

Early Career Researcher (ECR) Development in Africa – Some Lessons from the ARUA Experience

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Main Message

- ECRs are very important in promoting research excellence
 - Their **research and publishing activities are highly prized**, and this is a critical resource for building knowledge production systems as well as providing clearer career trajectories
- While HEIs in most advanced economies have developed functioning systems to support ECRs, the case of Africa is different.
- Supporting ECRs and ensuring they are productive has become critical to promoting research excellence on the African continent and ensuring that our HEIs can become globally competitive.

Outline

- Introduction
- Who/what are Early Career Researchers?
- The state of ECR Development in Africa
- The ARUA Vision and Experience
- Lessons for the Future
- Concluding Remarks

Introduction

- The Higher Education sector has become more competitive than ever, and HEIs are pursuing various strategies to become (remain) competitive (HEIs) and *promote research excellence*
- In many advanced economies, HEIs are doing this through:
 - Engaging *highly qualified faculty who undertake high-quality teaching and research,*
 - Pursuing high levels of *funding,*
 - Attracting *highly talented students,*
 - Having *well-equipped facilities* for teaching, research, administration and student life,
 - Engaging many *Early Career Researchers (ECRs)*
 - Ensuring that they are *better ranked*

Introduction

- The case of Africa is very different.
- HEIs in Africa have several challenges
 - High Student-staff ratios (mostly at the undergraduate level)
 - The tertiary enrolment rate in Africa is a little above 12%, which is below the global average of 32% (UNESCO, 2020)
 - Most graduates in Africa are ill-equipped for the workplace
 - A limited number of academics with PhDs

Introduction (contd)

- HEIs in Africa have several challenges
 - Lower ranking of most universities in Africa
 - Outdated laboratory equipment
 - Low R&D investments
 - ECRs not given adequate attention
- Not surprisingly, the research output of African researchers is estimated at 3.5% (Schalkwyk et al, 2021)
 - for several decades, it was less than 1%

Introduction (contd)

- **These differences raise some important policy questions:**
 - How can HEIs in Africa become globally competitive and boost their internal research capacity to address the continent's challenges effectively?
 - How can HEIs in Africa develop first-rate institutions for postgraduate training that will offer the best and brightest young minds the opportunities to fulfil their potential without being lost to the institutions of the Global North?
- Discussions about these issues have identified many factors and the *development of functioning Early Career Researcher schemes* remains critical to boosting the R&I systems in Africa

Introduction (contd)

- This is because ECRs have been regarded as one of the main resources for promoting research excellence:
 - Their **research and publishing activities that are highly prized**, and this is a critical resource for building knowledge production systems as well as providing clearer career trajectories (CHE, 2020)
 - They improve knowledge production capacities and outputs at the postgraduate levels through teaching and (co)supervision
 - They seek (or assist senior researchers) to obtain much-needed funding and grants for research

Who are Early Career Researchers?

- There is no clear definition of an Early Career Researcher
- AHRC defines an ECR as someone who is either:
 - within eight (8) years of their PhD award (this is from the time of the PhD ‘viva’ /oral test), or equivalent professional training
 - within six years of their first academic appointment (the first full or part-time paid employment contract that lists research or teaching as the primary function).
- The ESRC identifies three distinct ECR stages: (i) *Doctoral*; (ii) *Immediately post-doctorate*; (iii) *Transition to independent researcher*.

Defining Early Career Researchers (contd)

- ECRs can be on a tenure track position or not; and can be in research institutes, universities, polytechnics or colleges.
- In African universities, the rank of ECRs ranges from Assistant Lecturers to Lecturers or occasionally Senior Lecturers (*in very rare circumstances*) (Shinkafu, 2020).
- ECRs are sometimes called postdocs or postdoctoral fellows in developed countries (Shinkafu, 2020).

