



---

## Higher Education and Development Seminar

3 to 5 September, Le Meridien, Mauritius

A joint seminar of the Mauritius Tertiary Education Commission (TEC) and the Centre for Higher Education Transformation (CHET), South Africa

---

### BACKGROUND TO THE SEMINAR

#### Knowledge Production and Problem Solving: International Context

Traditional macro-economic development models have increasingly come under attack over the last 20-25 years. For replacing the model focusing on unbridled economic growth in terms of GDP alternative models have been propagated by prominent scholars as a foundation for organising societies and their economies, for example, a socio-economic development model (Sen), social entrepreneurialism (Drayton), epistemic communities (Haas), and the network society (Castells). In addition, major theoretical work in macro-economics has recently focused on 'social trust' as a concept that can explain the socio-economic effectiveness of specific societies that according to traditional macro-economic theory should not have been as successful as they are. As a final example we can point to the World Happiness Report which has amongst others Jeffrey Sachs as one of its editors. This report discusses the possibilities for using the level of happiness in a country as an alternative for BNP in determining the level of development.

At the same time we have been able to observe in political arenas around the world a strong belief in the knowledge economy as a concept capturing the changes in national economies. It has been used, amongst other things, as a starting point for developing national (and supra-national) strategies for strengthening the global competitiveness of national economies. From the perspective of the political focus on the knowledge economy a number of questions can be raised about the way in which the alternative economic development models are linked to the political arenas. How does knowledge fit in the alternative economic development models? What kind of role is assumed for higher education as the core knowledge institution in economic development models? What are the most effective ways of relating higher education to public and private sector innovations? How can societies innovate the organization of their knowledge institutions (including higher education) and networks with the aim to maximize the problem solving capacity of these institutions and networks, without weakening their basic traditional strengths?

Since the early 1990s there has been a growing attention in the academic literature as well as in governmental policy papers for the relationship between higher education and innovation, especially in the private sector. Following Castells' seminal 1991 paper; "The University System: Engine of Development in the New World Economy" (World Bank) the conceptualizations of the relationship between higher education and industry have included the mode 1 – mode 2 distinction (Gibbons et al. 1994), Pasteur's quadrant (Stokes 1997) and the Triple Helix (Etzkowitz 1994).

All of these assume that we have to move from a separated to an interactive and partly overlapping organization and functioning of core knowledge and innovation domains (higher education – industry – state). The production and transfer of knowledge in universities has to become application oriented (Gibbons), use oriented (Stokes), or innovation oriented (Etzkowitz). While each of these conceptualizations has a number of valuable perspectives for understanding the higher education – socio-economic development relationship, at the same time we have to conclude that they did not deliver what they promised. Consequently, we have to move beyond the mode 1– mode 2 distinction, and beyond the Triple Helix.

What in essence is needed is a development model that allows for combining the traditional functions and strengths of the included domains/institutions (higher education – private & public sector – and state agencies) with problem-oriented, integrated networks that are rooted in but at the same time separated from these domains/institutions. From the perspective of this new model, it is not the university/college as such that needs to change and become integrated with the private sector, but it is the nature of the bridge or connection between higher education and society that needs to be re-interpreted. It should not be our target to make universities entrepreneurial, but instead how we can combine the strengthening of the core institutional function of the university as an institution (the academic core) with more effectively functioning problem-oriented networks in which university staff (firmly rooted in the academic core of their institution) participate in a way that does justice to the nature of their institution. The same goes for other participants in the network. Etzkowitz' error was that he wanted to blend the roles of the institutions participating in innovation: universities should (also) establish firms, private firms should (also) do academic research and training, and the state should (also) act as venture capitalist. Gibbons error was that he assumed that we were moving away from basic research, while Stokes struggled to distinguish between curiosity driven and use-oriented research.

Another aspect neglected is the connection between universities: the need to invest in multidisciplinary 'academic core' co-operations between universities in one system; or as an alternative the concentration of all core academics in all academic disciplines in one elite university.

