



Evaluation of CARTA influence at 10 years

By Barbara Klugman
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Acknowledgments

The brief for this evaluation report was to review data gathered and analysed by CARTA staff and partners during the second half of 2019 in order to both assess the validity of findings, and analyse the range of data to draw broad conclusions regarding the effectiveness of CARTA in relation to its strategic intentions. As such, it draws directly from information produced by CARTA staff and partners. Names of staff and partners who gathered or analysed data on different topics are listed in the References for this report. Thank you to all partners who gave their time to this effort including by responding to surveys, interviews and requests to review documents.

The CARTA Secretariat, in particular Emma Bergstedt, Florah Karimi, Rita Karoki, Naomi Njenga, and Marta Vicente-Crespo, as well as Co-Director Sharon Fonn, have been responsible for shaping and keeping this multi-stakeholder process on the road, with the support of Co-Director Catherine Kyobutungi and Evelyn Gitau, Director of APHRC Research Capacity Strengthening. They have responded to relentless questions and requests for further information from me, with speed and professionalism.

Acronyms

- AFP** African Focal Persons (i.e. for the African institutions in the partnership irrespective of nationality of the individual in that position)
- BoM** Board of Management
- FAS** Faculty and Administrative Staff workshop
- JAS** Joint Advanced Seminar
- NAFP** Non-African focal persons (for the non-African institutions in the partnership)
- PAF** Partners Forum to PAF Partners Annual Forum
- PR** Peer Reviewer (of CARTA fellows' proposals and write-ups)



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RIGHT: Cohort 6 fellows Mpho Molete (left) Wits, and Olivia Osiro (right) University of Nairobi whose PhDs are on oral health celebrate #WorldOralHealthDay on March 20, 2019

Executive summary

Introduction

The Consortium for Advanced Research Training in Africa (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. It describes itself as follows: 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. Its fellows come from four partner African research centres and eight partner African universities. It has eight non-African research institution partners and one non-research partner providing expertise in writing training.

CARTA's summary theory of change is illustrated below:

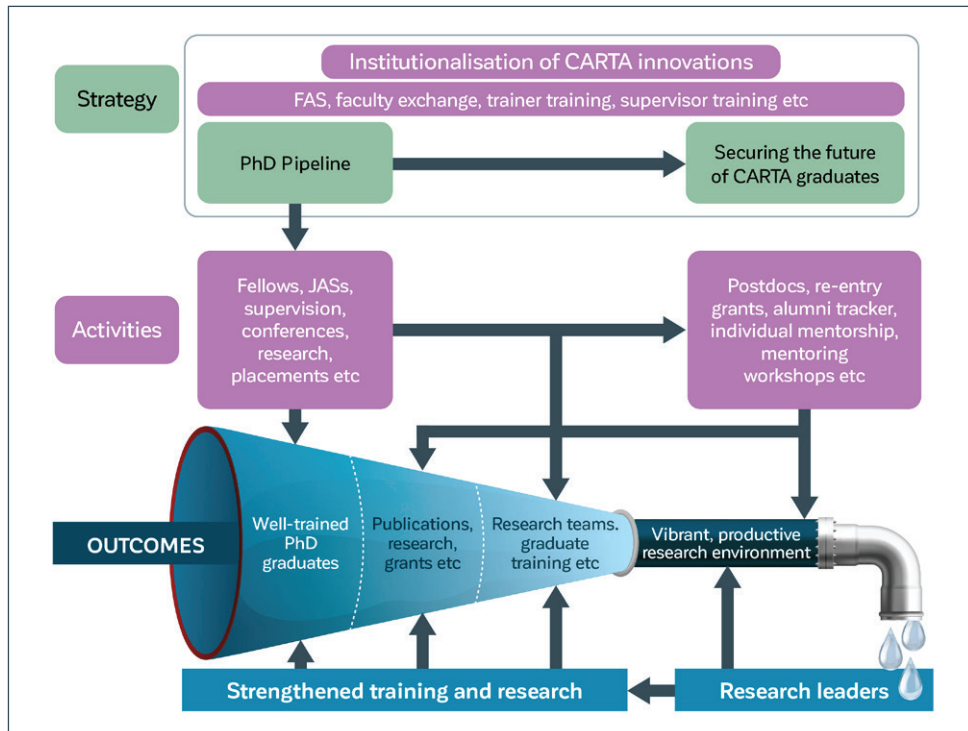


Figure 1: From Doctoral Fellows to Research Leaders: CARTA+ Model

CARTA is a South-South partnership with a South-North collaboration jointly led by the African Population and Health Research Center

This evaluation was initiated for CARTA's internal use. CARTA, including Secretariat and partners, aimed to understand what had been achieved since CARTA's inception ten years previously, in relation to its three strategic priorities. These are: sustaining a critical mass of highly trained African scholars at PhD level; advancing graduate training through institutionalising CARTA innovations at African partner universities; and securing the future of CARTA graduates by mentoring them to become leaders in their research fields.

To this end, Secretariat and partners collectively identified the key questions, and then divided these between them, allocating responsibility to analyse existing CARTA data and, where necessary, to gather new data in order to answer the questions, except in relation to institutionalisation of CARTA innovations which they contracted out. They also contracted me, Barbara Klugman, as an external evaluator who was familiar with CARTA, to bring an external eye to the data gathered and conclusions drawn, to gather further information on how partners experience CARTA in relation to its values and ways of working, and to synthesise all information into a single report. The one limitation to this methodology was that the pace was too fast given challenges in CARTA's current process of consolidating its ten years of data and given the challenges of assessing CARTA fellows' achievements relative to other PhDs in each institution, which could not be done in this time-frame.

EVALUATION QUESTIONS

1. How well did CARTA sustain 'production' of PhDs in partner African universities?
2. How well do CARTA's fellows & graduates demonstrate progress in research careers?
3. Has CARTA had any Influence on African partner's narratives, policy or practice?
4. Did CARTA's particular values, ways of working, and relationships facilitate or constrain its ability to achieve its objectives and if so, how?

Successful throughput of high quality PhDs



Since start in 2008, 9 cohorts, 220 fellows

- 11 terminated [7 men, 4 women]
- 209 active fellows (55% women)
- 87 graduated by end 2019

- The 67% of fellows from the first 5 cohorts who had graduated had a median time to graduation of 52 months (4.3 years) which appears exceptionally fast relative to other PhDs.

"my experience of and exposure to CARTA has influenced me and my practice in that I am now a better researcher, a better writer and a better scientist. I am now able to apply the research skills learnt to perform better quality research. I am able to supervise my students better in their research projects, approach different types of researches with more confidence, write better quality publications and assist my students to do the same. "

On paths of research excellence



Publications

- 140 fellows of 159 at end 2018 published 806 articles in peer reviewed journals
- available in over 6300 online versions and have been cited in over 5500 other publications.
- median of 3 peer reviewed journal publications per fellow per year

Promotions

- 83 graduates from cohorts 1 to 6; 49 (59%) have reported being promoted.
 - 29 (59%) men; 20 women (41%)
- For example,
- Emmanuel Kaindoa, Cohort 5, appointed as deputy head of the Environmental Health and Ecological Science Department at Ifakara Health Institute.

"This was mainly because CARTA has shaped me to be hard working and focused. Among my roles includes chairing scientific discussions."

- As of end 2018, four women graduates promoted into positions as deans of faculty and/or heads of department at the Universities of Ibadan, Malawi and the University of the Witwatersrand.

Research relevance

- 69% of the 806 journal articles address African Development Bank public and population health research agenda and SDG priority areas
- 26.8% infectious diseases
- 17.6% health system & policy research
- 14.7% maternal & child health
- 14.3% sexual and reproductive health

Research Collaborations

- Actual numbers are not known but fellows who named significant changes they experienced because of CARTA included their ability to collaborate and access to networks as a key shift.

