



Evaluating Doctoral Programmes in Africa: Context and Practices

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Models of doctoral education in Africa remained similar to those in European universities, well into the 2000s. However, there has been an increasing realisation that such programmes are ill-suited for the African realities. With recent efforts to revitalise higher education in Africa, considerable attention has been placed on the need to explore more effective models of doctoral education, better suited to the African context. Doctoral education is key to this rebuilding as it offers the potential for developing skilled staff for academic and research institutions, and is central to the development of much-needed locally relevant knowledge in Africa. In the last decade, innovative programmes have emerged that make use of partnerships to achieve more than individual institutions could, working alone. This paper examines the constraints, challenges and opportunities in African doctoral education and identifies critical elements of doctoral education that have particular nuances in the African context. We propose a framework for evaluating the suitability of the structure and practices of such programmes. We review two of the more successful collaborative Ph.D. programmes with reference to this framework.

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Introduction

Countries on the African continent are seeking to improve doctoral education in order to improve their higher education systems, to develop knowledge that will address important local problems, and to produce highly skilled graduates to take leadership positions in their societies. Universities in Africa face the challenge of achieving these goals in a sustainable manner under considerable constraints in terms of resources, supervision capacity and preparedness of doctoral candidates. In this regard, several models of doctoral education have been attempted, with varying levels of success. As yet, no systematic attempts have been made to review these models in their form, content, cost-effectiveness and desired outcomes. The first purpose of this paper is to develop a framework for evaluating such models that



speaks to the African context. Such a framework will provide a basis for understanding the differences between these models and serve as a tool for academic departments, institutions, funders and policy makers to judge what models might work for them. The second purpose of this paper is to use the framework to review two well-known programmes with a view to understanding their strengths and limitations.

Part One: A Framework for Evaluating Doctoral Programmes

In the management literature, the idea of contingency in decision-making is well established. The contingency theory of management holds that there is no one best approach to organisational design, leadership or management decision-making, but that appropriate approaches should be selected contingent on the specific circumstances of the organisation (Perrow, 1967; Kelley, 1990). We suggest that the structure, curricula and functioning of optimal doctoral programmes are similarly contingent on the circumstances of a particular university, discipline and social environment. Our goal is to use the literature to analyse the issues surrounding doctoral programmes in Africa and to suggest a number of contingencies that should influence our design of doctoral programmes.

Past work in evaluating African doctoral programmes

In 2002, Szanton and Manyika reviewed Ph.D. programmes in sub-Saharan Africa and concluded that they were almost all based on the model of individual research under the guidance of a supervisor. This model depends heavily on the knowledge, research experience and supervisory skills of staff in an institution. They observe that the dissertation-based individual supervision model of doctoral education persisted in African universities because there were skilled individuals able to supervise in this manner and argued that other models, like offering coursework and expecting students to complete examinations, were not cost-effective when small numbers of students enrol, and that there were not enough qualified supervisors to make advisory committees practical. They argued that the individual supervision model of doctoral education made it possible to offer doctoral degrees in poorly resourced institutions.

In addition, Szanton and Manyika identified a number of innovations aimed at addressing the demand for doctoral education among Africans. For example, many African scholars have opted to study abroad. This option was however open to only a very few who could afford to travel and be away from home for long periods of time, and many African graduates did not return to Africa. To address this problem, *sandwich programmes* were introduced, which allow doctoral candidates to study in Africa, but spend a year or a semester at a well-resourced university or research institute attending seminars, making use of library assets and receiving feedback on



their work from senior scholars (Szanton and Manyika, 2002, 27). More recently, there have been innovative collaborations aimed not only at improving the learning of students, but also at improving the skills of supervisors and administrators. These programmes include forms of coursework, seminars, workshops, exchange programmes and structured processes for working on the research. Such collaborations between African institutions, or between African and international institutions, share resources in a variety of ways to offer doctoral candidates experiences, training and facilities beyond what they would get at a single institution (Szanton and Manyika, 2002).

Despite these innovations, traditional forms of doctoral education persist, although there are signs of change. Backhouse (2009) examined doctoral education in four different disciplines in South African universities and concluded that, while the model of working one-on-one with a primary supervisor continues to dominate doctoral education in South Africa, doctoral candidates increasingly ‘find themselves embedded in a pedagogic network that includes their supervisors, collaborators and other members of the academic staff; specialists in writing, research methods and the use of tools or techniques; administrative staff who help them to navigate the institutional requirements; and colleagues who share expertise or provide emotional and practical support’ (Backhouse, 2009, 290–291).

The Academy of Science in South Africa (ASSAf) undertook a major study into doctoral education in South Africa which concluded that the ‘traditional apprenticeship’ model of doctoral education was inefficient, and recommended support for ‘a diversity of doctoral programmes’ (ASSAf, 2010, 18).

