

WERKSTATTBERICHTE

Alexis-Michel Mugabushaka, Harald Schomburg and
Ulrich Teichler
(eds.)

Higher Education and Work in Africa
A Comparative Empirical Study in Selected Countries

International Centre for Higher Education Research Kassel
INCHER-Kassel

Kassel 2007

WERKSTATTBERICHTE – 69

Copyright © 2007 International Centre for Higher Education
Research Kassel at the University of Kassel

Access is provided to the electronic version of this publication at:
http://www.uni-kassel.de/incher/v_pub/wb69.pdf

WERKSTATTBERICHTE

Editor: International Centre for Higher Education Research Kassel
(INCHER-Kassel)
University of Kassel
Mönchebergstraße 17, 34109 Kassel
Germany
<http://www.uni-kassel.de/incher/>

Assistant to the Editor: Christiane Rittgerott

Printing: Druckwerkstatt Bräuning + Rudert GbR, Espenau

ISBN: 978-3-934377-54-7

Verlag Junior, Lassallestr. 15, 34119 Kassel, Germany

Content

	Improving the Knowledge Base on Higher Education and Society in Africa: Introductory Remarks <i>Ulrich Teichler</i>	7
1.	Background and Aims of the Analysis of African Graduates' Employment and Work <i>Alexis-Michel Mugabushaka, Harald Schomburg, Ulrich Teichler</i>	11
2.	African Graduate Surveys: The Contextual Framework <i>Alexis-Michel Mugabushaka</i>	19
3.	The Methodology of African Graduate Surveys: Study Design and Tracing Strategies <i>Alexis-Michel Mugabushaka</i>	35
4.	The Fortunate Few's Picture: A Socio-Biographical Profile of the African Graduates <i>Alexis-Michel Mugabushaka and Christy Omoifo</i>	47
5.	Graduates' Views on the Quality of Higher Education in Africa <i>Alexis-Michel Mugabushaka and Christy Omoifo</i>	61
6.	Transition From Study to Work: African Graduates' Experiences <i>Kenneth Omeje</i>	77
7.	Employment and Work of African Graduates: An Empirical Analysis in Six Countries <i>Erasmus Kaijage</i>	95
8.	Work Orientation, Job Satisfaction and Professional Success of Graduates from African Universities <i>Harald Schomburg</i>	111
9.	Self-Employment Among African Graduates: The Cases of Ghana and Nigeria <i>Alexis-Michel Mugabushaka</i>	127
	List of Contributors	139
	Appendix: Higher Education and Work - Survey of Graduates of the University ... (Core Questionnaire)	141

Improving the Knowledge Base on Higher Education and Society in Africa: Introductory Remarks

Ulrich Teichler

This publication comprises the main results of the first major comparative survey of graduate employment and work in various African countries. It is based on ten surveys undertaken in six African countries (Ghana, Kenya, Malawi, Nigeria, Tanzania, and Uganda).

The studies were undertaken in the framework of the so-called “Study Programme on Higher Education Management in Africa” administered by the Association of African Universities (AAU) under the direction of Akilagpa Sawyerr. The programme was funded predominantly by the Dutch Ministry of Foreign Affairs and the Swedish International Development Co-operation Agency and was supplemented by UNESCO. It provided several dozens of African researchers the opportunity to improve their capacity in higher education research and to conduct a study of their choice.

The ten studies largely followed a common conceptual framework and employed similar questionnaires. The researchers in charge of the ten graduate surveys cooperated in the development of the questionnaire, the data processing, and the analysis of their findings. Several of the individual studies have been published by the AAU.

Three of the researchers who had undertaken such a study (Erasmus Kaijage, Kenneth Omeje, and Christy Omoifo) and three researchers of the Centre for Research on Higher Education and Work of the University of Kassel (Germany)¹ who had supported the comparative study as resource persons (Alexis-Michel

¹ In 2006 renamed as International Centre for Higher Education Research Kassel (INCHER-Kassel).

Mugabushaka, Harald Schomburg, and Ulrich Teichler), worked closely together to establish a comparative dataset on the basis of which the comparative analysis was undertaken.

The Ten Graduate Surveys in Joint Studies and Principal Researchers

	Case study	Principal researcher	Country
1.	Education and Achievement in the Early Career of the University of Benin Graduates 1981-1991	C.N. Omoifo	Nigeria
2.	The Tastes of Higher Education and Work: A Follow-up Study of the Alumni of a Nigerian University	J.A. Omotosho	Nigeria
3.	Graduate's Employment Survey: A Tracer Study of the Graduates of the Faculties of Arts and Agriculture at the University of Nigeria, Nsukka	G.A. Anyanwu	Nigeria
4.	Higher Education and the Demand of Manpower Development in the Nigerian Manufacturing Sector: An Empirical Study of Enugu and Anambra States	G.E. Ugwuonah	Nigeria
5.	The Challenge of Vocationalism: A Follow-up Study of Graduates of Ghanaian Universities	J.S. Djangmah	Ghana
6.	Higher Education and Work: Survey of Graduates of Kenyatta University	A. Karugu	Kenya
7.	Assessment of the Effectiveness of the Bachelor of Education Programme (B. Ed. Arts) in Meeting Job Needs of Graduates	G. N. Kimani	Kenya
8.	Faculty of Commerce and Management Graduates and their Employers: A Tracer Study.	E. S. Kaijage	Tanzania
9.	A Comparative Study of Makerere University Graduates from Faculties of Arts and Science	M. K. Mayanja	Uganda
10.	University of Malawi Tracer Study	S.N. Zembere	Malawi

The comparative study addresses a broad range of issues salient for the debates about the relationships between higher education and the world of work in Africa. The retrospective evaluation of the study conditions, transition from higher education to work, acquisition and utilisation of qualifications, professional satisfaction, and other themes are addressed in the core questionnaire and related data have been included in the comparative dataset.

The book is divided into two parts. The first part of the book presents the contextual framework and the methodology of the studies presented in the subsequent chapters.

The second part comprises the findings of the comparative analysis on a variety of topics. Mugabushaka and Omoifo draw a profile of the graduates and give their view on the quality of the higher education at their respective institutions. Omeje examines the transition from higher education into the world of work and Kaijage looks into the major traits of the graduates' employment while Schomburg analyses elements of work orientation and job satisfaction of the employed graduates. In the final chapter, Mugabushaka explores the situation of self-employment among graduates in Ghana and Nigeria.

The research activities undertaken were supported in one way or other by the Association of African Universities (AAU), the Dutch Ministry of Foreign Affairs, the Swedish International Co-operation Agency, UNESCO, the German Academic Exchange Service (DAAD), and the University of Kassel. They were based on the willingness of various African researchers to put substantial energy in undertaking the survey. Last not least, we are grateful for the about 6,086 graduates in Africa who were willing to respond the questions posed in the questionnaires.

Unfortunately, the final steps of completing the text of this publication were delayed for some period. We hope, however, that the substance of this comparative study still has kept its value as a basis for information and a step forward in improving the knowledge base on higher education and society in Africa.

Christiane Rittgerott took care of the publication process. Helga Cassidy and Dagmar Mann were most helpful in the type-setting and formatting of the text.

Background and Aims of the Analysis of African Graduates' Employment and Work

Alexis-Michel Mugabushaka, Harald Schomburg,
Ulrich Teichler

When African countries gained independence, substantial reforms were striven for in many cases. The views were widely held that education in general and higher education in particular were either neglected during the colonial era or were designed to fulfil the needs of the colonial powers and therefore were not suitable to serve the national development of the newly independent states.

Those views, expressed in writings by the political leaders of the independence movements and by social scientists found their support in the anecdotal evidence available for some countries. In his book about the colonial policy in Congo "King's Leopold Ghost", Adam Hochschild (1998) writes:

"...when (...) independence came in 1960, in the entire territory there were fewer than 30 African university graduates. There were no Congolese army officers, engineers, agronomists or physicians. (...) of some 5,000 management-level positions in the civil service, only three were filled by Africans".

The situation – even when in some countries less critical – can be expected to have been the same in most colonies. Strong emphasis was put on a massive expansion of higher education as well as on curricular reforms aiming to "match" the immediate needs of the "young nations".

The expansion of the Higher Education in Africa was indeed very impressive. Table 1 shows that from 1965 to 1995 the percentage of people over 25 years having attained tertiary education in Sub-Saharan Africa grew from 0.3 per cent to 2 per cent. Admittedly, the ratio of higher education attainment in Sub-Saharan Africa remains (in 1995) the lowest in the world. On average each tenth earth inhabitant over 25 years has attained higher education. Europe and Central Asia

and Latin America and the Caribbean have an above the average rate: respectively 16 per cent and 11 per cent of those being 25 years old or elder have attained higher education. The higher education attainment is 7 per cent in Middle East and North Africa and 4.1 per cent in South Asia. With 2 per cent Africa lies behind the East Asian and Pacific region where 2.9 per cent of the population over 25 years have attained higher education.

Table 1: Percentage of the Population Over 25 Years Having Attained Tertiary Education, by Regions

	1965	1975	1985	1995
Sub-Saharan Africa	0.3	0.9	0.9	2.0
World	3.2	5.2	7.1	10.0
East Asia & Pacific	1.1	1.3	1.8	2.9
South Asia	0.3	2.2	3.3	4.1
Europe & Central Asia	3.0	4.9	6.5	16.0
Latin America & Caribbean	2.2	4.0	7.2	11.0
Middle East & North Africa	1.1	2.2	3.9	7.0

Source: Task Force on Higher Education and Society (2000).

It should be noted that the measure used here – the higher education ratio – is to a great extent subject to the population growth in general and to the age structure of the population. Thus the increase of the attainment ratio from 0.2 per cent to 2 per cent over 30 years may seem modest but it fails to capture the dramatic increase expansion of higher education.

In fact, the higher education sector grew faster in Africa over the last few decades than in other parts of the world. Table 2 shows that in 1995 the number of higher education students in Africa was almost ten times as high as 1975. All over the world, the number of students “only” doubled during that period. No other region had such tremendous growth rate.

This expansion was grounded on economic theories holding that investment in human capital will foster the socio-economic development of the countries. Higher education was expected to provide persons qualified to take over the most demanding tasks in the public administration of the countries and in the various professional services as well as to serve the rising demand in the private sectors of agriculture, industry, and services.

Table 2: Number of Students by Regions (in 1000)

	1975	1980	1985	1990	1995
Sub-Saharan Africa	181.4	618.1	660.4	1316.9	1750.7
World	40267.0	50758.0	58394.0	68276.0	80460.0
East Asia & Pacific	1828.8	4224.1	7673.2	8575.2	11985.0
South Asia	3223.0	3882.9	5335.8	6142.9	7161.8
Europe & Central Asia	9209.7	11650.0	11454.0	11579.0	11547
Latin America & Caribbean	3590.2	4945.8	6389.3	7267.7	7923.9
Middle East & N. Africa	953.2	1608.5	2133.0	2432.0	3787.2

Source: Task Force on Higher Education and Society (2000).

Some authors credit the higher education systems in African countries for achieving this task to a substantial extent. William Saint (1992, p. 4), a specialist of the World Bank, writes: "The initial task of producing professionals to lead and manage the institutions of government has been largely accomplished." Daniel Ekong (1998, p. 110), the former Secretary General of the Association of African Universities, argues that without this initial huge investment in education the African nations "would have continued to remain dependent on others for the human resources to run their countries, and would have been even more marginalised than they are at the present time".

The expansion of the higher education, however, was not realised without problems. It turned out to be difficult to provide the necessary resources and to attain the desirable quality. Moreover, concern grew since around the 1970s about what was conceived a growing "mismatch" between the overall supplies of graduates and the actual job opportunities. In addition, the composition of students and graduates by fields was viewed as not corresponding to the needs of the employment system. Whereas the large share of students in the humanities and social sciences seemed to reflect traditions of the old colonial powers as well as showing a bias in serving the public administration, a shortage was felt in various countries as far as graduates from engineering and natural sciences are concerned (cf. Saint, 1992, p. 1). Consequently, high graduate unemployment was observed in various countries along a "penurie chronique" of skilled labour in fields that had to be counteracted through hiring foreign experts for respective jobs (Morio and Zoc-tizoum, 1979; Hincliffe, 1987).

In response, both education researchers and policy makers advocated an improved planning according to the skills needed. Some studies were undertaken to throw light on the relationships between higher education and the world of work, among them notably studies conducted in co-operation with the International Institute for Educational Planning of the UNESCO under the direction of Bikas Sanyal. In the framework of these studies, undertaken between the mid-1970s and

mid-1980s, several methodological approaches were employed, including analysis of official statistics, reviews of employment policies as well as graduate and employers' surveys (cf. the summary of major results in Sanyal, 1987).

The Sanyal studies came to the conclusion that policy makers in counteracting the mismatches on the graduate labour market should not merely rely on forecasts aiming to establish the manpower demand with the help of statistical trends and projections. Rather, Sanyal (1987) recommended instead "planning for higher education should be based on a combination of manpower and social demand approaches". He also recommended that contacts should be established between the students prior to graduation and prospective employers and that career guidance services should be established or improved by the higher education institutions. Last not least, Sanyal suggested that graduate surveys might provide valuable information for actors involved, i.e. students, institutions of higher education, and employers.

In the mid-1980s, however, the conditions changed radically under which the higher education systems in Africa operated. An economic crisis, which hit Africa at that time, had a far-reaching impact on the higher education system and on its relationship to the world of work.

First, the Structural Adjustment Programs, often reinforced by the World Bank, led to a downsizing of the public sector, which had been the major employer of graduates. Notably, African countries previously offering an employment guarantee discontinued this policy. In many countries, graduates employed in public sector were laid off.

Second, the donor policies in education shifted emphasis from higher education towards basic education. This shift of policy reflected the view of some proponents of the human capital theory that the return for investment in higher education was low in comparison to the return obtained from investment in other sectors of education (notably Psacharopoulos, 1985). But also criticisms voiced by thinkers like Paulo Freire and Ivan Illich against higher education as being "elitist" and not profiting the "grassroots" contributed to this change of policy (see Altbach, 1982, p.7). Consequently, the financial resources of the universities declined. This led to a deterioration of facilities and other conditions for teaching and research and eventually to a decline of the quality of higher education.

In the meantime, quantitative developments in higher education became more diverse across African countries, and higher education policies opted for varying directions. As regards the latter, the World Bank policy of promoting private higher education along public higher education and to expect the universities to generate more income through tuition fees and other sources was taken up in some countries. Irrespective of the state of quantitative expansion and the major higher education policies opted for, the graduate labour force segment was generally viewed as an important indicator of the successes and problems of higher education. The relationships between higher education and employment were back on

the agenda in the 1990s in Africa as well as in most other regions of the world (Teichler, 2002). In this context, the debate did not only focus, as often in the past, on quantitative-structural aspects on this relationship, but also on the curricula and their relevance and thus on the professional utilisation of knowledge acquired in the course of study. Also the question was more frequently raised whether the graduates' positions were "adequate" to their level of education.

Up to the present, the widespread interest in the relationships between higher education and employment in Africa is in stark contrast to the small empirical basis of those debates. In the late 1980s and early 1990s, graduate surveys were conducted only in few African countries.

Winkler et al. (1992) surveyed graduates of the Faculty of Engineering of the University of Dar-es-Salaam in Tanzania. The main focus of their study was the identification of possible deficiencies within the curriculum and the examination of adequacy of placement and employment of graduates. By and large, the findings indicate that the engineering curriculum was appropriate to the labour market needs. Three quarters of all graduates surveyed report that their studies have been useful for their present employment and have covered broadly all relevant requirements. The majority of the graduates were employed in parastatal organizations or in government administration (central and local). Their shares are respectively 47 per cent and 39 per cent. One seventh (14 %) was employed in private companies. The question whether the position currently held is adequate to the educational attainment of the graduates was ambiguously answered. While 85 per cent said that they would not have received the present employment with lower education, almost the same proportion of the respondents (80 %) said that their degree qualifies them for a job at a higher level than the present employment.

Dubbey et al. (1990) conducted a comprehensive survey of all 5,557 persons who had graduated from the University of Malawi in the period between the establishment of the University in 1965 and 1995. More than half of them (54 %) could be successfully traced. The study aimed at examining the satisfaction of the respondents with their study conditions and getting their feedback on their professional preparation. The study unveiled a high degree of satisfaction with the university education on the part of the respondents. The quality of instruction, the accessibility of staff, the availability of the courses were rated as satisfactory by the respondents (with notable differences between the different colleges of the university). Further, the university education was seen by most graduates as being appropriate for the present employment.

Graduates from the economic and social sciences programmes of the University of Botswana, who graduated between 1980 and 1983, were followed-up by Mugisha (see Mugisha and Mwamwenda, 1991). A total number of 102 graduates could be traced. Almost all respondents got their first job within the first six months after completing the studies. The study focused on the professional aspects of the social and economic sciences programmes and aimed at investigating

whether the programmes offered in social and economic studies are labour-market relevant. They found out that nearly half of the respondents, up to the time of the survey (in 1984), had undergone some kind of further training. Those further training programmes consisted of either short term or medium-length courses (generally undertaken in Botswana) and postgraduates studies (undertaken mostly abroad). They argue that further training should be seen as integral part of professional training. In conclusion, they challenge the pessimistic views of labour market prospects for graduates in African countries.

The studies sketched above were very valuable in shedding light on the employment conditions of the graduates in the changing social and economic situation in Africa of the late 1980s and the early 1990s. However, they were restricted in their scope. They focused on a single country or confined themselves to a single institution and addressed only a small range of the issues discussed.

The ten studies on which this volume is based could draw from the experiences of prior studies. The concepts, methods employed, findings, and interpretations of the prior studies turned out to be extraordinarily valuable.

The ten studies, however, allowed to move ahead towards comparisons between various African universities and countries. This was possible because the researchers involved agreed to standardize the questionnaires to a substantial extent.

Moreover, the majority of the new studies employed a broad thematic range. The questionnaires addressed not only the employment and work situation of graduates. In addition, they tried to establish the extent to which study provisions and conditions of the individual departments and universities had a career impact. Finally, they did not consider the employment and work systems just as clear determinants of the graduates' job opportunities. They rather took into consideration as well the role graduates' values and attitudes might play on shaping their career paths.

References

- Altbach, P. (1982). *Higher Education in the Third World: Themes and Variations*. Singapore: Maruzen Asia.
- Dubbey, J.M; Kasomekera, Z.; Kandawire, J.A; Kathamalo, O.; Michili, G.G; Chipofya, C.; Chiyenda, S.S. (1990). *University of Malawi: Tracer Study*. Zomba: University of Malawi.
- Ekong, D. (1998). "Sustainable Development and Graduate Employment: The African Context". In Ronning, A.H. and Kearney, M.-L. eds. *Graduate Prospects in a Changing Society*. Paris: Unesco, pp. 109-117.
- Hincliffe, K. (1987). *Higher Education in Sub-Saharan Africa*. London: Croom Helm.
- Hochschild, A. (1999). *King Leopold's Ghost*. New York: Houghton Mifflin.

- Mugisha, R.X. and Mwamwenda, T.S. (1991). "Vocational Training, In-Service Courses and Higher Education for Graduates in Botswana". *Studies in Higher Education*, 16(3), 343-355.
- Morio, S. und Zoctizoum, Y. eds. (1979). *Deux études sur le chômage des jeunes instruits*. Paris: Unesco.
- Psacharopoulos, G. (1985). "Returns to Higher Education: A Further International Update and Implications". *The Journal of Human Resources*, 20, 583-604.
- Saint, W.S. (1992). *Universities in Africa – Strategies for Stabilisation and Revitalization*. Washington D.C.: World Bank.
- Sanyal, B.C. (1987). *Higher Education and Employment: An International Comparative Analysis*. London: The Falmer Press.
- Task Force on Higher Education and Society by the World Bank (2000). *Higher Education in Developing Countries: Peril and Promise*. Washington, D.C.: The World Bank Publications.
- Teichler, U. (2002). "The Relationship Between Higher Education and the World of Work: a Challenge for Quality Assessment in Higher Education". *South African Journal of Higher Education*, 14(2), 34-44.
- Winkler, H.; Hartmann, K. and Schomburg, H. (1992). *Engineers in Tanzania. A Secondary Analysis. Graduate and Employer Survey 1985 at the Faculty of Engineering University of Dar-es-Salaam*. Eschborn: Deutsche Gesellschaft für Technische Zusammenarbeit (GTZ).

African Graduate Surveys: The Contextual Framework

Alexis-Michel Mugabushaka

It is common in comparative studies dealing with African countries to assume a certain homogeneity among them. This is usually justified by a common colonial and neo-colonial experience most of the African countries share and which have been decisive in shaping the “modern” African state and society. On the other hand, those arguing that this supposedly homogeneity is a “myth” since after four decades of independence – neo-colonialism notwithstanding – each African country has been able to shape its own system through negotiations with external constraints and internal realities, challenge this view. Both views express concerns relevant in assessing the comparability of the essays in this volume. Though generalisations may overlook the particularities of each country, there is also a risk of those particularities being overstated.

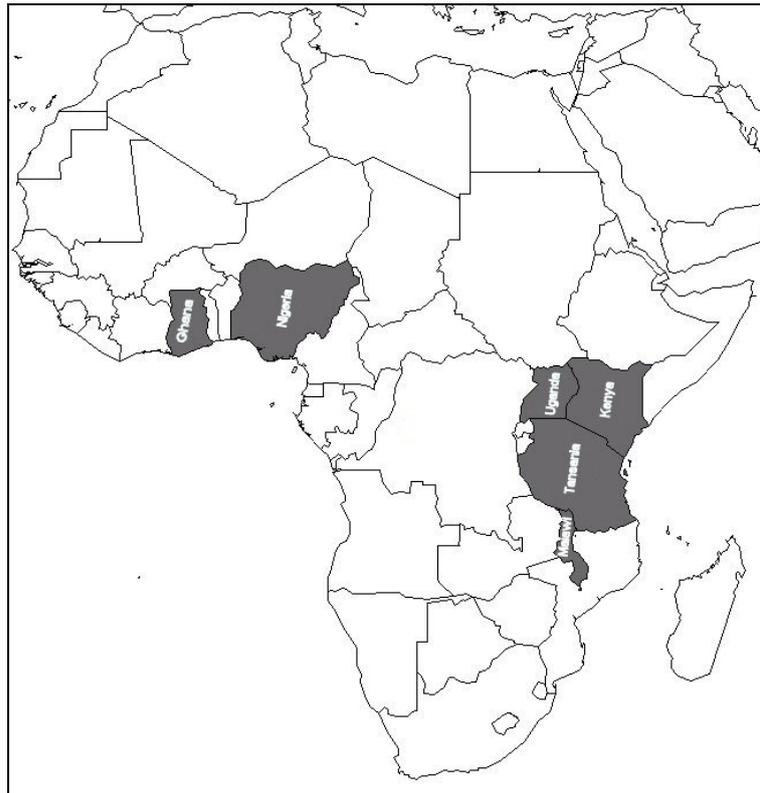
Teichler (1991) recommends to provide the audience with information on key characteristics of the education and labour market systems of the country under study when reporting the findings of graduate employment. Failing to provide detailed information on the system may lead to misunderstanding, especially if the targeted (international) readership interprets the findings in their own respective national context. This is crucial for the studies undertaken in a comparative perspective as well. Their findings cannot be interpreted meaningfully without sufficient knowledge of how higher education systems are structured in the countries involved.

The ten surveys on the basis of which the comparative study in this volume is made, took place in western, eastern, and southern regions of the continent. Four surveys were conducted in Nigeria, two in Kenya, and one each in the remaining countries (Ghana, Malawi, Uganda, and Tanzania).

Although all countries included in this study are former British colonies, which at the independence inherited an education system closely linked to the British one, higher education policies adopted after the independence were rather different and have led to different systems, the comparability of which cannot be taken for granted.

This chapter provides a framework in which the findings of the comparative studies are to be understood. It portrays briefly the higher education systems of the respective countries and the place occupied by the universities in those systems. Furthermore it briefly describes the higher education institutions whose graduates were surveyed.

Figure 1: Countries in Which the Surveys Were Undertaken



1. Higher Education Systems: Quantitative and Structural Considerations

The six countries in which the graduates' surveys were undertaken are very different in their population size and, accordingly, their higher education system is sized unequally. According to the figures released in the report of a task force set up by the World Bank, Nigeria had the highest number of tertiary students (404,969) in 1995. In the eastern region of Africa, the number of tertiary students was 67,371 in Kenya, 30,266 in Uganda, and 12,776 in Tanzania. Ghana had 10,170 and Malawi 5,561 tertiary-level students.

The figures in Table 1 take into account the population size and show the tertiary education participation, i.e. the number of students per 100,000 inhabitants. Obviously, the participation rate increased in all the countries under study. Its progression rate, however, was quite different.

Table 1: Number of Students per 100,000 Inhabitants by Country

	Ghana	Kenya	Malawi	Nigeria	Tanzania	Uganda	Africa*
1980	144.0	78.0	56.0	191.0	22.0	45.0	117.3
1985	n.a	n.a	42.0	n.a	22.0	68.0	124.0
1990	126.0	140.0	63.0	320.0	21.0	100.0	181.5
1995	n.a	n.a	58.0	n.a	43.0	154.0	339.5

Source: Task Force on Higher Education and Society (2000).

* Sub-Saharan Africa

Comparing Tanzania, Uganda and Malawi (the three countries for which figures are consistently available), we note a steady increase in the participation rate in Uganda from 45 students per 100,000 inhabitants in 1980 to 154 in 1995, whereas in Tanzania, during the period between 1980 and 1990, the rate stagnated at about 22 tertiary students per 100,000. It subsequently increased to 43 in 1995. In Malawi as well, the increase has not been steady. Between 1980 and 1985 the participation rate fell from 56 to 42. In the subsequent period (1985-1990) it rose to 63, and fell afterwards (1995) back to almost the participation rate of 1980.

The figures in Table 1 show also striking differences of participation rates between the countries analysed. Looking at the year 1990 (the year for which comparable data are available on all six countries) we note that Nigeria had the highest participation rate (320 tertiary level students per 100,000 inhabitants). Kenya comes second with the score of 140 and Ghana third with 126. Uganda and Malawi took the middle range with respective scores of 100 and 63. Among the countries included in this study, Tanzania had the lowest higher education participation rate (21 students per 100,000). The average figure in Sub-Saharan Africa was 181 students per 100,000.

Another interesting indicator of the structure of the higher education system is the distribution of students across the fields of study. It has been argued that in African countries the initial aim of higher education to train civil service servants has led to a bias towards arts and humanities and to the detriment of science programmes. Some authors consider the pre-eminence of social sciences (and education) as an area of concern because of unemployment among graduates from these subjects, on the one hand, and the shortage of graduates from the science subjects on the other hand (Dabalén et al., 2000, p. 8).

Some countries intended to reverse this trend. Nigeria, for example, has set itself the goal of achieving – on national level – a 60:40 science and arts ratio (Adesola, 1991, p. 127). The implementation of this enrolment policy had to overcome the poor communication between the higher education institutions. Actually, the target seems to have been closely met in 1995. Table 2 shows that 30 per cent of all Nigerian students enrolled in 1988 were enrolled in science fields. In 1995, their share rose to 41 per cent. In Tanzania too, the science enrolment in tertiary education rose considerably from 9 per cent in 1988 to 39 per cent in 1995. In Malawi and Uganda, on the other hand, we note a decrease in the share of students enrolled in sciences. In 1988, 37 per cent of students in Malawi and 41 per cent in Uganda were taking courses leading to a degree in science. In 1995, their percentages were 18 and 13 respectively. No data are available for the year 1995 regarding Ghana and Kenya.

Table 2: Tertiary Science Enrolment in Percentage of Total Tertiary Enrolment by Country

	Ghana	Kenya	Malawi	Nigeria	Tanzania	Uganda	Afr. Sub-Sah.
1988	30.0	21.0	37.0	30.0	9.0	41.0	29.4
1995	n.a.	n.a.	18.0	41.0	39.0	13.0	35.7

Source: Task Force on Higher Education and Society (2000).

2. Types of Higher Education Institutions

It should be noted that, in the countries included in the study (with the exception of Malawi), higher education is provided by a variety of institutions, which can roughly be divided into universities and non-university higher education institutions.

Broadly speaking, the two types of higher level instruction differ from each other in two major ways. The universities offer a broad range of fields of study and grant degrees of a higher level. Non-university institutions, on the other hand, provide education in a limited number of fields of study and offer short-cycle and

mid-level professional training. Varying by country, they comprise polytechnics, teacher training institutions, and vocational training institutes.

In developing countries, in general, the non-university institutions in recent years were more strongly advocated than universities for a number of reasons (World Bank, 1994, pp. 31- 33).

- The non-university institutions are perceived to be relative inexpensive in comparison to the universities. A World Bank study found out that the unit-costs (cost per graduate) at non-university institutions in Ghana were only 40 per cent of the average of university education (World-Bank, 1994, pp. 31).
- The non-university tertiary level institutions are also perceived to respond more flexible than the universities to the labour market demand.
- They are seen as being able to play a crucial role in the efforts of developing countries to provide access to higher education for a wider student population, for they are more likely to attract students from underprivileged social groups.

Indeed, in its landmark report on higher education from 1994, the World Bank has urged the developing countries to expand the non-university institutions considerably. Available evidence suggests that this advice was followed in a few African countries. In most African countries, however, the policy opted for the expansion of the existing universities or the establishment of new universities.

As shown in Table 3, the universities have continued to play a dominant role in higher education in the countries under study. In Nigeria, the universities totalled 93 per cent of all students enrolled in higher education in 1970. In 1980 their share had fallen to 47 per cent, but it rose again to 61 per cent in 1990. In Tanzania, the same pattern can be observed. University students accounted for 90 per cent of all tertiary education students in 1970. In 1980 it was only 66 per cent, but rose to 78 per cent in 1990. In Uganda, the proportion of the university students was around 70 per cent both in 1970 and 1980. Thereafter, it fell to 43 per cent in 1990.

Table 3: Percentage of University Students Among All Students Enrolled in Selected Countries

	Nigeria	Tanzania	Uganda
1970	93	90	70
1980	47	66	69
1990	61	78	43

Source: Own calculation based on UNESCO Statistical Yearbooks 1980 and 1990.

All but one graduates survey included in the comparative study targeted university graduates. The above shown pre-eminence of the universities in the respective higher education systems suggests that they produce the lion's share of the output of the higher education system.

Another noteworthy feature of the African higher education system is the number of higher education institutions in the different countries. Whereas in some African countries several universities and higher education institutions were simultaneously established, other countries focused on the development of one single “national university”. For example, at the time these surveys were conducted, the University of Malawi was the single tertiary education institution in Malawi. It comprised five colleges, located in various regions of the country. In the meantime, a second university – the Mzuzu University – has been established in the northern part of the country.¹

3. The Higher Education Systems and the Institutions Surveyed

Researchers involved in the study traced mainly university graduates and focused on the higher education institution they are affiliated with. Only in one study (Ugwuonah and Omeje, 1998), all institutions in the Anambra and Enugu states in Nigeria were included in the survey. The national higher education landscape is outlined in the following with a special attention to the institutions surveyed.

3.1 Malawi

The University of Malawi was founded in 1964 as the single institution to provide further and higher education in the country. The university comprises five constituent colleges scattered widely around the country: Bunda College of Agriculture; Chancellor College with the Faculties of Science, Arts, Social Science, Education, Law, and Public Administration), Kamuzu College of Nursing, the Polytechnic, and the College of Medicine.

On the undergraduate level, the colleges offer university degrees as well as diploma courses leading to non-university level certificates or diplomas. The degree courses last usually four years with the exception of Medicine, Engineering, and Journalism, which take five years to complete. The certificate programmes require generally one year of study. Students are able to carry on the studies to diploma or a degree upon successful completion of a certificate course. The Polytechnic, in cooperation with the employers’ council, offers training in technical subjects.

Almost 3,700 students were enrolled in the different constituent colleges of the university in 1999, and 370 academic staff were employed by the university (AAU, 1999, p. 196).

In 1999, the Mzuzu University was established in Malawi as a second public university in the country, mainly to train secondary school teachers.

The survey undertaken by Zembere (see Zembere and Chinyama, 1998) covered the bachelor degree graduates in the following faculties: Agriculture, Applied Sciences, Commerce, Education, Engineering, Humanities, Social Sciences, Medicine, Science, and Law.

3.2 Ghana

There are five universities in Ghana which form the backbone of the higher education system: the University of Ghana, the University of Science and Technology, the University of Cape Coast, the University of Development Studies, and the University College of Education (AAU, 1999). Ghana has also another public institute of higher education: the Institute of Management and Public Administration.

Table 4 shows the number of students and full-time academic staff at the universities and institutes of higher education in Ghana.

Table 4: Number of Students and Full-time Academic Staff at the Universities in Ghana

	Students	Academic staff
University of Cape Coast	7,266	226
University of Ghana	8,606	561
Kwame Nkrumah University of Science and Technology	7,717	520
University of Development Studies	140	30
University College of Education	3,554	182

Source: AAU 1999. The reference years are 1997-98.

The figures in Table 4 reveal that the universities in Ghana are very different in size. The numbers of students range from 8,606 at the biggest institution of the country, the University of Ghana, to 140 only at the University of Development Studies. The number of full-time academic staff at the University of Ghana is almost 20 times that at the University of Development Studies.

The three universities (University of Ghana, University of Science and Technology, University of Cape Coast) whose graduates were surveyed by Djangmah (1999) are the oldest universities in the country and by far the most important ones. In the academic year 1997-98, their student population totalled 23,583 which was a share of 86 per cent of the total enrolment in the country.