"The greatest change for me has been realising the importance of collaboration. Having colleagues from different countries and/or institutions and with different research interests often called for getting out of my comfort zone to find a common ground for problem solving. I observed that this also resulted in more opportunities for team work, a crucial factor for successful funding in areas and from donors that I previously would not have considered."

For example,

- Cheikh Mbackè Faye, Cohort 5, is leading a global multi-country project – 19 countries from Eastern and Southern Africa and 20 countries from West and Central Africa. The project – Countdown to 2030 – tracks the coverage of health interventions that are proven to reduce maternal, newborn and child mortality.

Additional funds raised to support research careers

- Up to 2019, CARTA fellows raised additional grants totalling approximately \$18.5m
 - between 2017 and 2019, CARTA fellows raised 211 grants totalling approximately \$13.3 m
- graduates raised 40 grants totalling almost \$3.3m
- male: female ratio of those who have raised grants since 2017 is 1:2

Increased professional recognition

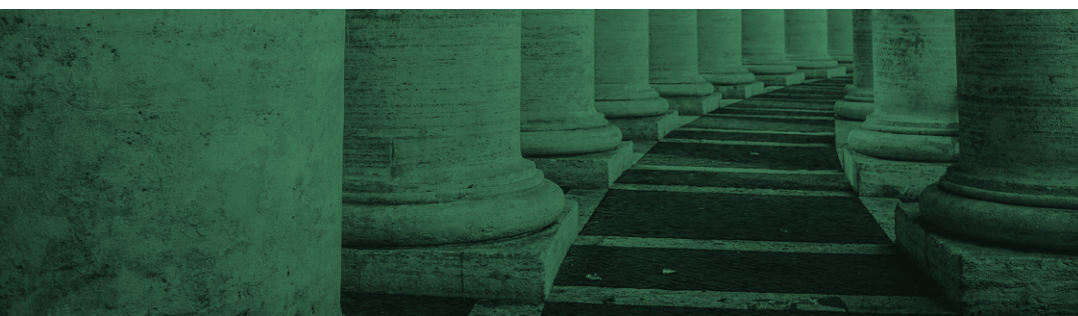
- Actual numbers not known but multiple examples shared by fellows for example,
- Francis Fagbamigbe Adeniyi, Cohort 2, University of Ibadan, and Charles Drago Kato, Cohort 3, Makerere University, were named among 25 early career scientists by the African Academy of Sciences (AAS) Affiliates Program which recognizes exceptional young African scientists under age 40 who are charting new paths in academic and research excellence.
 - Evangeline Njiru, Cohort 3, Moi University, was nominated to Kenya’s National Cancer Board.
 - Felix Khuluza, Cohort 5, University of Malawi, was elected to the National Board of Directors of Pharmacy Medicines and Poisons Board.

Table 1: Levels of implementation of ideas or practices drawn from CARTA experience

Partner University	Curriculum content from 'JAS' seminars	'FAS' seminars	Supervisors' training	Supervisors-student contracts	Turnitin Anti-Plagiarism Software	REDCap online fellows tracking
Makerere University	HIGH	HIGH	HIGH	LOW	Not CARTA	Not CARTA
Moi University	MEDIUM	MEDIUM	LOW	HIGH	MEDIUM	No
Obafemi Awolowo U	HIGH	No	HIGH	No	HIGH	MEDIUM
University of Ibadan	HIGH	HIGH	HIGH	HIGH	HIGH	HIGH
University of Nairobi	No	No	HIGH	No	HIGH	No
University of Malawi	LOW	No	MEDIUM	MEDIUM	MEDIUM	LOW
University of Rwanda	HIGH	MEDIUM	No	No	Not CARTA	No
Wits University	HIGH	No	HIGH	MEDIUM	Not CARTA	LOW

Key:

HIGH = implemented across the entire university post-graduate system
MEDIUM = implemented in selected departments or Schools
LOW = implemented ideas or practices from this component among staff or faculty involved with CARTA
No = has not implemented anything from this component.
Not CARTA = implemented but not because of CARTA



African partner institutions uptake of CARTA innovations

Table 1 alongside indicates which CARTA innovations have been taken up to what degree by which partner universities. All Universities have taken on board some dimensions. University of Ibadan has implemented innovations across the board. University of Makerere and to a lesser degree Obafemi Awolowo University show strongest implementation of aspects of curricula, of faculty and administrative engagement and of supervisors training.

‘Institutionalisation’ of Joint Advanced Seminars (JAS) does not mean copying the format and content. Rather it means that partners have mainstreamed the practice of providing core training to PhD students (irrespective of whether it is done in month-long sessions or some other format) and/ or they have used aspects of curriculum content. As indicated by the table there has been a substantial degree of incorporation of curriculum content or methods.

Faculty & Administrative Staff Workshops (FAS) aim to motivate administrators – including registrars, research management officers, finance officers, librarians and ICT – and faculty to set up mutually supportive systems for research and post-graduate research training.

- 6 CARTA partners have run a FAS for CARTA and 4 are now using it more broadly beyond CARTA
- FAS participation led to the establishment of the Consortium for CARTA Libraries

Supervisor training & contracting

- As of end of 2019, 239 academics from CARTA institutions were involved and trained as supervisors to CARTA fellows
- Most partners now run their own training for supervisors. For example, University of Nairobi has trained 40 supervisors.
- 5 out of 8 have institutionalised to a lesser or greater degree, contracting between supervisors & PhD students, beyond CARTA

CARTA’s strategy of engaging Vice Chancellors and of ensuring its focal persons have seniority in their institutions has been key to these successes as has provision of funding to support engagement by faculty across various campuses of each institution and creation of key infrastructure.

IV Influence of fellows on pedagogy



“In fact, I now facilitate learning and not teaching”

A number of participants in the ‘significant impact’ survey identified the impact CARTA has had on their relationships within their own institutions. Being able to implement changes within faculties and in their own teaching programs has contributed to an emerging change in the academic culture of African universities and research centres.

- Responses from 113 fellows to a survey on pedagogy indicated they had implemented new pedagogical approaches.
- 48 (42.5%) perceived their new teaching methodologies to have contributed to an improved participation, interaction and learning process.
- 60 (53%)¹ perceive that their use of student-centred pedagogy encourages their students’ critical thinking.

“Before joining the CARTA program, my teaching was dominantly in form of lectures, especially talk and chalk from the beginning to the end. Now I try to make my students part of the knowledge creation process. We agree together on what is important for them, which forms the basis for developing course content and course outlines. With the use of problem based learning my classes have tended to be more practical and focusing on addressing the real-world problems”

“Today, using the resource kit and the principles learnt from ESE: O, I am supervising undergraduate students more efficiently by also showing them proper ways of expressing and writing ideas. This acquired skill through ESE:O is also contributing to the quality of my day to day work as teaching staff.”

“The CARTA program (JAS 2) built my capacity in organising seminars, oral and poster presentations. This ability was seen in me when I returned from JAS 2 in South Africa, the Head of Department was impressed and he made me the Coordinator of Seminar presentation, a statutory event that takes place in my department every 3rd Thursday of the month. I have also stepped this up by introducing journal club.”

“I have recently been appointed as mentor and Year Master of the Fourth Year at the School of the Arts and Design, University of Nairobi”

CARTA’s values and ways of working influenced these outcomes

“Passion, commitment, selflessness and robust accountability at all levels”

Survey and interview responses from fellows, peer reviewers, focal persons and representatives from all partner institutions indicate seven broad **factors that have facilitated these outcomes:**

- Competent, transparent and participatory governance
- Partners’ participation in selection and transparency in recruitment process
- Gender equity
- Teaching style
- Willingness to serve as volunteers
- Sustaining the work through fellows’ and graduate’s values

COMPETENT, TRANSPARENT AND PARTICIPATORY GOVERNANCE

Key dimensions of this include:

The mix of African and non-African partners in a clearly African initiative

“I think being an African initiative for Africans is a fantastic landmark and a role model – and a timely response to the traditional model of letting Africans run away to do their PhD elsewhere”

The board

- Participatory style of leadership, openness and transparency in decision making processes and policies that are informed by bottom up evidence.
- and
- A multinational board, including non-African members, bringing in diverse expertise and perspectives.

