

Higher Education and Economic Development in Mozambique: Monitoring as a tool for information

Adriaan Hofman

W.H.A.Hofman@rug.nl

Professor in Education Studies

University Groningen

Erasmus University Rotterdam, The Netherlands

Abstract

In this paper the importance of higher education for economic development in Africa is emphasized. Furthermore, the relevance of the availability of reliable and valid information about education outcomes for the functioning of higher education is stressed with a focus on the role of tracer studies. Finally, the role of University of Groningen in North-South inter-university cooperation is addressed.

Key words: Higher Education, Economic Development, Tracer Study, North-South Interuniversity Cooperation

Resumo

Este artigo salienta a importância do Ensino Superior para o desenvolvimento económico em África. Além disso, a relevância da disponibilidade de informação fidedigna e válida, sobre os resultados educacionais para o funcionamento do Ensino Superior, é salientada com foco no papel de estudo de *tracer* (o ingresso dos graduados no mercado de trabalho). Finalmente, o artigo trata do papel da Universidade de Groningen (Países Baixos) na cooperação inter-universitária Norte-Sul.

Palavras-chave: Ensino superior, Desenvolvimento Económico, Estudo *Tracer*, Cooperação Universitária Norte-Sul.

Introduction

Higher education has positive effects on economic development. United Nations (former) Secretary General Kofi Annan, in a speech on higher education in 2003, argued that the university must become a primary tool for Africa's development in this century. 'Universities can help develop African expertise; they can enhance the analysis of African problems; strengthen domestic institutions; serve as a model environment for the practice of good governance, conflict resolution and respect for human rights, and enable African academics to play an active part in the global community of scholars' (Bloom, Kenning and Chan, 2006). Bloom et al. (2006) examine the impact of tertiary education on economic growth. Their analysis suggests that increasing tertiary education may be important in promoting faster technological catch-up and improving a country's ability to maximize its economic output. Increasing the stock of tertiary education in Africa by one year would lead to an income growth of 0.63 percent in the first year and to an income growth of roughly 3 percent after five years. Other analysis conducted by Barro and Sala-i-Martin (1995) and Jenkins (1995) even give higher estimates of income growth due to changes in years of higher education. As a consequence, Bloom states that 'investing in tertiary education in Africa may accelerate technological diffusion, which would decrease knowledge gaps and help reduce poverty' (Bloom et.al., 2006, pg. 33).

However, this has not always been the dominant point of view. The conclusions of Bloom and others imply a break with traditional findings of the human capital approach, in which the highest rates of return come from primary and secondary education (Psacharolopulos and Patrinos, 2002). In the traditional vision, only the private rates of return increase slightly for tertiary education. The social returns are estimated lower when the level of education is higher. The reason for this lies in the higher societal (state) costs of higher education. As a result, private returns of higher education are higher than social returns. Over a long period of time this belief has been the basis for a World Bank policy in favour of more investments in primary and secondary education and a neglect of higher education. The investments of the World Bank worldwide in higher education dropped from 17 percent of the education budget in the period 1985-1989 to a mere 7 percent in the period 1995-1999. From 2000 onwards there is a shift in policy towards more support for higher education, as a vehicle or an instrument for economic growth.

For higher education in general and in particular for our joint Catholic University of Mozambique (UCM)/University of Groningen (UoG) project these developments are relevant. The World Bank and other donor organizations now follow a multi-pronged strategy in which it is understood that all levels of education are important. They acknowledge the potentially positive impact of investments in higher education on economic development. Secondly, research shows that investments in beta education (math, science, engineering) and economic performance are significantly correlated (Hanushek & Woessman, 2007). Third, the Knowledge Economy Index (KEI), developed by the World Bank, benchmarks countries' performance on four aspects of the knowledge economy (favourability for knowledge development, education, innovation and

information and communications technology). Some African countries have lost ground during the period 1995-2012, such as Ivory Coast, others, among which Ghana, have relatively improved. Mozambique scored relatively stable over the 1995-2012 period (1995: 131, 2012: 130). In the most recent KEI-index (2012) Mauritius and South Africa are at the top within Africa, while Sierra Leone, Angola and Eritrea are at the bottom of this indicator distribution. In the African context Mozambique reaches position 22 in 2012 (World bank, KEI, 2012).

