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Graduate training in economics in anglophone Africa (except Nigeria)

Phase two of an AERC training study

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This collaborative project was researched by the author and a Training Task Force made up of senior scholars and officials.

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I. Summary

Graduate training in economics in Sub-Saharan Africa has deteriorated significantly between the second half of the 1970s and the end of the 1980s. The main causes cited in the reports of the first phase of this study include deterioration in the economic environment, academic and physical infrastructure, and pecuniary and professional incentives, and difficulties in executing staff development programmes. Scholars and officials involved in the AERC studies have agreed on recommendations to strengthen the training of economists at the MA and PhD levels in anglophone Africa, except Nigeria, through a collaborative approach involving the economics departments of participating universities in such matters as curriculum development, external examination, staff and student exchanges and joint supervision of examinations and graduate research. Collaboration would also entail the establishment of a joint teaching facility for the teaching of some MA courses. Parent universities would offer the compulsory courses, and use the collaborative facility for electives. Foreign and local degrees are proposed for the PhD.

The success of this proposal will depend on the co-operation and support of participating universities, governments from the sub-region, foreign universities and the donor community.

II. Introduction

The aim of the African Economic Research Consortium (AERC) is to strengthen economic policy analysis and management through independent, rigorous enquiry into problems pertinent to Sub-Saharan African economies. In bringing together senior academics and government officials to undertake collaborative research focusing on the economic management of their respective countries, and organizing regular meetings to discuss their findings, the AERC has gradually been laying the foundation for greater collaboration in the sub-region.

Although the bulk of AERC support has gone into research, institutional strengthening has been an important feature of its activities. The Consortium has financed sabbaticals, institutional attachments, PhD theses, and modest purchases of essential equipment. Furthermore, it has been concerned with the quality of training of economists at graduate level in various institutions in Sub-Saharan Africa since the ability of the region to produce competent economists bears directly on research, as well as economic policy analysis and management.

The AERC initiated a study on "Postgraduate Training of Economists for Africa" pursuant to a decision taken by its Board of Directors on the recommendation of its Advisory Committee. The first stage of the study, covering eastern and southern Africa, Nigeria and Ghana, and some francophone west African countries, was undertaken in 1989. Its principal findings were:

- The demand for graduate level economists was in excess of the supply from local and overseas sources;
- Physical and academic infrastructure was inadequate and its quality had deteriorated;
- Pecuniary and professional incentives had declined considerably; and
- There were often no properly planned or adequately financed staff development programmes.

The separate and joint reports identified possible responses, including a strengthening of MA programmes in the region through greater collaboration; improvement of physical and academic infrastructure through increased support from governments and donor sources; staff development through scholarships for local and foreign PhD degrees; the improvement of pecuniary and profes-

sional incentives; and greater regional collaboration through joint teaching, curriculum development, and external examinations and exchange of staff and students.

The second phase of the AERC study has concentrated on specific modalities for three distinct groups, namely anglophone Africa (except Nigeria), Nigeria and francophone west Africa.

This report focuses on anglophone Africa (except Nigeria). Its terms of reference are given in Appendix 1. Data were jointly collected by the author and senior scholars and officials (constituting a Training Task Force) from Ethiopia, Ghana, Malawi, Swaziland, Lesotho, Botswana, Tanzania, Uganda, Zambia, Zimbabwe and Kenya using a jointly developed questionnaire. In addition to collecting data for his own country, the author visited Europe and North America to investigate possible modes of collaboration between overseas and African scholars and institutions (see Appendices 2 and 3).

The data cover such matters as the economics programmes offered at each university, their cost, staffing, syllabi, the structure of the academic year and institutional support. In addition, views were elicited concerning the acceptability of various modalities.

The team held four meetings to exchange views and more generally strengthen a process of consultation on various issues. The discussion was vigorous and uninhibited as the group determined forms of collaboration that would be suitable and sustainable in their respective circumstances.

The findings are presented in terms of the current structure of graduate education; the problems confronting graduate education; and specific proposals for strengthening it. The last section contains some concluding observations by the author.

III. Description of economics undergraduate and graduate degrees

All 13 universities covered by this study offer a bachelor's degree in economics, but only seven have active master's programmes. Except for one, the remaining universities have designed master's programmes that are at different stages in terms of possible implementation.

The bachelor's degree programme

Entry into the BA is determined according to one of two systems (see Table 1). In one, students are admitted after attaining the required grade at "ordinary" level ("O" level) examinations, usually after four years of secondary school. The BA programme is four years in duration. In the other, candidates are admitted after passing advanced level ("A" level) examinations following six years of secondary school. The bachelor's degree is completed in three years.

In both systems, the first year is general since the candidate registers for economics and two or more other subjects. Specialization normally starts in the second year of the programme, and varies according to the number of non-economics courses that can be dropped. For example, a candidate at Makerere University wishing to specialize in economics will register for a 3-1-1 BA programme will spend the first year studying economics and two other subjects, and thereafter economics alone.

Commencing October 1990, Kenyan universities shifted to a four-year BA because of the 8-4-4 educational system which provides for eight years of primary and four years of secondary education. A candidate is evaluated by results obtained in the Kenya Secondary Certificate of Education (KSCE) examinations. Examinations are taken in ten subjects, covering arts and sciences, and the maximum number of points is 120, corresponding to ten "As". The minimum entry requirement into the university is an average score of 7 points (grade C+) in ten subjects. Table 2 shows the grading scheme.

Table 1 Structure of the BA (Econ.) programme, 1990

University	Minimum university entry requirements	Duration of programme (years)
Dar es Salaam	2 Principals at "A" level Pass in economics	3
Sokoine	3 Principals at "A" level	3
Ghana	5 Passes at "O" level 3 Passes at "A" level	3
Lesotho	Division II at "O" level Credit in maths	4
Botswana	Division II at "O" level Credit in maths	4
Swaziland	Division II at "O" level Credit in maths	4
Makerere	3 Principals at "A" level	3
Zimbabwe	3 Passes at "O" level 2 Passes at "A" level	3
Zambia	5 Credits in Zambia School Certificate	4
Addis Ababa	2 GPA points Pass at Grade 12 Exams	4
Kenyatta	2 Principals at "A" level Credit in "O" level maths	3
Malawi	Not available	
Nairobi	2 Principals at "A" level Credit in "O" level maths	3

Source: Task Force Questionnaire (1990).

Table 2 Grading under the 8-4-4 system in Kenya

Grades	Corresponding point scores	Minimum university entry requirements in arts
A	12	Overall average of C+ in 10 subjects
A-	11	
B+	10	
B	9	
B-	8	
C+	7	
C	6	
C-	5	
D+	4	
D	3	
D-	2	
E	1	

The MA degree programme

Not all those satisfying a minimum entry requirement are necessarily admitted into the MA programme, since the actual admission point will be adjusted according to the number of eligible candidates and available places. Under the old system (in the 1960s and part of the 1970s) candidates were admitted with 8 points. Due to the increasing number of eligible candidates with high grades, this entry point has been raised. It stood at 10 in 1990.

Table 3 sets out the minimum entry requirements for the universities for the MA degree, irrespective of whether a university has an active programme. Although minimum entry requirements vary from one university to another, a good result in the bachelor's degree examination seems to be an important common requirement. In some, a BA in economics is not a prerequisite, on the grounds that candidates with quantitatively oriented degrees (for instance, a BSc in engineering, mathematics, physics, etc.) have often turned out to be the most suited for graduate studies since they can rapidly master economics concepts without much difficulty. Those universities requiring economics at the undergraduate level are Dar es Salaam, Botswana, Swaziland and Zambia.