1. 50 of the 113 fellows surveyed did not respond to this question and 3 indicated it was not applicable. It is not clear if the ‘no response’ was because those fellows are not currently teaching or have not applied these approaches.

The Partners Forum

At the heart of the governance is the Partners Forum where partners meet annually and make key policy decisions together.

“It is consultative, fair and transparent and promotes participation and ownership by partners”

“These have stood the test of time and they provide an opportunity for the members to gel. Most decisions are therefore made collaboratively.”

The Secretariat

The Secretariat is perceived to be strengthening as it has brought in new staff. It is playing the critical role of holding together all the partners and multiple activities across diverse institutions.

The Directors

Focal persons argue that one of CARTA's strengths is that directors come from two institutions so that power is shared.

“One thing people under appreciate is that CARTA as a structure has amazingly strong leadership – obviously very opinionated but extraordinarily flexible. It's difficult to have these two things together – being flexible while very strong – typically very strong leaders are very controlling; CARTA has this value that Sharon and Alex were very focused on the mission of improving university capacities, but very willing to let people do things as they wish with the understanding that universities are not high impact research organisations; not blessed with the amount of resources some well-funded research organisations have, but they must still be the centres of research.”

A number noted that with the leadership change having two women Co-directors is very positive modelling by CARTA.

PARTNERS' PARTICIPATION IN SELECTION AND TRANSPARENCY IN RECRUITMENT PROCESS

CARTA follows a clear and rigorous process of fellow's selection, developed and agreed upon by all partners. While the top 25 scoring fellows are the preferred candidates, where a university has more than 4 candidates in the top 25, the extra candidates will create room for other partner institutions to compete for the positions. Policy clarity allows for collaboration when competition for spaces could otherwise break the consortium.

TEACHING STYLE

CARTA's deliberate denial of hierarchy between facilitators (from senior professors to post-graduates to fellows) in the teaching space is at odds with the norms of most of the African partner universities, but is key to modelling the importance of debate, critical thinking and the mobilisation of evidence to support these.

“I enjoy the objective mad intellectual approach to issues.”

“I love it when they question me.”

GENDER EQUITY

To redress gender inequity, CARTA policies include:

- universities must submit candidates with a 60:40 women: men ratio. Of 209 actual fellows from 9 cohorts, 55% are women.
- maximum age of applicants of men is 40, of women is 45
- an option of leave of absence during maternity leave
- financial support for breastfeeding women to bring their child and childminder to CARTA events, used by 23 women as of 2018
- As of end of 2019, 35 women and 47 men had graduated. Given that the first cohorts were predominantly men, these figures suggest no significant difference in graduation outcomes by gender. Data shows average time to graduation is similar for women and men.

Three conundrums are

- why it is that more women raised additional funds than did men (64% of fellows who raised additional funds)?
- why it is that less women have published in peer reviewed journals (69% of women fellows and 85% of men fellows having published in peer reviewed journals)?
- only a quarter (5 out of 20) focal persons are women and only 30% of first supervisors are women. This probably reflects the structural patriarchy of the institutions but begs the question of what longer term strategy CARTA could have to address this. There is no difference in median time to graduation of fellows supervised by women.

VI WILLINGNESS TO SERVE AS VOLUNTEERS

As of 2014, African partner institutions accounted 82.9% of the in-kind human resource contribution and 91.6% of total in-kind contribution to CARTA activities which constitutes an amount equivalent to 20% of total annual donor contributions to CARTA. CARTA partners indicate that they are motivated by CARTA's purpose and values.

"I participate because I love learning and teaching and am passionate about social justice. It has given me a possibility to make this become a tangible part of my life."

"Its vision of empowering African academics"

Peer reviewers, mostly from northern partners, indicate that while peer reviewing is a core responsibility of academics and researchers, they choose to play this role also because they are excited by CARTA.

"I view my voluntary contributions to CARTA as an opportunity to support the evolution of African engagement, independence, and expertise in research - in my case health research. It is also an expression of solidarity with our African colleagues."

SUSTAINING THE WORK THROUGH FELLOWS' AND GRADUATE'S VALUES

This commitment is transmitted through the CARTA experience to its fellows and motivates their post-PhD approach.

"CARTA philosophy has greatly influenced the commitment I have to my research career as well teaching responsibilities. I now feel like I belong and that I have responsibilities and tasks to achieve as an academic citizen by contributing high quality evidence derived from high integrity research and commitment to train others along the same way."

FACTORS CONSTRAINING CARTA'S SUCCESS:

Respondents in this evaluation process identify the following constraints to CARTA's success:

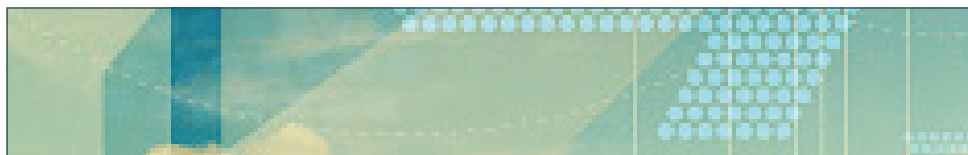
- the culture of responsive rather than anticipatory communication within the Secretariat, including ensuring all the diverse stakeholders are all kept in the loop about opportunities and decisions and about outcomes of their efforts. CARTA's new staff are held in high regard and perceived as taking steps to redress this.
- the lack of systematisation of the vast quantity of data collected, and of its explicit use in CARTA's learning cycle, an issue raised also in the 2014 Sida evaluation. CARTA is in the process of implementing steps towards addressing these but they still need further work before bearing fruit.
- turnover of non-African partners, while not yet an issue, will become a challenge if institutional relationships aren't more formalised.
- the lack of feedback loops for example to reviewers; the absence of a mechanism for those working with fellows to enable those who conducted reviews to know if and how these were or were not found useful.



ABOVE: The focal persons (from left) are Jude Igumbor, Anne Khasakhala and Diana Menya

Findings and issues to consider going forward

FINDINGS



The PhD programme

- The available evidence suggests that CARTA has been exceptionally successful in its PhD programme.

Institutionalisation of CARTA innovations

- Aspects of CARTA's innovations are being incorporated in the graduate programming and systems of African partner universities. CARTA's resourcing of such efforts is a positive contribution.

Fellows career trajectories

- Fellows research and teaching competence is positioning them for promotions, and for mobilising research collaborations and funding. It is also influencing their approach to teaching and research in ways that emulate CARTA's values.

CARTA's values and ways of working are key to its success

- holding fellows accountable for achieving non-negotiable milestones as a means of ensuring excellence in the quality of the PhDs while providing critical inputs and supports to enable them to succeed.
- building relationships of trust over time, collectively negotiating and then implementing policies that make transparent the bases on which institutions and fellows participate in the consortium and ensure accountability.
- the mix of formal policy and highly intentional leadership with the space for each institution to participate as much as it is able and to incorporate approaches and methods in ways that work for its own context.
- the explicit commitment – associated with public health – to equity demonstrated not only in the content of training on public health, but in the approach to teaching, the adult education methods that enable everyone to learn with and from each other, and the deliberate efforts to foster gender equity and ensure that patriarchal norms do not undermine women's ability to succeed in the programme.
- maintaining an explicit commitment to the leadership of the African institutions in CARTA in a global context that continues to undermine this possibility.

QUESTIONS GOING FORWARD

Vision and resources required for further institutionalisation

- Further institutionalisation of innovations requires a mix of continued leadership by focal persons in senior positions, but also resourcing of institutional supports. Beyond meetings of Vice-Chancellors and engagement with African University Networks, are there other ways CARTA to help catalyse these?