Defining Early Career Researchers (contd)

Number of Postdoctoral Research Fellows	2021
Stanford University	2,400
Yale University	1,428
Harvard University	1,300
Princeton	700
Uni. Of Cape Town	338
Stellenbosch University	341
Addis Ababa University	231
University of Ghana	24
Makerere University	14

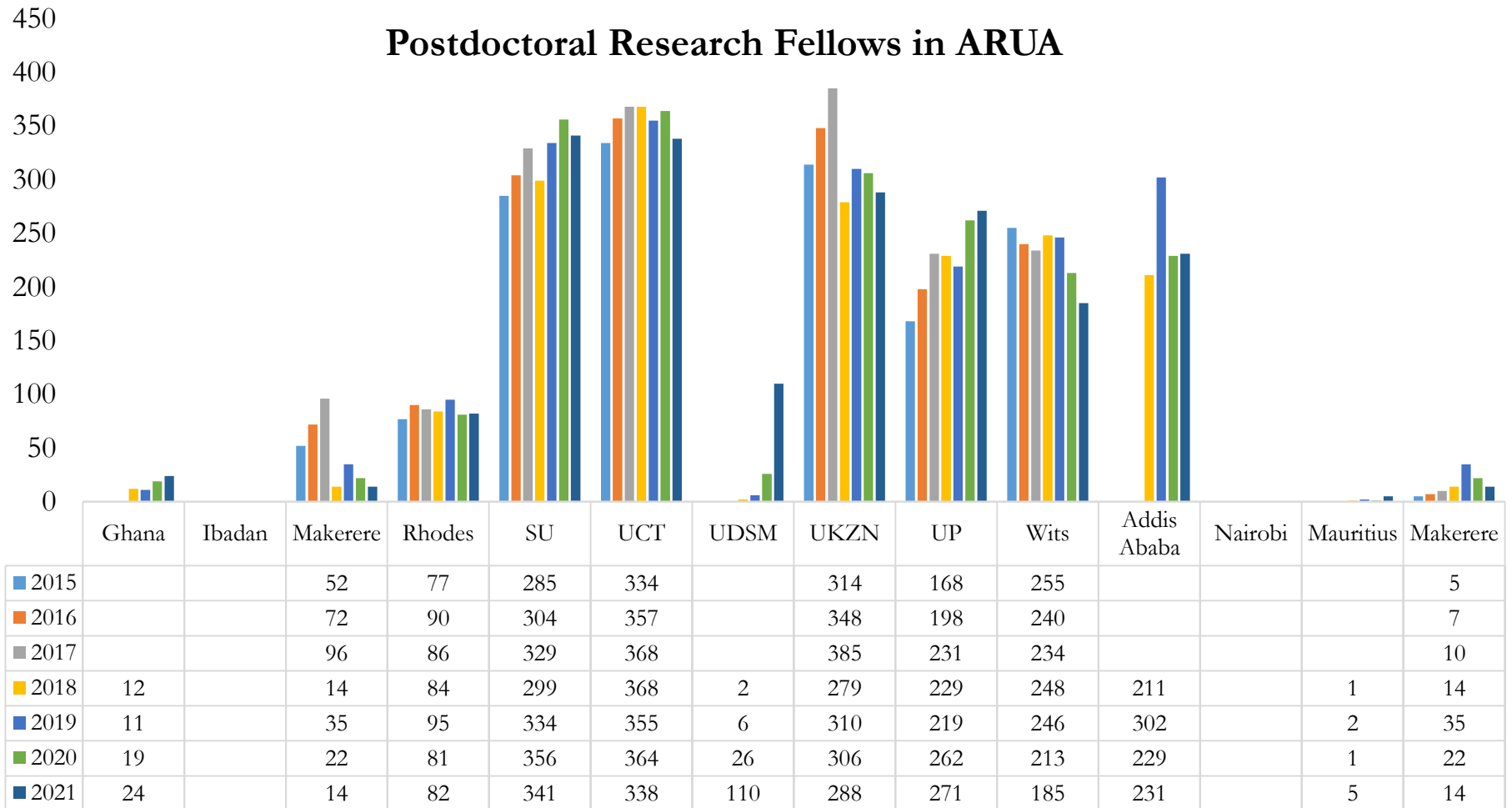
African HEIs
are not doing
particularly well
with engaging
ECRs

Source: Annual Reports of Universities



The Status of ECRs in Africa

Postdoctoral Research Fellows in ARUA



The Status of ECRs in Africa (contd)

- Most South African (SA) universities have better support systems for ECRs relative to other African countries
- For other non-SA countries, the systems have not been set up to appropriately collect information on ECRs, their functions, numbers, contributions, career path or challenges
- Anecdotal evidence suggests that most ECRs in Africa started in the sciences and are supported mainly through external grants

The Status of ECRs in Africa (contd)

