; and at times, it is difficult to single out and treat each one individually.

The Role of Government

In most, if not all countries of the world, the government plays a critical role in regulating, funding and monitoring the provision of higher education. This applies where education is more or less publicly funded and also where there is a mixed public/private higher education system which is the case in many African countries. One has to ask whether trade liberalisation will affect a mixed system differently than a public system and whether the role of government will change measurably. Inherent in these questions is the issue of just what services are covered by or exempted from GATS.

There is an implicit understanding that public services will be exempted, but close scrutiny of Article 1.3 raises several related questions and concerns.

Legal opinion (Gottlieb and Pearson 2001) and the general consensus in the higher education sector is that there is so much 'wiggle room' in the definition that one should not count on government-funded and -mandated institutions being exempted from GATS rules unless a country stipulates to this provision in its commitments.

The second point relates to GATS Article 6.4 that addresses domestic regulations and a country's ability to set qualifications, quality standards and licences. The article provides that 'qualifications, requirements and procedures, technical standards and licensing are not more burdensome than necessary to ensure the quality of the service' (WTO 1999b). The language is purposely vague and there are no definitions for terms such as 'more burdensome than necessary' or for 'quality of services'. This vagueness leaves the higher education sector troubled about the potential impact of this statement on quality assurance and accreditation procedures. There is also concern about the implications of this article for the regulation of the professions, given the increasing mobility of skilled and professional workers across borders.

Direct questions to trade specialists about Article 6.4 do not yield any answers more concrete than 'it is still being developed'. It is a wait-and-see situation. However, trade specialists state strongly that it is certainly not the intention of GATS to limit government's role in the regulation of quality assurance of education or the professions (WTO 2001). Clearly this article, part of which is often referred to as the 'necessity test', merits close monitoring by the education sector, given that a country's ability to establish quality assurance and accreditation policy for domestic and foreign providers is central to the question of the role of government.

Student Access

Demographic changes, lifelong learning, changing human resource needs created by the knowledge economy, as well as growing number of graduates from secondary level education, are increasing the unmet demand for post-secondary education and training. GATS supporters maintain that increased international trade will help countries satisfy this growing demand. Public and private higher education institutions also recognise this need and are increasingly involved in cross-border education through development projects, exchanges and commercial ventures. Private commercial providers, who are primarily concerned with teaching (meaning that they give limited attention to research and service), are targeting niche markets of these learners and responding to a clearly identified need.

Therefore, GATS supporters believe that increased student access to education and training is one of the strong rationales and articulated benefits linked

to trade liberalisation. GATS critics question why there need to be trade rules to regulate education when, to a certain extent, this movement is already occurring outside of a trade regime and can be regulated through education conventions and national education regulatory frameworks. So while there is general agreement on the need for greater student access, there remains the question of whether access will be available only to those who can afford it. This issue is especially relevant for developing countries.

Financing

The fact that the growth rate in public funding is not keeping pace with the accelerated levels of private investment in higher education is a discernible trend in many developed and developing countries (Levy 2003). This trend, plus the pervasive climate of stricter accountability for public support, is creating a more receptive environment for private and commercial providers of post-secondary education. As already noted, private provision of education in niche markets is increasing. When forces for increased liberalisation of trade are added to this scenario, there is an expectation that private and commercial providers will be very active in the international education markets. According to the Global Education Index, recently developed by the Observatory on Borderless Higher Education (Garrett 2003) more than fifty companies currently listed on the stock exchange provide education and training programmes or services to support education, and many are doing so on an international scale. This number is a conservative one and does not include companies which are not publicly listed.

The greatest fear among many education leaders is that, while private investment in education rises, public support will fall even more steeply (EI/PSI 2000). For now, such a fear is only speculation, but it could become a discernible trend before long. The role that trade plays in this scenario is that countries without the capacity or political will to invest in the physical and soft infrastructure for higher education will begin to rely more and more on foreign investors and providers, whether they be conventional universities or commercial companies. Trade rules may have a heavy influence on the terms and use of the private investment, and thereby policy, for education. A review of the barriers to trade in education services show that measures relating to commercial presence/foreign investment (mode 3) are in fact being targeted for removal (NCITE 2001). Of course, a huge proviso in this scenario is that the foreign providers will be able to make it economically worthwhile to deliver educational services internationally; and if this is not the case, then new questions will arise.

The Registration and Licensing of Foreign Providers

Many educators believe that one of the negative consequences of market driven for-profit education is that the number of 'diploma mills', 'canned degrees' and 'accreditation mills' will increase. This worry applies to both domestic and cross-border provision and can potentially be exacerbated with the promise of increased trade. New types of commercial providers such as private education, media and information technology companies and new forms of programme delivery such as branch campuses, franchises and distance education introduce new challenges in terms of how domestic government regulate new providers and new delivery methods. There are solutions to this situation if a country has the capacity to establish regulations for registering and licensing foreign providers as has been done in several African countries. But the reality is that not all countries have established these procedures or may not have the ability to implement the policies that have been created. There is also apprehension that some of the requirements established for licensing will be perceived as potential barriers to trade and will therefore be targeted for liberalisation during future rounds of GATS negotiations.

While these scenarios may still be 'what ifs', it is important to discuss the role and capacity of national governments, especially from the developing world, to establish and monitor systems for registering new private international providers. It should be noted that the term 'private provider' is being used because, in most cases, it appears that public institutions/providers are being classified as private providers/companies as soon as they cross the border and deliver in a foreign country. This is happening for both domestic and foreign reasons. There are, of course, exceptions to this trend. Some public institutions setting up branch campuses are trying to get classified as non-governmental organisations (NGOs) or foundations instead of private commercial enterprises because of the tax benefits. All and all, the issue of regulating and licensing providers delivering cross-border education needs further attention. Consideration of what national policies and frameworks are necessary and feasible in light of new trade regulations merits study by the education sector at both national and international levels. This issue is becoming complex and more urgent to address (Van Damme 2002).

Accreditation and Quality Assurance

If we thought the questions related to registration and licensing were complex, the situation becomes even more complicated when we look at accreditation and quality assurance of providers and imported/exported education programmes. The terms 'accreditation' and 'quality assurance' have different meaning and significance depending on the country, actor or stakeholder us-

ing the term. Terminology related to quality is a real minefield, the cause of much debate and confusion at the international level. In this paper, 'quality recognition and assurance' is used in a general sense and includes quality audit, evaluation, accreditation and other review processes and elements. This generic approach is not meant to diminish the differences in meaning and approach used by various countries. However, a macro interpretation of quality recognition and assurance of cross-border education is needed to attract the attention that this issue deserves.

It must be noted that increased importance has certainly been given to quality assurance at the institutional level and at the national level in the past decade. New quality assurance mechanisms and national organisations have been developed in over sixty countries in the last decade including Mauritius, Nigeria and South Africa. New regional quality networks have also been established. The primary task of these groups has been quality recognition and the assurance of domestic higher education provision by primarily public and private higher education institutions.

However, the increase in cross-border education by institutions and new private commercial providers has introduced a new challenge (and gap) in the field of quality assurance. Historically, national quality assurance agencies have generally not focussed their efforts on assessing the quality of imported and exported programmes, with some notable exceptions such as the United Kingdom. The question now facing the sector is how to deal with the increase in cross-border education by public and private institutions and, in particular, by the new private commercial companies and providers who are often not part of nationally based quality assurance schemes.

The credibility of higher education programmes and qualifications is extremely important for students, their employers, the public at large and, of course, for the academic community itself. Thus, the question of quality for all forms of cross-border education needs to be taken very seriously. Of current interest and debate is whether national level accreditation and quality assurance systems (where they exist) are able to attend to the complicating factors of education mobility across countries, cultures and jurisdictional systems. Is it advisable and feasible to develop mutual recognition systems between and among countries? Would an International Code of Good Practice be appropriate or strong enough to monitor quality? These are key questions for the education sector to address; and of course, in the exploration of these issues, it is imperative that trade rules are now given due consideration.

It is also important to acknowledge that there is a great deal of cross-border mobility of students, teachers and programmes through non-commercial initiatives. Education activities that are part of development aid projects and in-

ternational academic linkages and networks are good examples. Therefore, international trade of education services is not the only factor driving the urgency of addressing international quality recognition and assurance (Knight 2003b). At this point, it must be clarified that GATS or other bi-lateral trade agreements do not claim to be establishing rules for quality assurance and recognition of education, but they are important catalysts for more urgent attention being given to the issues at hand.

Recognition of Qualifications

The need to have mechanisms that recognise academic and professional qualifications gained through domestic or international delivery of education is another important consequence of increased cross-border activity. Even if the education programme does not move, the student or the prospective employee can move; and therefore, credentials need to be recognised if further study or employment is desired. Once again, this issue is relevant to all forms of cross-border education, not just commercial trade initiatives; but it appears that the existence of international/bilateral trade agreements is pushing the education sector to give more priority to this issue.

UNESCO has long acknowledged the requirement of an international system to facilitate and ensure recognition of academic and professional qualifications. Regional UNESCO conventions on the Recognition of Qualifications were established more than twenty-five years ago and have been ratified by over 100 member states in Africa, Asia and the Pacific, the Arab States, Europe and Latin America. They are unique, legally binding instruments, dealing with cross-border mutual recognition of qualifications. There is limited general awareness of these instruments except for the European regional convention, which in 1997 was updated jointly by UNESCO and the Council of Europe (2001) as the Lisbon Convention. In 2001, the same two organisations established a Code of Good Practice for Transnational Education which is now a recognised part of the Lisbon Convention.

At present, there is discussion on how these UNESCO conventions can be used as instruments to complement trade agreements and to assure students, employers and the public of systems in place to recognise academic and professional qualifications. Given the growth in academic mobility, the increased mobility of the labour force and the fact that GATS is encouraging greater professional mobility, there is a clear and urgent need that this issue be addressed. Questions are also being raised as to whether these UNESCO conventions could also be used to help address the quality assurance and accreditation issues. This idea will be certain to stir up increased interest in the subject and, it is hoped, to give the issues the attention they deserve.

Diversification of the Higher Education Sector

The issue of commercialisation has important implications for the diversification and differentiation of higher education institutions and providers and, more critically, the selection of academic programmes and courses being offered. There are two key aspects to this issue: which courses are offered and by what type of providers. A market approach to higher education can lead to a situation in which commercial or for-profit providers offer those courses that are in high market demand such as business, information technology and communication programmes. This makes sense as the driving rationale is economic. While this situation does not prevent public or private non-profit institutions from providing these same high-demand programmes, it does mean that some of the less popular and often more costly but equally important subjects are the responsibility of public/non-profit institutions. This division can lead to a differentiated menu of courses between profit and non-profit providers based on discipline and profitability.

Research is also linked to this issue. There is some indication that commercial providers, and especially foreign ones, are often not investing in the human, technical or physical infrastructure necessary to support research efforts. There are of course, important exceptions to this trend, but it is worth monitoring. Developing countries have expressed a particular concern about this potential system diversification with respect to the roles and programme priorities of domestic and foreign commercial/for-profit providers. Therefore, the potential diversification of the higher education system based on increased commercial cross-border education introduces important policy implications for funding, staffing, quality assurance, research, curriculum and programmes and is worthy of further investigation and analysis.

The Internationalisation of Academic Relations

Higher education institutions are actively expanding the international dimension of their research, teaching and service functions. This expansion is necessary given the increasing interdependency among nations in addressing global issues such as climate change, crime, terrorism and health through collaborative research and scholarly activity. The international and intercultural aspects of curriculum and the teaching/learning process are important for their contribution to the quality and relevancy of higher education.

One of the leading rationales at the institutional level for internationalisation is the preparation of graduates to be internationally knowledgeable and interculturally skilled so that they can live and work in more culturally diverse communities at home and abroad (Knight 2004a). An important question to ask is how an increased emphasis on international trade in education and new

trade regulations will affect the nature and priority given to academic, social, cultural and political rationales of non-commercial international education activities.

Cultural Diversity and Acculturation

The increase in cross-border education and the influence of trade and new trade regulations on the recognition and promotion of indigenous and diverse cultures is a subject that evokes strong positions and sentiments. Many believe that new ICT technologies and movement of people, ideas and culture across borders are presenting new opportunities to promote one's culture in other countries and are furthering chances for the fusion and hybridisation of culture. Their position rests on the assumption that this flow of culture across borders is not new at all; only the speed with which it occurs has accelerated. Others contend that these same forces are eroding national cultural identities and, instead of creating new forms of cultures through hybridisation, cultures are being homogenised (in most cases interpreted to mean 'Westernised').

Given that education has traditionally been seen as a vehicle of acculturation, these arguments are played out in terms of curriculum content, the language of instruction (the use of English has increased) and the teaching/learning process of exported/imported programmes. Both perspectives have strengths to their arguments. However, because commercial exports are often based on surplus capacity and the bottom line, it is important to ask whether efforts are made to customise programmes to local needs and to make programmes culturally appropriate and useful. Will commercially traded education programmes be any more or less culturally imperialistic or diversified than programmes or curriculum which cross borders as part of development projects or academic exchange programmes?

There are no clear answers yet. Many would want to argue that for-profit private providers will not be willing to invest the time and resources to ensure that courses respect cultural traditions and include relevant local content. Given that private providers are market driven, there may be a demand from the students and employers for what is perceived to be modern (read Western) types of education. The question of the impact of commercial trade (as well as the non-commercial cross-border delivery) of education on cultural diversity requires significant study.

Higher Education's Role and Values

At the heart of the debate for many educators is the impact that increased commercial cross-border education and new trade policies will have on the purpose, role and values of higher education. The discussion about GATS has,

up to now, focused more on the technical, legal and economic aspects of the movement of students, programmes and providers/institutions across borders. But the growth in new commercial and private providers, the commodification of education and the prospect of new trade policy frameworks are catalysts for stimulating serious reflection on the role and funding of public higher education institutions in society.

The trinity of teaching/learning, research and service to society has traditionally guided the evolution of universities and their contribution to the social, cultural, human, scientific and economic development of a nation. Is the combination of these roles still valid or can they be desegregated and rendered by different providers? Values that have traditionally underpinned public education, such as academic freedom, collegiality and institutional autonomy, are being closely examined. Is education still considered to be a public good in the sense of contributing to the development of society or is it being perceived as more of a private good for consumption by individuals? (Singh 2001). Some believe that these traditional values and roles are even more relevant and important in today's environment; others suggest that there is a need for a shift away from these traditional values in light of globalisation. And still others argue that, if higher education is to fulfil its role as a 'public good', then it will need to move away from its traditional public funding sources in favour of more market-based approaches.

Human Capacity and Brain Drain/Gain

Brain power is an increasingly important issue for many countries, due to the growing mobility of professional/skilled workers and the increased pressure for trade liberalisation—especially for GATS Mode 4 (movement of persons). The increase in cross-border movement of scholars, experts and teachers/professors is due in part to the increasing competitiveness for human capital in the knowledge economy. Not only is there a trend for higher education personnel to move from country to country, they are also attracted to the corporate sector where benefits can be more attractive than in the education sector. The higher education sector is affected by this trend both positively and negatively, depending on whether a country is experiencing a net drain or gain effect and the level of brain circulation.

It is important to be aware of the long-term implications in terms of human resource capacity in specific fields at both the national and institutional levels (Teferra 2004). There are implications for education policies but also for immigration, science and technology, trade, employment and foreign relations. There are also direct links between foreign student recruitment/mobility (Mode 2) and the immigration needs for skilled labour of the recruiting country. Thus,

the complex and increasingly interrelated dynamics between national policies for trade in education, migration policies and nation building/human capacity building efforts are areas worthy of serious investigation.

Issues Related to GATS and Trade Policy

Technical Issues. GATS is still an untested and evolving agreement. Not all of the articles and rulings have been developed, and clarification is needed on several key issues. Close monitoring is important for interpretations about subsidies, dispute settlements, interpretations of Article 1.3 (what services are covered) and Article 6.4 (the right of domestic regulation).

Negotiations and Consultation. Requests and offers are still being placed on the table. To date, there is little activity in the higher education sub-sector, but current and future negotiations may involve education services as part of cross-sector trading, meaning that education may be 'traded off' to permit market access in another sector. Also, because progressive liberalisation is the ultimate goal, the education sector needs to be working in close consultation with trade negotiators to monitor future negotiations that include trade in education services. It is important that the education sector be vigilant about domestic regulations that are seen as safeguards for the importing country but barriers for the exporting country wanting access to the market.

Dealing with the issues and implications of trade agreements and national trade policy is a relatively new policy area for the higher education sector. The same can be said for trade negotiators as they have not had extensive experience with education services. This situation requires closer collaboration between trade and education experts. It also requires serious consideration of the role that universities can play in providing research and in undertaking the capacity building of experts who can undertake the necessary interdisciplinary analysis to guide further action.

Benefits and Barriers. There has been more speculation than hard research on the benefits of increased trade in education and the necessity of trade regulations. It would be useful to have further analysis on the potential contribution of more liberalised trade in higher education to national goals and development in general and in providing post-secondary education in particular.

Furthermore, there is little discussion about whether the anticipated economic and supply benefits to education are reasonable and probable. One reason is the lack of hard data on forecasted growth in each of the four supply modes (OECD 2002a, 2002b). The movement of students to study in other countries (Mode 2: consumption abroad) is the only mode where good information is available (OECD 2002a, 2002b).

The rationales driving trade in education are complex. They differ according to whether a country is an importing/receiving versus an exporting/sending one. Rationales for commercial cross-border education different from those involving cross-border exchange partnerships or international development initiatives. More attention needs to be given to studying rationales and to linking expected outcomes to the different motivations of the various types of cross-border education.