Naming and demonstrating the power of its values and methods in pedagogy

- It is not possible to know the actual scope of influence of fellows on institutional pedagogies. Might CARTA raise the visibility and validity of this goal for example by making it the topic of a research conference?
- Might CARTA invest substantially in documenting and building evidence around the role and effectiveness of its unusual approaches to research training pedagogy as part of its contribution to the current debate on decoloniality.

Implications of shifting context of global research and research funding and publishing

- With the shift to open source publishing, and major global challenges around research funding, does CARTA continue to set its standards by those of high quality Western research institutions, or can it, with others in the field, deepen the critique and demonstrate alternatives to positioning and validating high quality African led research?

Public Health relevance

- While 70% of fellows' publications pertained to the Sustainable Development Goals, we have little information about actual use of fellows' research to influence public health narratives, policy or practice, an issue that would be worth assessing and using as a basis to assess CARTA programming from research proposal development through to training on knowledge translation.

Non-African Partnerships

- There are powerful relationships of trust undergirding CARTA's effectiveness. Whereas CARTA has in place ways of enabling succession of focal persons, as individuals retire, the basis of relationships with non-African partners may need to become more explicit and formalised so that assumptions and expectations are clear.

Strengthening Secretariat Supports

- With every new cohort there are a large number of additional fellows and new relationships to manage while relationships with graduates have to be maintained. In addition, this is a Consortium with multiple partners playing multiple roles and having multiple lines of accountability. The challenges for logistics, communications and coordination are tremendous, as is the need for seamless knowledge management and the ability to generate data to inform collective analysis of what is working well, what is not, and what this means for programme content and processes. CARTA will need to resolve how best to sustain the efficiency and energies of the Secretariat in this regard.

A. Evaluation background

Intended use

The **primary intended users** of the evaluation are

1. CARTA Secretariat and leadership
2. Partner institutions
3. Funders

Findings also aim to inform the field of research capacity strengthening (RSC) – both institutions and funders – by sharing lessons from CARTA's experience.

Evaluation questions

1. How well did CARTA sustain 'production' of PhDs in partner African universities
2. How well do CARTA's fellows & graduates demonstrate progress in research careers?
3. Has CARTA had any Influence on African partner's narratives, policy or practice?
4. Did CARTA's particular values, ways of working, and relationships facilitate or constrain its ability to achieve its objectives and if so, how?

Evaluation methods

Secretariat and partners collectively identified the key questions, and then divided these between them, allocating responsibility to analyse existing CARTA data and, where necessary, to gather new data in order to answer the questions. External evaluator, Awuor Ponge, was contracted to assess the nature of institutionalisation of CARTA innovations by African university partners, and the extent to which fellows perceived themselves as having changed approaches to pedagogy through CARTA's influence. CARTA contracted me, Barbara Klugman, as an external evaluator who was familiar with CARTA, to bring an external eye to the data gathered and conclusions drawn, and to synthesise these into a single report. I proposed and then undertook gathering additional information by engaging CARTA's partners regarding CARTA's values and ways of working.

Methods for each of the questions that staff and partners researched are detailed in the draft reports (some being submitted for publication) on which this summary draws. Authors and titles of these are in this list of references of this report. In summary, data was collected and analysed through:

- a review of progress reports of 87 fellows from Cohorts 1- 9, and Inter-Jas reports, followed by a survey of 113 fellows to understand if and how fellows had applied approaches to pedagogy learnt during CARTA; Ponge (2019)

The Secretariat and partners collectively identified the key questions, and then divided up responsibility for the research to answer them

- a review of CARTA documents to identify what institutional changes had been implemented by African partners, crafting of these as outcome statements that were then reviewed by focal persons at CARTA's September 2019 research meeting; Ponge 2019 with support from Barbara Klugman; Fayehun 2020)
- a survey conducted by CARTA Secretariat and analysed by Secretariat and partners (Ruhweza-Katahoire et al 2020) asked CARTA fellows to identify what they perceived as CARTA's significant impact on their academic lives. 43 out of 80 graduates to whom it was sent (53.75%) and 76 out of 129 fellows to whom it was sent (58.9%) responded.
- publications analysis by partners identified 806 peer reviewed journal articles with CARTA fellows as authors and analysed both who published, the degree of collaborations and the subject-matter using CARTA's data-base on publications fellows and graduates have reported to them; hence it is likely to be missing some data as it is doubtful that all fellows and particularly all graduates are scrupulously reporting. (Dieudonne et al 2020 and Igumbor et al 2020).
- analysis of CARTA's data-base to identify time to graduation in relation to institution and gender by Secretariat and partners (Gitau et al 2020)
- analysis of CARTA's efforts to support gender equity in research capacity development again drew on CARTA's data base (Khisa et al 2019)
- analysis of costs of in-kind contributions of partners undertaken by co-directors and some partners (Fonn et al 2020)

- a survey conducted by Klugman of 27 peer reviewers who had reviewed three or more articles to which 16 responded.
- two focal persons surveys conducted by Klugman, one of 13 non-African partners of whom 7 responded, one of 15 African focal persons of whom 8 responded.
- interviews by Klugman with three long-standing non-African partners, one new partner, and the chair of the board; and with two long-standing African partner focal persons and one relatively new focal person.
- document reviews by Klugman including of previously written articles and a 2015 evaluation of CARTA for Sida.
- review of and inputs to drafts of this report by CARTA co-directors and Secretariat.

Limitations

This report has been written while much of the analysis is still underway, thus drawing only on preliminary findings. CARTA's hope was that all data would have been gathered by the time of the partners' meeting in September 2019, during which further analysis would be undertaken, allowing the report writer to draw on this data to provide a report by end of December. This did not prove possible for a number of reasons:

- Partners had thought it would be possible to generate comparative data from PhDs in each institution who are not part of CARTA but ultimately realised this was not practical.
- Survey responses took longer to come in than anticipated. Partners' time to analyse and write-up data took longer than anticipated.
- It was difficult to analyse from fellows' biannual reports hence, identifying a weakness in the knowledge management system that could not be resolved within the time-frame of this evaluation.

As a result, this report draws on the best available data as of end of December 2019; even though some analyses were done on earlier cohorts so that analysis is not always of the same

number of fellows or graduates, which I have tried to make clear in each case. But to answer some of CARTA's questions, for example comparisons of time-to-graduation with non-CARTA fellows, or an understanding of exactly how many CARTA people (fellows, supervisors etc.) are engaging each other, for what purposes, outside of CARTA activities, would require new research projects.

It is also important to note that the design of this evaluation was as an internal process of data gathering (from partners, reviewers and fellows) and reflection by CARTA partners with two implications. Firstly, the findings are mostly based on self-reporting and self-assessment. In a few cases, there have been different interpretations or different memories of how engagement played out, that were not significant for the findings, but left me uncertain – for example in one university about who made the decision to use the software Turnitin, and what was CARTA's influence. The final report was sent to all partners for review and their comments addressed. The second implication is that the report has not included engagement with others in the field.



Henry Zakumumpa, Cohort Four, whose doctoral study examined the sustainability of antiretroviral therapy (ART) scale up implementation in health facilities in Uganda, graduated on January 15, 2019 from the University of Makerere.

Kikelomo Aboyowa Mbada , Cohort Five, whose doctoral study looked at the political economy of disparities in maternal health policies in Southwestern Nigeria, graduated from the Obafemi Awolowo University, Nigeria.

LEFT HAND PIC: JAS 3 facilitators listening to student presentations

RIGHT HAND PIC: Peer review of posters created by interdisciplinary teams using secondary data integrating qualitative and quantitative analysis during JAS 2 November 2019



B. Programme Description

The Consortium for Advanced Research Training in Africa (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. It describes itself as follows: 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. Its fellows come from three partner research centres and eight partner universities:

Box 1: African Partner Institutions

RESEARCH CENTRES	UNIVERSITIES	
<ul style="list-style-type: none"> African Population and Health Research Centre (APHRC) – Kenya Agincourt Population and Health Unit (APHU) – South Africa Ifakara Health and Development Research Centre KEMRI/ Wellcome Trust Research Programme – Tanzania 	<ul style="list-style-type: none"> Makerere University – Uganda Moi University – Kenya Obafemi Awolowo University (OAU) – Nigeria University of Ibadan – Nigeria 	<ul style="list-style-type: none"> University of Malawi University of Nairobi – Kenya University of Rwanda University of the Witwatersrand (Wits) – South Africa

Partnership requires a minimum level of participation, agreed upon collectively at a Partners Forum. University of Dar es Salaam was originally a university partner but when it became clear they would not be able to build up a large enough group of fellows because so few staff could get into the PhD pool on the merit criteria, it was agreed they would leave the consortium.