Some Key Institutions Supporting ECRs in Africa

- *African Academy of Sciences*
 - ARISE programme, FLAIR programme
- *Carnegie Corporation of New York*
 - University of Pretoria, some ARUA Universities
- *National Research Foundation of South Africa*
 - South African focused
- *World Bank*
 - Africa Fellowship Programme
- *Stellenbosch Institute for Advanced Study (STLAS)*
 - Iso Lomo Fellowships
- *Past Global Changes (PAGES)*
 - Inter-Africa Mobility Research Fellowship Program



The Status of ECRs in Africa (contd)

Challenges with Early Career Research Fellowships in Africa

- Limited Research Funding as existing sources target senior scholars
- Poor mentorship and guidance after fellowships in home institutions
- Challenges with laboratory space, equipment and chemicals
- The burden of administrative responsibilities after the fellowships
- It is not clear whether ECRs are staff or students
- Concerns about working conditions (forced geographical mobility, lack of benefits and lack of understanding of the 'concept' by administrators)

The ARUA Experience and Vision

- Motivated by the need to expand research in Africa, ARUA was established as an institutional arrangement to foster collaborations in Africa to enlarge Africa's research output
- ARUA recognises the continent's lack of capacity to independently address its economic and social challenges and promote economic transformation on the continent.

The four priority areas are:

01 Enhanced Research
02 Expanded and Improved Graduate Training

03 Professionalised Research Management
04 Institutionalised Research Advocacy



The ARUA Experience and Vision (contd)

- Under the **Enhanced Research Capacity** pillar, ARUA seeks to develop research capacity through an *ARUA model of Early-Career and Post-Doctoral fellowships* through collaborative research
- Support its Centres of Excellence (CoE) to develop structures for Early-Career and Post-Doctoral Fellowships focusing on collaborative research and mentorship

The ARUA Experience and Vision (contd)

ARUA's model of Early Career and Post-Doctoral Fellowships

Strategic Focus Area	Objective	Activities	Performance indicators
Post-doctoral opportunities & early career support	Expand significantly the number of post-doctoral opportunities and early-career support	Set up a fund for supporting post-doctoral fellows	USD 2 million in fund annually for support 200 post-docs supported annually
		Establish supported post-doctoral fellowships at all ARUA universities	Availability of post-doc/early career support funds at all ARUA member universities
		Encourage early-career research programmes at CoEs and doctoral academies	Existence of post-doc/early career opportunities at all ARUA CoEs 100 early-career researchers supported annually

The ARUA Experience and Vision

- ARUA has fostered relationships with some institutions to pursue its agenda: the *UKRI*, the *Carnegie Corporation of New York*, the **National Research Foundation of SA** etc.
 - All are supporting the ARUA CoEs in different ways regarding ECRs
- **2021/2022: Support from the Carnegie Corporation of NY**
 - ARUA launched a pilot ECR fellowship
 - Applications were open to ECRs in ARUA Universities
 - ECRs were attached to Senior Researchers at the ARUA CoEs and were expected to work in line with the CoEs
 - Fellowship was very well received: attracted a lot of applicants



The ARUA Experience and Vision

Phase 1 (2021)

- Duration of 12 months (October 2021 - September 2022)
- Involved nine (9) fellows
- Initial delays in travelling due to COVID
- A fellow had problems obtaining a travel visa
- Delays in getting papers published

Phase 2 (2022)

- Duration of 6 months (July 2021 - December 2022)
- Involves four (4) fellows



Lessons for the Future

- Universities must establish **support systems for ECRs**
 - That can provide a comprehensive account of their functions, numbers, contributions, challenges and career pathways and significantly expand financial support for ECRs
 - Institutionalize ECRs to facilitate their general acceptance in African HEIs and provide guidance on an expected career path vis a vis the objective of making African HEIs globally competitive
 - Improve networking and mentoring after fellowships

Lessons for the Future

- With the support of the African Union and other regional bodies, **the challenge of mobility** between African countries, particularly for educational purposes, must be addressed
- **Research collaborations** should be increasingly encouraged to enhance the networking activities of ECRs after fellowships
 - Affiliating ECRs to Centres of Excellence
 - Encourage programmes such as *The Carnegie African Diaspora Fellowship Program (CADF)*

Conclusion

- Supporting ECRs and ensuring they are productive has become critical to promoting research excellence on the African continent and ensuring that our HEIs can become globally competitive.
- African HEIs must adopt an approach that enhances collaborative research, makes ECRs productive after their fellowships and ultimately enhancing the competitiveness of African HEIs