Table 3 Minimum entry requirements for the MA degree

University		Minimum entry requirement	
Dar es Salaam	(i)	BA	<ul style="list-style-type: none"> - Upper Second Class - Grade "B" in economic theory - Grade "B" in quantitative methods
Sokoine	(i)	BA	<ul style="list-style-type: none"> - Lower Second Class with agriculture among courses covered <p>OR</p> <ul style="list-style-type: none"> - Lower Second Class and remedial courses if agriculture not among courses covered
Ghana	(i)	BA	<ul style="list-style-type: none"> - Upper Second class, <p>OR</p> <ul style="list-style-type: none"> - Very good Lower Second Class Honours (in economics or related subjects) <p>OR</p>
	(ii)	B.Sc.	<ul style="list-style-type: none"> - Same level of performance
Lesotho	(i)	BA	<ul style="list-style-type: none"> - Lower Second Class Honours
Botswana	(i)	BA	<ul style="list-style-type: none"> - Lower Second Class - 8 undergraduate courses in economics, 3 of these courses taken in fourth year
Swaziland	(i)	BA	<ul style="list-style-type: none"> - Lower Second Class - Substantial courses in economics
Makerere	(i)	BA	<ul style="list-style-type: none"> - Upper Second Class
Zimbabwe	(i)	BA, BSc.	<ul style="list-style-type: none"> - In economics with high standard of achievement
	(ii)	Equivalent	<ul style="list-style-type: none"> - High standard of performance
Zambia	(i)	BA	<ul style="list-style-type: none"> - With at least credit - Good grades in sufficient number of courses in economics

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Addis Ababa	(i)	BA (Econ.)	- With minimum cumulative grade point average (CGPA) of 2.5 - Minimum of 2.75 CGPA
	(ii)	Equiva- lent	
Kenyatta	(i)	BA	- Upper Second Class (mostly 3-1-1 students) OR B.Sc. Upper Second Class
	(ii)	B.Sc.	Upper Second Class
Nairobi	(i)	BA	- Upper Second Class - (mostly 3-1-1 students) OR B.Sc. Upper Second Class
	(ii)	B.Sc.	Upper Second Class
Malawi		n.a.	n.a.

Source: Task Force questionnaires.

In all but one university, full-time students have two years to complete the programme, whereas the part-time ones are allowed three years. Table 4 details the structure of the MA programmes offered by seven of the universities that have active MA programmes covering course work and thesis within the prescribed period.

Table 4 Structure of the MA programmes

University	Full-time				Part-time			
	CW* alone	Thesis alone	CW plus thesis	Duration (years)	*CW alone	Thesis alone	CW plus Thesis	Duration (years)
Dar es Salaam	No	No	Yes	1.5	No			
Sokoine	No	No	Yes	2.0	No			
Ghana	No	No	Yes	2.0	No			
Zimbabwe	No	No	Yes	3.0	No			
Addis Ababa	n.a.	n.a.	n.a.	n.a.	n.a.		Yes	3
Kenyatta	No	No	Yes	2.0	No	Yes		3
Nairobi	No	No	Yes	2.0	No	Yes		3
Malawi	n.a.	n.a.	n.a.	n.a.	n.a.		n.a.	n.a.

*CW = Course work

Source: Derived from Task Force questionnaire.

Five other universities, namely, Lesotho, Botswana, Swaziland, Makerere and Zambia, offer no MA although Zambia previously had a programme that was suspended due to financial constraints. Except for Makerere, the other universities have designed an MA programme. Makerere is hoping to start its MA programme at the end of this year.

Table 5 gives details of the structure of the MA programmes planned in Lesotho, Botswana and Swaziland, and the Zambia programme that was suspended.

Table 5 Structure of the MA programme for universities with no active MA

University	Full-time				Part-time			
	CW alone	Thesis alone	CW plus thesis	Duration (years)	CW alone	Thesis alone	CW plus Thesis	Duration (years)
Lesotho	No	No	Yes	2	No		Yes	3
Botswana	No	No	Yes	2	No		Yes	3
Swaziland	No	No	Yes	2	No		Yes	3
Makerere	No	n.a.	n.a.	n.a.	n.a.		n.a.	n.a.
Zambia	No	No	Yes	2	No		Yes	—

Source: Task Force questionnaire.

Full-time students are usually registered for an MA by course work and thesis. Part-time students may do the MA by thesis alone or by course work and thesis. In practice, students hardly ever register for this programme by thesis alone since graduates are considered weak due to the lack of course work.

Normally candidates cover compulsory and optional course work in the first year. Although the compulsory component is not the same in all the universities, it will include microeconomics, macroeconomics and some form of quantitative economics (econometrics, statistics, and/or mathematical economics). As far as the optional courses are concerned, the list on paper is a long one, but in practice only a small number are actually offered due to a shortage of qualified staff. Some universities must offer the same "optional" courses every year, so for all practical purposes these courses can be considered compulsory. Tables 6 and 7 give examples of MA courses at the Universities of Dar es Salaam, Ghana and Nairobi.

Table 6 Structure of the MA courses at Dar es Salaam University

I. Compulsory courses	Contact hours per academic year	II. Optional courses	Contact hours per academic year
Microeconomics	72	Monetary theory	48
Macroeconomics	72	Public finance	48
Maths for Economists	48	Industrial development	48
Statistics and Econometrics	48	Manpower planning	48
Economic development and planning	48	Rural development	48
Research methodology	32	Regional economics	48
Dissertation		Econometrics*	48
		International economics	48

*Compulsory for Tutorial Assistants on Staff Development Programme.

Source: Derived from Task Force questionnaire.

Table 7 Structure of the MA courses at the Universities of Ghana and Nairobi

I. Compulsory courses	Contact hours per academic year		II. Optional courses	Contact hours per academic year	
	G*	N**		G*	N**
Microeconomics	90	60	Money and banking	90	
Macroeconomics	90	60	Monetary economics		60
Econometrics	90	120	Public finance	90	60
Economic planning	—	60	Agricultural economics	90	60
Development strategies	—	60	Operations research	90	60
Policy analysis	—	60	International economics	90	60
Project evaluation	—	60	Industrial economics	90	60
			Labour economics		60
Dissertation	—	—	Manpower economics		60

*G = University of Ghana

**N = University of Nairobi

Source: Derived from Task Force questionnaire.

In the case of Dar es Salaam, a student must pass five compulsory courses totalling 288 contact hours and two optional courses totalling 96 contact hours and present a satisfactory dissertation. In Ghana, the candidate must cover three compulsory courses, one less than Nairobi. Both universities also require two optional courses (see Table 8).

Table 8 Course requirements for the MA at selected universities

Courses	Dar es Salaam	Ghana	Nairobi
1. Course work			
(i) Compulsory			
(a) Number of courses	5	4	4
(b) Total contact hours	288	270	480
(ii) Optional/electives			
(a) Number of courses	2	2	2
(b) Total contact hours	96	180	240
(iii) Non-credit courses			
(a) Number of courses	1		1
(b) Total contact hours	32		120
2. Thesis	Candidate must satisfy:		Candidate must satisfy:
	(i) Supervisors		(i) Supervisors
	(ii) Thesis committee		(ii) Thesis committee
	(iii) External examiner		(iii) External examiner

Sources: (i) Training Task Force questionnaire

(ii) M.S. Mukras, 1989. *A Study of the State of Graduate Training in East and Southern Africa: The Case of Tanzania and Kenya* (Nairobi, AERC).

MA costs and fees

In most of the seven universities with active MA programmes local students are not charged fees. Moreover, discussions at a meeting of the Task Force in March/April 1990 suggested that university authorities were not clear about costs per student nor had they made any serious estimation of them. However, the figures in Table 9, which provide data on fees charged to foreign students, offer a very rough indication of the average cost per student in different universities, including those currently offering an MA degree.

Table 9 Fees payable by foreign MA students (US\$)

		Registration	Tuition supervision	Exams	Research	Books	Caution money	Stipend	Total
Dar es Salaam	I	14	414	0	620	240	10	1,085	2,383
	II	0	0	140	0	0	543	683	1,366
Sokoine	I	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
	II	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Ghana	I	20	2,500	50	—	300	1,300	1,200	5,370
	II	20	2,600	—	300	300	1,300	1,200	5,720
Lesotho	I	10	2,500			150		3,000	5,660
	II	10	2,500			150		3,000	5,660
Botswana	I	25	4,100				50		4,175
	II	25	4,100				50		4,175
Swaziland	I	20	1,700	50		150	10		1,930
	II	20	2,550	50		150	10		2,780
Makerere	I	20	7,000	200	400	400	10	510	8,540
	II	20	7,000	200	400	400	—	510	8,530
Zimbabwe	I	5	360	—	—		25		
	II	5	180	—	—	58**	—		
Zambia*	I	4	320	12	0	0	4	807	1,147
	II	4	320	0	640	0	4	807	1,775
Addis Ababa	I	39	5,314	6,474	2,445	242	—	—	—
	II	—	—	—	—	—	—	—	—
Kenyatta	I	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
	II	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Nairobi	I	65	1,565	26	391	131	5	2,649	4,832
	II	0	1,565	87	391	131	—	2,649	4,823

Source: Derived from Task Force questionnaire.

I and II represent the first and second years of the programme.