The rationale for including the research centres, although they do not run PhD programmes, was to show that internationally recognised research is happening on the continent and to have African role models, because not enough research was happening in African universities, except in South Africa. In addition, it aimed to bring the research centres into closer contact with universities and to be able to nest students in them and use the centres' expertise in supervision.

RIGHT: CARTA board chair Nino Künzli (Swiss Institute of Tropical Health) with Marie Claire Uwamahoro (Cohort 7) and Marie Chantal Uwimana (Cohort 6) participating in the 32nd Residential 3-weeks Summer Course in Epidemiology in Italy, July 2019.



Box 2: CARTA's non-African partners

ORIGINAL PARTNERS	JOINED IN 2013 AND 2015	JOINED 2018 AND 2019
<ul style="list-style-type: none"> Canadian Coalition for Global Health Research Swiss Tropical and Public Health Institute University of Gothenburg, Sweden University of Warwick, UK 	<ul style="list-style-type: none"> Brown University, USA Umeå University, Sweden 	<ul style="list-style-type: none"> University of Bergen, Norway University of Chile

There is an additional non-university partner, ESE:O, based in Chile, which runs CARTA's online training in academic writing that the fellows take between the JASes.

CARTA offers a well thought out approach to rebuild and to strengthen the capacity of African universities

The institutions outside of Africa, also called the Non-African partners, play diverse roles in the consortium including in co-facilitation of the CARTA training events, and advising in the development of the program, advising and mentoring CARTA fellows and graduates. Researchers based at the Non-African partners also review funding proposals and research project ideas. They host CARTA fellows for research placements and courses. The Non-African partners have the opportunity to send their PhD and postdoctoral fellows to CARTA events, trainings and research sites. Staff in the Non-African partners can't apply for CARTA scholarships or fellowships. They can neither act as supervisors for CARTA fellows.

CARTA is managed through a Secretariat hosted at the APHRC. The Secretariat collaborates with institutionally appointed focal persons from the African partner institutions to ensure that CARTA strategies and activities are well coordinated, monitored and evaluated. The Secretariat coordinates the participation of non-Africa partners in the program.

The Secretariat is directed by an Executive Directorate (ED), that has the overall responsibility for:

- the day-to-day management;
- decision-making; and
- communication to partners and networks.

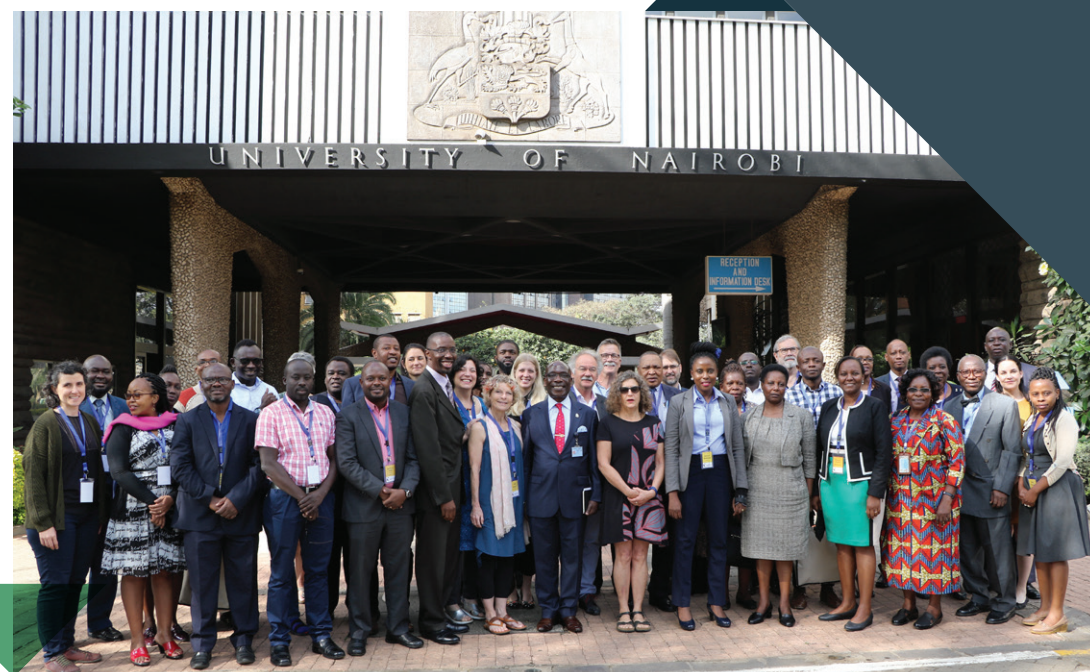
CARTA holds an annual Partners Forum of all its partner institutions in order to:

- present its status, progress, achievements and challenges;
- present financial reports;
- communicate specific information of importance to the partnership;
- deliberate on, adopt and recommend directions and strategies for CARTA, developing/ reviewing and revising policies as needed;
- decide on or approve awards including PhDs, post-docs, faculty visits; and
- deliberate on fund raising endeavours and future plans.

CARTA's funders are invited to participate in the Partners Forum, but do not have a role in decision-making.

All strategies, initiatives and products are communicated to the partners by the ED either ahead of the PAF or at the PAF. If there are controversies they are discussed at the PAF and the final documents are sent round for edit and approval after the PAF. The Board of Management (BoM), the highest decision-making body of CARTA, provides oversight to the Executive Directorate, considering for approval recommendations made by the ED or from the PAF.

CARTA partner institutions manage all CARTA activities at their institution. They ensure the institutional process of nominating potential CARTA fellows and graduates to take up CARTA opportunities as well as participants and facilitators for other CARTA events, including inter-faculty academic staff visits and the annual Faculty and Staff training events.



ABOVE: CARTA Partners Forum, University of Nairobi 2019

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.

RATIONALE

CARTA operates from the premise that providing PhD training to a critical mass of university staff and supporting them to become productive researchers, research leaders and change agents in their universities, will drive institutional change to strengthen research output and research training at consortium universities and research centres. Its premise is that capacity for high quality research and continued practice of such research is essential in order for universities to offer high quality teaching and for countries to produce meaningful evidence to inform policy and practice.

Its mission is to build a vibrant multidisciplinary African Academy able to lead world-class research that makes a positive impact on public and population health. To ensure long-term sustainability, a key element of the CARTA program is that the African partner institutions enrol their junior faculty as PhD fellows who register at any of the participating African universities.

CARTA's **summary theory of change** is illustrated in Figure 1 of the Executive Summary. CARTA has identified three strategic priorities that it believes will, over time, ensure a sustainable and supportive research environment in African universities:

- Sustain production of a critical mass of highly trained African scholars at PhD level.
- Advance graduate training through institutionalising of CARTA innovations at African partner universities.
- Secure the future of CARTA graduates by mentoring them to become leaders in their research fields.