The University of Ghana, founded in 1948 as the University College of the Gold Coast, is the biggest university of the country. Before the independence in 1957, it had a "special relationship" with the University of London, in the framework of which it taught and examined according to the University of London programme. The degrees and diplomas awarded were also the same as those of the University of London. In 1961, it became the fully-fledged University of Ghana. It has six faculties (Agriculture, Arts, Law, Science, and Social Science), three schools (Administration, Communication studies, Performing Arts and Public Health) and three Centres (Tropical Clinical Pharmacology; Music and Dance; Languages).

The University of Science and Technology started as a College of Science and Technology in 1951. It became a fully-fledged university in 1961 as the Kwame Nkrumah University and was renamed the University of Science and Technology (U.S.T.) in 1966. The University of Science and Technology – today officially called Kwame Nkrumah University of Science and Technology (KNUST) – has five faculties (Agriculture, Environmental Studies, Pharmacy, Science, and Social Sciences) and one College of Arts offering courses in subjects as various as Art Education, Publishing Studies, and Rural Art). Further, KNUST has two schools (Medical Sciences and Engineering), four institutes (Land Management, Mining, Renewable Natural Resources, and Technological Education), and one Centre of Technology Consultancy.

The University of Cape Coast started in 1962 as the College of Cape Coast with the aim of training graduate teachers. In 1971, it became the university of Cape Coast. While still committed to its initial mission, it offers today a broad range of study programmes as reflected in the spectrum of its faculty structure. It has five faculties (Agriculture, Arts, Education, Science, and Social Sciences), two institutes of Education and Educational Planning and a Centre for Development Studies.

The survey of the graduates of those institutions covered the bachelor's degree programme of all faculties except for Medicine. In general, the bachelor's degree programmes last four years. In most course programmes, students begin to study several subjects before concentrating on one major subject with a minor or two subjects of equal weighting by the final year.

3.3 Kenya

The higher education system of Kenya is peculiar in the African landscape. The number of private universities (12) is higher than that of public universities (5). The private institutions – except for the United States International University – have been founded by religious groups and offer mainly theological training. In the academic year 1990/91 they had a total number of 2,074 students.

The religion-based universities recruit not only Kenyan students but also train professionals for pastoral and educational services from neighbouring and other African countries. The secular private university – the United States International University – started in 1970 with five American students residing in Kenya. Today it offers bachelor degrees (science or arts) in Business Administration, International Business Administration, Information Systems and Technology, Hotel and Restaurant Management, Tourism Management, Counselling, Psychology, International Relations, and Journalism.

The five public universities (University of Nairobi, Moi University, Kenyatta University, Egerton University, and the Jomo Kenyatta University of Agriculture and Technology) are the most important institutions in the higher education sys-

tem. In the academic year 1997/98, they altogether recorded an enrolment of 37,630 students. The biggest of them, the University of Nairobi, had 13,018 students enrolled, and the Jomo Kenyatta University of Agriculture and Technology had had the smallest number of students (2,258).

Table 5: Number of Students and Full-time Academic Staff at Kenyan Public Universities

	Students	Academic staff
Egerton University	7,260	520
Jomo Kenyatta University of Agriculture and Technology	2,258	305
Kenyatta University	9,500	417
Moi University	5,594	n.a
University of Nairobi	13,018	150

Source: AAU 1999. The reference years are 1997-98.

In Kenya, in the context of this study two surveys were carried out, one at the Faculty of Education of the University of Nairobi and the other at the Faculty of Education at the Kenyatta University.

Kimani (see Kimani and Kinyanjui, 1999) traced the graduates of the Faculty of Education of the University of Nairobi. It was formerly a University College of the University of East Africa which was founded in 1963. In 1970, when the University of East Africa was dissolved, the University College was transformed into the University of Nairobi. It has six colleges with about 14 faculties.

The Faculty of Education at the University of Nairobi was established with the assistance of UNESCO in 1972. In 1978 all bachelor of education (B.Ed.) undergraduate students were transferred to a constituent college of the University of Nairobi, the Kenyatta University College before this subsequently became a fully-fledged university of its own. In 1988, the Bachelor of Education programme was re-introduced into the University of Nairobi. The faculty is situated at the main campus of the University and trains graduate teachers. Graduates of the B.Ed. programme of the University of Nairobi require 17 core units in order to graduate. These courses are offered in the four departments of the faculty. In 1996, there were approximately 1,750 students enrolled in the B.Ed. programme (*ibid.*).

The second survey carried out in Kenya focused on the graduates of the Faculty of Education of Kenyatta University. The Kenyatta University emerged out of the military base of Templer Barracks, when this was converted into an education constituent college of the University of Nairobi in 1965. In 1985, the Kenyatta University College became a fully-fledged university and was renamed Kenyatta University. From its initial 200 students, it ranks today second in terms of the

number of students – after the University of Nairobi – with 10,000 students. The curriculum was diversified and the university offers today degrees in Education, Arts, Science, Home Economics, Environmental Studies, and Commerce.

The Faculty of Education, whose graduates were surveyed by Karugu (2001), was the initial faculty of the Kenyatta University. It started with a special accelerated programme to train secondary school teachers and produced its first graduates in 1975. Today, the Kenyatta University is a leading teacher training institution in the country, and the establishment of other faculties offering subjects to the bachelor of education programme helped to diversify the profile of the teachers trained.

3.4 Nigeria

The most populated country in Africa, Nigeria, has devoted great effort to provide higher education in various fields, with different types of institutions assigned to this task: universities, polytechnics, and colleges of education.

In 1999, Nigeria had 24 universities with a broad range of fields in which students were trained, and 12 specialized universities (5 universities of technology, 3 universities of agriculture and 1 military university). The universities can either be established by the federal government or by state governments. From all the 48 universities in Nigeria, 25 are owned by the federal government, twelve by the states, and one by the army (UNESCO, 1999).

In Nigeria, a difference is made between “first-generation” and “second-generation” universities. The first generation universities are the oldest universities inherited from the colonial era or established at the climax of the independence. The “second-generation” universities were founded in the mid-seventies, during the oil boom era and the federal administration reform, when the government created new universities for the newly formed state (ACU, 1994, p. 1418).

Nigeria followed a policy of locating new universities in the different regions of the country. On the one hand, it was hoped that “a university development will ensure a more even geographical distribution to provide a fairer spread of higher education facilities” (Akpan, 1990, p. 296). On the other hand, institutions of higher education were seen as agents of change, which can help to bring about the national unity and national integration.

The goal of fostering national unity has been impeded by the facts that universities recruit mostly students from the states and regions in which they are based and that the modest student mobility is a one-way traffic: from the regions of the south to the relatively wealthy regions of the north (Akpan, 1990).

In Nigeria, four surveys were undertaken of which three focused on a single institution (University of Benin, University of Nigeria, and University of Ilorin) and one on various higher education institutions in the states of Enugu and Anambra. Table 6 shows the student enrolment and the number of full-time academic staff of the first three institutions.

Table 6: Number of Students and Full-time Academic Staff at Three Universities Surveyed in Nigeria

	Students	Academic staff
University of Benin	24,320	750
University of Nigeria	22,328	1012
University of Ilorin	13,684	545

Source: AAU 1999. The reference years are 1997-98.

The University of Benin surveyed by Omoifo (see Omoifo and Awanbor, 1996) is the biggest among the universities surveyed in Nigeria. It started as Mid-West College of Technology in 1970, to be renamed later University of Benin. In 1975, it became a federal government owned university. It is, chronologically speaking, the last of the so-called “first-generation universities”. The university has ten faculties (Agriculture, Arts, Dentistry, Education, Engineering, Law, Medicine, Pharmacy, Science, and Social Sciences) and offers higher education at all levels as well as diploma and certificates. The bachelor degree programmes addressed in the study last in general four years (ACU, 1994: p. 1451).

Anyanwu (see Anyanwu and Iloeje, 2000) followed up the graduates of Faculties of Arts and Agriculture of the University of Nigeria. The University of Nigeria started in the 1960s at the dawn of Nigerian independence with an initial enrolment of 261 students and 13 members of academic staff (ACU, 1994: p. 1512). The university has two campuses, the main one being in the town of Nsukka and the other at Enugu. The University of Calabar used to be the third campus before becoming a fully-fledged federal university of its own. The university counts today 88 departments. The Faculty of Arts and the Faculty of Agriculture, whose graduates were polled for this study, are located in the Nsukka Campus. The Faculty of Agriculture offers a five year undergraduate programme leading to a Bachelor of Science in Agriculture, Food Science, Human Nutrition, and Agriculture Extension. The Faculty of Arts offers nine bachelor degree options with a possibility of combining major courses. The courses leading to a Bachelor of Arts last generally four years.

The University of Ilorin, whose graduates and postgraduates were surveyed by Omotosho (2000), is one of the second generation universities. It was founded in 1975 as an affiliated college of the University of Ibadan and became a fully-fledged university two years later. The University of Ilorin counts today eight faculties: Agriculture, Arts, Business and Social Science, Education, Engineering and Technology, Health Sciences, Natural Science, and the Post Graduate School (ACU, 1994: p. 1484). The bachelor degree programmes last in general four years. The postgraduates degrees awarded are the master degrees which last at least one

year full-time and PhD degrees which may be completed by course or by research work, take a minimum of two years full-time to complete.

The graduates traced by Ugwuonah and Omeje are from various higher education institutions in the states of Enugu and Anambra. Anambra and Enugu States were both formally a single state until in August 1991 when the old Anambra State was split into two, giving birth to the two states: Anambra and Enugu. In terms of higher education, Anambra State has one university and one polytechnic whereas Enugu State has two universities and two polytechnics. The study aimed at tracing graduates of the following institutions: The University of Nigeria (Nsukka Campus), the Enugu State University of Science and Technology, the Institute of Management and Technology (all above in Enugu State), and two institutions located in Anambra State: the Nnamdi Azikiwe University and the Federal Polytechnic Oke. One polytechnic was excluded, because it was not yet fully accredited by the National Bureau of Technical Education at the time when the survey was conducted.

3.5 Tanzania

The University of Dar-es-Salaam, whose graduates were surveyed, was born out of the decision taken in 1970 by the East African Authority to split the University of East Africa into three independent universities for Kenya, Tanzania, and Uganda. Prior to this date, the University of Dar-es-Salaam was a constituent college of the University of East Africa.

During its first years, the University of Dar-es-Salaam was assigned the mission of being a “developmental university”. As an agent of development in the country, it was expected to be responsive to the needs of a society in the development process. Especially the ideology of the “African socialism” professed by the former president of Tanzania Julius Nyerere has impregnated the university and had a far-reaching impact on its development. Special measures were undertaken to counteract the (feared) alienation of the university and the educated elite from the rural milieu and the concerns of the vast majority of the population. In 1974, a national service and a minimum of a two years work were made a compulsory entry requirement to the university (Mkude et al., 2003, p. 3).

The University of Dar-es-Salaam used to have the monopoly in higher education in Tanzania before other universities were created. Today, Tanzania has two additional universities: the Sokoine University of Agriculture and the Open University of Tanzania. Besides, there is a considerable number of other tertiary education institutions including the College of African Wildlife Management, the College of Business Education, the Institute of Development Management, and others.

The Open University of Tanzania, founded in 1992, grew rapidly to outperform the traditional University of Dar-es-Salaam in terms of students enrolled (4,809

and 4,098 in 1998 respectively), but the University of Dar-es-Salaam remains nonetheless the most important institution in the country.

Table 7: Number of Students and Full-time Academic Staff at the Universities in Tanzania

	Students	Academic staff
University of Dar-es-Salaam	4,098	578
Sokoine University of Agriculture	1,250	228
Open University of Tanzania	4,809	34

Source: AAU 1999. The reference years is 1998.

The University of Dar-es-Salaam has six faculties (Arts and Social Sciences; Development and Administration, Commerce and Management; Education; Engineering and Law). The university has also two university colleges (Muhimbili University College of Health Sciences and the University College of Lands and Architectural Studies).

Since the end of the 1980s, the University of Dar-es-Salam has been embarked in a process of restructuring and quality improvement. The Faculty of Engineering has taken the lead in this process and has been conducting graduates surveys regularly (Mkude, 2003, p. 11).

Kaijage (2000) surveyed the graduates of the Faculty of Commerce and Management (FCM). The FCM was established in July 1979, in the academic year 1996-97, it had 505 students and 36 full-time academic staff.

It offers the Bachelor of Commerce (B.Comm), Master of Business Administration (MBA) as well as PhD degrees in Commerce and Management. The Bachelor of Commerce is a three-year full-time programme offering specialisation in Accounting, Finance, and Marketing.

3.6 Uganda

The Ugandan higher education system comprises universities – both public and private – as well as technical and teachers' colleges. Altogether, there are seven universities in Uganda. The number of students and full-time academic staff is provided in Table 8.

The study conducted in Uganda focused on by far the most important university among them: the University of Makerere. In 1997, it had a total number of 8,560 students compared to 806 students at the university which comes second (the Islamic University in Uganda). The smallest university for which reliable figures are available in Uganda is the Ndjeje University with less than 100 students.

Table 8: Number of Students and Full-time Academic Staff at the Universities in Uganda

	Students	Academic staff
Makerere University	8560	730
Mbarara University of Science and Technology	353	58
Bugema University	.	.
Islamic University in Uganda	806	65
Ndje University	77	13
Nkumba University	706	53
Uganda Martyrs University	194	21

Source: AAU / IAU: Guide to Higher Education in Africa. The reference year is 1997.

Makerere University was established in 1922 as a government technical school. In 1937, it was upgraded to a university college – with a “special relationship” to the University of London. In 1963, Makerere became one of the three constituent colleges of the University of East Africa (UEA). In 1970, the UEA was split up into three universities. Makerere University became a fully-fledged university offering undergraduate and post-graduate education. It terminated its “special relationship” with the University of London. Since then, the university has had its highs and lows. Between 1970 and 1986, the funds allocated to the university fell dramatically. The quality of teaching at Makerere University, which used to be known as the “Harvard of Africa”, deteriorated and the university facilities collapsed. In the beginning of 1990s, the university adopted a new strategic development plan and introduced academic reforms aiming at raising extra-funding (Nakanyike et al., 2003).

The University has nine faculties, seven institutes, four schools, and four research institutions. Mayanja (see Mayanja et al., 1999) focused on graduates of the Faculty of Science and Faculty of Arts.

The Faculty of Science was established in the 1950s. It is divided into the following departments: Botany, Chemistry, Physics, Geology, Biochemistry and Mathematics. At the undergraduate level, the faculty offers three bachelor degrees, which last three years: Bachelor of Science in Ethnobotany, Bachelor of Science with Education, and Bachelor of Science.

The Faculty of Arts has seven departments: History; Geography; Religious Studies; Philosophy; Music, Dance and Drama; Literature; and Mass Communication, and the Institute of Languages. The faculty offers ten bachelor degree programmes, each lasting three years.

Table 9 provides an overview of the degree programmes offered by those two faculties.

Table 9: Number of Undergraduate Students in the Degree Programmes of the Faculty of Arts and Faculty of Science at the Makerere University

	Male	Female	Total
Faculty of Arts			
Bachelor of Arts with Education	339	425	764
Bachelor of Mass Communication	29	38	67
Bachelor of Arts in Environmental Management	137	137	274
Bachelor of Arts in Economics	39	8	47
Bachelor of Arts in Music	11	2	13
Bachelor of Arts in Drama	11	11	22
Bachelor of Development Studies	85	122	207
Bachelor of Urban Planning	100	79	179
Bachelor of Tourism	127	131	258
Bachelor of Arts	657	532	1,189
Total	1,535	1,485	3,020
Faculty of Science			
Bachelor of Science in Ethnobotany	5	3	8
Bachelor of Science with Education	217	47	264
Bachelor of Science	685	182	867
Total	907	232	1,139

Source: Nakanyie et al. (2003). Reference Year is 1999-2000.

Notes

¹ This model is not peculiar to Malawi. Until the early 1980s, the same model of higher education system existed in Burundi and in Rwanda – just to name a few countries.

References

- AAU (Association of African Universities) (1999). *Guide to Higher Education in Africa*. London: Macmillan Reference Ltd.
- AAU/IAU (Association of African Universities/International Association of Universities): *Guide to Higher Education in Africa*. London: Palgrave 1997.
- ACU (Association of Commonwealth Universities) (1994). *Commonwealth University Yearbook 1994*. London. The Association of Commonwealth Universities.
- Akpan, P.A. (1990). The Role of Higher Education in National Integration in Nigeria. *Higher Education*, 19, 293-305.

- Anyanwu G.A. and Iloeje, I.C. (2000). Graduates' Employment Survey: A Tracer Study of the Graduates of the Faculties of Arts and Agriculture at the University of Nigeria, Nsukka (unpublished Report).
- Djangmah (1999). The Challenge of Further Vocationalizing University Education in Ghana: A Survey of University Graduates (unpublished report).
- International Monetary Fund (1998). *International Financial Statistics Yearbook 1998*. Washington D.C.
- Kaijage, E. (2000). *Faculty of Commerce and Management Graduates and Their Employers: A Tracer Study*. Dar-es-Salaam: Faculty of Commerce and Management (Business and Management Research Series).
- Karugu (2001). Higher Education and Work: Survey of Graduates of Kenyatta University (mimeo).
- Kimani, G.N. and Kinyanjui, J.W. (1999). Assessment of the Effectiveness of the Bachelor of Education Programme (B.Ed.Arts) in Meeting Job Needs of Graduates of University of Nairobi (mimeo).
- Mayanja, M.K.; Nakayiwa-Mayega, F.; Adebua, A.; Kabuye, M.K., and Kaase-Bwanga, E. (1999). A Comparative Study of Makerere University Graduates from the Faculties of Arts and Science (mimeo).
- Mkude, D.; Cooksey, B., and Levey, L. (2003). *Higher Education in Tanzania. A Case Study*. Oxford: James Currey.
- Musisi, N.B. and Mwuwanga, N.K. (2003). *Makerere University in Transition 1993-2003. Opportunities and Challenges*. Oxford: James Currey.
- Omoifo, C.N; Badmus, G.A., and Awanbor, D. (1996). Education and Achievement in the Early Career of the University of Benin Graduates. Report of the 1996 University of Benin Graduates' Tracer Study (mimeo).
- Omosho, J. (2000). Higher Education and Work: A Survey of Alumni of the University of Ilorin who Graduated between 1985 and 1994 (mimeo).
- Task Force on Higher Education and Society by the World Bank (2000). *Higher Education in Developing Countries: Peril and Promise*. Washington, D.C.: The World Bank Publications.
- Teichler, U. (1991): "Forschungsansätze zur Berufstätigkeit von Hochschulabsolventen und der Stellenwert von Absolventenstudien zur Evaluation der Hochschulen". In: Tessmar, U. and Bischoff, J. eds. *Qualitäts- und Leistungskriterien im Hochschulwesen*. Hochschullehrer-Tagung Lateinamerika 1991, Recife 18.3.-23.3.1991. Eschborn: Deutsche Gesellschaft für Technische Zusammenarbeit (GTZ) GmbH 1991, pp. 29-48.
- Teichler, U. (2003). *Hochschule und Arbeitswelt. Konzeptionen, Diskussionen, Trends*. Frankfurt: Campus.
- Ugwuonah, G.E. and Omeje, K.C. (1998.) Higher Education and the Demands of Manpower Development in the Nigerian Manufacturing Sector: An Empirical Study of Enugu and Anambra States (mimeo).
- UNESCO, International Bureau of Education (1999). *World Data on Education*. CD-ROM Third Edition. Paris.
- World Bank (1994). *Higher Education: The Lessons of Experience*. Washington, D.C.
- Zembere, S.N. and Chinyama, M.P.M. (1998). Higher Education and Work: Survey of Graduates of the University of Malawi who Graduated Between 1987 and 1995 (mimeo).

The Methodology of African Graduate Surveys: Study Design and Tracing Strategies

Alexis-Michel Mugabushaka

1. Study Design and the Questionnaire

Reviews of the studies on the relationship between higher education systems and the labour market in the past decades have shown that the addressed issues have changed over time (Teichler, 2000). The attention has shifted from the purely quantitative structural analysis aiming at forecasting the future needs for qualified labour force to studying more complex themes. Students' strategies to handle the transition from higher education to employment, the adequacy of the position as well as the utilization of knowledge and skills acquired during study came increasingly under scrutiny of the researchers in recent times. As the research concepts grew more complex and the information needs became more demanding, various methodical approaches were utilized. They include detailed official statistics, student and graduate surveys, employer surveys, and in depth-analysis of job tasks, curricula analysis, etc. (Teichler, 2000).

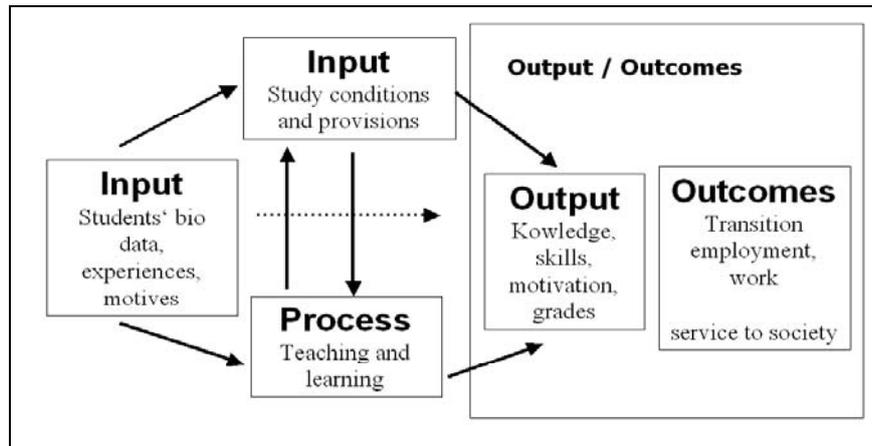
Graduate surveys have proved to be the best choice to gain information and insight on the whereabouts of the graduates, their experience during the studies and the transition process, their current employment situation, etc. Their relative strength in comparison with surveys targeting other groups (students, academic staff, employers) lies in their suitability to provide information on various dimensions involved in the assessment of the relationship between higher education and work. Graduates can retrospectively assess the study conditions. They can provide information on their employment and can rate the degree to which the curriculum they underwent may be (or not) relevant to perform the job tasks assigned to them.

A comparison of “old” questionnaires and those which are currently used shows that the graduate surveys too have undergone tremendous changes. The questionnaires utilized in the 1970s included, beside questions on the socio-biographical background of the graduates, mainly questions on the study course and the employment situation (Sanyal and Kinunda, 1977, p. 333). More recent questionnaires take into account the complexity of the research topics and cover various aspects relevant to the assessment of the relation between higher education and work.

The tracer studies on which this comparative study is based have followed this rationale. Although rather heterogeneous in their design, research foci, and aims, they shared the same ambition of being as comprehensive as possible and have addressed a number of issues relevant to assessing the relationships between the higher education system and the world of work.

Their common approach relied on an input-process-output/outcomes model. On the input side, there are the students (now graduates). Their individual motives, performances, socio-biographical origin, and experiences are at the centre of attention. The second type of input are the institutional resources devoted to train the students (teaching staff, institutional endowment). The process dimension includes teaching, learning styles, curriculum, etc.). On the “result” side, we can distinguish between the “output” and the “outcomes”. Output measures refer to the explicitly targeted results (e.g. competencies acquired) whereas the outcomes “are measures of desired or likely impacts beyond mere output, for example status, work assignment, job satisfaction, service to society, etc.” (Teichler, 2000, p. 37). Figure 1 illustrates the rationale of the study as implemented in the questionnaires.

Figure 1: The Conceptual Framework of the Graduate Surveys



The questionnaire, which is provided in the appendix of this book, compares five sections and about 50 questions addressing the above-sketches framework.

The first section asks for information on the life course prior to study and the reason for the choice of the university eventually visited. Further, graduates are asked to rate – retrospectively – the study conditions and provisions.

Questions on the transition from higher education to work are included in the second section of the questionnaire. Graduates are asked to provide information on strategies which they used to get their first employment, the time they started to seek for a job, the duration of the search period, and the number of employers contacted before getting the first job. In addition, they are asked to rate the decisive factors for getting the job offer.

The third section deals with the world of work. Graduates are asked to state the major assignment they had in periods of employment and job change. They are also asked to provide information on their employer (economic sector, organisation size) and on their earnings, both in terms of monetary income and fringe benefits related to the job.

The relationships between the course programme and subsequent work are addressed in the fourth section of the questionnaire. It compares questions on the use of qualifications acquired during the course of study, the relevance of the study programme, and the job requirements. Other questions in this section include the appropriateness of the status achieved, satisfaction with the different aspects of the job, and future career plans.

In the fifth section of the questionnaire, respondents are asked to furnish socio-demographic data. Beside their year of birth and gender, they are asked about the highest education level of their parents. This section includes also questions on the contacts between the graduates and their university and how they could be improved.

2. The Target Population and the Samples

The African researchers faced a great challenge of conducting the surveys in absence of a list of graduates and reliable address directories. Many African countries – unlike the situation in the industrialized countries – have inefficient postal services and poorly developed communication infrastructure. The researchers undertaking the surveys had to adopt very imaginative and inventive strategies to overcome the problems.

The population varied from study to study. Three studies targeted graduates from all faculties and departments. Others studies confined themselves to a single faculty or study programme or to a few of them. Noteworthy are the two studies in Kenya targeting graduates of education programmes at two different universities.

Another major difference between the population of the studies is the period covered. The survey of the graduates of the Faculty of Management and Commerce at the University of Dar-es-Salaam aimed at respondents who graduated between 1980 and 1995, thus covering a period of 15 years. Other studies covered a much shorter period, the average being 8.7 years. The study conducted at three different universities in Ghana had the shortest coverage period, i.e. four years.

Consequently, the size of the target population of the surveys varied substantially. Between 1981 and 1991, the University of Benin had almost 10,000 graduates from all faculties. In about the same period (between 1978 and 1990), the graduate output of the University of Ilorin was 8,000. The biggest population was that of the graduate survey of the three oldest universities in Ghana, which produced 12,200 graduates in the faculties considered between 1990 and 1994. Table 1 provides details of the target populations and the samples.

In graduate surveys, the use of an appropriate sampling method is crucial for inferring from the survey results to the situation of the population. The most accurate sampling strategies – the random sampling and the stratified random sampling – can be employed in research settings where a “sampling framework” exists – i.e. a list of the population from which the sample is to be drawn.

The researchers leading the surveys adopted various sampling strategies (cf. Table 2). Omotosho, Kimani, and Zembere targeted the whole population. Ugwuonah used a simple random sampling. Other researchers, notably Mayanja, Djangmah, Karugu, Kaijage, Anyanwu, and Omoifo employed a stratified random sampling.

Table 2: Procedure of Sample Selection

Country	Principal researcher	Sampling procedure
Ghana	Djangmah	Proportional stratified sampling by year of graduation and higher education institution
Kenya	Karugu	n.a.
Kenya	Kimani	(whole population targeted)
Malawi	Zembere	(whole population targeted)
Nigeria	Anyamwu	Random sampling
Nigeria	Omoifo	Stratified random sampling
Nigeria	Omotosho	Haphazard sampling
Nigeria	Ugwuonah	Disproportionate random sampling (of potential employers)
Tanzania	Kaijage	Stratified random sampling
Uganda	Mayanja	Stratified random sampling

n.a.: No sampling detail provided.

3. Tracing Process of Graduates

The process of locating the graduates in the ten tracer studies in Africa was indeed crucial for the success of the projects. It proved to be one of the most time-consuming and labour-intensive activity in the course of conducting the surveys.

Broadly speaking, all researchers adopted a combination of various strategies to trace the graduates and administer the questionnaires. We briefly describe the strategies used in the following and assess their effectiveness.

- *Employers' records*: Researchers in charge of the projects contacted organisations, which, by their knowledge, were more likely to employ the graduates to be targeted for the study. The studies conducted in Kenya targeted exclusively graduates of educational programmes. Therefore, the Teacher Service Commission was approached to provide the contact details of sampled graduates. In other studies, large public, parastatal, and private organisations were asked for assistance to trace the graduates. To get the addresses of possible employers, the researchers relied either on their knowledge of the labour market, or consulted the directories of organisations. All, but one study (Anyanwu), used in one form or another the employer's records.
- *University records*: Records such as university students' personal files and the list of university alumni associations have been used to trace the graduates. Six of ten studies used this strategy to a varied degree (Anyanwu, Kaijage, Kimani, Mayanja, Omoifo, and Zembere). Records at the universities were seen by the researchers as quite useful for tracing the graduates who completed their degree programme not very long before the graduate surveys were undertaken. In case of alumni associations' records, the contact details provided were in general accurate and have helped to trace the graduates successfully.
- *Mass media*: Djangmah, Kaijage and Mayanja advertised their study in the mass media (either radio or print media) and requested the graduates from the chosen years to contact them and give the postal address where a questionnaire could be sent. Although sceptical in the beginning about the yield of this method (the newspaper circulation is rather modest in the countries involved), the researchers report that this method was very effective in reaching a wide range of graduates.
- *Snowball technique*: This strategy was used in the four studies carried out by Kaijage, Kimani, Mayanja, and Omotosho. After having located some respondents, using one or another method, they were asked to help in locating their fellow graduates. They were either provided a form containing space for contact details of other graduates or were asked orally by the researchers to give the addresses. Kaijage also asked fellow faculty staff members to help locating the graduates. They received a form, in which they filled in the addresses of the graduates they were in contact with.

4. Data Collection and Return Rate

The period taken to collect the data varied from one study to another. The minimum period spent in collecting the data was two months and the maximum was five months. The mean period for data collection was about three months.

The collection of data was difficult in some organizations/companies, especially where an employee was not permanently stationed in a department, a branch or an office. For example, employees in audit firms move from one company/organization to another in the course of their jobs.

In one case – the study conducted by Kimani in Kenya – some graduates filled in the questionnaire only after having been assured by the researchers that they are not acting on behalf of the Kenya Government Loan for University Education.

Table 3: Return Rates of Questionnaires of Graduate Surveys

Country	Principal researcher	Target sample	Completed questionnaire	Return rate (%)
Ghana	Djangmah	1,500	979	65.3
Karugu	Karugu	2,500	466	31.1
Kenya	Kimani	1,170	547	46.8
Malawi	Zembere	1,975	487	24.7
Nigeria	Omoifo	4,200	1,047	24.9
Nigeria	Omosho	2,800	979	35.0
Nigeria	Anyanwu	800	579	72.4
Nigeria	Ugwuonah	500	266	53.2
Tanzania	Kaijage	650	331	50.9
Uganda	Mayanja	1,000	430	43.0

The studies conducted by Anyanwu (see Anyanwu et al., 1999) in Nigeria and by Djangmah in Ghana had high return rates of 72.4 per cent and 65.3 per cent respectively. Ugwuonah in Nigeria and Kaijage in Tanzania could secure the participation of about half the graduates they surveyed. Their return rates are respectively 53.2 per cent and 50.9 per cent.

About four from ten approached graduates in the studies in Kenya (by Kimani) and in Uganda (by Mayanja) filled in the questionnaire. In the remaining studies, the return rate was below 30 per cent, the lowest return rate was 24.7 per cent.

5. The Comparative Database

The data in the individual studies were collected between April and December 1996. The researchers used SPSS to manage and analyse the data.

For the present comparative study, those ten data sets were merged into one single comparative file. This was undertaken at the International Centre for Higher Education Research at the University of Kassel (Germany). The data cleaning and verification was performed during a workshop in August 2000 in which three of the ten primary researchers (Kaijage, Omoifo, and Omeje) took part.

The task of merging those datasets proved to be tedious. The adaptation of the core questionnaire to the local realities done by the researchers jeopardised in some cases the comparability of the data. Therefore, some variables in the individual studies had to be sacrificed. The following outlines the procedures used to generate the international data set.

Fields of study: The fields of study were recoded according to a scheme devised by the team in charge of data merging. Although closely following the UNESCO International Standard Classification of Education (ISCED) (the revised version of 1997), some modifications were made. Altogether, eight categories of the fields of study were created: Business and Law, Social Sciences, Engineering and Technology, Education, Humanities and Arts, Agriculture and Food Science, Natural Science, and Health Sciences.

- For the fields of study “*Education*” and “*Humanities and Arts*” the ISCED classification was retained. Education includes Education Science, and Teacher Training included all other programmes in the faculty of education. Humanity includes humanities, fine and applied arts, religion and theology.
- In the ISCED classification, the category Social Sciences includes Law, Social and Behavioural Sciences, Commercial and Business Administration, Home Economics, Mass Communication and Documentation, and Service Trade. For this study however, this broad field was divided into two major sub-fields: “*Social Science*” and “*Business and Law*”. Home Economics was included in the category of “*Agriculture and Food Sciences*”.
- The ISCED Category “*Natural Sciences*” is made up of Engineering, Mathematics and Computer Science, Architecture and Town Planning, Transport and Communication, Trade, Crafts and Industrial Programmes, Agriculture Forestry and Fisheries. But for this study, it is split into three sub-fields: *Natural Sciences*, *Engineering* and *Agriculture* (for Agriculture, Forestry and Fisheries and Home Economics).
- The Category *Health Sciences* in this study includes Medical Sciences as well as health related sciences such as Pharmacy.

Disaggregating the variables: In some cases the same variables were included in all the individual studies but were coded differently. For example the “duration of seeking employment” was stated in most studies in months but in some cases it was put into ranges (e.g. 1 to 6 months, 6 to 12 months, etc.). In such cases the data were disaggregated. In these cases, the comparative file stated individual months and recorded the mean number of months in the latter cases.

