Post-graduate training in Africa:
Challenges and approaches

Johann Mouton
African Doctoral Academy, Stellenbosch University
www.sun.ac.za/ada

Carnegie Corporation Conference
Nairobi 15 November 2010

Four theses

- The state of research and PG-studies in Africa
  - T1: The de-institutionalization thesis (research)
  - T2: The casualization thesis (doctoral studies)
- Intervention models – new approaches
  - T3: Increasing structuration of PG training programmes
  - T4: Shift from individual to collaborative approaches

Thesis 1
De-institutionalization of research

Thesis 1: The de-institutionalization of research in Africa

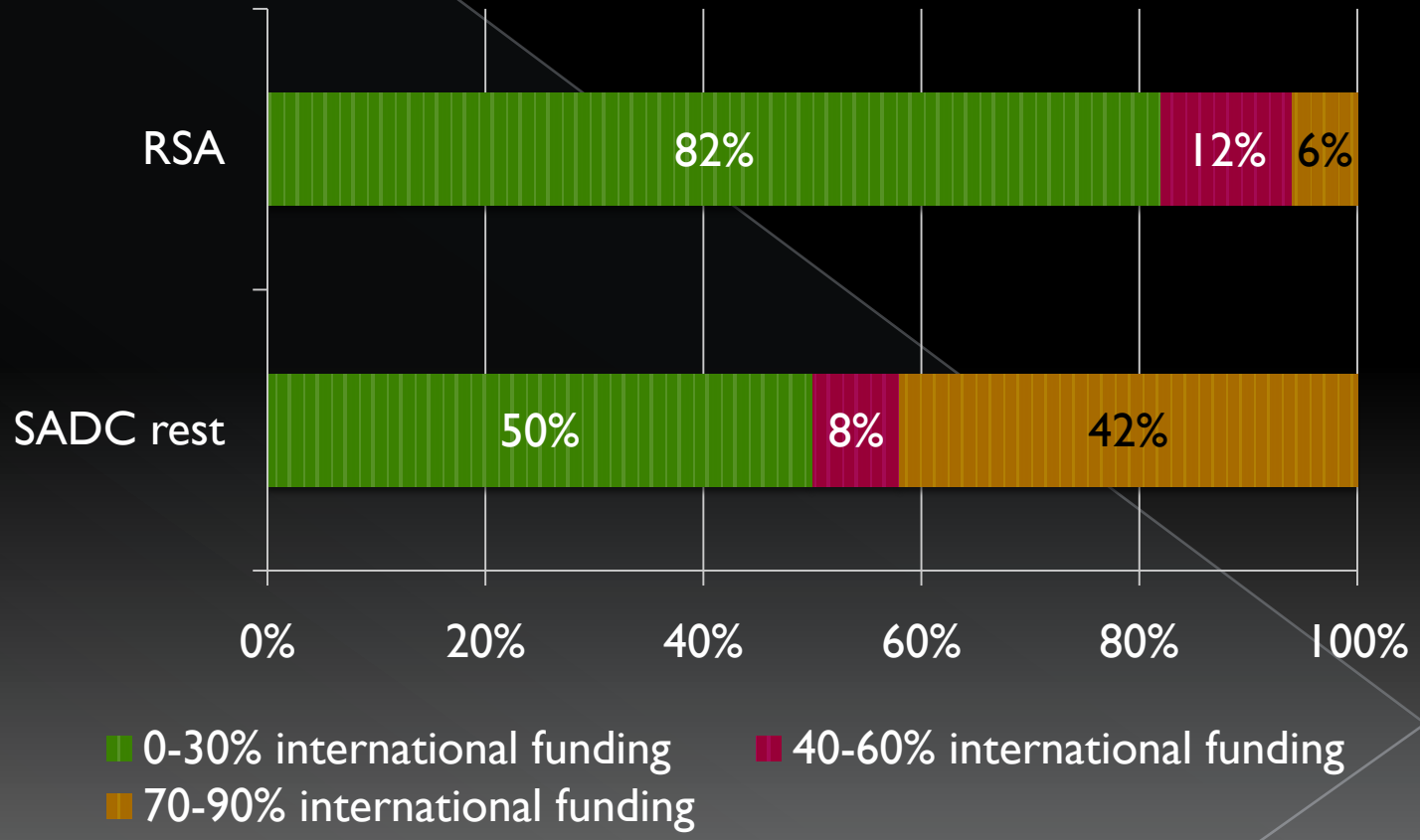
Numerous studies over the past 10 – 15 years have pointed to Africa's decline in the share of world scientific output, that doctoral output at many universities in sub-Saharan Africa has declined; that research infrastructure and the general state of laboratories at many institutions have suffered from a lack of maintenance and timely replacement of old equipment. In addition libraries remain under-resourced and many university libraries have only recently converted to computerized library management systems and acquired a minimum set of elecronic information resources. In addition the demand for sufficient research funding for ongoing research and scholarship remains unmet as does the need for proper research management and support at many of these institutions.