Further investigation into the types of barriers to trade in education services is necessary as the removal/reduction of barriers is at the core of trade liberalisation. What may be seen as barriers by a country wishing to access a foreign market can be fundamental aspects of the regulatory system in the receiving country.

Other Education Service Sub-sectors and Agreements

The primary and secondary education sectors have been almost silent on the implications of GATS. There seems to be an implicit understanding or assumption that GATS will not cover public basic education (Sauvé 2002), but this may or may not be the case. Time will tell, especially for countries that have liberalised access to basic education. It is the university sector within the post-secondary education category that has been most involved in discussing GATS. The professional, technical and vocational providers have not been very vocal. It would be useful to have more information and discussion with the non-university sector. The impact of trade rules on the regulations of the professions also merits further attention, especially given that higher education is often directly involved in the education, training and, possibly, certification of the professions.

Trade Related Aspects of Intellectual Property Rights (TRIPS) is another WTO agreement. Of particular interest to the higher education community are issues of whether intellectual property rights will encourage or inhibit innovation and research, who owns the copyright of materials used in e-education and the protection of indigenous knowledge.

Finally, there is much to be learned from how other social service sectors, such as health and culture, have approached the issues related to the inclusion of their services within GATS regulations.

Research and Development

The focus thus far, has been almost entirely on the teaching side of education and has not addressed implications for research. Research is an integral part of a university's role, and further investigation is needed into the potential impact on applied research and especially privately contracted or privately funded

research. Do public education institutions who are undertaking research and development activities have an unfair advantage over private organisations who do not usually receive public support for their activities? Could public subsidies be construed as a barrier to fair trade or under the national treatment condition be applicable to private providers?

Issues Related to Other Policy Domains

Regional Development and Integration. Higher education is increasingly being recognised as an important actor in increasing the connectivity, collaboration and integration at the sub-regional intra-regional and inter-regional levels (Pillay 2003). The number, diversity and influence of national, regional, and international higher education actors in Africa are increasing. Regional higher education actors include intergovernmental and governmental agencies, non-government and civil society groups/networks, public and private foundations, treaties and conventions, in addition, of course, to higher education institutions and providers. Their role in the promotion, provision and regulation of higher education across borders and for regional integration merits further attention.

The role of higher education in regional education, scientific, economic, trade and cultural agreements warrants investigation as to the consequences (intended and unintended) for knowledge and technology transfer, professional mobility and regional integration. Examples are Southern African Development Community (SADC) and Inter-University Council for East Africa (IUCEA) agreements on student mobility and the New Partnership for Africa's Development (NEPAD) initiatives (SAUVCA 2002).

Immigration. GATS and other regional/bilateral trade agreements are trying to facilitate the increased mobility of professional and skilled workers on a temporary basis. Cross-border education, especially the movement of students, scholars and professors will introduce new issues to immigration policies in terms of visas, working permits, residency status and even dual citizenship. What are the long-term implications for migration patterns and immigration status?

Foreign Relations. Cross-border education, including science and technology research and development, are seen as tools for strategic alliances between countries and institutions. In the past, there has been more emphasis on cultural, scientific and political alliances; but given the increasing importance of the commercial trade of education services, higher education is perceived as a more important player for economic alliances as well. What is the emerging role of higher education in bilateral and regional foreign policy development?

International Development and Cooperation. In the past, nation-building by investing in higher education through human resource development, insti-

tutional strengthening and scholarship programmes has been an important part of international development and technical assistance programmes. In the last decade, these aid-oriented initiatives have given way to projects that have been based on principles of partnership, exchange and mutual benefits. Is the inclusion of education as a tradable service under the purview of trade agreements like GATS an indication of a shift away from aid and partnership towards commercial trade as a primary tool for developing higher education in developing and transition countries? (Sehoole 2004). What are the implications and consequences of this development? Will the 'aid to trade' shift and the increasing role of the market place put more emphasis on international competition rather than on international cooperation in terms of international higher education collaboration?

Clearly there are more questions than answers. Individually, the issues outlined above merit further investigation and rigorous analysis. Collectively, they demonstrate the breadth of interest and concern. They also point to the need for information/data gathering, policy analysis and consultation within the higher education sector and with other policy sectors especially the trade sector.

Concluding Remarks

It is probably fair to say that we are just starting to identify the key issues related to the commercialisation of cross-border education within the context of new trade policies and agreements. It is important that we approach the implications of trade agreements and increased trade with an open mind to ensure that we take advantage of the opportunities that increased cross-border education and trade may offer; but we must also be aware of any potential risks. It is equally important to recognise that perspectives and concerns will vary depending on the method of cross-border education (people, programmes, providers or projects), the rationales, whether one is interested in sending/exporting or receiving/importing, or whether one is from a developed or developing country. The Accra Declaration on GATS and the Internationalisation of Higher Education in Africa is one of several statements from non-governmental groups in different countries expressing concern and caution about the inclusion of education and culture within a multilaternal trade framework.

The Accra Declaration was developed and approved by participants at African Association of Universities workshop held in April 2004 to explore the impact of GATS on higher education. The declaration expresses

> continued support for multiple forms of internationalisation in higher education which bring identifiable mutual benefits to African countries as much as to their co-operating partners in other countries and regions. We therefore re-affirm our commitment to reducing obstacles to international co-operation in respect of knowledge creation, exchange and application, to the enhancement of access to higher education and to increasing academic mobility within Africa itself (Accra Declaration 2004:3).

The Accra Declaration also emphasises, quoting the *AAU Declaration on the African University in the Third Millennium:*

> a renewed commitment to the development of higher education in Africa as a 'public mandate' whose mission and objectives must serve the social, economic and intellectual needs and priorities of the peoples of the African continent while contributing to the 'global creation, exchange and application of knowledge.'

The Accra Declaration then continues:

> We therefore caution against the reduction of higher education, under the GATS regime, to a tradable commodity subject primarily to international trade rules and negotiations, and the loss of authority of national governments to regulate higher education according to national needs and priorities.
>
> We therefore call on African governments and other African role players to exercise caution on further GATS commitments in higher education until a deeper understanding of GATS and the surrounding issues is developed and a more informed position is arrived at on how trade related cross-border provision in higher education can best serve national and regional development needs and priorities on the African continent.

As has been repeated many times, GATS is a new, untested and evolving agreement. The interpretations of existing articles and obligations can change and new disciplines can be developed. Working in a trade policy environment is relatively new territory for the education sector. It will take further work and analysis for the education sector to be confident and credible actors in shaping and reacting to new trade policy developments. However, the education sector has considerable experience in other policy arenas—immigration, foreign

relations, culture, science and technology, to name a few. The higher education community at the national level must be vigilant in monitoring new developments and working collaboratively with the government and non-government representatives from education, trade, industry and commerce and foreign affairs. There are implications for doing so at the institutional level as well.

It is important that the wider international higher education community continue to work together on these issues so that (a) educators' views and expertise come to bear on the developments in trade in education services, (b) the higher education sector continues to work towards national/regional and international education frameworks which address the quality assurance, accreditation and recognition of qualifications for all types of cross-border education, (c) further work is done on investigating the implications of trade agreements on scholarly pursuits, research and intellectual property, (d) trade is seen as only one subset of the larger phenomenon of cross-border education and internationalisation, and (e) the impact of trade and commercial providing of educational services on the larger, more philosophical questions related to the purpose, values and role of higher education can continue to be explored.

It is clear that the growth and changes in cross-border education are staggering. There are new types of providers, new methods of delivery, new learners, new partnerships, new financial arrangements, new types of awards, new policies and new regulatory frameworks. All of these changes present new challenges for how cross-border education is conceptualised and regulated. Using a trade framework to categorise cross-border activity is one approach; but given these new developments, it is argued that a trade framework is too limited. Cross-border education occurs for a variety of reasons and under a diversity of arrangements—for example, through academic linkages and partnership programmes, through development/aid types of projects and through commercial trade. The GATS trade mode framework covers only commercial-trade types of activities. Therefore, it is proposed that the education sector begin to develop its own classification system and language to categorise cross-border education in a manner which includes all forms of mobility and all types of activities, not just the commercial ventures.

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Higher Education in Ethiopia: The Vision and Its Challenges

William Saint*

Abstract

Ethiopia is embarked on a higher education expansion and reform programme of impressive dimensions. Expansion will create new universities, establish three system support agencies, mount new courses, and triple enrolments. Reforms introduce increased institutional autonomy, curriculum revisions, new funding arrangements and student contributions by means of a graduate tax. This article analyses current higher education reform efforts in Ethiopia. It begins by sketching the social context in which higher education is situated and describing the country's higher education system. An assessment of tertiary education financing follows. Management capacities and efficiency in the use of these resources are then discussed, noting the particular challenges posed by HIV/AIDS. Educational quality and relevance are subsequently addressed. Analysis points out potential weaknesses in the reform programme but concludes that enrolment expansion targets are likely to be met. However, the dynamics of expansion may well generate difficulties in maintaining educational quality.

Résumé

L'Éthiopie s'est engagée dans un vaste programme de développement et de réforme de l'enseignement supérieur. Le volet développement inclut la création de nouvelles universités, et de trois agences de suivi, la mise en place de nouveaux cours et l'instauration du système d'inscriptions triples. Les réformes permettront une plus grande autonomie, ainsi que la révision des programmes, l'établissement de nouveaux systèmes de financement, et l'introduction du système de contributions des étudiants, par le biais d'une taxe sur la formation supérieure. Cet article analyse les efforts déployés pour la réforme de l'enseignement supérieur en Éthiopie. Tout

* William Saint is Lead Education Specialist, Africa Region, World Bank, 1818 H Street N.W., Washington, DC, 20433, USA; email: wsaint@worldbank.org. The findings, interpretations and conclusions expressed in this paper are those of the author alone and do not necessarily reflect the views of the Board of Executive Directors of the World Bank or of the governments they represent.

d'abord, il fournit un aperçu du contexte social de l'enseignement supérieur, ainsi qu'une description de ce système. Il s'ensuit une évaluation du financement de l'éducation tertiaire. La communication évoque ensuite les capacités de gestion, ainsi que l'utilisation efficace de ces ressources, en mentionnant le défi majeur posé par le SIDA. La question de la qualité et du caractère adapté de l'éducation est ensuite abordée. L'analyse présentée souligne les faiblesses du programme de réforme, mais conclut en ajoutant que les objectifs d'élargissement du système d'inscription pourraient bien se réaliser. Cependant, la dynamique d'élargissement de ce système risque fort de porter atteinte à la qualité de l'enseignement fourni.

Background

Ethiopia possesses a 1,700-year tradition of elite education linked to the Orthodox Church. But secular higher education was initiated only in 1950 with the founding of the University College of Addis Ababa. During the following two decades, half a dozen specialised technical colleges were established. These institutions hosted an educational culture that was heavily influenced by its long informal association with the Orthodox Church (Wagaw 1990). In their academic organisation, they were somewhat more American and less British than higher education systems in the former British colonies of East Africa. Strikingly, tertiary enrolments totaled only 4,500 in 1970 out of a national population of 34 million. The resulting tertiary enrolment ratio of 0.2 per cent was among the very lowest in the world. The skilled human resources available to guide development in one of Africa's largest and poorest countries were therefore miniscule in relation to the enormity of the task.

The nation's new higher education institutions strove, with considerable early success, to maintain international standards. But the cost was high, with wastage rates approaching 40 per cent in the late 1960s (Wagaw 1990). Awareness of the need for reform began to grow. Unfortunately, these incipient reforms were truncated by political events.

In 1974, a socialist military coup overthrew the monarchy of Emperor Haile Selassie and established an oppressive regime known as the 'Derg' (i.e., committee). Government intervention in university affairs expanded, including security surveillance, repression of dissent, mandated courses on Marxism, prohibition of student organisations, appointment of senior university officers and control of academic promotions. Three notable outcomes ensued over the following two decades: Intellectual life atrophied on campuses, academic brain drain soared and the country's education system became largely isolated from the western world.

As the twentieth century drew to a close, Ethiopia found itself with a higher education system that was regimented in its management, conservative in its intellectual orientation, limited in its autonomy, short of experienced doctor-

ates among academic staff, concerned about declining educational quality, weak in its research output and poorly connected with the intellectual currents of the international higher education community. The reform pressures that had begun to build in the 1960s, only to be suppressed by the Derg in the 1970s and 1980s, returned to the fore with the establishment of elected government in 1994. This time higher education reform was embraced as a critical national need by the government of the day.

The Reform Agenda

Ethiopia is currently engaged in a highly ambitious effort to re-align its higher education system in more direct support of its national strategy for economic growth and poverty reduction (Yizengaw 2003). Its achievements over the past five years have been impressive. The reforms have targeted all levels: the overall system, the institutions and the academic programmes.

At the *system* level, eight public universities now stand in the place of the previous two-university 'system.' An aggressive expansion policy designed to raise the country's insignificant tertiary enrolment ratio to more respectable levels is producing results.[1] Total tertiary enrolments in universities and non-university tertiary institutions, both public and private, surged from 43,843 in 1997–98 to 147,954 in 2002–03 (Ministry of Education 1998, 2003), more than tripling in just five years. The annual enrolment growth rate of 28 per cent was possibly the highest in the world during this period. Private provision of tertiary education has been permitted by the government as a key component of this expansion strategy, and private tertiary institutions now host 24 per cent of all tertiary students (Ministry of Education 2003:7). The government introduced student cost-sharing in September 2003 through a deferred payment taxation mechanism for all future graduates. All of this—and more—has been ratified in a new *Higher Education Proclamation* approved by Parliament in June 2003 (Government 2003).

At the *institution* level, the proclamation awards substantial autonomy to universities. Future recurrent funding will come in the form of block grants defined by a funding formula. University boards and staff will choose their own institutional leaders, and non-academic staff have been de-linked from the civil service. Strategic planning, income diversification and information and communications technology (ICT) development are being encouraged to meet the fiscal, space and instructional requirements of the on-going expansion.

At the level of *academic programmes,* degree courses have been reduced from four to three years in length, with much of the former 'freshman' year subject matter being transferred to the secondary school level. New degree

courses are being introduced in response to anticipated labour market needs that underpin the nation's economic development strategy and to prepare its citizens for democratic participation in civic and social affairs. Graduate programme enrolments are rising rapidly in an effort to boost the supply of academic staff for the expanding system. All existing diploma programmes (50 per cent of public enrolments in 2003) are being transferred to technical colleges over the coming two years so that universities may concentrate on degree training. A major review and upgrading of university curricula has just been completed, adding courses in civics, ethics, communication skills, community outreach, and entrepreneurship, among others. A new oversight agency will monitor both the quality and the relevance of academic programmes. To shore up quality in the classroom, national and local pedagogical resource centres are being set up to encourage instructional innovation and to assist less experienced lecturers.

These reforms will constitute remarkable achievements if they are implemented as legislated. Ethiopia clearly understands that economic growth in the twenty-first century will be driven by the nation's performance in raising its levels of national productivity in comparison to its economic competitors, and it is determined to make up the ground lost over the past two decades because of political instability and economic stagnation.

When the vision outlined by the new proclamation is compared with prevailing conditions in Ethiopian higher education, the massive scale of the reforms now underway becomes apparent. Until now, the government has appointed university presidents and vice-presidents. All non-academic staff are classified as civil servants managed by the national civil service commission rather than by university executives. Line item budgets prevail, and institutional allocations have been increased incrementally from one year to the next with little or no relation to enrolments or educational quality. Additional income generated by institutions has been deducted from their government subventions, thereby creating a strong disincentive for income diversification. Quality assurance has yet to become an explicit concern. Prior to the proclamation, students paid no tuition fees and also received free food, lodging and medical care as part of their university admission. The vision of reform communicated by the proclamation is both necessary and overdue, but the challenges of its implementation remain daunting.

Analysis of present higher education reform efforts in Ethiopia begins with a sketch of the demographic, economic and social context in which higher education is situated. It then reviews the links between higher education and Ethiopian development and describes the country's higher education system. An assessment of tertiary education financing follows. The next item discussed

is the management capacities and efficiency in the use of these resources, noting the particular challenges posed by HIV/AIDS. Educational quality and relevance issues are subsequently addressed. Analysis then turns to the crucial question of how this rapid system expansion will be staffed and concludes with some observations on the sustainability of the reforms now underway.

Context: Demographic, Economic, Social

Ethiopia's total population of 67.7 million persons is growing at 2.4 per cent per year. (Statistics in this section are from the Ministry of Finance and Economic Development 2002). Eighty per cent of the labour force is engaged in agriculture, much of which is of a subsistence nature. Just 8 per cent of workers are employed in industry, and the remaining 12 per cent are occupied in government and services. This distribution suggests a relatively modest labour market for university graduates, although there is no recent research to support this conclusion.

Ethiopia's gross national product (GNP) per capita currently stands at US$110 compared to US$480 for sub-Saharan Africa as a whole. Average GDP expansion for the 1992–2002 decade was 5.5 per cent annually. However, agriculture grew at a much slower rate of 2.5 per cent. Income is more evenly distributed in comparison to other sub-Saharan Africa countries, with a Gini coefficient of 0.28. Coffee accounts for 60 per cent of export earnings. Per capita exports were only US$15 in 1999 compared to an average of US$163 for sub-Saharan Africa. At present, Ethiopia hardly participates in the global economy.

The government currently pursues an economic growth strategy based on agriculture-led development. This agricultural thrust is complemented by efforts to enhance overall labour productivity through better education and health services, to foster an emergent private business sector, and to reform aspects of the civil service. For this strategy to be successful, the country's higher education system will have to produce graduates with the technical knowledge and research skills to support economic diversification, and this is one of the drivers of the present reform.

