

CARTA'S 2ND VICE CHANCELLOR'S MEETING

**Held at the University of Nairobi
July 10 – 11, 2017**

Meeting proceedings



UNIVERSITY OF NAIROBI

CARTA's 2nd Vice-Chancellor's Meeting

Meeting proceedings

July 10-11, 2017. Council Chamber. University of Nairobi



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CARTAS's 2nd Vice Chancellor's Meeting proceedings

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Courtesy of

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Acronyms

APHRC	African Population and Health Research Center
ARUA	African Research Universities Alliance
CARTA	Consortium for Advanced Research Training in Africa
CCGHR	Canadian Coalition for Global Health Research
CDC	Center for Disease control
CHE	Commission of Higher Education
DFID	Department for International Development
IBM	International Business Machines
IFP	International Fellowships Program
IP	Intellectual Property
JAS	Joint Advanced Seminars
JKUAT	Jomo Kenyatta University of Agriculture and Technology
KIPI	Kenya Industrial Property Institute
KWTRP	KEMRI Wellcome Trust Research Programme
LMICs	Low and Middle Income Countries
MTP	Medium Term Plan
NACOSTI	National Commission for Science, Technology and Innovation
NP	Northern Partner
NRF	National Research Fund
PSRI	Population Studies and Research Institute
R&D	Research and Development
RPE	Research, Production and Extension
RUFORUM	Regional Universities Forum for Capacity Building in Agriculture
SIDA	Swedish International Development Cooperation Agency
ST&I	Science Technology and Innovations
STEAM	Science, Technology, Engineering, the Arts and Mathematics
STEM	Science, Technology, Engineering and Math
Swiss TPH	Swiss Tropical and Public Health Institute
TVET	Technical and Vocational Education and Training
UoG	University of Gothenburg
UoN	University of Nairobi
VC	Vice Chancellor
WUN	Worldwide Universities Network

Executive Summary

The Consortium for Advanced Research Training in Africa (CARTA) is a south-south partnership with a south-north collaboration jointly led by the African Population and Health Research Center (APHRC), Kenya, and the University of Witwatersrand (Wits), South Africa. The consortium is built on a merit driven system that ensures transparency and accountability to its members. It was formed with a mandate of establishing a vibrant African academy able to lead world-class multidisciplinary research that impacts on population and health.

CARTA was formed in 2008 out of the realization that individual African universities lack the human and financial resources and infrastructural capacity to tackle the challenges of doctoral training on the continent. CARTA offers a well thought out approach to rebuild and to strengthen the capacity of African universities to produce world-class researchers, research leaders, and scholars.

Since 2008, CARTA has been pursuing the goal of re-launching African universities as central actors in the production of rigorous high-quality research for Africa's development. The African-led nature of CARTA and its focus on sustainable, measurable changes in research capacity and output are in tandem with the current emphasis on home grown and intellectually sound solutions to the problem of sustainable capacity for research for health and development in Africa.

CARTA's high-level goal is to establish a vibrant African academy able to lead world-class multidisciplinary research that impacts positively on public and population health through: a), strengthening doctoral training in Africa to enhance the local production of well-trained researchers and scholars; and b), improving the institutional capacity of participating African universities to support high-quality research by improving research infrastructure, strengthening research project development and grant-writing skills, enhancing research management and administration, and establishing appropriate policies and incentives.

To achieve the objectives of CARTA, the collaboration of partner institutions is crucial. In this way, the buy-in at the highest level, usually the Vice Chancellors of Universities and their equivalents in research institutions is critical. It is against this backdrop that CARTA organized the 2nd Vice Chancellor's meeting.

The University of Nairobi (UoN) and CARTA were proud to host the two day 2nd Vice Chancellor's meeting from 10-11 July 2017 at the UoN Towers, Main Campus. The participants for this meeting were largely Vice Chancellors from member Universities, Heads of partner institutions, and Northern Partner Representatives.

Purpose of the meeting

The meeting aimed to provide a forum for Vice Chancellors and Heads of CARTA partner institutions to deliberate on the progress and future directions of CARTA and contribute to a position paper on *Research funding landscape and doctoral training in Africa*. The specific objectives for the meeting were:

1. To share the findings from discussions with Vice Chancellors of CARTA partner universities on *Research funding landscape and doctoral training in Africa* and provide opportunities for additional inputs to finalize the report for publication in a reputable journal;
2. To update on CARTA's progress to-date and its future directions;
3. To update on CARTA's engagement with each university and opportunities to strengthen these engagements; and
4. To deliberate on the best strategies for institutionalization of CARTA at partner universities, including the future of CARTA graduates and how best to support them to become research leaders and change agents in their universities.

The set outcomes of the meeting included:

1. A manuscript for publication in a reputable journal on the *Research funding landscape and doctoral training in Africa* that will be used as a basis for engaging national, regional, continental, and donor stakeholders on the issue of strengthening research and doctoral training among higher education institutions in Africa.
2. Learning from one another on how best to address the challenges that affect postgraduate and research training in African universities.
3. Jointly developing workable formulae for post-doctoral trajectories for CARTA and other recent graduates and how they can be utilized effectively in teaching, research and management.

Discussions

With the growing concerns about the unique challenges facing doctoral training, CARTA set off to offer solutions for improving the quality of doctoral training in Kenya. The workshop discussions revolved around funding and differentiation, uncontrolled/rapid expansion (massification) of universities, internal accountability & governance and leadership and management capacity issues. From the discussions, it was apparent that African universities must find ways to resolve the resource constraint working against graduate training.

Despite the very critical challenges African universities face, there are still opportunities. The idea of forming consortia is critical to deal with the challenges faced but there has to be mutual respect and willingness to allow this happen. From the discussions, it was evident that PhD students should be assisted to publish on high impact journals. There is also need for major investments in universities with regards to research and development.

This two-day meeting also focused on reflections on CARTA and the role it is playing in PhD training. The consortium's contribution to higher education in the continent cannot be over emphasised and its commitment to strengthen the capacity of partner institutions is to be commended too.

Outcome

From this two-day discussions, it emerged that there are specific challenges that doctoral training has faced over the past and this includes the structure of PhD training and the way training is done. In the past, the time it took to complete a PhD was on average 10 years. This brought about the need for a new orientation. There was a window of opportunity to reevaluate how African postdoctoral training was done which led to the birth of CARTA.

As part of rethinking the African reality, there is need for African Universities to produce globally competitive scholars and recognize the need to transform their programs delivery. Individually, despite how well-endowed a university was or is; it does not have the capacity to produce quality graduates. This calls for training of the next generation of researchers to become research leaders and adjust the different levels of the training system to suit African needs. It is therefore clear that universities' transformation can only come from within.

Way forward

To create change in African Universities, there is need for change of mindsets, attitudes and hierarchies in African universities. This calls for building of core research competencies including both soft (negotiation, networking and fundraising skills) and hard skills (ability to analyze research data, interpret and communicate). The standard of excellence should however be on the level of international standards for the scholars to fit in the global market and compete competitively.

The meeting resolved that there is also need for new innovative solutions to confront new challenges that African Universities face. Transforming PhD courses is critical and this transformation should be multi-dimensional; it must involve mentorship and intellectual stimulation. The transformation should focus on having intellectuals that will stimulate the PhD students. Transformation also calls for support such as funding, infrastructure, software, hardware and individual incentives.

With respect to the CARTA program, the meeting recommended that there is need for regular communication and constant ongoing dialogue between member Universities and CARTA. Vice Chancellors need to reflect on the differential initiative demonstrated by academics in taking up opportunities globally. There has to be development of joint proposals and academia should also take the initiative to develop joint proposals in research.

Universities must however incentivize the individual academics to participate in activities like joint publications and development of research collaboration. They should also find ways of ensuring that CARTA achievements are shared with the entire university community.

Finally, the meeting resolved that African universities must frame a narrative that will create the imperative for governments to realize that it is their role to fund research and development in the African continent. Firstly, the narrative must be right to see inclusive development and addressing of challenges such as unemployment and the economy must be grown in an inclusive way with high quality skills by universities. The training should also be geared towards attainment of the Sustainable Development Goals (SDGs).

African Governments must identify which development partners can be approached to support research and development activities in Universities. Perhaps there is need to build on the capacity of African institutions as well for effective management of research funds.

SESSION I

WELCOME SPEECH AND INTRODUCTION REMARKS

By Prof. Mbithi, Vice Chancellor, University of Nairobi

The Vice Chancellor of the University of Nairobi, Prof. Peter M. F. Mbithi indicated that he was extremely privileged to welcome all participants to the University of Nairobi, the home of higher education in Kenya. The participants of this first session of the CARTA 2nd VC's meeting were Vice Chancellors from member Universities, Heads of partner institutions, Northern Partner Representatives and senate members from UoN. The University of Nairobi decided to invite senate members to the first session of the CARTA 2nd VC's meeting for them to be able to understand CARTA and the good work it is doing in training African scholars who can generate credible research. All the VC's present introduced themselves to the UoN senate members.

In his welcome speech, Prof. Mbithi indicated that at independence, only 54 years ago, Kenya was at the same level as the Republic of Korea, a nation referred to as South Korea by most of the world's citizenry. Today South Korea, a country almost a fifth the size of Kenya's landmass, has developed into one of Asia's most affluent countries and a leading exporter of both consumer electronics and motor vehicles. The world continues to be refreshed by some of the well renowned brands that call South Korea home such as Samsung, LG and Hyundai.

The question to ask is where the rain began to beat Kenya and by extension, Africa. Prof Mbithi highlighted that he was convinced that Africa was in no danger of realizing her aspirations such as eradicating poverty in its generation by 2025, if Africa does not invest in quality research. Without research, the great African dream of prosperity by all for all will never be realized reiterated Prof. Mbithi. To make Africa's aspirations attainable, it is incumbent for university leaders and development partners to solidly deliberate and render tangible resolutions to engender quality research for both knowledge advancement and development in our respective economies.

In conclusion, Prof. Mbithi indicated that Africa's contribution to the global knowledge base is dismal at best. It is therefore imperative for leaders in both academic and research institutions to roll up their sleeves and with the support of respective country governments, start the painstaking journey of elevating Africa to the global stage in research, technology development and transfer, innovation and knowledge production.

ABOUT THE CARTA PROGRAM

History, achievements, commitment by universities and the next phases

By Prof. Sharon Fonn, Co-Director, CARTA

This presentation was aimed at demystifying CARTA and its role and purpose. In her presentation, Prof. Fonn indicated that the aim of the CARTA program was to build vibrant, viable and sustainable multidisciplinary research hubs at African universities, to create networks of locally-trained internationally recognized scholars and enhance the capacity of African universities to lead globally competitive research and training programs.

Prof. Fonn highlighted the following CARTA participating institutions, partners and African Research centers.

Participating institutions

1. Makerere University, Uganda
2. Moi University, Kenya
3. Obafemi Awolowo University, Nigeria
4. University of Ibadan, Nigeria
5. University of Malawi, Malawi
6. University of Nairobi, Kenya
7. University of Rwanda
8. University of the Witwatersrand, SA

Partners

1. Canadian Coalition for Global Health Research (CCGHR), University of Toronto, Canada
2. Swiss Tropical and Public Health Institute (Swiss TPH), Switzerland
3. University of Gothenburg, Sweden
4. Umeå University, Sweden
5. University of Warwick, UK
6. Brown University, Providence, USA
7. ESE:O, Santiago, Chile

African Research Centers

1. African Population & Health Research Center (APHRC)
2. Agincourt Population and Health Unit, South Africa
3. Ifakara Health Institute (IHI), Tanzania
4. KEMRI/Wellcome Trust Research Program, Kenya
5. INDEPTH Network, Ghana

CARTA Rationale

Prof. Fonn indicated that the rationale behind CARTA is that it has a 20-year intervention plan with the first intake being in 2011. It was noted that African universities are understandably burdened with low research input, limited capacity of African universities to produce globally-competitive

postgraduates and weak preparation of the next generation of African scholars. For quality education to be achieved, then there has to be high-level academic capacity.

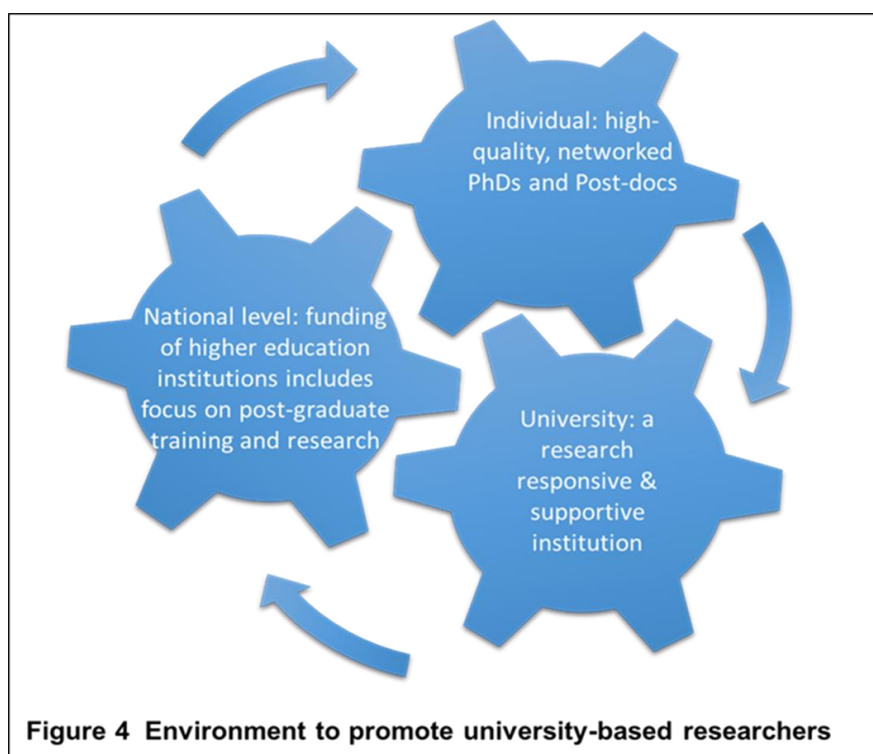
CARTA's aim is to build a critical mass of PhDs

This is anchored on the five objectives of CARTA underscored below.