In identifying and evaluating suitable alternative models of doctoral education, it is necessary to bear in mind a range of issues pertinent to the African context. These issues have been raised in previous studies, and been addressed in different ways by some of the innovative programmes of doctoral education in Africa. We propose here a framework that brings such issues to the fore.

Elements of the framework

The purpose of doctoral education is for the student to make an original contribution to knowledge in a chosen field of studies through research, usually supervised by an expert in the field. Generally, doctoral programmes incorporate epistemological, conceptual/theoretical, ethical and practical experiences that enable the candidates: (1) to undertake independent and original research; (2) to develop specialised, authoritative knowledge and competence to apply that knowledge to solution of problems; and (3) to be self-directed and self-critical (Jansen, 2011). This general conception of doctoral education assumes various forms in different contexts.

Our framework emphasises six elements of doctoral education that have particular nuances in the African context. These elements were identified from our reading of the literature, our analysis of case studies and our experience with doctoral

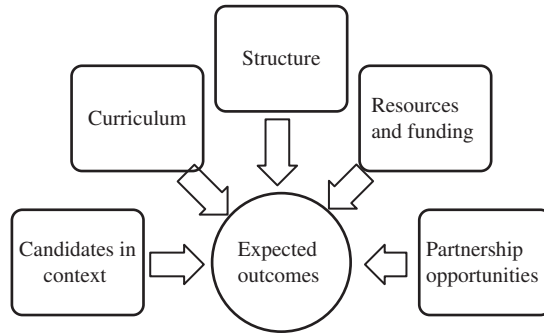


Figure 1. Framework (high-level) for evaluating doctoral programmes in Africa.

programmes in Africa. The six elements are all common elements of doctoral programmes, but which have interpretations, implications or concerns that are specific to the African context and which, we argue, need to be addressed in the design of doctoral programmes in Africa. In what follows we present the framework first (in Figure 1), and then we draw on the literature to discuss the issues pertinent to each element and argue for the inclusion of each element in the framework. Our view is that the framework reflects critical elements in evaluating doctoral programmes in the African context. A more detailed version of the framework is presented below. This sequencing does not reflect the manner in which we arrived at the framework, but is used for clarity.

Figure 1 makes the point that each element contributes towards achieving the expected outcomes, but also constrains the kinds of outcomes that are possible. There are, naturally, interrelationships between all the elements, which, for clarity, are not shown here.

Expected outcomes (what for)

An obvious starting point in evaluating a doctoral programme is to understand the desired or expected outcomes. As is common in education, the goals of doctoral education are contested. For example, some believe that the purpose of a Ph.D. is to contribute significant new knowledge to a discipline (Mouton, 2001, 5), while others consider it to be a process that results in a scholar (Boote and Beile, 2005; Eisenhart and De Haan, 2005). There are however some generally agreed outcomes concerned with the type of research, specialisation, knowledge, skills and attitudes. There are also more contested outcomes of doctoral education that include: ensuring graduates are able to find employment, preparing graduates for academic careers and developing generic research or other skills (Blume, 1995; Heen, 2002, 85) and even preparing graduates for careers outside of the academy (Blume, 1995, 30–31).



In crafting doctoral programmes, there are also larger outcomes to be considered — for the institution, and for the discipline, profession or country. Given the historical lack of supervisory capacity and limited resources in African universities, as well as the need to grow a skilled base of academic staff (Sawyerr, 2004), programmes need to consider how they produce graduates without incurring excessive costs. This includes ensuring that people graduate within reasonable time frames. Institutions also want research outputs and this may be more or less explicitly required of doctoral candidates. More generally, goals of doctoral programmes may include strengthening the discipline or profession (Golde and Walker, 2006) and producing specific skills for an industry or economy.

Universities in sub-Saharan Africa are a post-colonial phenomenon, symbols of nation-building and intended to be sources of independent, locally relevant knowledge (Sawyerr, 2004), and therefore doctoral programmes that facilitate this are important to African countries. Goals at a disciplinary or national level may include the need to develop intellectual self-confidence, so that African scholars and scholarship might emerge (Szanton and Manyika, 2002).

Backhouse (2011) has made the point that the outcomes expected of doctoral education, and the curricula and structure of programmes, are informed by discourses about doctoral education. For example, if a personal development discourse is espoused, doctoral programmes are more developmental in nature, being less concerned about the level of knowledge at the entry-point to the programme and more concerned with how candidates attain a common level of knowledge before completion. If on the other hand a scholarly discourse is espoused, it is likely that there will be less explicit support for Ph.D. students. Identifying the discourses that underpin programmes makes understanding the programmes' elements easier.

Doctoral programmes typically have multiple goals that are not always congruent, so that the extent to which different goals are emphasised and supported will differ. An understanding of the articulated and implicit expected outcomes of a given programme, as well as an understanding of the discourse in which it is positioned, serve as a starting point to guide the evaluation or selection of other elements of the programme.