The cumulative effect of funding policies of the last two decades of the previous millennium – especially of the World Bank, - the huge growth in student enrolments in higher education institutions, the continuing effects of the brain drain, combined with continuing political instability in many African countries have created a state of affairs which van be described as the "de-institutionalization" of science.

The forms of de-institutionalization

- Weak research institutes and ageing equipment and laboratories
- Huge dependency on international research funding (because of lack of government investment in R&D)
- Increase in individualistic scholarship and consultancy modes of knowledge production
- Brain drain and its effect on trends in student mobility

Proportion of total research funding sourced from international funding agencies



Predominant modes of knowledge-production

- The predominant modes of knowledge production in universities is either "individualistic" research or consultancy "research".
- Given the lack of research infrastructure (strong research centres with a critical mass, sustained funding and institutional continuity) scholars end up engaging in projects that do not convert into building institutional capacity. This has been referred to as "individualistic" (Zeleza) or "CV-building" research (Waast). Such research is very rarely linked to the work of other scholars or doctoral students (of which there are few anyway). It tends not to be accumulative over time and does not culminate in the building of a research programme or centre of excellence that can act as a platform for future research and post-graduate training.

Science for hire

- Recent survey of nearly 800 academics in 12 SADC countries show that the majority of our survey respondents (62%) indicated that they are involved in some form of consultancy work or the other. The proportions of respondents by country that indicated that they engage in consultancy range from 50% (Lesotho) to 72% (Malawi and Zimbabwe).

- What types of consultancy are the respondents involved in?
  - 36% consult for their governments
  - 30% consult for the industry sector in their country
  - 21% indicated that they do consultancy for academics in their country
  - 8% said that they consult for academics in other African countries
  - 8% consult for governments of other African governments
  - 7% do consultancy for academics in non-African countries
  - 4% consult for industry in other African countries

Wight, Daniel (2008) “Most of our social scientists are not institution based - they are there for hire—Research consultancies and social science capacity for health research in East Africa” in *Social Science and Medicine*, Vol. 66: 110 – 116.