Objectives	Key Outcomes
1. Build a critical mass of highly-trained African academics at PhD level	Cohorts of highly-networked African scholars who lead internationally-competitive research and doctoral training programmes at African Universities
2. Secure the future of successful CARTA graduates, mentoring them to become research leaders	Graduates stay in academia, do research, set up research programs, mentor post graduates, supervise PhDs, raise research grants, publish, and take up leadership roles.
3. Institutionalize CARTA innovations to achieve sustained impact.	Research-supportive environments in African universities created

The role of Northern Partners in CARTA cannot be over-emphasized and this includes support in selection of fellows planning for CARTA calls, facilitating all CARTA offerings both remotely and face to face, developing research training courses, securing research internships for CARTA fellows, creating a mentoring database, offering financial support and administering the CARTA courses at the Gothenburg CARTA hub.

The sustainability of CARTA is anchored on three major actors as outlined in the diagram below as presented by Prof. Fonn. This calls for each party to play their effective role to make the objectives of CARTA a reality. Prof. Fonn indicated that the governance of CARTA is made up of a Board of Management, Partners Forums, Scientific Advisory Committee, University CARTA Committees, Executive Directorate, Curriculum Committee, Monitoring and Evaluation Committee, Other Adhoc Committees, and Programme Staff. There are also an external Governance and Oversight team offering oversight functions to all CARTA activities.



Some of the major funders behind CARTA's success include Wellcome Trust, Carnegie Corporation of New York, Ford Foundation, British Council, Google.org, Swedish International Development Cooperation Agency (SIDA), University of Gothenburg, and DAAD.

Prof. Fonn described the approach that CARTA is using to build a critical mass of researchers in the PhD pipeline. She indicated that CARTA uses concepts and methodologies from multiple theoretical perspectives to advance fundamental understanding of public and population health or/and solve real world problems. In addition to core research; CARTA builds critical thinking, multidisciplinary research capacities and active interventions to improve doctoral supervision. The CARTA faculty and fellows are drawn from multiple disciplines including medicine, sociology, demography, epidemiology, communication, engineering, lab sciences, etc. The approach is therefore anti-hierarchical.

The CARTA PhD journey is summarized in the following steps as presented by Prof. Fonn:

1. **Inter Joint Advanced Seminar (JAS) 1** – for 6 months. This process requires completion of the literature review and proposal followed by a seminar presentation at respective home universities.
2. **INTER-JAS 2** covers data analysis, finalization of proposal and development of analytic skills,
3. **JAS 2** covers managing and analyzing data and the process lasts for 6 months.
4. **INTER-JAS 3** involves submission of thesis and preparation of a journal article which is then presented in a seminar.
5. **JAS 3** involves interpretation and presentation of research findings
6. **JAS 4** revolves around professional development

The achievements of CARTA's PhD and Postdocs highlighted by Prof. Fonn are summarized in the images below as presented;

- Total PhD fellows recruited: 175
- Completed PhDs: 37
- Post-docs: 17 (10 non-CARTA)
- Re-entry grants: 9
- Graduate Workshop: 2
- Grants won by fellows: \$US 5m
- Publications: (June 17) 438
- Faculty awards: 4
- Institutionalization grants: 3



In a bid to change the academy, CARTA has supported the following activities:

- 450 university staff attended workshops including
 - Finance officers
 - Administrators
 - Communications officers
 - Registrars
 - Deans of research
 - ICT
- 140 PhD supervisors have attended workshops
- >\$1.5 million infrastructural support to partner institutions
- Fund cross institutional faculty visits
- CARTA tools & methods adopted in partner institutions
- 3 grants for institutionalization of CARTA innovations \$100000

Institutionalizing CARTA

In her presentation, Prof. Fonn indicated that as part of institutionalizing its work, CARTA offered three grants to three Universities (Obafemi Awolowo University, University of Rwanda and Makerere University) to specifically institutionalize useful aspects of CARTA at their home universities. This is in a bid to ensure that there is sustainability to CARTA programs in respective universities. The institutionalization involves digitization of the CARTA curriculum. To ensure that there is continuity of CARTA programs in member universities, CARTA requires its partners to make commitments to the staff supporting the programs. Some of the commitments include allowing staff time to participate at every level as PhD fellows, Post docs, focal persons, JAS / FAS facilitators, in Board & Partner forums and in hosting events. Universities are also requested to commit to paying full salaries of staff on PhD fellowship, reduce the workload of staff on research projects, waver fees and support institutionalization processes.

CARTA Challenges

Some of the CARTA challenges highlighted by Prof. Fonn include PhD registration administrative inefficiencies in registration and examination of course work and supervisor overload & assigning of inappropriate supervisors to students. Other challenges highlighted are that the environment is not always academically stimulating; there are slow financial management processes and long university hierarchy and bureaucracies that delay processes and poor articulation between research centers and universities.

In conclusion, Prof. Fonn indicated that what African universities now need to ponder on is how they can best secure the future of their graduates, how they can best support their graduates to become research leaders and how Vice Chancellors and senior academics can support the institutionalization of CARTA.

KEYNOTE SPEECH

By Prof. Chacha Nyaigotti Chacha, Board Chairman, Commission for University Education (CUE)

The keynote address was delivered by Prof. Chacha Nyaigotti-Chaacha, the Board Chair for the Commission for University Education (CUE). Prof. Nyaigotti delivered the keynote address on behalf of the Cabinet Secretary (CS), Ministry of Education, Dr. Fred Matiang'i. He indicated that the CS would have loved to officially open the meeting but was not able to due to other work commitments.

Prof. Nyaigotti began by thanking Prof. Peter Mbithi, Vice Chancellor, University of Nairobi and Prof. Alex Ezeh, Executive Director, African Population and Health Research Centre (APHRC) & Co-Director Consortium for Advanced Research Training in Africa (CARTA) for co-hosting the timely meeting of Vice Chancellors and Heads of partner research institutes of CARTA to deliberate on the research funding landscape in Africa and ideas on how to improve doctoral training.

Prof. Nyaigotti indicated that he was honored to grace the VC's meeting. He pointed out that African universities had increased tremendously over the years and they were constantly producing graduates. Prof. Nyaigotti said that PhD students should be allowed to participate and practice in the disciplines of their choice. This is because there is a big pool of PhD graduates from international Universities like Harvard, Cambridge, Oxford and Yale who are not practicing what they studied for their PhDs or Post Docs. He requested CARTA to promote this free choice of courses by their research fellows.

Prof. Nyaigotti referred to the UoN Towers as a creation of the African mind and commended the effort African Universities were making. In his keynote address, He pointed out that Graduate Assistants and Tutorial fellows should be given an opportunity to develop their capacity right from the bottom level and enable them to climb up the academic career ladder. Staff development programs must therefore be at the center-stage if African Universities are to build the capacity of their staff. This includes scholarships for staff and professional development trainings. To achieve this, self-initiatives must be initiated by the academic staff.

There has also been a mismatch between learners and professors. Efforts by professors are directed on publication and not on learners. Prof. Nyaigotti pointed out that Governments also have a responsibility to play. Universities should be entwined with the economic well-being of a State/Nation, the bearing being on development. The mismatch between the political elite and university leadership must be dealt with in order to achieve quality PhD training Prof. Nyaigotti stated.

In his speech, Prof. Nyaigotti further advised that CARTA should impact society and create opportunities for African researchers. He commended the Ford Foundation for being a partner and supporter of CARTA and urged CARTA to borrow from the International Fellowships Program (IFP) funded by Ford Foundation. Prof. Nyaigotti indicated that key government officials (three Senators, six Members of Parliament, one speaker in the county assembly and Executive Officers) had gone through the IFP program and CARTA should borrow from lessons learnt.

In his final remarks, Prof. Nyaigotti urged CARTA to return scholarships to where they used to be and redirect some money to producing great scholarly outputs and minds. In his closing remarks, Prof. Nyaigotti wished CARTA well and requested the consortium to work together with CUE to improve the quality of university education particularly in postgraduate training. He urged African universities to make 'quality' to be at the center of their operations including creation of human capital.

SESSION II

INTRODUCTION REMARKS

By Prof. Chacha Nyaigotti Chacha, Board Chairman, CUE

Prof. Nyaigotti flagged off this session by indicating that he was excited with the choice of venue for the meeting. He indicated that in the past, the reason for joining university was to obtain knowledge and training for critical thinking. The challenge that consortiums now have is the task to return scholarly training back to where it used to be, the fundamental basics. Prof. Nyaigotti posed the question 'What is the driving motivation of a student in Africa seeking University education in Africa?' He indicated that the major challenge faced is the motivational level of learners. He said that when he listens and talks to university students he comes across; their driving force does not any long seem to be going to get education or knowledge but rather getting a certificate to demonstrate to potential employers for employment.

Universities should therefore strive to make the experience for the students enjoyable and worthwhile so that the motivational factor is to gain knowledge and become leaders in their different disciplines. Universities need to build cohorts of scholarly individuals motivated to participate in their fields with enthusiasm. Prof. Nyaigotti indicated that the aim of the universities should not to be counting numbers of enrollments in order to make money from the parrarel programmes but instead should be focused on generating quality graduates able to solve market needs.

In conclusion, Prof. Nyaigotti indicated that whatever knowledge is gained by scholars, it should be propagated to building the knowledge of the students. He thanked the VC's for allowing him to be the keynote speaker for the meeting and wished them the very best in the 2 day deliberations. He further indicated that the fact that the African scholars had to navigate through the discipline to become professors was commendable.

PRESENTATION ONE: RETHINKING DOCTORAL LEVEL TRAINING IN AFRICAN UNIVERSITIES: THE COMPARATIVE ADVANTAGE OF CARTA

Presentation by Prof. Alex Ezeh, Executive Director, APHRC

Prof. Ezeh began his presentation by looking back at the journey of APHRC. Discussions on setting up CARTA began in early 2000. In 2005, interviews were made to over 20+ PhD holders from African universities and the applicants did not make it. It was evident that there was need for a high undergraduate program to get to PhD level. APHRC wondered why the PhD holders did not make it through the interviews. Looking closer, their research methods were quite weak and their proposals had numerous gaps.

In 2006, as part of a consultation with University of Colorado, APHRC strived to understand what was happening to doctorate training in Africa and tried to rethink on how doctorate programs were being implemented in Africa. In Mid 2000s, there were growing concerns about the future of African academy and unique challenges emerged on doctoral training in Africa. The need for a new orientation emerged and this led to the birth of CARTA.

As part of sharing of lessons learnt and successes since 2005 as CARTA, Prof. Ezeh indicated that the curriculum CARTA uses has been developed by African Universities.

Where we began in retrospect

With the growing concerns about future of African academy and unique challenges of doctoral training, CARTA set off to offer solutions for improving the quality of doctoral training. Specific challenges that doctoral training faced included the structure of the training and the way training was done. The time it took to complete a PhD was on average 10 years. This brought about the need for a new orientation. There was a window of opportunity to reevaluate how African postdoctoral training was done. The question was that even under the leadership of globally trained academics, what would happen if African leadership took charge?

As part of rethinking the African reality, Prof. Ezeh indicated that there was need for belief in the African Academy to produce globally competitive scholars and recognition of the need to transform. Individually, despite how well-endowed a university was or is; it does not have the capacity to produce quality graduates. This called for training of the next generation of researchers to become research leaders and adjust the different levels of the training system to suit African needs. Dr. Ezeh indicated that University transformation can only come from within. Universities must therefore understand that training of PhD is not enough.

To create change, Prof. Ezeh specified that there is therefore the need for change of mindsets, attitudes and hierarchies in African universities. This calls for building of core research competencies including both soft (negotiation, networking, fundraising skills) and hard skills (ability to analyze data, interpret and communicate). The standard of excellence should however be on the level of international standards for the scholars to fit in the global market and compete competitively.

This brought about the need for an African academy that offers effective researchers and leaders. Focus should also be on reaching out to the wider university community (engagement of administrative staff, governance)

Through an independent evaluation carried out in 2015, CARTA knew that it was on the right track. An external independent body undertook to evaluate the CARTA model for doctoral training in low and middle level Universities. The following was highlighted:

1. **Relevance** – CARTA offered a unique niche, providing fellows with a breadth and richness that is absent in other programmes locally and in the African region.
2. **Effectiveness:** “CARTA’s outputs in peer-reviewed publications were impressive”
3. **Impact and Outcome:** “CARTA Fellows have strengthened their capacities for critical thinking and broader collaboration and are optimistic that they will be able to apply these skills”
4. **Sustainability:** “The prospects appear to be good for sustainable enhancement of international research collaboration both within Africa and between African and Northern institutions”
5. **Recommendations to SIDA** to use CARTA as a model for doctoral training support in Low and Middle Income Countries (LMICs).

