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Global Research Council Africa Regional Meeting – Keynote Address

Higher Education in Africa in the context of Science Diplomacy and Merit reviews

Introduction

It is a pleasure to be here today with you and to share my views on African higher education in the context of science diplomacy and merit reviews.

My presentation this morning will focus on three points.

I will **start** with a few comments on the impact of globalization on higher education that has made knowledge production, dissemination and uses a focus of reform debates for development. We know that for these reforms to be effective there is a need for the higher education sector, the Science Granting Councils (SGCs) and governments to have a form of common understanding for the role higher education play in development.

The **second** point will address issues of effective partnerships that can promote scientific diplomacy and contribute to development. Here I refer to multilevel types of partnerships needed for interactions nationally, regionally and globally.

My **third** and final point will cover issues relating to the use of merit reviews for transformation and the advancement of development agendas. In other words, using research funds to steer research activities that will promote scientific diplomacy. In addition, the use of merit reviews to steer transformation of the sector with accruing benefits for the broader society.

1. Globalization, Higher Education, and Development

Due to globalization, neo-liberal trends are promoting the notion of knowledge societies and knowledge intensive economies. As a result, higher education has become crucial in supporting globalizing economies. What is of concern is that we need to parallel economic development with social development particularly in regions such as Africa. The impact of globalization on higher education worldwide has been studied widely from various perspectives such as a focus on rankings and increased competition (Hazelkorn ed. 2017); an aspect that puts a high prize on **research and publications**. Other perspectives articulate the impact as having increased the marketization of higher education with concern **over quality, accreditation, and qualifications** (UNESCO 2002). Zeleza's (2016) study indicates that knowledge production; organization,

dissemination, and consumption underwent significant changes in the period between 1945 and 2015 as part of the global reforms of the sector. He further argues that those kind of changes calls for **new modes, rationales, and practices of collaboration**, competition, comparison, and commercialization. These are samples of studies that indicate that globalization has also had impact on the higher education and increased interest in **knowledge production**, its increased quantity and concerns over quality of the sector activities.

Higher education in Africa has also changed drastically in that period in terms of its expansion, funding models, governance and productivity. Research productivity in African universities is improving even though not as much as we would expect but it is happening. The Scopus database for peer reviewed publications, the African Observatory for Science, Technology and Innovation (2013 in Cloete et al 2017, p. 129) indicates that publication output from the African region grew by 43% between 2008 - 2010, compared with the world average of 18%. **(Insert Slide 1 and 2 see attachment)**¹ A study by Mouton(2017) indicates that Africa's share of world publications doubled between 2005 at 1.5% to 2.8% in 2015. This is good news and therefore is important to note that higher education institutions in Africa are positioning themselves to become knowledge intensive institutions, as evident in the HERANA study of 8 flagship universities on the continent. The study collected data over a period of ten years and during that period, research production as indicated through **publications increased in all participating institutions**. The study's unintended outcome has been the reinvigoration of institutional interests in intentionally supporting research activities and documenting their research products. Participating institutions also benefited in capacity strengthening to collect and report on data, as well as in their ability to track and assess their engagement with external communities (HERANA 3 Final Report 2017). Another example is the African Research Universities Alliance's (ARUA) initiative, launched at the Higher Education Summit in Dakar in 2015. The alliance includes 16 universities that are planning to collaborate and strengthen their research capacity in their search for relevant solutions for Africa. The success of the mentioned initiatives relies partially on Granting Councils collaboratively positioning themselves to partner and support them to produce knowledge for the region. The current dominant mode of funding is that of national SGCs focusing and supporting national agendas versus regional ones. But we need to explore possible partnership with higher education institutions that are already collaborating with one another across national borders.

There are indicators that knowledge production in the form of research and publication is increasing, however, in proportion to other regions of the world our productivity is still very low.

¹ Mouton J and Blanckenberg J(2017): YSA: Context and Bibliometric results -
2 September 2017, Paris Seminar.

There are major improvements needed because Africa as a region still ranks low compared with other regions in terms of “the gross domestic expenditure on research and development, number of researchers and share of publications and patents” (Cloete N. et al 2017, p. 128). This poses a challenge for meaningful participation in science diplomacy regionally and globally. As a region we need to think of strategies that would increase our productivity levels over and above increasing funding levels so that we can participate as an equal, or at the least, on having made a headway towards achieving that goal. One such strategy is a focus on post-graduate education, in particular at masters and doctoral levels as an absolute necessity. The good news is that there are countries in the region that are starting to prioritize doctoral education. For example, two weeks ago the UWN – global published an article about Kenya’s plans to dismiss or demote over 8,000 of their teaching faculty with no doctoral qualifications by January 2018 (UWN November 13, 2017). This is a drastic step indeed but a necessary evil in pushing for teaching staff to have research skills and higher educational qualifications so that they can supervise masters and doctoral education and conduct research activities.