*Paid by local students (hence subsidized)

**Sum of student union and medical fees.

These figures should be treated with caution since actual costs have yet to be estimated.

PhD programmes

Of the 13 universities covered by this study, although seven have a PhD degree on their books, only four have active programmes, (Dar es Salaam, Nairobi, Sokoine and Zambia), and none of these stipulate course work. To register, a candidate must have a master's degree from the parent university, or another of comparable standard, and a thesis proposal approved by the appropriate graduate committee. The candidate is then allocated thesis supervisors. Table 10 provides information on PhD programmes.

Table 10 Availability of PhD programmes

University	PhD active	Present in books	By thesis	By course work	Duration (years)	Registration (enrolment) 1989
Dar es Salaam	Yes	Yes	Yes	No	6 Maximum	6
Sokoine	Yes	Yes	Yes	No	6 Maximum	1
Ghana	n.a.	n.a.	n.a.	n.a.	—	—
Lesotho	Planned	Yes	Yes	No	—	3
Botswana	No	No	—	—	—	—
Swaziland	No	No	—	—	—	—
Makerere	No	No	—	—	—	—
Zimbabwe	Yes	Yes	Yes	No	5 Maximum	1
Zambia	Yes	Yes	Yes	No	5 Maximum	1
Addis Ababa	n.a.	n.a.	—	—	—	—
Kenyatta	No	Yes	Yes	No	5 Maximum	—
Nairobi	Yes	Yes	Yes	No	5 Maximum	4
Malawi	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.

Source: Task Force questionnaires.

IV. Issues

This section examines six major issues, namely the demand for and supply of graduate economists, teaching capacity, staff development, infrastructure, incentives, and public support for strengthening graduate training in economics.

Demand for and supply of economists

Three sets of data have been used to estimate the demand for and supply of graduate economists. The first comes from Phase I of the study, the second from the Task Force questionnaires, and the third from members of the Task Force at a meeting in Nairobi in March/April 1990. Together these three sources provide a fairly clear picture of the demand for and supply of graduate economists, although the data are neither comprehensive nor very precise. A more accurate estimate would have required much more time and resources than were available. In any event, the principal objective was not an extremely precise estimation but rather an overall sense of the balance between demand for and supply of graduate economists in the countries included in the study. The selection of respondents and documents was conducted cautiously. Respondents included a minister, permanent secretaries, university vice-chancellors, directors of graduate studies, deans of faculty, heads of economics departments, and highly placed executives. The estimates should be further qualified since the study was undertaken when some countries were at the beginning of structural adjustment programmes and had just begun to increase their demand for economic policy analysts and managers in the public and private sectors.

Table 11 provides data on current enrolments, average annual enrolments for the last five years, and the average number of actual graduates over the last five years. These data indicate that the overall average annual level of MA enrolment for the last five years was 45, slightly less than the current number of 56.

Table 12 presents data on projected enrolments of MA and PhD candidates for the years 1991, 1992 and 1993 for 11-13 universities, in the absence of any major intervention to rectify the current situation. The average annual enrolment will be three PhD candidates and 118 MA students.

Table 11 Enrolments

	Current enrolment 1990			Annual averages for the last five years					
	BA	MA	PhD	Enrolment			Graduating		
				BA	MA	PhD	BA	MA	PhD
Dar es Salaam	125	9	6	125	10	2	100	10	1.2
Sokoine	18	6	1	17	4	1	17	4	
Ghana	402	8	—	60	4	—	—	—	—
Lesotho	370			300	—	—	—	—	—
Botswana	515			380	—	—	—	—	—
Swaziland	265			170	—	—	—	—	—
Makerere	1,200			1,167	—	—	—	—	—
Zimbabwe	387	16	—	285	10	—	92	5	—
Zambia	227	2	1	152	2.4	0.2	52	0.6	0
Addis Ababa	295			280			78		
Kenyatta	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Nairobi	2,000	40*	4	1,500	30*	3	50**	30*	0.6
Malawi	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.

* This figure includes BPhil students (25 for 1990, and an average of 15 for the last five years).

** This figure refers to students with economics honours (3-1-1).

Source: Derived from Task Force questionnaires.

Table 12 Estimated future enrolment for MA and PhD students in the absence of Collaborative Programme

University	MA				PhD			
	1991	1992	1993	Total	1991	1992	1993	Total
Dar es Salaam	12	14	16	42	2	2	2	6
Sokoine	10	10	10	30	—	1	—	1
Ghana	10	10	10	30	—	—	—	—
Lesotho	—	10	10	20	—	—	—	—
Botswana	10	10	10	30	—	—	—	—
Swaziland	—	—	10	10	—	—	—	—
Makerere	20	20	20	60	—	—	—	—
Zimbabwe	16	16	16	48	—	—	—	—
Zambia	—	—	—	—	—	—	—	—
Addis Ababa	10	10	10	30	—	—	—	—
Kenyatta	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Nairobi	18	18	18	54	1	1	1	3
Malawi	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total	106	118	130	354	3	4	3	10

Source: Derived from Task Force questionnaire.

Hence, ten countries will be producing a maximum of 59 MA graduates every year for the next three years, or about six per country. Since these graduates are the ones most needed to carry out economic analysis and management, research and teaching, by any criterion their number is hardly likely to be adequate.

Table 13 projects the annual number of PhD graduates needed for teaching and research in 12 universities for the next ten years. Together, they require about 15 PhDs annually, or a total of 150 over ten years. Finally, this table also indicates that the universities can expect about 57 MA scholarships annually, mainly from government sources.

Table 13 Annual PhD graduate requirements for staffing and projected MA scholarships for the next ten years

University	PhD graduates (10-year annual average)		MA scholarships (10-year annual average)	
	Annual	Total	Annual	Total
Dar es Salaam	1	10	10	100
Sokoine	—	—	—	—
Ghana	1	10	10	100
Lesotho	0.5	5	—	—
Botswana	0.5	5	3	30
Swaziland	1	10	—	—
Makerere	2	20	—	—
Zimbabwe	1	10	12	120
Zambia	2	20	—	—
Addis Ababa	2	20	10	100
Kenyatta	2	20	3	30
Nairobi	2	20	9	90
Malawi	—	—	—	—
Total	15	150	57	570

Source: Data tabled by senior scholars and officials from these listed countries at AERC Task Force Meeting 28 – 31 March 1990.

Table 14 consolidates all this information (including that extracted from the first phase), in order to estimate demand and supply from 1991 to 1993. The data indicate that in ten countries demand for graduates with MA and PhD qualifications is far in excess of the likely supply from local institutions.

Table 14 Demand and supply, 1991–1993

Country	Demand	Supply	Balance
Zambia			
Government	38		
Private	8		
University	6 ^a		
Total	42	3	39
Zimbabwe			
Government (finance)	27		
Private (1 company)	6		
University	3 ^a		
Total	36	24	12
Ethiopia			
Two departments	28		
University of Addis Ababa	6 ^a		
Total	34	15	19
Kenya			
Public and private	90		
Two universities	12 ^a		
Total	102	39	63
Tanzania			
Government	n.a.		
One university	3 ^a	4 ^b	-1
Ghana			
Government	n.a.		
One university	3 ^a	0 ^b	3
Lesotho			
Government	n.a.		
One university	2 ^a	0 ^b	2
Botswana			
Government	n.a.		
One university	2 ^a	0 ^b	2
Swaziland			
Government	n.a.		
One university	3 ^a	0 ^b	3
Uganda			
Government	n.a.		
One university	6 ^a	0 ^b	6

Source: Derived from Tables 11, 12 and 13 and Mukras, 1990.

a = Demand for PhD graduates at local university.

b = Supply of PhD graduates from local university.

Teaching capacity

Teaching capacity is assessed in terms of staff qualifications and teaching load (measured by the student/staff ratio), since both are important determinants of quality. In all seven universities with active MA programmes, undergraduate and graduate students are taught by the same staff. With the rapid increase in undergraduate enrolments, teaching loads have grown substantially with adverse effects on teaching, research, and thesis supervision.

To determine teaching loads in departments of economics, student enrolment figures have been adjusted to reflect the proportion of lectures received from or undertaken by economics staff, including service courses offered to other departments.