Income: The monthly income from the main job, initially coded in the local currency, in the international file, was converted into US Dollars according to the official exchange rate at the end of 1997 (IMF 1998). In addition, a plausibility check showed that some respondents have stated the weekly or yearly income – without specifying it. Therefore, the 5 per cent highest and the 5 per cent lowest incomes were excluded. Still, the comparability of the data is questionable. We note a discrepancy between the “official” and the “market” exchange course in some countries.

Variable omitted: In spite of tremendous efforts made to include as many variables as possible in the international file, some variables proved impossible to compare. This includes the variables about the transition from higher education to the world of work. The answer categories given by the researchers were so various and the coding so different that a comparison makes little sense. Also, the comparative data set does not comprise responses to the questions about the extent to which the acquired knowledge during the studies was useful for their current job. This was necessary because the questions were differently phrased in the various surveys.

6. Methodological Caveats and Limitations of the Study

The representativity of the samples: It is difficult to assess the representativity of the samples without detailed information on the total targeted population. In her research report, Omoifo (1999) provided such details on the year of graduation of both the population and the realised sample.

With respect to the graduation year, Table 4 shows that graduates of early years are underrepresented, whereas the respondents who graduated shortly before the survey was conducted are overrepresented in the sample.

Further, the strategy of tracing the respondents through the employers which was adopted by eight of ten studies (though often in combination with other tracing strategies) implies a bias against the unemployed graduates or graduates who are self-employed or employed in small organizations. Thus, the samples cannot claim to be representative for the populations under study.

Generalisability of the Findings: As already stated, some surveys address only single institutions and selected fields of study. Moreover, the ten surveys were undertaken in six countries. Therefore, this comparative study cannot be viewed as representative for graduate employment and work all over Sub-Saharan Africa. Yet, it is the best source currently available for this region.

Table 4: Comparison of Sample and Population of Year of Graduation

Year of Graduation	Per cent of population	Per cent of sample
1980 – 1986	34	15
1987 – 1989	23	19
1990 – 1991	17	24
1992 – 1993	18	27
1994 – 1995	7	14
Year not indicated		2
Total	100	100
Count	23,971	1,047

Source: Omoifo et al. (1999).

7. Basic Information on the Respondents

Altogether, the responses of 6,086 graduates were included in the comparative data set.

As Table 5 shows, almost half of the respondents (47.2 %) in the sample graduated in Nigeria, where four surveys were conducted. The two surveys conducted in Kenya yielded a total of 1,013 respondents, which is 16.6 per cent of the sample. The Ghanaian respondents make up 15.7 per cent of the sample. Finally, 8 per cent of the graduates were from Malawi, 7 per cent from Uganda, and 5.4 per cent from Tanzania.

Table 5: Number of Respondents by Country

Country	Per cent	Count
Nigeria	47.2	2,871
Kenya	16.6	1,013
Ghana	15.7	957
Malawi	8.0	487
Uganda	7.0	427
Tanzania	5.4	331
Total	100	6,086

With regard to the fields of study (see Table 6), “Education” accounts for 30.2 per cent. Graduates of “Social Sciences” and “Business and Law” are also well represented making 16.0 per cent respectively 15.9 per cent of the entire sample. “Humanities and Arts” and “Natural Sciences” are represented with 11.9 per cent respectively 11.4 per cent. The shares of graduates of “Agriculture and Food Science” and graduates of “Engineering and Technology” are almost equal. They

account for 6.9 per cent and 6.2 per cent of the sample respectively. The Health Sciences are the least represented with only 1.5 per cent of the respondents.

Table 6: Number of Respondents by Fields of Study

Field of study	Per cent	Count
Education	30.2	1,636
Social Sciences	16.0	868
Business and Law	15.9	861
Humanities and Arts	11.9	643
Natural Sciences	11.4	616
Agriculture and Food Science	6.9	373
Engineering and Technology	6.2	336
Health Sciences	1.5	83
Total	100	5,416

Graduates of specific fields of studies are unevenly distributed across the countries.

- In *Kenya* and *Tanzania*, only graduates of one field of study were targeted. In Kenya, all the graduates are from the Education and in Tanzania only Business Administration graduates were surveyed.
- In *Nigeria*, 29 per cent of the respondents graduated in Education. 18 per cent are from the Humanities and Arts and 14 per cent in Natural Sciences. Social Sciences and Agriculture account each for 10 per cent of the Nigerian respondents. 8 per cent have graduated in Engineering and 3 per cent from the Health Sciences.
- Almost half of the *Ghanaian* respondents (47 %) are Social Sciences graduates. The share of Business and Natural Sciences students is almost the same (respectively 17 per cent and 16 per cent of the sample). Almost one tenth (9 %) respondents are from Humanities and Arts and 6 per cent are Engineers. Graduates from Agriculture account for 3 per cent and those from Education and Health Sciences have a share of less than 1 per cent each.
- One third of the respondents (33 %) in the *Ugandan* survey are from Business and Law. 28 per cent graduated in Social Sciences and 20 per cent in Natural Sciences. Humanities and Arts are also relatively strongly represented (18 %). Health Sciences graduates account for less than 1 per cent.
- In *Malawi*, where all study programmes were included in the surveys, we have a more or less even distribution of the respondents across most fields of study. The fields of Business, Social Sciences, Engineering, Education, and Agriculture account each between 16 per cent and 19 per cent. On the other hand, Natural Sciences, Humanities and Health Sciences comprise only 6 per cent, 3 per cent, and 2 per cent.

The surveys, carried out between 1996 and 1997, addressed persons graduating between 1980 and 1996. Actually, 8 per cent had graduated from 1980 to 1984 and 27 per cent from 1985 to 1989. The vast majority (65 %) graduated, among them 34 per cent from 1990-1992 and 31 per cent subsequently.

References

- Anyanwu, G.A. (1999). Business Concepts and Entrepreneurial Career Exploration Unit Development for Home Economics for Higher Education (mimeo).
- Anyanwu, G.A et al. (1999). *Graduates' Employment Survey: A Tracer Study of the Graduates of the Faculty of Arts and Agriculture at the University of Nigeria*. Nsukka, Nigeria: University of Nigeria
- Djangmah, J.S. (1999). The Challenge of Vocationalism: A Follow-up Study of Students of Ghanaian Universities (mimeo).
- International Monetary Fund (1998). *International Financial Statistics Yearbook 1998*. Washington D.C.
- Kaijage, E.S. (1999). The FCM Graduate: A Tracer Study of the Faculty of Commerce and Management Graduates (mimeo).
- Karugu, A.M. (1999). A Tracer Study of Kenyatta University Students, 1985-1989 (mimeo).
- Kimani, G.E. (1999). An Assessment of the Effectiveness of Bachelor of Education Programme (B. Ed Arts) in Meeting Job Needs of Graduates (mimeo).
- Mayanja, M. (1999). A Tracer Study of Makerere University Graduates (1984 – 1994) (mimeo).
- Omoifo, C. N. (1999). Education and Achievement in the Early Career of the University of Benin 1981-1991 Graduates (mimeo).
- Omosho, J. A. (1999). The Tastes of Higher Education and Work: A Follow-up Study of the Alumni of a Nigerian University (mimeo).
- Sanyal, B. and Kinunda, M. (1977). *Higher Education for Self-Reliance: The Tanzanian Experience*. Paris. UNESCO. International Institute for Educational Planning.
- Schomburg, H. (1995). *Standard Instrument for Graduate and Employer Surveys*. Eschborn and Kassel: Gesellschaft für Technische Zusammenarbeit and Wissenschaftliches Zentrum für Berufs- und Hochschulforschung.
- Teichler, U. (2000). The Relationships between Higher Education and the World of Work: A Challenge for Quality Assessment in Higher Education. *South African Journal of Higher Education*, 14(2), 34-44.
- Teichler U. (2002). Potentiale und Erträge von Absolventenstudien. *Sozialwissenschaften und Berufspraxis*, 25(1-2), pp. 9-32.
- Ugwuonah, G.E. (1999). Higher Education and the Demands of Manpower Development in the Nigerian Manufacturing Sector: An Empirical Study of Enugu and Anambra States (mimeo).
- Zembere, S.N (1999). University of Malawi Tracer Study (mimeo).

The Fortunate Few's Picture: A Socio-biographical Profile of the African Graduates

Alexis-Michel Mugabushaka and Christy Omoifo

In a study conducted in the 1960s about secondary schools students in Ivory Coast, Clignet, and Forster (1966) called them "The Fortunate Few". Ten years later, Hughes (1987) used the same term to describe the university graduates in Kenya. The anecdote marks a significant shift in the African social development context. The massive expansion of educational opportunities has enabled a wider access to postprimary education. Admittedly, secondary education was not as spread as the primary education, but it had continuously expanded in the period following the independence era, and social groups, previously excluded, have gained the access. Higher education had come to replace it, as the device deciding about the upward mobility on the social ladder and the access to highly qualified (and well-paid) job positions.

This observation still holds for the 1990s and the beginning of the 21st century. Figures provided in the recent World Bank report (2002) suggest that access to tertiary education in Africa remains reserved for few. The gross tertiary enrolment rates (calculated as the percentage of 24-25 years old enrolled in higher education) in many African countries rarely exceed 1 per cent.

Using the data from ten graduate surveys in six African countries, we will draw a socio-biographical profile of those fortunate few. Special attention will be paid to the gender distribution, the field of studies, followed by the graduates and the parental background of the graduates.

1. Gender

There is an undeniable inequality in access to education at all levels between men and women in African countries. Women are more likely to be illiterate, their enrolment in secondary education is lower than men's, and they are less likely to go into tertiary education. The low participation of women in Africa cannot be separated from a cultural bias, which foresees the education for male children whereas women are sometimes led into early marriages and confined to domestic activities. There is, however, evidence that in few decades female participation in education has improved and the number of women attending higher education in African countries has risen consistently.

This is due to special endeavours purposely undertaken to improve the access of higher education for women.

- In the *University of Ghana*, increased female participation is rewarded with increased allocation of spaces in the halls of residence.
- At Makerere University, in *Uganda*, in the early 1990s, additional weighted admission examination scores were awarded to women.
- In *Nigeria*, a National Association of Women in Science, Technology, and Mathematics was established in the early 1990s. This body organised conferences and workshops and helped enhance awareness of female participation in studies in these areas.

About one fourth (27 %) of the respondents in the graduates' surveys are female. Their distribution varies considerably across the countries. In Nigeria, women make up 31 per cent of the respondents. Their respective shares in Ghana, Tanzania, and Uganda are 18 per cent, 22 per cent, and 26 per cent. In Malawi, only 8 per cent of the respondents are women.

Table 1: Gender by Country

	Nigeria	Ghana	Uganda	Tanzania	Kenya	Malawi	Total
Male	69	82	74	78	65	92	73
Female	31	18	26	22	35	8	27
Total	100	100	100	100	100	100	100
Count (n)	(2734)	(876)	(414)	(328)	(998)	(473)	(5832)

Question 45: Gender.

In the cases of Malawi, the low share of women may be due to a sample bias. A glance at the gender distribution of the enrolled students at the University of Malawi, whose graduates were surveyed, shows that in the beginning of the academic year 1990-91, women made up 23 per cent of the students enrolled (ACU, 1993: 1698). Although the non-attrition rate of women may be higher than that of men

(due to non-completion, drop-out, etc.) it is unlikely that the female graduates are only 8 per cent of all graduates.

In other countries, the observed distribution of women in the sample is subject to the choices of faculties and study programmes from which the research teams selected the graduates. In some countries, all study programmes were targeted whereas in others the researchers chose one or more faculties. Looking at the fields of study followed by the male and female respondents, we denote some striking differences. In Health Sciences 41 per cent of the respondents are women. They are also strongly represented in the fields of Education and Humanities. In those fields they account for 36 per cent respectively 35 per cent. Each fourth Natural Science graduate and each fifth Business or Social Sciences graduate is female. In Agriculture, women make up 18 per cent and in Engineering 10 per cent.

Table 2: Field of Study of Bachelor's Degree by Gender (per cent)

	Male	Female	Total
Business and Law	17	12	16
Social Sciences	17	12	16
Engineering and Technology	8	2	6
Education	27	41	31
Humanities and Arts	11	16	12
Agriculture and Food Science	8	5	7
Natural Science	12	10	11
Health Sciences	1	2	2
Total	100	100	100
Count (n)	(3,816)	(1,383)	(5,199)

Question 1c2: Course of study of Bachelor's degree.

Rathegeber (1991) has disentangled two factors, which are at the origin of disparities in the women participation in specific fields of study.

- At the *secondary school level*, some countries have a model of sex-separated schools. In the women educational institutions, scientific courses are rarely offered.
- At the *tertiary education level*, even when women have the opportunity to access a wide range of subjects, their preference is often to take the courses that appear to offer flexible career opportunities. Education, for example, is seen as ideal to accommodate the combination of career and family needs.

A look at the distribution by gender, in the different cohort of the graduation year, shows a slight increase of the proportion of women over the years. Of the respondents who graduated before 1985 the women counted for 23 per cent. Their share is 25 per cent among the respondents who got their bachelor degree between 1985 and 1989. 29 per cent of the graduates of the years 1990-92 are women, and among those of the years 1993-1996 women account for 27 per cent.

Table 3: Gender by Year of Graduation (per cent)

	Up to 1984	1985-1989	1990-1992	1993-1996	Total
Male	77	75	71	73	73
Female	23	25	29	27	27
Total	100	100	100	100	100
Count (n)	(422)	(1,498)	(1,860)	(1,745)	(5,525)

Question 45: Gender.

2. Educational Attainment of the Parents

The inequality of access to education in general and to higher education in particular has been discussed not only with respect to gender but also to the economic wealth of the parents (Hughes, 1987; Watkins, 2000; World Bank, 2002). The Oxfam Education Report, which concentrates on basic education, shows a pattern of lower enrolment for children from poor households to be particularly pronounced in the African countries. Children from poor backgrounds are less likely to go to schools and are more likely to drop out (Watkins, 2000, pp. 150-151). In its 2002 report, the World Bank finds the higher education sector to be elitist. Most students are likely to come from wealthier segments of the society. Yet, it recons that the statistical basis to study the inequality in access to higher education is scarce, since the “most countries and institutions do not systematically collect data on the socio-economic origin of students” (World Bank, 2002, p. 52).

The construct of “socio-economic background” is a complex one and needs many indicators to be properly measured (notably educational levels, occupations, income of the parents). The educational level of parents, however, is a good indicator since it seems to be a determinant of the other components listed above.

In this African surveys, the graduates were asked to state the highest level of education attained by their fathers and mothers. The responses of the graduates are provided in Table 4.

Considering the educational attainment of the father, we see that one fourth have a father who did not complete the compulsory primary education. One fifth, each, have a father who completed the compulsory education or further secondary or vocational education. Each seventh reports that his or her father enrolled in a college but left without a degree. About each tenth has a father with a bachelor degree and 7 per cent a father who had an advanced university degree.

The highest level of education attained by the mother tends to lie below the father’s educational attainment. As Table 4 also shows, 38 per cent have a mother who did not finish the compulsory school.

Table 4: Parents' Level of Education by Country (per cent)

	Nigeria	Ghana	Uganda	Tanzania	Kenya	Malawi	Total
Father's level of education							
Less than completion of compulsory education	29	18	26	18	17	31	24
Compulsory education	21	4	18	25	30	22	20
Vocational or secondary education	18	19	26	26	15	30	20
College enrolment without degree	10	26	17	11	17	0	14
Bachelor's degree	14	11	6	4	9	12	11
Advanced degree	6	13	5	13	3	4	7
Do not know	2	7	1	3	9	2	4
Total	100	100	100	100	100	100	100
Count (n)	(2,134)	(908)	(352)	(305)	(914)	(460)	(5,073)
Mother's level of education							
Less than completion of compulsory education	42	34	39	29	27	60	38
Compulsory education	21	10	28	31	35	22	23
Vocational or secondary education	15	20	18	26	15	13	17
College enrolment without degree	10	27	12	6	12	0	12
Bachelor's degree	8	5	1	1	6	4	6
Advanced degree	2	3	0	6	2	0	2
Do not know	2	2	2	0	4	0	2
Total	100	100	100	100	100	100	100
Count (n)	(2,025)	(909)	(381)	(309)	(959)	(460)	(5,043)

Question 44: What is the highest level of education attained by your parents?

One fourth of the respondents report that her or his mother has finished the primary (compulsory) school. 17 per cent report that their mothers attended further secondary or vocational schools beyond the compulsory level. 12 per cent say their mother attended the college without gaining a degree, 6 per cent have a mother with a bachelor degree, and 2 per cent with an advanced university degree.

The data support the view that the higher education access may heavily depend on the social background. Almost 18 per cent of the respondents have a father with at least a bachelor degree. In the societies, in which the gross enrolment ratio lies below 1 per cent (in 1998), the proportion of people with a college education is substantially lower.

Clearly, there is a disproportionate distribution of the graduates by family background. It is noteworthy however, that almost half of the respondents (44 %) have a father who did not go beyond the compulsory education. This is indication, that,

although elitist, the higher education system in the countries under study is an open system to a certain extent and enables social mobility.

In further analysis, we classify the educational attainment of the father in three categories: educational level not beyond the compulsory level, secondary educational level, and those with a tertiary education (at least a bachelor degree).

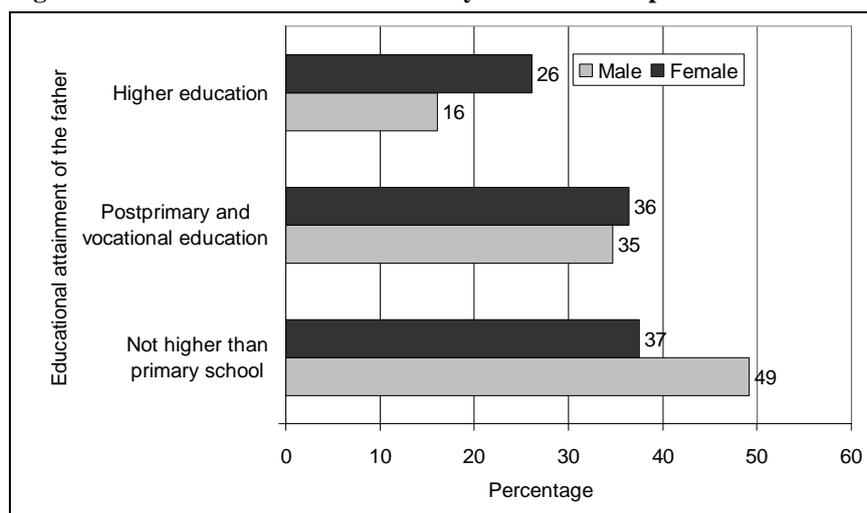
Interestingly enough, the proportion of graduates who have a higher educational level has tended to grow in recent years. Of the respondents, who graduated before 1984, almost each seventh (15 %) has a father with at least a bachelor degree. Of the graduates of the years between 1985 and 1989 the share is 18 per cent, and of the graduates of the earlier and of the mid-1990s, the proportion raises to account for one fifth (20 %) of the respondents.

Looking at the father's highest level of education of the female graduates, we find that they more likely do come from rather privileged backgrounds (in comparison with male respondents). More than one fourth (26 %) of the female graduates have a father who accomplished higher education. The proportion for male graduates is 16 per cent. In contrast, almost half of the male respondents (49 %) come from families with a father who has an educational level not higher than the primary school. For female respondents the corresponding proportion is 38 per cent.

Our findings that the female higher education graduates are more likely to come from families with a higher educational attainment than their male counterparts are consistent with empirical observations made in other studies about female participation in higher education across the continent.

- In a survey of students of the University of East Africa in the mid-1960s, van den Berghen found that 40 per cent of the women had fathers with a secondary education compared with only 7.9 per cent of the male students (see Hughes and Mwiria, 1989).
- In a study conducted at the University of Nigeria (UNIFE), Biraimah (1987) investigated the social background of the students. She constructed a socio-economic scale using the fathers' educational attainment, occupation, and other wealth indicators. She found that 63 per cent of women in the sample came from families with higher socio-economical status compared to 25 per cent of the male students.

Figure 1: Fathers' Level of Education by Gender of Respondents



Question 44: What is the highest level of education attained by your parents?

- Using a similar index, Hughes (1987) found that 28.1 per cent of female students at the University of Nairobi (Kenya) came from families with higher socio-economical status. The proportion for the male students was 7.7 per cent.

This persistent pattern may suggest a reverse conclusion that women from underprivileged social backgrounds are less likely to participate in higher education.

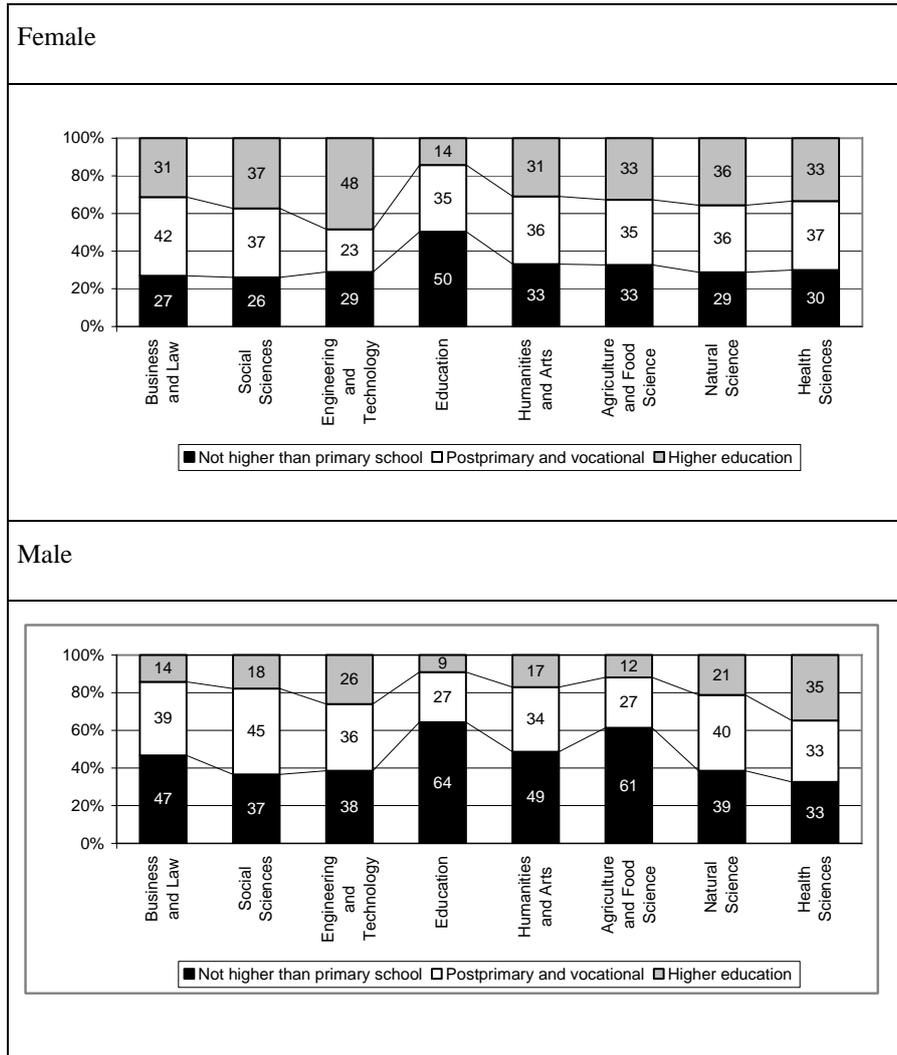
We now turn our attention to the relationships between parental educational attainment and the fields of study.

Figure 2 shows the distribution across the fields of study controlling for educational background of the father (for men and women separately).

We can differentiate three categories of field of study. The first category is made up of fields of study comprising a large proportion of graduates from families with academic backgrounds (at least about a fourth). The third category consists of fields of study in which the share of graduates from academic backgrounds account for less than one fifth, and the second categories is made up of the fields in which the corresponding share lies somewhere in between.

Health Sciences, Engineering, and Natural Sciences fall in the first category. The respective share of the graduates with parents who have at least a bachelor degree is 34 per cent, 29 per cent, and 24 per cent.

Figure 2: Fathers' Level of Education by Field of Study and Gender of Respondents (per cent)



Question 44: What is the highest level of education attained by your parents?

The second category consists of Social Sciences and Humanities and Arts. Graduates from those fields of study who have a father with tertiary education account for 22 per cent. It is interesting, however, to note that 43 per cent of the respon-

dents from Humanities have fathers with at most compulsory education, whereas in Social Sciences they account for 34 per cent.

The third category consists of the following fields of studies: Business, Agriculture and Education. 17 per cent of graduates from business, 15 per cent from Agriculture, and 11 per cent from Education have a father with an academic education. Graduates from those fields tend to come mainly from families of lower educational level. 59 per cent and 56 per cent of the graduates from Education and Agriculture respectively have fathers who did not go beyond the compulsory education.

As regards female graduates, we note a different pattern. In all (but one) fields of study, the share of female graduates with a father having an academic qualification is higher than 30 per cent. Only in Education, a lower proportion of female graduates (14 %) have a father having at least a bachelor degree.

In two fields of study the female graduates, whose fathers enjoyed a higher education, are particularly high: Engineering (48 %) and Natural Sciences (36 %).

Male graduates coming from families whose fathers had at most completed the compulsory education are more likely to study Education (64 %) or Agriculture (61 %). Also Humanities (49 %) and Business (47 %) are more likely to be chosen as fields of study by the male graduates from the families of lower educational attainment background.

3. Educational Attainment of the Respondents

The vast majority of the respondents (86 %) had completed the bachelor degree study programme, while 14 per cent (15 % men and 12 % women) had progressed towards a master degree (see Table 5). We denote some differences in the surveys conducted. Only 1 per cent of graduates of the University of Nairobi traced had completed a master degree at the time of the survey. About 10 per cent had a master degree from the University of Benin, 15 per cent from Enugu, 18 per cent from Dar-es-Salaam, 19 per cent from Nsukka and 25 per cent from Ilorin.

One should bear in mind that the studies targeted different groups. In some studies, all educational levels were included in the sample, whereas in others only the bachelor degree programmes were included.

Table 5: Completion of Master Degree by Gender (per cent)

	Male	Female	Total
Yes	15	12	14
No	85	88	86
Total	100	100	100
Count (n)	(2,810)	(1,259)	(4,069)

Question 1: Completion of Master Degree.

Looking at the fields of study we note that about 21 per cent of the graduates had a master degree. In Natural Sciences and Social Sciences, 17 per cent of graduates had a master degree. For other fields of study, the range was between 11 per cent and 14 per cent except for Health with only 6 per cent of the graduates holding a master degree.

4. Age at Graduation

About half of the respondents (53.4 %) were between 23 and 26 years old at the time of getting their bachelor degree. Those are model ages of graduation (in statistical sense). Further 20 per cent graduated when they were between 27 and 30 years old. There are two groups at the margins. About one tenth each of the graduates was younger than 21 years old or older than 30 years at the time of graduation.

Table 6 shows minor differences of age of graduation by field of study and country. In Health Sciences, Education, Business and Law, and in the Humanities and Arts, graduates were on average 26 years old at the time of graduation. In Agriculture and Food Science, Natural Sciences, Engineering, and Social Sciences they were on average one year younger.

This pattern is surprisingly constant across the countries. There are, however, two notable exceptions. Graduates of Business Administration at the University of Dar-es-Salaam were on average older than graduates from the same field of study in other countries. This is due to the fact that in the Tanzanian case, not all study participants entered the university course directly from the high school. The entry requirement at the university is generally the so-called "form six qualification". However, it is also possible to enrol at a university course with an equivalent qualification (in general a qualification delivered upon successful completion of a diploma or professional course) or with a mature age qualification (in this case, a waiver on the qualification is passed for candidates who prove to have enough knowledge and experience enabling them to pursue a university degree course). One tenth each had either the six-form equivalent or the mature age qualification. (Kajage, 2000, p. 18).

Table 6: Age at the Time of Graduation by Field of Study and Country

	Nigeria	Ghana	Uganda	Tanzania	Kenya	Malawi	Total
Business and Law							
Arithmetic mean	24.9	24.6	25.3	27.9	.	25.2	26.0
Standard deviation	2.7	3.2	2.8	2.5	.	3.0	3.1
Count	(210)	(141)	(137)	(286)	.	(87)	(861)
Social Sciences							
Arithmetic mean	25.5	24.6	24.9	.	.	24.4	24.9
Standard deviation	3.4	3.4	2.5	.	.	1.6	3.1
Count	(276)	(387)	(1,150)	.	.	(90)	(868)
Engineering and Technology							
Arithmetic mean	25.1	23.9	.	.	.	25.5	25.0
Standard deviation	3.0	2.7	.	.	.	2.0	2.6
Count	203	53	.	.	.	80	336
Education							
Arithmetic mean	28.4	27.5	.	.	24.4	25.2	26.0
Standard deviation	3.9	10.6	.	.	1.9	1.9	3.5
Count	(776)	(3)	.	.	(771)	(86)	(1636)
Humanities and Arts							
Arithmetic mean	25.6	26.1	25.8	.	.	25.0	25.6
Standard deviation	3.8	3.7	3.2	.	.	1.7	3.7
Count	(477)	(76)	(75)	.	.	(15)	(643)
Agriculture and Food Science							
Arithmetic mean	25.3	23.4	.	.	.	25.6	25.2
Standard deviation	3.1	3.4	.	.	.	2.0	3.0
Count	(269)	(27)	.	.	.	(77)	(373)
Natural Sciences							
Arithmetic mean	25.3	24.7	24.4	.	.	24.7	25.0
Standard deviation	3.9	3.3	2.6	.	.	2.1	3.5
Count	(378)	(129)	(82)	.	.	(27)	(616)
Health Sciences							
Arithmetic mean	25.8	24.0	22.0	.	.	29.9	26.2
Standard deviation	3.5	2.7	.	.	.	2.3	3.6
Count	(68)	(4)	(1)	.	.	(10)	(83)

Question: Year of Graduation and Year of Birth.

The data show that the graduates of Education programmes in Nigeria and Ghana tend to be older than their fellow graduates in other fields of study or their counterparts in other countries. They are on average about 28 years old at the time of graduation. In Malawi and Kenya, the average age at graduation in the Education programmes are 25.2 and 24.4 years respectively.

5. Summative Perspective

In this chapter, an attempt was made to draw a socio-biographical profile of graduates in the countries in which the surveys took place.

Women account for slightly more than a quarter of the graduates. This suggests a lower participation in higher education although there is a modest increase over the years. We note imbalances in the gender distribution across different fields of study. Women are likely to graduate in Health Sciences, Education, and Humanities and less in Agriculture Science and Engineering.

The analysis shows the well-known fact that the participation in higher education is subject to one's social backgrounds. This plays a bigger role, however, for women than for men. For women, it was shown that the educational attainment of the father (used here as a proxy for social background) determines the participation in higher education and is connected with the field of study chosen to a higher extent than for men.

The average age for graduation is about 25 years. Graduates in Health Sciences, Education, Business and Law, and Humanities are on average older than their counterparts in Engineering, Social Sciences, and Natural Sciences.

Due to the various regulations of access to higher education prevailing in the countries, there are also – for the same fields of study – differences between the average graduation age. In Tanzania, for example, where higher education applicants may get a waiver on entry qualification if they prove to have a professional experience, there are more mature students and, thus, the age of graduation tends to be higher on average than in other countries.

The findings on the relationship between participation in higher education and choice of fields, on one hand, and the social background of the graduates, on the other hand, validate the results of other research undertaken on the topic in a number of African countries (Hughes and Mwiria, 1989; Biraimah, 1987; Hughes 1987). Research that has been made is confined either to students or, like this one, to graduates. Further research, however, is needed in order to determine whether the social background plays a role for the successful completion of the course programmes. It would be interesting to know whether the social background determines the attrition rate as well.

Further, the findings suggest that, in designing the programmes aiming at encouraging women to attend higher education institutions, the social background should be taken into account, as it is a strong determinant of participation in higher education and of the choice of study programmes.

References

- ACU (1993). *Commonwealth Universities Yearbook 1993*.
- Biraimah, K. (1987). "Class, Gender, and Life Chances: A Nigerian University Case Study". In *Comparative Education Review*, 31(4), pp. 570-582.
- Clignet, R. and Foster, P. (1966). *The Fortunate Few*. Evanston, Ill.: Northwestern University Press.
- Hughes, R. (1987). "Revisiting the Fortunate Few: University Graduates in the Kenyan Labor Market". *Comparative Education Review*, 31(4), pp. 583-601.
- Hughes, R. and Mwiria, K. (1989). "Kenyan Women, Higher Education, and the Labour Market". *Comparative Education*, 25(2), pp. 179-195.
- Kajjage, E. (2000). *Faculty of Commerce and Management Graduates and Their Employers: A Tracer Study*. Dar-es-Salaam: University of Dar-es-Salaam, Faculty of Commerce and Management.
- Rathegeber, E.M. (1991). "Women in Higher Education in Africa: Access and Choices". In Kelly, G.P. and Slaughter, S. (eds.). *Women's Higher Education in Comparative Perspective*. Dordrecht: Kluwer Academic Publishers, pp. 47-62.
- Watkins, K. 2000. *The Oxfam Education Report*. Bath: Oxfam Publication.
- World Bank (2002). *Constructing Knowledge Societies: New Challenges for Tertiary Education*. Washington, DC: World Bank.