Candidates in context (who)

Doctoral candidates in Africa are generally not young people who have followed an academic trajectory since school. Most do not have the luxury of pursuing continuous full-time study after school. Due to limited finances, they work in a variety of jobs while taking higher degrees, and they often study part-time, or interrupt their studies to earn. This means that doctoral candidates are often older and have work or family responsibilities when they study (Dietz *et al.*, 2006; Backhouse, 2008, 2009). While there are differences across disciplines, doctoral candidates in Africa are also frequently highly sought after experts in their communities and are in demand to undertake consulting work or headhunted



for senior appointments (Backhouse, 2009). Many doctoral candidates are already members of academic staff at local universities and are experienced lecturers; some have also established themselves as researchers.

In countries where access to higher education has, in the past, been limited, there are concerns for more equitable access (Sawyer, 2004) and doctoral programmes may want to ensure that they facilitate access for those who may have potential, even if they have not had the opportunities to become ‘top students’ in terms of traditional entrance metrics. Such a developmental discourse is particularly appropriate where candidates have not had equal educational opportunities, where they come from a variety of undergraduate programmes that may have prepared them unevenly for doctoral research, or where they come into a multi-disciplinary programme from different disciplinary backgrounds.

Doctoral programmes in Africa need to be evaluated in terms of the kinds of students they attract and the extent to which the programme takes the student’s circumstances into account.

Curriculum (what)

The prevailing model for doctoral education in African universities has been based on the apprenticeship model (Szanton and Manyika, 2002; Dietz *et al.*, 2006). Candidates are required to have a Master’s degree, generally in the field of study and area of specialisation to be pursued at Ph.D. level, and the Ph.D. is seen as a time to consolidate their prior learning by integrating knowledge, skills and values in pursuit of an original piece of research under the guidance of a supervisor. This strategy is designed to integrate practical, foundational and reflexive abilities, and to allow the candidate to demonstrate the specialised knowledge acquired in the research process. In this model, candidates are assumed to have already acquired academic knowledge and skills, with no need to broaden their curriculum. This model has proved increasingly ineffective in the African context. It provides neither enough disciplinary training, nor the research mentorship necessary for effectively supporting students in their work (Cross, 2001; Malcolm, 2001; ASSAf, 2010).

As a result, curricula are emerging that provide candidates with specialist knowledge and research skills through a variety of more and less formal interventions. Where candidates come from very diverse backgrounds — as in a multi-disciplinary programme that attracts people with different undergraduate degrees — some form of coursework aimed at establishing a common base of subject knowledge is desirable to ensure a uniform starting point for their research. Where candidates have limited research experience, attention needs to be paid to understanding research principles and practices. Researchers have advocated a move towards socialising students into the academic communities, which makes a combination of supervision and mentoring strategies central in doctoral studies (Samuel and Vithal, 2011). Thus, curricula may also include social programmes aimed at providing a supportive and collegial environment for candidates.



African debates about curricula thus share international concerns with research training (Bleiklie and Høstaker, 2004), but, where Ph.D. graduates are scarce, the debates are less concerned with work-ready skills to assist doctoral graduates in competing for scarce jobs (Nerad, 2004). Doctoral candidates in Africa typically write their research in a language other than their home language to be able to engage with the international research community (Dietz *et al.*, 2006). This means that language support is often needed, but this goes beyond simply correcting grammar, to ensuring that candidates can do justice to their own complex thoughts in an unfamiliar language (Backhouse, 2009). Doctoral curricula for Africa need to allow candidates opportunities to become familiar with and confident in the language used in their areas of study, through exposure to experts and opportunities to engage in the spoken and written discourses.

Structure (when and where)

The structure of a programme is closely related to the curriculum, but focuses on the 'when and where'. Traditionally, doctoral study has been relatively unstructured, with candidates' own motivation and perseverance being key to completing their research. Programmes that put in place expected milestones help to manage students' expectations as well as to motivate them, with a consequent improved use of resources (Mouton, 2011).

Academic departments in Africa often lack environments conducive to doctoral research (Szanton and Manyika, 2002; Dietz *et al.*, 2006); they may have few active researchers and thus not offer regular research seminars, developmental workshops, incentives, funding or time to attend conferences, mentorship, role models and opportunities to present work in progress. Where candidates are not able to observe and interact with scholars, it becomes important to provide a community where they can have opportunities to learn and be sustained by that community. In a research-active department, programmes can facilitate this by providing office space and including doctoral candidates in the academic activities of a department. In less research-active spaces, it is necessary to construct explicit opportunities, including events and networks, so that candidates get such exposure, even if less frequently.

