

**RESEARCH CAPACITY IN THE NEW  
GLOBAL DEVELOPMENT AGENDA  
MOBILITY, COLLABORATION AND SCIENTIFIC  
PRODUCTION AMONG PHD GRADUATES  
SUPPORTED BY SWEDISH DEVELOPMENT AID IN  
AFRICA**

**EBA seminar 2017-05-29**  
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# Objective and methodology

- Comparatively examine individual outcomes of PhD training in three African countries (Mozambique, Tanzania and Ethiopia), all of which are recipients of long-term Swedish aid aimed to build research capacity in low-income countries. Three areas of investigation:
  - **Mobility** (*vertical* - within academia, *sectoral* – interaction with other sectors in society and *international* – stays and positions abroad)
  - **International collaboration** (magnitude and modes of international collaboration as well as prerequisites and roles in international collaboration)
  - **Scientific production** (magnitude and modes of publication as well as international outreach)
- Present and critically analyze the contextual framework in which the PhD graduates are navigating – state and premises of the international and national science regimes
- Swedish development aid policy framework on research
- Mixed methods approach
- Time-period: 1990 - 2014
- The dataset comprises 243 individuals (82 in Mozambique, 87 in Tanzania and 74 in Ethiopia) from four universities: University Eduardo Mondlane (UEM), University of Dar es Salaam (UDSM), Addis Ababa University (AAU) and Alemaya University (AU).
- 38 in-depth interviews

# Development aid policy context

- Swedish development aid to research:  
Strengthened research of high quality and of relevance to poverty reduction and sustainable development
- Bilateral support
- Capacity-building for research, primarily in low-income countries and regions
- Goal: more partner countries have capacity to independently undertake research training and conduct high-quality research
- Comprehensive and integrational understanding of national research systems
- Research training a central component

# Rationales

- Long-term support to PhD training
- Unchanged premises of the modality
- Considerable number PhDs trained
- Changing surrounding conditions
- 2030 Agenda and the SDGs
- Few conducted analyses of outcome

# Situating the PhD graduates

## International context

- Current premises of the global science regime
  - Competition
  - Rankings
  - Citations
- Internationalization
  - Collaboration
  - Mobility

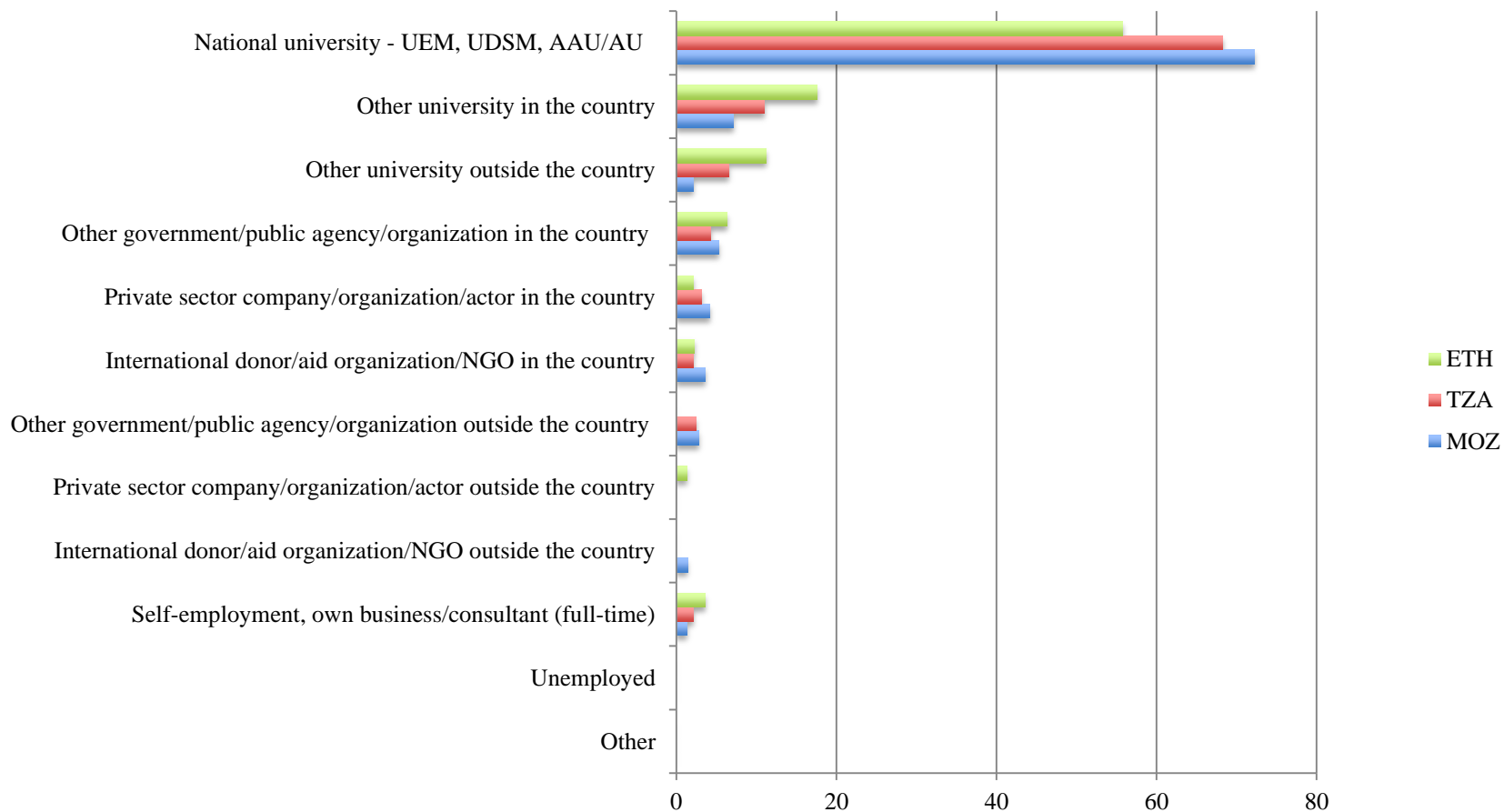
# Situating the PhD graduates African and national context