Computation of the full-time student equivalent (FTSE) is done in three steps. First, we determine the total number of hours devoted to teaching and tutorials that all the students (within or outside a department/faculty) registered in any one subject receive in any one academic year. Secondly, we estimate the total number of hours of lectures and tutorials for all relevant subjects received by a full-time student in one academic year. Thirdly, we compute the quotient of the two to obtain the FTSE for the department in question at the undergraduate level. To allow for the intensity of instruction and seminars at the graduate level, the FTSE for the MA and PhD is obtained by adjusting the undergraduate quotient by 2 and 4, respectively.

Table 15 contains data on enrolments of BA, MA and PhD students and the corresponding FTSE. Where data are available, the FTSE is also adjusted for service courses. This table differs from the one in my earlier report (Mukras, 1990) because the data are more recent and accurate.

Table 15 Enrolments and FTSE, 1990

University	Enrolments			FTSE
	BA	MA	PhD	
Dar es Salaam	300	9	6	277
Sokoine	18	6	1	102
Ghana	402	8	—	295
Lesotho	370	—	—	167
Botswana	515	—	—	202
Swaziland	265	—	—	115
Makerere	1,200	—	—	735
Zimbabwe	387	16	—	284
Zambia	427	2	1	270
Addis Ababa	295	10	—	305
Kenyatta	—	—	—	—
Nairobi	2,000	40	3	719
Malawi	—	—	—	—

Sources: Task Force questionnaire and Mukras, 1990.

Teaching staff in these universities comprise nationals and foreigners. Table 16 indicates that 60 percent of the teaching staff in the universities have an MA or BA degree, and 21 percent are foreigners.

Table 16 Rank, qualifications and nationality of staff

University		Professor		Assistant Professor		Senior Lecturer		Lecturer and others		Total	Staff development programme
		L	F	L	F	L	F	L	F		
Dar es Salaam	PhD	2	1	1	1	5	0	6	0	16	
	MA							12		12	12
	BA										
Total		2	1	1	1	5	0	18		28	12
Sokoine	PhD					4		5		9	
	MA							12		12	12
	BA							2		2	2
Total						4		19		23	14
Ghana	PhD							5	1	6	
	MA							7		7	1
	BA							2		2	
Total								14	1	15	1
Lesotho	PhD					3		1		4	
	MA							4		4	
	BA										
Total						3		5		8	
Botswana	PhD										
	MA						2	1	2	5	
	BA							2		2	
Total							2	3	2	7	
Swaziland	PhD			1	1					2	3
	MA							3		3	
	BA										
Total				1	1			3		5	3
Makerere	PhD			1		2				3	
	MA							10		10	4
	BA										
Total				1		2		10		13	4
Zimbabwe	PhD		1				1			2	
	MA		1			2		2	7	12	
	BA								4	4	4
Total			2			2	1	2	11	18	4
Zambia	PhD						1		1	2	
	MA		1					3	5	9	2
	BA										
Total			1				1	3	6	11	2
Addis Ababa	PhD			2	2	3				7	4
	MA					3		7		10	
	BA							7		7	
Total				2	2	6		14		24	4
Nairobi	PhD			3		4	3	9	1	20	
	MA							6		6	
	BA										
Total				3		4	3	15	1	26	8

Source: Derived from Task Force questionnaire.

This table also shows the number of staff on development programmes. Table 17 underscores the problem of vacancies. For example, 41 percent of the established positions are vacant in Makerere and 25 percent in Nairobi.

Table 17 Established positions, actual staff and vacant positions, 1990

University	Established positions	Actual staff	Vacant positions
Dar es Salaam	28	28	0
Sokoine	28	23	5
Ghana	19	15	4
Lesotho	8	8	0
Botswana	10	7	3
Swaziland	8	6	2
Makerere	25	13	12
Zimbabwe	26	18	8
Zambia	17	11	6
Addis Ababa	24	24	0
Kenyatta	n.a.	n.a.	n.a.
Nairobi	35	26	9
Malawi	n.a.	n.a.	n.a.

Source: Derived from Task Force questionnaire.

On the basis of FTSE given in Table 15, we calculated the nominal and actual student/staff ratios presented in Table 18. The student/staff ratios given in column four of the table are established staff positions, whereas those in column five are actual staff numbers.

Table 18 Student/staff ratios based on FTSE

University	FTSE	Establishment	Actual staff	Student/ Staff	
				Nominal	Actual
Dar es Salaam	277	28	28	10	10
Sokoine	102	28	23	4	5
Ghana	295	19	15	16	20
Lesotho	167	8	8	21	21
Botswana	202	10	7	20	29
Swaziland	115	6	19	14	19
Makerere	735	25	13	29	57
Zimbabwe	284	26	18	11	16
Zambia	270	17	11	16	25
Addis Ababa	305	24	24	16	16
Kenyatta	—	—	—	—	—
Nairobi	719	35	26	21	28
Malawi	—	—	—	—	—

Sources: Computed from Task Force questionnaire and Mukras, 1990.

Only two of the universities have an actual teaching load and three a nominal teaching load that conforms to the UNESCO recommended figure of 12. In contrast, Makerere has an actual student/staff ratio of 57, about five times higher than the recommended ratio. These ratios differ from those in my earlier report (Mukras, 1990) but are more recent and accurate.

Staff development

Staff development peaked in the 1960s when efforts were directed toward replacing the large proportion of foreigners by local staff through PhD scholarships for overseas study. The Rockefeller Foundation, the Ford Foundation, and the Commonwealth Scholarship Programme were among the most active in the provision of such scholarships.

Towards the end of the seventies, the number of overseas PhD scholarships shrank considerably. The evidence (Table 19) also suggests that some candidates never came back home, and others who returned to join the home university subsequently left teaching, some for the private sector, various international organizations and government ministries at home, but most to other foreign countries in search of better opportunities. However, we do not have enough data to provide a breakdown of those who remained at home, those who went away, or how long they served in the home university before departing. We note that out of four candidates, Swaziland had lost one, and on the case of Zambia and Ghana, the number of scholars lost was 6 (55%) and 5 (63%), respectively (Table 20).

The decline in PhD scholarships and increase in staffing requirements stimulated departments to look for other sources of funds and other strategies for staff development, including the possibility of local PhD programmes.

Table 19 indicates that seven universities have set up staff development programmes. Although these programmes face severe financial problems, a total of 57 candidates are currently undergoing higher training. The data also indicate that SIDA is currently the main funder of PhD scholarships. Of the seven candidates sponsored by SIDA, Zambia, Sokoine, Nairobi and Dar es Salaam have one, one, three, and six students, respectively, who are registered for a local rather than foreign degree.

Two issues merit emphasizing, namely the large number of vacant established positions and the shift in donor assistance. Table 17 illustrates that the number of vacancies is very large, and therefore warrants external assistance in training. SIDA, however, appears to be the most active donor agency. In 1990 only one PhD scholarship each was provided by the IDRC, the World Bank and the Swiss Government.

Table 19 Staff development arrangements

University	Does staff development plan exist	Is it operational	Number of staff under training	Comments
Dar es Salaam	Yes	Yes	12	(a) Local and foreign PhD (b) Lund, Gothenburg and Uppsala Universities (c) Funding, SIDA
Sokoine	Yes	Yes	14	(a) 1991-1994 expect to send 25 for PhD (b) University Reading, East Anglia and Wye College of London (c) Funding, n.a.
Ghana	Not quite	Not quite	1	(a) Have scholarship problems (b) Have no specific links with foreign universities
Lesotho				
Botswana			5	
Swaziland			3	
Makerere			4	
Zimbabwe	Yes	Yes	4	(a) Planning two PhD students a year for next five years (b) Gothenburg University (c) Funding, SIDA
Zambia	Yes	Yes	2	(a) Just started on local PhD programme (b) Gothenburg University (c) Funding, SIDA (d) Ten planned for next five years
Addis Ababa	Yes	Yes	4	Four due to go for PhD Five due to go for MA
Kenyatta	Yes	Yes		
Nairobi	Yes	Yes	8	(a) Overseas PhD Sandwich Nairobi University PhD (b) Gothenburg, McGill, Sussex, York Universities (UK), Institute of International (Geneva) (c) Funding - SIDA - IDRC - World Bank - Swiss Govt.

Source: Task Force questionnaire.

Table 20 PhD scholars: Number and non-returnees

University	Total number	Never returned or left after appointment
Dar es Salaam	—	—
Sokoine	2	—
Ghana	8	5
Lesotho	3	1
Botswana	—	—
Swaziland	4	1
Makerere	—	—
Zimbabwe	4	—
Zambia	11	6
Addis Ababa	6	—
Kenyatta	—	—
Nairobi	9	3
Malawi	n.a.	n.a.