A particular element of this exposure is the matter of geographical mobility. Geographical mobility is important for doctoral students to understand the state of their disciplines and to access archives or research facilities. Doctoral candidates in Africa often find it difficult to travel (Dietz *et al.*, 2006) and programmes that have geographic mobility built into them, or bring key figures in the discipline to candidates to compensate for a lack of travel are likely to develop graduates who are better informed about current disciplinary debates. A related matter is the location and sequencing of the doctoral programme. Travelling abroad to study is not always possible for those who have family and other commitments, and is often unattractive because programmes are not relevant (Backhouse, 2009). In addition, students work intermittently to fund their studies, and securing such work is easier in their



home countries. Studying in local institutions, on the other hand, can take a long time due to limited supervisory capacity and a lack of administrative support (Szanton and Manyika, 2002). Thus a flexible structure that allows students to take time out for work and allows different options for travel is likely to be optimal.

Resources and funding (how)

The lack of supervisory capacity, which results in some supervisors taking on large numbers of students and the uneven quality of supervision in African universities, has been widely discussed (Szanton and Manyika, 2002; Dietz *et al.*, 2006; ASSAf, 2010; Van't Land, 2011). The structure of doctoral programmes has to take this into account and find ways to ensure quality supervision. This might include making use of supervisors at other institutions — directly or in co- or group-supervision arrangements — as well as supervisor development and monitoring. Institutions and national structures are concerned with developing supervisory capacity in the interests of long-term sustainability.

From the perspective of the institution, a doctoral programme needs to be cost-effective and sustainable in the long run. The costs associated with running a doctoral programme include staffing, facilities and living expenses for students. Library resources have been identified as a limitation to doctoral education in Africa (Szanton and Manyika, 2002), with the option of electronic resources being limited by poor connectivity, lack of technology support or high costs associated with Internet access.

In Africa most students expect to pay fees for their tuition and to support themselves during their studies, but the difficulties of doing so mean that they delay and interrupt doctoral study (Backhouse, 2009). In South Africa, universities are rewarded with state funding for successful doctoral graduates. These rewards form part of the national funding formula for universities and make it feasible for universities to offer to waive fees for successful doctoral students. Countries are putting funds into growing research and development and this, as well as the private sector and donors (ASSAf, 2010), may provide funds for doctoral programmes. Since funding is such a significant obstacle to sustainable doctoral programmes in Africa, some evaluation of funding sources is needed.

Partnership opportunities and constraints (how)

One means for addressing resource limitations is to enter into partnerships. Partnerships involve multiple individuals or groups within the same, or between multiple institutions or divisions of institutions working together for a common purpose (Cross, 1999, 112). Partnership is the process of working with other institutions and individuals to achieve mutual goals; as such, members of a partnership share risks and benefits. Partnerships are based on the assumption that each partner's share of benefits is greater than the share of risks. In partnership arrangements, individuals or institutions cooperate because 'through cooperation they can achieve vital ends



that they cannot achieve in other ways' (Cross, 1999, 113). Doctoral education in Africa has benefitted from a number of innovative partnerships (Szanton and Manyika, 2002).

Partnerships can be used in many different ways. They can make it possible to exploit economies of scale, to access funds and specialist equipment and tools, to share experiences and best practices, to lobby for changes to policies (ASSAf, 2010) and consequently to have an impact beyond the size of any one organisation. For example, Dietz *et al.* (2006) highlighted concerns about the final examination process where a small academic community is able to incestuously pass the work of their own students. Given the limited number of top African scholars, partnerships make it possible to draw on a larger pool and ensure the quality of examination processes. Partnerships can also provide powerful negotiating allies when trying to have major changes accepted. Because partnerships have been central to the development of doctoral education in Africa, the question of how programmes make use of partnerships needs to be part of any evaluation.

An expanded framework

From the points raised above, the framework can be expanded to the set of questions below. More difficult to depict visually, the framework is intended to consider the interrelated nature of these elements and this will be illustrated in the next section of the paper (Figure 2).

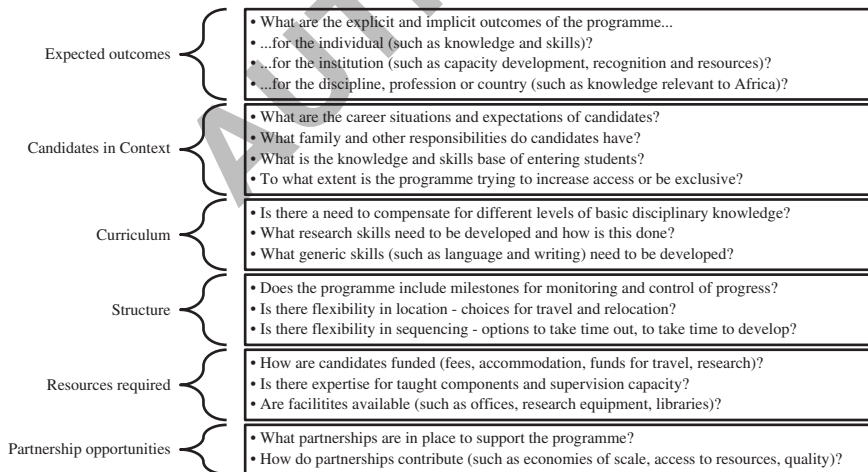


Figure 2. Expanded framework for evaluating doctoral programmes in Africa.