Poverty is a major drag on the possibilities for economic expansion. The 2000 census indicates that 44 per cent of the national population live in poverty, i.e., on a per capita income of one dollar per day or less. The very low levels of family resources mean that completion of secondary education requires a major financial effort for each child, and that the potential for cost-sharing at the university level is sharply limited.

Ethiopia's educational performance is consistent with its economic indicators. Only 24 per cent of the adult population has completed primary education.

Primary education enrolls 64 per cent of the relevant age group, secondary education 12 per cent, and tertiary education just 0.8 per cent (World Bank 1998a).

Health needs within the population compete with education for scarce public resources and also affect educational achievement directly. Life expectancy is just 44 years. HIV/AIDS prevalence in 2000 was 13.7 per cent in urban areas (where most universities are located), and an estimated 2.6 million persons are currently living with AIDS (Discovery Consultants 2003). AIDS orphans are expected to pose a particular challenge for the country's education system in the years ahead.

The government of Ethiopia emphasises that human capacity development at all levels is one of its most important development objectives. The newly created Ministry of Capacity Building has committed US$100 million over the coming five years to strengthen the skills of civil servants, semi-skilled workers, and private sector entities through skill development partnerships. Expansion and qualitative improvement of university level education is seen as a critical component of this overall capacity transformation in the country (Ministry of Capacity Building 2003).

Higher Education and Development

To address the social needs outlined above, the government launched an Education Sector Development Programme for academic years 2002–03 through 2004–05, commonly referred to as ESDP-II. For the higher education portion of the education sector, ESDP-II intends at the tertiary level to more than double regular undergraduate enrolments (from 35,000 to 80,000) and to quadruple graduate enrolments (from 1,350 to 6,000) during the three-year period.

Over the past three years, government has boosted its financial effort on behalf of education. Public investment in education has risen as a share of GDP from 3.2 per cent to 4.5 per cent. This level of financial effort is higher than the 3.9 per cent registered for sub-Saharan Africa as a whole. (See Table 1.) Education expenditure has also increased as a proportion of the overall government budget from 9.5 per cent to 16.8 per cent, largely at the expense of military expenditures. Such increases still fall short of reaching the general range of 20 per cent to 25 per cent for most developing countries, suggesting that scope remains for further increases in the government's education financing effort over the coming years. At the same time, the share of the education budget devoted to higher education has risen from 14.9 per cent to 23 per cent in response to the recent rapid expansion of this sub-sector. This is slightly higher than the 15 per cent to 20 per cent range used as a World Bank (2002) guideline, but not unreasonable as a temporary measure in light of the significant tertiary capital expansion programme currently underway.

Table 1: The Government of Ethiopia's Educational Funding

	1995–96	1996–97	1997–98	1998–99	1999–00	2000–01	2001–02	2002–03
Education's share of GDP	2.5	2.5	2.5	2.6	2.5	2.8	3.4	4.3
Education's share of Ethiopian budget	14.5	14.3	15.6	12.0	9.5	14.4	16.8	18.8
Higher education's share of ed. budget	15.0	15.8	na	na	14.9	18.0	18.0	23.1

Source: Ministry of Finance and Economic Development (2002); World Bank (1998b).

Until recently, the private and social returns to education investment have been substantial in Ethiopia at all levels, including higher education, thereby justifying the government's increased financial commitment to the sector. This was confirmed through an analysis of earnings functions conducted in 1996 (World Bank 1998b). Earnings more or less doubled with each school level achieved. The rates of return to education by level of education, calculated at that time, were roughly equivalent. Private rates of return for primary, secondary and tertiary education were approximately 25 per cent, while social returns were about 14 per cent. It should be noted that these calculations are now almost a decade old and may have lost some validity in light of the huge enrolment expansion effort currently underway.

System Size and Configuration

Until 2000, Ethiopia's higher education system was comprised of just two universities, seventeen colleges, a total of 31,000 students, and a small supervisory department in the Ministry of Education. Today, it embraces eight universities, nine technical colleges, five teacher training colleges, thirty-seven private tertiary institutions, and three system oversight agencies (the Higher Education Strategy Institute, the Quality and Relevance Assurance Agency, and the National Pedagogical Resources Centre). Total tertiary enrolment in 2002–03 was 147,954 students. Of these, 39 per cent were regular residential students, 35 per cent were non-residential evening students, and 26 per cent were private students. The largest public institution is Addis Ababa University (AAU) with 17,433 undergraduate degree and 1,720 graduate students.

Private Tertiary Education

Private tertiary education is a rapidly expanding part of Ethiopia's higher education system, increasing by 43 per cent in the past year alone and now accounting for 24 per cent of all tertiary enrolments. Private tertiary institutions in Ethiopia are a relatively new phenomenon; virtually all of them have been established within the past five years. The majority of these institutions enroll 500 students or fewer and offer training in specialised areas such as accounting, business administration or information science.

All of the private colleges offer diploma programmes, a half dozen of them have mounted degree programmes and one has initiated a master's degree programme. These private institutions offer educational programmes often not available in the public institutions, provide access to growing numbers of students who might otherwise not be admitted to tertiary education, enable a significant expansion of tertiary enrolments at very little additional cost to government, provide client-oriented instruction focused on the shifting needs of the job market and attract a high proportion of women students (almost 50 per cent). Tuition fees run from Birr 2,500 to 3,500 a year (US$300–450).

As evidenced in the above paragraphs, private providers are making a substantial contribution both to the ministry's expansion targets for higher education and to the government's goal of economic growth induced by human resource development. For example, private tertiary institutions educate important portions of students in certain disciplinary areas. They teach three out of four business students, three out of four computer science students and half of all law students.

But in spite of these contributions, the government has been ambivalent in its support of private higher education. Holdover aspects of socialism in the current government's political philosophy include government ownership of all land and a reluctance to use public resources in support of private-sector development. This means that the expansion of private higher education is dependent upon the government's willingness to grant leasehold access to land and that private institutions encounter difficulties in their efforts to obtain bank financing since they have little to offer in the way of loan collateral (Tamrat 2003). Likewise, these institutions are dependent upon government relief from tax duties on textbooks, computers, software and teaching equipment that must be imported. Although available in theory, these concessions reportedly work less well in practice.

Tertiary Education Indicators

Access. Ethiopia's tertiary-level gross enrolment ratio (GER) of 0.8 per cent in 2000 places it among the lowest ranking countries of the world, as does its

ratio of 62 tertiary students per 100,000 inhabitants. In comparison, the current tertiary level GER for sub-Saharan Africa is 4 per cent with a regional average of 339 students per 100,000 persons. As a result, professional and technical capacities of all types have been extremely limited in Ethiopia, stunting previous development prospects.

Unit Expenditures. Annual recurrent expenditures per university student are roughly Birr 7,457 (US$860) when government-provided food, lodging and health care are included, and Birr 5,500 (US$636) when student welfare subsidies are excluded.[2] This latter level of educational investment is low in comparison to sub-Saharan Africa (US$1,500) and to neighboring nations like Kenya (US$1,800), Tanzania (US$3,236) and Uganda (US$800).[3] Experience indicates that it is extremely difficult to provide higher education at an acceptable standard for less than an annual per-student expenditure of US$1,000 (Association of African Universities and the World Bank 1997).

Financing. The Government provides virtually all of the financing used to run the public tertiary system. This includes the provision of free non-academic services to regular students: meals, lodging and health care. Full-time students (39 per cent of all students) pay no significant tuition fees, although part-time and private students (the majority of the total enroled) do pay. Part-time students are charged tuition of Birr 30 to 50 per credit hour, or Birr 90–150 (US$10–17) for the normal three credit course load taken each semester. Some institutions charge evening students additional fees of Birr 26 to 58 per credit hour for laboratory courses.

Student welfare subsidies and fee-free higher education are increasingly at odds with prevailing practice in other African countries, especially in the Anglophone sphere, where various forms of student cost-sharing are emerging (Johnstone 2003). The government has recognised this by indicating in the new *Higher Education Proclamation* that cost-sharing will be a key component for the future financing of tertiary education development. University officials confess that not only is the provision of food and housing a significant burden on their budget (15 per cent of all recurrent expenses), but it also raises a serious social equity issue since 99.2 per cent of the population (of generally poorer youth) are excluded from this welfare subsidy. In response, the government introduced a university graduate tax in September 2003 designed to re-coup gradually the cost of meals and lodging, together with a small portion of tuition costs.

Gender. Cultural and social impediments to women's education are reflected in enrolment percentages: only 17 per cent of full-time students (largely residential) in public universities are female whereas 24 per cent of part-time (non-residential) public students are female. Notably, 44 per cent of *private* tertiary

students are female, a difference that is likely due to the fact that most private institutions are located in Addis Ababa where women students can more easily live at home, thereby allaying the possible protectionist concerns of parents. More worrisome is the fact that just 7 per cent of academic staff in public tertiary institutions are women, thus depriving the tertiary education system of a fully proportionate share of the country's best female intellects and its women students of sufficient role models for mentoring and guidance. In comparison, the sub-Saharan average for women's participation in degree programmes is roughly 30 per cent and the proportion of women academic staff is about 18 per cent.[4]

Internal Efficiency. The drop-out rate among higher education students has been between 10 per cent and 15 per cent in recent years, with the largest losses occurring in the first year of study (Abebayehu 1998). This phenomenon is reportedly due to difficulties in adjusting to campus life away from home.

Regional Access. In the effort to nurture a greater sense of national identity, the government has adopted a policy of admitting a representative mix of students from the country's eleven administrative regions to each university campus. Because this policy often requires students to study at a site at some distance from their home, the government has decided to maintain its policy of providing food and lodging to regular residential students, while gradually recovering this cost by means of a graduate tax. Although system-wide data are not available on the effects of government efforts to promote regional access to higher education, intake data for the country's largest university (AAU) for the 2002–03 academic year indicate rather wide variation in access rates by region. However, the proportion of entrants by region is approximately equal to the proportional distribution of Grade 12 students across regions. It is probable, therefore, that these disparities reflect differences in population size, access to secondary education and quality of education among the different regions rather than any gross failing of the current higher education access policies.

Equity Issues. The very limited data available on this subject suggest that the Ethiopian higher education system is characterised by inequitable access similar to that found in other African countries. The National Household Income, Consumption and Expenditure (HICE) Survey of 1999 indicates that 71 per cent of university students come from households with the highest 20 per cent of incomes. Given significant differences in income and education attainment levels across regions in Ethiopia, access to higher education often favours students from upper-income homes, especially those from urban areas in the most prosperous regions. These regional imbalances in access hold serious long-term implications for the development of high level leadership in under-

served areas and consequently for their ability to participate fully in the political life and social policymaking of the country. If these inequities are left unattended, the seeds of political unrest may begin to germinate.

The government has demonstrated its concern with this potential problem through recent actions. The creation of four new universities in 2000 was an explicit effort to move higher education away from the capital city and into the various regions. The two additional universities created in 2004 (Arba Minch and Gondar) will continue this decentralisation process. In addition, government has proposed to include increased enrolment of disadvantaged populations as one of the factors in the new funding formula for universities expected to go into effect in 2005. Also, it has resisted recommendations to introduce up-front cost-recovery fees for university students as a way of helping to finance the current expansion because of its concern with the equity impact of such a policy on less advantaged regions and households.

Supply and Demand for Tertiary Graduates

Supply. The total number of degree graduates produced by Ethiopia's tertiary education system has tripled from 1,472 in 1992 to 4,749 in 2003. As shown in Table 2, the disciplinary distribution of degree students has shifted somewhat over the past decade. Enrolment shares of business/commercial/social science disciplines have risen at the expense of agriculture, natural sciences and (to a lesser extent) engineering. Much of this shift reflects the recent aggressive entry of private colleges into the former areas.

By 2006, the government expects to have at least eight public universities that enroll 10,000 residential degree students apiece. Strong demand for higher education is evidenced by the 47,453 students who are taking evening courses on a part-time, fee-paying basis. In addition, the output of secondary graduates suggests that competition will not be lacking for any additional places. Some 48,130 graduates of the two-year secondary education preparatory course for university admission took the higher education entrance examination in 2004. Due to a steady rise in the number of qualifying students from secondary schools, the admission rate of degree applicants to higher education institutions has fallen from 45 per cent in 1997 to 26 per cent in 2001. Tertiary admission is clearly becoming more competitive, even in the face of rapid expansion.

Brain drain has been an endemic problem within Ethiopia's higher education community for nearly two decades and could continue to undercut efforts to increase the country's stock of university graduates. The combination of poverty, economic stagnation and periodic political repression has generated strong incentives for academics to seek employment outside the country. It is estimated that as many as half of all academic staff were lost to brain drain

Table 2: Percentage of Tertiary Enrolment Distribution by Discipline

Discipline	1992–93	2001–02
Commercial/social science	25	43
Agriculture	17	9
Engineering/technology	16	12
Education	14	15
Natural sciences	14	5
Health/medical sciences	11	8
Law	—	3
Other	3	5*
Total	100%	100%

Source: World Bank (1998a); Ministry of Education (2002a, 2003).
*Roughly half of this amount is computer science.

during the 1990s (Aredo and Zelalem 1998), an exodus that may have been exacerbated by the government's dismissal of 40 professors from Addis Ababa University in April 1993. In this context, capacity building in Ethiopia has been a double-edged sword, as numbers of well-educated Ethiopians continue to leave the country in pursuit of higher paying, more attractive jobs in the region and abroad. The government will need to take measures that not only focus on expanding the supply side but that also address the demand side by retaining and using effectively those who are trained.

Demand. A 2001 survey of 192 employers in seven regions of Ethiopia (Budu 2002) found that they encountered the greatest difficulty recruiting new employees in the areas of business administration, engineering, computer science and law. A separate ranking of disciplinary demand on the basis of the actual number of advertised vacancies indicated a high demand for teachers, agriculture and forestry, health services, business administration and computer science. With regard to public sector employment, the Ministry of Capacity Building (April 2003) issued a National Capacity Building Plan for the coming five-year period. Training priorities in the public sector are related to civil service reform, decentralised service delivery, information and communications technology development, justice system reform, tax reform and urban management.

But the Ethiopian labour market for university graduates will remain limited in an economy where 80 per cent of the labour force is engaged in agriculture and in which the civil service appears amply staffed. Unfortunately, no systematic study of graduate employment has been undertaken for some time, although anecdotal reports suggest that graduate unemployment may be rising along with increased university output. Only steady economic growth will provide the financing required both to expand the system and to improve opportunities for gainful employment for the rising numbers of graduates.

In this regard, it is worth noting that roughly a century ago, many of Europe's industrialised countries had tertiary enrolment ratios similar to those of Ethiopia today. In contrast to Ethiopia, however, they—with the exceptions of Italy and Russia—already had less than 50 per cent of their labour force engaged in agriculture and they all had achieved universal primary education (Fredriksen 1984). The implication is that a rapid expansion of access to education at all levels may not by itself stimulate economic growth unless it is accompanied by productivity-driven structural changes in the economy. The latter is yet to occur in Ethiopia.

HIV/AIDS

HIV/AIDS holds the potential to undermine the country's substantial investments in education. When it affects teachers, it reduces the supply of education services. When it affects students and family financial resources, it weakens the demand for education. AIDS now exists within all regions of Ethiopia. The estimated national infection rate is 10.6 per cent (UNAIDS 2003). This rate is substantially above the 5.0 per cent level at which infection tends to expand rapidly and exponentially. Tertiary education communities are particularly vulnerable to HIV/AIDS due to their age group (which constitutes the peak period for sexual activity and consequent risk of HIV infection), close physical proximity, relative autonomy from adult or community supervision and inclination towards sexual networking. This vulnerability introduces a sizeable risk to the expected returns on investments made by families and government in the education of tertiary students. Indeed, AIDS now constitutes a new and irreversible form of 'brain drain' in Africa.

In spite of this risk, universities in Ethiopia have not yet established institutional policies or programmes for the management and prevention of HIV/AIDS. Institutional policies for the management of HIV/AIDS cover a range of important actions, from establishing a management information data base (on absenteeism, health centre visits, medical benefit expenditures, student drop-outs, etc.) to a review of regulations on sick leave, confidentiality and the rights of persons living with AIDS, from student counseling services to aware-

ness programmes and from curriculum content to testing facilities. (For a fuller survey of present university policies on HIV/AIDS in Africa, see Otaala 2003.)

Little is known about the status of AIDS on university campuses. The sole reference point is a recent study by Jimma University which estimates that 12.2 per cent of students are HIV positive (Ministry of Education 2004). However, results from a major study of HIV/AIDS in the Ethiopian education sector suggest what awaits higher education (Discovery Consultants 2003). The study estimates that some 10,000 school teachers are HIV positive, that 22 per cent of teacher attrition is due to AIDS and that teacher recruitment will need to increase by 16 per cent annually to achieve education policy goals in the presence of HIV/AIDS.

The implications for universities, while not spelt out in this report, are clear. First, an overproduction of graduates will be required to offset anticipated losses of secondary school teachers and graduates working in other sectors. Second, Ministry of Education and university officials need to develop an integrated strategy for the dissemination of new HIV/AIDS awareness materials and need to create university courses that are designed to equip students and academic staff not only with knowledge but also with the skills and values to protect themselves.

Tertiary Education Financing

Any national tertiary system would be hard pressed to substantially expand enrolments while maintaining levels of educational quality. Ethiopia faces a double challenge in that it seeks to accomplish this goal while also introducing major reforms in institutional governance, management and curriculum. If the bold vision contained in the *Higher Education Proclamation* is to have any chance of success, the solution to this double challenge will have to be found in the financing strategy that underpins these reforms. Here the prospects are less than encouraging.