What are more specifically the challenges for higher education in Africa and Mozambique in which our project can play its role? Interestingly the African Union (2010) recently presented an overview of these challenges. I mention only those that are directly related to the objectives of our project:

- The necessity to enhance the quality of higher education especially where it is related to outdated curricula that are not regularly reviewed to accommodate the needs of the labour market
- Further development of a good functioning quality assurance system. The basic issue being: how to move from state control to state supervision, or how to get the state at a distance, and at the same time assure internal and external accountability of higher education? Quality assurance involves both internal and external evaluation mechanisms. Most tertiary institutions do not have comprehensive mechanisms for monitoring internal quality yet. So, there is urgency for tertiary institutions to set up well-resourced quality assurance units to monitor academic and professional programmes.
- To enhance and extend research capacity and quality in African universities.
- A final challenge concerns the issue of higher education funding mechanisms also in relation to the on-going privatization and differentiation trends. What funding model to use: input financing, output financing, a mix of both, research based and/or education based models, etc. These are important issues in current higher education systems.

The need for information in higher education: towards monitoring systems

It is only possible to improve higher education and to show the successes if there is sufficient reliable and relevant information available about education outcomes. It is fair to say that at present in many African countries and universities there is no reliable data base available regarding the ultimate disposition of graduates from the higher education system. In other words: we have no clear view on how long it takes for graduates to find a job, where they find work, what the nature and level of this work is, how they function in their jobs, what the relation is between their job and the studies they have followed at the university and so on.

Monitoring is generating information and implementing developments that are of concern for universities and polytechnics, transparent for all stakeholders. In this perspective two monitoring instruments have been developed: the tracer study and the employer survey. With the help of data collected with these instruments, the different stakeholders will have more information about the labour market for higher education graduates. We expect that on the basis of this information, individual graduates and institutions (supervisory bodies, universities and polytechnics, employers) will be able to make better informed decisions concerning, respectively, personal steps in education, the development of curricula, the composition of the workforce in combination with other capital.

A tracer study is a method to determine what happens to graduates from the higher education system and how they perform in their (first) job(s). As to provide answers on these crucial questions it is important to conduct a survey among cohorts of graduates and collect data from a large number of respondents. Also, it is important to repeat the survey frequently, as to be able to judge in what direction the labour market, the quality of study programs of universities and polytechnics, or the quality of work for graduates are developing over a longer period of time. Relevant experience in the field of tracer studies can be found in various European countries, e.g. the website of the German Ministry of Education¹ and the Dutch questionnaire for Graduates of Higher Education².

There are several African experiences with graduate studies. For example in Tanzania a few tracer studies have been conducted that traced employment careers of former students. The tracer study by Kaijage (2000) sought feedback from Faculty of Commerce and Management (FCM) graduates and their employers on the relevance of the 13 programs on offer at that Faculty. Specific information sought included graduates employment status and the relevance, strengths and weaknesses of their training. The research found that Bachelor in Communication (BCom) graduates generally considered the strong contacts between students to be the greatest benefit of the course, followed by the quality of FCM lectures and the sound structure of the BCom program.

This study was carried out after realizing that for two decades the FCM had no formal feedback from neither graduates or from employers, regarding the relevance, usefulness, shortcomings, strengths and weakness of its programs. Therefore the FCM had no basis from which it can mirror itself. The Faculty did not know how its graduates were performing in their jobs neither did it know the strengths and weakness of its programs as perceived by graduates and by employers.

A more recent tracer study by Mukyanuzi (2003) was a longitudinal study focusing on the employment and training histories of graduates. In addition to understanding what the

¹ Bundesministerium für Bildung und Forschung (April 2004)
http://deutschland.dasvonmorgen.de/pub/his_projektbericht_12_03.pdf

² ROA (2005) HBO Monitor 2004, <http://www.hbo.nl/>

graduates were doing at the time of their study, it also traced the kinds of employment and training activities they have been involved in since leaving college or school. Such observations were made so as to note how long it took to secure formal employment.