Graduates' Views on the Quality of Higher Education in Africa

Alexis-Michel Mugabushaka and Christy Omoifo

1. Introduction

Higher education debates are pervaded today by quality concerns. The rhetoric about “quality improvement” and “quality management” and analogue expressions are ubiquitous today. In African context however, they have been an intimate part of the higher education discourse since the 1960s.

In the colonial times, most African universities had an affiliation of some sort or another with higher education institutions in the colonial power, which was seen as a quality-guaranteeing pillar.

The University of East Africa, for example, taught and examined according to the standards prevailing at the University of London (Nakanyike and Mwuwanga, 2003, p. 3).

At the time of independence those ties loosened, and the newly created universities have in general not sought to establish “special relationships” with the institutions in industrialized countries. Concerns were raised that the African universities may not have been able to continue to guarantee a high quality standard. It became soon evident, however, that the African universities could attain a high quality in this new setting. Different studies credit a positive role in the national development they were playing in the 1960s and earlier 1970s (Fafunwa, 1977; Mkude et al., 2003).

The massive expansion of higher education in the 1970s in Africa triggered new debates about its quality. The rapid development of primary and secondary education led to rapid-paced growth of the demand for higher education. At the same time, the economic conditions were deteriorating and governmental financial

support for the universities was sharply dwindling. Observers were anxious that the institutions may fail to cope adequately with the raising number of enrolment and thus the “quality of higher education” may irresistibly fall.

In the literature, evidence of the falling quality level at the African universities is abundant. There is a far-reaching impact of the financial cut-backs in the 1980s on the salary and commitment of the academic staff. The deterioration of facilities as well as the lack of equipment and books are well documented (Mkude et al., 2003; Nakanyire and Mwuwanga, 2003; Saint, 1992; World Bank, 1994).

The evidence provided relies on the analysis of official statistics the observations made about the availability of equipment and books at the institutions. Though invaluable in quality assessment and very useful in documenting the improvement needs, this approach fails to catch other important dimensions of “quality”.

Although there is no single definition of “quality of higher education”, one can see common dimensions in the various models. The most popular models of quality approaches used today are the Total Quality Management approach (TQM) and the Model of the European Foundation for Quality Management (EFQM). Both models have their origin in industry and service sectors but have been adapted to higher education sector (see Sheffield Hallam University, 2003; Lewis and Smith, 1994). Both models stress the importance of taking the demand and expectation of the various stakeholders into consideration.

From the graduates’ perspective, the quality of higher education depends, on the one hand, on how they see the competence and knowledge acquired during the studies enabling them to handle the job complexities, and, on the other hand, on how they judge their study and learning conditions. Those two aspects are indeed interconnected.

The student and graduate surveys are instruments par excellence to canvass the needed information on those issues. Further, placing the students and graduates at the heart of the quality assessment process, they provide concerned actors (university administration, teachers, etc.) the necessary feedback to device quality improvement measures. This chapter discusses mainly the rating of various aspects of the learning and living environment during the course of study.

2. Retrospective Assessment of Study Conditions and Provisions

In the various studies graduates were asked to assess – retrospectively – the study conditions and provisions at the universities they graduated from. A list of items was provided, and the respondents were requested to rate them on a five-point Likert scale (1 stands for “very good” and 5 for “very bad”).

The 19 items cover three facets of study conditions and provisions: the learning and teaching dimension, the equipment endowment of the institution, and the student welfare.

The *learning and teaching facet* includes aspects which are directly related to the learning and study conditions:

- possibility of individual structuring of studies;
- opportunity of out of class contacts with teaching staff;
- chances to participate in research projects;
- assistance/advice for final examination;
- academic advice offered;
- provision of supervised practical work experience;
- testing/grading system in examinations;
- structure of degree programme;
- teaching quality of lecturers.

To assess the *endowment of the universities* in the infrastructures needed to study successfully, a focus was put on reading materials and technical equipment:

- availability of technical equipment (e.g. computers, measuring instruments);
- quality of equipment of laboratories/workshops;
- supply of teaching material;
- equipment and stockings of libraries;
- accommodation facilities on the campus.

A wider context of the *student welfare* was considered. The items provided on this dimension go beyond the evaluation of the accommodation and catering facilities. They include also the rating of contact with fellow students and the way the graduates see the opportunity of participating in the university governance:

- catering facilities on the campus;
- accommodation facilities on the campus;
- quality of the buildings;
- contacts with fellow students;
- chance for students to have an influence on university policies.

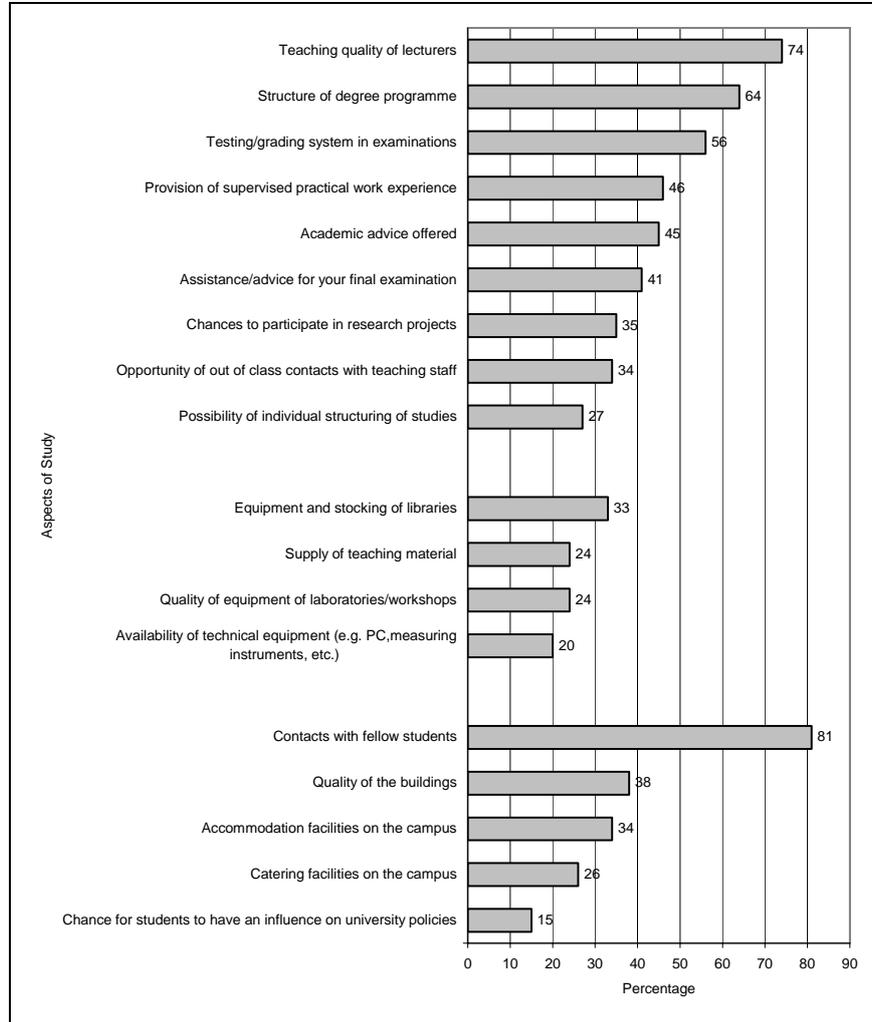
Overall Rating

Figure 1 shows the respondents' ratings of all those aspects – regrouped in the three facets disentangled above.

With regard to the *learning and teaching dimension* we see that the graduates are pleased by the quality of courses they followed. Three quarters of the respondents rate the “teaching quality of lecture” as good (or very good). The respondents are also satisfied with the structure of the degree programme and the testing/grading system at their respective institutions. 64 per cent and 56 per cent respectively rate those two aspects as good. On the other hand, the practical work experience acquired during the course of study and the academic advice and assistance offered (both during the course of study and in the period of the graduation

examinations) are rated by the respondents as relatively poor. Less than half of the respondents (46 %, 45 %, and 41 % respectively) gauge them as good.

Figure 1: Retrospective Assessment of Study Provisions and Study Conditions by Graduates (per cent; responses 1 and 2)



Question 3: How do you rate the study provisions and study conditions you experienced? Scale from 1 = very good to 5 = very bad.

The chances to participate in research projects, the opportunity to interact with teaching staff outside the classes, and the possibility of structuring the studies individually are badly rated (only one third of the respondents give them the mark "good"). Only about one quarter think that they had enough possibility to structure their studies individually.

Overall, the graduates rate the supply of the *necessary infrastructure and equipment* to study successfully as poor. Only one third state that equipment and stockings of the library are good. Only one in four respondents consider the supply of teaching material and the quality of laboratory equipment as good. Finally, only one fifth of the respondents rates the availability of the technical equipment like computers, measuring instruments as good.

The rating of the *student welfare* is rather varied. About 81 per cent of the respondents, rate very positively the contacts they had with the fellow students. The other important aspects of students' welfare were rather critically rated. 38 per cent stated that the quality of the building was good, 34 per cent expressed the same for the accommodation facilities on the campus. Slightly more than a fourth rates positively the catering facilities on the campus. Each seventh sees that they had – as students – the opportunity to influence the university policy. It speaks for the commitment of the teaching staff that 74 per cent of the students consider the "teaching quality" of the lectures as good. On the other hand, the poor rating of other aspects involving the contact with the teaching staff (academic advice during the studies, assistance during the final examination) may be interpreted as alarming consequences of the high student-staff ratio at African higher education institutions. Indeed, the expansion of students' numbers has not been matched with the corresponding increase in the number of academic staff.

In fact, the student-staff ratio is very high in some African universities. At the university of Dar-es-Salaam between 1986 and 1999, the number of academic staff has reportedly fallen by one fifth, while at the same time the students' numbers increased by over 60 per cent (Mkude, Cooksey, and Levey, 2003, p. 7). One should not overlook, however, the differences between the fields of study. Figures available on the student-staff ratio for the University of Makerere (in 1999) show that there is a big variation according to faculty. In some faculties, there is a ratio of three students per lecturer, while in some others the ratio is 60 students per lecturer (Nakanyire and Mwuwanga, 2003, p. 44).

Figure 1 denotes also a discontent with the equipment of the universities. This is also a disturbing confirmation of the well known under endowment of the institutions regarding material and equipment required for the study programmes. This has also been vividly documented by Saint (1992) for the years between 1979 and 1988. During that period, the number of books per student has decreased in most universities: in Kenya, it decreased from 29 to 27, in Malawi from 123 to 57, in Dar-es-Salaam from 84 to 65, and in Uganda from 129 to 84 books. The situation in Nigeria was even worse than in all other countries: not only the number decreased, but the ratio is the lowest. For example, at the University of

creased, but the ratio is the lowest. For example, at the University of Benin, the ratio decreased from 19 to twelve books per student and at the University of Ilorin, it decreased from 16 to eight books per student during the same period. Only few institutions have experienced an increase in the number of books per students, which remained however very modest. At the University of Ghana, there were 76 books per student in 1979 as compared to 93 in 1988. The situation was similar at the University of Cape Coast with 89 books per student in 1979 and 101 in 1988. Overall, the study shows that the average number of books per student was 49 in 1979 and seven in 1988 for the African universities addressed.

The rating of the student's welfare is also a cause of concern. The poor quality of the accommodation facilities may, in fact, have far-reaching impact and jeopardise the generous intention of widening the access of higher education. The student hostels are normally subsidized and offer a good environment for study and learning. If their quality is bad, students may settle for accommodation either too expensive to afford or not offering the required equipment for learning (like electricity).

It is worth noting the high satisfaction of the respondents as regards contacts with fellow students. Obviously, the graduates appreciated the opportunity they have had to share experiences with a number of people of their age during the exciting time of their study.

Varied Rating of the Individual Higher Education Institutions

The pattern of the rating of the study conditions and provisions is surprisingly similar across the institutions surveyed, the fields of study and the cohorts, though minor differences can be observed (see Table 1).

- We denote that regarding the *teaching and studying dimension*, the University of Ilorin is rated highly, while the University of Makerere is rated poorly. For example, while 83 per cent of the graduates of the University of Ilorin rate the teaching quality of lectures as good, only 59 per cent of the Makerere graduates rate the same aspect positively. The structure of degree programme is rated positively by 73 per cent of the Ilorin graduates, while only 39 per cent of the Makerere graduates share this view. Another noteworthy exception of the rating pattern is the high satisfaction of the graduates of the University of Nairobi with the provision of supervised practical work. 72 per cent rate this positively as compared to 46 per cent by all respondents. This is doubtlessly due to the field of study: in Kenya, only graduates of the education were surveyed while the field spectrum was varied in other studies.

- As regards the *endowment of the institutions with respect to the equipment and teaching materials*, the University of Malawi scores best, while again, the graduates of Makerere University are the most dissatisfied. Regarding the supply of teaching material, only 20 per cent of Makerere graduates rate the situation as good and less than half of the respondents from the University of Malawi (41 %). The respondents from the higher education institutions in Enugu and Anambra states in Nigeria rate the endowments of their institutions better than the average. In two particular aspects the rating is critical in Tanzania and Uganda. Judging the availability of technical equipment (like computers, measurement instruments) only 6 per cent of the graduates from the Dar-es-Salaam University, 9 per cent from the Makerere University and 10 per cent of the graduates from the three oldest universities in Ghana consider the situation as satisfactory.
- Overall, the *students rate the student welfare rather critically*. However, there are positive exceptions: 64 per cent of the graduates from Nsukka (Nigeria) and 48 per cent of the Malawian graduates consider the accommodation on the campus as good. 51 per cent of the respondents from the University of Benin rate the quality of buildings positively. It is worth noting the pronounced dissatisfaction of Ugandan and Ghanaian graduates with the catering facilities at their respective institutions. Only 9 per cent and 12 per cent respectively rate their facilities positively.

Ratings by Fields of Study

The pattern of ratings is more or less the same across the fields of study. There are minor differences, however, in the rating of some aspects (Table 2).

- Graduates of Health Sciences rate the study conditions better than respondents from other fields of study.
- The provision of supervised practical work experience is rated positively in the fields of study, in which practical experience and internships are part of the curriculum: in Education and Health Sciences.
- Graduates of Agriculture rate positively the academic assistance and advice offered as well as the chances to participate in research projects.
- The equipment in laboratories and the availability of technical equipment are judged rather positively by Engineer graduates as compared to graduates from other fields of study.

Table 2: Assessment of Study Provisions and Study Conditions by Field of Study (arithmetic mean)

	Bus	Soc	Eng	Edu	Hum	Agri	Nat	Health	Total
Teaching quality of lecturers	2.1	2.0	2.2	2.0	2.0	1.9	2.1	1.8	2.0
Structure of degree programme	2.2	2.2	2.2	2.3	2.3	2.2	2.3	2	2.3
Testing/grading system in examinations	2.5	2.3	2.2	2.6	2.5	2.4	2.4	2.1	2.5
Provision of supervised practical work experience	3.3	3.2	2.7	2.4	.3	2.6	2.7	2.4	2.8
Academic advice offered	2.7	2.8	2.7	2.8	2.6	2.4	2.8	2.4	2.7
Assistance/advice for your final examination	2.7	2.7	2.7	2.9	2.6	2.5	2.8	2.4	2.8
Chances to participate in research projects	3.5	3.3	3.2	3.2	.3	2.6	2.9	2.7	3.1
Opportunity of out of class contacts with teaching staff	3.2	3.1	3	3.2	.3	2.9	3.1	2.6	3.1
Possibility of individual structuring of studies	3.2	3.1	3.2	3.2	3.3	3.2	3.1	3	3.2
Equipment and stocking of libraries	3.1	3.1	2.9	2.8	3.2	2.9	.3	2.9	3.0
Supply of teaching material	3.3	3.3	3	3.2	3.5	3.1	3.2	2.9	3.3
Quality of equipment of laboratories/workshops	3.5	3.5	2.9	3.3	3.6	3.1	3.3	2.9	3.3
Availability of technical equipment (e.g. PC, measuring instruments, etc.)	3.9	3.8	2.9	3.4	3.7	3.2	3.3	3.1	3.5
Contacts with fellow students	1.8	1.7	1.9	1.8	1.8	1.9	1.8	1.7	1.8
Quality of the buildings	2.8	2.8	2.5	2.9	.3	.3	2.6	2.7	2.8
Accommodation facilities on the campus	2.9	3.1	.3	.3	2.8	2.7	3.2	.3	3.0
Catering facilities on the campus	3.3	3.4	3.1	3.2	3.2	2.9	3.4	3.1	3.2
Chance for students to have an influence on university policies	3.7	3.7	3.7	3.8	3.7	3.7	3.6	3.5	3.7
Count (n)	(854)	(855)	(334)	(1622)	(629)	(369)	(610)	(83)	5,356

Question 3: How do you rate the study provision and study conditions you experienced? Scale from 1 = very good to 5 = very bad.

Rating by Cohort

Taking into consideration the year of graduation of the respondents, one can establish changes in the quality of higher education according to the dimensions addressed.

Table 3 shows an alarming trend. In almost all aspects of study conditions and provisions, the graduates from recent years judge the situation more critically than those who graduated in earlier times.

This certainly reflects a deterioration of quality, but it is also affected by rising expectations of the younger generation of students (due notably to the rising awareness of the quality difference between the countries and continents).

- 50 per cent of those who graduated before 1984 rate the accommodation facilities of the campus at the universities as good. Only 30 per cent of those who graduated between the years 1993-1996 share this view. The positive rating of the quality of the building and catering facilities fell also from 48 per cent and 39 per cent to 35 per cent and 24 per cent respectively.
- 68 per cent of the earlier graduation years (up to 1984) are satisfied with the testing and grading system in the examinations. Graduates from the recent cohorts who are as satisfied account for 48 per cent.
- The share of the graduates rating the equipment and stocking of libraries positively declined over the years. 40 per cent of the respondents from the graduation years up to 1984 rate the situation as satisfactory. In the years between 1985 and 1989 their share is 37 per cent, in the early 1990s it decreases to 33 per cent and finally in the years 1993-1996 to 30 per cent.

In two aspects, however, the situation seems to have slightly improved: the ratings of the provision of supervised practical work experience as well as of the availability of technical equipment like computers and measuring instruments.

Table 3: Assessment of Study Provisions and Study Conditions by Cohort
(per cent; responses 1 and 2)

	Cohort				Total
	Up to 1984	1985-89	1990-92	1993-96	
Learning and teaching					
Teaching quality of lecturers	82	78	73	69	74
Structure of degree programme	76	68	63	60	64
Testing/grading system in examinations	68	61	56	48	56
Provision of supervised practical work experience	42	42	45	50	46
Academic advice offered	50	47	44	41	44
Assistance/advice for your final examination	48	43	41	38	41
Chances to participate in research projects	41	38	36	31	35
Opportunity of out of class contacts with teaching staff	36	37	34	29	33
Possibility of individual structuring of studies	28	30	27	25	27
Endowment					
Equipment and stocking of libraries	40	37	33	30	34
Quality of equipment of laboratories/workshops	25	29	23	20	24
Supply of teaching material	27	29	23	21	24
Availability of technical equipment (e.g. PC, measuring instruments, etc.)	16	21	21	18	20
Student welfare					
Contacts with fellow students	85	80	81	80	81
Quality of the buildings	48	41	39	35	39
Accommodation facilities on the campus	50	37	34	30	35
Catering facilities on the campus	39	26	26	24	27
Chance for students to have an influence on university policies	18	15	15	14	15
Count (n)	437	1554	1931	1775	5,697

Question 3: How do you rate the study provisions and study conditions you experienced? Scale from 1 = very good to 5 = very bad.

3. Choice of University

Competition among the higher education institutions may increase the pressure on the universities to improve the quality. Graduates were asked about reasons for their decision to enrol at the university of choice. Nine items were presented on which the respondents had to rate the importance (on a five-point scale of 1 = very important to 5 = not at all important).

In assessing the answers of the graduates, one should bear in mind that the higher education systems addressed are very different in various respects:

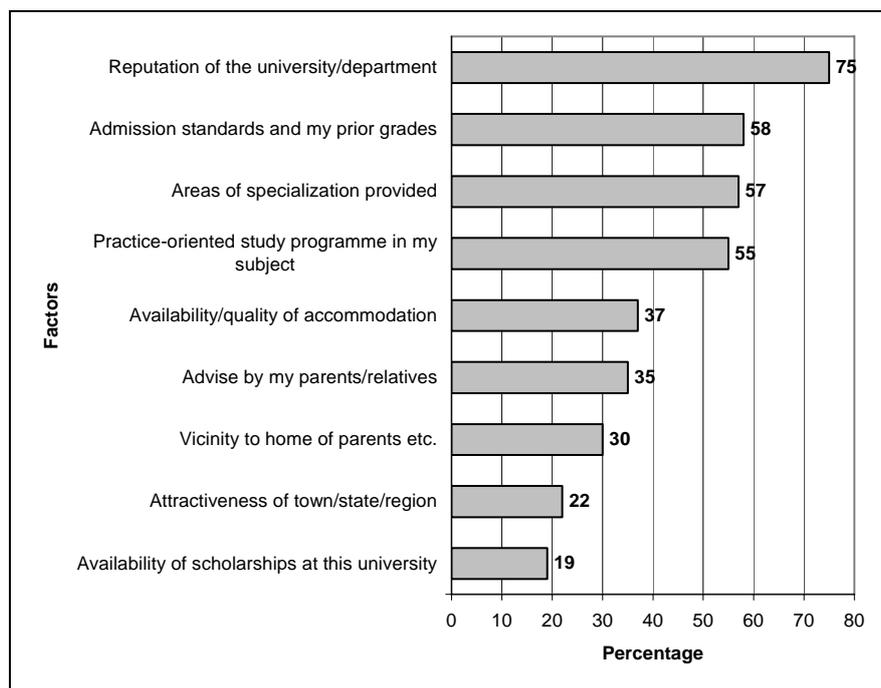
- *Number of universities*: At the time the respondents took up their studies, some countries had only one or a few universities, whereas in other countries they could choose from a number of institutions.
- *Admission policy*: One criterion for admission into the Nigerian universities is the so-called “Catchment’s Area”. This is defined as states around the state of location of a particular university. Candidates for university admission find it easier to get admission in their state of origin, which is synonymous with vicinity to home of parents or guardians, than in any other university. In the other countries (notably those with few universities), however, other admission policies prevail.
- *Availability of scholarship*: In some countries, scholarships are granted only for students of public universities. Some countries have not any scholarship schemes at all.

The data reveal an interesting shape of the factors influencing the decision to enrol at the universities, which is more or less true for all countries involved.

Overall, the respondents considered those factors as most important for the choice of the university which deal immediately with the study programmes. The reputation of the university/department was rated as the most important factor. For three quarters of all respondents this factor was crucial in their decision to join the university they subsequently graduated from. Second, the graduates stated that the admission standards and their prior grades played an important role in their choice of a certain university (58 %). Further graduates named the following factors as important as well: areas of specialization offered by the institution (57 %) and the presumed practice-orientation of the programme (55 %).

Other considerations played a minor role: the advice given by parents, the vicinity to the home of parents, and the attractiveness of the town or the region in which the university is located. 35 per cent, 30 per cent, and 22 per cent of the respondents rated these factors as important in the decision at which university they should pursue their study. Least importance was placed on the availability of scholarships at the universities.

Figure 2: Factors Affecting the Decision to Enrol at the University (per cent; responses 1 and 2)



Question 2: How important were the following factors for your decision to enrol at the University of XY? Scale from 1 = very important to 5 = not at all important.

Table 4 shows some noticeable differences across the fields of study.

Admission standards and grades were often named as important by respondents from Business Administration and Health Studies. Practice-oriented study programmes were an important factor for respondents from Natural Sciences and Health Studies. Women more frequently than men choose a university in the vicinity of home of parents, due to advice by parents or because of the availability/quality of accommodation (37 %, 39 %, and 39 % respectively) as compared to males (27 %, 35 %, and 37 % respectively).

Table 4: Factors Affecting the Decision to Enrol at the University by Field of Study

	Bus	Soc	Eng	Edu	Hum	Agri	Nat	Health	Total
Reputation of the university/department	76	76	79	72	76	81	72	71	75
Admission standards and my prior grades	73	64	60	53	51	58	49	67	58
Areas of specialization provided	73	54	67	57	49	51	48	53	57
Practice-oriented study programme in my subject	54	47	70	55	48	59	58	68	55
Availability/quality of accommodation	32	34	40	35	43	39	34	34	36
Advise by parents/relatives	32	33	27	37	35	35	36	46	35
Vicinity to home of parents	17	22	27	33	35	33	38	40	30
Attractiveness of town/state/region	10	21	20	32	17	9	18	14	21
Availability of scholarships at this university	37	15	16	14	15	15	15	17	19
Count	(713)	(739)	(331)	(1614)	(553)	(371)	(525)	(81)	(4,927)

Question 2: How important were the following factors for your decision to enrol at the University of XY? Scale from 1 = very important to 5 = not at all important.

4. Concluding Remarks

This chapter considered three aspects of the quality of higher education from the graduates' perspective: the learning and teaching aspect, the equipment and material equipment, and the student welfare.

Overall, it can be said that most respondents rate these aspects critically. Among the teaching and learning aspects one stands out for its very positive rating. Three quarters of the respondents are satisfied with the teaching quality of lectures they have had. The majority of the respondents also rate the structure of the degree programmes and the testing/grading system as good. The equipment and material equipment is rated rather negatively. Also the student welfare aspects are rated as not satisfactory. However, the respondents addressed the contacts they have had with their fellow students very positively.

Most aspects addressing are rated badly by the graduates from the most recent cohorts than the respondents from the earlier cohorts. Obviously, the quality of higher education, according to graduates' view, has decreased over time.

References

- Fafunwa, B. (1977). "The Role of African Universities in Overall Educational Development". In Thomson, K. et al. (eds.) *Higher Education and Social Change: Promising Experiments in Developing Countries*. New York: Praeger Publ. (International Council for Educational Development).
- Lewis, R. and Smith, D. (1994). *Total Quality in Higher Education*. Delray Beach, Florida: St. Lucie Press.
- Mkude, D., Cooksey, B., and Levey, L. (2003). *Higher Education in Tanzania. A Case Study*. Oxford: James Currey.
- Nakanyike, B.M. and Mwuwanga, K.N. (2003). *Makerere University in Transition 1993-2003: Opportunities and Challenges*. Oxford: James Currey.
- Saint, W. (1992). *Universities in Africa: Strategies for Stabilisation and Revitalisation*. Washington, DC: World Bank (World Bank Technical Paper No. 194 Africa Technical Department Series World Bank).
- Sheffield Hallam University (2003). *EFQM Excellence Model*. Sheffield Hallam University. <http://integralexcellence.shu.ac.uk>
- World Bank (1988). *Education in Sub-Saharan Africa: Policies for Adjustment, Revitalization and Expansion*. Washington, DC: World Bank.
- World Bank (1994). *Higher Education: The Lessons of Experience*. Washington, DC: World Bank.

Transition from Study to Work: African Graduates' Experiences

Kenneth Omeje

1. Introduction

The transition from study-to-work is a process often marked by uncertainties, tribulations and anxieties in different parts of the world, not least in the developing countries of Africa. This is not surprising given the regressive economic conditions in the majority of the African countries during the past two and half decades of the implementation of the International Financial Institutions' (IFIs) neoliberal economic policies, which have worsened the severity of graduates' unemployment in Africa. Prior to the IFI's Structural Adjustment Programme (SAP) economic regime, graduates unemployment was scarcely prevalent in many African states (Dibua 2006). Contemporary unemployment trends in many African countries and major cities seem to be exacerbated by migrational factors and demographic imbalances.

Nonetheless, experiences of unemployment, as well as the transitions from study to work may not be uniform across different countries and subject areas given the local specificities of different labour markets. Several studies have been carried out in recent years for instance, on the relationship between the nature of a student's course of study and his or her entry into their labour market. Some of these research works, mostly based on the experiences of the OECD countries, have shown that there is a strong relationship between choice of degree subject and early employment status (see Lassnigg 2006; World Bank 2007). It is argued by proponents that the labour market is structured hierarchically into different levels and sectors of jobs - some of them are more specialised, well remunerated and corresponding to restricted types of academic qualifications, while others are

more diffuse offering career opportunities to graduates from a wide variety of course backgrounds. Put differently, and as some experts have argued, the vocational nature of higher education can be categorised as either “*specific*” or “*diffuse*”.

A *specific programme* prepares students for a specific vocation to the extent that immediately after graduation, they join the labour force, thus creating a one-to-one relationship between higher education pursued and employment obtained. Programmes falling under this category include areas such as Medicine, Teacher Education, Accountancy, Architecture, Law, etc. On the other hand, *diffuse programmes* such as Physical Science, Geography, Political Science, Philosophy, History, Economics, etc. provide students with general and transferable knowledge and skills needed in the labour force (cf. Mugisha and Mwamwenda, 1991, p. 344).

Apart from the course of study, it is apparent that factors like gender, ethnicity as well as personal and family connections can influence transition to employment and type of employment. These factors might even exert stronger influence and have more to explain in the developing countries of Africa where economic recessions intensify the scarcity of jobs, sometimes making primordial institutions, values, and loyalties the basis of recruitment. In analysing higher education and labour market relationships, this chapter will basically discuss the interplay of various factors decisive in shaping the study-to-work transition process in Nigeria, Ghana, Uganda, Tanzania, Kenya, and Malawi, where the surveys were undertaken.

2. Search for Employment

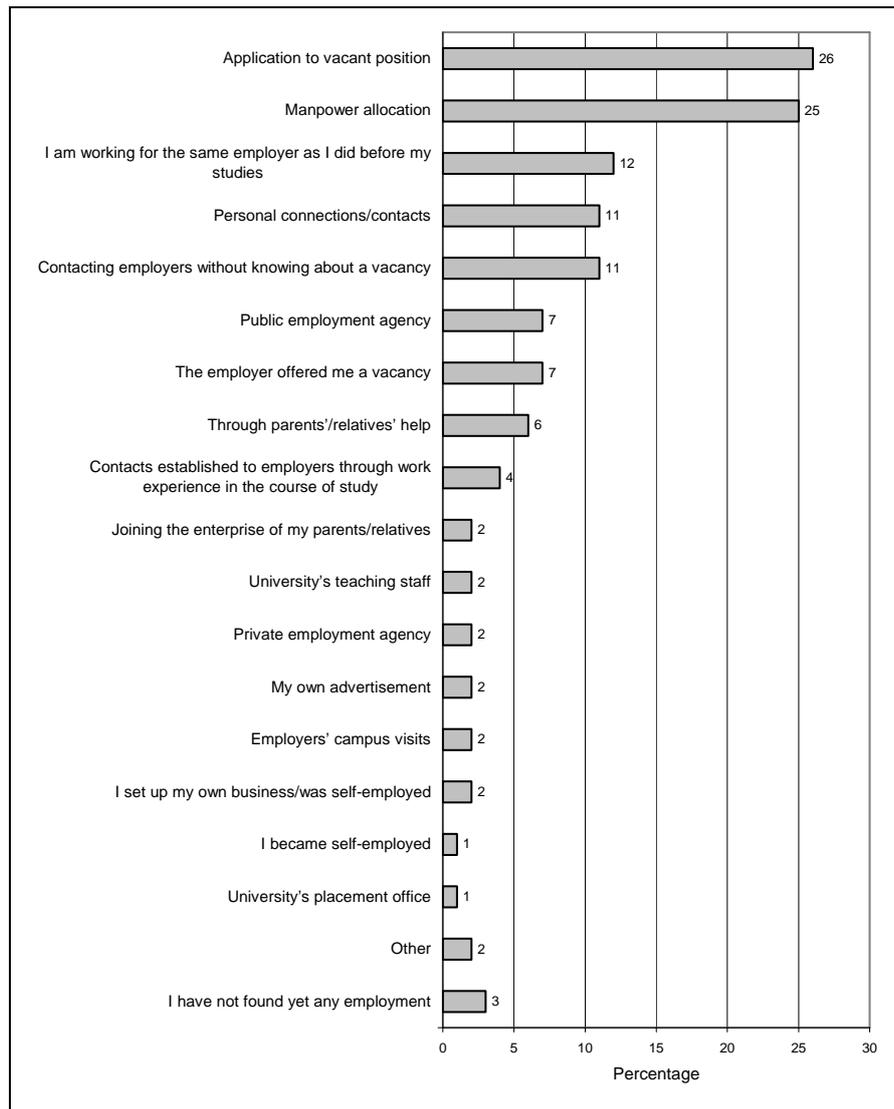
Most graduates expect to obtain employment shortly after graduation. The experiences the graduates make in their job-seeking period vary from country to country and from field of study to field of study. The questionnaire used several items regarding the job-seeking strategy, which can help to document the experience of the graduates in the job-search process.

Findings on the various aspects of the job-seeking process are summarised in the following. Special attention will be put on the strategies the graduates used to get their first employment, the time they started the search for employment, the number of employers they contacted in this process, and the duration of the transition period.

2.1 Strategies for Seeking Employment

Respondents were asked to state the strategies they adopted for getting their first employment after graduation. A rather long list of possible, and not mutually exclusive, job-seeking strategies were offered to the respondents to choose from (17 in all).

Figure 1: Strategies for Seeking Employment (per cent; multiple responses)



Question 5: How did you get for your first employment after graduation? Multiple reply possible.