Expenditure Patterns. Budgetary allocations among the universities are currently related quite closely to enrolment size, although with some exceptions. On the one hand, Addis Ababa University housed 19 per cent of enrolments but received 41 per cent of the tertiary budget (Ministry of Education 2002a). It is unlikely that such a discrepancy can be explained purely by the special needs of the AAU's graduate programmes. On the other hand, Debub University hosted 14 per cent of enrolments but received just 9 per cent of the tertiary budget. Most of the remaining institutions received a budget share that was slightly smaller than their share of enrolments. Such possible inequities are expected to be addressed by the new funding formula scheduled for introduction in 2005.

Table 3: Expenditure per FTE Student by University, 2001–02

University	Regular Enrol.	Evening Enrol.	Grad Enrol.	FTE Students	Budget Allocation (000,000)	Est. Evening Fees	Total revenue (000,000)	Expense per student[a]
Addis Ababa	6,403	8,284	1,165	9,808	111.7 2	6,213,000	117,913,000	12,022
Alemaya	2,877	1,814	140	3,450	22.2	1,360,500	23,560,500	6,803
Bahir Dar	3,108	6,098	—	4,328	24.7	4,573,500	29,273,500	6,764
Debub	3,839	1,415	—	4,122	29.2	1,061,250	30,261,250	7,341
Jimma	3,720	1,629	—	4,046	34.0	1,221,750	35,221,750	8,706
Mekelle	2,791	3,335	—	3,458	27.1	2.501,250	29,601,250	8,560

[a]To calculate U.S. dollar equivalents, divide by 8.4 which represents the dollar-to-Birr exchange rate for 2002.

[b]AAU budget allocation reduced by Birr 24 million earmarked for Black Lion Hospital (university teaching hospital).

Source: Ministry of Education (2002a).

The mix of academic programmes provided by institutions varies considerably from one to the other, and it is well known that the costs of instruction tend to be higher in some disciplines (e.g., engineering, medicine, sciences) than in others (e.g., education, business administration, social science). This difference suggests that institutional allocations should not only consider enrolments as a reference point but also consider the distribution of enrolments among the different academic programmes and the respective costs of each programme. Such unit costs have not yet been calculated in Ethiopia, but they will soon be needed if the proposed new funding formula is to be effective.

The previous point not withstanding, it is possible to calculate the average recurrent expenditure per student for the tertiary system as a whole, and also for each institution. This calculation provides a very rough indicator of potential quality and management efficiency. As such, it may point out the possibility of certain problems, but it cannot by itself constitute evidence that these problems exist. For that, more investigation is needed.

To calculate per student allocations, enrolment numbers were first converted into an estimate of full-time equivalent (FTE) students to enable standardised comparisons.[5] Per-student calculations were undertaken for each of the six main public tertiary institutions. The results are presented in Table 3. They show that even when student numbers are standardised and evening fee income is included, significant differences in expenditure per student remain apparent among institutions. The best endowed institution, Addis Ababa University, is able to spend almost double the amount available to the least endowed institutions. Since the number of graduate students has been weighted additionally and any graduate fee income excluded from consideration, the explanation for this sizeable difference must be sought elsewhere. To estimate the *academic* expenditure per student, the unit expense figures for each institution can be reduced further by Birr 2,000 which represents the estimated feeding, lodging and medical services costs for each student.

Analysis of how institutions employ the resources provided to them can help to determine how effectively they focus on their main mission of teaching and research and how efficiently the institution is managed. University recurrent budgets in 2002–03 were composed of salaries (40 per cent), student feeding (15 per cent), educational materials (10 per cent), other supplies (11 per cent), services (9 per cent), maintenance (5 per cent), and small capital expenditures (10 per cent) (World Bank 2003). No major misallocations in the composition of university spending are apparent. The share for student welfare is large but not excessively so in comparison with other African countries that provide this benefit to students.

Salaries versus Non-salary Items. When resources are in short supply, as in Ethiopia, institutions often concentrate them on maintaining staff in the assumption that they are the core resource for teaching. In doing so, however, they may deprive staff of the educational materials, equipment maintenance, and other inputs they need in order to teach effectively. In many African countries, the economic crisis of recent years has led universities to concentrate an unnecessarily high portion of their budgets on staff remuneration, sometimes as much as 65 per cent or more. Budgetary analysis carried out during the recent Public Expenditure Review indicates that Ethiopian universities have spent a fairly reasonable 40 per cent of their budgets on salaries since 2000–01. It is noteworthy that the salary portion in institutional budgets has evolved favourably downwards from its 59 per cent share in 1995–96.

Teaching/Research Versus Student Support/Nonacademic Expenses. However, the universities spend 15 per cent of their budgets on student feeding, which is not a true educational expense. They also provide student housing and medical services out of their recurrent budgets. Analysis conducted under the Ethiopia Country Status Report (CSR) on education indicates that these combined student welfare expenditures may consume as much as 20 per cent of the recurrent budget of universities (World Bank 2004b). These resources might be better used to increase the amounts spent on educational materials (currently just 10 per cent), to provide greater support for research (amounts not readily discernible but reportedly quite small), and to expand access to information technology on campuses. In recognition of this priority, the graduate tax introduced in September 2003 includes these non-academic costs in calculating the amount charged to students.

Staff Salaries and Remuneration Policies. Until the advent of the *Higher Education Proclamation,* academic staff were hired on two-year contract terms and their salaries were oriented by civil service pay structures. Non-academic staff were employed directly by the civil service. These arrangements made it extremely difficult to reward non-academic staff for good performance or to penalise them for non-performance. They also made it almost impossible for universities to compete with the national labour market for professional skills in short supply, creating disincentives that encouraged brain drain. The proclamation now enables university management to employ staff directly and to determine their salaries and conditions of service. However, university managers have not yet taken advantage of this opportunity.

Revenue Trends. Total university spending in the 2001–03 budget was planned at Birr 681 million (US$79 million). Of this amount, 36 per cent was allocated to capital investments. This rather large share is the result of the substantial construction programme associated with the current expansion of

enrolments. The recurrent budget for universities has also grown rapidly in recent years, doubling since 1999–2000. To a large extent, this is due to enrolment increases, and to the incorporation of new institutions into the budget (e.g., the Black Lion Hospital, with annual running costs of Birr 24 million, now included with Addis Ababa University).

Income Generation. University income-generation activities supplement the public funds received from government. Revenues from university income-generation activities are difficult to document due to inadequate record-keeping, likely encouraged by the former government practice of reducing university budget allocations by the amounts of income generated. The main sources of revenue appear to be the evening courses and contracted short courses. Addis Ababa College of Commerce reportedly produces 32 per cent of its recurrent budget from such fees, but Addis Ababa University generates only about 7 per cent. In addition, it is estimated that the agricultural colleges at Jimma and Debub universities may cover one fifth of their recurrent budget from agricultural production earnings (Kastbjerg 1999). In the future, expanding interest in the delivery of distance education courses may become a further source of university income. In the effort to stimulate more aggressive income-generation efforts by universities, the government has proposed to include certain incentives to this end within its new funding formula for higher education. However, bookkeeping in this area will have to improve considerably before this aspect of the formula can be introduced.

International development assistance constitutes another important source of revenue for the higher education system. The government's ESDP-II programme is supported by multiple bilateral and multilateral donors, including the World Bank. Committed external resources to the education sector in 2001–02 totalled US$154 million. Donor contributions are expected to grow slightly over the next three to five years until they stabilise at about 35 per cent of the sector budget. In the near future, the majority of donors, including the World Bank, will be providing resources for basic and secondary education through budget support for the government's poverty reduction strategy. However, overall foreign assistance for the education sector is surprisingly low as a proportion of total development aid to Ethiopia, comprising just 7–10 per cent over the past five years (World Bank 2003).

The level of donor support for higher education in Ethiopia is minimal. Over the past five years, the World Bank has been the largest contributor of development assistance to the higher education sector, providing a relatively modest US$11.7 million through its ESDP credit (i.e., US$2.3 million per year). That amount will rise to US$10 million per year in 2005–10 if a World Bank credit for postsecondary education is approved as planned in September 2004.

Cost Sharing and Sub-Sector Expansion

The financial reforms now being introduced in the Ethiopian higher education sector are both necessary and overdue. The mechanism of cost-sharing via a 'graduate tax' deserves recognition for its innovativeness both in Ethiopia and more generally.[6] If it works as planned, it should make the higher education system gradually more accessible, more equitable, and more efficient in the allocation of social resources. It should also have positive spill-over effects on the internal managerial efficiency of institutions, which in turn will allow for greater access. However, potential pitfalls are also present in how this scheme is currently structured, both at the conceptual level and at the level of implementation. Yet this initiative merits watching, since it represents one of the first attempts by a developing country to employ a graduate tax.

Bruce Chapman (2003) notes that in Ethiopia, questions of ideology and political principle seem to influence policymaking more than in some other countries. As a result, design and implementation of the graduate tax will need to take into account more than financial or administrative pragmatism. He stresses that, in an imperfect system, it may be more efficient to proceed on the basis of up-front fees complemented by scholarships for needy students.

Cost-sharing based on the current 'graduate tax' will not immediately relieve the financial pressures on the system produced by rapid enrolment expansion. Its contributions will not begin until 2007 because it takes a minimum of four years for enrollees to graduate and start repaying through the proposed cost-sharing recovery scheme. If one assumes a tax of 10 per cent of income for up to 15 years (as indicated in the Higher Education Cost-Sharing Regulation approved by the Council of Ministers), with some 35 per cent of graduates (e.g., teachers) exempt for incentive reasons, then cost-sharing would reduce the budget share of higher education in total public education spending by only 1 percentage point in 2008 or 2009. This appears to be true in any scenario regarding growth of enrolment or growth of GDP (World Bank 2004a).

While cost-sharing does not help much in the short run, if implemented at the level of a minimum of 10 per cent of income and under the above-stated assumptions, it does have an acceptable impact in later years. By the year 2020, for example, the share for higher education in total education spending would be some 4 to 5 percentage points lower with cost-sharing than without it (e.g., 18 per cent as opposed to 23 per cent, or 16 per cent as opposed to 21 per cent, depending on other assumptions). The income from cost-sharing would then represent a significant and fairly reasonable 20 per cent of the total cost of running the higher education system in the outlying years, say towards 2015.

Management Capacities and Efficiency

As a poor country, Ethiopia has a particular incentive to manage its scarce resources with the greatest efficiency possible. With this need in mind, this section will look at some of the more common areas for efficiency savings, including staff/student ratios, proportion of non-academic staff and the contracting for non-academic services. The discussion will then assess the extent to which capacities for efficient management currently exist and what steps might be necessary in order to make them more robust in the future.

Because staff salaries usually comprise the bulk of university budgets, efficiency-improving efforts often begin by looking at staff numbers and their utilisation. A common indicator of efficiency in this area is the ratio of academic staff to students. In comparison to regional staff/student ratios, those in Ethiopia would suggest room for improvement, i.e., that academic staff teaching loads could be a bit higher when compared with other African universities. (See Table 4.) This measure implies that academic staff numbers may not be the most immediate constraint on enrolment expansion. But this situation will change quickly as enrolments continue to rise. In fact, overall staff/student ratios are gradually becoming more efficient as enrolments expand more quickly than staffing. Ratios have improved from 1:8 in 1995 to 1:15 in 2003.

Staff/student ratios also vary among academic programmes within the tertiary system. This is appropriate as some disciplines are more labour-intensive than others. In 2001–02, the following ratios characterised the main academic programmes within the system: social sciences (1:55), business studies (1:18), education (1:11), law (1:15), health sciences (1:9), sciences (1:11), engineering (1:9), and agriculture (1:12). Two conclusions can be tentatively drawn from these data. First, the ratio in the social sciences programmes is too high for effective teaching. This may be the result of recent rapid enrolment expansion in this particular area. Second, the ratio for education is somewhat on the low side and might be brought up to 1:18 in the interests of greater efficiency.

The ratio of academic staff to non-academic staff can be used as another indicator of efficiency. If non-academic staff numbers are proportionately high, perhaps too many persons have been hired to undertake non-academic tasks and the university may be playing an employment-generation role for the surrounding community. Although no clear guidelines exist on this matter, many knowledgeable observers believe that the ratio of academic staff to non-academic staff should fall between 2:1 and 3:1. On this basis, the following ratios for Ethiopian universities suggest that more careful justification of non-academic staff numbers may be in order, especially at Alemaya and Addis Ababa universities: Addis Ababa University (1:2), Alemaya University (1:3), Bahir Dar University (1:1), Mekelle University (1:1), and Jimma University (2:1).

Table 4: Comparative Staff/Student Ratios, 2001–02

Institution	Staff/Student Ratio
Jimma University	9
Debub University	11
Alemaya University	12
Mekele University	14
Addis Ababa University	13
University of Nairobi	15
Bahir Dar University	16
University of Ghana	19
University of Ibadan	19
Makerere University	20
University of Khartoum	21
Cairo University	28

Source: Ministry of Education (2002a); World Bank (2004a).

In addition, the very low ratio between non-academic staff and students has remained surprisingly constant throughout the recent process of enrolment expansion. Whereas this ratio was 1:6 in 1999, it had risen to only 1:8 in 2003. This ratio suggests that managers have been hiring non-academic staff almost as fast as student numbers increase. In the process, they overlook opportunities for cost-savings and work performance improvement.

The permanent employment of large numbers of non-academic staff is costly and inefficient for Ethiopian universities. The contracting out of the non-academic services needed by the university is increasingly frequent in Africa. Among the more common contracted services are the following: provision of student meals, management of residence halls, computer maintenance, campus security, university vehicle maintenance and repair, care of the grounds and gardens and minor facilities maintenance. These arrangements facilitate university management by lessening the supervision burden for university staff, reducing the non-academic workforce with its associated personnel management responsibilities and social benefits, improving performance levels (poorly

performed contracts are not renewed) and introducing greater flexibility in the application of university funds. The University of Dar es Salaam is a particularly good example of achievement in this area (Mkude 2003).

The new *Higher Education Proclamation* will decentralise much of the administrative, budget and other authority to individual universities in the interest of greater institutional autonomy, flexibility and responsiveness. In order to realise these benefits, as well as the gains identified above, decentralisation will require extensive management training for university presidents and many senior administrators. In addition, it will also necessitate the introduction of new administrative tools for budget monitoring, control and financial planning. Such decentralisation will be a major undertaking within an institutional culture characterised by a tradition of highly concentrated authority and centralised decision-making within the Ministry of Education. Indeed, the need for such a 'paradigm shift' in institutional culture and management behavior is identified as a major requirement for success of the higher education reform effort (Ministry of Education 2004).

Educational Quality and Relevance

In the mid-twentieth century, UNESCO recommended an international guideline encouraging national higher education systems to strive towards a 60:40 distribution of their enrolments between sciences/technology and arts/humanities. At present, Ethiopia's tertiary enrolments fall short of this goal. As shown in Table 5, 31 per cent of students pursue science and technology disciplines, while the remaining 67 per cent are enrolled in the arts and humanities. The recent elevation to university status of the Arba Minch Water Technology Institute and the Gondar College of Medical Science should help to rectify this imbalance.

Some disciplinary specialisation can be discerned among the different institutions. The main social science enrolments occur at Addis Ababa University and Mekele University. Addis Ababa also predominates in the sciences and serves as the centre for national graduate education. The primary sites for education students are Bahir Dar and Debub universities. Health science enrolments characterise Jimma and Gondar universities. Most agricultural enrolments are concentrated at Alemaya and Debub universities. Engineering and technology students tend to be located at Arba Minch and Bahir Dar.

The job description for academic staff communicates the expectation that they spend 25 per cent of their time in research activities. Over the years, Ethiopian academics have produced a substantial body of research on agriculture, engineering technology, health sciences, natural sciences, social sciences, and education. However, research output and quality in recent years is not well

Table 5: Distribution of Tertiary Enrolments by Academic Programme, 2001–02

	Social Science	Business/ Economics	Educ	Law	Health	Science	Tech/ Engineer	Agricul-ture	Other*	Total
Public degree	3,164	1,774	3,935	661	1,975	2,445	4,530	2,948	347	21,779
Public diploma	0	2,556	3,865	88	2,065	175	906	1,691	299	11,645
Evening	976	10,846	16,088	1,024	1,779	768	4,547	1,924	1,252	39,204
Private	0	15,271	30	730	123	0	875	85	1,977	19,091
Total	4,140	30,447	23,918	2,503	5,942	3,388	10,858	6,648	3,875	91,719
Per cent	*5*	*33*	*26*	*3*	*6*	*4*	*12*	*7*	*4*	*100*

Source: Ministry of Education (2002a).

*Roughly half of these are studying computer technology.

documented. Research funding is provided mainly by donors, especially from Sweden, the Netherlands, and the United Nations. Although reliable data are not available on the role of donors in supporting research, their contributions are reported to constitute the bulk of available research monies (Wondimu 2003).

Universities recruit their own staff based on standard academic qualifications. Academic salaries range from US$150 a month for a lecturer to US$400 a month for a full professor. Lecturers are supposed to be evaluated at the end of each semester by their peers, students and the head of the department. Favourable assessments are required in order to continue employment. Contracts are supposed to be renewed every two years, but such reviews reportedly do not often take place. This may be due to the fact that such evaluations became suspect and discredited following a government attempt in 2002 to add political considerations to staff evaluation criteria.