Brain drain and student mobility

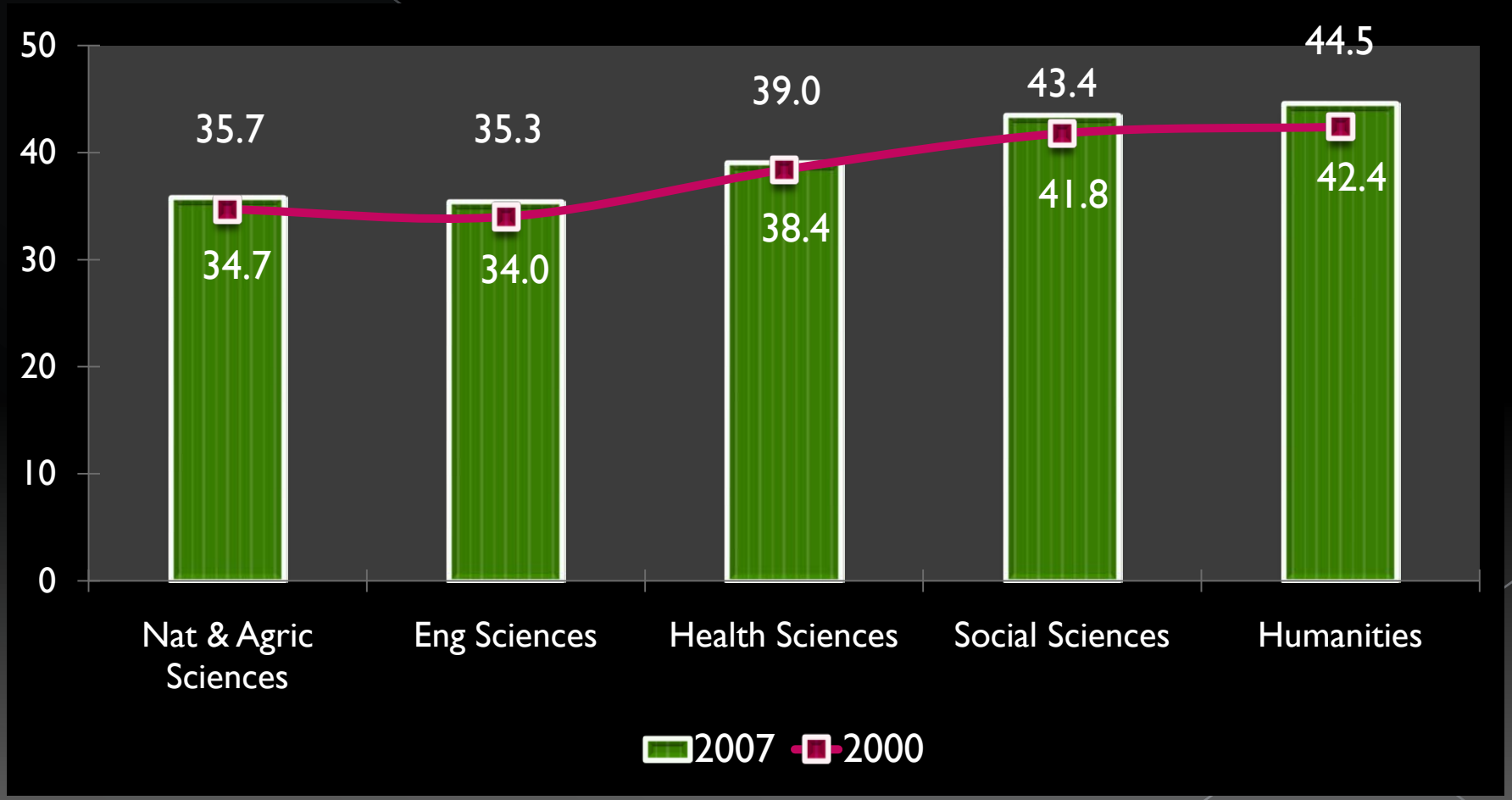
- In addition to the well-documented flight of high-level human capital (academics and scholars) from the African continent over the past four decades, there has been another equally devastating "secondary brain drain" - not at the level of scholars and scientists but at the level of post-graduate student. Many students in the region do not study in their home country because of the lack of adequate endogenous facilities, expertise and very often simply (in the case of post-graduate students) because there are no master's or doctoral programme for them to enroll in. The extent of this problem is clearly illustrated by the increasing numbers of students from African countries who do not study in their home country any more.
- The countries with the highest outbound mobility rates in sub-Saharan Africa are: Botswana (87%), Namibia (65%), Lesotho (53%), Swaziland (50%), Mauritius (41%), and Zimbabwe (31%). South Africa is now one of the top three preferred educational destinations (together with the USA and UK) and has the highest inbound mobility rate with nearly 54 000 foreign students studying in the country in 2006.

Thesis 2
The “casualization” of doctoral studies

The "casualization" thesis

- For the majority of doctoral students (and increasingly for Masters students as well) doctoral studies has become a part-time activity
- The study trajectory of most post-graduate students is typically "interrupted" (with employment, family commitments, etc.) and hence non-accumulative in nature
- Consequently most doctoral students complete their degree at an "older" stage in their lives which impacts on time to completion and overall research productivity

Mean age of South African doctoral graduates at time of by broad field, 2000 & 2007



Time to degree increases by age!