Figure 1 shows the most popular strategies to be the application to a vacant position and the manpower allocation. Slightly more than a quarter of the respondents

used those methods. Other strategies used by about one tenth of the graduates each are to get into contact with the employer without knowing about a vacancy and to rely on personal connections and contacts. About 12 per cent of the respondents state that they work for the same employer as they did before starting the studies. 7 per cent of the graduates used a public employment agency, and the same proportion report that the employer offered them a vacancy. 6 per cent of the graduates got their first employment with the help of the family or relatives and 4 per cent through the contacts established with the employer during the internships done in the course of study. The rest of the methods seem to have played a marginal role, since they are used by only about 1 per cent or 2 per cent of the respondents.

Interestingly, most graduates seem to have relied on just one job-seeking strategy: Altogether, less than 10 per cent of the respondents report to have combined methods provided in the questionnaire to get their first employment. The most notable combination of job-seeking strategies were the application to vacancy and the help of parents and relatives on the one hand and the application to a vacancy and the service of a private employment agency on the other.

The strategies shown in Figure 1 can be classified into five categories: active search strategies, employment agency, personal contact, university contact, and others.

The *active search strategies* category implies that the job search process is done mainly by the graduate himself. This includes the application to a job vacancy (whether advertised or not), own advertisement or setting up own business, etc.

The category "*employment agency*" includes both private and public agencies as well as the provision of a job by the national manpower allocating body.

The category "*university contacts*" subsumes such variables as: the university placement office, the help of university teaching staff or contacts done through work experience in the course of studies.

"*Personal contact*" refers to help of the parents or relatives to get an employment or to join their enterprise, or own personal connections.

Table 1 shows a summary of the data the respondents supplied, classified into those categories and broken down by field of study. The most important job seeking method which the graduates adopted, happen to be the active search strategies (40 %), involving applying to (vacant) positions with or without public advertisement, contacting employers etc. Graduates of Agriculture apply the active strategies most frequently (61 %), followed respectively by graduates from Health Sciences (59 %), Engineering (54 %), while Natural Sciences and Social Sciences tied with 51 per cent.

In contrast, graduates of Education are on the top of the list in the second most important strategy, namely seeking with the help of their employment agency, with 63 per cent. They are followed by Business/Law graduates with only 28 per

cent while graduates of all other fields of study scored 20 per cent and below in the use of an employment agency in their job search.

Table 1: Strategies for Seeking Employment (Grouped) by Field of Study (per cent; multiple responses)

	Bus	Soc	Eng	Edu	Hum	Agri	Nat	Health	Total
Active search strategies	44	51	54	16	45	61	51	59	40
Employment agency	28	16	10	63	20	19	17	14	33
Personal contact	19	27	19	8	27	28	20	18	18
University contact	13	11	21	6	9	15	9	5	10
Other strategies	18	18	19	22	30	19	24	32	21
Total	122	122	123	115	130	142	122	128	122
Count (n)	(764)	(763)	(307)	(1425)	(532)	(337)	(523)	(74)	(4725)

Question 5: How did you get for your first employment after graduation? Multiple reply possible.

A relative large proportion of graduates of Agriculture adopted informal personal contact strategies (28 %), which is least fashionable among Education graduates (8 %). The strategy least frequently chosen by graduates in seeking employment is university contacts, through university's placement office, and recommendation by lecturers (10 %). Graduates of Engineering had the highest ratings in university contacts (21 %), whereas Education graduates (6 %) were the least inclined to the use of this strategy.

About one third of the respondents (33 %) reports to have used "other categories", which encapsulates the strategies not falling in the above-mentioned categories. Graduates of Health Sciences (32 %), Education (22 %), and Humanities/Arts (30 %) were on the top of the list in the use of these miscellaneous strategies whereas those of Business/Law and Social Sciences jointly had the lowest ratings (18 %).

It is remarkable to note that in a similar project carried out by the International Institute for Educational Planning in 1978-83, manpower allocation and university contacts were rated the most important job seeking strategies by graduates in three of the five African countries in the survey, namely Egypt, Tanzania, Sudan, Zambia and Botswana (Sanyal, 1987, pp. 117-120).

Sanyal's survey reveals that in Egypt, Tanzania and Sudan placement of graduates in employment positions were then predominantly government responsibilities, accomplished mainly through ministries of labour or manpower allocation agencies. The universities' placement offices also played a complementary role in this regard. At that early stage of the development of higher education in Africa, virtually all the universities were government owned and *ipso facto* served as auspicious instruments for executing government study-to-work transition programmes.

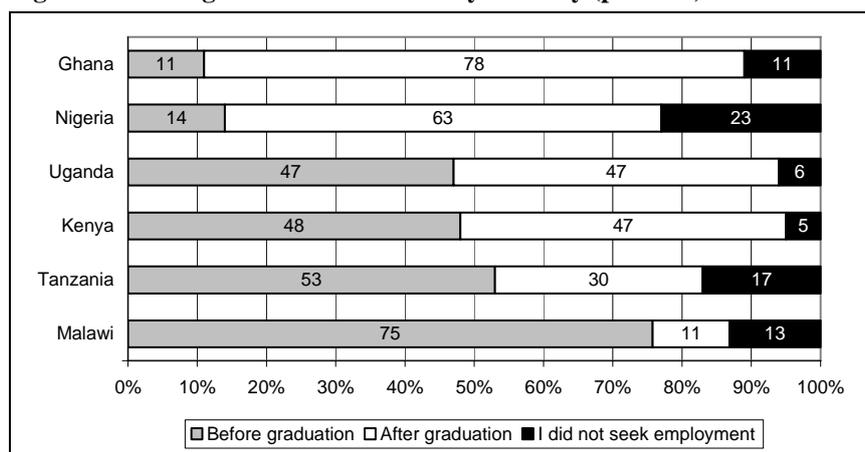
In contrast, active and informal personal search strategies were the most important means in Zambia of securing employment. Also Botswana was exceptional in the respect that the "*employment bonding*" played the most important role (92.5 %) in the placement of graduates. Employment bonding is a mechanism whereby an employer offers a continuous education or in-service study opportunity to his employee with an agreement binding the latter to return to the service of the employer for a stipulated minimum duration after the schooling or scholarship period. The same method is also sometimes employed by governments in awarding scholarships to their nationals. Employment bonding provided a great impetus to the development of higher education during the immediate post-independence period of Botswana and many of the African countries (Setidisho and Sanyal, 1988; Sanyal, 1987).

It is evident from the relatively substantial scores assigned to active search strategies (40 %) and personal contacts (18 %) that the contemporary onus for sourcing employment in Africa lies on the individual graduates. This may not be unconnected with the growing wave of deregulation (notably privatisation, commercialisation, subvention squeeze, as well as rationalisation of staff size and departments) of higher education in different African countries under the aegis of neoliberal reforms. Increasingly, governments are shelving the social obligations of providing jobs, and related services (Dibua, 2006; Gibert, 2007)

The only noticeable exception is Education. The relatively high reliance of Education graduates on manpower allocation can be attributed to the great priority which different African governments accord to mass literacy as a strategy for combating the high level of illiteracy in the continent.

2.2 *Starting Time of Job Search*

Not all graduates wait to look for employment after they have graduated. About one quarter (27 %) responded to a corresponding question that they took endeavour to secure an employment before graduation. 56 per cent started to look for a job after graduation. 16 per cent did not seek employment due probably to family obligations, child-rearing activities and continuation of the studies or because they either joined the firm of their parents/relatives or became self-employed.

Figure 2: Starting Time of Job Search by Country (per cent)

Question: When did you start seeking a job?

We find remarkable differences between the *countries* (see Figure 2). In Ghana, only one tenth (11 %) and in Nigeria about one seventh of the respondents (14 %) report to have started looking for employment before graduation. In Uganda, Kenya, and Tanzania this is true for about the half of the respondents (47 %, 48 %, and 53 % respectively). Three-quarters of Malawian graduates report to have started looking for employment before graduation.

The observed regional differences in the starting time of job search can be explained by the fact that the two West African countries in the survey (Nigeria and Ghana) have statutory requirements that their graduates should first complete a period of national service immediately after graduation. Hence the period of national service (one year for Nigerians and two years for Ghanaian graduates) is usually the time for graduates to start seeking employment in these countries. Employers would hardly keep a job waiting for a graduate who has not completed his or her national service for one or two years, when there probably are several graduates with equivalent qualifications who have already completed their national service (or are about doing so) that could alternatively be hired for the same position. None of the East African countries in the survey has similar requirements (national service) for graduates. In Tanzania where there is a national service programme for the youths, the latter is a pre-undergraduate requirement, which students complete before going into higher education. Hence East African university students usually start from their penultimate or final year to initiate contacts with potential employers for jobs, and where such contacts are positive applicants have no inhibition to their starting work on leaving school.

Considerable differences further arise according to the field of study (see Table 2): 38 per cent of Business and Law graduates have not waited for their graduation to look for employment. Also 31 per cent and 30 per cent of the graduates of Education and Engineering respectively have started to look for a job before graduation. In other fields of study, the proportion of those starting the job-seeking process while still being students varies between 28 per cent (in Agriculture) and 12 per cent (in Health Sciences).

Table 2: Starting Time of Job Search by Field of Study (per cent)

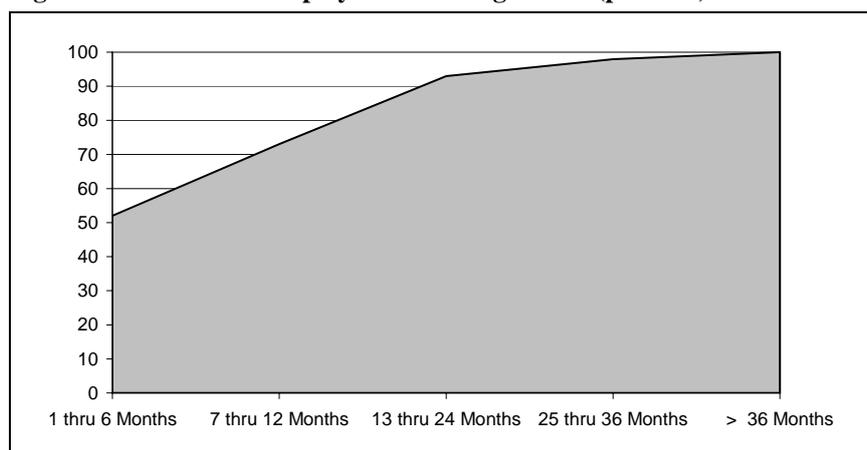
	Bus	Soc	Eng	Edu	Hum	Agri	Nat	Health	Total
Before graduation	38	25	30	31	15	28	19	12	27
After graduation	47	64	56	44	70	64	68	73	57
I did not seek employment	15	11	14	25	15	8	13	16	16
Total	100	100	100	100	100	100	100	100	100
Count (n)	(682)	(793)	(314)	(1224)	(550)	(336)	(532)	(77)	(4508)

Question 6: When did you start seeking a job?

2.3 Duration of Seeking Employment

Respondents were asked to indicate (in months) how long it took them to find their first employment after graduation. As Figure 3 shows, about half of them succeeded in getting their employment within six months after graduation. About one fifth (21 %) got the employment after a time between seven and twelve months. About the same proportion (20 %) got the employment in the second year after their graduation and 5 per cent in the third year. 2 per cent of the respondents had to wait more than three years to get the first employment.

To find out which factors account mostly for the variations in the employment seeking duration, a series of analysis of variance (ANOVA) was undertaken with the duration (in months) as dependent variable and country, cohort, field of study, and gender as the independent variables. Table 3 shows the results of the analysis alongside the mean of the job-seeking duration and standard deviations for the above named variables.

Figure 3: Duration of Employment Seeking Period (per cent)

Question 7: How long did it take you to find your first job after graduation?

Much of the variances in employment seeking duration are accounted for by the specific country surveyed (30 % of the total variation). This is followed far behind by field of study (11 %) and cohort (6 %) of the total variances, whereas gender – with 0 per cent of total variances accounted for – plays virtually no role. All the mean differences (but gender) variances are statistically significant at 0.01 alpha error.

- The dominance of the factor *country* in the analysis of variances for graduate's employment seeking duration is attributable to our earlier observation that there is a wide regional variation in the time graduates start seeking for employment between countries of East and West Africa in this particular project. West African graduates are required by law to complete a period of national service (one year for Nigerian graduates and two years for Ghanaian graduates) upon graduation from higher education, and consequently they rarely start seeking for employment before graduation as their East African counterparts do.
- The differences observed in the duration of employment seeking between the various *fields of study*, may be due in parts to laws and regulations specific to some professions. For example, graduates from Health Sciences and Law are often required or obligated to undergo some professional training immediately after their graduation, without which they are barred from professional practice. This also delays the time to which many graduates of these fields start seeking for employment.

Table 3: Analysis of Variance of Factors Explaining the Duration of Seeking Employment

	Distribution measures			df	ANOVA	
	Mean	SD	n		F	Eta Sq
Country						
Nigeria	16,6	11,2	1072	4	309,64***	0,30
Ghana	10,4	9,7	675			
Tanzania	2,7	4,3	175			
Kenya	3,6	4,3	627			
Malawi	4,1	4,5	353			
Field of study						
Business and Law	7,7	9,6	397	7	44,94***	0,11
Social Sciences	12,4	10,6	462			
Engineering	9,3	9,9	148			
Education	6,2	7,5	749			
Humanities and Arts	14,9	13,5	269			
Agriculture	12,7	13,0	262			
Natural Sciences	12,7	8,8	277			
Health Sciences	20,5	9,2	56			
Cohort						
Up to 1984	11,0	11,0	241	3	60,15***	0,06
1985-1989	13,2	12,1	758			
1990-1992	10,5	10,4	917			
1993-1996	6,6	7,4	887			
Gender						
Male	9,7	10,5	2090	1	1,72	0,00
Female	10,3	9,7	689			

Question 7 : How long did it take you to find your first job after graduation?

- Altogether, the job-seeking duration varies substantially by field of study. Graduates from Education (6.2 months), Business and Law (7.7 months), and Engineering (9.3 months) were the most successful in finding jobs within the first six months after graduation. Graduates from Natural Sciences (12.7 months), Humanities and Arts (14.9 months) recorded a less smooth transition from higher education to the world of work. Graduates of Health Sciences report a lengthy transition period (20.5 months).
- The *cohort* variances indicate that job seeking duration has decreased over time from eleven months for those who graduated before 1984 to about six months for the graduates of the recent cohort (1993-1996).

- Finally, the findings regarding *gender* are arguably an indication of the improved competitiveness of women relative to men in the graduate level work force, notwithstanding any demographic disparity in higher education enrolment between men and women in Africa.

2.4 Number of Employers Contacted for a Job

Graduates invest tremendous energies and resources in their quest for employment, making the transition from study to work a challenging activity. They usually initiate contacts with different employers. Table 4 shows how many employers the respondents contacted before they took up their first job after graduation.

Only about one third (31 %) of the respondents report to have contacted up to one employer to get their first employment. 38 per cent have contacted between two and five employers, slightly more than one seventh of the respondents (17 %) contacted between six and ten employers, and about one tenth (9 %) between eleven and 20 employers. 4 per cent of the graduates have contacted even more than twenty employers.

Table 4: Number of Employers Contacted for a Job by Cohort (per cent)

	up to 1984	Year of graduation (bachelor)			Total
		1985-89	1990-92	1993-96	
0 or 1 employer	27	26	34	33	31
2 to 5 employers	48	42	36	35	38
6 to 10 employers	16	19	16	17	17
11 to 20 employers	5	10	9	9	9
more than 20 employers	4	2	5	6	4
Total	100	100	100	100	100
Count (n)	(244)	(1024)	(1203)	(1047)	(3518)

Question 8: How many employers did you contact before you took up your first job after graduation?

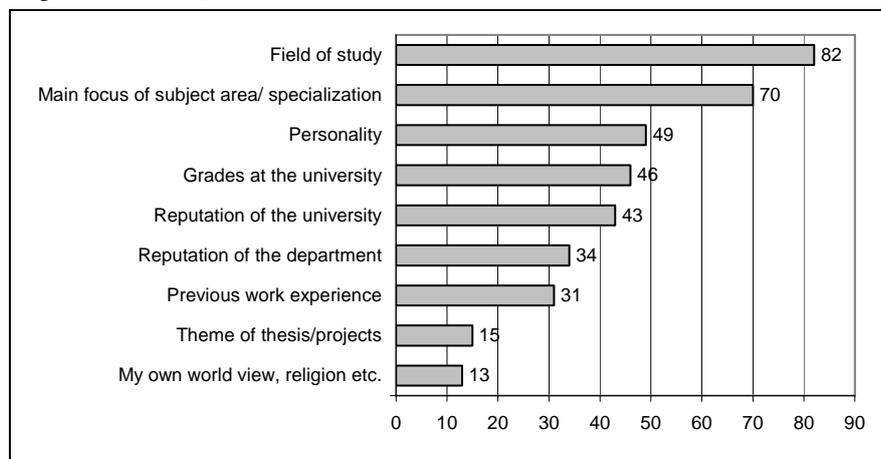
Table 4 suggests that the number of employers contacted has not changed substantially over time.

3. Recruitment Criteria of the Employers

Respondents were given a set of possible criteria which may determine the employers' hiring decision. They were asked to rank how important they were in their own case. Figure 4 depicts the responses of the graduates.

In their view, graduates owe their employment primarily to the field of study they have chosen. 82 per cent of the graduates consider this as an important factor for their case. More than two thirds (70 %) state, that the subject or the field of specialisation had played an important role in the decision to hire them. About half of the respondents (49 %) think that their own personality was important for them being employed. The grades at the university, the reputation of the university, and the reputation of the department were important to a lesser extent. 46 per cent, 43 per cent, and 34 per cent respectively rated those factors as being important in the hiring process. Less than one third (31 %) believe that previous work experience has played an important role in the recruitment. The themes of the candidate's thesis and his or her religious affiliation (or world view) were seen as the least important criteria in this list. 15 per cent and 13 per cent respectively accorded them any importance in the decision to hire them.

Figure 4: Perceived Recruitment Criteria of the Employers (per cent; responses 1 and 2)



Question 9: In your opinion, how important were the following factors for being employed? Scale from 1 = very important to 5 = not at all important.

Table 5 shows that the differences by field of study are moderate. The field of study is clearly a prerequisite for professional practice in medical fields. The subject is most important for graduates from Education. University-related criteria play a strong role for graduates of Business and Law. Previous work experience is considered important for graduates of Health Sciences and Engineering.

Table 5: Perceived Recruitment Criteria of Employers by Field of Study (per cent; responses 1 and 2)

	Bus	Soc	Eng	Edu	Hum	Agr	Nat	Health	Total
Field of study	85	72	90	87	70	82	82	97	82
Main focus of subject area/ specialization	70	59	71	79	62	62	72	66	70
Theme of thesis/projects	14	12	21	14	14	15	20	26	15
Grades at the university	55	44	49	37	52	47	52	38	46
Reputation of the university	46	39	49	39	46	49	47	38	43
Reputation of the department	45	29	34	34	31	30	35	47	34
Previous work experience	28	34	41	27	33	25	31	43	31
Personality	55	54	50	37	54	53	53	61	49
My own world view, religion, etc.	12	15	13	11	19	11	15	14	13
Count (n)	(708)	(722)	(304)	(1297)	(504)	(319)	(498)	(65)	(4417)

Question 9: In your opinion, how important were the following factors for being employed? Scale from 1 = very important to 5 = not at all important.

There are some differences in the perceived recruitment criteria according to country (see Table 6). In all the six countries addressed, the field of study was very important for graduates to get the employment they actually got, and the area of specialisation was almost named as frequently as an important criterion. It is worth noting, however, that Ugandan graduates named "personality" as important criterion by far more frequently than graduates from other countries. The relatively low emphasis on grades and on the reputation of the university or department in Kenya and Malawi seems to have different reasons. In Kenya, graduates from Education were surveyed for whom this criterion does not seem to play a substantial role. In Malawi, the monopoly of the University of Malawi explains that differences of institutional reputation are not an issue.

Table 6: Perceived Recruitment Criteria of Employers by Country (arithmetic mean)

	Nigeria	Ghana	Uganda	Tanzania	Kenya	Malawi	Total
Field of study	1,7	1,7	2,0	1,6	1,5	1,7	1,7
Main focus of subject area/ specialization	2,1	2,3	2,3	1,8	1,8	2,3	2,1
Theme of thesis/projects, if applicable	3,9	4,2	3,8	3,7	4,4	4,4	4,1
Grades at the university	2,8	2,9	2,5	2,3	3,5	3,6	3,0
Reputation of the university	2,7	3,3	2,4	2,9	3,4	3,6	3,0
Reputation of the department	3,1	3,4	.	3,0	3,5	3,7	3,3
Previous work experience	3,2	3,2	3,7	.	4,4	4,0	3,5
Personality	2,7	2,8	2,1	2,8	3,8	3,0	2,9
My own world view, religion, etc.	4,1	4,2	3,9	4,3	4,5	4,4	4,2
Count (n)	(2,245)	(822)	(360)	(207)	(869)	(413)	(4,916)

Question 9: In your opinion, how important were the following factors for being employed? Scale from 1 = very important to 5 = not at all important.

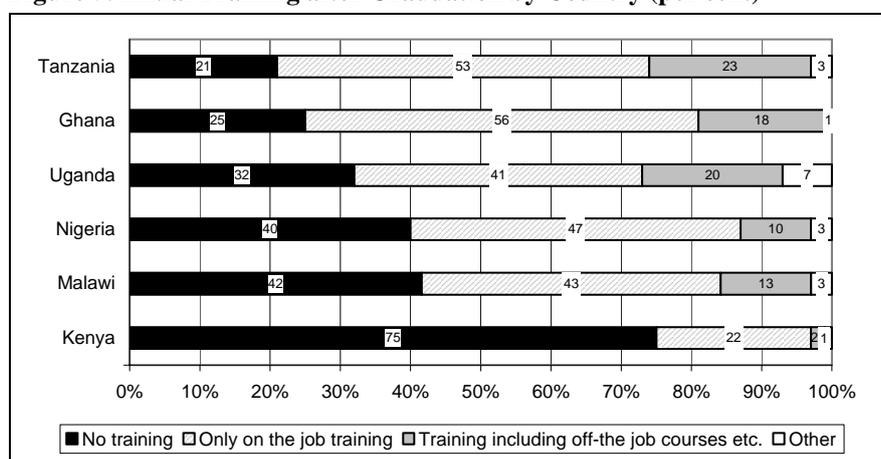
In the IIEP study of 1978-83 different variations were observed from both the graduates and employers in various African countries in respect of recruitment criteria (see Sanyal, 1987, pp. 120-121). In Tanzania for instance, academic performance was considered the most important criterion by both graduates and employers. Performance in aptitude test was rated second by graduates and letter of recommendation placed third, while for employers applicants' past experience was rated second and interview performance came third in a seven point scale. In Egypt, graduates ranked academic performance first, aptitude test second, and interview performance third while for the employers their three most important considerations are aptitude test, past experience, and interview performance – in that order. In Zambia, employers ranked interview performance first, past experience second, and academic performance third, while employers in Sudan ranked academic performance, interview performance, and aptitude test/past experience in the first, second, and third positions. For Botswana, the order of rating of the graduates was: academic performance, past experience, and aptitude test. Apart from Zambia, where employers' rating for academic performance comes third, it is noticeable that in the IIEP project academic performance was viewed as the most important recruitment factor for both graduates and employers (cf. Sanyal, 1987).

All these observations point to the spatial nuances in the recruitment criteria of different labour markets, including also how graduates and employers perceive and relate to them in accordance with changing circumstances and time.

4. Initial Training after Graduation

Training is a highly important aspect of starting a new job, and this fact is increasingly recognised by educators, policy makers, firms, and other employers. Constant change within organizations and mobility of workers among firms and establishments increase the importance of training and learning as part of work (Stern and Wagner, 1999, p. 12). Consequently, the fact that several academic courses basically provide students with sufficient theoretical preparation, not blended with adequate practical and vocational education makes preliminary training a more compelling imperative for fresh graduate employees. An additional point in support of initial training in the school-to-work transition is the fact that many graduates undertake jobs that are not related to their university subjects of study. In the light of these observations the respondents were asked to indicate the kind of training (if any) they received for their first job after graduation.

Figure 5: Initial Training after Graduation by Country (per cent)



Question 10: What kind of initial training did you receive for your first job after graduation?

More than half of the graduates (66 %) obtained some kind(s) of training, mostly on-the-job training (44 % of total). In Kenya, 75 per cent of the respondents reported to have not got any initial training after graduation. In Malawi, Nigeria, and Uganda 42 per cent, 40 per cent, and 32 per cent respectively did not get initial

training after graduation. In Ghana and Tanzania, this proportion accounts for 25 per cent and 21 per cent respectively.

The differences observed in the countries are mainly due to the choice of the field of study. Table 7 shows the responses of the graduates according to their field of study. Graduates of Health Sciences reported the highest rating of on-the-job training (70 %); they are followed by graduates from Engineering (56 %) and Business/Law and Social Sciences graduates with 53 per cent. Education graduates had the lowest ratings (30 %).

Table 7: Initial Training After Graduation by Field of Study (per cent)

	Field of study								Total
	Bus	Soc	Eng	Edu	Hum	Agr	Nat	Health	
No training	25	27	24	63	41	45	42	17	41
Only on the job training	53	53	56	30	44	45	48	70	44
Training including off-the job courses etc.	18	17	19	6	11	8	7	5	12
Other	4	2	2	2	5	2	3	9	3
Total	100	100	100	100	100	100	100	100	100
Count (n)	(762)	(783)	(311)	(1353)	(541)	(332)	(516)	(66)	(4664)

Question 10: What kind of initial training did you receive for your first job after graduation?

Among the few graduates who had off-the-job training, Engineering (19 %), Business/Law (18 %) and Social Sciences were on the top of the list while Health Sciences (5 %) and Natural Sciences (7 %) had the lowest scores.

Graduates of three fields considered as “specific” fields (Health Sciences, Business/Law, and Engineering) frequently reported participation in some kind of initial training. We do not have any convincing explanation for why graduates of Agriculture (53 %) did not score as high as other specialist courses in this question. A probable guess could be that because agricultural production in many Sub-Saharan African countries is, to a large extent, carried out on small scale basis (with little mechanisation), many graduates of Agriculture/Food Sciences are thus employed in sectors of the economy and positions of work assignment where they may not require any form of initial training. The low rating of Education graduates who are also classified in the “specific” field category may be attributed to the fact that teaching is one of the most highly vocationalised fields of study, therefore, the graduates are usually presumed to be sufficiently grounded by their undergraduate training for workplace assignments.

Finally, the high rating of Social Sciences graduates (71 %) in the initial training question (when they are classified among the “diffuse” disciplines) may well be explained by the fact that many firms and government establishments employ

them in administrative positions where they might require some formal job orientation and training.

Generally, the fact that most training is on-the-job as opposed to off-the-job, can be an expression of: (a) how well equipped most organisations are for training their fresh employees, (b) the reluctance or inability of most organisations to meet the high costs of off-the-job training, and (c) the inclination among different organisations to maximise the enormous advantages intrinsic to internal staff development (rapid acquaintance with organisational units, personnel, operations, job definition; and available materials/equipment; greater possibilities of involvement of existing staff in training; internal capacity building, etc). By corollary, we can explain the relatively high “no training” rating of employees with Natural Sciences and Humanities/Arts backgrounds by what pundits refer to as the “diffuse” generalist nature of their subject areas and career prospects (Mugisha and Mwamwenda 1991; Quintini et al., 2007).

In both, developing and developed countries, initial training of employers for workplace assignments is taking a radical turn, especially with the contemporary transition (mostly but not exclusively in the developed countries) from an industrial to a computer-based society. Hence, both policy experts and practitioners are increasingly challenged to seek new context-specific paradigms of education that combines rigorous theoretical training with the acquisition of practical and applied knowledge.

References

- Dibua, J. (2006) *Modernization and the Crisis of Development in Africa: The Nigerian Experience*. Aldershot: Ashgate.
- Gibert, M. V. (2007) *Monitoring a Region in Crisis: The European Union in West Africa*. Chaillot Paper No. 96, Paris: Institute for Security Studies, European Union.
- Lassnigg, L. (2006) 'Research-based Policy Proposals for the Improvement of the School-to-Work Transition' Paper at the International Conference on Innovating Labour Market Policies: Transitional Labour Market and Flexicurity, Amsterdam, 30 Nov. – 1 Dec.
- Mugisha, R.X. and Mwamwenda, T.S. (1991). “Vocational Training, In-service Courses, and Higher Education for Graduates in Botswana”. *Studies in Higher Education*, 16(3), 343-355.
- Quintini et al. (2007) 'The Changing Nature of the School-to-Work Transition Process in OCED Countries,' IZA DP No. 2582 (<http://www.oecd.org/dataoecd/5/32/38187773.pdf>).
- Sanyal, B.C. (1987). *Higher Education and Employment: An International Comparative Analysis*. London: The Falmer Press.
- Setidisho, N.O.H. and Sanyal, B.C. (1988). *Higher Education and Employment in Botswana*. Paris: International Institute for Education Planning (Research Report No. 65).
- Stern, D. and Wagner, D.A. (1999). “Introduction: School-to-work Policies in Industrialised Countries as Responses to Push and Pull”. In Stern, D. and Wagner, D.A. eds. *In-*

ternational Perspective on the School-to-Work Transition. Cresskill, New Jersey: Hampton Press Inc., pp. 1-22.

World Bank (2007) 'Helping Youth Make the Transition from School-to-Work' *Development Outreach*, The World Bank, June.

Employment and Work of African Graduates: An Empirical Analysis in Six Countries

Erasmus Kaijage

After graduates have left their respective higher education institutions to join the job market, there is a need to know how useful for their work the graduates find the skills they acquired from higher education. It is equally important to know what kinds of tasks they are performing at their respective places of work and what kind of training they are required to undergo. Also required is their employers' feedback about the economic sectors graduates have integrated into, the incomes and benefits they are earning, their levels of occupational mobility or job turnover, and – overall – how satisfied the graduates are with their employment. Such information and knowledge is quite useful for decision-makers, planners as well as for the academia.

1. Methodological Issues

The studies being compared were carried out in different environments. They considered different types of graduates, and some of the questions were not standardised. Interpretation of the results therefore requires to be done with caution taking into consideration issues that were raised earlier in this volume. The methodological issues which are relevant for this chapter are mainly how we defined “employed graduates” and “unemployed graduates” and the potential bias against unemployed graduates, which is inherent in the used data.

For comparative analysis of graduates surveyed under the studies in question, we have classified graduates as either being “employed” or “unemployed”. It is important to note that the individual surveys had more classifications of the graduates' employment status. All classifications have been re-categorized into two categories. We have, for example, re-categorized those graduates still continuing

with studies – professional or academic – as being not employed. This is because such graduates have not been employed yet and can therefore give no views with respect to employment and work.

It is equally important to note that almost all the surveys under comparison were biased against the unemployed graduates. The surveys targeted more employed graduates than unemployed graduates. Findings of the studies may therefore overestimate the proportion of employed graduates and may not reflect a true picture of the unemployed graduates. For example, a study that targeted teacher graduates would hardly capture unemployed teachers. Unless there is an incentive for responding to a questionnaire, unemployed graduates are less likely to cooperate because they are not happy or proud of their employment situation.

In Africa, tracing a person who is unemployed may be a horrendous task. There aren't many places in Africa where people have traceable domicile addresses. In fact, many people use work addresses for purposes of correspondence and communication. Having a private postal address is a phenomenon exclusive to a few financially able people. It is thus difficult to track a person who is unemployed, even for surveys that had intended to capture views of the unemployed graduates.

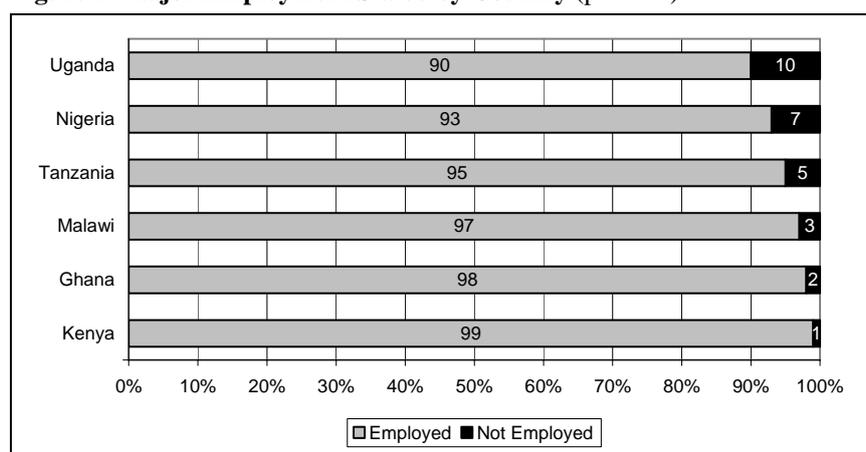
Apart from the bias against unemployed graduates, even employed graduates are likely not to have been proportionately represented by responding graduates. For example, there are types of graduates like teachers, who are, by the nature of their job, more likely to cooperate in surveys than other types of graduates like bankers who are always busy having no time to spare for researchers.

2. Employment Status

2.1 Employment and Additional Activities

Overall, only 5 per cent of the respondents reported not to be employed. The proportion is highest in Uganda, where each tenth respondent is not employed. In Nigeria and Tanzania, 7 per cent and 5 per cent respectively are not employed. In the other countries in which the surveys took place the rate of those not employed among the respondents is lower than 3 per cent (see Figure 1).

Figure 1: Major Employment Status by Country (per cent)



Question 12: What is your current employment status? Major activity.