Knowledge can be considered to be a global public good. This implies, amongst other things, that societies are not necessarily dependent on the knowledge produced within the country. What is important in development strategies is first the identification of core socio-economic challenges/problems to focus on, and second the inclusion of experts in the knowledge networks with various backgrounds that know how to interpret, apply and use existing knowledge in addressing the problems/challenges. If the existing knowledge does not suffice this should be communicated with the academic core(s) of the universities/colleges involved, but also with universities outside the network in question. The problems/challenges can range from local/clear (e.g. needs of specific SMEs) to national/regional and less clear (e.g. need to increase middle class in specific countries).

The presentations in this seminar will, from different research agendas, address the issues raised above and will attempt to make connections to the particular Mauritian context.

## Mauritius

The Higher Education Research and Advocacy Network in Africa (HERANA) made the following conclusions in their study of Mauritius and the University of Mauritius:

Mauritius, similar to the case studies included in our international comparison (Finland, South Korea and North Carolina state), made the notion of 'knowledge economy' a strong feature of their new economic growth strategy. The importance of higher education and high-level knowledge featured strongly in a number of policies. In addition, there were high levels of participation in schooling, a strong awareness of improving quality, and an expanding and differentiated tertiary education system.

At the narrative level both the national political actors and the institutional leadership shared the notion that higher education is an instrument for development and the key component of their knowledge-driven notion of development. Their main concern was that the expertise of the academic staff is not yet applied efficiently enough. On the side of the academics there was frustration that they were not given enough incentives and rewards to fulfill a knowledge production and innovation role.

The national education department had some capacity to facilitate interaction, but it seemed that this role was increasingly fulfilled by the Tertiary Education Commission. As was the case in so many other countries, the department of education was not strong in the hierarchy of government departments, and was thus restricted in terms of the steering/ coordinating role it could play.

However, it did seem that neither amongst government departments, nor between government and university, was there strong formal coordination. A number of respondents suggested in different ways that the interactions between the government and the university community were more ad hoc than systematic, and that often particular government departments were not interested in utilizing data and findings from development-orientated projects. A corollary complaint was that government did not draw adequately on the expertise of the academics. The university had made considerable progress in institutionalizing development projects. Within the university a number of dedicated posts, units and centers (particularly the Centre for Consultancy and Contract Research) had been established to improve coordination and ensure sustainability. Key mechanisms for the transfer of technology to government and industry included consultancy services, outright sale of technology, licensing of technology, joint ventures and start-up ventures, executive development programmes and continuous development programmes. Consultancy projects included research projects, routine testing in the university's laboratories, and training programmes. The very ambitious science and technology park was probably the largest attempt to coordinate and institutionalize research and consultancy projects. Also in the pipeline, in addition to structures such as Enterprise Mauritius, Small Enterprises and Handicraft Authority, was the attempt to establish a formal university– industry council.

Much of the emphasis in the university's key planning and strategy documents was on the institution's relationship with industry and government, with very little

mention of linkages to communities – indicating that the university sees its development role as a triangle with government and industry.

What does the academic core of the university tell us about the ‘state of knowledge’? Mauritius had a relatively high enrolment and graduation in SET, and there was substantial growth in postgraduate enrolment, but not in doctoral graduation. The teaching load was quite favourable, if somewhat inefficient, and the permanent staff were well-qualified, but the production of knowledge according to publication output, was very low. Funding for research was very low, and seemed to be getting more, and not less, difficult to access. Despite the positives mentioned, unless there is a stronger PhD output (producing a cadre of possible researchers), and a substantial increase in research resources and productivity, the University of Mauritius will find it very difficult to operationalise its knowledge economy ambitions.

In conclusion, both government and intuitional leaders had a strong knowledge economy discourse and an impressive array of policies in place. The coordination of these policies was still a major problem, and the pact did not seem strong enough for government to make resource trade-offs to support this vision; nor had the university managed to strengthen its academic core sufficiently to shift from a rather traditional teaching institution to a knowledge producing and innovation institution. The fundamental challenge facing Mauritius at the time of the study was that while it had enthusiastically adopted the notion of a knowledge economy in most of its policies, the University of Mauritius did not seem yet to be in a position to produce the knowledge to operationalise this new vision.