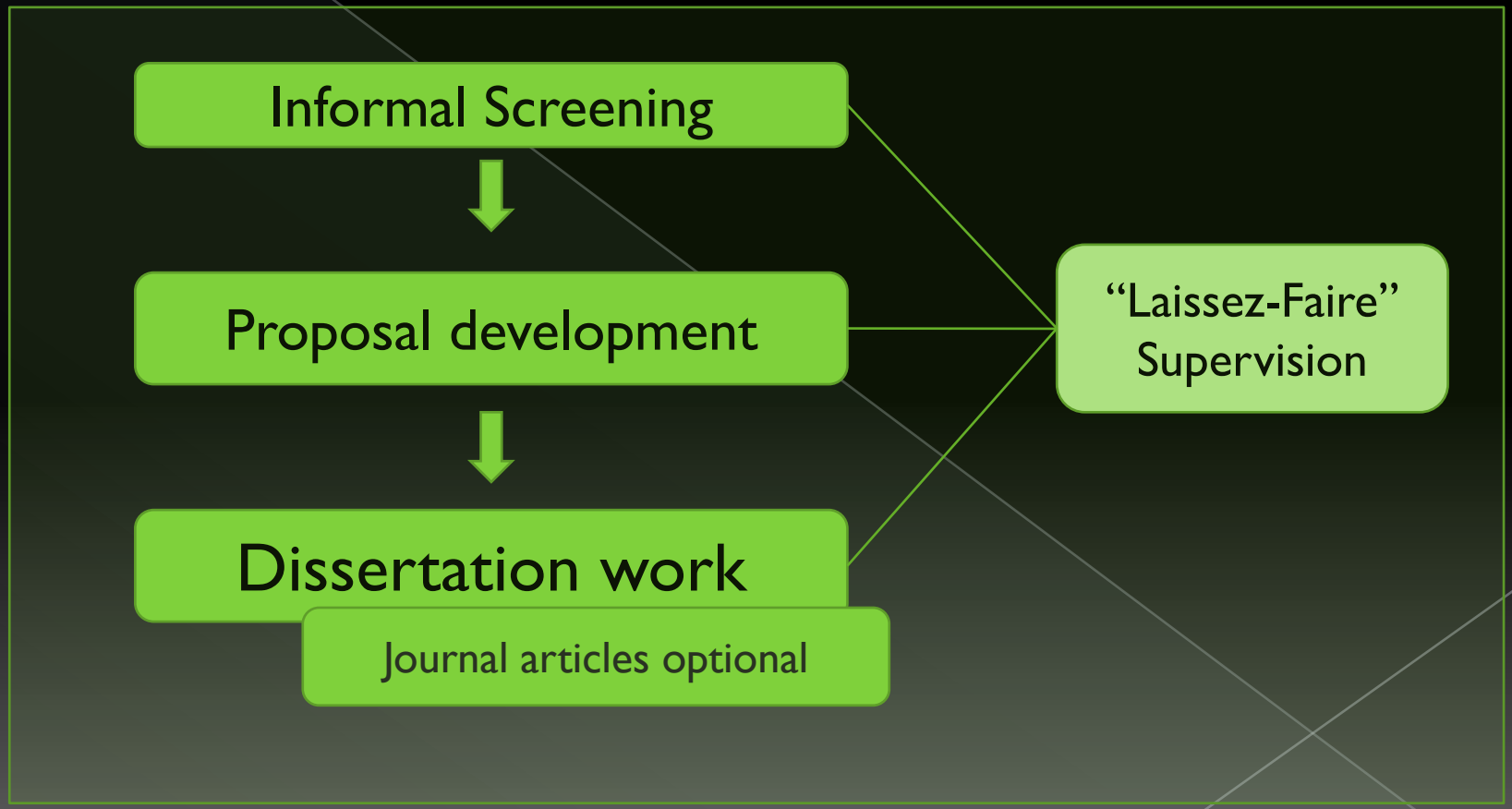
	2000		2007	
	Mean yrs	N	Mean yrs	N
<30	3.7	89	3.6	145
30-39	4.5	251	4.7	458
40-49	5.0	171	4.9	340
50+	5.6	77	5.7	220
All	4.6	822	4.8	1274