Part Two: Critical Review of Selected Programmes

In this section, we illustrate the application of the framework to a critical review of two well-known African Ph.D. programmes. Our intention here is to show how the framework comprehensively addresses the elements that are required to understand the ability of a particular doctoral programme to deliver on its goals. We chose these programmes because they have both successfully graduated large numbers of Ph.D.s and contributed to capacity development, and they have achieved at least the key goals, which they set themselves. In this sense, we consider the programmes to be successful. Our analysis argues that their success is based on thoughtful design that takes into account the interrelated elements identified in our framework.

The African Economic Research Consortium's Collaborative Ph.D. Programme

The African Economic Research Consortium (AERC) was established in 1988 to advance economic policy research and training aimed at understanding the problems facing economies in sub-Saharan Africa. The AERC supports research and postgraduate studies in economics, and helps to improve the capacities in economics of public universities in Africa. In 2012, the (United Kingdom's) Department for International Development (DFID), a long-term funder of the AERC, reviewed the programmes (DFID, 2012) and described the AERC as 'a leading example of a successful African-led regional institution which has been building African capacity for economic research and analysis'. The DFID commented that the AERC's 'innovative approach to training ensures that while students are based in Africa they have access to high quality teaching and supervision through strong links with leading global universities. AERC graduates are sought after in Africa and take up prominent positions within government and in the research community'.

Intended outcomes

The Collaborative Ph.D. Programme (CPP) was established, after 15 years of running a successful Master's programme, to further the AERC's goals of 'enhancing the capacity of locally based researchers to conduct policy-relevant economic inquiry; promoting retention of such capacity; and encouraging its application in the policy context' (Lyakurwa, 2007). The CPP aimed to provide quality, relevant doctoral education and to develop the capacity of local institutions to offer doctoral studies (Lyakurwa, 2007). The programme was launched in December 2002 and by the end of 2012 was expected to have produced 160 Ph.D. graduates in economics (DFID, 2012). Most of the graduates remain in Africa; about 40% work in the public sector (McCarthy *et al.*, 2003) and several have gone on to occupy senior positions in government and academic institutions (McCarthy *et al.*, 2003; Lyakurwa, 2007), so the programme is meeting its stated goals.



The programme has resulted in individual and institutional capacity building, enhanced curricula and a growing body of research on African economies. Participating universities have benefitted as the programme has created professional environments more conducive to academic work, with access to journals and computers. For some economics departments, the AERC association has enabled them to attract other resources to enhance their sustainability (Lyakurwa, 2007). The programme has also built a network of African economists who connect through bi-annual research meetings and has contributed to the status and attractiveness of the profession across the continent (Lyakurwa, 2007). Alumni of the programme are now in senior positions in governments and universities.

Candidates in context

Entry to the programme is competitive and applications are screened by the AERC as well as having to be accepted by the degree-awarding institution for doctoral study. The demand for places has been far higher than the 21 sponsored places each year (Lyakurwa, 2007). Students for the programme are drawn from across the continent. In 2007, the programme hosted candidates from 18 countries (Lyakurwa, 2007).

Doctoral programmes can be exclusive, but the CPP clearly embraces a more developmental discourse since:

The biannual research workshops are characterized by an atmosphere of professional camaraderie, where work is assessed primarily in terms of the potential of the researchers. This situation provides considerable latitude for gradually raising norms for performance in line with improvements in researchers' knowledge, skills, and self-confidence. (Lyakurwa, 2007, 147–148)

Students on the CPP appreciate that studying in Africa means that they are closer to family and although the programme involves some travel, this is on the continent and relatively easier to accommodate. Graduates of the CPP programme take positions in the public and private sectors as policy researchers and consultants as well as pursuing academic careers.

Curriculum

The CPP is a 4-year programme that includes coursework and a thesis. In keeping with the objectives of the AERC, the curriculum exposes students to the frontiers of economic knowledge and its application to the African context. The curriculum draws on policies, data, literature, theories, and academic materials relevant to Africa and attracts African candidates because the research orientation is locally relevant. The programme has established a group of researchers and a growing body of research that is informed by international developments in the field, but directed



at local issues. This has had the effect of growing confidence in African knowledge and knowledge-making (Lyakurwa, 2007; DFID, 2012).

Candidates complete courses in three core fields — Microeconomics, Macroeconomics and Quantitative Methods, and in two electives. Academics from partner institutions teach, supervise, participate in thesis workshops, examine, and develop the curriculum and teaching materials jointly. Standards are enforced through internationally recruited external examiners and an academic board. Among the management challenges has been the difficulty in securing suitably expert instructors for some of the electives, but this is expected to ease as the graduates of the programme increase the pool of experts (Lyakurwa, 2007).

