Universities and Economic Development in Africa

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Published by African Minds

Bailey, Tracy and Nico Cloete.
Universities and Economic Development in Africa: Pact, academic core and coordination.
Project MUSE. muse.jhu.edu/book/18143.

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Chapter 1

Introduction

1.1 Contextualising the project: The relationship between higher education and development

1.1.1 International trends

Over the past couple of decades, ‘globalisation’ and the emergence of the ‘knowledge economy’ have given rise to new economic, social, political and cultural challenges to which nations, regions and higher education systems and institutions are responding. It is widely assumed that in the context of these new challenges specific knowledge, competencies and skills – often referred to as ‘human capital’ – come to play an increasingly important role in developmental efforts, as do research, innovation and technological development (Castells 2002). Knowledge production, accumulation, transfer and application have become major factors in socio-economic development and are increasingly at the core of national development strategies for gaining competitive advantages in the global knowledge economy (Santiago et al. 2008; World Bank 1999, 2002).

Higher education institutions are seen by many as playing a key role in delivering the knowledge requirements for development. Research has, for example, suggested a strong association between higher education participation rates and levels of development. While the higher education participation rates in many high-income countries are well over 50%, in sub-Saharan Africa they are in most cases below 5% (Bloom et al. 2006). Furthermore, there is increasing evidence that high levels of education in general, and of higher education in particular, are essential for the design and productive use of new technologies, while they also provide the foundations for a nation’s innovative capacity, and contribute more than any other social institution to the development of civil society (Carnoy et al. 1993; Serageldin 2000).

This type of ‘evidence’ has led to a number of countries putting knowledge and innovation policies, as well as higher education, at the core of their development strategies. The best known model in a developed country is that of Finland which, following the deep recession of the early 1990s, selected knowledge, information technology and education as the major cornerstones of the new (economic) development policy (Hölttä & Malkki 2000). South Korea, Singapore, Denmark, Australia and New Zealand have also followed this route successfully.

The Chinese and Indian economies have displayed unprecedented levels of sustained growth since the early 1990s. China embarked on a knowledge-based growth track by
attracting massive foreign direct investment and then building indigenous knowledge capacity through huge investments in education and research. India has succeeded by making the best use of its elite education institutions and exploiting international information technology-related opportunities, in part through the deft use of knowledge assets. The Chinese and Indian economies, however, exhibit two important characteristics with respect to higher education that set them apart from both the ‘East Asian tigers’ of the 1980s and from some other contemporary developing countries. First, investment in higher education is seen as a parallel process (and not a consecutive one) to providing broader access to and improving the quality of primary and secondary schooling. The second, related, point illustrated in the development pattern of the Chinese and Indian economies is that the traditional growth path of domination first of primary sector activities (agriculture and mining) followed by manufacturing and then by services, does not necessarily hold.

The speed and extent to which developing countries are able to absorb, utilise and modify technology developed mainly in high-income countries, will determine whether they will be able to realise a more rapid transition to higher levels of development and standards of living. In this way, some developing countries and emerging economies have ‘leap-frogged’ stages of development by investing in higher education.

1.1.2 The African context

What has been the link between higher education and economic development in Africa?

The history and specifics of the African context have given rise to particular interpretations of the role of higher education in national development. Following independence, universities in Africa² were expected to be key contributors to the human resource needs of the countries in which they were located. There was a particular focus on the development of human resources for the civil service and the public professions. This was to address the acute shortages in these areas that were the result of the gross underdevelopment of universities under colonialism, and the departure of colonial administrators and professionals following independence.

The year 1960 was heralded in many international circles as the ‘Year of Africa’ and the beginning of the so-called ‘development decade’. In September 1962, UNESCO hosted a conference on the Development of Higher Education in Africa. A decade later, in July 1972, the Association of African Universities held a workshop in Accra which focused on ‘the role of the university in development’ (Yesufu 1973). The importance of the university in newly-independent African countries was underscored by the now-famous ‘Accra declaration’ that all universities must be ‘development universities’ (ibid.). Controversially, workshop participants agreed that this was such an important task that the university could not be left to academics alone; it was also the responsibility of governments to steer universities in the development direction.³

² At the time of independence, the higher education systems in most African countries were limited to a single national university. It is thus not possible to speak of a higher education system as such at that time.