In conclusion, looking ahead, Prof. Ezeh posed pertinent questions; why did partners come together as CARTA? How can CARTA innovations be mainstreamed? How do Universities create the right incentives to support research?

In responding to these questions, Prof. Ezeh indicated that if CARTA was going to phase out, all innovations being developed by students, the innovations should be instilled in the different African Universities for sustainability and continuity of new developments and outputs. The Professor that is able to secure research funding should be given the right incentives to bring the grants to the Universities instead of setting up their own consultancy companies. Is having a PhD enough? No, the PhD holder should be supported with funding for post graduate training to further their studies and gain more knowledge and development.

To achieve the suggestions above, there is need for new innovative solutions to confront new challenges that Africa faces and support the needs for Africa. Prof. Ezeh ended his presentation by indicating that he hoped that African universities would come up with new solutions to deal with the problems Africa faces.

PRESENTATION TWO: RESEARCH FUNDING AND POSTGRADUATE TRAINING IN AFRICA: PERSPECTIVES FROM VICE CHANCELLORS

By Dr. Fredrick Golooba – Mutebi - Consultant, CARTA Vice Chancellors Meeting

This presentation by Dr. Golooba was based on prior conversations with Vice Chancellors of African Universities. From the study, it emerged that there is need for Africa to increase its contribution to global knowledge production through research and publications, which is currently at 1%, and to global research per year at 2%. Less than 1% of global expenditure in Africa goes to Research and Development meaning that Africa has a great deal of catching up to do.

Dr. Golooba gave a summary on the percentage of GDP spent on research by top 5 African countries in comparison to Israel.

1. Kenya (0.8)
2. RSA (0.76)
3. Morocco (0.7)
4. Tunisia (0.65)
5. Mali (0.55)
6. In comparison – Israel (4)

The question that came up is ‘what should happen for Africa to do better than it has been doing?’ CARTA set to find out answers to this question through a study focusing on its partner universities. The study focused on the following questions.

- a) What are the prospects for becoming research universities?
- b) What are the challenges and opportunities?

This called for a common voice from Vice Chancellors as a basis for a conversation.

Approach

Dr. Golooba was tasked to visit different VCs from seven African universities to conduct this study. The structure of the study was in-depth one-on-one interviews/conversations with VCs and where possible university officials and donors. From a broad view, the study showed that the bulk of funding for research in the seven universities was from outside including from bi-lateral and multi-lateral donors, foundations, trusts, think tanks, and universities. The research conducted therefore was not in line with African countries priorities.

Challenges

On becoming research universities, the following challenges were highlighted from the study.

1. **External (political) environment** and this included
 - **Underfunding by governments.** Governments mainly fund salaries, wages and operations. There is also little investment in research and infrastructure (labs, equipment, and teaching space). Little on-going preoccupation with how government’s development/transformation agendas connect with research & quality of teaching at universities is another challenge facing African universities.

- **Uncontrolled expansion of higher education sector** – characterized by more student numbers (massification) and mushrooming of universities mainly due to political reasons. Three effects of expansion & massification were evident;
 - Division of the ever smaller resource envelope among many resource-poor universities undermining on the triple mandate of universities which includes training, research, and outreach;
 - Growth in undergraduate numbers leaving little time for faculty to conduct research;
 - No commensurate expansion in physical facilities and even donors are unwilling to fund.
- **Poor remuneration** – academics and researchers have been forced to make ends meet through moonlighting (having more than one job to supplement income) and consultancy work. The consultancy culture has grown and this leads to absenteeism and this undermines the training process.

2. Internal challenges (governance of universities)

- **Limited creativity (looking beyond government and donor funding)** - Opportunities for income generation via investment are not always fully explored by African Universities. The potential of Alumni is also largely neglected as a potential source of resources (the University of Witwatersrand has for instance identified their alumni all over the world and part of these monies are channeled to research) and Policies on overhead charges are also not always implemented; the money could be invested in research.
- **Accountability issues** – laxity in performance evaluation whether in teaching or research is a major problem in African Universities. PhD students take too long to graduate coupled with poor supervision and this undermines the quality of training.
- **Leadership and management capacity** – there are limited skills in fundraising, research management, financial management, estates management etc.

Looking ahead

In a bid to find solutions to the challenges facing African universities, the following four main challenges were the center of focus.

1. Underfunding by governments
2. Uncontrolled/rapid expansion (massification)
3. Internal accountability/governance
4. Leadership and management capacity

The meeting participants were divided into four groups to come up with solutions to the above four challenges based on the following points

- What are the transformative solutions to each?
- What roles do VCs & sector leaders, governments, development partners' play?
- Thoughts on bigger/more immediate challenges.

PLENARY COMMENTS FROM SESSION II DISCUSSIONS

Prof. Adam Mahomed Habib - Vice Chancellor, University of the Witwatersrand

1. There are huge challenges being faced alongside the great work African Universities are doing. The early years of the 60s and 70s were fantastic then something went wrong in the 80s and 90s. In the 60s, the research and training capacity was very small. What is needed now is a highly trained populace; this means that the post-secondary education system must be re-evaluated. There is also need for a differentiated system with Government involvement and buy-in. the Government and Universities must therefore maximize on their synergies and complement each other for the growth of our nations.
2. A number of VCs have made two major initiatives of collaborations such as CARTA and African Research Universities Alliance (ARUA). It is now time for consortiums such as CARTA and ARUA to begin talking with each other to avoid replication of effort and instead complement each other.
3. Underfunding by government is likely to remain with African Universities for a long time. There is need to rethink on this, there is dire need for high-tech systems to fund university education. For example, South African and US have models they are implementing to fund university education. The US model (need-blind education) allows students to obtain funding on the basis of their academic results. Universities should approach development partners to fund research & development and infrastructure. Creating a research intensive spectrum in the African institutions is therefore necessary. There is also need to create space for PhD students for research and accommodation and creation of an eco-system that allows universities to achieve their objectives.
4. African politicians seem not to see universities as a priority for research funding. This hampers the progress of universities. They forget universities need capital and funding for research activities. Governments should direct development partners to finance research activities in universities.
5. The ecosystem around the centres of excellence must be kept alive for the research centres of excellence to survive. Universities cannot do it on their own, but collectively with support from Governments, they can get support from development partners.
6. Consortiums speak about systemic and ecosystem issues with universities and are likely to get funding then direct it to universities rather than development partners funding universities directly. Universities should therefore consider collaborating and forming consortia like CARTA.

Prof. Peter M.F. Mbithi – Vice-Chancellor, University of Nairobi

1. The factors under consideration in the 60s and now are different therefore there is need to readjust and rethink on PhD training. Adjustment is where the problem comes; adjustments can only be done based on what resources are available.
2. Are universities able to document how much it costs to run for instance a science lab? There should be evidence to justify the overhead costs indicated in the budgets shared with potential development partners.

Prof. Laban Ayiro – Vice Chancellor, Moi University

1. Transforming PhD courses is critical and this transformation is multi-dimensional; it must involve mentorship and intellectual stimulation. The transformation should focus on having intellectuals that will stimulate the PhD students. Transformation also calls for support such as funding, infrastructure, software, hardware and individual incentives. However, focus must be on specific areas that need transformation.
2. What is important is to keep an eye on quality. African universities must move to another level in terms of differentiation. They must keep a strong voice to fuel the economic development of our country. There is a big challenge in terms of mindset today in public universities. Universities must think differently and deliberate on funding of research based on government priorities.
3. The fundamental starting point is the kind of PhD that mans the research departments and centres. There is need for universities to increase the number of PhD trainings if a Nation is to create research intensive universities.

Prof. Alex Ezeh – Co-Director, CARTA

The big and top universities have a history; the question to ask is, how do African Universities create a narrative and conversation on advancing research that is based on the priorities of the different African Governments? Each university represents some value proposition for a country that should be the center of focus.

Prof. Göran Bondjers – Representative, University of Gothenburg

1. Before Universities start asking for more money, there is need for proof that they are using the money they already have in the most efficient way. This means that Universities should look back at the value of the outcomes of the research and development work done. This brings out the issues of quality and efficiency.
2. Universities are no-longer relevant because they are unable to react to what society needs. This calls for creation of another type of structure informed by Government priorities.

Professor Philip Cotton – Vice Chancellor, University of Rwanda

What is the definition of public universities? What is the distinction between public and private universities? Are Universities autonomous and independent? The quality of training offered by both public and private universities is critical and cannot be underestimated. The issue of pedagogy and andragogy comes into play,

Prof. Alfred Mtenje - Pro Vice Chancellor, University of Malawi

1. On government funding, sometimes the government does not pay universities on time for the government-sponsored students. This becomes a headache and challenge to public universities.
2. Governments should allow some universities to be research excellence centers. Certain institutes or centers can be made to be research intense to purely focus on research and this will promote Research and Development.

Prof. Osman Sankoh – Executive Director –INDEPTH Network

1. Is it the government that decides which center or institute should be research intensive? To become a research-intensive institute, funding is necessary and this is where government funding is required to push the research agenda forward.
2. Some of the universities are becoming innovative in terms of overhead costs. Universities will have to consider raising funds for overhead costs because most research funding does not cover overhead costs.

Prof. John Ddumba-Ssentamu – Vice Chancellor, Makerere University

Universities must focus on the PhD coursework to avoid producing narrow PhDs.

Prof. Steven Tollman - Director, Agincourt

1. Despite the very critical challenges African universities face, there are opportunities. The idea of forming consortia is critical to deal with the challenges faced. There has to be mutual respect and willingness to allow this happen. PhD students should be assisted to publish on high impact journals.
2. There is need for major investments in universities with regards to research and development.
3. The same investors being sought after are supporting UK and USA based institutions such as Wellcome Trust, UKAid, DFID, USAid etc. How do African universities really start to move in terms of the research leadership? This calls for creation of conversations with some of the critical funders of research in Africa.

Dr. Fredrick Golooba – Mutebi – Consultant, CARTA Vice Chancellors Meeting

Relations between universities and governments must be nurtured. The way donors behave in one country is different from the way they behave in another. There are governments that do not want to begin the conversation on funding education, research and infrastructure. Conversations between universities and governments will bring about some change.

SESSION III

GROUP DISCUSSIONS ON RESEARCH FUNDING LANDSCAPE AND DOCTORAL TRAINING IN AFRICA

During this session, the participants were divided into four groups and discussions were based on the following topics that emerged from a study conducted by Dr. Golooba who was tasked to visit different VCs from seven African universities.

1. Funding and differentiation
2. Uncontrolled/rapid expansion (massification)
3. Internal accountability/governance
4. Leadership and management capacity

The participants were divided into groups to come up with solutions to the above four challenges based on the following points.

- What are the transformative solutions to each?
- What are the roles for VCs & sector leaders, governments, development partners?
- What are the immediate challenges?

The composition of the groups was as follows:

Group 1:

Prof. Abel Olayinka-Chairing
Prof. Alfred Mtenje
Prof. Alex Ezeh
Prof. Adam Habia
Dr. Kafuruki Shubia
Ms. Rose Opiyo
Ms. Naomi Nyaboga-Rapporteur

Group 2:

Prof. Lucy Irungu - Chairing
Prof. John Ndumba-Ssentamu
Prof. Laban Ayiro
Prof. Steve Tollman
Prof. Mutuku Mwanthi
Ms. Esther Karumi
Ms. Olivia Osiro – Rapporteur
Ms. Beatrice Kimuyu – Rapporteur

Group 3:

Prof. Sharon Fonn – Chairing
Prof. Peter M. F. Mbithi
Prof. Charles Larson
Prof. Osman Sankoh
Dr. Anne Kashakala
Dr. Anne Khisa - Rapporteur

Group 4:

Prof. Goran Bondiers - Chairing
Prof. Evitope Ogunbodede
Prof. Phillip Cotton
Prof. Lydia Njenga
Mr. John Alonge
Ms. Kellen Karimi
Mr. Justus Musasiah - Rapporteur

The summary of the group discussions is attached as **annex II** to this report.

PLENARY COMMENTS FROM SESSION III GROUP DISCUSSIONS

The following comments emerged from the group discussions session. The discussions were all aimed at offering suggestions on possible solutions to effective strategies for doctoral and research training revolving around the four key areas. Participants also shared experiences from other universities.

1. Funding and differentiation
2. Uncontrolled/rapid expansion (massification)
3. Internal accountability/governance
4. Leadership and management capacity

Prof. Eytlope Ogunbodede – Vice Chancellor, Obafemi Awolowo University

1. When policies are formulated, it is usually based on universities. The feeling by governments that undergraduate training should not be charged tuition fee is political. Universities feel they can charge postgraduate students for training because undergraduates do not pay. The understandings in governments have been difficult.
2. The actual cost of training a postgraduate student should be calculated and a research component included in it so that this is factored in when universities receive funding.

Prof. Lucy Irungu – Deputy Vice Chancellor, Research, Production and Extension, UoN

Question: Universities have a serious challenge when it comes to Intellectual Property (IP); this area is not very effective in African universities? What can be done to improve IP standards?