Source: Task Force questionnaire.

Academic infrastructure

The term infrastructure is broadly applied to teaching facilities, books, journals, and other academic publications and computing facilities. In general, their availability and quality are very poor. Although each of the 13 universities has a library, the books are usually very old and limited in supply and coverage. Journals are also dated and supplied erratically. The situation is somewhat better where there exists an active research institute working in close collaboration with the economics department. Examples of such collaboration are the Institute of Development Research and the Economics Department of Addis Ababa University, the Economic Research Bureau and the Department of Economics of Dar es Salaam University, and the Institute for Development Studies, and Economics Department of the University of Nairobi.

The situation is equally poor as far as computing facilities are concerned. Due to a lack of adequate facilities, crowding and queuing is common in computer laboratories. Table 21, which contains information concerning academic infrastructure for five of the universities, shows the need for immediate attention to prevent further deterioration of a bad situation.

Table 21 General infrastructure situation

University	Library	Computing facilities	Research institute
Zimbabwe	<p><i>I. University level</i></p> <ol style="list-style-type: none"> 1. Present 2. Books <ul style="list-style-type: none"> - Poor coverage - Mostly old 3. Journals <ul style="list-style-type: none"> - Poor coverage - Infrequent supply - Mostly too old <p><i>II. Departmental level</i></p> <ol style="list-style-type: none"> 1. Not present 	<p><i>I. University level</i></p> <ol style="list-style-type: none"> 1. Present 2. Limited facilities 3. Crowding and queuing <p><i>II. Departmental level</i></p> <ol style="list-style-type: none"> 1. Present 2. Ten microcomputers for staff and students 	<p><i>I. HRRC</i></p> <ol style="list-style-type: none"> 1. New, small 2. Steady development 3. Trains and provides computer facilities
Addis Ababa	<p><i>I. University level</i></p> <ol style="list-style-type: none"> 1. Present 2. Books <ul style="list-style-type: none"> - Poor coverage - Too few - Many old 3. Journals <ul style="list-style-type: none"> - Poor coverage - Infrequent supply - Many old 	<p><i>I. University level</i></p> <ol style="list-style-type: none"> 1. Present 2. Limited facilities 3. Crowding and queuing <p><i>II. Departmental level</i></p> <ol style="list-style-type: none"> 1. Not present 	<p><i>I. IDR</i></p> <ol style="list-style-type: none"> 1. Active 2. Good documentation centre 3. Over 15 micro-computers
Zambia	<p><i>I. University level</i></p> <ol style="list-style-type: none"> 1. Present 2. Books <ul style="list-style-type: none"> - Poor coverage - Too few - Many old 3. Journals <ul style="list-style-type: none"> - Poor coverage - Infrequent supply - Many too old <p><i>II. Departmental level</i></p> <ol style="list-style-type: none"> 1. Not present 	<p><i>I. University level</i></p> <ol style="list-style-type: none"> 1. Present 2. Limited facilities 3. Crowding and queuing <p><i>II. Departmental level</i></p> <ol style="list-style-type: none"> 1. Not present 	
Dar es Salaam	<p><i>I. University level</i></p> <ol style="list-style-type: none"> 1. Present 2. Books <ul style="list-style-type: none"> - Poor coverage - Mostly old 3. Journals <ul style="list-style-type: none"> - Poor coverage - Infrequent supply - Mostly too old <p><i>II. Departmental level</i></p> <ol style="list-style-type: none"> 1. Present 2. Small, poorly supplied 3. Funds now available for constructing wooden library 	<p><i>I. University level</i></p> <ol style="list-style-type: none"> 1. Present 2. Limited facilities 3. Crowding and queuing <p><i>II. University level</i></p> <ol style="list-style-type: none"> 1. Present 2. Five Microcomputers for staff and students 	<p><i>I. ERB</i></p> <ol style="list-style-type: none"> 1. Old 2. Well equipped 3. Provides computer facilities and publications 4. Assists teaching at Dept. of Economics

.....continued

Nairobi	<p>I. <i>University level</i></p> <ol style="list-style-type: none"> 1. Present 2. Books <ul style="list-style-type: none"> - Poor coverage - Too few - Mostly old 3. Journals <ul style="list-style-type: none"> - Poor coverage - Infrequent supply - Mostly too old <p>II. <i>Departmental level</i></p> <ol style="list-style-type: none"> 1. Present 2. Small 3. Books too old 4. Not in effective use for years 	<p>I. <i>University level</i></p> <ol style="list-style-type: none"> 1. Present 2. Limited facilities 3. Crowding and queuing <p>II. <i>Departmental level</i></p> <ol style="list-style-type: none"> 1. Present 2. Five Microcomputers 3. Supply limited 	<p>I. <i>IDS</i></p> <ol style="list-style-type: none"> 1. Good documentation centre 2. Has not been very active for some time but now picking up 3. Assists teaching at Dept. of Economics
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Source: Mukras, 1990.

Incentives

Incentives to teach and carry out research can be classified as pecuniary and professional. Pecuniary incentives encompass salary and other fringe benefits, including housing or housing allowance, and medical care. Professional incentives comprise those elements conducive to a positive academic and intellectual environment, including professional literature (books, journals, and other academic publications), access to computing facilities, funds for research, and opportunities to participate in seminars, workshops and conferences. A related professional incentive is the respect and recognition accorded scholars as experts in their areas of specialization through active participation in the decision-making process in their countries.

Both real salaries and fringe benefits for academic economists have declined. In the 1960s and early 1970s, a university appointment provided for housing and health care. In several universities this is no longer the case. In the University of Addis Ababa, for example, teaching staff are not provided with any housing. In Zambia and Zimbabwe, foreign faculty are housed by the university but nationals are not. In Nairobi, both nationals and foreigners are still housed by the university. Where no university housing is available, faculty are paid a modest housing allowance.

Professional incentives have also declined, as is evident from the description of the state of academic infrastructure. Furthermore, the acute shortage of funds for research, seminars and conferences has had an adverse effect. There is also a general perception that scholars no longer enjoy the respect and recognition accorded in the past, and indeed in some countries may be seen as negative critics or agitators.

The decline in real salaries and fringe benefits has impelled scholars to turn to consultancies and other occupations in order to meet basic material needs. Attrition has also been significant, as scholars seek vacancies in international institutions offering better opportunities.

These changes have had adverse effects on the quality of teaching, and the motivation to publish. Younger scholars who have yet to establish a reputation through teaching, research, and publications find the situation even more difficult. The impetus to publish is absent when basic references, funds for field-work, computing facilities and secretarial support are lacking. Even more discouraging is the absence of opportunities to present their work at local, regional and international gatherings of fellow professionals.

V. Proposals

The first formal meeting of the AERC group on training held in May 1989 set in motion a process of seeking new approaches for strengthening the graduate training of economists in Sub-Saharan Africa. It was attended by heads of economics departments, senior scholars and officials from Sub-Saharan Africa, as well as three external resource persons and donor representatives concerned with teaching and research. Throughout this and subsequent meetings, the process evolved as participants spent a considerable amount of time debating ideas and different approaches. To date, a total of seven meetings have been held on training. At each, various approaches have been articulated and thoroughly discussed in terms of their advantages and disadvantages, desirability, feasibility and sustainability. From this process have emerged three sets of proposals for strengthening institutions in general and MA and PhD programmes in particular. They are described under institutional support, the collaborative MA, and the PhD programmes.

The overall approach displays three interesting features. First, the main instrument for strengthening graduate training is the economics department of the participating university. This focus has two main advantages, namely, the benefit that will accrue to the undergraduate programme and the impact that this approach would have on departmental research activities. Secondly, the proposed MA and PhD programmes are based on collaboration among universities in the region and with foreign universities. The main advantages to be derived from such collaboration are a strengthening of existing ties, an opening of new areas for further collaboration, and a likely rationalization of resources. Thirdly, the basis of this approach is a strong and relevant MA degree designed to attract local government support for graduate training and simultaneously to provide a solid foundation for doctoral studies.

The impetus behind this new thinking is the serious systemic problems affecting graduate training of economists in the region, the decline in donor support, and the cutback in public support for education. These trends are likely to result in under-investment in the region's ability to conduct research and supply appropriate manpower for future development.