CARTA's primary activities are:

- Selection and sustaining participation and PhD completion. This includes, among other things
 - paying tuition fees for those who register away from their own institutions (own institutions agree to forgive fees as an institutional commitment to their own development)
 - providing a larger stipend to the 30% of fellows (as of end 2018) registered at partner institutions
 - four Joint Advanced Seminars (JAS) of four weeks each. These focus on promoting critical thinking, teaching advanced research skills and preparing fellows for their role as academics; namely to develop independent research programmes, train and mentor the next generation, and influence policy and practice through their research.
 - inter-JAS assignments
 - intentional supervision and mentoring.
- Faculty and Administrative Staff workshop (FAS) annually brings together a diversity of faculty and support staff from each institution with the intention of changing attitudes, practices and systems to support and retain researchers.
- Supervision training for fellows' supervisors, supervisor-supervisee contracting and monitoring their implementation
- Graduate workshops to support new CARTA graduates with skills to develop research proposals
- Two types of one-year postdoctoral grants to the CARTA PhD graduates: re-entry grants and postdoctoral fellowships.
- Senior Faculty Visiting Research Fellowships open to all senior academic staff members from African partner institutions who would like to visit another CARTA African institution for up to three months for research and teaching exchange.
- Ongoing engagement by focal persons at partner African universities to stimulate numbers of high quality applications and to influence university senior leadership and faculty to take on board aspects of CARTA innovations that would strengthen university research capacity.

*RIGHT: CARTA Board and Secretariat
Back left to right: Nino Kuenzli, Emmanuel Otukpa,
Evelyn Gitau, Fredros Okumu, Pierre Claver
Front left to right: Florah Karimi, Janet Moraa,
Sharon Fonn, Catherine Kyobutungi, Anne Khasakala,
Emma Bergstedt, Marta Vicente-Crespo*

CARTA has identified three strategic priorities that it believes will, over time, ensure a sustainable and supportive research environment:

- > Sustained production of a critical mass of African PhD scholars
- > Advancing graduate training at African partners universities using CARTA innovations
- > Securing the future of CARTA graduates as leaders in their research fields



C. Findings in relation to evaluation questions

1. How well did CARTA sustain 'production' of PhDs in partner African universities

The PhD fellowship incorporates skills in research and research leadership. It is provided by experts, supervisors and mentors drawn from both the African and Non-African partner institutions.

Since running its first Joint Advanced Seminar (JAS) in March 2011, CARTA has enrolled 220 PhD fellows of which only eleven (seven men, four women), have exited once in the programme; leaving 209 active. All bar one of these was because of lack of progress on milestones which have to be met as a condition of the fellowship. The last was because of the University not recognising the fellow's Masters degree.

After being recruited, eight chose not to take up the places they were offered, all, but one, being female. One focal person notes that sometimes during the period that CARTA is going through its selection process, applicants are offered fellowships through other programmes, which they felt they could not risk refusing, having not yet heard if CARTA accepted them. This sometimes happens on the back of the effort CARTA has put in to supporting them in proposal development.

Data from 2016 onward show that 5 fellows took leave of absence for reasons ranging from maternity leave, family illness as well as their own illness, but returned to the programme after a stipulated duration of time. (see section on facilitating gender equity below).

87 CARTA PhD fellows had graduated from their respective institutions at end of 2019.

Cohort 3 fellow Save Kumwenda from the University of Malawi successfully defended his PhD on February 5

The title of his research was 'Pathogen survival in ecological sanitation toilets and the associated health risks'



Table 2: Percentage graduates per cohort at end 2019

Cohort	Fellows	Graduates	Percentage of cohort
1	20	20	100
2	18	13	72
3	22	17	77
4	27	15	56
5	22	10	45
6	24	9	38
7	26	3	12
8	26	0	0
9	24	0	0
Total	209	87	42

CARTA considers "on-time" graduation, assuming each fellow met all their milestones, to be 51 months from the first Joint Advanced Seminar during which the monthly stipend to support fellows is first issued. An analysis of the 109 fellows from Cohorts 1 to 5 who at the time of analysis should have completed 51 months in the program, found that 73 (67%) of fellows had graduated in a median time from registration to graduation of 52.23 months (mean was 52.78). (Gitau et al 2020) Adding in the seven fellows from Cohort 6 who have already graduated, brings the mean of 79² fellows to 52.28. Khisa et al (2019) indicate that, "CARTA's average time to completion (about 4.3 years) is comparable to, or better than, rates observed elsewhere outside Africa: in the Netherlands both male and female candidates took 4.9 years³ [9]; 5.9 years in Canada⁴ [10]; and even longer times have reported for the USA⁵ [11]. We ascribe the relatively good completion time to CARTA's structured approach to PhD training, in particular the JASs and the various milestones that fellows have to meet." The pace of completion appears to be rapid taking into consideration that they are full time staff and the majority did not have a reduced teaching load.

In general, women take slightly longer to graduate than do men from registration to graduation, but once in the CARTA programme, there is barely any difference.

2. Because of a rolling process of evaluation, data available does not cover the full 85.

3. van de Schoot R, Yerkes MA, Mouw JM, Sonneveld H. What took them so long? Explaining PhD delays among doctoral candidates. *PLoS one*. 2013;8(7):e68839. Epub 2013/08/13. <https://doi.org/10.1371/journal.pone.0068839>

4. Seagram BC, Gould J, Pyke SW. An Investigation of Gender and Other Variables on Time to Completion of Doctoral Degrees. *Research in Higher Education*. 1998;39(3):319-35.

5. Wao HO, Onwuegbuzie AJ. A mixed research investigation of factors related to time to the doctorate in education. *International Journal of Doctoral Studies*. 2011;6:115-34.

Table 3: Time to graduation since registration by gender as of end 2019

	35 women	44 men
Total months	55.9	50.1

Table 4: Time to graduation since enrolling with CARTA, by gender as of end 2019

	35 women	44 men
Total months	51.28	52.23

In addition to the PhD itself, fellows and recent graduates have named some of the striking ways in which the CARTA experience influenced their thinking:

The most significant change that I have experienced is critical thinking. Prior to my contact with CARTA, I used to evaluate things from just one perspective but my contact and training in CARTA gave me insight into more ways of looking at issues.

My experience of and exposure to CARTA has influenced me and my practice in that I am now a better researcher, a better writer and a better scientist. I am now able to apply the research skills learnt to perform better quality research. I am able to supervise my students better in their research projects, approach different types of researches with more confidence, write better quality publications and assist my students to do the same.

CARTA has pushed my level of knowledge in research skills to another stage by building in me a PhD confidence in face of other PhD students as well as senior researchers at my University

CARTA shaped my proposal writing skills, data analysis methods [and] how to use NVivo software to analyse qualitative data. ... Currently, I am still applying the skills I learned. I also teach students and other staff members on how to produce posters and also how to use NVivo.

(Ruhweza-Katahoire et al 2020)

2. How well do CARTA's fellows & graduates demonstrate progress in research careers?

CARTA aims to secure the future of high-achieving CARTA graduates, retaining them and mentoring them to become research leaders. Consequently, CARTA offers its graduates a variety of high quality post-doctoral opportunities including research, training, mentoring, networking and collaborating opportunities. This section considers to what extent CARTA fellows exhibit signs of progress in their research careers. The progress discussed here of course also talks to how the CARTA intervention has strengthened partner institutions because most of the achievements noted here are underway inside those partner institutions.

2.1 PUBLICATIONS

Publications are the benchmark used by academia to assess faculty effectiveness and to judge successful research career. One might question this primary criterion, asking whether universities should give greater weight to quality of teaching, or contribution to social change, but CARTA's purpose is to ensure its graduates have a level of competence associated with the best of PhDs from research universities internationally and are recognised as such. This means that they need to be publishing in internationally recognised peer reviewed journals.

CARTA has invested heavily to train and coach fellows in academic writing. The strategy involves regularly providing fellows with scientific peer-reviewed article titles to search for, read, critique and present in class; with the lecturer being more of a mentor rather than a supervisor. The fellows are also engaged in rigorous collaborative writing and peer review sessions. These techniques help fellows to develop confidence and capacity to write and to receive and respond to comments from reviewers. In addition, CARTA's partner ESE:O in Chile provides one-on-one support to fellows using an online platform over seven months focusing on actual writing skills (shaping and linking paragraphs, interpreting texts and so on). In a survey of 113 fellows, 109 indicated that the CARTA experience enhanced their writing and communication skills, with a particular focus on manuscript development. (Ponge 2019a:4) Fellows indicated that in addition to the above processes, CARTA having introduced them to online facilities like Mendeley; search for literature in Pubmed; as well as qualitative data analysis using software like Nvivo and quantitative data analysis tools such as STATA, all strengthened their capacities to write for publication in academic journals.