Additionally, graduates were requested to state if – beside the employment – they had any additional activities. Their answers show, that 7 per cent of them are in advanced studies, 11 per cent in an advanced professional training, and 83 per cent have no additional activities parallel to their job. In Nigeria, 11 per cent of the respondents are pursuing advanced studies, while in other countries the proportion varies between 3 per cent and 4 per cent. In Malawi 15 per cent and in Nigeria 12 per cent report advanced professional training as a second activity respectively. 11 per cent of Ghanaian graduates undergo an advanced professional training as well. In the remaining countries, between 6 per cent and 9 per cent, parallel to their major job, do also advanced professional training.

Table 1: Additional Employment Status by Country (per cent; multiple responses)

	Nigeria	Ghana	Uganda	Tanzania	Kenya	Malawi	Total
Advanced studies	11	4	4	3	3	3	7
Advanced professional training	12	11	8	9	6	15	11
No additional activities	79	86	88	89	91	83	83
Total	102	101	101	102	100	101	101
Count (n)	(2871)	(957)	(427)	(331)	(1013)	(487)	(6086)

Question 12b: What is your current employment status? Additional activities.

2.2 Full-time Employment

Graduates were requested to indicate whether they were employed full-time or not, or whether they were self-employed. Of the responding graduates, 95 per cent state that they are employed full-time while 2 per cent are not employed on full-time basis, and the remaining 3 per cent are self-employed. Graduates in Social Sciences and in Education have the highest number of “employed full-time”, followed by graduates in Natural Sciences and in Business Studies and Law. Graduates in Health Sciences have a significantly lower proportion of graduates “employed full-time”. On the other hand, the proportion of “self-employed” graduates is highest amongst graduates in Health Sciences, followed by graduates in Agricultural fields (see Table 2).

Table 2: Full-Time Employment by Field of Study (per cent)

	Bus	Soc	Eng	Edu	Hum	Agri	Nat	Health	Total
Yes	94	97	93	98	91	92	95	77	95
No	3	1	2	1	5	2	3	12	2
Not applicable, I have my own business/I am self-employed	3	1	5	1	5	6	2	11	3
Total	100	100	100	100	100	100	100	100	100
Count (n)	(432)	(758)	(205)	(1516)	(528)	(322)	(527)	(75)	(4363)

Question 22: Are you employed full-time?

It is unquestionable that graduates in Education have the highest rate of “full-time employment” because for most, if not for all African countries, provision of education carries very high priority within their development strategies. Most of the Education graduates, therefore, are absorbed immediately into state or private schools. It was to be expected that a high ratio of graduates from health sciences were employed permanently despite the fact that findings of these studies suggest otherwise. There is no immediate explanation as to why, in the surveys addressed in this report, graduates in health-related studies have the lowest rate of being employed full-time. Thus, graduates in these fields have taken advantage of the opening-up of most of the African economies to privatisation by starting their own private clinics, dispensaries, hospitals, or other health-related business. Graduates in agriculture-related studies have also taken advantage of the situation by starting their own business.

Comparing the proportion of part-time employment between male and female graduates, we see that both groups have the same proportion of 2 per cent who are not full-time employed.

Looking at the part-time employment across the graduation cohorts it emerges that although there are earlier graduates who are employed permanently than later graduates, the difference is small. 97 per cent of the graduates of up to 1985 were permanently employed, as compared to 95 per cent of the graduates of between 1995 and 1998. There was no gender bias with respect to permanent employment.

2.3 Job Turnover and Duration of Work

On average, the employed graduates have been in the present institution about four and a half years (53,1 months). They held the present position for about three years (32 months). Not surprisingly, the respondents who graduated in the earlier cohorts have been longer employed and in the present position than graduates of the late cohorts (see Table 3).

Table 3: Duration of Work (in Months) in Present Employment by Year of Graduation (means)

	Year of graduation (bachelor)				Total
	Up to 1984	1985-1989	1990-1992	1993-1996	
Duration of work in present employment					
Mean	96,5	69,2	48,2	29,3	52,4
Median	91,0	60,0	40,0	22,0	36,0
Count (n)	(364)	(1199)	(1404)	(1311)	(4278)
Duration of work in the present position					
Mean	47,8	37,4	30,9	21,1	32,0
Median	39,0	32,5	24,0	15,0	24,0
Count (n)	(339)	(1086)	(1140)	(909)	(3474)

Question 14: How long have you been working?

Only 30 per cent of the respondents have ever changed the employment up to the time of the surveys. About each seventh (14 %) has changed the employment only once and one tenth twice. 4 per cent of the respondents report three changes of employment, and 1 per cent has changed the employment four times or more often.

Table 4: Change of Employment by Field of Study (per cent)

	Bus	Soc	Eng	Edu	Hum	Agri	Nat	Health	Total
Change of Employment									
Yes	45	44	43	12	30	37	35	49	31
No	55	56	57	88	70	63	65	51	69
Total	100	100	100	100	100	100	100	100	100
Count (n)	(824)	(824)	(328)	(1588)	(614)	(368)	(575)	(81)	(5202)
Number of changes of employment									
One change	19	23	20	5	11	19	14	16	14
Two changes	15	13	15	3	12	10	12	10	10
Tree changes	7	5	7	1	5	6	5	14	4
Four and more changes	3	1	2	0	2	1	2	10	2

Question 11: How many times did you change the employer/employment since your graduation?

As shown in Table 4, the graduates in Education and the Humanities report fewer employment changes than the respondents from other fields of study. Graduates in Health Sciences have a higher job turnover. About half (49 %) report at least one job change.

2.4 Position

To enlighten the hierarchical position of the employed graduates, they were asked if they have subordinates. The proportion of those having subordinates and those who report to have none is nearly equal (49 % and 51 % respectively). Keeping in mind that the respondents in the earlier cohorts are – on the average – longer in the present employment and in the present position, and considering the responses in Table 5, it emerges – interestingly – that there is no relationship between the “seniority” in the job and the hierarchical position.

48 per cent of the respondents from the graduation years up to 1984 have subordinates and so have 51 per cent from those who graduated between 1985 and 1989. This is about the same proportion as in the last two graduation cohorts. 48 per cent and 47 per cent of those who graduated between 1990-92 and 1993-96 respectively have subordinates.

Table 5: Subordinates by Year of Graduation (per cent)

	Year of graduation (bachelor)				Total
	Up to 1984	1985-1989	1990-1992	1993-1996	
Yes	48	51	48	47	49
No	52	49	52	53	51
Total	100	100	100	100	100
Count (n)	(413)	(1421)	(1700)	(1515)	(5049)

Question 23a: Do you have subordinates?

3. Kind of Employer

For the purpose of the comparative analysis, employers have been classified into three categories. The first category called “public employer” includes state or government ministries and agencies. In countries like Tanzania, most of the business companies were owned by the state (parastatals). These are included in this first category. The second category, i.e. “private employer”, includes all employers who are not related to the state. The third category is that of “self employed” graduates. It was important to observe whether the studies captured self-employed graduates. The phenomenon of self-employment is quite new amongst African graduates, because the traditional type of education was very much oriented towards preparing graduates for being employed in white colour jobs. Apparently, the proportion of graduates who are self-employed is highest among those graduating between 1986 and 1995, i.e. at a time when most of the African economies were undergoing reforms and cutting down public sector employment. Enterprising graduates took the opportunity to start their own business.

69 per cent of the graduates surveyed were employed by public employers and 25 per cent by the private sector. Only 5 per cent were self-employed. This pattern reflects the set up of African economies, which were, and some are still dominated by state-run enterprises.

As expected, within each economic sector, public sector employers were most predominant and more particularly within universities and schools. This is because the majority of African universities and schools are state owned. The economic sectors that had the least proportions of graduates employed in the public sector were commerce and industry. This is because in most economies, commerce as well as industrial activities is carried out more by the private sector. Table 6 gives a summary of findings showing the kind of employer by economic sector.

Table 6: Kind of Employer by Economic Sector (per cent)

	Agriculture	Industry	Commerce	School	University	Other	Total
Public employer	60	49	48	92	96	70	74
Private employer	30	46	45	7	1	21	22
Self employed	10	4	7	1	0	6	3
Other	1	1	0	1	2	3	1
Total	100	100	100	100	100	100	100
Count (n)	(235)	(733)	(776)	(2154)	(266)	(753)	(4917)

Question 17: Please state the kind of your employer. Please tick one item only.

Given the gradual shift in the economic set-ups in Africa towards a free market, one would have expected a declining trend in the proportions of graduates being employed by the public sector over time. Findings summarised in Table 7 shows a different picture. Proportionately, more graduates of the 1990s were employed by the public sector as compared to the proportion of graduates of the 1980s or better. These findings suggest that employment of graduates by the public sector has been increasing. However, we cannot exclude that these data are influenced by biases in the response rate of graduates.

Table 7: Kind of Employer by Cohort (per cent)

	Year of graduation (bachelor)				Total
	up to 1984	1985-89	1990-92	1993-96	
Public employer	77	71	72	74	73
Private employer	19	23	23	21	22
Self employed	3	5	4	4	4
Other	2	1	1	1	1
Total	100	100	100	100	100
Count (n)	(418)	(1377)	(1676)	(1407)	(4878)

Question 17: Please state the kind of your employer. Please tick one item only.

4. Economic Sectors of Employment

Economic sectors, in which the surveyed graduates were employed, are very much related to the graduates' field of study. The analysis of data presented in Table 8 indicates that 65 per cent of the surveyed Business and Law graduates are employed in industry and in commerce related sectors. 20 per cent are in the public sector and the remaining spread across the other economic sectors. Likewise,

58 per cent of Social Sciences graduates are employed in industry and in commerce-related sectors, 19 per cent are in the public sector and 13 per cent in schools. 76 per cent of Engineering graduates are employed in the industrial sector and the remaining are almost evenly spread across all other sectors. 85 per cent of Education graduates were employed as teachers in schools or in universities. 8 per cent were in public sector. Among graduates in Humanities and Arts, 39 per cent were employed in schools, 19 per cent in the public sector, 16 per cent in commerce, and 12 per cent in industry. Graduates of these fields of study were more widely spread across economic sectors than graduates of any other field of study.

Table 8: Economic Sector by Field of Study (per cent)

	Bus	Soc	Eng	Edu	Hum	Agri	Nat	Health	Total
Agriculture	7	7	4	2	8	39	7	0	7
Industry	35	25	76	1	12	9	17	5	19
Commerce	30	33	6	2	16	16	14	4	16
School	5	13	4	84	39	23	35	5	39
University	3	4	4	5	6	3	9	5	5
Other (NGO, public adm., other)	20	19	6	6	19	12	20	80	15
Total	100	100	100	100	100	100	100	100	100
Count (n)	(772)	(799)	(308)	(1518)	(509)	(302)	(533)	(74)	(4815)

Question 19: In which economic sector are you currently employed or otherwise professionally active? Please tick one item only. The answer should only concern your main occupation.

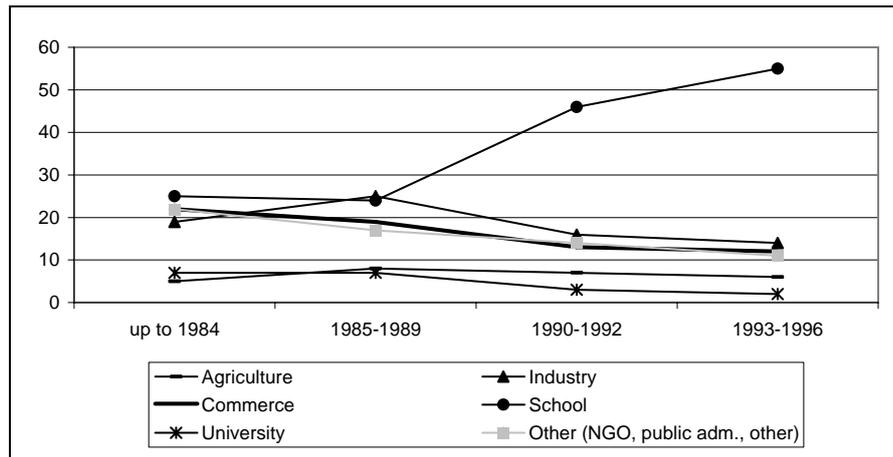
39 per cent of graduates from Agriculture related fields were employed in the agricultural sector and 26 per cent were teachers in schools or universities. 16 per cent were in commerce and 12 per cent were in the public sector. Like graduates in Humanities and Arts, graduates from agriculture-related fields were scattered across various economic sectors. 44 per cent of graduates from Natural Sciences were teachers in schools and in universities, and 20 per cent were in public sector. Most probably, the 20 per cent employed in the public sector are working for state owned research and/or scientific institutions. 17 per cent and 14 per cent of the surveyed graduates from Natural Sciences were respectively employed in the industrial and in the commerce sectors. Finally, it is not unexpected that 80 per cent of the surveyed graduates in health-related fields are employed in the public sector, because most health institutions and hospitals in Africa are owned by the state.

The significance of economic sectors in terms of employing graduates has changed over time. The major changes are seen in the industrial sector which, up to 1985, absorbed 21 per cent of the graduates, but only absorbed 11 per cent of

the graduates of 1995-1998. Even the significance of the commercial sector as an employer of graduates has declined over time from employing 21 per cent of the graduates of up to 1985 to only 7 per cent of the graduates of 1995-1998.

The story is different with school teachers, whose employment has almost tripled, from 26 per cent of the graduates during the period up to 1985 to 68 per cent of the 1995-1998 graduates. Surprisingly, employment of graduates by universities has declined from 8 per cent to 2 per cent between the periods considered by the studies. One would have expected an opposite trend given that the number of universities has increased in Africa. Figure 2 shows the change of importance of economic sectors employing graduates over time.

Figure 2: Economic Sector by Cohort (per cent)



Question 19: In which economic sector are you currently employed or otherwise professionally active? Please tick one item only. The answer should only concern your main occupation.

Although schools have generally attracted the majority of the surveyed graduates than any other economic sector, female graduates have been most attracted as evidenced by Table 9. Females are almost evenly distributed between industry, commerce, and public sector. Economic sectors that have attracted females least are the university and the agricultural sector. For male graduates, industry comes next to schools in importance as an employing sector, followed by commerce and then by the public sector. Like in the case of women, universities and the agricultural sector are the least employing economic sectors for men.

Table 9: Economic Sector by Gender (per cent)

	Male	Female	Total
Agriculture	7	5	7
Industry	20	14	18
Commerce	16	13	15
School	38	51	41
University	5	4	5
Other (NGO, public adm., other)	15	13	14
Total	100	100	100
Count (n)	(3,837)	(1,381)	(5,218)

Question 19: In which economic sector are you currently employed or otherwise professionally active? Please tick one item only. The answer should only concern your main occupation.

5. Areas of Work Assignment

Graduates were asked to list areas of their major current work assignment. Assignments have been summarised and categorised into five major areas, i.e. “engineering”, “business and management”, “research and development”, “teaching”, and “consulting and advisory”. Other assignments that could not be fitted into the above five categories have been subsumed under the category “others”.

Table 10: Major Area of Work Assignment by Field of Study (per cent)

	Bus	Soc	Eng	Edu	Hum	Agri	Nat	Health	Total
Engineering	24	16	68	6	19	21	26	25	20
Business and management	55	55	15	5	32	32	20	14	30
Research and development	4	5	4	1	3	8	4	7	3
Training and teaching	7	15	8	88	40	29	40	38	41
Advisory and consulting	7	5	5	1	5	9	7	16	5
Others	3	3	0	0	2	1	1	0	1
Total	100	100	100	100	100	100	100	100	100
Count (n)	(748)	(691)	(274)	(1164)	(348)	(282)	(357)	(56)	(3920)

Question 20a: What is your current major area of work assignment?

The majority of graduates had work assignments that were quite relevant to their fields of study. For example, 67 per cent of Engineering graduates had their major work tasks in the field of engineering, 60 per cent of Education graduates were teaching, and 55 per cent of Business and Law graduates were in business and management related assignments. Also, 51 per cent of Social Sciences graduates were in business and management related functions. Graduates in Humanities and Arts have no concentration within a specific work assignment.

In terms of gender, there are major differences only in two areas between the assignments performed by female graduates and those performed by male graduates. Proportionately, more female than male graduates are active in training and teaching. Also a higher proportion of male than female graduates is in business and management related work assignments.

6. Importance of Occupational Characteristics

Graduates were requested to indicate the level of importance they attach to several occupational characteristics. Overall, the first four characteristics rated highly are, in their order of importance, "Possibilities of using acquired knowledge", "Job security", "Chance of doing something useful for society", and "Opportunity of pursuing continuous learning". The two characteristics ranked as being least important are "Lot of free time" and "Chances of political influence". Table 11 gives a summary of responses by field of study.

Table 11: Work Orientation by Field of Study (arithmetic mean)

	Bus	Soc	Eng	Edu	Hum	Agri	Nat	Health	Total
Largely independent disposition of work	2.1	2.5	2.5	2.6	2.5	2.6	2.5	2.2	2.5
Opportunity of undertaking scientific work	2.8	3.2	2.3	3.3	3.5	2.5	2.5	1.9	3.0
Clear and well-ordered tasks	2.1	2.2	2.2	2.3	2.3	2.3	2.3	1.8	2.2
Possibilities of using acquired knowledge	1.8	1.9	1.8	1.9	2.0	1.9	1.9	1.5	1.9
Job security	1.9	1.8	2.0	1.9	2.1	2.2	2.1	1.9	1.9
Social status and respect	2.0	2.0	2.2	2.4	2.3	2.4	2.3	1.8	2.3
Opportunity of pursuing own ideas	2.1	2.2	2.2	2.4	2.3	2.3	2.3	2.0	2.3
Good working atmosphere	2.0	2.0	2.1	2.3	2.3	2.5	2.2	1.7	2.2
Opportunity of pursuing continuous learning	2.1	1.9	2.2	2.2	2.2	2.2	2.0	1.8	2.1
High income	2.1	2.3	2.3	2.7	2.6	2.9	2.6	2.3	2.5
Chances of political influence	3.7	3.7	3.5	3.8	3.5	3.9	3.9	3.6	3.7
Demanding job tasks	2.3	2.3	2.3	2.7	2.6	2.6	2.6	2.3	2.5
Good career prospects	2.1	2.0	2.4	2.4	2.3	2.4	2.3	1.8	2.3
Lot of free time	3.6	3.6	3.3	3.3	3.3	3.5	3.5	3.7	3.4
Coordinating and management tasks	2.3	2.3	2.1	2.5	2.5	2.4	2.6	2.3	2.4

to be continued

Table 12 continued

	Bus	Soc	Eng	Edu	Hum	Agri	Nat	Health	Total
Possibility of working in a team	2.4	2.2	2.7	2.3	2.4	2.3	2.3	2.2	2.3
Chance of doing something useful for society	2.1	1.9	2.0	1.9	1.9	2.0	2.0	1.6	2.0
Count (n)	(684)	(698)	(320)	(1526)	(502)	(339)	(473)	(78)	(4620)

Question 36: How important are the different characteristics of an occupation for you personally? Scale from 1 = very important to 5 = not important at all.

There are significant differences in the importance attributed to the characteristics of an occupation according to field of study. Graduates from all fields of study ranked “Possibility of using acquired knowledge” first or second, “Job security” was also highly ranked by graduates of all fields of study. “Good working atmosphere” was deemed very important more by graduates in health related fields, graduates in business and law as well as by graduates in engineering.

With the exception of Business and Law graduates, all other graduates put strong emphasis on being able to do something useful for society. The chance of political influence, in contrast, was of least importance to all graduates regardless of field of study. Likewise, most graduates ranked “Lot of free time” second to last.

7. Other Gainful Activities

One fourth of the employed graduates report a second (gainful) activity parallel to his major employment. 21 per cent have side jobs paid with honorarium or are involved in sporadic economic activities like sales etc. 4 per cent have a regular second occupation.

Table 13: Other Gainful Activities by Country (per cent)

	Nigeria	Ghana	Uganda	Tanzania	Kenya	Malawi	Total
Second occupation	6	3	4	2	3	3	4
Side jobs, honorarium, sales, etc.	24	15	31	38	13	15	21
No	62	79	60	58	81	81	70
Not applicable, I have my own business/ I am self-employed	7	3	5	2	3	1	5
Total	100	100	100	100	100	100	100
Count (n)	(2358)	(848)	(360)	(302)	(921)	(452)	(5241)

Question 24: Do you have any other gainful activity?

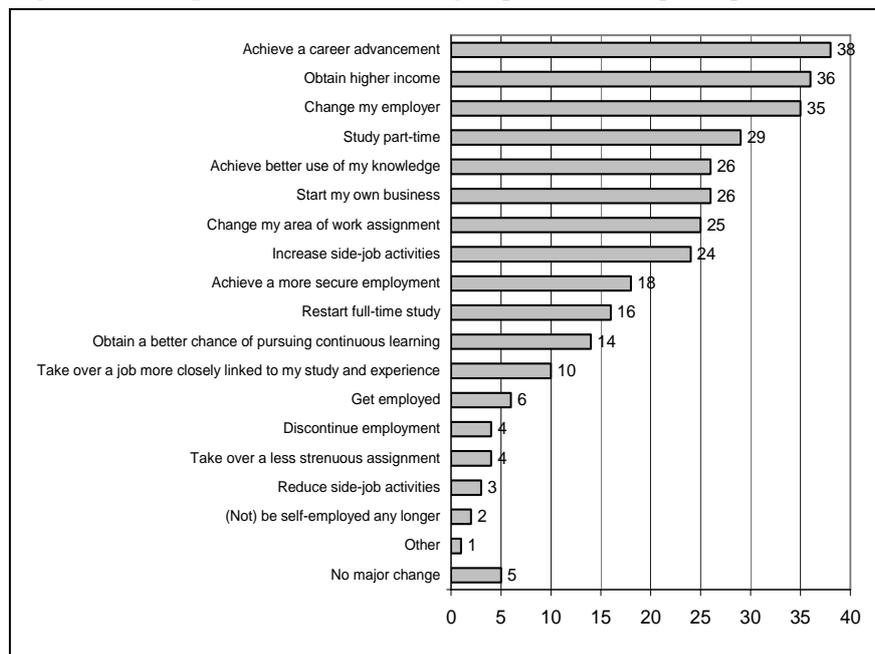
In Tanzania 38 per cent of the respondents have side jobs, in Uganda 31 per cent, and in Nigeria 24 per cent. In Kenya, Malawi, and Ghana about one seventh of the respondents report a side job.

In Nigeria 6 per cent of the employed graduates have a second occupation. In other countries surveyed, the rate of second occupations accounts between 2 per cent and 4 per cent (see Table 13).

8. Anticipation of Career Changes

The Graduates were asked which changes they are expecting or anticipating in the next three years. The vast majority of the respondents anticipate one major change or another. Only 5 per cent say that, in the next three years, no major change is to be expected in their career.

Figure 3: Anticipation of Career Changes (per cent; multiple responses)



Question 38: What kind of career changes do you anticipate within the next three years? Multiple reply possible.

As Figure 3 shows, 38 per cent of the graduates anticipate career advancement, 36 per cent of the respondents hope to obtain a higher income, and 35 per cent expect to change the employer in the next three years.

29 per cent plan to study part-time. Other changes in the career advancement or professional reorientation are anticipated by about one quarter of the graduates: to achieve a better use of the knowledge in the job (26 %), to start an own business (26 %), to change the area of working assignment (25 %) and to increase side-job activities (24 %). Interestingly, 3 per cent of the respondents, on the other hand, plan to reduce side-job activities.

Overall, most graduates expect changes associated with further learning. 16 per cent plan a full-time study and 14 per cent expect to obtain better chances of pursuing continuous learning.

Work Orientation, Job Satisfaction and Professional Success of Graduates from African Universities

Harald Schomburg

1. Introduction

Work orientation and job satisfaction are often seen as key factors to explain organisational behaviour. As individual attitudes they might define the graduates' selection of employers and work places. From the employers' viewpoint these individual attributes could be considered as important factors of job performance and commitment. According to the well known content theory of work orientation, one would expect a kind of hierarchy of orientations like in Maslow's theory of motivation (1954) and Herzberg's (1959) 2-factor theory of work orientation and job satisfaction. In Herzberg's theory a distinction was made between lower level related factors ("hygiene factors") like salary, job security, interpersonal relations, working conditions, status, and the higher "motivational" factors like achievement, recognition, work itself, responsibility and advancement. Although there seems to be little empirical evidence in later research for the distinction between two factors, both, Maslow's motivation theory and more specifically Herzberg's 2-factor theory underline the relevance of elements beyond the simplified *homo oeconomicus*. The content of work, the use of acquired knowledge and skills and also altruistic values like the relevance of the work for the development of the country should be taken into account especially in the area of work of graduates from higher education. On the other side, in many African countries graduates are facing a situation of relatively low salary, insecure employment and bad physical working conditions. Under these circumstances, which are quite different from the situation in most of the industrialized countries, the question arises, how – in the view of the graduates – the intrinsic ("work itself") and extrinsic factors ("income") of work orientation are related to each other.

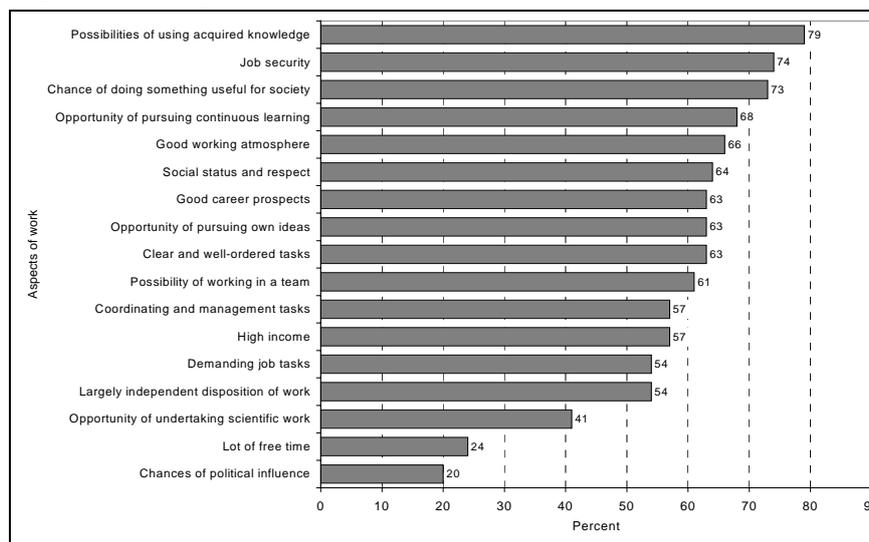
In many of the graduate surveys which were mainly conducted during the 1980s and reported by Sanyal (1987), the items "work orientation" and "job satisfaction" were included. But since that time, the operational definitions and the data analysis differed from study to study, thus it is not possible to directly compare their results. The AAU studies, for the first time, provide the possibility for a systematic comparison of work orientation and job satisfaction of graduates from institutions of higher education from different countries.

Beside the analysis of the work orientation of graduates, this chapter provides a broader range of subjective indicators of professional success: general job satisfaction, job satisfaction with different characteristics of the professional situation, fulfilment of early expectations, use of knowledge and skills acquired and appropriateness of the position to the level of education.

2. Work Orientation

In the AAU graduate surveys, a common instrument comprising 17 items, was used to measure the work orientation of graduates. Among other things they were asked: "How important are the different characteristics of an occupation for you personally?" A five point answer scale was given from 1 = "very important" to 5 = "not important at all".

Figure 1: Work Orientation of Graduates from African Universities (percent responses 1 and 2)



Question 36: How important are the different characteristics of an occupation for you personally? Scale from 1 = very important to 5 = not important at all.

As Figure 1 shows, intrinsic as well as extrinsic aspects of work are important for most of the graduates. The most important aspect is the "possibility of using acquired knowledge" (79%), indicating a key element of a professional orientation. Next comes "job security" (74%) which is seen as an important context factor of work. Very important is also another element of the ideal classical profession, the "chance of doing something useful for society" (73%). But also the key extrinsic elements like "good career prospects" (63%), "high income" (57%), "social status and respect" (64%) are important for more than 50 percent of the graduates. "Lot of free time" (24%) and "chance of political influence" (20%) are only for rather few graduates important aspects of their work.

Sometimes it is argued that women and men have very different work orientations which could explain the differences in their professional success. From the findings of the AAU graduate surveys this view is not supported. As Table 1 shows, there are hardly any significant differences between male and female graduates concerning work orientation. This is the same regarding the field of study or sector of employment.

Table 1: Work Orientation by Gender (percent; responses 1 and 2)

	Male	Female	Total
Possibilities of using acquired knowledge	79	78	79
Job security	74	76	74
Chance of doing something useful for society	74	72	73
Opportunity of pursuing continuous learning	69	67	68
Good working atmosphere	66	67	66
Social status and respect	65	63	64
Clear and well-ordered tasks	62	66	63
Opportunity of pursuing own ideas	63	62	63
Good career prospects	63	63	63
Possibility of working in a team	61	61	61
High income	57	58	57
Coordinating and management tasks	58	55	57
Largely independent disposition of work	54	52	54
Demanding job tasks	56	49	54
Opportunity of undertaking scientific work	42	35	41
Lot of free time	23	27	24
Chances of political influence	20	19	20
Count (n)	(3712)	(1338)	(5050)

Question 36: How important are the different characteristics of an occupation for you personally? Scale from 1 = very important to 5 = not important at all.

In general, the differences by field of study are not very significant (see Table 2), but some remarkable differences should be noted regarding contrasting groups and aspects of work:

- Graduates from health sciences seem to be more ambitious than the other fellow students. Their level of motivation is higher in many respects.
- On the other side, graduates from the field of education and agriculture have a lower level of motivation compared to the average.
- The biggest differences regarding the aspects of work are visible in the "opportunity of undertaking scientific work". Graduates from health sciences, natural sciences, agriculture, and engineering are clearly more motivated for research work than are the others.

Table 2: Work Orientations by Field of Study (percent; responses 1 and 2)

	Field of Study								Total
	Bus	Soc	Eng	Edu	Hum	Agri	Nat	Health	
Possibilities of using acquired knowledge	82	79	81	78	75	77	77	92	79
Job security	75	77	70	77	69	64	69	78	74
Chance of doing something useful for society	69	74	68	75	76	74	72	84	73
Opportunity of pursuing continuous learning	67	75	66	65	66	65	73	81	68
Coordinating and management tasks	61	65	68	52	58	58	53	63	58
Good working atmosphere	73	71	70	61	62	56	65	80	65
Social status and respect	73	75	63	58	61	58	63	79	64
Good career prospects	69	72	59	58	62	57	63	85	63
Clear and well-ordered tasks	69	66	65	61	61	63	60	81	63
Opportunity of pursuing own ideas	71	64	65	59	62	60	64	73	63
Possibility of working in a team	62	69	50	59	60	61	62	65	61
High income	69	64	62	50	51	47	55	64	56
Largely independent disposition of work	67	52	44	51	53	50	53	71	54
Demanding job tasks	60	62	61	48	52	49	55	62	54
Opportunity of undertaking scientific work	47	33	62	31	28	56	57	81	41
Lot of free time	19	18	27	29	28	25	21	16	24
Chances of political influence	20	19	25	19	25	16	14	22	20
Count (n)	(684)	(698)	(320)	(1526)	(502)	(339)	(473)	(78)	(4620)

Question 36: How important are the different characteristics of an occupation for you personally? Scale from 1 = very important to 5 = not important at all.

The result of rather small differences in the work orientation of graduates holds true if we look at the sector of employment, the work tasks, the cohort, and the age of the graduates.

Three major dimensions of work orientation of graduates from institutions of higher education in Africa can be identified according to the result of the factor analysis (see Table 3):

- Status/career: "high income", "good career prospects", "social status and respect", "job security"
- Work content: "chance of doing something useful for society", "demanding job tasks"
- Autonomy: "Opportunity of undertaking scientific work", "possibilities of using acquired knowledge", "largely independent disposition of work".

Table 3: Factors of Work Motivation (main component analysis; varimax rotated factor loadings; only factor loadings greater than 0.5 are reported)

	Status/career	Work content	Autonomy
High income	.82505		
Good working atmosphere	.76875		
Good career prospects	.71538		
Social status and respect	.71128		
Job security	.57196		
Opportunity of pursuing own ideas	.56293		
Opportunity of pursuing continuous learning	.55749		
Possibility of working in a team		.79870	
Chance of doing something useful for society		.71903	
Coordinating and management tasks		.63269	
Demanding job tasks		.53547	
Opportunity of undertaking scientific work			.76173
Largely independent disposition of work			.70945
Clear and well-ordered tasks			.58749
Possibilities of using acquired knowledge			.52770

3. Job Satisfaction

Job satisfaction can be seen as a key indicator of professional success. Of course, it is a subjective indicator not showing the elements of the objective situation which is taken into account by the individual graduate. The subjectivity of this indicator is in fact not a weakness but allows to compare individuals even if we know nothing about their job orientation. The AAU graduate survey provides information on the general job satisfaction of the graduates ("Altogether, to what extent are you satisfied with your professional situation? Please take also into

account in your statement any professional sidelines. Scale of answers from 1 = to a very high extent to 5 = not at all.) as well as on the job satisfaction with different characteristics of the professional situation.

The general level of job satisfaction is not very high: 42 percent of the graduates reported to be satisfied (scale-points 1 and 2 of the 5 point scale) which corresponds to an arithmetic mean of 2.8. Not to be satisfied was reported by 21 percent of the graduates (scale-points 4 and 5 of the 5 point scale). Table 4 shows the differences in the general job satisfaction by country, which are especially in the comparison between Tanzania and Kenya rather big. Graduates from the University of Dar Es Salaam reported a higher job satisfaction (52% satisfied) than those from the University of Nairobi and the Kenyatta University (34% satisfied). To interpret these differences, one has to take into account that the graduates from the University of Dar Es Salaam studied Business while the graduates from the two Kenyan universities studied Education. This different educational background might therefore explain the differences between the countries. Indeed, if we analyse the differences in the general job satisfaction by field of study we can find similar results between graduates from Business (51% satisfied) and Education (34% satisfied).