Faced with a demand that exceeds the current supply of graduate economists from local and overseas institutions, generally deteriorating economic conditions, a wide range of persistent systemic problems in academic institutions, and declining foreign donor and local public support, scholars and officials in the

region have come up with innovative approaches for strengthening the graduate training of economists. The following three sections outline the complementary measures that have emerged from deliberations of the AERC network of scholars and officials from the region.

Institutional support

The first measure for strengthening graduate training calls for increased financial support to enable departments to run credible MA programmes. Scholars and officials in the region have placed great emphasis on MA training, not as a downgrading of the importance of PhDs, but rather as a result of their recognition that a good MA programme is essential for producing suitable candidates for PhD training. Moreover, a deterioration in the quality of MA programmes holds serious implications for the region's ability to produce the right graduates for policy analysis and economic management, including their capacity for further training at the PhD level. MA programmes are also a major determinant of the demand for PhD graduates since the gradual strengthening of MA programmes will depend on supplying and retaining qualified staff trained to the PhD level.

Table 22 provides estimates prepared by members of the Training Task Force of the annual financial support their respective departments would need in order to run credible MA programmes. These requirements include thesis research, books and journals, equipment, staff development, exchanges, expansion of facilities, student assistantships and financing. The Task Force felt that other measures such as curriculum development and the teaching of electives could be handled more effectively on a regional basis through collaboration among participating institutions.

Table 22 Institutional support required to run credible MA programmes

University	Current funding (US\$)	Level required for credible MA (US\$) (Recurrent and capital)
Dar es Salaam	2,740	20,500
Sokoine	3,352	184,000
Ghana	2,000	19,000
Lesotho	—	—
Botswana	—	—
Swaziland	—	—
Makerere	—	Situation serious; estimates not made yet
Zimbabwe	3,500	130,000
Zambia	320	216,000
Addis Ababa	3,168	265,500
Kenyatta	n.a.	n.a.
Nairobi	29,300	71,500
Malawi	n.a.	n.a.

Source: Task Force questionnaires.

The training Task Force spent a considerable amount of time discussing the need to strengthen research capacity and graduate training through the acquisition of academic infrastructure currently not obtainable because of the lack of local funds. Such support would also improve professional incentives, thereby reducing the rate of attrition in qualified staff. However, the Task Force noted the substantial financing necessary in situations where a graduate programme does not exist and teaching capacity is still at a rudimentary level. A second concern is the sustainability of such financing once donor funds are no longer available, since local governments may prove unable to provide the necessary resources.

This concern should be considered in terms of the demand for MA graduates. The fact that the private as well as the public sectors spend considerable amounts to train candidates abroad argues for the existence of an effective demand for such graduates. Further evidence is provided by the data showing that the demand for MA graduates exceeds the supply from local institutions. To influence a shift from overseas to local institutions, employers need to be convinced that local graduates are of a comparable standard. Strengthening local training may thus redress the problem of funding over the longer term.

The collaborative MA programme

In the first two meetings on training, held in May and August 1989, participants underscored the importance of greater collaboration provided it was allowed to develop in an evolutionary and responsive manner. The collaborative MA programme that has finally emerged from our seven meetings is described below under different subheadings.

1. *Aim of the programme*

The collaborative MA programme has two main aims:

- (i) To produce economists with solid knowledge in economic theory, research methodology and computing, and relevant electives to be employed in the public and private sectors for economic analysis and management.
- (ii) To produce a small number of top MA graduates to undertake doctoral studies, mainly for employment in universities and research institutes.

2. *Structure of the MA degree*

Content

Core courses: The three major core courses are microeconomic theory, macroeconomic theory and quantitative methods (mathematics, statistics, and econometrics). The Task Force recommended 90 contact hours per core course.

Elective courses: The list of elective courses recommended by the Task Force is long. The choice of electives to be covered by a particular candidate will depend on the student and parent university. The recommended contact hours for each elective is a minimum of 45 hours. The prerequisite for taking electives is successful completion of core courses.

Thesis: The thesis is undertaken after successful completion of the core and elective courses. Its duration is 6 to 12 months.

Timetable

Core courses will be taught at the parent universities from September to June of each year, i.e. during the regular academic term.

Elective courses will be taught at a collaborative facility between June and September, i.e. during the long vacation.

The thesis would start about October each year and last 6–12 months, depending upon the regulations of the parent university.

3. *Participating countries*

Three distinct groupings of countries have been identified, namely:

(i) Anglophone Africa except Nigeria

These countries have similar educational systems, in terms of only one or a small number of universities, and the same language of instruction.

(ii) Nigeria

In Nigeria, the system of higher education is much larger and highly differentiated, with both federal and state institutions.

(iii) Francophone Africa

Francophone Africa has a system of higher education that is very different from that in anglophone Africa.

Each one of these groups is designing its own collaborative MA and PhD programmes.

The Anglophone except Nigeria group has come up with the modalities mentioned in this section. The structure of the MA. course, as suggested by the Task Force, is shown in Table 23.

4. *Forms of collaboration*

These will include:

- (i) An Academic Board in which participating universities are represented;
- (ii) Specialized sub-committees to undertake different functions;
- (iii) A collaborative teaching facility to offer elective courses;
- (iv) Collaboration in thesis supervision and external examinations conducted at the home university;

- (v) Assisting participating universities in the identification of appropriate academic staff to fill vacant positions.

Table 23 Structure of MA courses suggested by Task Force

I. Compulsory courses	Contact hours per academic year	II. Electives (Four units in total)	Contact hours per academic year
1. Microeconomics	90	1. Project planning and appraisal	45
2. Macroeconomics	90	2. International economics	45
3. Quantitative methods Statistics, Mathematics and Econometrics	90	3. Economic modelling	45
4. Thesis	6–12 months	4. Public finance	45
		5. Advanced economic theory	45
		6. Monetary economics	45
		7. Resource economics	45
		8. Transport economics	45
		9. Urban economics	45
		10. Manpower economics	45
		11. International finance	45
		12. Industrial economics	45
		13. Mathematical economics	45
		14. Energy economics I	45
		15. Energy economics II	45
		16. Health economics I	45
		17. Health economics II	45
		18. Environmental economics I	45
		19. Environmental economics II	45
		20. Agricultural economics	45
		21. Regional economics	45
		22. Social economics	45
		23. Policy economics	45
		24. Livestock economics	45
		25. Irrigation economics	45

Source: Derived from Task Force questionnaire.

The Task Force discussions suggest that although the collaborative MA programme would be organizationally complex it has many advantages. Among the potential benefits are curriculum development, exchanges of staff, jointly mounted elective courses, the publication and circulation of lecture notes, a cross-fertilization of ideas from diverse backgrounds on curriculum and teaching, and a potential for fostering greater co-operation among scholars and offi-

cials in research and training. The Task Force also concluded that the programme has a great potential for rationalising scarce resources and eventually providing a base for a local PhD programme within the region.

The Task Force maintains that apart from the benefits likely to accrue directly from training and research, the understanding that has been steadily growing will spread to other fields. A great deal of interest has been generated in establishing this programme, and many potential participants are hopeful of its early commencement.

Sustainability of this programme relates to the demand for graduates with an MA in economics. The evidence on the balance between demand for MA graduates from public and private sectors and the supply of such graduates from local and overseas institutions suggests excess demand. Government departments and private companies have spent considerable sums to send many candidates abroad to undertake MA degrees in economics. Available evidence indicates that training abroad is more costly than at the local universities. Since the private enterprises and government departments are willing to pay these higher fees, funds should eventually be forthcoming to cover running costs at local universities. There remains the question of the initial capital outlay for setting up a programme where it is not available, or for expanding one where facilities are limited. Data in Table 22 would suggest that these institutions will need substantial assistance for start-up costs.

A related matter is whether the product from a local programme could capture part of this market currently enjoyed by overseas universities. It might be useful to view this question in terms of developing a new product. From this vantage point, it can be argued that potential consumers will purchase the product once they are satisfied that it has the attributes they desire, especially relevance and quality. For example, the Central Bank of Ethiopia has been sending candidates abroad for an MA in economics with specialization in money, banking and finance. Bank officials stated that students should acquire an adequate grounding in economic theory and quantitative methods. They clearly felt that the local university did not have relevant elective courses, nor were its graduates sufficiently strong in theory and methods. A second example concerns the Confederation of Zambian Industries. According to its files, in 1989 there were 139 positions open in the Confederation for graduates with an MA (Econ.), MBA and MPA. Confederation officials stated that they needed economists well versed in theory and quantitative methods and a wide range of specialties. Since the local university had temporarily suspended its MA programme in economics, the Confederation had resorted to sending its candidates abroad.