Thesis 3
The increasing structuration of doctoral training

The structuration thesis

- One of the outcomes of the "de-institutionalization" of research (for PG studies) is a greater disconnect between research and doctoral training.
- One of the outcomes of the "casualization" of PG studies are new demands for doctoral training and supervision
- This brings us to a third thesis – the increasing structuration of PG training and education: We are currently witnessing two major shifts in doctoral training:
  - The continuing expansion and elaboration of doctoral training models (from "thin" to "thick" models of doctoral training)
  - The shift towards greater "management" of doctoral training and in particular models of doctoral supervision. In this respect the shift has been from very unstructured supervision ("laissez-faire") to increasingly structured and "managed" (contractual and directorial) modes of supervision

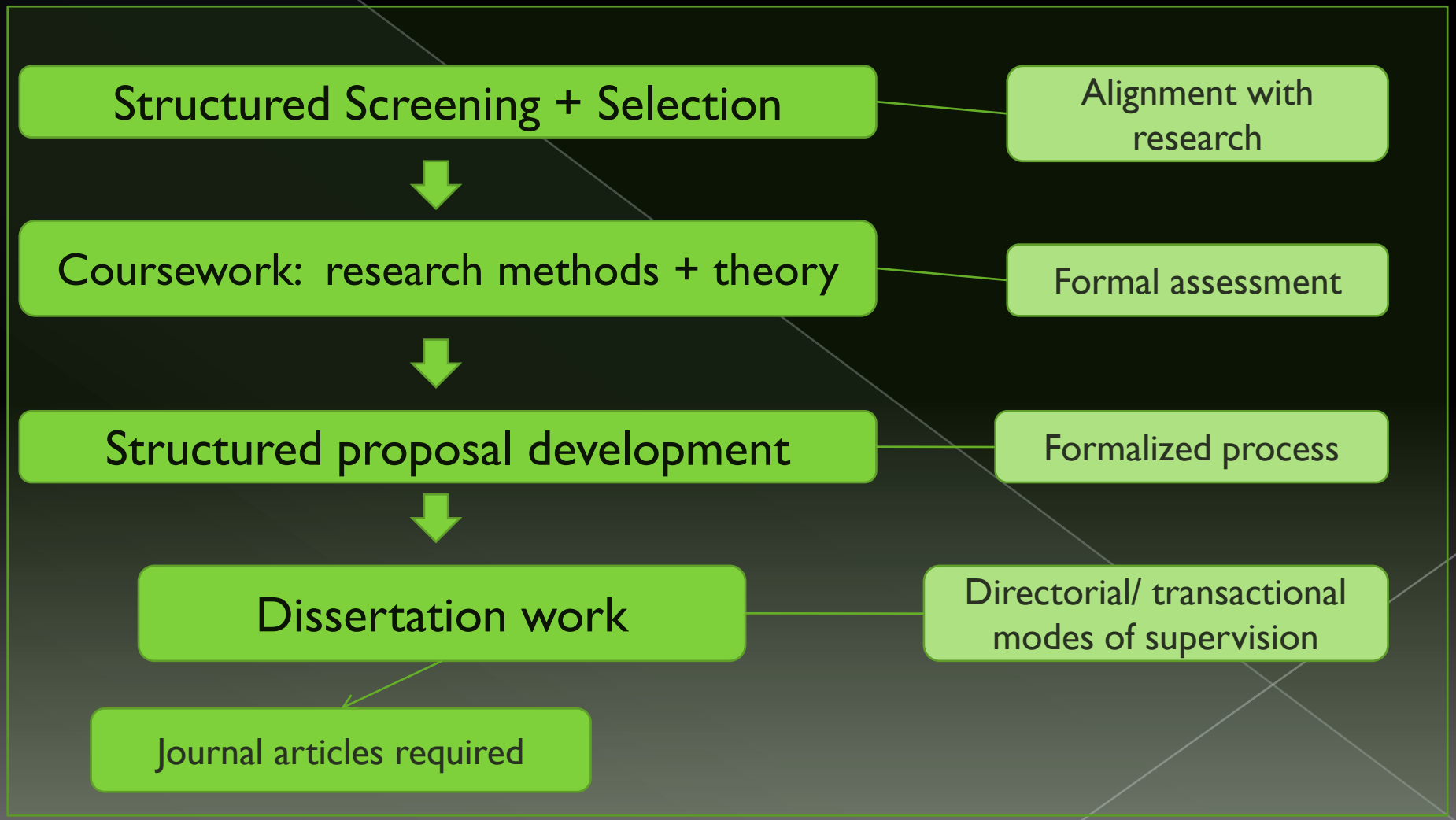
The traditional ("thin") model of doctoral training