Table 4: General Job Satisfaction by Country (percent; arithmetic mean)

General job satisfaction	Country					Total	
	Nigeria	Ghana	Uganda	Tanzania	Kenya	Malawi	
1 to a very high extent	13	11	11	12	7	10	11
2	29	37	30	40	27	31	31
3	34	39	35	36	39	33	36
4	13	9	16	9	15	14	13
5 not at all	11	4	8	4	11	11	9
Total	100	100	100	100	100	100	100
Count (n)	(2476)	(876)	(359)	(293)	(955)	(456)	(5415)
Arithmetic mean	2.8	2.6	2.8	2.5	3.0	2.8	2.8

Question 35: Altogether, to what extent are you satisfied with your professional situation? Please take also into account in your statement any professional sidelines. Scale from 1 = to a very high extent to 5 = not at all.

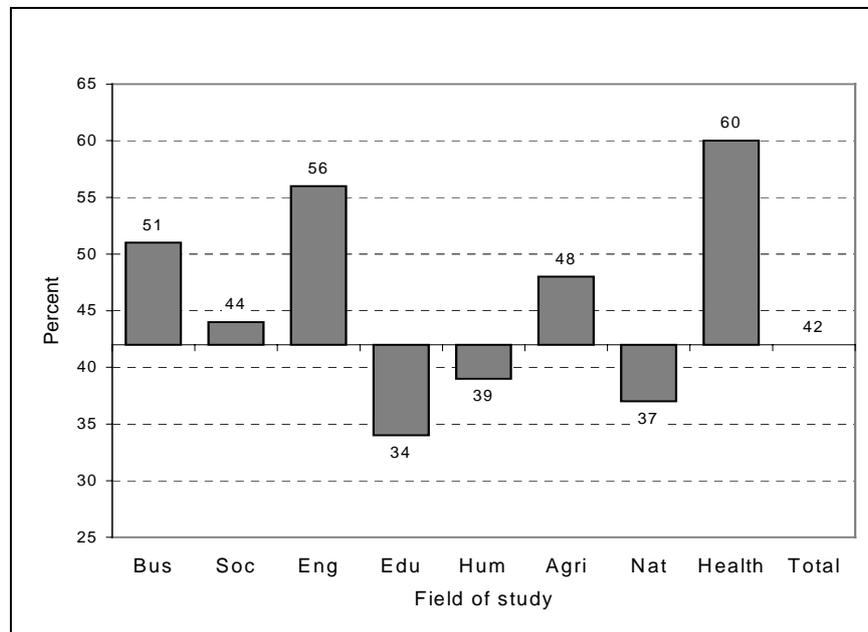
The highest level of job satisfaction according field of study was reported by graduates from Health Science (60 %), Engineering (56%) and Business (51%), while a relative low job satisfaction was indicated by graduates from Natural Sciences (37%), Education (34%) and Humanities (39%).

Table 5: General Job Satisfaction by Field of Study (percent; arithmetic mean)

General job satisfaction	Field of Study								Total
	Bus	Soc	Eng	Edu	Hum	Agri	Nat	Health	
1 to a very high extent	13	11	11	9	11	14	14	24	11
2	38	33	45	25	28	34	23	36	31
3	36	39	31	37	34	31	37	33	36
4	9	12	9	17	14	13	12	5	13
5 not at all	4	4	3	12	12	7	14	3	9
Total	100	100	100	100	100	100	100	100	100
Count (n)	(778)	(767)	(308)	(1494)	(532)	(326)	(525)	(76)	(4806)
Arithmetic mean	2.5	2.7	2.5	3.0	2.9	2.7	2.9	2.3	2.8

Question 35: Altogether, to what extent are you satisfied with your professional situation? Please take also into account in your statement any professional sidelines. Scale from 1 = to a very high extent to 5 = not at all.

Figure 2: Job Satisfaction, by Field of Study (percent of graduates with high job satisfaction)



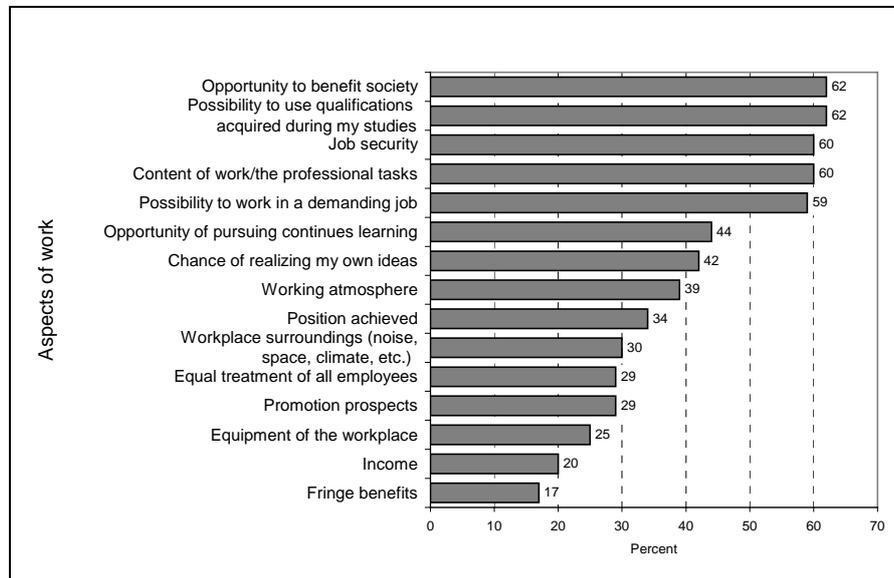
Question 35: Altogether, to what extent are you satisfied with your professional situation? Please take also into account in your statement any professional sidelines. Scale from 1 = to a very high extent to 5 = not at all.

Satisfaction with Characteristics of the Professional Situation

The satisfaction with the different characteristics of the professional situation shows a very clear pattern: graduates are rather satisfied with the content of their work, the demanding character of their work, the use of qualifications acquired during studies, the opportunity to benefit society and job security (more than 60% of the graduates are satisfied with each of these aspects) while working conditions and status aspects, especially the income and the fringe benefits, are not valid as being satisfying (see Figure 3).

Graduates in health related fields had the highest rating for the content of work/professional tasks, followed by graduates in engineering. These are fields in which professionalism is a very important characteristic. They were followed by graduates in Business and Law, Education, and Social Sciences, fields that also demand professionalism to a certain extent. Graduates in fields of study like Humanities and Arts, Natural Sciences and Agriculture rated this characteristic relatively lower than their counterparts.

Figure 3. Satisfaction with Characteristics of the Professional Situation (percent of graduates with high job satisfaction)



Question 34: To what extent are you satisfied with the following characteristics of your professional situation? Scale from 1 = to a very high extent to 5 = not at all.

The highest rating of the possibility to use qualifications acquired during studies is given again by graduates in Health related field, followed by graduates in Engineering and in Education and finally by graduates in Business and Law. Indeed, one cannot perform as a medical doctor or as an engineer or an accountant without using the technical knowledge acquired during study. Graduates in Humanities and Arts and in Social Sciences rated this characteristic relatively lower, perhaps because their work assignments are not as clearly related to a defined set of knowledge and qualifications. One would have expected a higher rating of this characteristic from graduates in Natural Sciences as well as from graduates in Agriculture, because their work would usually require use of specialized knowledge in the respective fields.

Again, graduates in Health related fields rated best the characteristic "opportunity to benefit society". These graduates directly deal with human beings, and the impact of what they do is almost immediate. Therefore they get a lot of satisfaction from seeing a positive impact resulting from their work. Graduates in Business and Law as well as graduates in Engineering rated this characteristic lowest.

Only a minority of graduates were satisfied with the fringe benefits and the income. Teachers were the most unsatisfied with the fringe benefits which they received from their employers. This may be a reflection of the general complaint in Africa that teachers usually are the lowest paid. Most of them are employed by the state government where salaries and benefits are generally the lowest as will be discussed later in this chapter. Also the graduates in Natural Sciences rated poorly the fringe benefits. Similar are the ratings for "income". Again this was lowest rated by Education and by Natural Science graduates. In relative terms, graduates in Engineering and Graduates in Business and Law showed less dissatisfaction with their incomes than other graduates.

Table 6: Satisfaction with Characteristics of Professional Situation by Field of Study (percent; responses 1 and 2)

	Field of Study								Total
	Bus	Soc	Eng	Edu	Hum	Agri	Nat	Health	
Possibility to use qualifications acquired during my studies	65	58	66	64	54	64	57	83	62
Opportunity to benefit society	55	64	58	63	65	66	61	87	62
Content of work/professional tasks	61	58	63	60	58	61	55	75	60
Job security	54	61	57	69	51	56	54	54	60
Possibility to work in a demanding job	66	66	69	49	57	63	56	71	59
Opportunity of pursuing continues learning	40	51	37	41	50	52	44	56	44
Chance of realizing my own ideas	47	42	54	35	44	44	40	56	42
Working atmosphere	47	39	43	36	35	34	36	57	39
Position achieved	38	35	42	29	36	36	35	46	34
Workplace surroundings (noise, space, climate, etc.)	35	36	33	26	27	24	32	31	30
Equal treatment of all employees	26	30	31	30	31	25	30	39	29
Promotion prospects	34	29	38	23	28	31	29	43	29
Equipment of the workplace	30	32	36	15	26	22	27	31	25
Income	26	22	29	14	23	21	16	29	20
Fringe benefits	20	18	25	12	19	20	16	34	17
Count (n)	(791)	(790)	(313)	(1541)	(550)	(333)	(546)	(78)	(4942)

Question 34: To what extent are you satisfied with the following characteristics of your professional situation? Scale from 1 = to a very high extent to 5 = not at all.

Table 7 clearly indicates the relationship between work orientation and job satisfaction: a higher level of job satisfaction in all the different aspects is related with a higher level of work motivation. This relationship is especially high with respect to intrinsic work aspects like the content of work, the use of acquired skills and demanding work tasks, but it is also significant regarding the status aspects (income and promotion prospects) and the working conditions. These findings could be explained by two totally different hypotheses: according to the *selection hypothesis* one could assume that graduates with a high level of motivation are looking for related jobs and are able to get them. This hypothesis is based on the assumption that work orientations are attributes of the personality of the graduates which stays stable over time. The opposite hypothesis is the *socialisation hypothesis* which argues that the work motivation is influenced by work experiences. Work orientations in this view are not stable personality attributes but reflections

of the objective work situation. A low work motivation would be a sign of relatively bad working conditions according to the socialisation hypothesis.

Table 7: Selected Work Orientations and Related Job Satisfaction (percent)

Work orientation	Important (%)	Satisfied (%)	Job satisfaction
Possibilities of using acquired knowledge	79	62	Possibility to use qualifications acquired during my studies
Chance of doing something useful for society	73	62	Opportunity to benefit society
Job security	74	61	Job security
Demanding job tasks	54	59	Possibility to work in a demanding job
Opportunity of pursuing continuous learning	68	44	Opportunity of pursuing continues learning
Opportunity of pursuing own ideas	63	41	Chance of realizing my own ideas
Good career prospects	63	29	Promotion prospects
High income	57	20	Income

Four major dimensions of job satisfaction could be identified according to the result of the factor analysis (see Table 8):

- *Status/career*: "Income", "Fringe benefits", "Promotion prospects", "Position achieved"
- *Work content*: "Content of work/the professional tasks", "Possibility to use qualifications acquired", "Possibility to work in a demanding job"
- *Context*: "Workplace surroundings (noise, space)", "Equipment of the workplace", "Equal treatment of all employees", "Working atmosphere"
- *Autonomy*: "Opportunity to benefit society", "Chance of realizing my own ideas".

These four factors of aspects of work are all positively correlated with the general job satisfaction, but which dimension is the most relevant? In order to answer this question, multiple regression (OLS) analysis was applied with general job satisfaction as the dependent variable and the four factors of aspects of work as independent variables. The regression analysis was conducted for each country separately in order to find out if the relevance of the different aspects for job satisfaction is equal in the different African countries.

In four of six African countries, the most relevant aspect which explains the general job satisfaction is the work content. Only in two of six countries, status and career aspects are most relevant. In all countries, both dimensions – work content and status – are more important than the physical working conditions or the work autonomy.

Table 8: Factors of Job Satisfaction (main component analysis; varimax rotated factor loadings; only factor loadings greater than 0.5 are reported)

	Status/career (1)	Work content (2)	Physical working conditions (3)	Autonomy (4)
Income	.83			
Fringe benefits	.77			
Promotion prospects	.73			
Position achieved	.61			
Content of work/the professional tasks		.79		
Possibility to use qualifications acquired		.78		
Possibility to work in a demanding job		.66		
Workplace surroundings (noise, space, cl)			.84	
Equipment of the workplace			.66	
Equal treatment of all employees			.61	
Working atmosphere			.48	
Opportunity to benefit society				.87
Chance of realizing my own ideas				.51

The results are giving some support for the hypothesis that graduates from higher education institutions from different African countries have rather similar concepts of a satisfying job. Both, the intrinsic aspects of the work as such, which can be seen as an attribute of professionalism, and the extrinsic aspect of status/income/career are relevant for graduates.

Table 9: Explanation of Job Satisfaction, by Country (stand. regression coefficients, OLS regression)

	Country					
	Nigeria	Ghana	Uganda	Tanzania	Kenya	Malawi
Work content	.382	.439	.381	.493	.276	.547
Status/career	.449	.413	.289	.359	.450	.419
Physical working conditions	.187	.225	.046	.106	.265	.259
Autonomy	.113	.134	.156	.000	.154	.217
R-square	.405	.409	.214	.388	.334	.542

4. Subjective Indicators of Professional Success

The analysis of the work orientation and the job satisfaction of graduates from higher education institutions in Africa shows a high level of "professional orientation" in the sense that key elements of the orientation of classical professionals like medical doctors are highly valued by the graduates (see Abbot 1988). But to what extent are graduates working "study related" and do they have a position which they rate as "appropriate"? These two dimensions of the relationship between study and work (vertical and horizontal) are often seen as key indicators of professional success. Table 10 suggests that the majority of employed graduates can use the knowledge and skills acquired during the course of studies (70%). Position and status were rated from the majority as "appropriate to the level of education" (60%) and more than 50 per cent of them reported that they were able to realize their career plans.

A high use of knowledge and skills was reported especially by graduates from Tanzania, Kenya and Nigeria (more than 70%), while only 49 per cent reported this in Uganda. The use of knowledge and skills seems to depend to some extent on the field of study. Graduates from health and education related fields reported a higher level of use of knowledge and skills than graduates from the other fields.

With regard to the appropriateness of position to level of education and the degree of realisation of career expectations the differences between countries are less pronounced.

Table 10. Close Relationship between Study and Work by Country (percent; responses 1 and 2)

	High use of knowledge and skills (1)	Appropriate position (2)	High realisation of career expectations (3)
Nigeria	74	64	55
Ghana	63	62	52
Uganda	49	55	41
Tanzania	77	58	66
Kenya	76	52	52
Malawi	60	55	55
Total	70	60	54

(1) Question 31: When you look at your current work tasks altogether: to what extent do you use the knowledge and skills acquired during your course of studies? Scale from 1 = to a very high extent to 5 = not at all.

(2) Question 32: To what extent is your position and status appropriate to your level of education? Scale from 1 = completely appropriate to 5 = not at all appropriate.

(3) Question 30: To what extent have you been able to realize the career you expected at the time of graduation? Scale from 1 = to a very high extent to 5 = not at all.

All three indicators of professional success do not show significant changes over time when we compare the different cohorts of graduates. In contrary to the public debate on the changes in the relationships between study and work in the process of the expansion of higher education, the data of this graduate survey do not provide signals for growing skill-mismatch or over-education. This becomes more apparent when we look at the amount of graduates who reported to use the knowledge and skills they acquired during the course of studies (=indicator for skill-mismatch) to a "low extent" and to have a position which is "not appropriate" to their education (=indicator for over-education) (see Table 11).

The amount of skill-mismatch is very low among graduates in Africa (only 10%) while almost every fifth graduate reported to work on a "not appropriate" position. There are some differences by country but the general finding that "appropriateness" seems to be more widespread than skill-mismatch holds true for all countries in the study.

Table 11: Low Relationship between Study and Work by Country (percent; responses 1 and 2)

	Low use of knowledge and skills (1)	Not appropriate position (2)	Low realisation of career expectations (3)
Nigeria	10	18	19
Ghana	10	16	19
Uganda	19	20	32
Tanzania	5	14	7
Kenya	5	23	19
Malawi	15	25	24
Total	10	19	19

(1) Question 31: When you look at your current work tasks altogether: to what extent do you use the knowledge and skills acquired during your course of studies? Scale from 1 = to a very high extent to 5 = not at all.

(2) Question 32: To what extent is your position and status appropriate to your level of education? Scale from 1 = completely appropriate to 5 = not at all appropriate.

(3) Question 30: To what extent have you been able to realize the career you expected at the time of graduation? Scale from 1 = to a very high extent to 5 = not at all.

There might be quite different reasons and causes which could explain *why* graduates are not working in an appropriate position. In the public debate about job chances for higher education graduates very often only limitations of the demand side in a narrow sense are considered. It is assumed that all graduates have more or less the same work orientations and share the same idea of an "appropriate position". The possibilities of individual differences as well as the aspect of career dynamics in the first years after graduation are often ignored.

In this study the graduates were asked why they are working in a job which is not linked to their study. Table 12 shows that only 24 percent (of those with a "not appropriate job") referred to the limitations of the labour market ("I could not find any job closely linked to my study"). The vast majority mentioned "good reasons" which are in accordance with their career plan ("In doing this job I have better career prospects", 16%) or their specific work orientation ("My current job provides the opportunity for part-time/flexible schedules, etc.", 16%; "My current job allows me to take into account family needs", 12%; "My current job provides the opportunity to work in a locality I prefer", 11%).

Table 12: Reason for Taking up Employment Rarely Linked to Studies
(percent; multiple responses)

	Percent
I could not find any job closely linked to my study	24
In doing this job I have better career prospects	16
My current job provides the opportunity for part-time/flexible schedules etc.	16
At the beginning of the career envisaged I have to accept work hardly linked to my study	14
My current job allows me to take into account family needs	12
My current job provides the opportunity to work in a locality I prefer	11
My current job ensures a higher income	6
My current work is very satisfactory	4
I prefer an occupation which is not closely connected to my studies	2
I prefer a job not clearly linked to my studies	1
I was promoted to a position less linked to my studies than my previous positions	2
Other	10
Not applicable (I consider my job linked to my studies)	17
No answer	15
Total	149
Count (n)	(1013)

Question 33: If you consider your employment and work hardly being linked to your knowledge and your level of education: why did you take it up? Multiple reply possible. Here the results are presented only for graduates which ticked the answers 4 or 5 (=not appropriate position) in the question 32. See previous table for further information.

5. Conclusion

The analysis of the relationships between higher education and work is often focussed on objective criteria like income and employment conditions. In this chapter results from graduate surveys from six African countries were presented which

for the first time allows to take into account also the view of the graduates in a genuine comparative perspective.

For most African graduates intrinsic as well as extrinsic aspects of work are important. At the top of their work orientations are:

- possibilities of using acquired knowledge
- job security
- the chance of doing something useful for society.

The job satisfaction with these most important aspects of work is relative high while the level of job satisfaction with income and fringe benefits is very low.

References

- Abbot, A. (1988). *The System of Professions*. Chicago: University of Chicago Press.
- Maslow, A.M. (1970). *Motivation and Personality*. 2nd Ed. New York, London: Harper & Row.
- Herzberg, F. et al. (1959) *The motivation to Work*. 2nd Ed. New York: John Wiley & Sons.
- Sanyal, B. C. (1987) *Higher Education and Employment. An International Comparative Analysis*. London. The Falmer Press.
- Sverko, B. and Vizek-Vidovic'. V. (1995). „Studies of the Meaning of Work: Approaches, Models, and Some of the Findings”. In Super, D. E. and Sverko, B. eds. *Life Roles, Values, and Careers: International Findings of The Work Importance Study*. San Francisco: Jossey-Bass Inc. Publishers, pp 3-21.
- Super, D. E. and Sverko, B. (eds) (1995). *Life Roles, Values, and Careers: International Findings of The Work Importance Study*. San Francisco: Jossey-Bass Inc. Publishers.

Self-Employment Among African Graduates: The Cases of Ghana and Nigeria

Alexis-Michel Mugabushaka

1. Introduction

The economic development policies adopted by African countries after the independence were often justified in terms of the two ideological alternatives fashionable at that time: socialism or capitalism. No matter, however, which path they followed, they had as common denominator the prominent role of the state in the development process. This led to a steady growth of the public sector, which became the most important economic sector in most countries.

The rationale behind the involvement of the state in economic activities, on the one hand, was the view that in developing countries only the state had required capacities (capital, personal, etc.) to build up needed development infrastructure and, on the other hand, the faith in the “planability” of the development process, the implementation of which fall under the state responsibility.

This prominence of the state in the economic sector was also reflected in the labour market. In most African countries, governments have remained the major employers over the years. Especially higher education graduates were recruited almost exclusively in the public sector. In some countries, beneficiaries of state’s bursary had to commit themselves not to take positions in private sector for a certain time after their graduation.

At the climax of the “lost decade” of the 1980s however the role of the state in the economic development began to be questioned. The prevailing view today is that the private economic sector and not the state is the efficient motor of economic development. In most African countries, privatisation initiatives were started and legislation initiated to encourage the private sector and free enterprises.

It is doubtless premature to assess the outcomes of those initiatives because they are conceived and implemented as long term processes. Different actors are called upon to contribute their part:

- Policy makers are urged to undertake needed reforms and to strengthen institutions in order to improve the investment climate for firms and individuals willing to take the entrepreneurial risk.
- Higher education institutions in Africa are also under increasing pressure to contribute their part in this process. They are expected to see their “mission (...as...) to produce job creators, not job seekers” (Whitaker, 2001, p. 7). Some universities responded to these demands by introducing special courses on planning, establishing and running small business (see Mkude et al., 2003, p. 25).

The studies undertaken on self-employment in African countries placed the focus on the informal sector and its contribution to economic development without paying any particular attention to the highly qualified individuals (Berman et al., 1994 and Spring and McDade, 1998). For policy makers as well as universities, however, information is crucial to the use of qualifications gained during the studies and the working conditions of self-employed graduates. Despite this urgent need of information, little has been done to elucidate self-employment among university graduates.

The aim of this contribution is to remedy against this situation. It seeks to sketch a profile of the self-employed graduates and to shed light on their working conditions in comparison to the employed graduates. It closes with comprising remarks containing recommendations to the university management and the higher education research community.

2. Methodology

This analysis takes into consideration only the surveys conducted in Ghana and Nigeria (four in Nigeria and one in Ghana). Surveys from other countries notably from Kenya, Tanzania, Uganda, and Malawi were excluded because less than ten respondents each were self-employed.

It should be noted that since the majority of the surveys included in this study used partly employer’s addresses to trace the respondents, the data present an inherent bias against self-employed graduates. Doubtless, they are underrepresented in the sample.

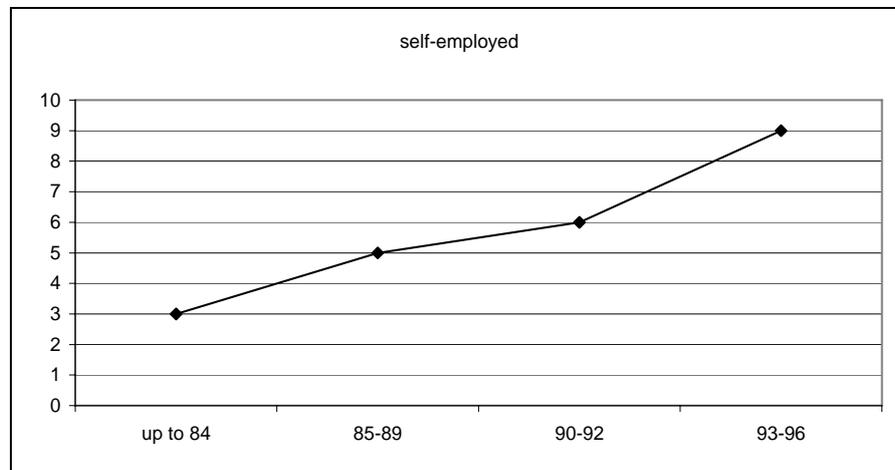
A second caveat applies to the definition of “self-employment” adopted here. In the following a person is defined as either employed or self-employed on the basis of the response given to the question on the employment status. The respondents were provided with four options: “public sector”, “private sector”, “self-employed” and “others”. One has to bear in mind though that the self-ascribing responses “private sector” and “self-employment” are not clearly distinctive categories. A graduate may see himself as “employed in private sector” as well as “self-employed”.

3. A Profile of the Self-Employed

6 per cent of the respondents reported to be self-employed. In Nigeria their share accounts for 7 per cent and in Ghana for 2 per cent. The rate is fairly low when compared with industrialised countries. In Germany, it is estimated that 17 per cent of university graduates are self-employed (Holtkamp, 2001, p. 12). Given the bias against the self-employed inherent to the respondents tracing strategy this may fairly be said to be too conservative.

“Self-Employment” as distinctive category played virtually no role in the graduates’ tracer studies conducted in Africa at the end of the seventies and in the mid-eighties (Sanyal, 1987; Baldauf and Lwambuka, 1989). A steady growth of their share among the respondents over the years depicted in Figure 1 is noteworthy, as there is an increase from 3 per cent in the cohort of respondents to the tracer study reported here who graduated in the early 1980s to 9 per cent of those who graduated between 1993 and 1996.

Figure 1: Self-Employment Rate of African Graduates by Year of Graduation (per cent)



Question 17: Please state the kind of your employer.

Studies of self-employment revealed various determinants of self-employment (for a review see Blanchflower, 2000). On the one hand, institutional factors including the labour market situation, fiscal, and social legislation, etc. play a decisive role. On the other hand there are individual factors including educational attainment, financial endowment, gender, and age, which influence one’s decision to be self-employed.

- *Gender* has been found to be an important factor of self-employment. Georgellis and Wall (1999) argue that primarily due to discrimination and child care concerns women are more prone to work as "self-employed" than men.
- The opportunity for self-employment also varies across *fields of study*. Some fields of study prepare for liberal professions that can well be exercised on a self employment basis (e.g. Medicine, Law) while others traditionally train graduates for professions less suited to self-employment (e.g. teacher education).
- Another important factor is doubtlessly the *family background* of the graduates. Establishing a business requires an initial capital, which may be substantial, and since a bank credit system is not so well developed in Africa, people may have to rely on family networks to raise the necessary capital.

Comparing the self-employment rate among graduates in term of their *gender*, we find that 7 per cent of male and 4 per cent of women graduates are self-employed.

The supposedly great advantages of the self-employment in allowing a flexible combination of career and family challenges seem, by them alone, not to be great incentive to women to give their preference to self-employment over a regular employment.

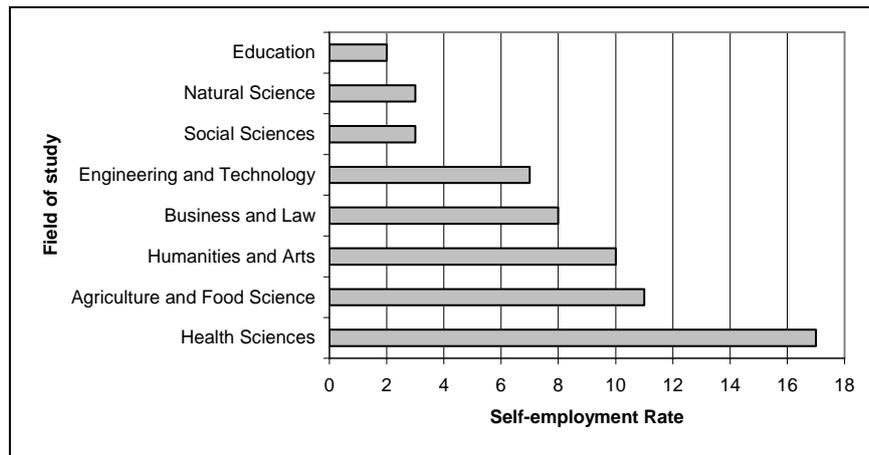
Although much has been written about the predominant role of women in business in Africa, the figures in Table 1 suggest that this may not be an accurate picture for the formal and highly-skilled occupational sector in which the graduates are more likely to establish their business.

Table 1: Employment Status by Gender (per cent)

	Self-Employed	Employed	Total
Male	7	93	100
Female	4	96	100
Total	6	94	100
Count (n)	(190)	(3064)	(3254)

Question 45: Gender.

Since self-employment opportunities vary across economic sectors and occupational groups, one can expect that the employment rate differs only across graduates' fields of study. In fact, as Figure 2 shows, self-employed graduates are unevenly distributed across fields of study. The self-employment rate among graduates from "Education", "Natural Sciences", and "Social Sciences" is lower than 3 per cent. It is also below average among graduates from "Engineering and Technology" and "Business and Law" (7 % and 8 %). Graduates of "Humanities and Arts" and "Agriculture and Food Sciences" are somewhat above average with a self-employment rate of 10 per cent and 11 per cent. Finally, "Health Sciences" is the field with the highest self-employment rate (17 %).

Figure 2: Self-Employment Rate by Field of Study

Question 17: Please state the kind of your employer.

Those findings may be explained by various factors. On the one hand, it is clear that Medicine and Law for example train professionals who can also work as self-employed, whereas Education trains mainly school teachers. On the other hand, the liberalisation scheme pursued in African countries affected many sectors and did not exclude sectors previously jealously held in monopoly by the state like the health sector. As it becomes easier to open private clinics or to open small scale food-distribution networks, many graduates are taking the opportunity.

Our data do not include either information on the respondents' financial endowment nor on the social network they may mobilise. However, the *educational attainment* can be taken as a fairly reliable proxy of the social background of the respondents. Therefore, differences of self-employment rates were analysed according to fathers' educational attainment (see Table 2).

Table 2: Educational Attainment of the Father by Employment Status (per cent)

	Self-Employed	Employed	Total
Less than completion of compulsory education	24,0	27,7	27,4
Compulsory education	20,5	16,5	16,8
Vocational/secondary education	32,2	34,5	34,4
Higher education degree	23,4	21,3	21,4
Total	100	100	100
Count	(171)	(2456)	(2627)

Question 44: What is the highest level of education attained by your parents?

Actually, the data show no noticeable differences of the father's educational attainment between the self-employed and employed.

4. Working Conditions of Self-Employed Graduates

To gauge the working conditions of the self-employed (in comparison to their counterparts in regular employment), we consider two aspects: the income achieved and the rating of the adequacy of the position held.

Self-employed graduates surveyed earn an average of 413 US \$ monthly while employed graduates earn 232 US \$. Comparing the median income – which is less sensitive to the values departing grossly from the mean – we find the income of the self-employed graduates (320 \$) to be almost twice as high as the monthly income of the employed graduates. Even when the country is controlled for, the pattern remains the same: the self-employed earn substantially more than the employed graduates.

Table 3: Monthly Gross Income by Employment Status (mean and median; US\$)

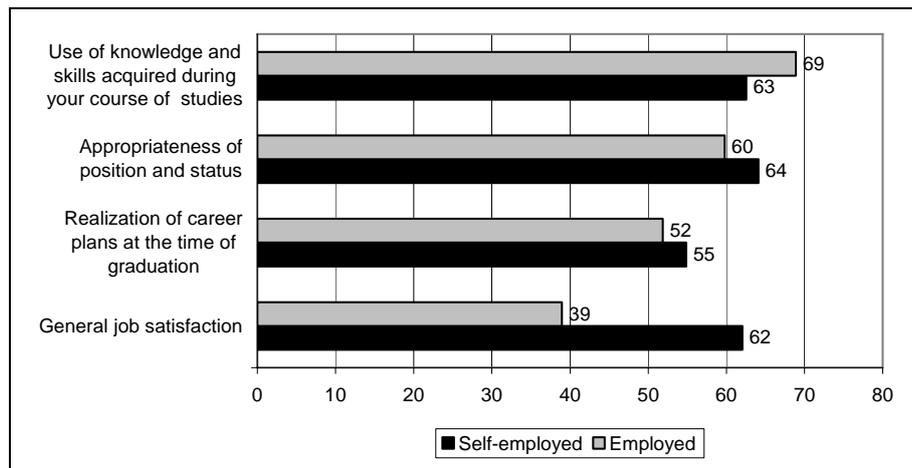
	Self-Employed	Employed	Total
Mean	413	232	238
Median	320	168	174
Count (n)	(112)	(3203)	(3315)

Question 25: How much is your monthly gross income?

It should be noted, however, that the earning difference can not be easily quantified, because the fringe benefits like housing reduce the difference. Also, some companies provide a health insurance to their employees, which in time of a rising AIDS death toll may prove even more valuable.

Four measures were employed to assess whether the *job held is "adequate" to the educational level attained*: the extent to which knowledge and skills acquired during the studies are used in the present job; the extent to which the expected career is realised; the appropriateness of the position and status; and the general satisfaction with the current job

The use of knowledge and skills acquired during the studies is an important indicator of the adequacy of the position held. It is often argued that self-employed graduates achieve a higher income because they concentrate on high-profit but low skill sectors like taxi driving, retail commerce, etc. 63 per cent of the self-employed, however, as compared to 69 per cent of the employed, indicate that they use the knowledge and skills gained during the studies to a high extent.