To a varying degree similar problems were encountered in Zimbabwe, Kenya, Uganda, Botswana, Malawi, Swaziland, and Lesotho, suggesting that the proposed product should be strong in economic theory, econometrics, and quantitative methods as well as relevant elective courses in order to capture part of the existing market. While the product is still being developed, the programme will need to be subsidized. However, once it is clear that the MA programme offers the required quality and relevance, the consumers themselves, notably govern-

ments and public institutions, should be willing to train their candidates locally where it is less costly and possibly more relevant.

The PhD programme

The local PhD, popularly known as the sandwich PhD programme, is one of the two programmes suggested for doctoral-level training. Five universities, namely Dar es Salaam, Sokoine, Zimbabwe, Zambia, and Nairobi, have established this programme with foreign universities in England and Sweden. Of these, Dar es Salaam and Sokoine have had the greatest experience. Table 24 provides information on existing arrangements.

Table 24 Local PhD programmes, 1990

Participating universities	Overseas universities	Current number of students
University of Dar es Salaam	1. Lund University	8
	2. Gothenburg University	1
	3. Uppsala University	n.a.
University of Zimbabwe	1. Gothenburg University	1
University of Zambia	1. Gothenburg University	1
University of Nairobi	1. Gothenburg University	1
Sokoine University	1. University of Reading	n.a.
	2. University of East Anglia	n.a.
	3. Wye College of London	n.a.

Source: Task Force questionnaire.

Upon selection, a student enrolls in course work at the foreign university and registers at the parent university. The student then prepares a PhD thesis proposal under a supervisor from the foreign university and another from the parent university. The thesis is normally based on a subject related to the candidate's own economy. Data are collected and preliminary analysis is usually conducted under the supervisor from the parent university. The thesis is written up at the foreign university under guidance from the two supervisors who consult closely during this stage. Table 25 summarises the structure of the local PhD programme.

Table 25 The Structure of local PhD programmes

Entry requirements	Course work component	Thesis component
1. Varies from one foreign university to the other	1. Duration One and a half to two years	1. Duration Two and a half years
2. A common element (a) A good MA degree from a recognized university	2. Content (i) Two main parts: (a) Core courses (b) Electives	2. Supervision (i) Joint supervision (ii) - One supervisor from foreign university - One supervisor from parent university
(b) The MA degree to have covered: - Microeconomic theory - Macroeconomic theory - Econometrics	(ii) Core courses (a) Microeconomics theory (b) Macroeconomic theory (c) Econometrics (iii) Electives A wide range of courses	3. Stages: (i) Stage I: Proposal (a) About 6 months (b) Covered at foreign university (ii) Stage II: Fieldwork (a) One year (b) Covered at home university (c) Preliminary analysis included
	3. Examinations (i) In core courses and electives (ii) Done at foreign university	(iii) Stage III: Writing (a) About one year (b) Covered at foreign university (iv) Stage IV: Defence (a) At home university (b) Examiners include one external examiner and about four internal examiners. (v) Stage V: Graduation at home university

Although this programme has not been operating a long time, it has some features that appeal to local universities, namely, their participation in PhD training, a greater likelihood that this programme will be more relevant to the concerns of the home economy and a lower attrition rate of PhD graduates. In addition, the local PhD programme could potentially stimulate greater collaboration among participating universities in areas other than training.

Table 26 Experiences with local PhD programmes 1980–1989

University		Successfully completed PhD	Came back home	Remained abroad	Left university since returning
Dar es Salaam	1983	3	3	0	0
	1984	1	1	0	0
	1985	1	1	0	0
	1986	3	3	0	0
	1987	2	2	0	0
	1988	2	2	0	0
	1989	1	1	0	0
Sokoine	1983	1	1	0	0
	1984	1	1	0	0
Nairobi	1980–1989	2	2	0	0

Source: Task Force questionnaire.

With respect to attrition among sandwich scholars, data in Table 26 show that of 17 local PhD candidates who successfully completed their PhDs between 1980 and 1989, all returned to teach at their home universities, and none have left subsequently.

Accurate data on the cost of the local PhD are not available. The only data, from Gothenburg and Lund, which appear in Table 27, provide figures on student allowances. Among the items missing are tuition, thesis, fieldwork expenses, supervision, examinations, and thesis preparation. However, since students do not pay fees as such, the Departments of Economics in these universities had no data concerning these missing items or of actual costs.

Table 27 Student allowances at Lund and Gothenburg universities, 1990

Item	Allowances in US\$
I. Course work stage	
1. Monthly stipend	1,080
2. Books	655
3. Winter clothes (once)	1,640
4. Luggage transportation (once)	1,640
II. Thesis-writing stage	
1. Monthly stipend	1,080
2. Books (once)	655
3. Winter clothes (once)	327
4. Luggage transportation (once)	985

Source: Universities of Lund and Gothenburg, Economics Department Administrator files.

The author met students at Lund University and at Gothenburg University, who were at various stages in their doctoral programme. Although generally happy with their studies, the students mentioned five problems which basically pertained to Lund University where the programme has been operating for some time.

The first is language. Since the medium of instruction is Swedish, students take a three-month course in Swedish prior to commencing their studies in economics. The students claim that this three-month period is inadequate to allow them to follow instructions in Swedish, let alone write papers in the language. They argue that it would have been desirable to have language training for the stipulated period of nine months.

The second concerns fieldwork at home to obtain data for their theses. The students state their scholarships are unclear concerning funds for fieldwork, aside from access to transport and computing facilities. Moreover, since they no longer receive a monthly stipend, they are forced to rely on consultancies to supplement meagre salaries and cover part of their research expenses. Candidates can end up neglecting thesis research, leading to unnecessary delays in completing their degrees. The students recommended that sufficient funds be provided to cover fieldwork expenses and preliminary data analysis at home. They also suggested that part of their monthly stipend be maintained since their salaries are below subsistence levels and involvement in consultancies would cause unwanted delays. It should be noted that the AERC has been extremely helpful in filling part of this gap by providing modest grants to some other candidates in this situation. While such assistance has helped to ameliorate the problem, a more structured and co-ordinated approach is needed.

The problem of co-ordination between supervisors, located several thousand miles apart, was also raised. The students claim that co-ordination and communication between supervisors and themselves are often poor. In several instances, the supervisor at the parent university has been too busy to devote time to serious supervision, and thereby caused delays in completing the thesis. The candidates think that this problem can be overcome by having the supervisor at the parent university guide the candidate during fieldwork, monitor progress during the writing of the thesis and arrange for the oral examination.

All the students were married and felt a family allowance should be provided to support their families at home or to allow the family to join them at the foreign university. Some believe that where the family is present, output is enhanced, and their programmes are completed more quickly.

The foreign degree has been widely used for about three decades, especially in the 1960s and first half of the 1970s when donor agencies financed African scholars to go to North America and Europe to undertake a PhD in economics. In the second half of the 1970s, the number of scholarships declined. Table 28, which provides details of the experience of selected universities between 1980 and 1990, suggests that of 47 candidates, 20 successfully completed their PhD, returned home, and are now teaching at their respective parent universities; 16 decided to remain abroad, or left teaching for other opportunities after an ap-

pointment at home, or were unsuccessful in their PhD programmes; and 11 have not yet completed their programme.

Table 28 Experience with the foreign PhD programmes

University	Candidates 1980-1990	Completed, are now teaching	Never returned, left home after being employed or unsuccessful in programme	Still in programme
Dar es Salaam	—	—	—	—
Sokoine	2	2	—	—
Ghana	8	3	5	—
Lesotho	3	2	1	—
Botswana	—	—	—	—
Swaziland	4	3	1	0
Makerere	—	—	—	—
Zimbabwe	4	—	—	4
Zambia	11	5	6	—
Addis Ababa	6	2	—	4
Kenyatta	n.a.	n.a.	n.a.	n.a.
Nairobi	9	3	3	3
Malawi	—	—	—	—
Total	47	20	16	11

Source: Task Force questionnaire.

The foreign degree is basically structured the same as the local one. Although admission requirements vary slightly among the universities visited, all demand a good master's degree from either the parent university or another university of comparable standard. Candidates for admission must have covered microeconomic theory, macroeconomic theory and quantitative methods. Where the applicant's master's degree is considered inadequate, the university may, on the recommendation of its Department of Economics, register the candidate for a second master's degree.