In a Malawi study by Kadzamira (2003) it was found that wastage of secondary school leavers occurs for an important part through deaths and overseas migration. Overall, 16 percent of the 1990 cohort and 4 percent of the 1995 cohort deceased while 10 percent were living abroad at the time of survey. Of the school leavers currently located within the country very few were located in rural areas. Almost all the traced university graduates were in paid employment by mid – 2001. The incidence of paid employment was over 90 percent of each of the cohorts. Only 2 percent of the university graduates were self-employed and unemployment was negligible.

Wastage of university graduates through deaths and external migration was quite considerable. Mortality rates were very high, particularly among the 1980s cohorts with 26 percent of the 1980 and 19 percent of the 1987 graduates being deceased at the time of the survey. The main destination of the graduates living abroad were North America, Europe (especially the United Kingdom), South Africa and Botswana.

A study in Zimbabwe by Ncube (2003) has generated a wealth of detailed information on the employment and other outcomes of university and secondary education in Zimbabwe. The information that has been collected on the employment outcomes of university graduates challenges a number of common misconceptions about the overall value of higher education. In particular, there is no evidence to show that graduates were seriously unemployed and almost all of them were in training-related employment at least up until the time of the survey in mid-2001. Another key finding is the relatively limited extent to which graduates have been at the forefront of private sector development in the country. The study also highlights the need for major reform of all aspects of secondary and university education in Zimbabwe. In particular, curricula should be relevant, practical and responsive to individual learning needs so that young people are properly prepared to face the multiple challenges of a rapidly changing socio-economic environment, both locally and globally. While improved information technology, management and entrepreneurship training are very important, the top priority in secondary education should be to improve learning outcomes in the core language and numeracy competencies.

There is also relevant experience with graduates' research in Ghana (Boahin, Kamphorst & Hofman, 2010). In Ghana, polytechnic students can choose between more than 20 study programs. On average three years after enrolment about 60-70% of the students graduate, and one year later after finishing National (Military) Service they are ready for 'take off' on the labour market. This means that they start searching for a job, for which they can apply different strategies. Some do it in a systematic way by scrolling through adverts in daily newspapers, others search for a job on the internet or try to involve family, friends or other relationships in their search for a job. Factors that are possibly of influence on their chance of finding a job are: the region and the sector in which they search, the study program in which they graduated, the development of the market and accordingly the development of employment in companies