The African region has a number of development agendas articulated on various platforms that needs to be taken forward by various stakeholders, including those, represented here today. For example, Agenda 2063 provides a strategic framework for the socio-economic transformation of the continent over the next 50 years through inclusive growth and sustainable development. STISA-2024 is an example of another agenda that is developed as a means to supports Agenda 2063 goals and ideals. The first **Ten Year Implementation Plan** of AGENDA 2063 calls for the domestication of the agenda by including it in national plans. This means that at national level partners are to make sure that their higher education sector is included as a partner as well for knowledge production that will make significant contributions. Meaningful inclusion of higher education institutions as partners will also contribute to the implementing of declarations and recommendations made at the First African Higher Education Summit on *Revitalizing Higher Education for Africa’s Future (2015)*. The sector is to be taken seriously as a development partner so that it can be revitalized sufficiently to perform as expected.

Another example to mention here for regional level development agenda is articulated through the Continental Education Strategy for Africa (CESA) 2016-2065. This is an agenda that incorporates the Sustainable Development Goals (SDGs 2030), and acknowledges the importance of training and research as core for scientific and technological innovation in its guiding principles. At the global level the 17 Sustainable Development Goals (SDGs) places emphasis on sustainability. These are examples of continental agendas for sustainable development that needs support from stakeholder partners. The seventeenth goal of the SDGs in particular calls for the strengthening of partnerships at all levels to achieve the set goals.

Higher education as a sector has a critical role to play in the achievement of those goals through its traditional roles of teaching, research and service that not only needs to be strengthened and supported, but needs to be **understood**; hence the call for research on the sector itself. **The sector is key to science diplomacy. Its institutions are** key producers of knowledge that can be used in **scientific** collaborations among African nations to address common problems and to build constructive international partnerships. This is critical for linking regional development goals to the global goals such as the SDGs.

My second point is on.....

2. **Constructive and Effective Partnerships are key for Science Diplomacy**

The changing characteristics of knowledge production and producers require us to understand the discourse on knowledge production in a global community context. Who are the players? Are African scholars players in that arena as well? What issues arise when knowledge has to cross national borders for use in ways that are beneficial to all? What measures are needed to advance knowledge production and sharing for global sustainability?

“ Partnerships deliver impact on the ground” a quote I am borrowing from Dr. **Martial De-Paul Ikounga**, the African Union Commissioner for Human Resources, Science & Technology. What kind of partnerships delivers impact? For partnerships to be effective partners have to see the mutuality of benefit in the relationships and therefore work on collaborative agendas that meet the needs of all partners.

The partnership relationships in my talk will be limited to three key partners – government, Science Granting Councils, and the higher education sector, all interacting to benefit the broader society. In today's deliberations and perhaps beyond, we need to pay more attention to the role of Science Granting Councils collaboratively forging the kinds of partnerships that would link higher education to regional development, in addition to the usual focus on national development, i.e a link to national governments and regional government agendas.

Partnerships have to operate on many levels and not necessarily in linear order. **The first partnership to address is the one between the higher education sector and government**, i.e a partnership that goes beyond governments merely financially supporting the sector's activities, coupled with expectations of human resource development, without clarity on how that human capacity would contribute to national/regional development goals for the benefit of the broader society. In other words, there is a need to establish a kind of “pact” or understanding between the sector and government. The absence of a pact between the sector and their governments has been identified as problematic globally. Olsen (2000 in Maassen and Cloete 2006, p.8)

argues that globally the traditional pact between society and higher education has become problematic as evident in the decline of political and financial support; as well as the questioning of the quality of its products. Paterson (2017) in reference to South Africa argues that the role that higher education institutions “can play in legitimizing the government and supporting its socioeconomic programs is severely weakened”. This point is also raised once more by CHET, based on its eight-country study on the link between universities and economic development in Africa. The study concluded that there is lack of clarity on agreement, (also referred to as a pact), **about a development model**, to be used and the role of higher education in development at both national and institutional levels in those countries. Furthermore an argument is presented to show that in addition to no agreement on a model, coordination efforts between governments, external stakeholders and universities to systematically contribute to development were weak (Cloete, et al 2011). In the absence of internal pacts within a national context, how can we safely assume that “**pacts**” exist between the sector in general and the regional structures such as the African Union. Is there a common understanding of a development model and how activities can be coordinated at regional level? The SGCI is definitely a step in that direction. This will obviously have an impact how the sector can play a developmental role for the continent. I strongly believe that SGCs working collaboratively at the regional level are well positioned to forge that pact between the sector, national governments, and the African Union.

The second partnership to address is between the higher education sector and Science Granting Councils.