³ Arguably, this was the last time, until 2009, that governments in Africa agreed, at least in continental statements, that universities are important for development (MacGregor 2009a).
While many nationalist African academics enthusiastically supported the role of the ‘development university’, seeing it as a plus in their contestations with the expatriate professoriate that dominated institutions, it sat uncomfortably with expatriates and some ‘worldly’ African academics. This latter group was more comfortable with the traditional model of the university as a self-governing institution (i.e. governed primarily by scholars) that predominated in the UK and the US at the time. This self-governing model was the dominant model during the first two decades following independence and there was strong agreement between universities and ‘liberation’ governments\(^4\) that the role of elite universities was to produce human capital for the new state.

Despite the rhetoric about the ‘development university’, African governments did little to promote the development role of universities. In part this was because many of these governments had not developed a coherent development model. In addition, many had become increasingly embroiled in internal power struggles, and the external politics of the Cold War and funding agencies such as the World Bank. Instead, ‘not leaving the universities alone’ became interference by government, rather than steering (Moja et al. 1996). In turn, universities became sites of contestation – partially around the development model of the new state, and partially around lack of delivery, which included inadequate funding for the institutions. The result was that many governments, other stakeholders and academics became sceptical, if not suspicious, of the university’s role in national development. This led to a notion that higher education was a ‘luxury ancillary’\(^5\) – nice to have, but not necessary – in part, because it was difficult to see what contribution universities were making to development; in part, because of prolonged economic crises and the high costs associated with higher education.

It was during this period that the World Bank, in particular, based on the infamous ‘rate of return to investments in education’ study (Psacharopoulos et al. 1986), concluded that development efforts in Africa should be refocused to concentrate on primary education. This is clearly evident in the dramatic decreases in per capita spending on higher education in Africa: ‘Public expenditure per tertiary student has fallen from USD 6 800 in 1980, to USD 1 200 in 2002, and recently averaged just USD 981 in 33 low-income SSA [sub-Saharan Africa] countries’ (World Bank 2009: xxvii). This is a staggering decrease of 82%.

Unlike the approach in China and India of emphasising higher education and primary and secondary education simultaneously in their development strategies, the World Bank strategy in Africa had the effect of delinking universities from development. In addition, it led to development policies that had negative consequences for African nations and their sustainable development potential. Neglect of higher education led to the disestablishment of research centres, medical schools, agricultural centres, telecommunication and technological development, business training centres, vocational schools and other areas in the higher education sector, which are critical to the development of African societies and their economies.\(^6\)

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\(^4\) Many of the liberation leaders had studied at foreign universities.

\(^5\) World Bank specialists suggested at a meeting with African university vice-chancellors in 1986 that higher education in Africa was a luxury; that it might be better to close some institutions, or send those needing graduate work abroad (Brock-Utne 2003: 30).

\(^6\) The decline and the commercialisation of African universities has been well documented and need not be elaborated here. See, for example, Mamdani (2008) and Fred Hayward’s contribution to the US Congress Sub-committee on African Affairs (US Congress 1994).
During the 1990s and early 2000s, some influential voices started calling for the revitalisation of the African university and for linking higher education to development (Sawyerr 2004). The World Bank itself, influenced by Castells’ (1991) path-breaking paper, *The University System: Engine of development in the new world economy*, started embracing the role of higher education in the knowledge economy, and for development in the developing world (World Bank 2002). This has subsequently been strengthened by World Bank-sponsored studies such as Bloom *et al.* (2006) which empirically demonstrated a relationship between investment in higher education and gross domestic product in Africa. Additional evidence has been generated by subsequent studies by the African Development Bank (Kamara & Nyende 2007) and the World Bank (2009).

Kofi Annan, then secretary general of the United Nations, strongly promoted the importance of universities for development in Africa (quoted in Bloom *et al.* 2006: 2):

*The university must become a primary tool for Africa’s development in the new 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.*

This rather ambitious claim for higher education was endorsed by a group of African ministers of education at a preparatory meeting for the UNESCO World Conference on Higher Education in 2009. MacGregor (2009b) reported that the ministers ‘called for improved financing of universities and a support fund to strengthen training and research in key areas’.

While the above statements clearly demonstrate support for the role of higher education in development, they do little to clarify what this role is. There seem to be two different notions hidden within the idea of a ‘development tool’ – a direct, instrumentalist or ‘service’ role, and an ‘engine of development’ role which is based on strengthening knowledge production and the role of universities in innovation processes.

The instrumentalist role is arguably the most dominant of the two notions in Africa. For instance, the demands by, especially, foreign donors and multilateral agencies such as the United Nations and UNESCO for university revitalisation are, in many cases, underpinned by the assumption that universities are ‘repositories of expertise’ which should be applied to solving pressing development issues, such as poverty reduction and education for all.