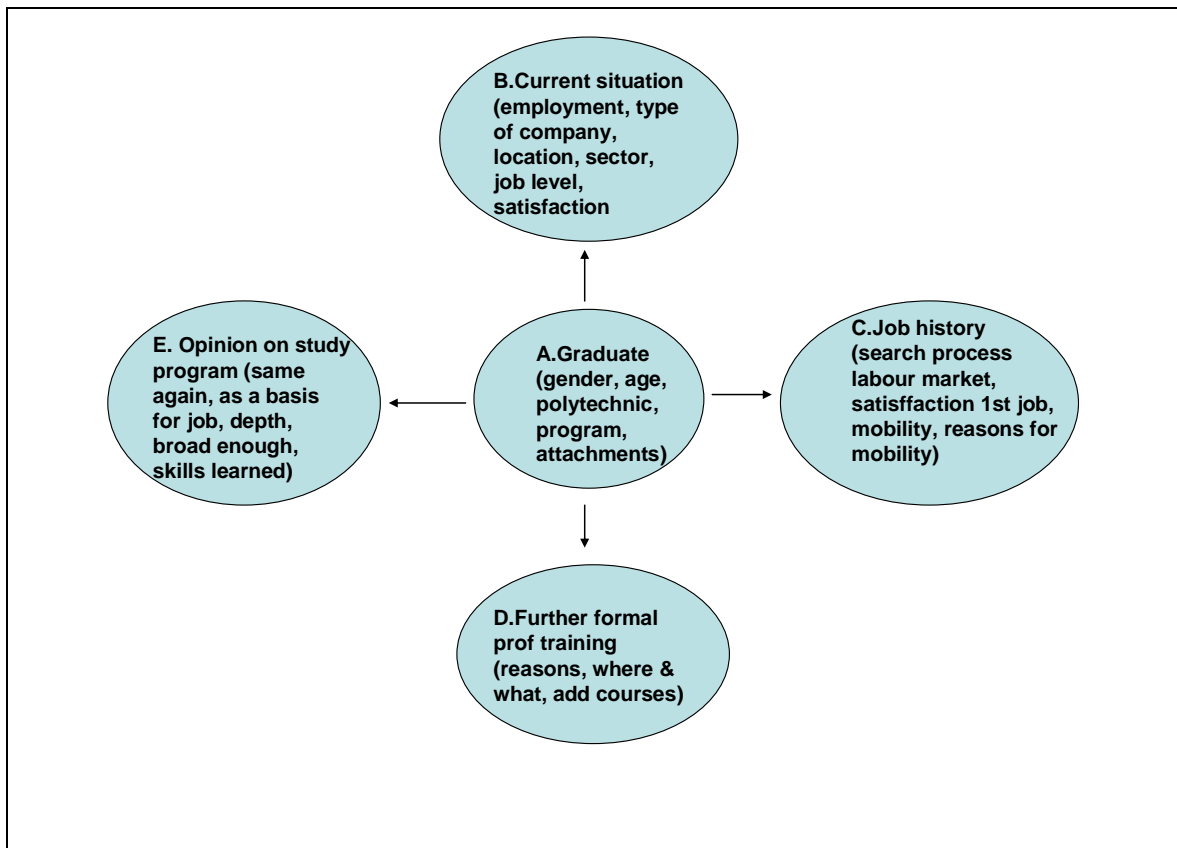
where they look for work. But also factors that are more related with the study program. Did they have opportunities to do one or two apprenticeships that were relevant to a future job? Irrespective of this, was the training practical enough? Was the program directed at the sector in which they searched for work and was the qualification level in accordance with the jobs they applied for? Personal factors will also play a role in the job search process: the importance of a societal career with a large income, in relation to the degree to which they are interested in the contents of a job and the right use of their capabilities, and the opportunities a job offers them to have a pleasant life with family and friends (Sen, 1999). The Ghanaian tracer study showed that the labour market for polytechnic graduates in Ghana is shifting from traditional sectors (agriculture) to sectors that are associated with the knowledge economy, together with shifts of economic activity from rural to urban areas and from peripheral to central areas of the country. It appeared that between 30% and 47% of graduates were satisfied with the location of their current jobs and the place of study, and between 30% to 45% indicated that their current job and location of study were acceptable to them. Less than 10% of the graduates indicated that there were very dissatisfied with their current job and their place of work.

From the perspective of equal opportunities it is important that the odds of finding a job at the appropriate level in the desired region, is the same for all graduates, regardless of the location where they received their polytechnic training. The tracer study showed that on average 60% of the graduates did find work in the region of their study. A strikingly different picture is seen in Eastern and Volta regions where only 19.2% takes employment in the same region of study. It is also observed that about 30% of the graduates migrate from their region (periphery) of study to Greater Accra (centre) for employment opportunities. The study shows 28% of both males and females of the polytechnic graduates undertake professional formal training after finishing their program. About 33% of the graduates from the business programs undertake further formal training after finishing their study program, while from those from the engineering and applied arts science and technology 25% and 19% were involved in further training. This is only a small part of the rich information a tracer study, when conducted in the right manner, generates. The information can play an important role in adapting and improving the curricula as well as in formulating accurate institutional and national policies.

Some elements of a tracer study

The data in a tracer study will be collected by means of a questionnaire. The structure and contents of the questionnaire are presented in Figure 1.

Figure 1: Structure and contents of a tracer study



The figure makes clear that on the basis of the data that will be collected with this instrument, information will be generated that is useful for all the stakeholders involved. Some examples of relevant questions from the perspectives of different stakeholders are presented:

Aspirant students:

- What is the chance to find a job if am going to choose for study program X?
- What are the chances that I will have to look for a second job, once I have graduated and found a first job?
- What training quality can I expect if I choose study program X in location Y?
- What are the chances of finding a job in the region where I live, after I have graduated?