The higher education sector is a major producer of knowledge that can be used in **scientific** collaborations among African nations to address common problems and to build constructive international partnerships. However, there is very little we know about the sector itself because we do not have centers of excellence focusing on the study of it in Africa. The knowledge we have is generated mainly by a handful of individual experts or as part of other studies located in some probably underfunded research centers based at higher education institutions. It is hard to name or find a “world class” center on the continent that is focusing on the study of higher education in Africa. How do we assess the sector beyond data collected through merit reviews? The absence of such an entity has dire implications for policy making by institutions and governments. For example a recent study conducted by Zavale et.al (2017) in one of the African universities pointed out that the institution was using abstract graduation rates as an indicator of efficiency and accountability, which we know is problematic. We need to develop a comprehensive set of indicators for institutions in Africa. The Center for Higher Education Trust (CHET) has developed indicators for the institutions they were working with.

This led to their publication of a manual for collecting performance data (Bunting 2014). I give this as an example of a role centers that study higher education can play.

One of the problematic areas identified in the study of the sector is that “Africa needs research universities” a quote from Maassen and Cloete (2011) that captures the message that although we have good universities, **they are not research universities by global standards**. Research universities are characterized by Altbach (In Maassen, P and Cloete, C. 2013., p.1) as highly complex and multifaceted institutions serving many societal roles and linked to the global academic systems of science and scholarship. There is general skepticism as to whether Africa’s universities can make it into the world-class categories of universities. In Africa we have too few universities that would qualify as research universities or in the Carnegie classification of universities in the US would qualify as Research 1 universities. Currently Egypt and South Africa are the two best-represented African countries in the rankings, with **nine and eight universities respectively**. Additionally, South Africa and Uganda are the only two countries with universities in the top 500 (Times Higher Education 2017). However, the concern is not much of making it to the top 500, but to be able to deliver, be relevant in the region, and remain competitive when compared with own peers

The ADEA policy brief produced for the Higher Education Summit in Dakar in 2015, underscores a well known issue of the low research production of African universities, their lack of capacity to train masters and doctoral students, and their low production of collaborative research that address local as well as regional issues. It is in this context that SGCs need to review their mode of operation and support of the sector to capacitate it by supporting international collaborations within the region, for the sector to play a role in both national and regional development.

While there are many challenges facing universities, there is currently a cadre of leadership that is invigorating their institutions and helping them forge a way towards becoming world-class research universities. ARUA is one such example of a group of institutions working to strengthen their research capacity through collaboration amongst its members. In addition to such arrangements for collaboration, there are individual institutions that are undergoing major transformation. The role of the SGCs would be to support those efforts and partner with the sector to stimulate research which would make scientific collaborations possible. As a result, African universities would then be able to contribute to sustainable development nationally, regionally, and globally.

In the period that the African higher education was underfunded by their governments some donor agencies filled the gap. As a result the kind of relationship that developed between the grantor and grantee was shaped by the latter’s dependency on the former and the yearn to

please the grantor so that funding continued to flow. There was an interesting co-dependency mode of operation as both players needed each other. As Jaumont (2016 p. 5) reports that US Foundation, in particular, developed a certain know-how in maximizing their investment, impact and influence on African higher education. Those experiences offer lessons that could be shared in making partnerships effective.

The **third and last partnership** I would like to address is in the form of a collaboration between the Science Granting Councils themselves to advance regional development goals as set in numerous documents, some of which have been mentioned earlier on. I know that there are real challenges when it comes to funding collaborative research activities with funding provided by national governments to advance national development goals as a priority. However, there could still be collaboration amongst SGCs to develop and support networks of researchers to work jointly on regional priority areas of research. An example I will share here is one that recently caught my attention, announced a few days ago, where the National Science Foundation (NSF) in the US and the National Research Foundation of South Africa (NRF) announced a co-funding opportunity to support collaborative International Research Coordination Networks (IRCNs) comprised of U.S. and South African researchers in the field of environmental biology. The collaboration allows for the coordination of research activities on a wide range of environmental biology topics, but does not provide funding for direct research-related activities. Are similar opportunities created in the region? I think they are worth exploring as well. This could be an alternative to setting up an African Research Council(ARC), operating in a similar mode to the European Research Council (ERC) which coordinates and supports research across European countries to advance regional development agendas. What kind of coordinating mechanism do we need for Africa?

Networks of researchers working collaboratively on common issues would benefit the broader society if they worked together to set priority research areas, shared information and collaborated on generating needed knowledge products for science diplomacy. In doing so Africa as a region would become a player in the global collaboration and knowledge exchange and we would not participate as individual nations. STISA 2024 emphasizes the need to build our universities as centers of excellence, with the Pan African Union University as one model for that kind of partnership.