1. UoN has had an IP office for about the last 10 years. UoN began with sensitization on what services the IP office can offer to staff in all colleges. Then engagements were made with researchers to protect their work. As a result of the commercialization, the university gets some benefits such as royalties. For postgraduate students, they are requested to visit the IP office before submitting their work just to check if there are any innovations that needs to be protected.
2. UoN has been striving to increase the number of patents over the last five years. Products emanating from UoN are for the public good. One of the challenges faced is that the royalties paid to UoN have to be followed up constantly from the companies commercializing the IP from UoN students work. Audits are also being done to find out what IP rights are lying around for commercialization.
3. The World International Property office was approached to fund all colleges for IP purposes particularly from the College of Biological and Physical Sciences (CBPS) and College of Health Sciences (CHS) at the University of Nairobi. There are incubation hubs within UoN, which contribute to intellectual property rights. The next strategy is to institute a Technology Transfer Office.
4. In UoN's promotion criteria, patents are also recognized and this acts as an incentive to researchers.

Prof. Abel Idowu Olayinka: Vice Chancellor, University of Ibadan

1. Emphasis should be placed on postgraduate students enrollment and training. When it comes to undergraduate admission, governments have joint admissions boards to admit students and the undergraduate populations are larger compared to postgraduate. Undergraduate programmes are not charged tuition free but postgraduate programs attract a tuition fee,

which is sometimes difficult for student to pay. For science-based courses, there is an additional bench fee. Government funding is therefore very important to supplement postgraduate programs.

2. Most universities use the fee from postgraduate students to subsidize undergraduate costs because the funding from government is never enough.

Prof. Adam Mahomed Habib - Vice Chancellor, University of the Witwatersrand

1. In 2013, 28% of students at the University of the Witwatersrand were postgraduate students and in 2017, the percentage increased to 36%. The University is striving to raise the percentage to over 45% by 2022.
2. As the postgraduate numbers go up, the undergraduate numbers have gone down at the University of the Witwatersrand. Financing of higher education has changed systematically. Staff PhDs are now up to 62% and research output was over 54% in 2016. Access to PhD programs must be increased in order to push up PhD numbers. Universities must consider offering more scholarships for postgraduate.
3. If PhD students finish their degrees on time, universities could consider giving back their fees as a way of motivation for faster completion of PhD studies. Unfortunately students still take too long to finish their PhD studies and this is caused by the fact that they have to work at the same time. To change this culture, the average age of PhD students should be shifted to late 20s. Focus should be on a strategy to increase PhD students' enrollment from the late 20s age.
4. Industry partnerships should be explored. Universities should have industry partnerships with multinationals like IBM. For instance, the University of the Witwatersrand's innovation startup of a new diagnostic for TB was taken up by IBM and has already started earning profits within 18 months. The industry partners will help to incubate great ideas from students.
5. A Technology Transfer Office is critical for each university and this should be mandatory by law. However, a study conducted globally shows that many universities spend more time and money following bureaucracies of technology transfer offices and end up producing little publications. Technology transfer has to happen but universities could consider sharing tech transfer office facilities and costs.

Prof. Peter M.F. Mbithi – Vice-Chancellor, University of Nairobi

UoN has initiated an annual event dubbed the 'Nairobi Innovation Week', which is a vehicle for the university to work with industry and have startups incubated by industries. UoN has engagements with international companies like IBM to take up incubation of exemplary ideas and innovations from students.

Dr. Alex Ezeh, Co-Director, CARTA

Does UoN work with the Kenya intellectual property office and has it considered working with external IP bodies?

Prof. Lucy Irungu – Deputy Vice Chancellor, Research, Production and Extension), UoN

1. UoN works closely with the Kenya Industrial Property Institute (KIPI). The IP manager at UoN was formerly working with KIPI and has helped to operationalize the setup of the IP office. However, it takes about 1-2 years to get the intellectual property registered; the process is too long and bureaucratic.

2. UoN could consider working with an external IP body like the Zimbabwe Intellectual Property Office in Harare but UoN strives to promote the local IP office despite the challenges faced.
3. The cost of IP registration is also another challenge because it is expensive. However, the UoN meets the cost of IP registration for all researchers at the university. The UoN has received funding from World Intellectual Property Organization (WIPO) to carry out an IP audit in all the 6 colleges in the university. This is the first such audit in African Universities.

Prof. Steven Tollman, Director, Agincourt

1. There is a lot of pressure on creating public goods in public health. Data is becoming a great commodity and its importance has increased tremendously. Smart configuration of data can strengthen universities' negotiations with regional and international collaborations. Each research collaboration must contribute to PhD students training.
2. Many research-granting bodies in the UK do not necessarily in their grants include money for postdoc training. Negotiation has to be sought so that this postdoc training is also funded.
3. Staff should be given incentives to conduct research. Development partners like SIDA and NORAN have been supporting PhD training and Makerere University has had increased numbers of their staff enrolling for PhDs. Governments must begin showing interest in training PhD students.
4. Development partners such as SIDA and NORAN also support research. Unfortunately, most research is skewed towards science disciplines as opposed to humanities.

Prof. Osman Sankoh – Executive Director –INDEPTH Network

1. In terms of output, universities should strive to increase research output.
2. African Universities have begun receiving honorary lecturers and visiting professors from international Universities. While this is encouraged for universities to create linkages and collaborations, it is also a challenge because the visiting professors and honorary lecturers charge very high rates that universities can barely afford. This also poses as a challenge and hindrance to capacity development of local staff.

Prof. Peter M.F. Mbithi – Vice-Chancellor, University of Nairobi

UoN has collaborated with certain international universities that have opened universities in Nairobi and this widens linkages for research. This is a new paradigm to be explored by African universities.

Prof. Adam Mahomed Habib - Vice Chancellor, University of the Witwatersrand

Establishing international institutions locally may weaken African universities. They are likely to end up using local academics to teach their programs and this is not empowerment. The partnership should promote the educational development of a country.

Prof. Alex Ezeh, Co-Director, CARTA

In the last 5 years, USAID moved its resources to local and international institutions with 60 % of it being to Africa. The strategy to respond to this is to have local offices with the

capacity like that of the international office that can articulate the countries position on these partnerships and support.

Prof. Göran Bondjers – Representative, University of Gothenburg

1. Looking at the CARTA experience, far more of graduate projects are nested on existing large projects.
2. Researchers should be encouraged to sign agreements with industry players on usage of patents. A percentage of profits are normally paid out to the inventor.

SESSION IV

REFLECTIONS ON CARTA

Welcome Remarks

This session focused on reflections on CARTA and was held over a cocktail ceremony at Hotel Kempinski in Nairobi. To begin off this session, Prof. Peter Ngure, the CARTA Program Manager welcomed all guests to the cocktail and highlighted that CARTA's mandate was to establish a vibrant African academy able to lead world-class multidisciplinary research that impacts on population and health.

In his welcome remarks, Prof. Alex Ezeh, the CARTA Co-Director indicated that he was delighted to have all partners present at the cocktail. He further stated that institutional commitment since the inception of CARTA had been commendable. Prof. Ezeh introduced all VC's from member universities and key partners from the research community that had been invited to the cocktail.

Prof. Ezeh informed partners present at the cocktail that the aim of the CARTA initiative was to support doctoral training and thanked all partners that had brought value to CARTA. In his remarks, he urged African researchers to engage policy makers and aim to provide research evidence for practice. He further indicated that CARTA was looking at how to institutionalize innovations from its research leaders. The guests were informed that CARTA hoped to come out of the meeting with a groundbreaking publication.

Prof. Mbithi welcomed guests present at the cocktail and indicated that UoN was glad to be requested to co-host the CARTA 2nd VC's meeting. He indicated that UoN was committed to contributing to CARTA programs and would be a member of the CARTA consortium for as long as it takes. Prof. Mbithi stated that UoN also enjoyed being part of the WUN and RUFORUM consortia. To conclude his remarks, Prof. Mbithi assured CARTA that apart from being a member University, UoN was looking forward to enjoying warm collaborations with other CARTA member institutions.

REFLECTIONS ON HOW CARTA INFLUENCED MY CAREER

By Dr. Anne M. Khisa, CARTA Cohort 3 Graduate University of Nairobi

Dr. Khisa, a 2016 CARTA graduate thanked the University of Nairobi for nominating her to the Consortium for Advanced Research Training in Africa (CARTA) fellowship. CARTA funded her PhD, providing several anchors which enabled her to complete her studies in a timely manner. Throughout the fellowship, Ann particularly received great mentorship and support from the APHRC Executive Director, Dr. Alex Ezeh. In all her Joint Advanced Seminars, Dr. Ezeh and the Co-Director of CARTA, Prof Sharon Fonn walked with her through the journey, ensuring her progress was on course and any challenges faced as a CARTA fellow were addressed.

Anne indicated that the Joint Advanced Seminars 1- 4 accorded her skills and expertise in Research proposal development and research methodology, Academic scientific writing and publishing, Presentation, Grant writing and Curriculum development skills. She got an opportunity to be a visiting Graduate research student through the graduate research student fellowship program at the University of Toronto's Centre for Critical Qualitative Research which was the missing link in her PhD.

Anne highlighted that the CARTA consortium offered her a platform for professional networking and support. In addition, the consortium provided research funds and stipend so that fellows could focus on their research work and not necessarily other consultancy work that would delay their research work. She was truly grateful for this.

As a CARTA fellow, Anne had an opportunity to facilitate the cohort 4 fourth JAS in Makerere, Kampala in March 2017. Such opportunities ensure there is continuity in and utilisation of skills generated to support other fellows within the CARTA consortium.

Some of the challenges that Anne indicated she faced included the following. First, methodological advancements in qualitative research as taught in JASes were often ahead of skill and expertise available at the school of nursing in the University of Nairobi. Often, she had to negotiate to move the research forward. Secondly, the speed with which CARTA fellows are required to move meant that her write up was ready earlier than it could be read. This delayed her timelines for examination and defense. She thanked CARTA for requiring quarterly reports, which the supervisor also commented on and signed off. This helped move the process forward.

In conclusion, Anne commended CARTA for the good work it was doing. She indicated that she would vouch for CARTA any time for any potential PhD student because the consortium encourages home grown research for Africa's public health and development needs and capacity building is at the core of what CARTA does, encouraging young scholars to complete their PhD. The consortium's contribution to higher education in the continent cannot be over emphasised and its commitment to strengthen the capacity of partner institutions is to be commended too. With the skills obtained within her PhD fellowship, Anne is prepared to compete favourably in the global science arena, in both grant writing, generation of knowledge and dissemination of the same.

REFLECTIONS ON CARTA AND ITS INTERNATIONAL RELEVANCE

By Prof. Göran Bondjers – Representative, University of Gothenburg

Prof. Bondjers began off his remarks by indicating that he had a background in practical philosophy but Cardiological research was now his major area of focus. He has been a Director of Research Studies at the University of Gothenburg where he had to resolve controversies between supervisors and graduate students. He has also held a position as Dean of the Medical School for over 10 years. Prof. Bondjers indicated that after his retirement, seven years ago, he felt that he could create an impact in Research through CARTA. He congratulated Africa for being at the forefront in striving to increase the quality of research training.

THE VALUE OF HOSTING PHD STUDENTS FROM OTHER AFRICAN UNIVERSITIES

By Prof. Adam Mahomed Habib - Vice Chancellor, University of the Witwatersrand

With production of more than 40 CARTA fellows and over 110 publications, Prof, Habib commended CARTA for the good work it is doing. The whole agenda of the African continent is to generate bold research. Prof. Habib indicated that Africa can never be truly free until it produces its own ideas hence the need for research intensive universities. For this to be achieved, African Universities have to begin by producing their own universities, students, scholars and PhD students.

Prof. Habib reiterated that African Universities needed transitional teams of researchers if Africa was going to mark a place in the globe. The research generated has to be contextually relevant to

problems Africa is facing. When universities start giving back, they will then become globally competitive and create a cohort of scholars from the continent to apply to contextual circumstances.

To conclude his remarks, Prof. Habib further noted that no university can do it on its own. Africa can only become successful if we collectively come together and break boundaries, bring scholars together and move them beyond national boundaries for them to become globally competitive.

VOTE OF THANKS

By Dr. James Kisia, Director, Research Capacity strengthening Division, APHRC

Dr. Kisia acknowledged and thanked all the VCs, Heads of Research Organizations and all invited guests who attended the cocktail event. He further thanked the Co-Directors of CARTA, Prof. Sharon Fonn and Prof. Alex Ezeh for spearheading CARTA activities and for their immense support to the consortium. In conclusion, Dr. Kisia thanked UoN and APHRC for hosting the 2nd VC's meeting.

SESSION V

PRESENTATION ONE: EFFECTIVE STRATEGIES FOR DOCTORAL AND RESEARCH TRAINING: SHARING EXPERIENCES

By Prof. Peter M.F. Mbithi – Vice-Chancellor, University of Nairobi

This presentation shared experiences of challenges encountered by PhD training in African Universities and proposed some interventions that should be considered to enhance the capacity for research training in African universities.

Prof. Mbithi began the presentation by indicating that universities play both direct instrumentalist (service role) and the indirect-“an engine of development” role which is on strengthening knowledge production and research. He then pointed out PhD degree qualification has been adopted as the minimum qualification for University teaching staff in Kenya and many African countries yet there is a shortage of lecturers and researchers with PhDs.