After successfully completing the examinations, candidates complete a thesis. They attend three thesis workshops: one on completion of the proposal, another after data collection to present initial analyses, and a third to defend a thesis draft. During the workshops, candidates interact with and get feedback from national, regional! and international experts. The workshops are designed to ensure smooth progress, to avoid problems that might arise from poor supervision and to develop a high-quality thesis. Students are not expected to produce publications during their studies, but many do present conference papers and are ready to publish soon after graduating. The CPP does not offer explicit guidance in developing aspects of an academic career, other than research, but it does offer candidates and their supervisors the opportunity to work as part of a vibrant research community at least for parts of the year.

Structure

Coursework is completed at one of the regional hosting institutions and the electives are taught in Nairobi. Students are recruited annually and work through their coursework as a cohort. This allows them to develop relationships and establish networks during their thesis work that last into their professional lives (Lyakurwa, 2007). Once the coursework component is complete, candidates move to one of the degree-awarding universities to work on a thesis with individual supervision. They travel bi-annually to thesis workshops to get feedback on their work and strengthen their networks.

Each candidate is awarded a degree from the institution where they complete their thesis. This means that the design of the programme allows for candidates to be supported within the existing doctoral programmes at individual institutions, but offers, in addition, (1) a solid grounding in theory, (2) a supportive developmental process, and (3) an additional quality check on the research work, which compensates for any shortcomings in supervision. Thesis workshops are held at the same time as the AERCs research workshops so that candidates benefit from the input of economists from across the continent, and have the opportunity to network and hear presentations from leading thinkers in the field.



Resourcing

The AERC's work is supported by donor governments, private foundations and African and international organisations. The AERC sponsors 21 doctoral candidates a year on the programme, and additional fee-paying students can join the programme. Students are given stipends for living expenses and their travel and accommodation is funded, including to workshops. Sponsorship is only for African nationals.

The consortium has been able to raise substantial funds from international donors, as the continued success of the programme has boosted donor confidence (McCarthy *et al.*, 2003; Lyakurwa, 2007). At present there are no African contributors, despite the substantial number of alumni in senior positions; negotiations are underway to remedy this.

This model requires little in the way of resourcing from the hosting and degree-awarding institutions. Institutions are able to manage CPP students in the same way as they do other students. Partner institutions get small allowances to cover administrative costs and degree-awarding institutions were funded to set up facilities for students at the start of the programme.

Partnerships

The CPP partnership includes eight degree-awarding African universities, four of which host candidates for coursework. There is one hosting university for each region, which minimises travel costs during the coursework component of the programme.

The collaborative process of curriculum design and shared teaching makes it possible to provide a solid theoretical grounding even where individual institutions do not have sufficient staff to run a full coursework programme. Academic staff members also develop their own skills in supervision and curriculum design as they learn from their peers. Other universities on the continent also benefit from the programme; their academic staff members are able to participate as candidates, to audit courses, or to teach and supervise on the programme.

Reflecting on the contingencies for success

The AERC CPP is successful, with around 160 graduates in 10 years and considerable growth in local capacity and research outputs (Lyakurwa, 2007; DFID, 2012). The programme is accessible to African candidates because it allows them to study near home and to do locally relevant research. The curriculum and structure of the programme allows candidates to develop high levels of economic knowledge, and, while the thesis is supervised in a traditional manner, the support structures ensure that candidates do not fall behind and act as a safety mechanism against poor supervision. The design of the programme does not place undue burdens on the partner institutions and the programme avoids competing with existing programmes.

However, the CPP continues to be donor-funded. Apart from a few candidates who are self-funded or supported by other sponsors, the AERC has found it difficult



to attract funding from within Africa (McCarthy *et al.*, 2003; Senbet, 2013, personal communication). The AERC's established track record in capacity building and research gives donors the confidence to invest in the CPP. In addition, institutions such as the World Bank are interested in strengthening economics knowledge across the continent, and thus it has been relatively easy to attract funding (McCarthy *et al.*, 2003). As the programme has established a network of economists in prominent positions across Africa, there is hope that it will be possible, over time, to source funding and other forms of support from Africa to make the programme sustainable.

The success of this collaboration was such that the AERC model has been used as the basis of the Economic Education and Research Consortium in Moscow and the Economic Research Forum for Arab Countries, Iran and Turkey (McCarthy *et al.*, 2003).

The Consortium of Schools of Education in South Africa

Established in 1998, the Consortium of Schools of Education in South Africa (CSESA), also known as the South African Doctoral Consortium, brought together five South African universities in collaboration with Stanford University and the University of Queensland to review and reform their doctoral programmes. Three main issues drove the initiative. The first was the widely recognised shortage of high-level capacity in the area of education policy research; there was little tradition of gathering empirical information about the effects of policies, policy implementation, or even what was actually occurring in the education system, so that policies based on 'real behavior' and 'real conditions' could be developed (Carnoy, 2000). The second was the recognition that collaboration could be more effective in increasing the number of graduates. The third was the need to improve the existing institutional curricula and structures for doctoral education. The Consortium hoped that harmonisation in this regard would lead to better programmes as members shared their practices and experience (CSESA, 2001).