- Research capacity in Africa
  - Positive trend, but still a very small research provider
  - Periphery of global research network research collaborations
  - High mobility among African researcher
  - Few regional collaborations
  - GERD still proportionally low in most African countries
  - The share of global researchers – about 1 %
  - 57 researchers per million inhabitant in Sub-Saharan Africa
  - Brain drain: one in every nine persons with tertiary education live in OECD countries
  - Scientific output (publications) has increased by 66 % since 2008, but still only 1.4 % of the world's share of publications – South Africa stands out
  - National contexts: high policy aspirations, expanding HE (institutions and students), low GERD, aid dependency

# Results – Mobility

- 94 % (MOZ), 91 % (TZA) and 86 % (ETH) still in the respective country
- Low sectoral mobility – a majority is still in the academia
- Vertical mobility – many have reached high positions
- Low international mobility – 27 % (TZA), 22 % (MOZ) and 30 % (ETH) international mobile since graduation
- Africa and Europe dominant as destination regions

# Sectoral mobility - Percentage of graduates per type of sector and country (%)





# Results – collaboration

- 45 % reported to be involved in some type of international collaborations – Medicine and science stands out
- Africa and Europe at the centre for collaboration
- 73% (MOZ), 63 % (TZA) and 51% (ETH) reported to have maintained some type of collaboration with Swedish/SA partner after graduation – Medicine, technology, science and agricultural science stand out
- Uneven premises in international collaboration

# Results – ability to conduct research and publication

- Limited government research funding – international aid the dominant provider for research after graduation
- Low pay-off for having a PhD degree in terms of extension of time to conduct research
- 94% (MOZ), 93 % (TZA) and 96 % (ETH) spent 25 % or less of their time on research
- Publication in international journals more frequent in STEM sciences, particularly medicine
- Publication in national journals more frequent in social science, humanities and agricultural science

# Policy recommendations

- The significance of capacity for science, technology and innovation in low-income countries for the implementation of the 2030 Agenda and the SDGs needs to be acknowledged
- Development aid for research needs to be part of Swedish internationalisation in higher education and research
- Create policy incentives for increased collaboration between development aid for research and national higher education and research
- The post-doc situation and the conditions for research after graduation need to be addressed
- Increase the support for PhD training as the backbone of bilateral research collaboration
- Address and clarify the role of the support for research capacity building in relation to the current development in higher education
- Maintain the concentration of support for PhD training on the national universities
- Address the premises of the relational orders in international collaboration
- Address the situation of low international mobility
- The scientific output of the PhD graduates needs to be further examined