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AFRICA

## Using data to boost research capacity

**Gilbert Nakweya** 28 November 2019

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The ongoing data initiative of the African Research Universities Alliance (ARUA) will help Africa develop its research capacity by giving a clear understanding of the research landscape on the continent, said Dr Gerald Ouma, director of institutional planning at South Africa's University of Pretoria.

Speaking at the Second Biennial Conference of ARUA held in Nairobi, Kenya, from 18-20 November, Ouma said data on key indicators of research capacity at African universities will help "know the capacity of countries in knowledge engineering".

This knowledge will be critical in driving the Fourth Industrial Revolution (4IR) agenda in Africa, he said. And with necessary interventions to close research gaps, the continent could get working solutions for its development challenges.

The conference was hosted by the University of Nairobi and sponsored by United Kingdom Research and Innovation, in collaboration with the Carnegie Corporation of New York, South Africa's National Research Foundation and Clarivate Analytics in America.

It brought together over 300 delegates including top management from African universities, policy-makers and academic researchers from around the world to share knowledge and ideas on the role of African universities in the 4IR.

### Decision-making

The ARUA-led initiative of 16 member universities is currently collecting data on existing research capacity, with the aim of guiding decision-making in priority areas of research and strengthening interventions of governments and institutions of higher learning.

Through this initiative, ARUA will establish an updated database containing data from all universities in Africa. Currently, the initiative is being piloted with data collected from the 16 universities from 2015-17. "We really hope that universities will continue collecting and updating their data into the database," said Ouma, who is the lead researcher in the initiative.

The project is assessing the capacity of PhDs on the continent as this is pivotal in driving the research agenda of Africa. For instance, the project is looking at how many teaching staff with PhDs are needed to supervise students, especially at postgraduate level. It is also capturing the number of masters and PhD students. This will give a sense of how sustainable academic programmes are, especially those geared towards research.

### Skills shortages

In an interview with *University World News*, Ouma said: "As a



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continent, we suffer skills problems and we must make decisions on how to address this shortage.”

The data will give universities and governments a sense of how to make the necessary interventions and where to direct resources. He noted that Africa contributes only 1% to global research, with most coming out of South Africa. This indicates there is still a need for increased evidence-based research investments in other parts of Africa. The data from this initiative would provide that evidence.

According to Ouma, the project, which began early this year with funding from the Carnegie Corporation of New York, is producing data such as the distribution of PhDs in terms of fields and disciplines of concentration and gender. Publication outputs are also being assessed to understand the quality of research coming out of Africa.

“We are finding out where African academics are publishing, the utilisation of their research and whether their publications have a peer review mechanism,” said Ouma.

He said most of the researchers from African universities co-publish with northern collaborators, which could omit or ignore key issues of research on the continent. By assessing publishing and research partnerships in African universities, the initiative will help ARUA advocate for intra-African research collaboration.

### **Culture of data use**

Ouma said African universities should cultivate a culture of using data to make evidence-based decisions. He urged universities to establish processes for auditing data for accuracy, reliability and completeness. This, he said, can also be done by standardising understandings of the data. “There must be systems and a shared belief of what the data means,” he said.

University enrolment, he suggested, should not be guided by resource needs of universities, but by their capacity to deliver quality teaching and learning. For instance, the number of postgraduate students should be commensurate with the number of PhD staff available to supervise.

Data collection could also alleviate the problem of missing marks and transcripts. “The top leadership especially vice-chancellors, their deputies and deans must demand data, especially on enrolments and qualifications of staff,” said Ouma, adding that this data could also be crucial in discussions at senate and council level. “Data-based decision-making guarantees the integrity of decisions being made at the university,” he said.

Ouma urged African governments to put in place systems that require institutions of higher education to collect data accurately, citing as an example South Africa where there are systems to check university data and where sanctions are imposed in cases of inaccuracy. He added that African governments should have higher education management systems that guide university funding.

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