To give a background on Research Training in African Universities, Prof. Mbithi specified that Africa’s research performance on the global stage is not encouraging. South Africa for instance is the only country ranked at top 30 countries by the 2016 Times Higher Education (THE) world university ranking in Africa with high research funding capacity globally. The University of Cape Town was featured as the top institution thanks to its highly-cited research, strong international outlook and ability to attract large sums of money from industry through partnerships. Further, Cape Town University’s success is attributed to the fact that as at 2011, the University was having more than 30% of its students as postgraduates and almost 62% of its permanent academics had doctoral degrees.

Challenges facing doctoral training in Africa

1. Low Number of Postgraduates & Academics holding Doctoral degrees

The ideal target of staff size with doctoral degrees should be at least 50% of the permanent faculty which only a few Universities in Africa have attained. The figure below shows the proportions of the permanent academic staff across 8 universities in Africa in 2011.

	University	Proportion of permanent academic staff with doctoral degrees as a % total faculty
1.	Botswana	65
2.	Cape-town	63
3.	Dar esalam	45
4.	Eduardo Mondlane	17
5.	Ghana	50
6.	Makerere	43
7.	Mauritius	42
8.	University of Nairobi	45

2. Insufficient government funding and commitments

This is the second challenge facing PhD training as highlighted by Prof. Mbithi. Insufficient government funding and poor commitment have had depressive consequences on the effective doctoral and research training capacity and funding. Doctoral programs are hardly funded and thus no firm research base is created in most of the African universities. State funding of higher education has been declining over the years, for instance from 0.94% between the period 1996–2000 to 0.74% during the period 2000–2005 in Kenya. African governments also, have failed to put in place policies that recognize the fundamental impact research activities could have on governance and efficient use of public resources. Governments need to develop and implement policies to support PhD and research training.

3. Poor Remuneration of Researchers at Universities

Prof. Mbithi pointed out that faculty carry heavy teaching loads without the benefit of modern teaching aids. There is also non-commitment to proper training of postgraduates by high-quality educational researchers. In addition, opportunities for scholarships and other support programs for graduate students have diminished.

4. Low Number of Postgraduates & Academics holding Doctoral degrees

From Prof. Mbithi's presentation, it came out clear that more than half of the 10,350 lecturers in Kenya have no PhDs. Only 4,394 students or 1% of the total population of learners are enrolled for doctoral degrees. The low ratio of PhD holders compared to students enrolled has affected the enrollment of graduate students, supervisors and completion rates.

5. Few Private Industries are willing to conduct collaborative research

In Africa, most private companies rarely conduct collaborative research with universities as compared to those in developed nations. Universities need to have collaborative research with external industry players so as to build the necessary infrastructure that supports continuing research activities.

Recommendations for Effective strategies

It is inconceivable for Africa to attain meaningful development in the 21st century without research capacity building for the generation of new knowledge. Prof. Mbithi highlighted the following recommendations that African universities can maximize on to increase the numbers of PhD graduates and improve on the quality of graduate training.

1. Revitalization of Graduate Study

This calls for universities to improve access to library resources and provide appropriate incentives to senior scholars to devote more attention to the supervision and mentoring of graduate students. Universities must also provide expanded avenues for dissemination of PhD and Masters Dissertation. Publications must be disseminated electronically through online e-journals for ease of access.

2. Funding through Strong Partnership and linkage with External Industries

Universities must strive to collaborate with industry players for them to be able to move strides ahead in higher education, research and development.

3. Strong Government funding and Commitment

Prof. Mbithi pointed out that there is a strong linkage between success in research outputs to favorable government research policy according to the report by the World University Rankings data (2016) The University of Hong-Kong, for example, attributed its success to its large number of state-owned enterprises plus strong government funding.

4. Patent Monetization

African universities must pay a lot of attention to monetizing intellectual property and encouraging their academics to do so in order to generate more research funds. Researchers must think entrepreneurially. The success of Boston College and other US Universities for instance is attributed to strong links with external industries.

5. Market-driven Research

African Universities must endeavor to attract more research funding from external industries guided by market trends and customer needs. For instance, Over 90 percent of life-science companies in the United States had some relationship with academia.

6. Status of PhD training at UoN

UoN has increased PhD numbers from 54 (in academic year 2012/13) to 110 (in academic year 2015/16). The university is also keen on increasing internationalization and collaboration programmes.

What Has Worked at UoN

Prof. Mbithi indicated that UoN is not yet producing as many PhDs as it should but there had been tremendous growth over the years. What has contributed to this growth is the transitioning from research-based PhD to course work and research, strengthening of pedagogy and andragogy through the establishment of a center, fostering new research partnership for doctoral training, introduction of mentorship programs, curriculum review to meet market needs and demands, staff development incentives through offering of fee waivers and university-Industry partnerships.

Conclusion

In his concluding remarks, Prof. Mbithi indicated that African universities must find ways to resolve the resource constraint working against graduate training. There is an urgent need for viable graduate programmes; recruitment of new staff and for the replacement of senior academic staff trained who are about to retire. Above all and most importantly, universities must begin conversations with governments to seek for funding to supplement graduate training and research activities.

PRESENTATION TWO: NORTHERN PARTNERS AND THEIR ROLE IN CARTA

By Prof. Göran Bondjers - Representative, University of Gothenburg

This presentation focused on enlightening the participants on the Northern Partners (NP) of the CARTA consortium. Prof. Bondjers indicated that the CARTA Northern partners included the Swiss Tropical and Public Health Institute, University of Basel, University of Warwick, Canadian Coalition for Global Health Research, Sahlgrenska Academy, University of Gothenburg, Umeå University and Brown University.

Contributions by northern partners

Prof. Bondjers indicated that the CARTA Northern partners had made numerous contributions to CARTA and this includes planning for the program activities, facilitating the CARTA programs, training institutions on what CARTA is all about and how it can benefit them, and organizing graduate workshops and grant writing sessions. The partners are also involved in developing course work, placement of CARTA fellows, sharing post doc opportunities, advising CARTA fellows, selection of fellows, fundraising with the office in Gothenburg and representation from northern partners in curriculum development and review meetings.

Reflection of Northern Partners contributions

Looking back, Prof. Bondjers pointed out that the Northern partners had played a key role in making the CARTA program successful. The partners contributed to network formation for the CARTA fellows and they had sourced for additional facilitators because most institutions have limited facilitators. Northern partners also provide facilitators for CARTA training events when need arises.

With the great work CARTA is doing, more universities are showing interest to come on board with Brown University being the latest CARTA Northern Partner Institution. However, there is now need to clarify the expectations and the role each partner plays. Other potential partners that have been approached include the Universities of Oslo and Bergen. Several organisations have also been approached regarding funding requests for CARTA.

Prof. Bondjers highlighted some of the challenges faced in supporting the program by Northern Partners including inability to always manage to find teacher replacements, focusing on individual requests, it is sometimes difficult to get responses from the NP focal persons and Fellows rarely include their supervisors in the communication about their requests.

Despite these highlighted challenges, CARTA Northern Partners continue to play a critical role in supporting CARTA activities.

Benefits the Northern Partners

From this presentation, it came out clear that Northern Partners offer networks for collaborative studies, networks among younger scientists, access to research material to avoid fly in fly out research, recruitment of post docs, global health experiences and educational experiences for younger scientists and access to graduate workshops and supervisor trainings.

Contributions from the Northern Partners to CARTA

CARTA benefits from Northern Partners through teaching and facilitation of financial systems of different universities. Northern Partners also assist CARTA in developing applications for graduate workshops and institutional applications and opens up access to funding sources. In addition, the NP offer support in mentorship of CARTA fellows and offer opportunities for research collaboration.

What is in the University of Gothenburg?

The University of Gothenburg (UoG) on the other hand receives possibilities for recruitment of young promising scientists, material for research and a chance to build networks in Africa, as the fastest growing economy and knowledge center globally. In addition, UoG gets an opportunity to meet competent collaborators in Africa and attend graduate workshops and supervisor trainings. Lastly, this is definitely a chance for UoG to profile itself in Africa.

Maximizing the benefits to all partners

For all parties to benefit fully from the opportunities Northern Partners have to offer, there is need for CARTA fellows and member universities to fully understand local terms and financial conditions for universities. CARTA should disseminate its experiences among all partners and make clear the awareness of the expectations from individuals as well as universities. There also has to be a direct contact with CARTA focal persons.

In conclusion, Prof. Bondjers highlighted that Europe has had a process of ensuring quality and understanding of what the requirements are for PhD students. All universities should embrace this. Establishing a minimum quality level and guidelines in standardizing the PhD requirements is something to consider for African universities.

PRESENTATION THREE: ROLE OF RESEARCH CENTRES IN DOCTORAL TRAINING

Presentation by Dr. Sam Kinyanjui-Head of Training, KEMRI Wellcome Trust

This presentation aimed to bring light on the role research centres play in doctoral training. Dr. Kinyanjui began the presentation by pointing out that the KEMRI Wellcome Trust Research Programme (KWTRP) is based within the KEMRI Centre for Geographic Medical Research in Kilifi. KWTRP's core activities are funded by the Wellcome Trust. The centre conducts integrated epidemiological, social, laboratory and clinical research in parallel, with results feeding into local and international health policy.

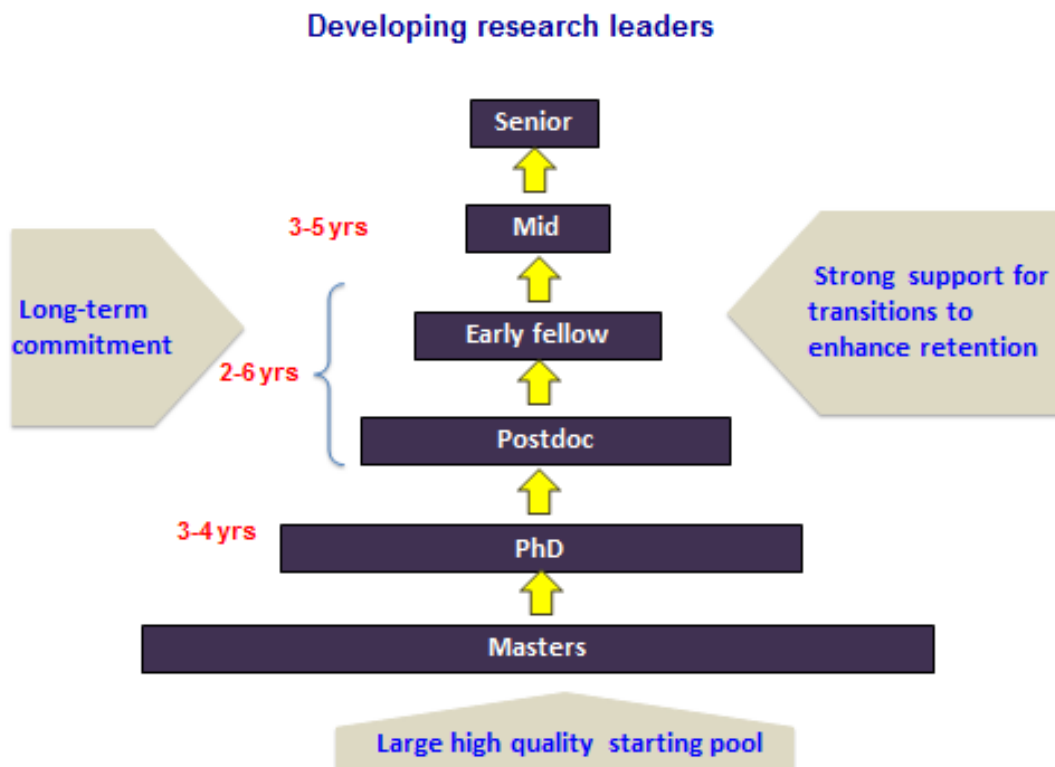
The KEMRI Wellcome Trust Research programme has three hubs in Kilifi, Nairobi and Mbale in Eastern Uganda. The program has over 150 research projects in 20 counties in Kenya and has presence in 18 African countries with over 300 collaborators.

The research personnel at the centre comprises of approximately 100 Scientists, 200 technical staff, 400 fieldworkers and 100 operation staff. Dr. Kinyanjui indicated that KWTRP publishes over 120 research papers per annum and has strong health systems support team.

Since 2006, the KWTRP has produced 80 PhDs and currently has 38 students enrolled for PhD training. Out of the total number of PhDs produced, 34 are researchers at KWTRP, 26 are researchers elsewhere, 9 are Lecturers at local universities and 5 are doing Health-related jobs.

Key Contributions to policy

Dr. Kinyanjui highlighted some of the key contributions that the KEMRI Wellcome Trust Research programme has made to policy in Kenya and this includes Bednet usage and distribution policy, Fluid management of critically ill children, National and global malaria treatment guideline, Research ethics guidelines, Pneumonia vaccines roll out studies, Malaria vaccine trials, Malnutrition rehabilitation guidelines and provision of evidence to guide devolution of the health system. With the goal of the centre being to create a critical mass of African research leaders, KWTRP has a working system of developing research leaders, which is summarized in the figure below.



KWRTP's framework for building research capacity

Dr. Kinyanjui further highlighted KWRTP's framework for building research capacity. The goals for the framework are to:

1. Nurture emerging research leaders;
2. Support transition to independent research;
3. Provide high quality Training; and
4. Attract young graduates to research.