Figure 2: Adequacy of the Position Held (per cent 1 and 2)

Question 30: To what extent have you been able to realize the career you expected at the time of graduation? Scale from 1 = to a very high extent to 5 = not at all.

Question 31: When you look at your current work tasks altogether: to what extent do you use the knowledge and skills acquired during your course of studies? Scale from 1 = to a very high extent to 5 = not at all.

Question 32: To what extent is your position and status appropriate to your level of education? Scale from 1 = completely appropriate to 5 = not at all appropriate.

Question 35: Altogether, to what extent are you satisfied with your professional situation? Please take also into account in your statement any professional sidelines. Scale from 1 = to a very high extent to 5 = not at all.

Judging the *appropriateness* with respect to their level of education, 64 per cent of the self-employed respondents feel that their *position and status* is appropriate. Among employed graduates, this proportion is slightly lower (60 %).

Also, the self-employed graduates state slightly more often than employed graduates, that the *career plans* they had at the time of graduation are realized today (55 % as compared to 52 %). A striking difference, however, appears with regard to the *job satisfaction*. 62 per cent of the self-employed as compared to 39 per cent of the employed rate their job condition as satisfactory.

Summarizing the findings we note that self-employed graduates do not just accept any conceivable jobs in order to be better paid. Rather, they rate their work tasks almost as frequently as linked to their study, they consider their position slightly more often as adequate to their educational level. Similarly, they consider their career plans slightly more often as successfully realized. These factors altogether might explain why substantially more self-employed graduates surveyed are satisfied with their job than employed graduates.

5. Views on Self-Employment

Graduates were also asked how they view the differences of employment and working conditions of self-employed persons as compared to employed persons. As Table 4 shows, self-employed graduates believe that they have longer working hours, but otherwise have better working and employment conditions than employed persons.

Table 4: Rating of Self-Employment by Employment Status (per cent; responses 1 and 2)

	Self-employed	Employed	Total
Persons having their own business/being self-employed achieve a relatively high income	69	59	51
Persons having their own business/being self-employed have very long working hours	74	63	53
Graduates establish their own business/are self-employed mainly because they have not found any other employment	20	27	22
Higher education does not prepare graduates sufficiently for setting up their own business/to being self-employed	28	34	28
Favourable long-term job prospects exist for persons having their own business/being self-employed	72	51	52
Count (n)	(185)	(2816)	(3001)

Question 37: How far do you agree with the following statements concerning work in one's own business/being self-employed? Scale from 1 = completely applicable to 5 = not at all applicable.

The ratings differ most strikingly with respect to long-term job prospects. Almost three quarters among the self-employed say that there are favourable long-term job prospects for them. Only about half of the respondents among the employed graduates express the same view.

The respondents rate the higher education training in respect of establishing own business rather positively. Only 28 per cent adhere to the opinion that higher education does not prepare graduates sufficiently for setting up their own business. The proportion is however slightly higher among those who themselves are not self-employed (34 %).

6. Work Orientation

Finally, the Graduates were asked to state which aspects of their current work are important to them. They were given a set of 17 aspects to rate the importance on a five points scale.

Both self-employed and employed graduates stress the importance of using the acquired knowledge and skills and of the chance of doing something useful for society. Also both groups equally highlight the job security as an important feature of the job. Regarding those and most other aspects, there are rather small differences in the rating between the work orientation of self-employed graduates and those being employed.

There are however five aspects which are obviously rated differently by the two groups: The opportunity of pursuing own ideas is seen by 76 per cent of self-employed as important whereas for the employed graduates the corresponding proportion accounts only for 62 per cent. More self-employed than employed respondents appreciate the largely independent disposition of their work (64 % and 51 % respectively). In contrast, more employed graduates (71 %) than self-employed graduates (59 %) consider the opportunity for continuous learning as an important factor in their work. Understandably, the coordinating and managing job tasks are important for the self-employed. 68 per cent express this. This is more than among the employed (57 %). Finally, more than one third of the self-employed respondents (35 %) view the chances to influence politics as important as compared to one fifth (22 %) of the employed graduates (see Table 5).

Table 5: Work Orientation by Employment Status (per cent; responses 1 and 2)

	Self-Employed	Employed	Total
Largely independent disposition of work	64	51	52
Opportunity of undertaking scientific work	42	40	40
Clear and well-ordered tasks	64	64	64
Possibilities of using acquired knowledge	73	79	78
Job security	71	71	71
Social status and respect	70	64	64
Opportunity of pursuing own ideas	76	62	63
Good working atmosphere	69	64	64
Opportunity of pursuing continuous learning	59	71	70
High income	61	55	56
Chances of political influence	35	22	23
Demanding job tasks	60	57	57
Good career prospects	63	62	62
Lot of free time	30	27	27
Coordinating and management tasks	68	57	57
Possibility of working in a team	57	59	59
Chance of doing something useful for society	73	72	72
Count	(179)	(3034)	(3213)

Question 36: How important are the different characteristics of an occupation for you personally?
Scale from 1 = very important to 5 = not important at all.

7. Concluding Remarks

This chapter aimed at shedding light at self-employment among graduates in two African countries, Ghana and Nigeria, by using the data of the tracer studies sponsored by the Association of African Universities. As the universities are increasingly viewed as stakeholders in the process of fostering free enterprise in Africa, the study paid attention particularly to the retrospective rating of the training the university offer the self-employed and on the working conditions of the self-employed.

The study shows that graduates from Medicine and Agricultural Sciences are more prone to establish their own business. But also graduates from Humanities and Arts, Business and Law are among the self-employed graduates.

The survey shows that the average income of self-employed graduates is substantially higher than the income of employed respondents. The working conditions of self-employed and employed graduates are equally well rated by the respondents.

The training within higher education for self-employment is rated rather positively. About 70 per cent of the graduates did not agree with the statement "Higher education does not prepare graduates sufficiently for setting up their own business." This is an encouraging message, room for improvement notwithstanding. Altogether, the study shows that – according to the view of the graduates – self-employment is a viable alternative for graduates to the dependent employment.

The need for further research springs out of the limitations of this study outlined at the beginning. The findings reported here will have to be corroborated by other research. The data basis on self-employment of African higher education graduates will have to be improved, and themes of research have to be broadened. Especially, it would be interesting how self-employed perceive economy, labour market, and higher education policies regarding self-employment. Also, an in-depth analysis of the skills needed may help the universities to design courses helpful for those graduates who wish to be self-employed.

References

- Baldauf, B. and Lwambuka, L. (1989). *Tracer Studies*. Faculty of Engineering, University of Dar-es-Salam, Dar-es-Salam.
- Berman B. and Leys, C. (eds.) (1994). *African Capitalists in African Development*. Lynne Rienner Publishers. London.
- Blanchflower, D. G. (2000). "Self-Employment in OECD Countries." *Labour Economics* 7(5): 471-505.
- Daniels, L. (1998). "What Drives the Small-scale Enterprise Sector in Zimbabwe: Surplus Labor or Market Demand?" In Spring, A. and McDade, B. (eds.) *African Entrepreneurship. Theory and Reality*. Gainesville: The University Press of Florida.

- Ekong, D. (1998). "Sustainable Development and Graduate Employment: the African context." In Holden, A. et al. (eds.) *Graduate Prospects in a Changing Society*. Paris: Unesco Publishing, pp. 109-118.
- Georgellis, Y. and Wall, H.J. (1999): Gender Differences in Self-Employment: Panel Evidence from the former West Germany. Federal Reserve Bank of St. Louis, Working Paper 1999-008B.
- Holden A. et al. (eds.) (1998). *Graduate Prospects in a Changing Society*. Unesco Publishing. Paris.
- Holtkamp R. and Imsande J. (2001). *Selbständigkeit von Hochschulabsolventen: Entwicklungen, Situation und Potentiale*. Hannover: HIS Kurzinformation.
- Kalleberg A. (2000). "Non-Standard Employment Relations: Part-time, Temporary and Contract Work." *Annual Review of Sociology*, Vol. 26, 341-365
- Mkude, D., Cooksey, B., and Levey, L. (2003). *Higher Education in Tanzania. A Case Study*. Oxford: James Currey.
- Sanyal, Bikas C. (1987) *Higher Education and Employment. An International Comparative Analysis*. London. The Falmer Press.
- Spring A. and McDade B. (eds.). (1998) *African Entrepreneurship. Theory and Reality*. The University Press of Florida. Gainesville.
- Whitaker, B. E. (2001). "Association of African Universities Charts Goals for the 21st Century." In *International Higher Education*. No. 23, Spring 2001.

List of Contributors

Professor Erasmus Kaijage teaches Finance at the Faculty of Commerce and Management (FCM) at the University of Dar es Salaam (UDSM) Tanzania. He is an outgoing Faculty Dean of FCM after serving in that capacity for two triennia since 2000. Professor Kaijage has held various academic and administrative positions at the UDSM, including Headship of the Department of Finance and Associate Deanship of FCM. His publications include two text books on Financial Management; a book on “Entrepreneurship Research and Development in Africa: Achievements, Challenges and future Prospects”; and another titled “The FCM Graduate: A tracer study of the FCM graduates and their employers”. Prof. Kaijage is one of the founders and Governing Board member of the Association of African Business Schools.

Dr. Alexis-Michel Mugabushaka is science officer for corporate science policy and monitoring at the European Science Foundation in Strasbourg, France. He was previously program officer for evaluation and statistics at the German Research Foundation (DFG). He completed his PhD. in social sciences at the International Centre for Higher Education Research at the University of Kassel, Germany (INCHER-Kassel) where he was research associate in the areas of higher education and research systems, science policy and evaluation.

Dr. Kenneth Omeje is research fellow in the Africa Centre for Peace and Conflict Studies in the Department of Peace Studies at the University of Bradford, UK. Previously, he was a lecturer/research fellow in Politics and Development Studies at the University of Nigeria, Nsukka, and has held visiting research fellowship positions in various Universities in Europe and North America. His current research interests include extractive economies and conflict in the global South, post-conflict reconstruction and security in West Africa, and the crisis of postcoloniality in Sub-Saharan Africa. He is the author of “High Stakes and Stakeholders: Oil Conflict and Security in Nigeria” (Ashgate: Aldershot 2006).

Dr. Christy Omoifo is senior lecturer at the University of Benin, Nigeria. She works mainly on the role of education in the intercultural dialogue and has been recently a JSPS Fellow at Hiroshima University, Japan.

Harald Schomburg is a senior researcher at the International Centre for Higher Education Research (INCHER-Kassel) at the University of Kassel, Germany. He specializes in research on university graduates. He has been involved since many years in graduates surveys in various countries and has developed tools to plan, conduct and analyse such surveys effectively.

Professor Ulrich Teichler is Professor of Sociology at the University of Kassel, Germany and has been Director of the International Centre for Higher Education Research Kassel (INCHER-Kassel) for altogether 16 years. He has authored more than 900 works notably on higher education policy and higher education and work. He has served as a member in numerous national and international commissions on higher education and is on editorial boards of several journals on higher education. He served as member of a scientific committee of the Association of African Universities since 1994.

Appendix

Higher Education and Work

Survey of Graduates of the University XY

(CORE QUESTIONNAIRE)

→ [ADAPTATION to your design; include the cohorts, if applicable, up to 10 years after graduation]

Dear Graduates,

We kindly ask you to participate in a survey which is aimed at all graduates of the [ADAPTATION] Faculty Z of the University XY who graduated between 19XX and 19XX.

With the help of this survey we hope to attain a broad overview concerning the study programme, employment situation, occupation, and professional career of graduates from the University XY. For its future planning, the Faculty Z would like to take into account the experience and opinions of the graduates. We therefore ask you kindly to contribute to the success of this survey by your participation.

Signature and function (e.g. Dean)

Dear Graduates,

As head of the research group conducting the graduate survey in 19XX, I also wish to request your participation in the survey. The research group consists of collaborators of the Faculty Z.

As you will notice, your experiences during your studies as well as during your further professional life are being asked for in the questionnaire. We are much interested in your personal perception and experiences in order to obtain an overview of the strengths and weaknesses of the study programme and of the study conditions of the Faculty Z.

We assure you that your answers will only be used for scientific purposes in the framework of this survey. In the description of results of this survey no identification of individual persons will be possible.

YOUR INFORMATION WILL BE TREATED STRICTLY CONFIDENTIALLY.

The results of the survey will be published. If you wish, we will send you an overview of the most important results. Please return the completed questionnaire as soon as possible to the address mentioned below.

Thank you very much for your kind support.

Name and address of the head of the project

NOTES ON THE COMPLETION OF THE QUESTIONNAIRE

If possible, please answer each of the following questions.

If a question is not applicable to you, please go on to the question specified (e.g. ---> GO TO QUESTION 12).

If questions are itemised, please tick the most appropriate answer. In some cases we ask you for numbers only () and in others we leave space for you to write an answer (.....).

Should there not be enough space for your answers, please include an additional sheet of paper.

1. COURSE OF STUDY AT THE UNIVERSITY XY

1 Please, provide information on your study and training

→ [ADAPTATION: regarding the "area of specialisation" according to your design]

	Year	Course of study	Area of specialisation (if applicable)	Title and class (e.g. B.A. Hon.) (if applicable)
First enrolment in higher education	<u> </u>		
Sub-degree certification (if applicable)	<u> </u>
Bachelors' degree	<u> </u>
Professional training (if applicable)				
Start	<u> </u>
Completion	<u> </u>			
Masters' degree (if applicable)				
Start	<u> </u>
Completion	<u> </u>			
Ph. D. degree etc. (if applicable)				
Start	<u> </u>
Completion	<u> </u>			

2 How important were the following factors for your decision to enrol at the University of XY? Please respond to each factor on the five-point scale.

very impor- tant		not at all impor- tant				
	1	2	3	4	5	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Vicinity to home of parents etc.
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Availability of scholarships at this university
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Availability/quality of accommodation
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Attractiveness of town/state/region
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Reputation of the university/department
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Practice-oriented study program in my subject
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Areas of specialization provided, if applicable
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Admission standards and my prior grades
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Advise by my parents/relatives
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Other:

(please specify)

2. RETROSPECTIVE ASSESSMENT OF STUDY AT THE UNIVERSITY XY

Please answer also the questions in section 2 with regard to the YYY degree course.

➔ [ADAPTATION of this sentence regarding your design]

3 How do you rate the study provision and study conditions you experienced? Please rate each of the applicable options on a 5-point scale.

very good		very bad				
	1	2	3	4	5	
<input type="checkbox"/>	Assistance/advice for your final examination					
<input type="checkbox"/>	Opportunity of out of class contacts with teaching staff					
<input type="checkbox"/>	Academic advice offered					
<input type="checkbox"/>	Chances to participate in research projects					
<input type="checkbox"/>	Teaching quality of lecturers					
<input type="checkbox"/>	Structure of degree program					
<input type="checkbox"/>	Testing/grading system in examinations					
<input type="checkbox"/>	Possibility of individual structuring of studies					
<input type="checkbox"/>	Provision of supervised practical work experience					
<input type="checkbox"/>	Contacts with fellow students					
<input type="checkbox"/>	Chance for students to have an influence on university policies					
<input type="checkbox"/>	Availability of technical equipment (e.g. PC, measuring instruments, etc.)					
<input type="checkbox"/>	Quality of equipment of laboratories/workshops					
<input type="checkbox"/>	Supply of teaching material					
<input type="checkbox"/>	Equipment and stocking of libraries					
<input type="checkbox"/>	Accommodation facilities on the campus					
<input type="checkbox"/>	Catering facilities on the campus					
<input type="checkbox"/>	Quality of the buildings					

3. AFTER GRADUATION

The following questions refer to the period after graduation [ADAPTATION]

4 Please indicate your employment situation and your occupation after being awarded your **YYY** at the University **XY**.

→ [ADAPTATION according to your design]

Please tick only one appropriate category for each line.

If your employment situation changed during the respective period or if you were involved in different activities (e.g. studying and working), please name the most frequent one.

Period after graduation	Employed	Professional training	Advanced academic study	Not employed, seeking employment	Not employed and not intending to be employed	Other	Comments
1st year Jahr							
1st month	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
2nd month	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
3rd month	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4th month	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
5th month	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
6th month	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
7th month	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
8th month	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
9th month	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
10th month	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
11th month	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
12th month	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
2nd year	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
3rd year	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4th year	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
5th year	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
6th year	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
7th year	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
8th year	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
9th year	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
10th year	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
11th year	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

5 How did you get for your first employment after graduation? *Multiple reply possible*

- Manpower allocation
- Application to vacant position
- My own advertisement
- Public employment agency
- Private employment agency
- University's placement office
- University's teaching staff
- Employers' campus visits
- Contacts established to employers through work experience in the course of study
- Contacting employers without knowing about a vacancy
- The employer offered me a vacancy
- I set up my own business/was self-employed
- Joining the enterprise of my parents/relatives
- Personal connections/contacts
- Through parents'/relatives' help
- I am working for the same employer as I did before my studies
- I have not found yet any employment

- I became self-employed

- Other:
(please specify)

6 When did you start seeking a job?

- 1 Before graduation
- 2 After graduation
- 3 I did not seek employment

- 4 Other:
(please specify)

7 How long did it take you to find your first job after graduation?

___ Years and ___ Months

- 1 Not applicable, no job found up to now
→ PLEASE GO TO QUESTION 11

8 How many employers did you contact before you took up your first job after graduation?

___ Numbers

9 In your opinion, how important were the following factors for your being employed?

→ [ADAPTATION to your design, see item 3 and 10]

- | | | |
|-------------------|-------------------------|---|
| very
important | not at all
important | |
| 1 | 2 | 3 |
| 4 | 5 | |
- Field of study
 - Main focus of subject area/ specialization
 - Theme of thesis/projects, if applicable
 - Grades at the university
 - Reputation of the university
 - Reputation of the department
 - Previous work experience
 - Personality
 - Experiences abroad
 - My own world view, religion etc.

 - Other:
(please specify)

10 What kind of initial training did you receive for your first job after graduation?

- 1 No training
- 2 Only on the job training
- 3 Training including off-the job courses etc.

- 4 Other:
(please specify)

Please specify, if applicable, type and duration of the training:

Type/name:

Duration: ___ Weeks

4. CURRENT EMPLOYMENT AND WORK

If you work in more than one job, please refer only to the one which is most important to you unless explicitly questioned otherwise.

11 How many times did you change the employer/employment since your graduation?

- 1 Never
- changes

12 What is your current employment status?

- | Major activity | Additional activities |
|----------------------------|--|
| 1 <input type="checkbox"/> | <input type="checkbox"/> Employed (including self-employed, traineeships, etc.) |
| 2 <input type="checkbox"/> | <input type="checkbox"/> Professional training |
| 3 <input type="checkbox"/> | <input type="checkbox"/> Advanced academic study |
| 4 <input type="checkbox"/> | <input type="checkbox"/> Not employed, but seeking employment |
| 5 <input type="checkbox"/> | <input type="checkbox"/> Without employment, and not intending to be employed (e.g. raising children, illness) |
| 6 <input type="checkbox"/> | <input type="checkbox"/> Military service/community service, etc. |
| 7 <input type="checkbox"/> | Other:.....
(please specify) |
| | <input type="checkbox"/> Other:.....
(please specify) |

IF NEITHER EMPLOYED NOR OTHERWISE PROFESSIONALLY ACTIVE --> GO TO QUESTION 36

13 In which region are you working?

→ [ADAPTATION to your study]

- 1 (Please insert country-specific list)
- 2
- 3

14 How long have you been working?

with the present employer:

Years and Months

in your present position:

Years and Months

15 What is your present job title (specific designation)? Please state the precise term, e.g. construction engineer, production engineer, etc.

→ [ADAPTATION of the examples]

.....
(please specify)

16 Please outline your professional tasks/job description (e.g. production management and supervision)

→ [ADAPTATION of the examples]

.....
(please specify)

17 Please state the kind of your employer? Please tick one item only

- 1 Public employer
- 2 Private employer
- 3 Self employed
- 4 Other:

18 Please specify the name of your current company/organisation.

.....
(please specify)

19 In which economic sector are you currently employed or otherwise professionally active? Please tick one item only. The answer should only concern your main occupation.

→ [ADAPTATION to your study]

- 1 Agriculture, forestry, fishery
- 2 Mining, energy, water supply etc.
- 3 Construction
- 4 Production industry
- 5 Transportation
- 6 Banking, finance, insurances
- 7 Trade
- 8 Other commercial services
- 9 Health care
- 10 School
- 11 University
- 12 Non-profit organization
- 13 Public administration
- 14 Other:
- (please specify)

20 What is your current major area of work assignment? State the single most important one in the column “major activity” and eventually further one or more in the column “additional activities”..

→ [ADAPTATION]

	Major activity	Additional activities	
01	<input type="checkbox"/>	<input type="checkbox"/>	Supervision of production facilities/maintenance
02	<input type="checkbox"/>	<input type="checkbox"/>	Training/teaching
03	<input type="checkbox"/>	<input type="checkbox"/>	Export
04	<input type="checkbox"/>	<input type="checkbox"/>	Preparatory/supervisory function in construction
05	<input type="checkbox"/>	<input type="checkbox"/>	Construction/design
06	<input type="checkbox"/>	<input type="checkbox"/>	Advisory services/consulting
07	<input type="checkbox"/>	<input type="checkbox"/>	Maintenance and repair of production facilities
08	<input type="checkbox"/>	<input type="checkbox"/>	Controlling
09	<input type="checkbox"/>	<input type="checkbox"/>	Data processing
10	<input type="checkbox"/>	<input type="checkbox"/>	Production
11	<input type="checkbox"/>	<input type="checkbox"/>	Preparation of production
12	<input type="checkbox"/>	<input type="checkbox"/>	Research and development
13	<input type="checkbox"/>	<input type="checkbox"/>	Estimating/costing
14	<input type="checkbox"/>	<input type="checkbox"/>	Management
15	<input type="checkbox"/>	<input type="checkbox"/>	Marketing
16	<input type="checkbox"/>	<input type="checkbox"/>	Market research
17	<input type="checkbox"/>	<input type="checkbox"/>	Materials management
18	<input type="checkbox"/>	<input type="checkbox"/>	Measurement and testing technology
19	<input type="checkbox"/>	<input type="checkbox"/>	Installation/commissioning
20	<input type="checkbox"/>	<input type="checkbox"/>	Standardisation and licensing
21	<input type="checkbox"/>	<input type="checkbox"/>	Personnel affairs
22	<input type="checkbox"/>	<input type="checkbox"/>	Planning of functions/use of buildings/plants
23	<input type="checkbox"/>	<input type="checkbox"/>	Planning and organisation
24	<input type="checkbox"/>	<input type="checkbox"/>	Project management
25	<input type="checkbox"/>	<input type="checkbox"/>	Accountancy, finance
26	<input type="checkbox"/>	<input type="checkbox"/>	Settlement/preparation of accounts
27	<input type="checkbox"/>	<input type="checkbox"/>	Tax affairs
28	<input type="checkbox"/>	<input type="checkbox"/>	Security engineering
29	<input type="checkbox"/>	<input type="checkbox"/>	System analysis
30	<input type="checkbox"/>	<input type="checkbox"/>	Environmental engineering
31	<input type="checkbox"/>	<input type="checkbox"/>	Processing development
32	<input type="checkbox"/>	<input type="checkbox"/>	Sales
33	<input type="checkbox"/>	<input type="checkbox"/>	General office work
88	<input type="checkbox"/>	<input type="checkbox"/>	Other:

21 How many employees are working for the company/organisation you work for? If you don't know the exact number, please estimate.

Approx persons altogether

Approx Of these persons holding a university degree

Approx graduates in my subject area

Approx graduates in my subject area from my university

22 Are you employed full-time?

→ [ADAPTATION: optional question]

- 1 Yes
- 2 No, my major job comprises hours per week
- 3 Not applicable, I have my own business/I am self-employed

23 Do you have subordinates?

- 1 No
 - 2 Yes
- If "yes", please state the number of subordinates

subordinates

of these subordinates hold a university degree

24 Do you have any other gainful activity?

- 1 Second occupation
- 2 Side jobs, honorarium, sales etc.
- 3 No
- 4 Not applicable, I have my own business/I am self-employed

25 How much is your monthly gross income?

From major occupation:

Amount Currency

From other sources:

Amount Currency

26 What kinds of fringe benefits do you receive? *Multiple reply possible*

- Housing (accommodation, grants for rent etc.)
- Transportation (company car, subsidies for transportation etc.)
- Health (insurance, subsidies to costs incurred, etc.)
- Education/training (subsidies for own or family members, etc.)
- Retirement (pension, down-payment etc.)

- Other:
- No fringe benefits
- Not applicable, I have my own business/I am self-employed

6. JOB REQUIREMENTS AND USE OF QUALIFICATIONS

27 To what extent do you use knowledge acquired during your studies in the following areas (if applicable) for your current job?

→ [ADAPTATION: samples given for engineers]

to a
very high extent
1 2 3 4 5

- Scientific and technical knowledge**
- Mathematics
 - Natural sciences (physics, chemistry), material science
 - Ecology and conservation
 - Theoretical basics of engineering sciences (technical mechanics, thermodynamics, structural engineering, electrical engineering, etc.)
 - Operation, measurement, and control technology
 - Applied technical fields (technical sets, machine systems, installations, connections)
- Knowledge of methods**
- System analysis and optimization
 - Planning, design, calculation, and construction (product- and process-oriented)
 - Experimental and practical working
 - EDP application (CAD, CIM, etc.)
- Knowledge of non-technical areas**
- Social sciences (psychology, sociology, politics)
 - Economics (finances, costing, etc.)
 - Law (elements relevant to discipline/subject)
 - Knowledge of the English language

28 To what extent are the following abilities and attitudes expected from you in your current job?

to a
very high extent
1 2 3 4 5

- not at all
- Willingness to learn
 - Ability to solve problems
 - Reflective capability
 - Ability to express yourself in writing
 - Unconventional thinking
 - Willingness to perform/commitment
 - Ability to coordinate
 - Ability to improvise
 - Reliability
 - Ability to work under pressure
 - Independence
 - Sense of responsibility
 - Creativity
 - Economic reasoning
 - Determination
 - Loyalty to the institution and its objectives
 - Persistence
 - Ability to cooperate
 - Ability to assert myself
 - Self-confidence
 - Adaptability
 - Empathy
 - Leadership qualities
 - Initiative

29 How useful did the following elements of the study programme prove for your current work? Please rate each of the applicable options on a 5-point scale.

very useful
1 2 3 4 5

- not at all useful
not applicable
6
- Course content of major
 - Variety of courses offered
 - Opportunity for specialization
 - Research emphasis
 - Practical emphasis of teaching and learning
 - Work experience (internships etc.)

30 To what extent have you been able to realise the career you expected at the time of graduation?

to a very high extent					not at all
1	2	3	4	5	
<input type="checkbox"/>					

31 When you look at your current work tasks altogether: to what extent do you use the knowledge and skills acquired during your course of studies?

to a very high extent					not at all
1	2	3	4	5	
<input type="checkbox"/>					

32 To what extent is your position and status appropriate to your level of education?

completely appropriate					not at all appropriate
1	2	3	4	5	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

33 If you consider your employment and work hardly being linked to your knowledge and your level of education: why did you take it up? *Multiple reply possible*

- At the beginning of the career envisaged I have to accept work hardly linked to my study
- My current job ensures a higher income
- In doing this job I have better career prospects
- I prefer an occupation which is not closely connected to my studies
- I prefer a job not clearly linked to my studies
- My current work is very satisfactory
- I was promoted to a position less linked to my studies than my previous positions
- My current job provides the opportunity for part-time/flexible schedules etc.
- My current job provides the opportunity to work in a locality I prefer
- My current job allows me to take into account family needs
- I could not find any job closely linked to my study
- Other:
(please specify)
- Not applicable (I consider my job linked to my studies)

6. ASSESSMENT OF EMPLOYMENT AND WORK

34 To what extent are you satisfied with the following characteristics of your professional situation?

to a very high extent					not at all	
1	2	3	4	5		
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Content of work/the professional tasks
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Working atmosphere
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Job security
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Possibility to use knowledge and skills acquired during my studies
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Possibility to work in a demanding job
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Position achieved
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Income
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Promotion prospects
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Opportunity to benefit society
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Chance of realizing my own ideas
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Fringe benefits
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Opportunity of pursuing continuous learning
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Equipment of the workplace
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Workplace surroundings (noise, space, climate, etc.)
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Equal treatment of all employees

35 Altogether, to what extent are you satisfied with your professional situation? *Please take also into account in your statement any professional sidelines.*

to a very high extent					not at all
1	2	3	4	5	
<input type="checkbox"/>					

36 How important are the different characteristics of an occupation for you personally?

- | | | |
|------------------------|------------------------------|---|
| very
impor-
tant | not at all
impor-
tant | |
| 1 | 2 | 3 |
| 4 | 5 | |
- Largely independent disposition of work
 - Opportunity of undertaking scientific work
 - Clear and well-ordered tasks
 - Possibilities of using acquired knowledge
 - Job security
 - Social status and respect
 - Opportunity of pursuing own ideas
 - Good working atmosphere
 - Opportunity of pursuing continuous learning
 - High income
 - Chances of political influence
 - Demanding job tasks
 - Good career prospects
 - Lot of free time
 - Coordinating and management tasks
 - Possibility of working in a team
 - Chance of doing something useful for society

37 How far do you agree with the following statements concerning work in one's own business/being self-employed?

- | | | |
|-------------------------------|-------------------------------|---|
| completely
appli-
cable | not at all
appli-
cable | |
| 1 | 2 | 3 |
| 4 | 5 | |
- Persons having their own business/being self-employed achieve a relatively high income
 - Persons having their own business/being self-employed have very long working hours
 - Graduates establish their own business/are self-employed mainly because they have not found any other employment
 - Higher education does not prepare graduates sufficiently for setting up their own business/to being self-employed
 - Favourable long-term job prospects exist for persons having their own business/being self-employed

38 What kind of career changes do you anticipate within the next three years?
Multiple reply possible

- I anticipate ...
- to change my employer
 - to change my area of work assignment
 - to restart full-time study
 - to study part-time
 - to increase side-job activities
 - to reduce side-job activities
 - to start my own business
 - not to be self-employed any longer
 - to get employed
 - to discontinue employment
 - to achieve a career advancement
 - to achieve a more secure employment
 - to achieve better use of my knowledge
 - to obtain higher income
 - to take over a less strenuous assignment
 - to obtain a better chance of pursuing continuous learning
 - to take over a job more closely linked to my study and experience
 - other:
 - (please specify)
 - no major change

7. CONTINUING EDUCATION AND TRAINING

39 What kind of (organised or informal) continuing education and training (i.e. other than initial training and professional training referred to above) have you undertaken since graduation?

-
-
-
-
- 1 No continuing education

8. SOCIO-BIOGRAPHIC DATA

Please provide details about yourself in order to enable us to interpret your work biography as accurately as possible.

40 Year of birth

19

41 Country of birth/residence/...

→ [ADAPTATION]

.....
(please enter)

42 Did you complete any training prior to your first enrolment?

1 Yes

If YES, specify.....

2 No

43 Were you employed prior to your first enrolment?

1 Yes Years Months

2 No

44 What is the highest level of education attained by your parents?

→ [ADAPTATION]

	Father	Mother	
1	<input type="checkbox"/>	<input type="checkbox"/>	Less than completion of compulsory education
2	<input type="checkbox"/>	<input type="checkbox"/>	Completion of compulsory education
3	<input type="checkbox"/>	<input type="checkbox"/>	Further secondary or vocational education
5	<input type="checkbox"/>	<input type="checkbox"/>	College enrolment without degree
6	<input type="checkbox"/>	<input type="checkbox"/>	Bachelor's degree
7	<input type="checkbox"/>	<input type="checkbox"/>	Advanced degree
8	<input type="checkbox"/>	<input type="checkbox"/>	Don't know

45 Gender

1 Male

2 Female

9. CONCLUDING COMMENTS

46 In your opinion, what were the strengths of the study conditions and provision at the time you were enrolled at the [ADAPTATION] University/Department?

.....
.....

47 And what were the weaknesses?

.....
.....

48 Taking into account your professional experiences: what changes do you suggest in the study conditions and provisions?

.....
.....

49 What kind of connections/contacts do you have to the Faculty Z respectively to the University XY and how should connections/contacts be fostered between the Faculty Z respectively the University XY and its graduates?

Multiple reply possible

Current contact	Suggested contact	
<input type="checkbox"/>	<input type="checkbox"/>	Newsletter
<input type="checkbox"/>	<input type="checkbox"/>	Graduate meetings
<input type="checkbox"/>	<input type="checkbox"/>	Foundation/support of a graduates' association
<input type="checkbox"/>	<input type="checkbox"/>	Stimulation of professional co-operation
<input type="checkbox"/>	<input type="checkbox"/>	Help regarding professional and social problems
<input type="checkbox"/>	<input type="checkbox"/>	Other:

50 What is the best way of promoting contacts between the university and the graduates?

.....
.....

Thank you very much for completing the questionnaire.

[The slip with address is OPTIONAL]

Please enter your name and address or name and address of your employer in the appropriate space in order to enable us to send you - if you wish - an overview of the results of this survey.



This slip will be cut off (for data protection) immediately after receipt of the questionnaire



Please tick this box if you are interested in receiving the report of the results

	Own address	Address of the employer
Name, first name (maiden name)		
Street or PO Box		
Town		
Country		