When I look at the way I used to write and do analysis, it is so different from the way I do things now. From writing policy briefs, grant applications to publications have helped me grow not only as a person but also career-wise. I believe, from the skills I got, connections and experience is way more than just a PhD degree, and I am looking forward to impact the community and people around me as well as the government for the better. (Ponge 2014:5)

Through CARTA I feel like I finally was able to bring together disparate skill sets (mixed methods) and interests (infant feeding, HIV prevention, capacity strengthening, social determinants of health, and social and behaviour change communication) into a research identity that I can build upon professionally. I now have a number of first-authored publications I can point to that clarify my position and interests as a scholar. (Ruhweza-Katahoire et. al. 2020)

Igumbor et. al.'s (2020) review of CARTA doctoral fellows' publications in peer reviewed journals from 2011 – 2018 reports that the median number of publications per fellow per year to the end of 2018 was 3, versus a mean number of publications per fellow per year of 4 and standard deviation of 3.⁶ They found that 140 (of 159 fellows in the system as of end of 2017) published 806 articles in peer reviewed journals. Annual number of articles increased from 11 in 2011 to 223 in 2018 which is commensurate with the increase in numbers of fellows. The publications are available in over 6300 online versions and have been cited in over 5500 other publications.

BELOW: Fellows at Journal Club JAS 2 2019



6. "Mean" is the average of a set of numbers while "median" is the middle value of a set of data that so it is not influenced by outliers in the way that a "mean" is

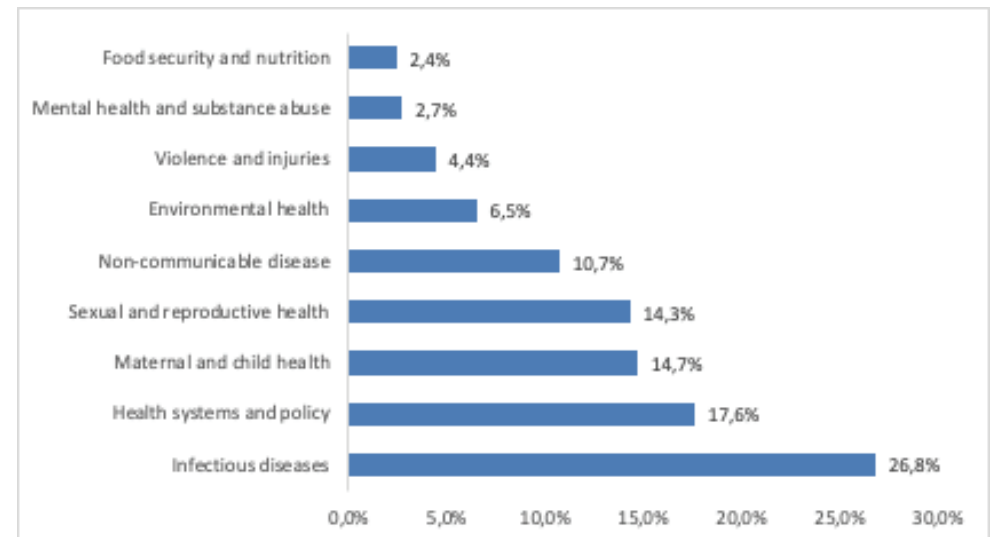
There is a noticeable difference in publications based on gender to end of 2018, with 69% of women fellows and 85% of men fellows having published in peer reviewed journals despite women comprising a 55% of fellows. "Taking time to publish is often done outside working hours and it may be that men have more control over their time than women. As publication output is often used as a promotion criterion, this could limit women's advancement in academia if not addressed." (Khisa et al 2019) However, this gender differential may not be meaningful since fellows publish more in later stages of the programme, or afterwards, and there were more men graduates at the start.

Fellows are required to report to the CARTA Secretariat on their publications but it is possible that not all were reported. In fact, 1125 publications including books, theses, editorials, commentaries and blogs were reported. The 806 publications analysed above includes only peer reviewed journal articles since the reviewers could not establish whether any of the other formats were peer reviewed.

DID CARTA FELLOWS' RESEARCH ADDRESS ISSUES RELEVANT TO INFLUENCING AFRICAN PUBLIC HEALTH PRIORITIES?

Igumbor et al's (2020) analysis shows that of the 806 articles written by CARTA fellows in peer reviewed journals, 69% addressed the nine World Bank / Africa Development Bank African public and population health research Agenda 2063 goals for Africa and the Sustainable Development Goal priority areas. Infectious diseases topped the list of publications (26.8%) followed by health system and policy research at 17.6%, maternal and child health (14.7%) and sexual and reproductive health (14.3%). See figure below:

Figure 2: CARTA research output by research area



The authors break these down more specifically, showing for example under ‘infectious diseases’ that 48.1% of these papers addressed HIV, 25.9% Malaria and 11.9% TB suggesting a high level of alignment with the priorities of external health research funding on the continent – notably from the Global Fund. The authors identified some key gaps such as universal health coverage, health financing, neglected tropical diseases, other priority infections, violence and injuries, and environmental health.

While CARTA has a public health focus, it does not make the topic per se a determinant of selection into the programme. This is because its priority is building research capacity of faculty in Universities. Informants also indicate that at the PhD career stage, fellows’ topics may be influenced by their supervisors and ability to join already established broader research initiatives. The JAS training content does, however, give attention to how to strengthen knowledge translation and how to plan for research use early in the process of conceptualising research. Finding out if and how fellows research has influenced narratives, policy or practice would be a study in itself, as would finding out whether fellows had shifted their areas of study and their engagement with the influencing of narratives, policy or practice in their post-PhD careers. That said, fellows reports to CARTA do give a glimpse of their influence or potential influence, for example,

- Emmanuel Kaindoa’s research shows that nearly nine in every 10 new malaria infections in rural Tanzania are transmitted by the *Anopheles funestus* mosquito. This is despite its smaller population in comparison to other mosquito species. The research findings enabled winning of a significant grant from the Gates Foundation to look into this further. (Cohort 5, Ifakara Health Institute)
- Kaitesi Batamuliza Mukara discusses how CARTA set her on a path to confirm that ear infections are a public health problem in Rwanda. (Cohort 4, University of Rwanda)
- Tonney Nyirenda is engaged in post-doctoral research on vaccine development strategies studying the immunity of African children who had invasive *Salmonella* disease which is difficult to distinguish clinically from malaria. (Cohort 3, University of Malawi)
- Diana Menya made three presentations at the African Organization for Research & Training in Cancer in Maputo, Mozambique from November 5-8, 2019. She discussed the association of oral health with risk of oesophageal cancer in Kenya. The conference brought together multidisciplinary specialists from the global cancer community to reduce the impact of cancer in Africa. She was supported by the France-based International Agency for Research in Cancer. (Cohort 2, Moi University)

There is also some evidence of coverage of fellows’ research in the media, for example,

- This CNN article on oesophageal cancer quotes research done [by CARTA Cohort Two Graduate, Diana Menya from the University of Moi](#).
- Cohort Four fellow Henry Zakumumpa from Makerere University writes in the Conversation Africa [why integrating HIV with non-HIV services in Uganda won’t work](#).