As the tertiary system has expanded, the proportion of academic staff possessing a PhD has declined from 28 per cent in 1995–96 to just 9 per cent in 2002–03. However, the percentage of PhD staff at Addis Ababa University has stayed fairly constant at about one third. But only 4 per cent of academic staff hold PhDs at Debub and Jimma universities, and only 8 per cent at the Gondar College of Medical Science. Mekelle and Bahir Dar universities are in a slightly better condition with 12 per cent of their teaching staff holding doctoral degrees (Ministry of Education 2003). This downward trend will surely impede the government's stated intention of raising the quality of higher education and will also retard efforts to revitalise university research.

In the absence of standardised testing of tertiary students (which very few countries carry out), it is extremely difficult to determine the current level of educational quality within Ethiopia's universities. However, three points of information combine to raise the possibility that educational quality may presently be at risk. First, it is always difficult for any nation to maintain quality standards in the midst of rapid enrolment expansion, and the Ethiopian higher education system is currently in the midst of a very rapid expansion. Second, the current level of spending per student on academic expenses is quite low from both a regional and an international perspective, varying from US$550 to US$1,158 within the system. Third, the proportion of academic staff with PhD. degrees has been declining and may possibly decline further as rapid enrolment expansion proceeds.

In response to rising concerns regarding educational quality from inside and outside the higher education system, the government has recently established a Quality and Relevance Assurance Agency to monitor learning achievement and shore up sagging standards when they are detected. Some, however,

believe that these efforts may be directed more towards private universities than public ones (Tamrat 2003). Of equal importance, the government has also established a National Pedagogical Resources Centre to concentrate specifically on the improvement of teaching skills, methods and materials. Leadership and initiative in these two new agencies have so far been slow to manifest themselves. The future development of these agencies, as service-oriented resource organisations for the higher education system will be a critical variable in the struggle to maintain and improve quality.

In the course of enrolment expansion, the challenge of educating less well-prepared students will become more apparent. As higher education moves beyond enrolment limited to the best prepared 1 per cent of the age cohort, it will confront new obstacles relating to curriculum and student readiness for campus academic life. The Government has recently sought to address this problem (and perhaps its growing financial constraints as well) by reducing university degree programmes from four to three years while shifting many 'freshman' courses to university preparatory programmes at the secondary level. Anecdotal reports indicate that this change is yet to achieve its desired objectives (Haileselassie 2004). In the future, additional forms of academic support and student counseling will likely be necessary to confront the academic challenges posed by progressive massification of enrolments.

Will there be enough academic staff to support expanded enrolments? This question addresses the potential for academic staff shortages to become a major constraint on the country's higher education expansion endeavor. Perhaps the most daunting challenge to the implementation of Ethiopia's higher education reform is the sheer physical numbers of academic staff who will need to be recruited and trained over the coming years. If the system is to reach public enrolments of 130,000 students by 2007 (120,000 undergraduate plus 10,000 graduate students) and we assume a more efficient staff/student ratio of 1:20, some 3,608 new academic staff will be required. This figure represents a 125 per cent increase in just five years over the current contingent of 2,892 academic staff. If the proposed qualifications guidelines (30 per cent PhDs, 50 per cent master's degrees) are applied, this would mean 1,082 new PhD holders and 1,804 new master's degree recipients.

At present, just 30 PhD. students are registered at Addis Ababa University and only 4 doctoral degrees were awarded in 2003 (Ministry of Education 2003), thereby indicating the enormousness of this particular challenge. AAU, with 46 graduate programmes and 1,690 graduate students in 2002–03, constitutes nearly 90 per cent of the country's capacity to provide graduate education. Any strategy for generating the academic staff necessary to support a doubling of undergraduate enrolments will therefore depend heavily on the

AAU's capacity to produce a much larger number of successful master's and PhD. degree holders, which totaled 391 graduates in the same year. For this reason, the government's higher education capacity-building programme has proposed the ambitious goal of 6,000 graduate enrollments by 2005.

After averaging roughly 300 graduate admissions yearly for much of the past decade, Addis Ababa University has sought to respond to this challenge. It increased its graduate admissions to 490 in 2001–02, and doubled this amount to 951 in 2002–03. Nevertheless, it fell well short of its projected 2002 admissions target of 1,700 under the higher education expansion programme. The shortage of qualified applicants explains much of this shortfall. In spite of this underperformance, the graduate admissions goal for 2003–04 has been set by government at 3,000. As an interim response to this shortfall in the supply of academic staff, the ministry has stepped up its use of expatriate academic staff, recruited mainly from India, Nigeria and the United Kingdom. Between 2002 and 2003, their numbers more than doubled from 150 to 397 (Ministry of Education 2003).

The pure logistics of this staffing challenge will certainly require much more than the system's existing capacity in order to manage these staff recruitment, placement and relocation activities. In addition, the supply of bachelor's degree holders from which to recruit these numbers may not be sufficient. The public higher education system is currently producing 4,700 bachelor's degree holders a year. Of these, only 829 appear to have specialised in education and another 106 in technical education. Assuming that 2,600 new qualified secondary school teachers and 1,100 qualified technical education teachers would have to be recruited in order to reach ESDP II enrolment goals for secondary and technical education, this would mean that secondary education teacher recruitment needs would absorb 26 per cent of *all* higher education graduates over the next three years. If this occurred, then roughly 35 per cent of the remaining degree graduates would need to be recruited as higher education academic staff over the next three years in order to get them started on the necessary graduate training programmes. In other words, the Ministry of Education alone would have to hire 60 per cent of the country's total degree-holder output from public institutions over the near term. This seems improbable.

Conclusion

In pursuing needed higher education expansion and reform, Ethiopia is seeking to do many of the right things (e.g., autonomy, revenue diversification, funding formula, system support agencies). But the impact of these actions is yet to be seen—and may not be. These reforms face a formidable challenge in that many of them will require substantial changes in the existing institutional

culture of 'command and control' that characterises the Ministry of Education and the government in general. Will effective institutional autonomy be possible in an environment where the government has sought to inject political criteria into the academic staff evaluation process (2002) and directly appointed a new president, academic vice president and administrative vice president for Addis Ababa University (2003) when the previous incumbents resigned in protest over this violation of academic freedom? Will new courses in civics prepare students for democratic practice when student government is suspended, when the student newspaper is banned, when security forces are stationed on campus, when student admissions and placement are directed by the Ministry of Education, when union organising among staff is prohibited and when freedom of the press is circumscribed (Human Rights Watch 2003)? Will new courses in ethics produce more responsible citizens when student protests of the above impositions are met with slaughter, mass arrests, and torture (Human Rights Watch 2003)?[7]

Evidence that the new *Higher Education Proclamation* signals a meaningful shift in the prevailing government mind-set has been slow to materialise. To date, the Ministry of Education has provided little in the way of guidance, regulations or procedures about how institutional autonomy will be operationalised in practice. Unsure of where the limits are and mindful of past punishments, university leaders have been reluctant to test the proclamation's possibilities for revamping hiring practices, remuneration packages and budgeting processes. In short, the political will so clearly manifested in the government's approval of the *Higher Education Proclamation* has yet to be demonstrated in the implementation of its authorised reforms.

On balance, the ambitious enrolment expansion goals of Ethiopia's higher education reform programme seem likely to be achieved. Supported by truly massive government investments in the construction of classrooms, libraries and dormitories at the six recently created universities, public degree enrolments numbered 58,026 in 2002–03 and appear within reach of the government's target of 80,000 in 2005.

Achieving the reform's quality objectives, however, remains problematic. Expenditure per student is already very low and is likely to be pushed lower by rapid expansion. As noted above, a substantial shortfall in the numbers of academic staff available to support this expansion seems inevitable. More than a year after its creation, the new Quality and Relevance Assurance Agency still exists in name only. The recent disruptive shift from a four- to a three-year degree programme intensifies the challenges of maintaining (let alone increasing) educational quality.

Moreover, it is unclear where the funds will come from to equip the many new classrooms, laboratories, libraries and dormitories that are nearing completion. The Ministry of Education is simultaneously engaged in an aggressive expansion of technical and vocational education while maintaining its longstanding commitment to 'education for all' at the primary level. And as expanding access at the primary level translates into increased demand at the secondary level, the latter will also become a claimant for budgetary relief. Although the government's commitment to human resource development remains impressive, its multiple initiatives in this sphere require a budgetary balancing act that will be increasingly difficult to sustain.

Notes

1 Adopting the precedent established by the Organisation for Economic Co-operation and Development (1998:14), 'tertiary' is used in preference to 'higher' education because 'higher' often connotes university. Use of the latter term risks excluding important postsecondary alternatives to universities such as technical institutes, teacher training colleges, and distance education programs.

2 All public enrollments were first converted into full-time equivalent (FTE) student numbers using a factor of 1.0 for regular students, 0.2 for evening students, and 1.5 for graduate students. This yielded an FTE of 44,217 students for 2001–02. The recurrent budget for education tertiary in 2001–02 of Birr 324 million was added to income from evening student tuition fees assumed to be 50 Birr per student. Student welfare costs were estimated to be 2,000 Birr per student.

3 Taken from various World Bank project documents.

4 UNESCO (2003) statistics supplemented by World Bank data.

5 For FTE calculations, all regular residential students were assumed to be full-time students carrying an academic load of 15 credit hours per semester and therefore represented 1.0 FTE. All evening students were assumed to be carrying a course load of 3 credits and therefore constituted 0.2 FTE apiece. Graduate students were assumed to represent 1.5 FTE apiece in recognition of the generally higher cost of graduate education.

6 The graduate tax was introduced in the 2003–04 academic year. It covers government's full costs for student meals, accommodation and health services, plus 15 per cent of estimated tuition costs. The total amount is Birr 1,700 per year (US$196). Payments will take place at a flat rate, regardless of income category, until the individual's agreed share is fully recovered.

7 On 11 April 2001, some 45 students from Addis Ababa University were injured by security police during a student protest of the prohibitions and suspensions noted above. On 17 April 2001, a student demonstration against this police action triggered the killing of 41 persons (mostly students), the detention of

more than 2,000 students, the arrest of 330 students, and the documented torture of this latter group while in custody. On 30 April 2001, police returned to campus to arrest additional students (Human Rights Watch 2003).

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A Bridge Too Far? *Constructing Knowledge Societies: New Challenges for Tertiary Education*

Piyushi Kotecha

There are two broad philosophies within higher education. The first consists of those who are keen to point out the continuing lineage that exists between the medieval university and the present incarnation. The university thus becomes a place of tradition and stability within a world characterised by flux. The core foci of teaching, research and the importance of the community provide an image repertoire that has changed but little for 500 hundred years. Analysis of the higher education sector is, for those predisposed to this reading, a process of identification with these common threads and ensuring the preservation of this legacy. By implication, this reading of the university is elitist and the experience it offers open only to 'the brightest and the best'.

The second reading is dismissive of this traditionalism and argues that the university as we know it is in ruins at worst (Readings 1996) and almost unrecognisable at best. In this understanding, it is possible to critique and deconstruct the pillars upon which the traditional conception of the university is built. The rapid progress of information and communication technology (ICT) and the attendant changes that have been incurred; the rise of private and corporate tertiary institutions and the resultant competition, globalisation and massification; the impact of HIV and AIDS, especially on developing countries—all these changes (and many more) mean that teachers, researchers, policy analysts and higher education leadership are in the process of fundamentally re-conceptualising what it is that they do and how they will have to do it in future. And as much as those holding the former perspective look on with dread at the perceived desecration of a cherished ideal, the latter, post-modernist perspective is characterised by a sense of immense potential offered by

* Piyushi Kotecha is Chief Executive, South African Universities Vice-Chancellors Association (SAUVCA), P O Box 27392, Sunnyside, Pretoria 0132, South Africa Email: admin@sauvca.org.za

this brave new world of tertiary education. It also follows that, while the traditionalists pride themselves on a belief in the university as physically and symbolically remote from market forces, the latter group see the university as one component in a much larger machine called the national (and transnational) economy. In this conceptualisation, higher education is connected to improvements in labour, patents and spin-off companies, to R&D, gender equality, primary and secondary schooling and international competitiveness.

Constructing Knowledge Societies: New Challenges for Tertiary Education derives from a macro-economic approach to tertiary education and falls firmly into the second grouping. In fact, the main author, Jamil Salmi, is an education economist by training; and as a result, the substantive issues are couched in distinctly economic terms with little concession to the 'soft' higher education terms of debate. Furthermore, the report's cover details percentages, pie charts, graphics of economic growth and information and communication technology. Nowhere is there any visual indication that the terms of reference are based on tertiary education. Community outreach, the university as an ethical force in society, academic freedom and the formation of a critical citizenry are not the terms of Salmi's argument.

That said, what is of particular importance in the report, is the unflinching way that higher education is placed as a crucial driver of social development. As Mamphela Ramphele puts it in the Foreword:

> Tertiary education, through its role in empowering domestic constituencies, building institutions, and nurturing favourable regulatory frameworks and governance structures is vital to a country's efforts to increase social capital and to promote social cohesion which is proving to be an important determinant of economic growth and development (*Constructing Knowledge Societies* 2002:x).

While academics are convinced of the central role that higher education plays in the construction of society, its importance is very rarely phrased as emphatically or quite in these terms. This has not always been the case with World Bank initiatives. It is a position, however, that has been increasingly articulated since *Higher Education: The Lessons of Experience* (World Bank 1994) and *Higher Education in Developing Countries: Peril and Promise* (World Bank 2000). The change in focus from financing primary and secondary education (Egron-Polak 2003:2) to concentrating on higher education can be attributed, in part, to the growing pressure of globalising imperatives and ICT growth. It is not good enough to assume that building capacity at these lower education levels will automatically produce a robust tertiary system that is

able and equipped to respond to these new challenges. Primary and secondary interventions within the context of developing societies also means that these countries are perpetually damned to playing catch-up with the likes of the Organisation of Economic Cooperation and Development (OECD) countries.

The World Bank focus on tertiary education must also be understood in terms that go beyond a descriptor of universities and vocational institutions. The World Bank purposefully, and I believe correctly, extends 'tertiary' to include corporate, open, franchise and virtual universities and colleges, research laboratories and centres of excellence. What this means is that the university is removed from its lofty pedestal as the primary producer of knowledge and becomes simply one among many producers in a crowded and competitive marketplace. It also removes this education band from the education sector and places it firmly within the socio-economic realm of the knowledge economy.

There is a further argument that *Constructing Knowledge Societies* uses in order to further its support of tertiary education. It holds that a primary function of higher education is 'building capacity for managing and improving the basic and secondary education system, including capacity for training and retraining teachers and principals' (p. xxix). The assumption here is that higher education matters because it is the site where teachers and principals are created in the first place. This assumption displays a logic that has advantages and disadvantages.

The obvious advantage is that the report encourages an integrated and holistic view of higher education. This macro view, which is constantly enforced throughout the text, allows for a valuable re-valuation of higher education as an essentially connected service. Present thinking on higher education policy, governance and institutional autonomy is, all too often, mired in an introspective discourse. Perhaps, in part, this is a heritage of an ivory tower traditionalism that still tends to see itself as an independent sector at a remove from the functioning of larger society. The impact of the report speaks of a cascading or trickle-down model of higher education where all points of entry and exit are causally connected to other parts. Thus, the act of becoming a teacher is automatically understood in relation to ensuring a stable primary and secondary schooling system.

The disadvantage of this kind of argument is that it fails to interrogate its premise. It assumes that higher education will automatically produce those teachers and principals. On the contrary, in South Africa, for example, the teaching community has been badly affected by HIV/AIDS (Badcock-Walters et al. 2003; Bennell et al. 2002; Kelly 2000) and the teaching profession is no

longer seen as prestigious or well paid (as it formerly has been), with the consequence that teacher numbers are declining.

Perhaps the most compelling reason for this focus on tertiary education is the link that the report establishes between higher education and the creation and dissemination of knowledge within economies that are based on the production of knowledge. The higher education institution is thus a knowledge factory in an environment where 'economic growth is as much a process of knowledge accumulation as of capital accumulation' (p. 8). Given that knowledge is what higher education produces (Tilak 2003), the report seeks to integrate the purpose of higher education with the larger goals of a neo-liberal economy. The role of the World Bank is to identify blockages to the flow of knowledge and to intervene at those points in order to create an unimpeded economic productivity. With this as its theme, the report argues that: (a) knowledge 'advancement and application' (p. 6) is central to economic and social progress; (b) tertiary education is the custodian and producer of knowledge and can build the necessary capacity for growth; (c) 'developing and transitional countries are at risk of being further marginalised in a highly competitive world economy' (p. 6) because they are not capable of maximising knowledge in line with these demands, and (d) the state needs to create the necessary conditions for tertiary education to respond in innovative ways to the demands of a global economy.

These issues give structure to the report. Thus *Constructing Knowledge Societies* opens with a comprehensive picture of the global environment, the growing role of knowledge, the transformations of information and communication technology and the mobility of human resources within a global setting as well as covering social issues like the spread of democracy, the impact of corruption and violence and the estimated impact of HIV/AIDS (especially) on developing countries. What is clear from this survey is that the global environment is changing fast and that real urgency is required if developing and transitional countries are to have any hope of surviving within the twenty-first century.

This change is reflected in the transforming face of tertiary education. Chapter 2 explains these global changes in terms of the reactions of tertiary education to meet them. The most obvious implication to prospering within a knowledge economy is that the acquiring and utilising of knowledge is not a once off process, or what Patrinos (2002) calls 'terminal education'. What is required is for more knowledge to be circulated within society and for longer periods of time. In this light, chapter 2 raises the importance of lifelong learning, especially with regard to the possibility that in scientific disciplines 'elements of factual knowledge taught in the first year of study may become obsolete

before graduation' (p. 29). The diverse responses to this proposition are interesting; on one hand, it has meant that in Finland there are more adults involved in continuing tertiary education than traditional young students and, on the other, that new kinds of tertiary institutions have arisen to meet these changing needs. Virtual, franchise and corporate universities are all meeting urgent but different needs and are changing, in the process, traditional teaching methods and modes of delivery.