Government agencies:

- Are there signals from the demand side that graduates who have chosen study program A, have difficulties in finding a job in their field of study?
- What is the quality of curricula seen through the eyes of graduates?
- Are there signals from further professional training or additional courses that polytechnic study programs should adapt their curricula?
- What is the effect of curriculum innovation on the job satisfaction of graduates?
- Ifs the demand for graduates in certain regions is in- or decreasing, what does this mean for regional economic development?

Employers:

- Which graduates from which study program can we select if we want to be sure that the graduates is immediate employable?
- What skills/competencies are appreciated most by graduates?

Labour market:

- Is the information for employers and for graduates on demand for and supply of labour clear and transparent?

In general, we conclude that tracing graduates, as one of the means for monitoring, yields useful information for further discussion on the effectiveness of higher education. For example, it enables the different stakeholders to sharpen their views on how to deal with the phenomenon of job migration. How are the economy and the labour market developing if there is no intervention from 'above' (which is the case when the market model is dominating) and are the effects of these developments desirable for the stakeholders? How will developments be when governmental stakeholders are trying to steer the labour market for graduates (which will be the case when the schooling model is predominant), and to what extent this can be viewed positive for the economy and individuals. And what will happen when stakeholders are cooperating in finding a balance between societal, governmental an economical interest in the planning and delivery of polytechnic education.

The perspective of University of Groningen in improving higher education in Africa

European research universities have a long tradition of international cooperation, but increasingly find themselves competing. Globalization is giving us a growing world-wide market for talented potential students and staff, excellent international partners and resources, but also a rapidly increasing number of players targeting this market. All over the world, higher education systems are developing and institutions are choosing to be

“international”. The result is a quickly intensifying global competition for students, staff, resources, funding and reputation.

In the internationalization strategy document “The World as our Stage” (2005), the University of Groningen clearly stated its ambition to become an international university. This ambition has been further specified in the UoG Strategic Plan 2010 – 2015. The University of Groningen aims to be a thriving international research university where teaching and research are integrally connected. A university that, although firmly rooted in the north of the Netherlands, has a global reputation. A university that is recognized as one of Europe’s leading research institutions, ranked among the top 100 academic institutions in the world.

A major driver for the internationalization of European research universities is the agenda of the European Commission (EC). Economic growth and global competitiveness are mainly driven by knowledge, and the EC sees universities as key players in Europe’s transition to a globally competitive knowledge-based economy and society. It aims to strengthen Europe’s position with regard to the global competition in education, research and innovation, through, e.g. the creation of a “Europe of Knowledge” that comprises the European Higher Education Area and European Research Area. In the “EU 2020” strategy, the successor to the Lisbon Strategy, education is highlighted as a key policy area. Important themes are economic, social and educational innovation; employability through new global competences; international research teams and networks tackling global scientific issues; vertical degree mobility; further development of the knowledge triangle (education-research-innovation); knowledge and innovation communities (KIC’s); etc.

University of Groningen distinguishes among others the following dimensions of internationalization: 1. *Education*, which prepares our students for culturally diverse and global settings, 2. *Research*, our main contribution to the solution of societal needs and innovation, 3. *Engagement* with communities we feel responsible for, be they regional, national or global. UoG feels a strong social responsibility to cooperate with universities in emerging countries, thereby contributing to the further development of academic teaching and research worldwide. One might even qualify this type of international cooperation as one of the distinguishing features of UoG during the last decades. It has resulted in strengthened academic institutions in Africa, Asia, Eastern Europe and Latin America, better trained staff, among whom dozens of young PhD graduates, but also in numerous publications, new partnerships and an enhanced international

reputation of UoG. We intend to maintain our efforts in international engagement even though funding for projects in the field of development cooperation will sharply decrease in the very near future due to shifts in national government policies. The inter-university cooperation program between UoG and UCM is a good example of this intention.

Conclusion

To conclude, it is now clearly acknowledged that there exists a potentially strong positive impact of investments in higher education on economic development. Also, that a high quality of higher education is essential. This quality can only be shown if sufficiently reliable and valid data are available. This leads to the inevitable conclusion that monitoring as a tool for information in universities is crucial. Research on graduates in so-called tracer studies can be used. University Groningen would like to support UCM in the continued building of a high quality university in education and research. UoG is strongly in favour of creating a sustainable relationship in which true cooperation in education and research will be realized.

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