This thinking of ‘university as service provider’ in Africa is also strongly present within academia itself, and particularly in certain post-colonial contexts. *University World News* reported that at the Association of Commonwealth Universities conference (April 2010) it was stated that: ‘Universities must be “citadels not silos”, defending communities around them rather than being inward-looking, if they are to actively advance global development goals’ (MacGregor & Makoni 2010), and that universities must ‘orientate their activities more directly towards supporting UN Millennium Development Goals’ (MacGregor 2010).
The chief executive officer of the Southern African Regional Universities Association, Piyushi Kotecha, argued that in recent decades, higher education had assumed growing importance for both personal development and for driving social and economic development: ‘Now more than ever before, higher education in developing nations is being expected to take on the mantle of responsibility for growth and development, where often governments fail’ (ibid.).

This ‘direct’ instrumentalist notion assumes that universities have a concentration (surplus) of expertise, and presumably spare time, that must be applied directly, or in partnership, to pressing socio-economic issues, such as poverty, disease, governance and the competitiveness of private firms or companies.

The second role for higher education embedded in Annan’s ‘development tool’ is Castells’ ‘engine of development’ notion, which has become the dominant discourse for many advanced OECD (Organisation for Economic Co-operation and Development) countries. Castells (2009) described this notion as follows:

*In the current condition of the global knowledge economy, knowledge production and technological innovation become the most important productive forces. So, without at least some level of a national research system, which is composed of universities, the private sector, public research centres and external funding, no country, even the smallest country, can really participate in the global knowledge economy.*

There have, more recently, been calls for this kind of engagement of higher education in development. For example, the high-profile African scientist at Harvard, Calestous Juma, has consistently promoted the role of higher education in science-led development through, amongst others, the UN Millennium Project Task Force on Science, Technology and Innovation (Juma & Yee-Cheong 2005). In addition, the African Ministerial Council on Science and Technology (AMCOST), established in November 2003 under the auspices of the New Partnership for Africa’s Development (NEPAD) and the African Union, has created a high-level platform for developing policies and setting priorities on science, technology, research and innovation for development in Africa.

1.1.3 The focus of prior research

As Pillay’s (2010a) review of the literature shows, much of the research that has been undertaken on the relationship between higher education and economic development has been econometric in nature. Examples of such studies include the following:

- Impact of higher education on economic growth, for example studies that measure the correlation between higher education participation rates (i.e. the proportion of the population with higher education qualifications) and economic growth rate or technological advance – globally, regionally or locally.
- ‘Rates of return’ studies which measure the private and public benefits of investing in higher education (e.g. increased tax revenues, saving and investments, or a more
productive, entrepreneurial and civic society).

- The role of higher education in producing human capital for the labour market (e.g. issues relating to scarce skills, shortage or oversupply of skills, and individual mobility).
- Studies that focus on how higher education institutions can contribute to the capabilities of private firms to take up new technologies, including the growing importance of university-industry linkages.
- The implications of the knowledge economy for higher education institutions in terms of the kinds of graduates that are required (e.g. lifelong learning, preparation for knowledge-intensive jobs etc) and the way in which research is undertaken, as well as implications for the policy and regulatory framework within which these institutions operate.

While, broadly speaking, the body of literature on higher education and economic development has grown considerably over the past couple of decades, there are still a number of limitations to the prior research conducted in this area. For instance, little work has been done which focuses on the characteristics and dynamics of the relationship between higher education and development, or to the contextual and institutional factors which facilitate or inhibit these relationships. Neither has there been much research within the African context, or that takes both national and institutional factors into account.

The current study attempts to address these gaps and to do so from theoretical perspectives offered by the fields of higher education studies, institutional theory and development economics. This implies that in developing our analytical model we did not want to follow the ‘African exceptionalism’ approach. In our view, for understanding the contributions of African universities to (economic) development, we first and foremost have to examine these institutions as universities, taking the unique, basic characteristics of universities as a starting point (see, for example, Clark 1983). In addition, for developing a valid analytical framework we have also incorporated relevant conceptualisations from the general social sciences. As a consequence, the analytical point of departure for our model has been that the conditions under which each university in Africa, as elsewhere, is contributing to economic development are influenced by the following three inter-related factors:

- The nature of the pact between universities, political authorities and society at large;
- The nature, strength, size, quality and continuity of the university’s academic core; and
- The level of coordination, effectiveness of implementation, and connectedness in the larger policy context of universities.