(Cloete et al 2012; pp 110-112)

---

## ABSTRACTS of seminar presentations

1. **Higher Education and Economic Development in Africa: Comparing Kenya, Mauritius and South Africa**  
 Dr Pundy Pillay, Professor, University of Witwatersrand School of Public Administration, Johannesburg and former coordinator of policy in the Office of the President of South Africa

Drawing on research from the HERANA project, this paper will focus on the current relationship between higher education and economic development in the selected countries, and the potential for higher education to contribute to higher rates of economic growth and development in each country. The countries are chosen first because they are significantly different in terms of their development status (e.g. Mauritius is defined by UNDP as a ‘high human development’ country; South Africa as a ‘medium human development country’; and Kenya as a ‘low human development’ country). Second, in spite of the variance in development status, all three economies are characterized by a good mix of secondary (e.g. manufacturing) and services (e.g. banking, IT, and tourism) sector economic activities. In this context, the analysis will attempt to determine how HE is currently contributing to economic development and what impact it might have on helping to move these economies to higher value-adding economic growth paths.

## 2. **The University of Mauritius: Knowledge Production and Connectivity**

Dr Nico Cloete, Director of the Centre for Higher Education Transformation and Extraordinary Professor of Higher Education Studies, University of the Western Cape, Cape Town

Higher education contributes to development in multiple ways; high level research and innovation, interpretation and application of research (international or local), training of a broad range of professionals and skilled workers, providing access and mobility (equity) and skills for democratic citizenship. These contributions are made in different ways and at different levels in a differentiated tertiary system. However, as the flagship of Mauritian higher education, the University of Mauritius has a particularly important (special) role in knowledge production and dissemination. This presentation will, based on updated HERANA data, assess the academic core of the University and look at whether development related projects contribute to the strengthening, or weakening of the knowledge production capacity of the university. It will conclude by making comments on possible strategies to strengthen the academic core of this key knowledge producer in the Mauritian system.

## 3. **Separated Connectedness: institutional anchoring of networks aimed at stimulating economic development and innovation**

Dr Peter Maassen, Professor of Higher Education Studies, University of Oslo and Former Director, Centre for Higher Education policy Studies, Twente, Holland

After two decades of attempts to create new partnerships between universities/colleges – private companies – state agencies that are aimed at stimulating economic development and innovation the question can be raised: Where are we in our understanding of the role of the higher education in economic development? Why has the creation of innovation through reforms of and investments in higher education been more difficult and complex than assumed in the models underlying institutional/national/supranational innovation strategies and policies? In this presentation the case of Finland, one of Europe's prime 'innovation champions' will be used to address the above questions. The emerging new Finnish innovation strategy will be discussed which is trying to move 'beyond the triple helix' in linking its basic research universities to the knowledge needs of private companies and public agencies. This new strategy can be characterized as stimulating separated connectedness, i.e. creating 'knowledge connections' between societal pillar institutions without attempting to remove or blur the institutional boundaries.

## 4. **What would it take to make African Higher Education work for development?**

Dr Andreas Blom- Lead Education Economist, Human Development, Africa Region, World Bank

Africa is on the move. This creates large opportunities for more productive and better paid jobs in existing and emerging economic sectors. Further, skills and knowledge

are required to move African companies up the value-added ladder. Higher education can become the vehicle for realizing these development opportunities. However, the systems of higher education in Africa are, in general, not able to respond to the economic and development needs of the continent. Large unmet demands for skilled professionals exist in booming economic sectors, such as extractive industries and energy, and in critical development sectors, such as health and agriculture. As completion of primary and secondary education continues to rise across the continent, demand for higher education in Africa will quickly triple or quadruple. Successful countries will have to make progress towards overcoming difficult challenges, such as low relevance of teaching-learning, public financing constraints, reluctance to student co-financing, higher education policies out-of-sync with national development policies, insufficient institutional autonomy and accountability, poor management of institutions, and lack of critical mass of highly qualified faculty. The presentation will discuss these difficult challenges, suggest potential ways to overcome the challenges, and what the World Bank potential could contribute with.