Intended outcomes

The Consortium set itself a number of goals, which included: (1) the review and transformation of existing doctoral programmes to make them of high standard, replicable, more effective and able to accommodate more students without compromising on quality; (2) promotion of collaboration and networks among faculty and students; (3) institutional capacity building and institutionalisation of high-quality scholarly research; and (4) the development of a research community wider than could be achieved within any one of the institutions alone. Its intention was to significantly impact the policy-making capacity of the educational system, while increasing access of previously under-represented groups, and providing a sustainable basis to enlarge educational research capacity. In addition, it was to



ensure that a dialogue would ensue between practitioners and scholars separated for a long time by apartheid (CSESA, 2001, 4; Machel, 2006).

Candidates in context

In addition to students with potential to become good educational researchers, the programme targeted academic staff in member universities and in historically black universities who needed to complete their doctorates. The programme attracted excellent candidates: 'This was a group of very interesting and very capable students that any university professor in the world would vie to have', who could talk about their topics with theoretical depth (Mintrop, 2000). Most were part-time students and held relatively senior positions, a situation that offered both a difficulty and an opportunity. While the programme needed to be flexible enough to accommodate such students, their location in the different sectors of educational practice provided opportunities to link their work with cutting-edge research. Consequently, the programme embraced the integration and articulation of research with hands-on experience and flexible delivery to cater for both full- and part-time students. Partnership with employer organisations (state, private sector and NGOs) facilitated participation of their employees and provided internships for full-time students (CSESA, 2001).

Curriculum

Highly debated within the Consortium was the notion of *core knowledge*, which included methodological and epistemological processes, the relationship between theory, method and the research problem, persistent disciplinary dilemmas and perennial topics, and systemic issues (Spencer Foundation, 2001). The Consortium developed a curriculum that not only provided knowledge and skills informed by contextual needs, but also articulated both formally and informally with programmes offered by participating institutions, or with other national and international programmes (Cross, 2001; Malcolm, 2001).

The curriculum entailed preliminary and parallel coursework elements, tailor-made to meet individual theoretical and methodological needs of the candidates, and a set of four specialist or discipline-based modules to develop and consolidate capacities in the relevant disciplines (CSESA, 2001). Combined with mentoring, practical research experience and exposure to workplace experience, the modules offered a 'hybrid model of research training' in educational policy research with the necessary interdisciplinary and discipline-based theoretical and methodological rigour (Machel, 2006, 53). Students registered in their home institutions and completed courses offered either centrally by the Consortium or through their home-based institutions, as a prerequisite for continuing to the next stage of the programme (Cross and Graham, 2001, 6–7). The Consortium offered its courses at bi-annual week-long residential programmes (summer and winter schools), which brought together students, faculty of the Consortium and invited experts.



Second, a range of activities were provided aimed at socialising students into a sound research and academic culture and at shaping their new identities. These included regular doctoral seminars within home institutions, doctoral colloquia where students presented their work-in-progress, and a programme of academic enrichment and support comprising workshops for skills such as proposal writing, use of research databases and technical aspects of research methods. Candidates had opportunities to participate in larger research projects, co-author papers and reports and attend conferences, student exchange with Stanford University, and internships (CSESA, 2001).

Structure

The programme completed three cycles, with an average of 25 candidates each, from 1999 to 2005/6. One of its defining features was a structure of principles, rules, procedures, curriculum and delivery arranged within the logic of cohort development. Students had to cross well-defined hurdles, drawing on the guidance of supervisors, advice from faculty and peer support. Milestones included: (1) production of a literature review; (2) successful proposal hearing; (3) satisfactory completion and approval of the research proposal; (4) completion of coursework requirements; (5) development of a framework for fieldwork; (6) data collection and analysis; (7) hearing of a draft dissertation report; (8) presentation of research; and (9) submission of the dissertation (Cross and Graham, 2001, 7). These hurdles provided students with clear targets to work towards, at a reasonable pace, supported through co-supervision, committee advice, formal monitoring and evaluation, and academic enrichment activities. Attention was also paid to the integration of doctoral students into departmental academic life.

Resources

The resourcing of the programme was based on co-participation. Member institutions shared responsibility to staff the programme, make suitable supervisors available, provide facilities and administrative assistance, as well as host the residential components of the programme on a rotational basis. Core funding for students came from local and international grants (CSESA, 2001) and covered tuition, accommodation and subsistence, study and research materials, attendance at workshops and conferences and journal publication costs.