These, in turn, are influenced by local circumstances, for example, the nature of the economy of a country, and its political and governance traditions and culture; institutional characteristics, including the ‘loosely-coupled’ nature of higher education institutions; and the external relations of universities, especially with national authorities, foreign agencies and industry.

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7 See, for example, Altbach and Balán (2007), who focused in their book World Class Worldwide on the transformations of research universities in Asia and Latin America. They have not included Africa because they believe that Africa’s academic challenges are sufficiently different from those of the nations represented here that comparison would not be appropriate (Altbach & Balán 2007: vii). Strikingly, the authors do not provide any arguments or data for their claims.
1.2 Project focus and methodology

As a point of departure, the overall aim of the project was to investigate the complex relationships between higher education (specifically universities) and economic development in selected African countries with a focus on the context in which universities operate (political and socio-economic), the internal structure and dynamics of the universities themselves, and the interaction between the national and institutional contexts. In addition, the project aimed to identify those factors (practices, strategies) and conditions (context) – at both national and institutional levels – that facilitate or inhibit universities’ ability to make a sustainable contribution to economic development.

The project began with a review of the international literature on the relationship between higher education and economic development (Pillay 2010a). This was followed by case studies of three systems which have successfully linked their economic development and higher education policy and planning – Finland, South Korea and North Carolina state in the US (Pillay 2010b).

The next phase of the project involved the collection of data at both the national and institutional levels in the eight African countries and universities included in the study. These were:

- Botswana – University of Botswana
- Ghana – University of Ghana
- Kenya – University of Nairobi
- Mauritius – University of Mauritius
- Mozambique – Eduardo Mondlane University
- South Africa – Nelson Mandela Metropolitan University
- Tanzania – University of Dar es Salaam
- Uganda – Makerere University

The countries included in the study were selected primarily on the basis of previous collaboration, and on the basis of World Economic Forum (WEF) ratings regarding location in the knowledge economy ‘rankings’. The WEF’s rating classifies the eight African countries and the three international case study countries according to their ‘stage of development’ as either factor-, efficiency- or innovation-driven. In the ‘first stage of development’, the economy is ‘factor-driven’ and countries compete based on their factor endowments: primarily unskilled labour and natural resources. As wages rise with advancing development, countries move into the ‘efficiency-driven’ stage of development, when they must begin to develop more efficient production processes and increase product quality. At this point competitiveness is increasingly driven by higher education and training, amongst other things. Finally, as countries move into the ‘innovation-driven’ stage, they compete through producing new and different goods by combining sophisticated production processes with a high-skill workforce, research and innovation. The three ‘successful’ systems – Finland, South Korea and the US (North Carolina) – are classified as innovation-driven; South Africa and Mauritius are classified as efficiency-driven; Botswana is moving from factor-driven to efficiency-driven; and the remaining five countries are at the factor-driven stage.
In each of the collaborating countries the national (‘flagship’) university was selected, except in South Africa where Nelson Mandela Metropolitan University (NMMU) was regarded as a more ‘comparable’ institution in terms of size and profile. For the analysis of the academic core, we also included the University of Cape Town, which is the number-one-ranked university in Africa, both in the Times Higher Education World University Rankings and the Shanghai rankings.

The research team visited the eight African countries and universities between February and June 2009. Semi-structured interviews were conducted with a wide range of individuals in each country, including central actors in selected ministries and commissions/councils for higher education and other stakeholders at the national level; and in universities, institutional leadership, senior academics, administrators and project leaders. (See Appendix B for the list of interviewees.) The interviews with institutional stakeholders were transcribed, enabling direct quotation in the case study reports. Transcription of the national stakeholder interviews was not always possible as in some cases these were not recorded owing to government ‘sensitivities’.

The analysis also drew on various policy and strategy documents (national and institutional levels), as well as quantitative data including national development indicators and statistics relating to the higher education systems and universities in the sample.

Throughout the project process, various efforts were made to engage with the national and institutional stakeholders in each of the eight African countries that participated in the project, in order to obtain feedback regarding the accuracy and completeness of data collection, as well as the interpretation of the data:

- During 2009 and 2010, work-in-progress was presented via seminars to stakeholders in six of the African countries, and to academics in the field such as at the Consortium of Higher Education Researchers (CHER) conference (Oslo 2010) and the University of the Western Cape seminar with Manuel Castells (Cape Town 2009).
- In the drafting of the case study reports, additional information as well as clarification was obtained from national and institutional stakeholders via email. The information gathered on the development projects was compiled in table form and emailed to the respective project leaders with a request to check for accuracy and to fill in any gaps.
- In August 2010, the draft case study reports were emailed to the vice-chancellor and one or two other institutional leaders, as well as the project leaders, in each of the eight universities to request their feedback. A two-day seminar\(^8\) was held in South Africa that month, attended by at least two representatives from each country, during which detailed feedback was obtained on the reports.