## 5. **Networked Innovation: From Science Parks to Knowledge and Innovation Communities**

Prof. Manuel Castells, University of Southern California, Los Angeles and Internet Interdisciplinary Institute, Open University of Catalonia, Barcelona. Recipient of the 2012 Holberg Prize for Social Sciences and Humanities

The talk will first emphasize the critical role of research universities in fostering creativity and economic development. It will show, with reference to the historical experience, and particularly to Silicon Valley and Finland, the key link between academic research, and innovation diffusion through local networks of universities and companies. Then it will turn to the transformation of this classic model in the conditions of globalization and organizational networking. This will be exemplified by the experience of the European Institute of Innovation and Technology (EIT), a major, multi-billion euros institution of the European Union based on the concept of distributed innovation and networked knowledge and innovation communities (KICs). Manuel Castells was a founding board member of the EIT (2008-2012). In conclusion there will be some remarks of the applicability of this model to the developing African context".

## 6. **Promoting Sustainable Development in Africa through Higher Education**

Dr Goolam Mohamedbhai, Former Vice Chancellor, University of Mauritius, President of the International Association of University Presidents and General Secretary of the Association of African Universities will talk on sustainable development

Achieving sustainable development, in particular the Millennium Development Goals, is crucial for Africa, and higher education institutions, through their teaching, research and community service activities, can become key agents for achieving sustainability. By incorporating elements of sustainability in the training of teachers, professionals and future leaders, higher education institutions can significantly influence their thinking and attitude towards sustainable development; many of the development challenges faced by Africa can be addressed through research carried

out by higher education institutions, especially by adopting a multi- and inter-disciplinary approach; through community service higher education institutions can reach out to vulnerable sectors of society; and by creating an informed and engaged citizenry and promoting understanding, tolerance and peace, higher education institutions can equally play a vital role in achieving sustainability.

In order to determine whether higher education in Africa was contributing towards sustainable development, an online survey of African higher education institutions was undertaken jointly by the Global University Network for Innovation (GUNI), the International Association of Universities (IAU) and the Association of African Universities (AAU) in 2010, the objective being to determine the extent of their current sustainability practices. The paper will report on some of the findings of that survey, which showed that although some institutions have integrated sustainability in their curricula and are involved in sustainability research and outreach projects, these initiatives are relatively small and there is need for a more institutional approach to promoting sustainable development through higher education.

## 7. The Making of an African Research and Innovation Council: What Role, What Niche and What Projects?

Adebayo Olukoshi, Research Professor of International Economic Relations, Director of the United Nations African Institute for Economic Development and Planning (IDEP), Dakar, Senegal, and Interim Executive Director of the Africa Governance Institute (AGI), Dakar, Senegal, and Chair of the Task Force on the establishment of an African Research and Innovation Council.

This presentation offers a broad-ranging review of on-going efforts towards the establishment of an African Research and Innovation Council (ARIC) for which the Department of Human Resources, Science and Technology (HRST) of the African Union Commission (AUC) empaneled a Task Force to undertake preparatory work towards its launching. The presentation will focus on the case that has been made for the creation of such a council, the role which it could be expected to play, the mandate that the AUC proposes to bestow on it, the niche which it is hoped it would occupy, and the prospects for its long-term institutionalization and sustainability. In making the presentation, a brief review will be undertaken of the terrain of science and innovation research and funding on the continent; the challenges and opportunities of building council-type institutions in Africa; the options available for the type of pan-African council that might be promoted in order to achieve the objectives of ARIC; and the alternative models of institutional governance that could enable it function most effectively as a bearer and catalyst of excellence in African research and innovation. As appropriate, references will be made to experiences from other regions of the world and the kinds of lessons which Africa might draw from those experiences in building its own region, pan-African council. In all, it will be suggested in the presentation that the success of the ARIC initiative will hinge primarily on its credibility and legitimacy as a science and innovation institution and that credibility cannot be decreed politically but must be earned through the quality and relevance of the interventions that the Council undertakes. For this to happen, the institutional autonomy of the Council must be seen as central to its operations even as it might enjoy a status as a continental resource that enjoys "patronage" of the African Union.