We have STISA-2024 as part of Africa's science, technology and innovation strategy that can succeed if effective partnerships are forged. The document itself calls for attention to education and training in research, science and innovation. To deliver on the agenda set, the African Union Commissioner for Human Resources, Science & Technology re-iterates the importance of

strategic bilateral and multilateral partnership that would contribute to providing knowledge needed for solving global challenges. Once more I would argue that the Science Granting Councils are strategically positioned to jointly forge and promote those partnerships. Knowledge production globally is networked and African scholars need to be connected to networks locally and globally to be relevant and play a role in science diplomacy. Active engagement with the world has numerous benefits to the sector.

3. I would like to conclude with the issue of merit reviews for transformation and the advancement of development agendas.

There is need to seriously re-examine the merit reviews and the criteria used so ensure that the research products are not only of the highest quality but contribute to the transformation of knowledge; the transformation of the knowledge producing agencies; and ultimately the transformation of the broader society. Such transformation actually starts with the very institutions that produce that knowledge. Questions to be raised relate to who is actually involved in the production of knowledge and how representative are the knowledge producers of the society they serve. These are some of the questions that are important for us if we are to understand societal needs and priorities from multiple perspectives. There is need to broaden the participation of researchers and the training of a more diverse future scholars and workforce. In addition to that there is also a need to broaden the diversity of knowledge produced in disciplines, as well as in inter-disciplinary settings. I was impressed to read about the NSF's focus on the same issues and its establishment of a performance area focused particularly on the broadening of participation of **underrepresented groups and diverse institutions throughout the United States in all NSF activities and programs**. Their strategy goes further in the sense that a Committee was set up to actually make recommendations on how that goal can be achieved (<https://www.nsf.gov/od/broadeningparticipation/bp.jsp>).

Another issue refers to the old tension and discourse of what knowledge is highly valued and how that knowledge is produced. The debate was popularized more in the 90s by scholars such as Michael Gibbons et. al. who referred to Mode 1 and Mode 2 of knowledge production approaches. Mode 1 approaches to knowledge production in those discussions referred to knowledge that is of an academic agenda, is generated in a disciplinary context, represents the "real science", and the knowledge produced is universal. While Mode 2 referred to knowledge produced in the inter-disciplinary context for a particular application. Their inputs provided clarification and distinctions of the types of knowledge that research can produce. What is not debatable is that both modes of knowledge are valuable and are actually co-dependent on each other for the transformation of the broader society. I am raising this point to draw your attention to the fact that the Science Granting Councils have a responsibility to support and

promote different kinds of knowledge production and not necessarily prioritize one over the other. However, the tensions I referred to might surface in a global discourse that we are part of. Our participation globally in science diplomacy should not be a distraction of our focus on what is relevant knowledge for societies in different levels of development. What priorities are set for development, who benefits and who doesn't, and how science diplomacy is framed for the benefit of all remains part of the issues we need to address.

Merit reviews should be used as a tool to help SGCs to continuously steer research activities that they support, activities related to specific research projects, institutions they collaborate with, as well as individuals they choose towards broader impact for the society. This is possible if there is a constant reassessment of our activities and a re-alignment of priorities set with the national, regional and global goals set for societal development and sustainability. What we need to avoid is using merit reviews as a vehicle to preserve the status quo, but rather use them as means for radical change.

The last point I would make in relation to the use of merit reviews is to call for the use of the data collected to expand our knowledge of the sector, so that we can transform and support it to contribute to development as set in the numerous agenda documents. We have, as one scholar once said, a Niagra Falls of policies and ideas (in this case a Victoria Falls of policies and ideas) and a Sahara desert of implementation. We need agencies that would steer us towards implementation for greater transformation as a region and together with our global partners. In a recent article Mark Patterson (South African Mail and Guardian, 27 October 2017) raises a good point which reminds us that the generation and dissemination of knowledge in itself is not sufficient, what is needed is the use of that knowledge as well. Using science diplomacy as a frame of reference we need to rethink what we do. We should form effective partnerships in knowledge production and use merit reviews to generate knowledge on our systems and sectors. As a reminder, what we need to keep in mind is that the generation of knowledge is one component of global research networks that begs an answer to the question: what happens to that knowledge once generated.

There are many fragmented but related pieces of development agendas in national and regional systems similar to a jigsaw puzzle that needs an agent or agents to help them connect and be complete to deliver on development. SGCs sit at the hyphen between governments, the higher education sector, and society and have a crucial role to play in the transformation of society. The challenge ahead is for the SGCs to coordinate or find means to coordinate the knowledge enterprise internally and across borders in the region as well as globally. We need a road map developed on how to collaboratively support and take a lead in this knowledge enterprise that is meant to benefit society.

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