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\(^8\) For more information about this seminar, visit the CHET web site: http://chet.org.za/higher-education-and-economic-development-africa-report-back-herana.
A feature of this study is that core concepts such as ‘pact’, ‘academic core’ and ‘coordination’ were operationalised through, amongst other things, the use of specific indicators, which allowed us to gather comparable empirical evidence. Throughout the project process, team members met to discuss their ratings and interpretations of the research findings as these were emerging and to further develop the analytical framework for the study.

1.3 Analytical starting points for the study

In the knowledge economy, universities are considered to be key institutions for the production of high-level skills and knowledge of relevance for private and public sector innovation process, based on the traditional core business of universities – the production, application and dissemination of knowledge.

In many countries, higher education has become one of the central areas in the government’s knowledge policies. This means that more policy/political actors than the ministry of education, as well as socio-economic stakeholders (employers’ organisations, funders and research councils), have become interested in higher education and involved in higher education policy. As a consequence, system- and institutional-level coordination of knowledge policies with adequate structures and processes within the political system have become major issues, most notably the capacity to coordinate different political activities of the governing of knowledge production, reproduction and coordination.

As mentioned earlier, to get a better understanding of the relationship between higher education and development, the research group undertook case studies of systems where there is a well-established integration of higher education in national development strategies. The three case studies are Finland, South Korea and the state of North Carolina in the US – all three located in OECD member countries on different continents. One of the main reasons for choosing these three was that in all cases there was evidence of a strong and close relationship between education and economic development in general, and higher education and economic development in particular. In addition, in all three systems a rethink of major economic policies was accompanied by a deliberate attempt to link higher education to economic development.

Of particular interest to our study was the question: What is it about these three systems that enable them to successfully link higher education to economic development? Put another way: What are the core conditions that are present in each of the three systems that enable their higher education sectors to successfully and sustainably contribute to development?

Common to all three systems was a strong, agreed-upon framework for economic development aimed at realising an advanced, competitive knowledge economy, and an important role for higher education in this regard. Despite major contextual differences, the three systems exhibited the following conditions for harnessing higher education for economic development:
Their higher education systems had been built on a foundation of equitable and quality schooling. There was also an emphasis on achieving high quality higher education. 

They had achieved very high participation rates in higher education (see Appendix A). Their higher education systems were differentiated (institutional and public/private) as part of achieving their human capital, research and innovation objectives for economic development. Their governments ensured a close link between economic and (higher) education planning. There were effective partnerships and networks between the state, higher education institutions and the private sector to ensure effective education and training, and to stimulate appropriate research and innovation. There was strong state involvement in a number of other respects including, for example, adequate state funding for higher education; using funding to steer the higher education sector to respond to labour market requirements; and incentivising research and innovation in the higher education sector.

Drawing on the review of the literature (Pillay 2010a), the implications from the case studies of three successful systems (Pillay 2010b), and preliminary observations from the eight African case studies, we formulated the following analytical propositions:

- A condition for effective university contributions to development is the existence of a broad pact between government, universities and core socio-economic actors about the nature of the role of universities in development.
- As a core knowledge institution, the university can only participate in the global knowledge economy and make a sustainable contribution to development if its academic core is quantitatively and qualitatively strong.
- For linking universities effectively to development a country needs various forms and methods of knowledge policy coordination. In addition, the connectedness between the larger policy context, universities and development is crucial.

These analytical propositions provided a three-prong focus for the analysis of the data, namely: the existence of a pact on the role of universities in economic development; the nature and the strength of the academic core of the universities; and the extent of knowledge policy coordination and the connections between key stakeholders. In the remainder of this report, we further unpack these conceptual notions and present the analysis and key findings of the data.
1.3.1 What the project is not doing

As can be seen from the outline above, this study has a considerable scope. Nevertheless, the project is not attempting to:

- Measure or evaluate the extent to which universities are contributing to development, or the impact that their activities have on development in their respective countries.
- Assess the impact or effectiveness of specific institutional policies, units or development projects.
- Review the number or nature of donor projects, or examine the overall contribution of particular external donors to university development.
- Assume or assert that the primary role for higher education is development, but rather seek to investigate the factors that either facilitate or inhibit the possible contributions that universities can make to development.