These accelerated solutions to tertiary education challenges are drastically slowed down as they meet the difficulties of the developing context. Chapter 3 is perhaps one of the most revealing insofar as it offers a plethora of country and culture-specific problems. While many of the difficulties—lack of access to higher education, insufficient and inefficient state funding of the sector, high drop-out rates, gender inequality and HIV/AIDS—are common to many developing nations, the added difficulties of India's caste system, the radical re-design of the educational sector through mergers in Hungary and South Africa and issues like cheating and corruption in China, Nigeria and Kenya add increased stress to an already fragile sector. South Africa's president, Thabo Mbeki, repeatedly talks about the 'two economies' in one country. 'One is advanced and skilled, becoming more globally competitive. The second is mainly informal, marginalised and unskilled' (Presidency 2003:11). If this is all too often a scenario repeated in developing countries, it does depict an economic divide that is exacerbated by an international digital divide, with the effect that countries may find it impossible to contribute to a knowledge society when they are twice removed—economically and digitally—from its potential. In this dilemma lies one of the main ambiguities of the text. The infectious zeal generated by the potential of knowledge societies can all too easily meet with a deafening incomprehension on the part of those developing countries who simply do not have the ability to implement the basic ICT infrastructures upon which a knowledge society depends.

The text attempts to address this issue at a macro level by suggesting that the state needs to be open to the benefits of a strong tertiary system (p. 77) because of the benefits it brings to the state in the form of a larger tax base, greater consumption by graduates, reduced dependence on government for medical and social welfare services and a more cohesive society. In other words, the argument works on the principle that it is a self-evident benefit for a state to support and fund the tertiary sector because it will produce a strong democratic, neo-liberal nation guided by market forces. The difficulty here is that linear logic is often undermined by regional and cultural differences. It is not self-evident in many developing countries that the ideal of a homogenised consuming graduate is a particularly good idea, especially when national

political objectives are so varied. As the ongoing debate on General Agreement on Trade in Services (GATS) shows, there is little accord among academics or governments as to whether, in the first place, higher education is a service at all and, in the second, whether free trade actually benefits the country that opens up its borders to competition.

My point here is not an old-fashioned carping about the evils of global capitalism but rather an underscoring of the very different ways that developing and transitional countries *respond to* global conditions. The principles of the free market which dictate the World Bank's interventions often suffer a slippage in implementation because of diverse state and higher education goals within the country concerned. Although *Constructing Knowledge Societies* briefly acknowledges this situation (p. 117), the issue deserves more detailed analysis.

The concluding chapter and the detailed appendices also reveal something else worth noting. While detailing the necessary aspects that need to exist in order for World Bank initiatives to succeed and the kinds of programmes already in place, it becomes evident that the authors are also attempting to articulate a new purpose for the bank:

> The World Bank is uniquely positioned to work with its partners in the international community—international organisations, bilateral donors, and foundations—to help facilitate or create a discussion platform and promote an enabling framework for the global public goods that are crucial for the future of tertiary education in the developing world (p. 122).

Statements like these (even given the advertorial tone) suggest that an openness to debate about the World Bank's mission and the method of its achievements perhaps even points to a greater collaborative flexibility in future initiatives. This is a good sign. Another good sign is that *Constructing Knowledge Societies* is not a complete text. If its assumptions about knowledge and the capacity of countries to bridge the digital divide are sometimes naïve, it has no pretensions about being comprehensive or emphatic. In fact Appendix G contains a fascinating list of World Bank initiatives which, it openly admits, are both successes and failures. In addition, the text has not simply become a reference source for libraries; but ever since its release in 2002, it has been taken on a 'road show' by Jamil Salmi and the rest of the contributors in order to market it and to debate its substance (Saint, personal communication, March 2004).

Perhaps the enduring strength of *Constructing Knowledge Societies* is that it allows for brainstorming around the text. Even initiatives that have failed provide provocative lessons, albeit negatively. Ideas like non-profit private institutions, India's tax concessions for any corporate donation to tertiary institutions, free first-year education (recouped at a later stage), the development of management information systems at national and institutional levels and the World Bank's systemwide approach that links sectors as well as levels within a country—these ideas (among many others) open up a vista of potential where the renovation of society is always possible.

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Raising Too Many Expectations? Comments on the World Bank Report *Constructing Knowledge Societies: New Challenges for Tertiary Education*

Paul Hoebink* and Arnold van der Zanden**

The new report by the World Bank on tertiary education is both timely and highly necessary. It is timely because, over the last ten years, we have seen a reassessment of the role of education with regard to poverty reduction and development. In this discussion, the role of tertiary education is too often forgotten or only juxtaposed, in a rather negative way, against primary education. An example of this is Kevin Watkins's *The Oxfam Education Report* (2000) which, although it is a very thorough report on the world's education, is rather negative on tertiary education with regard to equity issues and is further negative because it eats too much of national and donors' budgets.

The World Bank's new report is also necessary since it may help to put tertiary education on the agenda of those donor agencies that have tended to overlook it as an important matter requiring attention. The report may place the role and functions of tertiary education in a new light, showing its strategic place in national educational building. This new perspective is particularly important because any analysis of the functioning of our societies and economies

* Paul Hoebink is Associate Professor at the Centre for International Development Issues Nijmegen at the Catholic University Nijmegen. He is also Co-Chair of the Joint Committee of the South Africa-Netherlands Research Programme on Alternative Development (SANPAD). Address queries to him at the Centre for International Development Issues Nijmegen, University of Nijmegen, P.O. Box 9104, 6500 HE Nijmegen, The Netherlands; email: P.Hoebink@maw.ru.nl.

** Arnold van der Zanden is higher education expert with the Netherlands Ministry of Foreign Affairs. Address queries to him at Arnold van der Zanden, First Secretary Education, Royal Netherlands Embassy, Road #90, House #49, Gulshan 2, Dhaka, Bangladesh; email: arnold-vander.zanden@minbuza.nl. The observations presented in this article are personal observations of the author which do not necessarily reflect the views of the Netherlands Ministry of Foreign Affairs.

on the brink of this twenty-first century teaches us that what we do and how we do things is increasingly knowledge based. Tertiary education, if it is functioning well, should be *the* institution for creating and expanding a local and global knowledge base and for transferring and communicating knowledge to society. There are some signs that the value of tertiary education is increasingly appreciated, not only by donors such as the bank, but more importantly, in the developing world itself. Unfortunately, tertiary education in most developing countries, especially in sub-Saharan Africa, is still in deep crisis.

Expectations

In the present day, when it seems that education is more and more globalized, it is necessary to shed increased light on the global and national side of knowledge creation and expansion. A reassessment of tertiary education systems and institutions, as presented in the report, may be expected to present a strategy to give them a place in the years to come. It should also provide guidelines for donors who support institution building in tertiary education and expanding the research base in both developing countries and in transition countries. A World Bank report should therefore analyse tertiary education as it stands today and, at the same time, share experiences and give new ideas to tertiary education stakeholders in developing countries, to donor agencies and to implementers of projects and higher education sector plans.

The question is: does the World Bank report *Constructing Knowledge Societies: New Challenges for Tertiary Education* provide us with: (a) an analysis of the place of tertiary education in today's societies, (b) an explanation of the relation between the different sectors within education and the role and function of tertiary education in relation to these other sub-sectors, (c) an assessment of the role of tertiary education with regard to knowledge creation, which is the role of research in tertiary education, (d) instruments with which to assess the efficiency, effectiveness and impact of tertiary education systems and individual institutions, and (e) an expectation of the role and functions of the different actors in this field in the future. Does the report fulfil these expectations?

We have to say: only in part. The report is certainly strong in sketching the contribution of tertiary education to economic and social development. It also presents the challenges that this sector faces at present. But what we miss is a certain thoroughness in the analysis. We also miss the institutional side—the role of capacity and institution building and the lessons for donors. It is difficult to read from the report what progress the World Bank itself made since the last report of 1994. For example, how are the 'Guidelines for Future Lending' as mentioned in that earlier report, put into practice?

The Thoroughness of the Analysis

Let us give some critical comments on the thoroughness of the analysis. The analysis starts with the very concept of a knowledge society. What is it? Isn't every human society, however 'primitive' it may be, a 'knowledge society'? And if that is so, what does that mean for the analysis of the 'level' of knowledge needed for a society and individuals to achieve a certain level of social and economic development?

The report does not really explore the concept of a 'knowledge society,' and it gives us no analysis of what this concept means to, for instance, the least developed countries of this world. Much of the evidence presented in the report is based on experiences in Organization of Economic Cooperation and Development (OECD) and middle-income countries, whose economies are driven by highly educated policymakers and by the latest information technologies, and whose tertiary education institutes indeed play a crucial role in economic and social development. But this is not the case in many developing countries. In many of the least developed countries, the national innovation systems that are, according to the report, a necessary condition for creating a knowledge society, are simply absent.

David Court (2003) has argued recently that tertiary education institutes and societies in least developed countries do not lag behind only due to their lack of capacity or their resistance to change. According to Court, it has more to do with the inability of institutes to produce and disseminate local and contextually relevant knowledge: knowledge which enables individuals and communities to acquire awareness of locally available resources and of the skills to use them. Most universities in Africa are short of this kind of contextually relevant knowledge. Furthermore, unfortunately, the knowledge of African universities is often still of imported origin. The question is then: What do these institutes contribute to their own knowledge societies? The report could have explored this issue further.

A second example of a lack of in-depth analysis is the discussion on privatisation. We notice that the World Bank has withdrawn from earlier, more radical points of view here; but many questions still remain. In the last ten to fifteen years, there was a trend toward increased privatisation of tertiary education in many developing countries, including Africa. Such privatisation was often accompanied by a certain reluctance and fear on the part of the governments that liked to keep control of tertiary education institutions. The present report seems to be less outspoken on the benefits of privatisation than the bank used to be. Earlier, the bank had advocated privatisation more or less as *the* solution to many problems, but we did not find this perspective in *Constructing Knowledge Societies.* A shift in thinking seems to have occurred;

now the main message is that private tertiary education still has a valuable contribution to make but that it is not very successful in delivering the public good that higher education embodies.

This, very broadly, is the report's conclusion. What we then hoped to find was an analysis of how far this privatisation goes, what effects it has had on the quality of education and what its risks are. Will private education companies or institutions offer only the attractive, 'quick buck courses' in management sciences? Will that leave the money-wise less attractive courses (social sciences, arts) and those that need high investments (medicine, engineering) to the 'old' universities? How does private education relate to the public sector? What are the effects of this privatisation on brain drain? These issues deserve a more in-depth analysis than the report provides.

Furthermore, the analysis of the gender imbalance at universities is not very sophisticated: It stops with the conclusion that there *are* gender imbalances in student enrolments and in the teaching staff, e.g, in the fields of science and engineering. In many countries, gender disparities at universities can be related back to (a) the unnatural growth cycles of universities and their programmes, (b) gender differentiation in student recruitment—in particular in those fields that have much heavier funding (science, engineering) or that are underfunded (the arts, social sciences), and (c) gender disparities at lower levels of education.

As yet another point, the Ghana-South Korea comparison seems to be rather popular in World Bank circles these days (*Constructing Knowledge Societies,* pp. 10–11). It can also be found in the highly criticized report *Assessing Aid* (World Bank 1998). Our feeling is that the comparison is not very appropriate in this context. We think that this comparison isn't even a comparison between an apple and a pear, but between a cocoa grain and a steel plate: not very logical, to put it mildly. The level of development (social and economic) between these two countries was and is so deeply different that a comparison might be made with the GNP per capita as a starting point; but then, those who make this comparison totally neglect all the (major) differences between the two countries. This comparison will therefore not deliver useful insights on tertiary education development and government policy, nor does it give us good comparisons on the effect of 'good governance'.

Lastly, another issue which could have been given more attention, and which is related to relevance, is the links between tertiary education, poverty on the local level, and the labour market. The bank should have done better in addressing the question of whether existing tertiary education institutes are properly equipped to address issues of poverty, whether they can meet the needs of a changing labour market and whether they can produce and apply locally

relevant knowledge. A real poverty focus is lacking in the report, which is unfortunate. Developing countries probably need more than academically trained persons to address poverty. Non-academic tertiary education therefore would have deserved some more attention in the report as well.

Three Major Issues

Let us formulate our criticism in a more constructive way and extend it to three major issues: the balance in funding, institution building, and lessons for donor agencies.

The Balance of Funding

For developing countries (and also donor agencies, given the pressure of some major nongovernmental organizations for the Social Summit's 20–20) it would be important to find a good balance in the following areas:

1. In their budget allocations to the different education sub-sectors. How much, in what phase of social and economic development, should go to basic, to secondary and to tertiary education? The topic is briefly discussed (p. 82), but it should have been explored further.
2. Between private finance and the level of student support. To what extent should students be supported? How can systems be developed to support the really needy and to enhance equity in enrolment? Should support be given directly or indirectly? These questions need to be addressed to overcome what we could call the 'Niger Discrepancy'. *Higher Education: The Lessons of Experience* (World Bank 1994) devoted its Chapter 4 to a discussion of this topic, but experiences since then should be evaluated.
3. Support for the different fields of tertiary education related to their level of development. How can funding support stimulate enrolment in courses that are important for the economy (sciences) or society (arts) and that are underrecruited in many countries at the moment? We think that it is very important to elaborate more on the distribution of funds and on the relation between several types of funding—to present ideas on what might be a good mix or formula under certain circumstances. This issue is particularly important with regard to least developed countries which could use advice on effective investments to build a 'knowledge society' under their specific circumstances. Such an approach offers at least a potential escape from the half-hearted and half-successful 'copying experiments' they are often involved in now.

Institution Building

Building tertiary education is a form of institution building. What amazes us is that *Constructing Knowledge Societies* does so little cross learning in relation to technical cooperation and institution building. Very little is learned from the linking experiments in the portfolio of bilateral donors. A series of evaluations has been carried out on these cooperation instruments in the last fifteen years, and they contain interesting lessons. Such lessons are surely of value for institution building, because that is what cooperation in this field is about. Universities and their sister-institutions are very specific organisations, because the majority of their staff have (in comparison) a high degree of education and are highly professional.

In such institutions, decisions and plans for change need broad support and the consensus of the implementers, who are the teaching staff. The management of such an institution asks for specific constitutions. We understand that the report was written under the guidance of Jo Ritzen who, as Minister of Education in The Netherlands, was responsible for a major change in university management by installing an omnipotent 'Dictator Dean' and thus putting an end to a democratically controlled university organisation. The idea was to speed up decision making by disbanding sub-faculty/department, faculty and university councils (remnants from the 1960s); but the experiment has not been a success. Decision making in most Dutch universities is now much slower and more fragmented than before.

We do not agree that the real problem of institution building is that, as *Constructing Knowledge Societies* claims (p. 62), control over universities is often in the hands of (parts of) the teaching staff. Rather, we think that the choice is more between authoritarian and closed versus more democratic and transparent institutions in which the consumers (students and parents) also have their say and in which there are regular quality assessments, not only of courses but also of individual staff members. Such assessments can be achieved with 'contribution contracts' or yearly evaluations that are not based on an assessment of research results alone, but which also value teaching and other tasks.

Lessons for Donor Agencies

What does this report means for donor agencies working in the field of tertiary education development? As stated before, the report puts tertiary education on the agenda anew. But there is more. Donors' support of tertiary education was, for many years, more attractive than support to other sub-sectors of education, with the exception of vocational training. Also with respect to vocational training, there were ample opportunities to deliver equipment and to give

technical assistance. In the 1970s, for instance, Germany, Switzerland and The Netherlands were major donors in this field.

University cooperation gave donors (a) opportunities to deliver equipment and to train people in handling it who, in the future, might be in positions to decide on the purchase of this equipment; (b) high visibility and prestige with the construction of buildings bearing bronze plaques with the text: 'This building is a gift of her Royal Highness of (name of country)'; (c) a channel to keep old colonial relations intact by educating the new elites and leaders of the future.

Although this situation has definitely changed over the last decade, many bilateral donors still continue to run their own programmes for university cooperation, the agenda of which is often still controlled by the Northern partners. For many donors, this is still the only instrument of supporting tertiary education in developing countries. Such a relationship is unfortunate because the most pressing problems of tertiary education in developing countries cannot be solved by academic cooperation only. Why hasn't the bank analysed this situation in the report? It is a missed opportunity that this widely used instrument of support to tertiary education is not even mentioned in *Constructing Knowledge Societies*.

Consensus Building and Reform

The strategy for the development of tertiary education presented in the report is one of consensus building and reform. Both approaches are indeed very important, but it is rather strange that the report sees a rather prominent role for the World Bank in such consensus building. With this report, the bank once again seems to put itself in the limelight of being *the* knowledge bank, ready to share its experiences with the rest of the world. The criticism that this positioning has received over the past few years is probably well known and need not be repeated here. We feel sympathy for the complaint of bank officials that they are damned if they do (share their knowledge) and damned if they don't. And there is no doubt that the bank has an excellent group of higher education staff at its disposal.