The above goals are achieved through a range of schemes such as Mid-Career Fellowships, Early Postdoc fellowships, Transition support, PhD training, Masters Training, Graduate Internships, Undergraduate Attaches and School leavers Attaches. The intended impact by KWRTP is African-led research impacting knowledge, policy and practice.

Through the KEMRI Wellcome Trust Research programme, the following outcomes have been achieved and this has contributed greatly to doctoral training.

- a) African researchers leading research;
- b) High quality publications and policy briefs;
- c) Competent /competitive postgraduates;
- d) High transitioning rate at each stage; and

- e) More graduates choosing research career.

PhD Training at KWRTP

Dr. Kinyanjui indicated that the Centres PhD training emphasises on stringent recruitment, there is full focus on training with researchers receiving full funding and stipend. Supervision is done by at least two supervisors and there is mentorship from three independent advisors and a pool of external mentors. Researchers receive generic training on writing, presentation, grant writing, statistics and communication skills and there is continuous progress monitoring with students being required to submit six monthly reports. In addition, the researchers receive an enriched experience by collaborating with overseas institutions for six months. Finally, KWRTP offers post-PhD support with one year funding to ensure that the students finds placement as postdoctoral researchers.

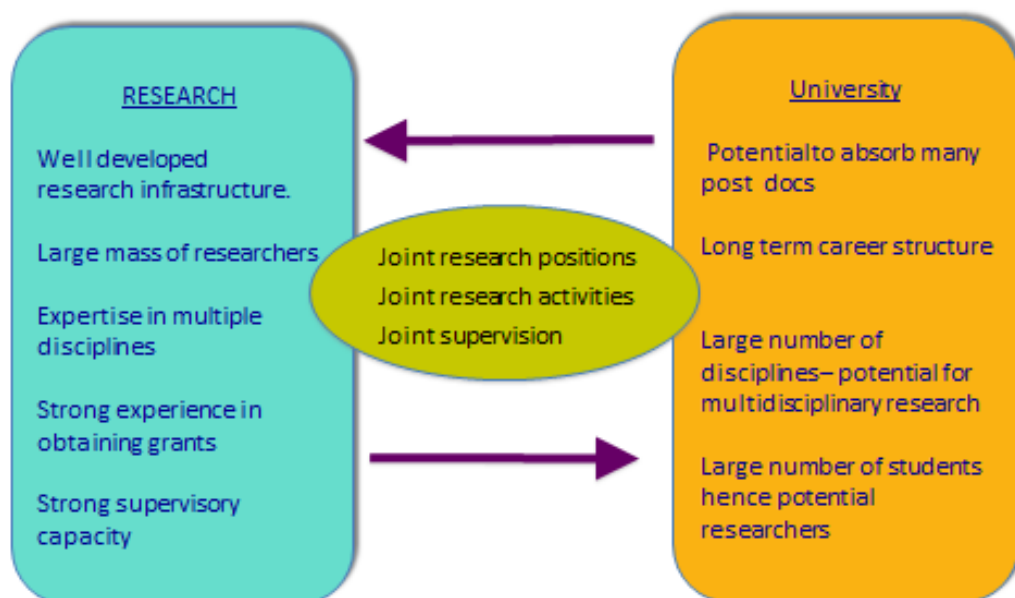
University linkages

Dr. Kinyanjui indicated that Research and teaching to build capacity are two mandates of Universities. As such, universities are natural partners to research centres both in research and capacity building. Potential areas of collaboration with universities include;

- a) Joint research activities;
- b) Shared teaching and supervision;
- c) Staff exchange and adjunct positions;
- d) Shared research resources; and
- e) Joint research fund raising activities.

The following illustration elaborates more on how universities can partner with research centres like the KEMRI Wellcome Trust Research programme.

UNIVERSITY-RESEARCH CENTERS LINKS



University based research centres – model for promoting research

In conclusion, Dr. Kinyanjui indicated that universities must work with research centres to build a critical mass of researchers in Kenya and in other African Countries. Such collaborations will offer a platform for scientists with similar research interests to share scientific ideas, develop joint research activities, and have a common scientific vision and strategy. It will also promote acquisition, sharing and efficient use of infrastructure and research-focused management and operational support. University-based research centres will also facilitate strategy driven collaborations and joint-supervision and mentoring of students and hence encourage interaction between students from different research groups.

PLENARY COMMENTS FROM SESSION V DISCUSSIONS

Prof. Charles Larson - National Coordinator, Canadian Coalition for Global Health Research (CCGHR)

1. There is need for regular communication, constant ongoing dialogue between Universities and CARTA.
2. Partners should strive to understand the needs of a university before partnering with them and this calls for understanding the context and the people. Universities very much need to become global and promote their careers. Universities therefore need global contacts.

Prof. Sharon Fonn –Co-Director, CARTA

1. CARTA is striving to deal with communication issues but has faced challenges in communicating efficiently and effectively.
2. It is up to individual universities to take initiatives to create partnerships and collaborations. Some universities have taken advantage of this and created immense collaborations with other universities.
3. VCs need to reflect on the differential initiative demonstrated by academics in taking up opportunities globally. There has to be development of joint proposals. Academia should take the initiative and develop joint proposals in research. Universities must however incentivize the individual academics to participate in activities like joint publications and development of research collaboration. There has been lack of individual initiative in African academics.
4. The presentation by Dr. Kinyanjui is a representation of the depth and breadth universities have to offer. Field visits are part of the research programs to get the practicality of the research projects by PhD students.
5. All research centres generate data and this data can be used by researchers. It is important to match research projects to the best research sites that meet the needs of the researchers.
6. Peer reviews and journal clubs help to critique researchers' work and add value to their research. Relationships built should be of benefit to both parties. Long term collaboration with research centres is encouraged.

Prof. Paul Omondi, Director Postgraduate Studies, Moi University

1. While allowing adequate room for innovative ideas for individual university, having standardized common requirements, procedures, rules and regulations for PhD programmes is important in universities.
2. Joint collaborative multidisciplinary research among faculty should be highly encouraged in African Universities, Sensitization activities are therefore necessary to spread word on new opportunities.

Prof. Adam Mahomed Habib - Vice Chancellor, University of the Witwatersrand

1. Universities must create an enabling environment where academics from different research institutions meet together.
2. Secondly, universities must set aside resources for joint research work.

Prof. Alex Ezeh –Co-Director, CARTA

The Northern Partners engagement challenge has been lack of long-term planning with universities such as replacement of faculty teachers. This can take a long time to get the right person. CARTA pays a little stipend for the faculty but universities must offer accommodation and office space to help achieve common goals. Opportunities at CARTA are not being exploited to the maximum by Universities.

Prof. Osman Sankoh – Executive Director –INDEPTH Network

Question: Who are the southern partners in CARTA?

Prof. Bondjers indicated that CARTA has changed the term Northern Partners to Non-African partners to expand the scope to other African partners.

Professor Peter M.F. Mbithi – Vice-Chancellor, University of Nairobi

UoN has collaborations with the KEMRI Wellcome Trust in Kilifi and this collaboration has led to the production of excellent research leaders.

SESSION VI

WAY FORWARD AND RECOMMENDATIONS

Summary of key recommendations

In order to make the workshop worthwhile, Prof. Sharon Fonn, Co-Director, CARTA posed three main questions to the Vice Chancellors and Heads of Partner Institutions. Below is a summary of the questions and recommendations from participants

- 1. How can CARTA communicate with member universities more effectively and efficiently? (Do the member universities meet with the CARTA focal people at their institutions? Some people have more confidence than others and others could be intimidated by a high office. Should the focal people be pushed to the universities more? Should CARTA be sending emails?)**

Recommendations

- A Vice Chancellor must have a good knowledge of how the CARTA program works. A coordinator should however be on the ground to understand the institutional framework and how to work with researchers and have knowledge of curriculum so that he/she advises the VC. Every quarter, the VC should get a brief from CARTA on what their view would be about the university so that this is discussed with the coordinator.
- CARTA is now at a point of selecting the coordinators with the right capacity to be attached in each university to direct activities on the ground. CARTA should set standards of the coordinator
- CARTA reporting is done quarterly. Universities must send their quarterly reports to VC's before they are submitted to CARTA. This will assist the VC to be up to date with the CARTA program activities.
- Establishing norms and values and the right cultures within universities is necessary to promote research activities.
- Googledocs can be used for group communication between VCs to keep connections and flag any problems.

- 2. CARTA prefers to stop existing because universities will be able to support themselves. What could be done to facilitate the ability to facilitate the kind of change we all want? What is it that VCs would wish these individuals to learn?**

Recommendations

- Whoever represents a university in the CARTA meetings must understand the strategic thinking of the university and be passionate enough to represent the university.
- There is need for constant training of all parties involved in CARTA programs for them to be able to support better CARTA activities.
- Universities must find a way of ensuring that CARTA achievements are shared with the entire university community. The university community should be involved in CARTA events and have ambassadors of the good work for members of the university community to know what CARTA is all about.

- d) There are periods when CARTA organizes meetings for participants from partner institutions to discuss common challenges and solutions. Participants write a personal commitment, which is then emailed back to participants to ensure they keep their commitment. With reference to the upcoming Faculty and Administrative Staff (FAS) meeting on July 17th to 19th in Kigali, Rwanda, this should be done to all university representatives who will attend the meeting.
 - e) When staff from universities are trained in certain areas and they do not have access to areas they can assist, they are likely to just sit and do nothing. Access should be created within universities to help in their career development.
 - f) There is certainly need for an overall CARTA coordinator in each university. The person coordinating the CARTA program has to be at university wide leadership. He/she should be in touch with the research activities constantly and be able to brief the VC.
 - g) There should be a plan for coordinators to come from CARTA meetings and report on what was discussed there to the VC.
 - h) There is need for more interaction between the coordinator and those who have benefitted from CARTA trainings.
- 3. Publications – there was a proposal to get all feedback from participants together in one document, send back to all members for further comments, give a deadline, make changes again and finalize the paper for publishing.**

Recommendations

- a) It was agreed that the draft paper to be circulated to members for comments then changes would be made and incorporated before publishing can be done.
- b) CARTA should continue supporting the member universities. It is hoped that the publication will help people who are not aware of what CARTA is all about.
- c) The VC's agreed that perhaps a declaration should be made on some of the issues discussed at the meeting.
- d) The publication would form the basis for negotiations with African governments to fund post-graduate education.
- e) The VC's to consider publishing the paper in non-peer reviewed journals as well for wider circulation.

NEXT MEETING DATE AND VENUE

NEXT MEETING

The first VC's CARTA meeting was held in 2012 and it took five years for the VC's to have this second meeting in 2017. It was agreed that the next meeting should be held before the major CARTA meeting perhaps in the next two years.

It was proposed that H.E. Thabo Mbeki, the former South African President, H.E Olesegun Obasanjo, former Nigerian President and H.E Ameenah Gurib, President of Mauritius be invited to the meeting in Rwanda to discuss strategies Governments can use to support funding for research. In the Rwanda meeting, the Presidents of private sector partners such as AFDB and World Bank to be invited too. This is in a bid to host an all-inclusive meeting with key players that can help revolutionize the state of PhD training in Africa.

VENUE

Two proposals of venues for the next meeting were floated, Rwanda and Nigeria. The secretariat was tasked to consult with all members to agree on the venue for the next meeting. All VCs were requested to bring along their senior management members to the next meeting to take notes and drive the CARTA activities forward. This could be the coordinators at the respective member universities.

CONCLUSION AND VOTE OF THANKS

Prof. Sharon Fonn, Co-Director, CARTA

To conclude CARTA's 2nd Vice Chancellors meeting, Prof. Fonn acknowledged and expressed gratitude to of all members for their contribution during this two-day meeting. She thanked UoN for accepting to host the meeting and called on levels of enthusiasm to help drive the CARTA activities for the betterment of all member institutions. Prof. Fonn appreciated all research centres supporting CARTA research fellows. Finally, Prof. Fonn thanked all the VC's in advance for their effort and commitment to finalise the publication on '*Research funding landscape and doctoral training in Africa*'. She further applauded the role the secretariat drawn from both CARTA and UoN played to make the meeting a success. Prof. Fonn concluded by indicating that she was looking forward to working with all VCs in the future.

Prof. Alex Ezeh, Co-Director, CARTA

In his vote of thanks, Prof. Ezeh appreciated the Chair for the CARTA 2nd VC's meeting Prof. Peter Mbithi, VC, UoN for his tremendous support and leadership to make the meeting a success. He further thanked the UoN secretariat for accepting to support the meeting. Prof. Ezeh showed appreciation to all countries that had offered to host the 3rd VCs meeting and officially closed the meeting.