As noted previously, the structure of the overseas and local degrees is basically the same since both have course work and thesis components, and the core course work includes microeconomic theory, macroeconomic theory, and quantitative methods. Indeed a candidate registered for the local degree programme must satisfy the same entry and course work requirements, and prepare a thesis proposal like any other student. The only difference is that the local degree candidate has joint supervision at the thesis stage. For this reason, the quality of the two degree programmes should be comparable.

A second aspect relates to cost. Both programmes require the same average amount of time to complete the course work so this component should cost the same amount. Differences may arise at the thesis stage, since the local degree candidate must go back home, collect data, and conduct some preliminary analy-

sis before returning overseas to write the thesis. The experience of Dar es Salaam suggests that this stage can take a very long time to complete, a feature that has cost implications.

A third aspect is that of relevance. Scholars and officials feel that the local degree is likely to be more relevant since the candidate's thesis usually focuses on the home economy. However, the overseas degree can also allow for candidates to write their theses on the home economy.

Potential linkages with foreign universities

The institutions visited in England, the Netherlands, Scandinavia and North America (see Appendix 2) expressed a willingness to admit and train African candidates. Most were familiar with the sandwich programme and were prepared to collaborate in the supervision of local PhD degree candidates admitted to the doctoral programme. Some scholars were also willing to take up short-term engagements to lecture at a collaborative teaching facility in the event of it being established. Many of them felt that a more meaningful effort should involve broader collaboration with universities in the region on such other matters as research, workshops and seminars; the publication of research findings; the preparation and publication of teaching materials; and staff and student exchanges.

In spite of their financial implications, these suggestions merit serious consideration as possible ways of increasing academic interaction between local and overseas scholars.

VI. Conclusions

Concern about the quality of training of economists at the MA and PhD levels has been articulated since the establishment of the AERC in August 1988. Formal deliberations by senior scholars and officials from the region started in May 1989 when the study on the state of graduate training of economists in Sub-Saharan Africa was launched. The study has had two main objectives: to document the problems plaguing the graduate training of economists, and to suggest modalities for strengthening such training in the region.

On the basis of data collected for the study, as well as deliberations of scholars and officials from the region, the following conclusions have been drawn. First, the demand for economists with MA and above is in excess of the supply from local and foreign sources. Secondly, for the past 15 years, the educational system has been in distress, as manifested by the decline in public support, teaching capacity, academic and physical infrastructure, pecuniary and professional incentives, and staff development programmes. Concerned scholars and officials have come up with a set of proposals for strengthening graduate training of economists in anglophone Africa except Nigeria. A parallel exercise is also under way in Nigeria and francophone Africa. Regarding this particular study, the proposals involve increased institutional support and collaboration in strengthening both MA and PhD training.

Successful implementation of our proposals will depend on the co-operation and support of participating universities, governments in the region, overseas universities, and the donor community. Participating local universities and their governments will need to agree to the proposals, and provide part of the required support. Foreign universities will need to provide appropriate training services for eligible students. In the initial stage, the greater proportion of the funds necessary to get this project started must come from the donor community. As the project is consolidated, gains wider acceptability and begins to have an impact, local sources can be expected to gradually increase their share of the support needed to sustain it. Ultimately the performance of the programme and the advantages that are derived from it by participating countries will determine the extent of local support. However, an important and cautionary qualification should be noted. Although an efficient collaborative graduate programme should lead to increased public support and a rechannelling of graduate students and scholarships from overseas to local institutions, a rapid increase in undergraduate enrolments in some institutions could undermine the attempt to strengthen graduate training.

Appendix 1

Terms of reference

This study is the sequel to a study commissioned by AERC in July 1989 to examine the state of graduate training of economists in Sub-Saharan Africa and propose modalities for strengthening such training at the master's and doctoral levels. The first part of the study, completed in September 1989, covered the state of graduate training in eastern and southern African countries, Nigeria, Ghana, and some francophone West African countries. The overall objective of this second part of the study is to formulate, in association with senior African scholars and officials, specific and detailed proposals for strengthening the training of African economists at the master's and doctoral levels.

The terms of reference cover the following specific issues:

1. On the basis of the earlier studies on graduate training of economists, to specify in detail, effective modalities for strengthening MA and PhD training;
2. In association with senior African scholars and officials, to assess the utility and applicability of these modalities and the likely demand for them by institutions in the region;
3. Estimate the cost of these modalities, compare such estimates with other possible modalities for strengthening graduate training, and explore different ways of financing them from local and external sources;
4. Travel to Europe and north America to explore modes of collaboration between overseas and African scholars and institutions towards the implementation of these modalities; and
5. Any other relevant activities as mutually agreed upon by participating parties.

Appendix 2

Academic institutions visited

ENGLAND	University of Oxford Warwick University University of Sussex Institute of Development Studies
NETHERLANDS	The Free University, Amsterdam Institute of Social Studies, The Hague
DENMARK	The University of Copenhagen Centre for Development Research
NORWAY	Norwegian School of Economics and Business Centre for Applied Research, Norwegian School of Economics and Business Christian Michelsen Institute University of Bergen
SWEDEN	Lund University University of Stockholm Stockholm School of Economics Stockholm Institute for International Economics Gothenburg University
USA	Boston University Clark University Harvard University
CANADA	University of Toronto McGill University University of Montreal

Appendix 3

Scholars consulted

ENGLAND

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|-----|-------------|--|
| 1. | P. Collier | Oxford University |
| 2. | D. Bevan | Oxford University |
| 3. | M. Nissanke | Oxford University |
| 4. | R. Cassen | Oxford University |
| 5. | A. Duncan | Oxford University |
| 6. | A. Roe | Warwick University |
| 7. | G. Pyatt | Warwick University |
| 8. | J. Round | Warwick University |
| 9. | J. Toye | Director, Institute of Development Studies |
| 10. | M. Faber | Institute of Development Studies |
| 11. | J. Humphrey | Institute of Development Studies |
| 12. | P. Chandhri | University of Sussex (AFRAS) |

NETHERLANDS

- | | | |
|-----|------------------|---|
| 13. | J.W. Gunning | Head, Economics Department
The Free University |
| 14. | M. Fitzgerald | Institute of Social Studies |
| 15. | K. Jansen | Institute of Social Studies |
| 16. | H.T.M. Wagenbuur | Institute of Social Studies |
| 17. | P.B. Mikyo | Institute of Social Studies |

DENMARK

- | | | |
|-----|---------------|---|
| 18. | K.E. Svendsen | Director, Centre for Development Research |
| 19. | F. Tarp | University of Copenhagen |

NORWAY

- | | | |
|-----|---------------|---|
| 20. | L.B. Methlie | President, Norwegian School of Economics and Business Studies (NSEBS) |
| 21. | J.T. Klovland | Chairman,
Economics Department, NSEBS |
| 22. | K.R. Pedersen | Economics Department, NSEBS |
| 23. | O. Fjeldstad | Director, Centre for Applied Research, NSEBS |
| 24. | G.-H. Sjotro | Centre for Applied Research, NSEBS |
| 25. | M. Lerheim | Advisor and Former President,
University of Bergen |
| 26. | E. Vardal | Chairman, Department of Economics,
University of Bergen |
| 27. | Q. Ahsan | Christian Michelsen Institute, Bergen |

SWEDEN

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|-----|-------------|--|
| 28. | M. Lundahl | Stockholm School of Economics |
| 29. | P. Svedberg | Stockholm Institute for International Economics, University of Stockholm |
| 30. | A. Bigsten | Chairman, Department of Economics,
Gothenburg University |
| 31. | A. Kruse | Chairman, Department of Economics
Lund University |

USA

- | | | |
|-----|---------------|--|
| 32. | J. Harris | Boston University |
| 33. | L. Gordon | Harvard Institute for International Development (HIID) |
| 34. | C. Nelson | HIID |
| 35. | R. Goldman | HIID |
| 36. | A. Seidman | Clark University |
| 37. | H. Bruton | Williams College |
| 38. | E. MacFarland | Williams College |
| 39. | S. Deverajan | HIID |
| 40. | J. Thomas | HIID |

CANADA

- | | | |
|-----|----------------|------------------------|
| 41. | G.K. Helleiner | University of Toronto |
| 42. | R. Stren | University of Toronto |
| 43. | Y. Kotawitz | University of Toronto |
| 44. | A. Berry | University of Toronto |
| 45. | A. Martens | University of Montreal |

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