But despite all this, the bank could have been a bit more modest with respect to the role it sees for itself. Annex F to the report shows that the bank has been active mainly in middle-income countries, which have already reached a certain level of development in which tertiary education can flourish. Only 7 per cent of the bank's lending to tertiary education in the last decade went to sub-Saharan Africa; and among the ten largest borrowers, there was neither a single least developed country nor a single country from sub-Saharan Africa. Of course one could say that tertiary education faces many similar problems

everywhere, but the range of potential solutions varies greatly. It is therefore a bit tricky to present the bank's experience, which comes mainly from its involvement in middle-income countries, as solutions for the poorest countries. Such an assumption may do more damage than good.

The bank, with this report, apparently admits that it has not been sufficiently involved in tertiary education in recent years. This situation is rooted far back in the bank's history (Jones 1992, chs. 2, 6). A logical deduction from this message would be that this lack of involvement in the tertiary education sector has left the bank without sufficient knowledge to plan and advise on interventions in the future. This issue was also raised at the international seminar 'From Peril to Promise: How Higher Education Can Deliver', organised by the British Council, in March 2002 and held in Bath, England. So one may question where the bank's comparative advantage lies. What legitimacy may the bank suddenly claim for positioning itself in the centre of tertiary education reform after having neglected the sector for so long?

It is very doubtful that the bank will increase its lending to tertiary education. The report is not about a new World Bank policy priority to which more money will be allocated. In fact, one rather has the impression that one of the report's main purposes is to serve internal politics within the bank. If this is the case, in practice it probably means only that the bank will consider requests for support for tertiary education from developing countries in a more balanced way than before. Although this development would be positive, it may backfire, because the report and the way it is presented at international conferences certainly raises higher expectations.

The Storms of Globalisation

In summary, what we miss in the report is a thorough analysis of the concept of a 'knowledge society'. What we miss is a discussion on thirty-five years of university cooperation with developing countries. What we miss is a discussion on academic institution building: its lessons, its successes and failures, its loopholes and traps.

But there is more. The analysis of the relation between globalisation and tertiary education in this report is too positive and rather biased; it does not give sufficient attention to the negative consequences that globalisation will definitely have for tertiary education in many developing countries. An example might be the worldwide increase in the often-aggressive activities of so-called offshore education providers. Such activities may aggravate the already existing problems. Michael Gibbons (2003), secretary general of the Association of Commonwealth Universities, predicted a 'global war on manpower'.

We are afraid that he is right. We even think that the ground forces have already invaded foreign territory.

We recently heard of an example from Kenya where an Australian university has opened a campus. It provides Australian courses, the content of which is largely irrelevant for Kenya, for fee-paying students who spend two years on campus in Kenya. Those with the best results are subsequently invited to continue their studies in Australia, fully subsidised by the Australians. The idea behind this venture clearly is to provide the Australian knowledge economy with the best brains in the world. This private enterprise doesn't seem to care what happens to those students who don't make it to Australia, but whose families have scraped every shilling together to get their kids into that school. It doesn't seem to care what effects such policies have on the tertiary education system in Kenya, and it clearly cannot be bothered by the fact that the best brains leave the country. On the contrary, that is its main objective.

The most recent figures show that *every year* 70,000 highly qualified Africans leave the continent and that 30,000 Africans with Ph.D. degrees already live and work outside Africa (Prosper and Odumasi-Ashanti 2003). A rough estimation is that Africa would need at least one million scientists and engineers to sustain its development prospects. They are not there in such numbers, and those who are trained are often quickly attracted by the richer knowledge economies of this world. So, what does creating knowledge societies in developing countries mean in this context? Is it a realistic option or wishful thinking? We think that the bank, although it mentions the brain drain in *Constructing Knowledge Societies,* underestimates the effects of this global war on manpower. At the very least, the bank fails to give the issue sufficient attention, while the tides are changing rapidly.

We can only conclude that, although the report touches on many issues related to tertiary education in developing countries, it does not provide sufficient analysis of some of the key issues. This is a missed opportunity, all the more since the publication of this report has already raised many expectations in developing countries. We are afraid that the bank cannot meet these expectations and that the bank might have to offer its apologies again ten years from now. Such a situation is not good for the bank's reputation and—which is far more important—it can frustrate the spirit and dampen the enthusiasm of key individuals and officials in developing countries who are devoted to innovation and change of their tertiary education systems.

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How to Construct a Knowledge Society: The World Bank's *New Challenges for Tertiary Education*

Munzali Jibril*

This is an important new book published by the World Bank in 2002 after extensive research and wide consultation with experts. In about 235 pages, we are effectively given what amounts to an encyclopaedia of higher education, with special reference to developing and transition countries. Mamphela Ramphele, the managing director of the World Bank's Human Development Division, sets the tone in her foreword when she says that 'tertiary education is . . . a critical pillar of human development worldwide'.

The Executive Summary clearly summarises the report, its main findings and messages. We are told that three factors have brought about significant changes to the tertiary education environment in developing and transition countries and that these changes necessitate a critical re-examination of the sub-sector. These changes include: (a) the impact of globalisation, (b) the rise of knowledge as a major driver of economic growth and development, and (c) the impact of the information and communications technology revolution.

The book raises several issues in great detail and provides a rich source of data and information on all aspects of higher education especially in developing and transition countries, but sometimes using comparative perspectives from developed economies. Extensive evidence is adduced, for instance, to indicate the strong relationship that exists between investment in higher education and, on the one hand, research and development and, on the other, economic growth. However, *Constructing Knowledge Societies* emphasizes that investment in tertiary education and in research and development on its own may not necessarily translate into higher economic growth. In order for such an investment to yield the required dividend, it must be made in the context of a national

* Munzali Jibril is a Professor in the Department of English, Bayero University, PMB 3011, Kano, Nigeria; email: munzali@hotmail.com.

innovation system—that is to say, an appropriate macroeconomic framework, innovative firms, adequate infrastructure and other factors, such as access to the global knowledge base. The extent to which investment in manpower development impacts economic growth, as well as the returns to investment in education for individuals and the society, have been researched well in the economics literature, though there is hardly any unanimity on conclusions (see, for example, Asplund and Pereira 1999; Bennell 1996, 1998; Cohn and Addison 1998; Psacharopoulos 1994; Temple 1999).

Perhaps one reason why the development gap between developed and developing countries will continue to widen is that, according to the book, developed countries which are members of the Organization of Economic Cooperation and Development (OECD) are responsible for 85 per cent of all R&D expenditure in the world, while China, India, Brazil and the Asian Tigers are responsible for 11 per cent. The rest of the world accounts for the remaining 4 per cent (p. 9).

Another issue that the book addresses well is the diversification of higher education systems, by which is meant the great diversity of institutions that now provide higher education. They include technical institutes (such as the German vocational schools), community colleges, polytechnics, distance education centres, open universities, virtual universities, franchise universities and corporate universities. Thus, the domination of tertiary education systems by the conventional university is being challenged globally. According to *Constructing Knowledge Societies,* in Taiwan, for instance, 'more than 90% of exports are produced by junior college graduates in small and medium-size enterprises which employ 78 per cent of the working population' (p. 48). Clearly, at least in Taiwan, the junior college is more dominant than the university both in terms of the share of enrolment and in terms of its impact on the economy. Similarly, the other new types of universities, such as the virtual, the corporate, the franchise and the open, are also posing serious challenges to the established traditions of the stereotypical university in terms of their delivery methods, curricula content and even entry qualifications.

The growth of the private provision of tertiary education is also discussed at length in the book, and comparative statistics are given. We are told, for instance, that in Portugal 'private universities have expanded in less than a decade to represent 30 per cent of tertiary institutions, and they enrol close to 40 per cent of the student population' (p. 68). We are also told that, in Côte d'Ivoire, 'private universities enrol 30 per cent of the student population' (p. 69), while in Iran and Japan, private universities which started in 1983 and 1991 respectively, enrol more than 30 per cent and 35 per cent of the student populations respectively. In other countries (such as Nigeria) which have a tuition-free

public university system, the growth of private universities has been much slower. After five years on the landscape, private universities in Nigeria do not account for as much as 5 per cent of total university enrolment. The book sensibly admonishes that rules 'for the establishment of new institutions, including private and virtual ones, should be restricted to outlining minimum quality requirements and should not constitute barriers to entry' (p. xxiv).

Student loan schemes, which are often resorted to as an essential component of higher education reform, are also surveyed in the book. The conclusions drawn are that administering student loan schemes is problematic and that spectacular success stories are few. We are told that, although more than 60 countries have such schemes in place, in only a few of the countries are more than 10 per cent of students reached; and in some cases, the neediest students are by-passed for the better-off and better-connected students (p. xxii). Default in re-payments is notoriously widespread. In developing countries, unfortunately, the most efficient recovery method (through a graduate tax system tied to income levels) is not a feasible option, owing to the absence of the required public tax system infrastructure.

Human capital flight, or brain drain, is also tackled in the book. We are told, for instance, that up to 30,000 African PhDs live outside the continent and that up to 130,000 other Africans are now studying abroad, many of whom may also fail to return home after their studies (p. 18). The challenge to governments in developing economies, including those in Africa, is how to ensure that they create the necessary living and working conditions to retain their skilled professionals at home and to attract back those who have migrated elsewhere.

Tertiary education financing levels are also extensively explored in *Constructing Knowledge Societies*. It recommends that between 4 and 6 per cent of gross domestic product (GDP) should be spent on education (p. xxiii). This figure is consistent with actual expenditure statistics reported by the OECD and other countries which have high investments in education (UNESCO 1999). The United States spent 5.4 per cent of its gross national product (GNP) on education in 1994 while Canada, the United Kingdom and Germany spent 6.9 per cent, 5.3 per cent and 4.8 per cent respectively around the same period. Education also accounted for between 8.4 per cent (Germany) and 14.4 per cent (USA) of their total expenditures in the same period. Thus, countries such as Nigeria, which spent only 0.7 per cent of its GNP on education around the same period, are clearly out of step with the rest of the world. They are underspending on education and therefore under-investing in their future. Furthermore, *Constructing Knowledge Societies* recommends that between 15 and 20 per

cent of the total education budget should be devoted to tertiary education, which is again consistent with good practice.

Quality assurance mechanisms for borderless education are also discussed, and one of the sensible conclusions reached is similar to one that I also reached elsewhere (Jibril 2002), which is, that the countries from which the educational service providers transmit their courses to the world should ensure that minimum quality standards are met.

In tackling these and other issues, *Constructing Knowledge Societies* draws heavily and profitably from the bank's extensive experience and unique global perspective. The result is that the book can easily serve as a benchmark guide for good practice in higher education management. The issues raised are discussed in an objective, frank, open and transparent manner; and even where the bank's policies have failed, the book does not attempt to conceal such failure but admits it gracefully. For example: 'The bank has been less successful in supporting the implementation of politically sensitive reforms such as moving from negotiated budgets to formula funding, reducing subsidies and introducing tuition fees' (p. 106).

The book should therefore serve as a reference manual for prospective clients of the bank who should take advantage of the clarification (de-mystification?) of the bank's lending strategy which is transparently offered in the book; it should also serve as a reference guide for anyone envisaging the reform of a higher education system or institution and be equally useful to anyone who is involved in higher education management, especially outside the OECD countries.

The book has achieved its aim of stimulating dialogue on issues of the moment in tertiary education. More than that, it has tried to rehabilitate the bank's reputation as a rigid lender which imposes its will and priorities on developing countries that accept what is offered because they really have no choice. However, it will take more than a book to change such perceptions of the bank in developing countries. Instead of the bank coming with preconceived ideas about what kind of loan or credit facility a country needs, and then engaging in a time-consuming and tedious 'consultation process' which involves the task manager's visiting the client country some six times at intervals of three months only to produce the bank's originally preconceived ideas as the agreed project document, it would be more useful either to let the prospective client know in advance what the bank can agree to and what it cannot, or to seek a comprehensive proposal from the prospective client country as to what it really wants and then use that as the starting point for negotiation.

A quibble must also be raised at this point. It is well known that, until about ten years ago, the World Bank was more inclined to lend money for projects in

basic education than in tertiary education and that certain key officials of the bank actually tried to discourage developing countries from prioritising higher education. But with a change of management in the bank, these tendencies and views began to change in favour of tertiary education. It is true that the statistics of the bank's sub-sector distribution of lending to education still show a bias in favour of basic education. For example, between fiscal years 1993 and 1998, while 47 per cent of bank lending went to basic education, only 25 per cent went to higher education (World Bank 1999). However instead of this policy shift being gracefully admitted, it is repeatedly referred to as only a 'perception' (see, e.g., p. xviii).

A table (p. 154) reports details of the bank's lending for tertiary education by region for the decade 1990–2000, and a lopsidedness in favour of East Asia and the Pacific Region (which received 38 per cent) and Latin America and the Caribbean (which received 33 per cent) becomes apparent. The least favoured regions were South Asia (5 per cent), the Middle East and North Africa (5 per cent) and sub-Saharan Africa (7 per cent).

The book contains 11 useful appendices, most of which give detailed information about the bank's projects and activities in the area of tertiary education; however, some of the appendices deal with statistics and benchmarks on various aspects of tertiary education. There is also an extensive bibliography at the end of the book but, regrettably, no index.

This and other quibbles notwithstanding, the World Bank deserves congratulations for the resources invested in writing this book and for the sincerity and openness with which it has been written. All ministers of education in developing and transition countries should read and digest the contents of this book as it offers them a blueprint for transforming not only their tertiary education systems but also their countries' futures.

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Constructing Knowledge Societies? The World Bank and the New Lending Policy for Tertiary Education

Tor Halvorsen* and Tom Skauge**

Introduction

The World Bank's report *Constructing Knowledge Societies: New Challenges for Tertiary Education* (2002) quickly became a bestseller. Its many ideas and recommendations have entered the global debate about the present changes in higher education. The quick spread of the report has once again reminded us of the fact that the influence of the World Bank on discourses far exceeds its importance as lending institutions. In that respect the World Bank truly is the 'knowledge bank' it claims to be.

The (then) new director for the World Bank's Human Development Division, Mamphela Ramphele, endorsed the report in her foreword. She not only expressed, but also represented, the link to the independent Task Force on Higher Education and Society, being one of the driving forces behind the task force's report: *Higher Education in Developing Countries: Peril and Promise,* published in the symbolic year 2000. This report is also widely spread and still widely read. It has truly contributed to the debate about constructing knowledge societies in the developing world. The *Peril and Promise* report is, according to Ramphele, well received by the inner circles of the World Bank. The 2002 report under scrutiny here is thus a timely continuation and a concretisation of future World Bank lending policies in this sector. And whatever may be finally decided, governments of poor countries, particularly in Africa, are, according to our experience, already adjusting their 'lending jargon' to the suggestions of the report.

* Tor Halvorsen is a member of the Faculty of Social Science, Department of Administration and Organisation Theory, University of Bergen, Norway; e-mail: Tor.Halvorsen@aorg.uib.no.

** Tom Skauge is Head of Section, Dr. polit., Senter for internasjonalisering av høyere utdanning (SIU), Norwegian Centre for International Cooperation in Higher Education, Vaskerelven 39, Box 7800, N-5020 Bergen, Norway; e-mail: tom.skauge@siu.no.

The report is rich in material, contains a great deal of information and makes a number of interesting propositions. These become all the more important since the report is primarily about the construction of and rationality behind a future lending policy of the World Bank. So far this policy has been ad hoc, segmented and lacking a clear understanding of relations between means and ends in the construction of knowledge societies. The true purpose of the report—to construct such a policy for the World Bank—thus also gives more space to the Human Development Division within the bank, a development that many critics of World Bank policies in the previous two decades will welcome.

What is at stake is the bank's contribution to the construction of knowledge societies, and how this 'construct' will create economic growth through better participation in the world economy. It is a truism that the world economy is the only economy there is. It is also a truism that national states must become linked to this world economy.

Analysis of the Report

Given the extensive character of the report, we must limit our comments to only a few points of particular interest. Most of these comments will touch on the conception of the relation between the (national) state and 'society' (in different meanings of the word) and how the tertiary education sector is expected to mediate between the two. Our Scandinavian background serves as a contrasting point of reference, particularly since all the Scandinavian ways of organising tertiary education in relation to state and society would be seen as problematic practises for any country the World Bank would 'support'. The countries scoring the best on the Human Development index produce the worst models: We have too much state involvement, too little cost sharing, too much student welfare, too much governance by the academic community, too close alliances with the state, too much public (as opposed to private) involvement in tertiary education governance, too little societal (i.e., private) control of institutions of higher learning, too little institutional diversification, a wrong focus on disciplines, etc., etc.[1]

Scandinavia is just one historical model. We admit, of course, that there are different ways of constructing knowledge societies; thus, there are also different ways of linking to the world knowledge economy. The working group, however, having done such a great job in such a short time, seems to be little concerned about cultural variation. The search for the best way of constructing the lending policy (sorry, knowledge society) and thus also expanding within the bank the importance of this activity, seems to have inspired the project and the report. The job of respondents, given the kind of background we have and our belief in

the value of historically given variety, must be to tear down this optimism of finding one or a few lending formula(s).

What Is Tertiary Education?

The focus is on tertiary education. Before we discuss tertiary education in relation to society and state, we must first specify what tertiary education is. This seemingly neutral term represents a strong attack on anything smelling of 'old university'. No type of higher education has any privilege as such; only its usefulness for the economy that counts. The only value that seems to have priority is 'diversity'. Long and short, public and private, job-specific or general—all seem to be good and will establish the best relations between education and work. And what is more interesting, the more varied the tertiary education is, the better will the 'system character' be. The system character is a (pre-given) fit between economic needs and educational supply on the one hand and World Bank lending criteria on the other.