ANNEX I: LIST OF PARTICIPANTS

1. Professor Abel Idowu Olayinka - Vice Chancellor, University of Ibadan
2. Professor Laban Ayiro -Vice Chancellor, Moi University
3. Professor John Ddumba-Ssentamu -Vice Chancellor, Makerere University
4. Professor Peter M.F. Mbithi - Vice-Chancellor, University of Nairobi
5. Professor Adam Mahomed Habib - Vice Chancellor, University of the Witwatersrand
6. Professor Alfred Mtenje - Pro Vice Chancellor, University of Malawi
7. Professor Philip Cotton - Vice Chancellor, University of Rwanda
8. Professor Eyitope Ogunbodede - Vice Chancellor, Obafemi Awolowo University
9. Professor Charles Larson - National Coordinator, Canadian Coalition for Global Health Research (CCGHR)
10. Professor Osman Sankoh - Executive Director –INDEPTH Network
11. Professor Steven Tollman - Director, Agincourt
12. Professor Göran Bondjers - Representative, University of Gothenburg
13. Dr. Fredrick Golooba – Mutebi - Consultant, CARTA Vice Chancellors Meeting
14. Dr. Kafuruki Shubis - Head of Training, Ifakara Health Institute
15. Professor Alex Ezeh - Executive Director, APHRC and Co-Director, CARTA
16. Professor Sharon Fonn - University of the Witwatersrand and Co-Director, CARTA
17. Dr. James Kisia -Director, Research Capacity Strengthening Division, APHRC
18. Professor. Peter Ngure - CARTA Program Manager
19. Professor. Paul Omondi, Director Postgraduate Studies, Moi University

IN ATTENDANCE

20. Ms. Olivia Osiro - CARTA Fellow, University of Nairobi
21. Ms. Kellen Karimi - CARTA Fellow, University of Nairobi
22. Mr. John Alonge - CARTA Fellow, University of Nairobi
23. Dr. Rose O. Opiyo - CARTA Graduate, University of Nairobi
24. Dr. Anne Khisa - CARTA Graduate, University of Nairobi
25. Mr. Emmanuel Otukpa - Knowledge Management and M&E Officer – CARTA
26. Mr. Justus Musasiah - CARTA Fellow and Program Administration Officer , CARTA

UON PARTICIPANTS

1. Prof Lucy Irungu – Deputy Vice Chancellor, Research, Production and Extension, UoN
2. Prof. Enos Njeru – Principal, College of Humanities and Social Sciences (CHSS), UoN
3. Dr. Anne Khasakhala – Director, Population Studies and Research Institute (PSRI), and CARTA Focal Person UoN
4. Prof Mutuku Mwanthi – Director, School of Public Health, and CARTA Co-focal person, UoN
5. Prof. Lydia Njenga – Director, Graduate School, UoN
6. Mr. John Orindi- Director, Corporate Affairs, UoN
7. Mr. Johnson Kinyua – Director, University Advancement, UoN
8. Ms. Naomi Nyaboga – Advancement Office, UoN
9. Ms. Mariam Maina – Corporate Affairs Office, UoN
10. Ms. Jane Wairimu – Vice Chancellor’s Office, UoN
11. Mr. Martin Mativo – PA to the Vice Chancellor, UoN
12. Ms. Florida Keru - Corporate Affairs’ Office, UoN

ANNEX II: SUMMARY OF GROUP DISCUSSIONS FOR THE PAPER

GROUP 1: FUNDING AND DIFFERENTIATION

Group one comprised of the following members

1. Prof. Abel Olayinka, Vice Chancellor, University of Ibadan – **Chairing**
2. Prof. Alfred Mtenje, Pro Vice Chancellor, University of Malawi
3. Prof. Alex Ezeh, Executive Director, APHRC and Co-Director, CARTA
4. Prof. Adam Habib, Vice Chancellor, University of the Witwatersrand
5. Dr. Kafuruki Shubia, Head of Training, Ifakara Health Institute
6. Dr. Rose Opiyo, CARTA Graduate, University of Nairobi
7. Prof. Peter Ngure, CARTA Program Manager
8. Ms. Naomi Nyaboga, Advancement Office, UoN - **Rapporteur**

I. FUNDING

Background on funding

Most African public universities remain underfunded by governments and the funding that is received pays for basic operating costs requiring the universities to seek for alternative sources of funding. Funders are not interested in paying for infrastructure development and this is linked to the fact that there has been immense growth and mushrooming of universities. This has led to many private Universities charging high tuition fees.

The members noted that the Government funds most public universities in the United States. For instance, Berkeley University's subsidy for research by Government is 7%. About 90% of funding for most US Universities comes from the Government and alumni contributions; the research is therefore funded by the US state. Funding of research in the US from the government comes through institutions like the Center for Disease control (CDC), National Institute of Health and many others.

Faced with declining public funding, African Universities must now look for new models to finance research and innovation. Universities are also at the risk of losing their academic talent to the private sector and even to other countries abroad if they are not remunerated adequately and if their working environment is not conducive for research, teaching and learning.

Current Sources of funding

In Kenya, Government research funding institutions include the National Commission for Science, Technology and Innovation (NACOSTI) and the National Research Fund (NRF). The Government of Kenya has set aside 2% of its Gross Domestic Product (GDP) to research and development. In Nigeria about 2% of the funding for universities comes from the private sector.

Kenya's interest in the promotion of Science Technology and Innovations (ST&I) has been on for various initiatives. During the first Medium Term Plan (MTP I), one of the focus areas was to create deliberate efforts to address intensification of innovation in priority sectors. To address this, in 2008/2009 financial year, the Government consolidated the research funds that were under, the then Commission of Higher Education (CHE) into a research endowment grants budget line which was administered by the then National Council for Science and Technology (NCST) on behalf of the then Ministry of Education, Science and Technology. The initial allocation of this grant amounted to KES

250,000,000M, which increased overtime to the tune of KES 497,000,000M by 2015/2016 fiscal year.

How can African Governments commit to research funding?

African Governments must identify which development partners can be approached to support research and development activities in Universities. Perhaps there is need to build on the capacity of African institutions as well for effective management of research funds.

So what is the starting point? The beginning is to inject money in the research institutions in respective African countries like the NRF and NACOSTI for Kenya. After obtaining research funds, there is need to resolve the costs for normal operations of Universities so that research funds are purely dedicated to research. It is also important for African Universities to come up with innovative ways of creating income and attracting funding through competitive grants.

The role of government in funding research

The private sector can fund research in public universities but it can never be enough, the government has a big role to play. It is important to note that the government funding is sometimes not applied on a competitive basis, which is a challenge to public universities funding.

In 2013, Asia was number one in driving growth for global research and development. The Asian countries are at the forefront in supporting research activities and their research and innovation sectors have been catapulting the economic growth rates of the countries to a high over the years.

African universities must therefore frame a narrative that will create the imperative for governments to realize it is their role to fund research and development in the African continent. Firstly, the narrative must be right to see inclusive development and addressing of challenges such as unemployment, the economy must be grown in an inclusive way with high quality skills by universities. The training should also be geared towards attainment of the Sustainable Development Goals (SDGs).

Secondly, African universities should create relations with big development partners like the World Bank and the African Development Bank who are big supporters to research funding through bilateral collaborations. In doing this, universities should bring government on the table and discuss on how to collectively benefit from development partners. If all the monies universities get would be aggregated, there would be creation of social impact and economies of scale. It was also suggested that those who have been in academia before and are now in high positions in the civil service should be approached to discuss research funding at higher levels.

The group noted that other than Rwanda, it is hard to think of other African governments supporting research funding in public universities. Universities must strive to get buy-in from the leaders at higher levels of governments for them to lobby for more funding for research. Governments therefore play a critical role in supporting funding for public universities.

The role of regional networks and consortia in the whole process of supporting research funding in public universities cannot be overemphasized. The investment by regional networks for specific institutions will go a long way in transforming them to drive research. The group suggested that national research funds be consolidated in a consortium and then the universities bid for it on a competitive basis. Collaborations among institutions are also highly encouraged to increase the research funding received. The capacity to manage the research funding processes must however be developed in universities and incentives set aside for research staff. The group also noted that the

research outputs from the universities must be of quality to convince the government to support research activities.

How do we create a conversation around tuition and better management of tuition fees?

In most African universities, governments do not contribute to tuition fee for postgraduate students. Public universities should be allowed to charge tuition fee for undergraduate training and this calls for a conversation on this area to ensure quality training is achieved. Governments do not contribute to tuition fee for postgraduate training mainly due to lack of political goodwill. Yet, the societal returns from postgraduate training are much higher than individual returns.

Universities in the African continent have had contests over the years over tuition fee. It is difficult to sell the idea of introducing tuition fee in tertiary education. Universities therefore have to think this through and seek for alternative sources of funding for research activities. The question therefore still remains on how African universities can maximize on the potential for income generation internally. One possible suggestion was to merge the student resources with the private companies. This would mean creating private companies parallel to institutions, for example Price Water House Coopers. Another suggestion was to involve the alumni in generating income for the institutions. The starting point for a conversation on tuition fees with the governments would be by African universities' Vice Chancellors setting targets on the number of students to enroll each year.

Alternative sources of funding

The option of loans for students could also be explored if it could bridge the gap of low funding for African universities. The loans could be used to circumvent this low funding problem. There are two models being implemented in South Africa, the public loans systems which have created access to education to the very poor. The second is a bank system focusing on funding university education for the middle class. However, the students in South Africa rejected the loans system with the fear of creating a debt.

With a view to enhancing African Universities' research capacity and competitiveness, endowment funds could be another area of focus to provide a steady flow of research funding for the institutions.

Internally generated resources such as overheads from externally funded grants, university services, consultancies, development projects such as students' hostels etc. should also be an area of focus for universities to generate research funding. It is however important to note that internally generated resources can only contribute in part and not fully for research funds. This will assist in subsidizing the research funds. There however has to be a private arm of the university handling the income generation business for the government. Universities can explore the creation of partnerships and collaborations with development partners that can develop and run business for them.

What is the constraint in creating a parallel system to manage business for the university within the current university systems? The private entity has to run like a completely separate institution but universities have been reluctant to embrace this. There is need for a mindset change among university staff to encourage the setting up of private enterprises to internally generate resources for universities. The Alumni of any university cannot be underestimated; universities must create systems to reach out to their alumni to give back to their Alma matter. To achieve all these, there has to be transparency and proper accountability systems in the African universities

II. DIFFERENTIATION

Africa has many universities mushrooming each day, offering the same programs. This calls for creation of research-intensive universities, which are very expensive to run. Universities should graduate to offering specialized training. There are two notable sets of funding universities:

- a) Universities focusing on producing professionals; and
- b) Universities focusing on research (masters and PhDs) training.

The question that arises then is what should be the rational criteria for deciding which university should be research intensive?

- a) The selection can be a political choice, done by the government with a focus on research outputs.
- b) The selection can also be based on research productivity and the number of masters and PhDs a university is producing among other reasons that will propel the research needs of a government quickest.

How do universities ensure there is continued effectiveness on non-research universities with regards to teaching?

- Africa needs institutions that fund research only (research intensive);
- Each government should identify universities focusing on intensive research and undergraduate training;
- Governments should give choices and allow universities to evolve from one category to another;
- Encourage universities to internally partner with private institutions focusing on different aspects of training to also learn and build on their capacity.

What is the visionary message VCs have for the future?

It was noted that since governments do not commit enough of their resources to research funding, then government buy-in must be achieved. The group members suggested the following:

1. There should be regular platforms for VCs to discuss, interact and develop a research agenda for the Government. Most countries have informal committees for VCs; the committees should be made formal;
2. There should be collective funding and even differentially for research;
3. Any faculty from any discipline should be at liberty to compete for grants;
4. Unless all players do the seeking for funding collectively, it is difficult to attain the desired result. Therefore all players must be involved collectively;
5. There should be funding agencies like NRF for Kenya that are allocated enough money for research;
6. External development partners can also be picked to assist in funding. Development partners would consider funding a select number of research-intensive universities. Looking at the top ten universities in Africa, two could be selected from at least each country. The selection has to be deliberate to create a balance;

7. There has to be a link between development and research. Proper justification should be in place to support all research project;
8. A group of political leaders should be selected carefully to become the champions of funding for universities by governments. It was suggested that Thabo Mbeki, Obasanjo, and the President of Mauritius seek an appointment with President Paul Kagame to get buy in on the need for government research funding. The team visiting President Kagame to include Ministers of Science and Technology, two VCs & Prof. Phil Cotton. President Kagame to further create contact with the World Bank president who has immense influence on funding research (The group suggested that Dr. Fred Golooba to engage President Kagame on this);
9. African universities' VCs to can make a call to identified political leaders and sell to them the need for government to offer substantial funding to African universities. This way, it will be easier to get support and buy-in by African governments;
10. Research institutes survive around an ecosystem that does not survive if funding ends. It is therefore necessary for funding to be directed to Universities directly instead of funding satellite institutions which most funders prefer funding because they find universities to be too big;
11. University staff should not be appointed on the basis of their publications alone. Their supervision level should also be considered. How do universities create opportunities to bring expertise back to the universities? Universities should work closely with research institutions like APHRC so that their students can conduct research on the institution's data. These research institutions can also offer support in the students' research journey. Universities should however develop policies to promote such partnerships.

In conclusion, the group noted that there was a disconnect between research centres and universities in Africa, hence synergies and areas of intersection should be sought. Funding mechanisms also need to be reviewed so that any eminent challenges are dealt with appropriately. Finally, there is need to create a Trans-Africa research agency to engage with external partners. It was suggested that CARTA should plan for a writing retreat for finalization on the paper.

GROUP 2: MASSIFICATION / DIFFERENTIATION

MEMBERS

Prof. Lucy Irungu, Deputy Vice Chancellor, Research, Production and Extension, UoN – **Chairing**
Prof. John Odumba- Ssentamu, Vice Chancellor, Makerere University
Prof. Laban Ayiro, Vice Chancellor, Moi University
Prof. Steve Tollman, Director, Agincourt
Prof. Mutuku Mwanthi, Director, School of Public Health and CARTA Co-focal person, UoN
Ms. Esther Karumi
Ms. Olivia Osiro, CARTA Fellow, University of Nairobi - **Rapporteur**
Ms. Beatrice Kimuyu, Alumni Officer, UoN – **Rapporteur**

Definition of Massification: Rapid expansion of Universities, often largely driven by political pressures. This may be a problem in that set standards are not adhered to leading to low quality graduates.