New demands on doctoral training

- Student level factors
  - High attrition rates (40 – 60% across fields)
  - Unacceptable completion times (TTD)
  - Poor methodological knowledge and scientific writing skills
- Supervisors level factors
  - Perceived poor quality of supervision
  - Increasing burden of supervision (insufficient supervisory capacity)
- System and institution level factors
  - Demands for more accountability and "return on educational investment"
  - Demands for greater efficiency (e.g. HEQC Audits in South Africa)
  - Demands for more support from "paying" students

Expanded and more elaborate("thick") model of doctoral training



The African Doctoral Academy @ Stellenbosch University

Research methods training

Summer and Winter Schools

Short courses and workshops

+

Scholarship preparation

Integrity in research
Scholarly publishing
Academic career development

+

Building supervisory capacity

Accredited course in doctoral supervision

Research programme: The African doctorate

Partner institutions
- Makerere
- Dar es Salaam
- Botswana
- Malawi
- +

SU

Graduate School in Arts and Social Sciences

- University PG centre
- Full-time scholarships (3 yrs)
- Dedicated mentors
- Cohort supervision

?

Thesis 4
A shift from individual to collaborative training models

Inter-institutional (collaborative) models – rationale and critical success factors

- Although the shift towards more structured ("thicker") models of doctoral training begins to address some of the individual-level challenges of the "new" doctoral students, they do not necessarily address institution-level challenges : hence the advent of increasingly more collaborative models
- The obvious motivation for the establishment of many of these collaborative inter-institutional models (such as sandwich programmes or equal-partnership progammes) is to be found in maximising available resources (human capital, laboratories, expensive equipment, etc.) and at the same time ensuring or improving quality of PG training.
- The available evidence suggests that these collaborative models are expensive and labour-intensive. They require significant planning and preparation beforehand, high-levels of commitment and ownership bt all partners, continuous support and monitoring by a dedicated programme staff – and more often than not – a long-term (15 – 20 years) funding commitment by some donor or funder.

Inter-institutional (collaborative) models – key parameters

- Model of governance (nature of the "institution" and degree of participation by partners)
- Programme management and administration (locus of control)
- Programme design (degree of inclusivity in curriculum & content development)
- Programme delivery
  - Field "dependencies" ("laboratory to field to study")
  - Site of delivery (single or mult-site)
  - Selection of resource persons/quality of human resources
  - Models of supervision/mentorship
- Programme funding (single/ multiple funders/ partnerships with governments)
- Institutional contexts (differences in institutional histories, cultures, assessment practices)
- Systemic (country) contexts (differences in HE systems, policies,etc)

Different configurations (illustrative)

Model parameter	Weak collaboration	Moderate collaboration	Strong collaboration
Management and administration	Centrally driven ----------Joint		
Programme design	Post-design comments	Consultative	Joint ownership of design
Programme delivery	Mostly one site only	Primary and secondary sites	Equally distributed over partner sites
Supervision models	Central supervision ---------- Joint supervision		
Qualification	Separate degrees ---------- Joint degrees		

Concluding comments

- Our understanding of the nature and the extent of the challenges in delivering high quality and relevant doctoral training to the next generation of scholars and scientists on the Continent is improving.
- But our knowledge about the best intervention models needs to become systematic and rigorous. We undoubtedly have to have more comparative and evaluative studies of the different models (existing and newly emerging) of PG training within and between our institutions. In many cases we are still engaging in a "trial and error" process. Bringing together the funders, managers and implementers of some of these models to reflect on these issues – as at this conference – needs to happen more often.

Thank you

jm6@sun.ac.za