The weakening of state control over the tertiary education system is a very important side effect to this system development. The growth of alternative types of governance systems, like the more or less independent quality assurance agencies (QA), is seen as a positive substitute for irrational public control. State ownership and regulation must go together with quality assurance and (international) competition in a new system of governance, with (as far as we can see) a growing importance for the last two. A system of quality assurance is, of course, 'the new general medium' (together with money in the market) that facilitates the exchange of student bodies and knowledge packages across borders and cultures: the new knowledge shopping. Clearing houses, market drives and diversity according to the needs of the world of work should be the prime movers (p. 83).

This development will also secure democracy, it seems, particularly due to change in access and thus to a spread of opportunities. According to *Constructing Knowledge Societies,* tertiary education 'can offer better opportunities and life changes for low-income and minority students, thereby increasing their employability, income prospects, and social mobility and decreasing income inequality'. Thus, the students can contribute 'to the social capital necessary for the construction of healthy civil societies and socially cohesive cultures, achieving good governance, and building democratic political systems' (p. 5). But the university, which is considered to be a precondition for the fostering of democratic values in many developing countries, has no privileged role to play, only, at best, a dominating role. The universities need to go through major changes (p. 41), and are also a potential threat to development since they tend to create elites, based on elite recruitment. And this is, according to the World

Bank report, far worse than the loss of academic freedom. Institutions working for knowledge as a publicly accessible 'good' (as the economically oriented jargon of the report will have it) are not discussed or analysed as such. All education is valued according to usefulness. It is thus difficult to see the link to democracy, despite the constant lip service in the report to the need for installing democratic values.

Tertiary education is important for economic growth and for democracy alike; but if economic growth should contradict democracy, all criteria for lending outlined in the report would privilege the first mentioned value. This is particularly the case since the foremost institution for promotion of democratic values—a university free from political and economic (or religious) domination—plays the same role in the system as a one-year course in information and communication technology (ICT).

No wonder that world historical universities (WHUs) are now seriously discussing how to protect the term 'university' by patent, requiring that it meet certain structural and mission characteristics. These WHUs frequently cite the Trade Related Intellectual Property Rights (TRIPS) agreement—which was created to privatize knowledge production—as a means of achieving the patent, even though TRIP was created for the opposite end. WHUs take the position that only those universities that promote open and accessible knowledge production should be called universities. Institutions that primarily seek to privatize their knowledge and protect it from the general public through the intellectual properties regime are not universities in the true sense. There is a need, argue WHUs, to secure for the university what may be specific university content, namely:

> Production and transmission of open-access original knowledge, self governance in the certification of the validity of knowledge, the moral and social consequences of research activities, unity of teaching and research, mutual monitoring of the quality of their members in national and international organisations (Coimbra 2003).

Within a tertiary education, as debated by the World Bank, these values are lost.

Society

Society in this report means 'the world economy'. The social space which gives the writers of the report their identities is the globe as one economic unit. The world economy is a knowledge economy; thus, a local economy has to be knowledge based to be able to link to cross–national and non-national economies.

The references to the relations between education and the development of democracy in the report, however, are to the national state and identities created by this social unit. It is very unclear how these kinds of identities link to the global social unit or to the world economy.

The report makes references to the nation–state identities but is rarely concerned about the globe as the space of reference for cultural variation or about the roles of democracy and knowledge in identity formation (and not only as economic functions). Thus, confusion about the role of tertiary education arises within the report. We think that it is very valuable to have the global perspective. But when much of the lending strategy is concretised in relation to nation–state growth scenarios and its links to the global economy, the role of knowledge and details about how the knowledge society is to be constructed become hard to understand. The priority of 'culture-free knowledges' like science, engineering and economics does not help us much in understanding the link between constructing nation-states as knowledge societies and constructing the global society as a knowledge economy.

It is, first of all, not clear how tertiary education, described as crucially important for economic growth, contributes to democratic development apart from 'installing' democratic values in the individual student/learner. Such an effect is, of course, possible and important, as we will discuss below; but the main purpose of tertiary education, as described in this report, is the creation of qualifications for the student's working life, particularly the working life that promotes economic growth. The purpose is not, as already mentioned, to create well-functioning democratic citizens within the nation-state as a democratic society. Neither does the nation–state seem to be of much importance (apart from the debates about innovation systems) as we shall highlight below. The societal reference is the world economy—the globe—and there is not much democracy there yet.

The report thus is most concerned about the production of experts for the economy despite its emphasis on tertiary education for producing and disseminating societal values of a democratic kind. It is, of course, important that experts are democrats and not potential allies with repressive elites of one kind or other. History is filled with examples of how experts and professions fail to contribute to deliberations of a democratic kind. We know from studies of apartheid, fascism and other similar regimes that education is not necessarily a bulwark towards non-democratic behaviour. Teachers, lawyers and engineers (to mention some examples) seem to be mobilised all too easily to perform their professional functions for such regimes in ways that make us ques-

tion the role of education for democratic development when such education is not linked to ongoing debates about democratic values.

If we then quickly scale up to the world economy, as the report does—an economy which moves without ethical commitment of any kind to societies as we usually know them and which links to local economies and local experts of all kinds according to needs—the space for building democratic national-state identities seems to be diminishing. As a much-debated topic in the 1990s (e.g., Dezalay and Sugarman 1995), the world economy and its international labour market also construct new professional ethics and endorse practises considered to be preconditions for the expansion of the world economy across borders and in-between regulations. More and more of the content of tertiary education must, of necessity, take this global situation into consideration. At the same time, more and more of the tertiary education sector itself becomes global. However, the link between this global society and its future democratic development is missing from the report. Its references to democracy, poverty alleviation, etc., take on a ritualistic character.

When the report mentions this issue, it is, of course, because it has consequences for the lending and support policy. The global spread of MBAs, the kind of knowledge disseminated through the African Virtual University or generally the kind of support and the institutions and disciplinary selection within the different nation-states done through the World Bank mechanism for lending—all promote some global processes, approaches and ethics at the cost of others.

The lack of such reflection is all the scarier given the report's overly rationalistic ambitions. It argues that knowledge is important for development, should be seen in a holistic way and should be the engine in any developmental strategy. It is a given that the knowledge economy is the precondition for economic growth and position in the global economy. This makes some parts of the tertiary education more important than others, depending on the level of economic development; but the parts affected are usually the capitalist professions and vocations. While there may be a striking disparity between rich and poor countries in science and technology investment and capacity, there are few correlations between such investment and wealth redistribution, much less with the development of democracy. According to *Constructing Knowledge Societies,* 'There is a striking disparity between rich and poor countries in science and technology (S&T) investment and capacity. It was estimated in 1996 that OECD member countries accounted for 85 per cent of total investment in R&D; China, India and Brazil, and the newly industrialised countries of East Asia for 11 per cent; and the rest of the world for only 4 per cent' (p. 9).

How the engineering and science community is composed (types and level of education) also matters, as experience with African countries shows. The incongruence between education and work makes even a relatively high rate of graduates in engineering and the sciences fairly useless for the local economy, although it is probably useful for brain-drain recruitment and for linking to parts of the external establishments. The priority that the report gives to the role of science, technology, economy, accounting, etc., in making sure that economies are properly launched indicates not only a misunderstanding of how different types of knowledge are linked (i.e., how knowledge and the world of work are linked), but also the limits in planning an educational system, particularly a misunderstanding of how the relations between different types of knowledges can be shaped politically. Thus, most of the models for lending/funding will probably also come with strict demands for 'construction' to fit the model—demands emerging from the needs of the global economy—rather from than the complexity of the nation-state under development. The composition of different knowledges in a society and how they are related is in itself a social product. It cannot be planned or constructed according to demands from the economy, although the economy is, of course, one important social actor in shaping this system.

The rationalistic planning approach of the tertiary education sector probably also explains the analytical focus on the university as something which has to be reorganised according to so-called new realities (often described by people more interested in research than education, as, for example, Nowotny and Gibbons 2001), but giving less priority to those concerned about the cultural role of the universities in the new globality. The fixation on 'science' in England and on 'engineering' in Germany was never planned. Both are cultural products. The fact that a varied system of engineering education in Germany created a more vibrant industrial culture in crucial periods of economic growth did not make the English transform their social-class-based priority of 'science' at the cost of engineering, nor did it prevent them from spreading this upper-class conception of knowledge to colonies as 'best practises'.

The State

After publishing its report *The State in a Changing World* (1997–98) the World Bank has never been the same. The state, considered to be a necessary evil to be kept as small as possible, becomes the 'agile state'. In *Constructing Knowledge Societies,* ideas from the 'industrial state' and 'developmental state' are present. These references to the role of the state, are not, however, particularly consistent. The report asks for interventions from the state but undermines the governance system of the tertiary sector by making such inter-

ventions possible to secure the interests of private providers of educational services.

In *Constructing Knowledge Societies,* the authors seem to have a clear vision when they insist:

> Low-income countries should consider concentrating on the strategic development of a few targeted disciplines and raising their quality to international standards. The disciplines should be selected for their direct relevance to the nation's potential for economic growth and should be integrated into a coordinated multisectoral approach to development of a national innovation system (World Bank 1998:115).

Thus, the support for education should concentrate on disciplines that are part of a national innovation system. This report accepts that an innovation system for a specific space (a country usually) involves the state as an organiser and that the relationship between the state, research and tertiary education (public as well as private) as an important component. Furthermore, it is probably also the state, which has to be convinced by the World Bank to give priority to the disciplines most relevant for a national innovation system. The state would thus also be involved in the kind of foreign establishments that should be allowed in the country within the tertiary education sector. The 100 to 200 new foreign providers who have entered Bangladesh in the last ten years after the market for higher education was liberalised due to 'international influences' (p. 71) should thus have been more strongly screened by the innovative or developmental state for their usefulness for Bangladesh's industrial take-off. For the sake of fostering innovation, the 'innovative and developmental state' needs to reinforce an alliance between a fairly strong state and knowledge demands from the economic actors. Korea and China are, of course, used as positive examples of such connections, while African countries are negative examples.

This also means—since we now talk of 'low-income countries'—that a strengthening of the state's administrative and interventionist capacities is needed. The role of tertiary education—particularly that of the universities—will then be to educate enlightened and justice-seeking democratic bureaucrats who know how to administrate as well as how to relate specific knowledge about the sectors of priority for development to public values like equal treatment, value-free judgment of clients, and independent decision-making. This situation, of course, is also the precondition for managing the fast-growing section of tertiary education itself.

Most of the report, however, is more concerned about creating a global market for educational services than about development strategies involving

state-society relations. This fundamental conflict in focus on the role of the tertiary education sector, of course, penetrates the whole report.

In the section titled 'Change-Resistant Governance Structures and Rigid Management Practices', *Constructing Knowledge Societies* describes autonomy and self-control in academic institutions as a 'form of privatisation of public institutions to the benefit of special internal stakeholder groups' (p. 62). In theories of professions, this relationship is often labelled self-control or professional autonomy. On the next page, the report complains of 'many countries and institutions' that 'have rigid administrative procedures that govern changes in academic structures, programs and modes of operation' (p. 63). Rigid administrative procedures should not be defended per se, of course. But solid bureaucracies, which also occur in academic institutions, might at least provide the necessary conditions for external accountability preferred by the World Bank (p. 62). Borrowing a phrase from a more recent report, 'the fantasy' of getting rid of bureaucracy 'would turn into a nightmare' (World Bank 2003: 55).

What is worse, however, is that this approach undermines all strategic development. The universities, for example, which in the 'developmental state' or 'innovative economy' would have had a privileged role, are now becoming institutions of public inertia to be bypassed by private initiative. When the developmental state is played down, when there is little focus on 'national innovation system', then the role of the public universities is also reduced. Appeals to strategic thinking about the relationship between higher education and societal development have little credibility. Accordingly, the description of the state's role in governing the education sector (see p. 83) is, at most, that of an institution of guidance.

This is seen, for example, in the promotion of quality assurance agencies (QA), one of the global fashions in higher education governance in the developed world that is spreading uncritically to developing countries. Quality assurance agencies are supposed to control and give accreditation to all the new providers, whether public or private, external or internal, for profit or not, to secure certain minimum standards. But these quality assurance agencies are not and cannot be instruments for linking education and society according to political priorities and ideas about focused development. These agencies, should, according to the World Bank, be quite autonomous, first of all, to promote national and international private providers in an area previously dominated by the often corrupt and reform-unfriendly state. Quality assurance agencies represent a new stakeholder approach and a new way of legitimizing the private providers. They are institutions with different degrees of state versus sector affiliation, and different degrees of private or public ownership (see e.g., Van Damme, Van der Hijden and Campbell 2003); however, they work best, according to the

World Bank's reasoning, if they themselves are private. They are defining the new boundaries of the tertiary education sector by focusing on minimum criteria for knowledge dissemination, not on purpose, ownership, or systemic consequences for societal development (pp. 87-91). Perhaps the quality assurance institutions are good for the expansion of the education sector, particularly for the many private providers (which seems to be the main concern in *Constructing Knowledge Societies*). However, the problems in the way the World Bank reduces the 'developmental state's' influence over the sector during a phrase critical for the nation's well-being are not recognized.

Letting the sector loose is the World Bank's credo. The main message is to enable the tertiary sector to expand, not to link it to a strategy for development. A policy framework is all that is needed, according to the report: an enabling regulatory environment, proper financial incentives and close collaboration between state, industry, professions and civil society. But also—and probably most important for this kind of 'guidance'—a proper competition among tertiary education institutions must be encouraged, whether private or public, whether campus-based or virtual, whether owned by locals or by cosmopolitans, whether a university or a two-month course in information and communication technology. All kinds of state planning for development will only hamper such a 'healthy' competition. We, however, are not so sure that the factors that develop the tertiary education sector always also construct a knowledge society.

Knowledge Shopping or Innovative Economies?

In our view, the report is ridden by the contradiction between promoting 'local (nation-state) economies' on the one hand and, on the other, promoting the global network of tertiary education institutions of all kinds. It is not only the link to the global economy that counts but also the links to the global market for educational services, and this, as argued above, seems to be the dominating concern. The report's advice about which foreign educational services should be given priority clearly illustrates this contradiction (p. 115). The question we ask ourselves is: When the state's economic development and the global transformation of the tertiary education system are to be promoted simultaneously, what relationship should these two have?

The role of the state seems rather weak if the fundamental ideas guiding the World Bank's lending policy for tertiary education are to be followed. Scandinavian countries would hardly qualify for any funds (if these countries were otherwise poor enough). However, if ideas about a national innovation system were pursued, quite a different role for the state would need support. A strong interest in a liberalised and globally open higher education sector seems to contradict theories of growth and the role of education in the innovation pro-

cess. The innovation process needs both selections of institutions and disciplines as well as hierarchies in tertiary education with a strong focus on the research university. The goal of increasing the number of tertiary education providers seems to contradict the goal of constructing knowledge societies for economic growth; and the ideological anxiety for a 'strong state', linked to morally independent universities of high standing and national priority, seems to prevent a proper reflection about these contradictory goals in the report. And quality assurance agencies are no substitute for such lack of policies.

This lack of reflection also appears in the omitted debate about what higher education, as a 'global public good' should be, a statement often used in the report, probably to reassure a critical audience. In our view, this economic terminology is confusing.

As *Constructing Knowledge Societies* shows in its many descriptions, education is less and less a public good and definitely not a global public good. There is an enormous growth in the sales of knowledge products. Thus, economically speaking, knowledge cannot be a *public* good; it is a commercial commodity, being sold in all kinds and shapes. Knowledge shopping is the order of the day, particularly in parts of Asia; but it is also a fast-growing phenomenon in Africa. Senegal, so often criticised in the report, is an example. However, there is a strong case to be made that knowledge should be publicly controlled for the benefit of everyone. The market should be controlled, locally and globally; and ideologies about the 'global public good' do not help much here. Such an attitude presupposes political institutions and types of engagement from the state far beyond the role of guidance and, at the global level, far beyond the role of the World Bank. Perhaps only UNESCO, if given enough resources, would have such legitimacy in the global space (Halvorsen and Michelsen 2002).

When *Constructing Knowledge Societies* proposes that the World Bank become the central node in a network of global development actors for the construction of knowledge societies, it is a positive development for the bank itself, but it is a threat to the development of global democracy.

The Multilateral Field

The World Bank insists throughout the report that it is in a privileged position to provide support to higher education for development. Through its networks, its experience, its access to a more holistic developmental strategy (which it can influence, even shape, by its other lending policies), or generally because it is a 'knowledge bank', it argues that it is the best agency for global development of countries lagging behind.

We do not doubt the importance of the World Bank nor its networks, experiences and ability to gather information about the needs of different coun-

tries—as the World Bank sees them. However, the one-sidedness of the World Bank in its understanding of how societies develop makes us desire a stronger role for an organisation emanating from UNESCO in this area. Such a proposal, of course, means a change in UNESCO's current practices, for example, its relation to members/donors and to sector funding through the use of donor money. But its ever-strengthening involvement in the global debate about knowledge, about quality in education and the role of quality assurance agencies, in cross-border education and research exchanges, as alternatives to the Trade-Related Intellectual Property Rights (TRIP) agreements, etc., all add up to a further role in educational development. We feel that the World Bank's importance in this area is worthy of support, particularly since it will balance the bank's seed activities as a lending institution. Generally much more money should be 'given' to promote education, particularly tertiary education, which for so long has been neglected, including by the bank itself. However, tertiary education and higher education are too important to be left to the World Bank in the manner and the degree now proposed through this report.

Note

1 For a comparison between one Scandinavian university and universities in South Africa, see information about the 'SANTED Formative Research Project', www.cepd.org.za.

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