Why the demand for more Universities?

Given the Kenyan Scenario, the team deliberated on whether there was need for the rapid expansion if the new universities were being supported financially by the government and finally if the students met the minimum entry requirements.

The resulting new universities have limited manpower and facilities thus ending up over stretching the already limited resources and diluting the quality of education. In addition, there is loss of highly skilled technicians when polytechnics are upgraded to universities.

Is Massification a derogative term?

- Does it perhaps denote that the rapid expansion is not really meeting market needs at the expense of research institutions?
- Have universities been reduced to community colleges or have community colleges been upgraded to universities?
- Is there justification for this?

Nursing training institutions have been upgraded to universities and none are left at the community level.

The new institutions may have infrastructure but inadequate staff, thus overstretching human resource which impacts the quality of education negatively.

Why Massification?

- a) Universities allowed massification for capital formation following reduction/ capitation of Government funding.
- b) It was also an advantage for political interests.
- c) On a positive note, massification may have improved the development of universities infrastructure.

Challenges of Massification

- a) Institutional management and governance;
- b) Inadequate funding for the high number of students;
- c) Low quality education;
- d) Questionable relevance of courses on offer;
- e) Teaching and learning conditions are affected;
- f) Overcrowding of facilities, a problem that is facing most of the university in Africa. The new institutions lack infrastructure so rely on and overload the older institutions, even though they may be paying to use the facilities. Hence there is preference for arts based courses at the expense of STEM courses;
- g) Quality of student life.

Proposed solutions

1. Need for constituent colleges and Vocational Education & Training Institutes

There should be one regional University supported by constituent colleges instead of every political zone having their own University. This will help reduce the overhead and salary costs of running several small universities and the money saved can be channeled towards research.

In Kenya, there is a Technical and Vocational Education and Training (TVET) government programme whose aim is to realize the implementation of technical colleges in constituencies. It is expected to boost industrialization.

Implementation of Vocational schools can ease pressure in Main Universities. The government should give students incentives and encourage them to join the vocational training institutions, for example, free tuition.

There is need for change on how governments perceive Higher Education. Government can popularize the vocational institutions so as to change the mindset of parents that are rigid and have already established preference for university to Technical training institutions highlighting on the benefits of training in the Technical training institution.

An advantage of Vocational training is that while most of the Students from graduate schools take longer time before securing employment, their counterparts from Technical Training Institutions are quickly absorbed into a ready skilled market. For example, plumbing, electrician and masonry.

However it is important to remember the high level of democratization and civility associated with graduates as opposed to their counterparts from technical training Institute thus the need to be careful on how we approach the Issue.

2. Differentiation

Universities need to be distinguished with focus on a specific discipline. E.g. in Kenya, JKUAT focuses on Engineering and Technical courses, Kenyatta University on Education, and Moi University on Environmental Sciences etc.

Case in point, lack of differentiation is suggested as the reason for apparent disconnect between Kenya School of Law and Commission for Legal Education. In recent news carried by a local daily, 2000 students sat for the bar entry exam but only 180 passed.

Older and more established universities can also focus more on post graduate research training while new and small universities concentrate on undergraduate training.

In addition, differentiation solutions should not be restricted to African countries or regions but should place them on a global platform.

The more established universities should come together and put up a paper and engage the government on the need for differentiation amongst universities. It is not enough to wait for Government directives.

Universities, through the Vice Chancellors should approach the government through written papers with a differentiated approach that will be looking at having funding done based on courses offered that is on a differentiated unit cost.

In addition, universities may also get government support through research institutions such as the National Research Fund in Kenya. Such funding can be used to improve on infrastructure. For example in Kenya, 2% of national budget is dedicated to research through NRF.

Nonetheless, despite the suggestion for differentiation, it remains important for institutions to adopt a multidisciplinary approach in research. In China for example, they have adopted STEAM instead of STEM to incorporate the Arts based programmes in recognition of the role they play. University of Nairobi has already adopted a multidisciplinary approach in its various faculties.

One way this is achieved is through the engagement of communities thus communication, environmental impact and the research outcome are important factors.

Additionally, University Professors and lecturers must get out of their comfort zones to ensure teaching is interesting and the content engages the students.

3. Accreditation of Universities

There is need for Commission for Higher Education in African countries to do thorough vetting of Universities to ensure standards are upheld before licensing and accreditation.

4. Accountability to Government and funders

African universities should appear to be accountable and open in governance in order to attract funding from donors.

5. Partnering with research centres and other postgraduate training consortia

Universities can consider increasing postgraduate programmes in collaboration with research and training organizations such as CARTA to ensure quality of graduates.

GROUP 3: ACCOUNTABILITY

Participants

1. Prof. Sharon Fonn – CARTA Co-Director – **Chairing**
2. Prof. Charles Larson, National Coordinator, Canadian Coalition for Global Health Research (CCGHR)
3. Prof Philip Mbithi – Vice Chancellor, University of Nairobi
4. Dr. Anne Khasakhala – Director, PSRI and University of Nairobi CARTA Focal person
5. Mr. Emmanuel Otukpa – CARTA M&E
6. Prof. Osman Sankoh – Executive Director of Indepth Network
7. Dr. Anne Khisa – CARTA Graduate, University of Nairobi, Session - **Rapporteur**

Chair introduced the session goals and made following remarks:

- A common understanding and potential solutions to the problem in research in Africa is needed;
- African led initiatives to talk for the themselves, directing and influencing our own future;
- Meeting intends to draft an editorial of about 1000 words from VCs afternoon session with VCs and heads of partner institutions;
- Differentiation on 3 fronts;
 - Universities within country
 - Fees
 - Staff
- Questions that should be answered are: Why should anybody invest in universities? Can universities be accountable for money, and research generation and dissemination?

What is accountability? Is it only as pertains to universities?

- It should be what is reasonable – in terms reporting time frames;
- If research is important, what can CARTA deliver?
- initial research (Fred) There is a problem in African universities in terms of holding staff accountable, especially for moonlighting
- The research problem is there is no particular **research infrastructure** and maintenance that excites people enough to conduct research. E.g. the university has no single electron transmission microscope! (Prof Mbithi) the same to having good labs in microbiology etc. lack of equipment and facilities to inspire an academic research environment. If you can't keep a good environment, you can't excite and keep academics – there could be brain drain out, or within, in form of not excited academics.
 - Training, retraining, reskilling and new ways of communicating and handling data is also insufficient
 - The above 2 are because of lack of funds
 - 30% is what goes into research (less than the wage bill)

UON is getting research grants through **collaboration**

Government may never be able to fund research at the university; seeking partnerships and developing infrastructure are actively being sought.

- ❖ Universities can and do deliver under difficult circumstances; but donors may not be aware of the challenges universities have. Infrastructure is also an issue.

- But the challenge of maintaining the research infrastructure remains. Utilities must be paid for by universities
- Use of **labs/ Equipment** can be paid for by researchers from their grants (token service charge); one lab being used as corporate; replenishing – change of managing practices for research infrastructure.
- Solutions to maintain infrastructure is through researchers continually attracting research grants that then sustain them.

There is a challenge of staff allocating time to research, besides classroom teaching loads and clinical areas. It is not yet a policy but staff can negotiate for 50% time off to conduct research.

Computer based research and software are another actual need in the research environment that is a current challenge. But universities should be accountable enough not to buy the same equipment in different grant applications. – It is an **accountability** issue that arises often in individual based grants

Universities should still **promote research internally and have in place** internal committees to evaluate research. A set of **Accountability criteria** must therefore be put in place to make universities investor worthy.

- Universities must assign money for Research in the budget and carry out competitive internal research grant writing;
- M&E on Supervision is critical - who is a supervisor? How long should a PhD last;
- Robust staff development Programs are necessary - Absorption of Highly trained PhDs within the University students; staff development plans and programs.
 - What is the university doing to retain great PhD graduates who are sufficiently excited? A policy framework is put in place – ***if not supervising, publishing and raising grants you can expect your job to be reviewed.***
 - CARTA should take note of emerging best practices within different consortium partners to the rest of partner institutions.
- New management of research infrastructure, labs, equipment and software – should be corporate licenced and property of university; entrenched in grant applications
- Training researchers and managers on supervision and research management.
 - Research management units e.g. Wits research management unit
 - University of Nairobi is setting up an independent body that manages research. These bodies must be entrenched within the universities
- Transparency in procurement policies should increase. It is an accountability issue.
 - Government systems are too complex for grants, are slower,
 - A specialised unit may hasten the time for procurement
- Center of excellence can improve research capacity and management.
 - Funding road maps – e.g. Grand challenges has 6m dollars to LMIC but only 1 comes from the university! There are competitors from private sector, not for profit organisations, etc.
 - Institutional roadmaps are important
- Using research to teach graduate and post graduate students – e.g. the MEPI program how much of research generated within African institutions is being used to teach graduate and post graduate research students? (Khisa)
- Remark - The CARTA consortia may be more attractive to partners than if single institution bids are put in (Lawson)
- Most scientists want to be **global** scientists and CARTA provides that opportunity.

Conclusion

CARTA plays the role of accountability by checking on activities of all network members. The individual universities should leverage on this and build an internal mechanism of ensuring there is accountability.

GROUP 4: LEADERSHIP AND MANAGEMENT CAPACITY

Prof. Goran Bondjers, Representative, University of Gothenburg - **Chairing**
Prof. Philip Cotton, Vice Chancellor, University of Rwanda
Prof. Eyitope Ogunbodede, Vice Chancellor, Obafemi Awolowo University
Prof. Lydia Njenga, Director, Graduate School, UoN
Dr. James Kisia, Director, Research Capacity Strengthening Division, APHRC
Mr. John Alonge, CARTA Fellow, University of Nairobi
Ms. Kellen Karimi, CARTA Fellow, University of Nairobi
Mr. Justus Musasiah, CARTA Fellow and Program Administration Officer, CARTA - **Rapporteur**

Challenges facing leadership and management

It was thought that the major problem in African universities is lack of the capacity to administer research. Staff have to be trained to administer research (Administrators, Deans and Heads of Research). There is also need for university staff to build skills useful for creating relationship with overseas management.

The other problem highlighted is interference with processes and procedures by the government. There is need to see how these problems can be solved and this may require training.

How do universities look at leadership?

Universities look at leadership dependent on the person or institution. Staff tends to look at leadership as the person at the top, which is wrong. There is need to ensure that leadership training comes from a very basic level to the top (all levels of universities).

Who is making these decisions?

This depends on the need. For example, sometimes funders may have given requirements that make universities take certain decisions on leadership. But universities should not wait for funders' support. The VC also has a big role to play as he/she appoints or has an influence on appointments made and can give requirements for training upon appointment.

Leadership and management is distributed across the board in different university departments. Universities must build the capacity of people within the leadership costs and actual costs. This could be around procurement, laboratory, and soft skills such as communication. Universities need to convince funders that they operate in a way that does not cause bias for work.

Universities also have a challenge of not using equipment that they obtain through grants. Some universities have mitigated this challenge by having a central science lab where all the equipment that has to be bought is crosschecked to indicate whether there is need for the equipment. There are however challenges that emerge from this as some equipment are obsolete and nobody is using them while the university has to accrue costs in maintaining them.

VC's must be prepared to go through a huge amount of literature before they make a decision (evidence based-decision making). It is also important to be consistent and congruent in decisions they make. Finally, VCs must live beyond their own expectations.

One thing that works in Africa is tagging a certain report to a meeting. e.g., having the Nairobi declaration on doctoral training in Africa and relating to government and donors as a group. The government decides what Universities do and has a strategy on Higher Education (HE).

Many universities have a challenge of training and supervision of students. For instance, Professors in private hospitals are mostly not willing to spend a day or two in teaching.

Research and research leadership is about selection. Individual research questions are selected by the scientists and universities are moving away from thematic areas where other people set the research agenda.

Universities have a challenge of managing money from University research councils and donors. It is important to build confidence of doors by practicing transparency and accountability.

Universities can leverage on the strength of consortiums and raise more funding. This can also help them build capacity for managing funds while having donors increase confidence in their universities. However, universities should not just access CARTA for scholarships. Those that are able to chip in can also give funds to CARTA.

The CARTA concept needs to grow beyond the leading universities in Africa that are in the consortium. There is need to take CARTA a step further and showcase what CARTA is doing by informing different universities of some of CARTA's accomplishments, e.g., no of fellows and graduates.

Proposed solutions

1. Universities must take initiative and stop waiting for influence from funders;
2. Universities must have requirements for Leadership training upon appointment. e.g., to attend leadership training for those appointed in leadership positions;
3. Build capacity for posts that are not pegged on structure and have succession plans in place;
4. Staff must effectively use equipment available at universities to build their capacity;
5. Evidence-based decision-making should be practiced by university leaders;
6. Nairobi declaration on doctoral training in Africa should be encouraged;
7. Training on Leadership is crucial;
8. Universities must build confidence in donors;
9. Universities should leverage on the strength as a consortium to raise funds;
10. Universities should transform their leadership through CARTA support.

11. On fundraising and publication rates, universities must keep tabs on what faculties are engaged in from time to time.