Partnerships

The Consortium became part of the Spencer network of the 11 top Schools of Education in the USA. The benefits of participating in such a network are considerable; the network held annual review meetings and faculty retreats on doctoral preparation. It constituted a forum for members to advise each other on strategies for improvement and assessment, curriculum and degree issues, models for preparing the professoriate and supervisors, and quality matters. The Consortium



also provided therapy to address the divide that had long separated South African academics and their institutions under apartheid. For Soudien (2003, 1), the Academic Director of the Consortium:

Very little could be learned from the style and the dynamics in the course of the debates. They are just academics like us. A lot could be learnt however about their concerns, approach and strategies to improve their academic practice and influence the policy context in which they operate. These are issues well beyond the fierce competition that divides them.

The Consortium used its powerful institutional base to play a critical lobbying role on major issues concerning doctoral studies institutionally, nationally and internationally — from standards to resourcing. It allowed for a strong voice to challenge long-held views about good and effective doctoral education and research training, as well as making a strong case for what the programme stood for: rigorous research, research to inform policy and practice, improvement of practices, the need for supervisors to be active researchers with research projects where their students could participate, publication of students' work, and reflection on the state of educational research (Soudien, 2003, 1–2). In other words, it provided the context to forge an identity around concerns with quality, high standards and best practice in research and graduate training.

Reflecting on the contingencies for success

The programme has succeeded in building a cadre of scholars who are already making their mark in different parts of South African public life. Graduates occupy senior research, academic or management positions in universities, research institutes and the public sector. But the achievements of the programme go further. The Consortium's model draws on what Mouton (2011) calls *thick models of supervision* designed to improve the efficiency, effectiveness and quality of doctoral studies. *Thin models of supervision*, he argues, are based on laissez-faire strategies: informal screening, proposal development, dissertation work and optional journal article publications. 'Thick' models entail structured screening, elements of coursework with formal assessment, proposal development as formalised process, dissertation work under directional/transactional modes of supervision, and journal publications as a requirement.

This programme was the first to broach such models of doctoral education in South Africa, and overcame considerable resistance in the process. The Consortium brought together three universities — historically white, Indian and 'coloured', with a history of rivalry and suspicion, working with minimal collaboration. It congregated academics with different skills and capacities to think creatively about addressing difficulties that, in their individual institutions, they might not have solved. Under such circumstances, strong leadership was important. The programme relied on *champions* who could with conviction bulldoze the process,



and on *individual partners* who could persuasively negotiate the institutional dimensions. The novelty of this initiative resides beyond its academic achievements; greater attention was given to securing active participation of individual partners and the creation of a critical mass of scholars (academics and students).

Sustainability is usually seen in financial terms: the Consortium designed its doctoral programme *not* as a long-lasting mode of delivery of doctoral education, which would have become unsustainable without external funding, but as a mechanism for institutionalisation of new and innovative practices. In this regard, in addition to producing highly skilled policy researchers, the programme has changed the approach to doctoral programmes in participating institutions. It introduced to South African doctoral education coursework, support through mentoring, and practical research and workplace experience. With variations, all participating schools have since adopted structured programmes and ‘thick’ modes of supervision accompanied by academic enrichment activities, and the value of such programmes has been recognised nationally (ASSAf, 2010).

Concluding Remarks

In this paper we have presented a framework aimed at evaluating models of doctoral education in Africa. The intention is that such a framework can be used to understand the strengths and weaknesses of particular programmes and guide the design and implementation of doctoral programmes. Our framework highlights issues specific to the African context, many of which are seldom discussed in the mainstream literature. Unlike in the first world where there is a glut of doctoral graduates, African countries and universities have the opportunity to significantly grow the number of doctoral students. They also seek to improve the quality of their doctoral programmes and in the process develop needed high-level graduates and knowledge that can help to address Africa’s many challenges.

Traditional approaches to doctoral education have served the continent well in the past, but are not scalable to address the growing demand. African universities lack the resources, in terms of supervision, facilities and finances, to replicate successful first-world models of doctoral education. We argue that replication is also undesirable, as that would miss opportunities to create new and better ways of delivering excellent doctoral education. Challenges provide opportunities for innovation. We reviewed here two of many innovative responses to the challenge of delivering good doctoral education in Africa. From the introduction of ‘sandwich’ programmes, through to collaborative models, Africa has seen ongoing innovation in doctoral education to meet local needs. Such innovation is not only in the curricula and structures of the programmes, but in the judicious use of partnerships to compensate for resource limitations, to strengthen the capacity to lobby for change, and to develop capacity more widely.



We have proposed a framework for evaluating doctoral programmes in Africa, based on our identifying issues that have specific nuances in the African context. In designing doctoral programmes, these local concerns need to be addressed in ways that speak to local contingencies. We hope that this framework contributes to the emergence of exciting, effective and exemplary African models of doctoral education that will serve as models for other, smaller continents.

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