6. “Mean” is the average of a set of numbers while “median” is the middle value of a set of data that so it is not influenced by outliers in the way that a “mean” is

2.2 PROMOTIONS

Of the 83 graduates from cohorts 1 to 6, at least 49 (59%) have received promotions. Of these 49, 29 (59%) are men and 20 (are 41%) women. Evidence from fellows’ reports of CARTA fellows improving their positions in their institutions include the following examples:

- Boladale Mapayi, Cohort 4, was appointed the vice dean of the Faculty of Clinical Sciences at Obafemi Awolowo University, Nigeria. The PhD fellow, a senior lecturer in the institution’s Department of Mental Health and a clinical psychologist, was appointed to her new role on 1 July, 2017
- Linda Nyondo Mipando, Cohort 2, was selected as deputy dean at the School of Public Health and Family Medicine in the College of Medicine, University of Malawi. She is a registered nurse-midwife by training and is currently a lecturer in the Department of Health Systems and Policy at the college.
- Emmanuel Kaindoa, Cohort 5, was appointed as deputy head of the Environmental Health and Ecological Science Department at Ifakara Health Institute. “This was mainly because CARTA has shaped me to be hard working and focused. Among my roles includes chairing scientific discussions.”
- Stephen Wandera, Cohort 2, was appointed acting head of Department of Population Studies at Makerere University.
- Cheikh Faye, Cohort 5, was appointed the Head of the APHRC West Africa regional office.
- Kennedy Otwombe Cohort 1, was promoted to Associate Professor in the School of Public Health at the University of the Witwatersrand.

The review of gender issues in CARTA notes that “four women graduates who have been promoted and now occupy positions as deans of faculty and/or heads of department at the Universities of Ibadan, Malawi and the University of the Witwatersrand. The promotions have changed the gender composition of decision makers in their institutions. While it is not a guarantee that this will improve gender equity for others, it does begin to change the status quo. While we cannot directly attribute the promotions solely to CARTA, the fellows themselves and anecdotal evidence suggest that their fellowships have played a key part in promotions and successes.” [Khisa et al 2019]

Of 220 PhD fellows,
only 11 did not complete the
programme; 87 had graduated
as of December 2019

2.3 RESEARCH FUNDING

CARTA offers awards to graduates in the form of post-doctoral fellowships, traditional post-docs of one year or split in shorter stays, and re-entry grants, which are research grants that allow the graduate to undertake a research project at their home institution.

Table 5: Post-doctoral and research re-entry grants by CARTA

	Men	Women	Total
Post-doctoral Fellowships	8	7	15
Research Re-entry Grants	23	12	35
Number of individual fellows who have taken up at least one post-doctoral opportunity	25	17	42
Total no. of graduates at the moment of the last post-doc call	43	29	72

Percentage of post-doctoral fellows out of total graduates who have taken up a post-doc as of the last call

Men	58.1%	Women	58.6%	Total	58.3%
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This positions graduates to be able to move forward in their research careers.

The following table indicates the amounts of money raised by fellows from sources outside of CARTA to support their research including travel grants, conference attendance, awards and research grants.

Table 6: Amounts of money raised by fellows from sources outside of CARTA

Year	Amount
up to 2015	\$562,611.00
2016	\$4,664,429.00
2017	\$7,524,179.64
2018	\$3,787,845.12
2019	\$2,002,794.47
Total	\$18,541,859.23
Total	\$18,541,859.23



ABOVE: Cohort 4 fellow Ayodele John Alonge from the University of Ibadan (second right) organized a public lecture by his external mentor as part of his Re-entry Grant deliverables. The public lecture, attended by close to 80 participants, was held on November 21 at the Faculty of Arts, University of Ibadan.

The following table indicates the number of fellows who received research grants between 2017 and 2019.

Table 7: Number of fellows who received research grants 2017 - 2019 by gender

		Number of fellows	Number of grants	Amount US\$	
PhD	Men	29	64	3,613,285.00	
	Women	53	107	6,368,268.88	
Graduate	Men	10	20	230,958.77	
	Women	10	20	3,102,306.58	
Total		102	211	13,314,819.23	
	Men total	39	84	3,844,243.77	average 98,570.35
	Women total	63	127	9,470,575.46	average 150,326.59

Roughly 60% of fellows who raised such funds are women and they raised roughly 60% of the total funds. CARTA fellows' reports mention wide-ranging types of funding support for example,

- Adesola Olumide, Cohort 3, was awarded funds to support global efforts to end violence against children
- Folusho Balogun, Cohort 5, was awarded a \$100,000 Grand Challenges Exploration grant for an innovative intervention she thinks will help children in Ibadan, Nigeria, complete the recommended number of vaccines before they reach age five.

2.4 RESEARCH COLLABORATIONS

Through CARTA my view of research has changed a great deal. While previously I thought I could do research from a solo approach, I have come to appreciate the role played by a multidisciplinary approach - that I cannot be best in everything.

The greatest change for me has been realising the importance of collaboration. Having colleagues from different countries and/or institutions and with different research interests often called for getting out of my comfort zone to find a common ground for problem solving. I observed that this also resulted in more opportunities for team work, a crucial factor for successful funding in areas and from donors that I previously would not have considered.

I have a team of researchers in and outside of the university who are devoted to the same research area and we have co-supervised and published over seven articles.

(Ruhweza-Katahoire et al 2020)

CARTA recruits for disciplinary diversity and then requires fellows from their diverse institutions and disciplines to work together during JAS sessions and assignments. It exposes them to facilitators and mentors from other institutions. It provides an online platform that fellows can and do use to create forums for ongoing engagement. Enabling fellows to register their PhDs with partner institutions exposes them to other academic environments and networks. Ponge's (2019a:4) review of fellows' reports notes they stress their enhanced ability to work in teams because of CARTA's use of group assignments and research projects, thereby improving their ability to conduct research with others and to do their own teaching using group work. Dieudonne et al (2020) describe how fellows in the first year of their doctoral fellowship are given opportunities to interact and collaborate with those in the final year of their doctoral fellowships through sessions that bring together CARTA fellows who are attending JAS 1 and 4 which are held simultaneously specifically for that reason. The more senior group who are attending their last JAS interact with and peer-mentor those attending their first JAS.

The postdoctoral awards support fellows to work within a research team with experienced mentors to help expand their research network in their field of specialty.

Fellows report diverse cases of research collaborations, as these illustrate:

- Cheikh Mbackè Faye Cohort 5 is leading a global multi-country project – 19 countries from Eastern and Southern Africa and 20 countries from West and Central Africa. The project – Countdown to 2030 – tracks the coverage of health interventions that are proven to reduce maternal, newborn and child mortality.
- Olusola Oluyinka Olawoye, Cohort 7, is part of a research team from the University of Ibadan that won an H3 Africa National Institutes of Health (NIH) research grant worth US\$3.68million. The grant is for a collaborative research project titled 'Eyes of Africa: the genetics of blindness.' It will be carried out in Nigeria, Gambia, Malawi and South Africa over a five-year period

Ruhweza-Katahoire et al (2020) note that fellows and graduates responding to the significant change survey reported that the participation in and ongoing networking and collaboration within institutions and across institutions in other African universities as well as outside Africa was key to their research success. CARTA fellows and graduates highlighted their experience with CARTA as having been important in fostering their awareness of the value of networking and opportunities to develop collaborations and networks. They said,

CARTA constantly provided opportunities to network and learn from several accomplished professional colleagues and facilitators during the JAS seminars some of whom I am still in touch with. I am now always on the lookout for professional colleagues that I can link our PhD students with as I found this very useful for my work and career.

CARTA has fostered a global network of fellows and JAS facilitators, many with whom I am collaborating on papers and research.

Networking with different facilitators and fellow colleagues was and still is a great advantage from CARTA. You get to meet and benefit from expertise of the most influential persons in their respective fields just in one place, for example in one JAS.

(Ruhweza-Katahoire et al 2020)

An intended but unpredictable consequence of the various CARTA activities is that people from different partner institutions have developed relationships with each other and knowledge about each other's programmes. This has led them to develop other working relationships such as joint proposal writing⁷. Some have linked colleagues from their institutions who are not part of CARTA to each other. Focal persons from nine of the eleven institutions reported such collaborations although they may have happened in the other two without being reported to CARTA. While the conceptualisation of CARTA included this hope, it is not something one can easily orchestrate. However, since funds became available, CARTA has put out three calls for proposals for Senior Faculty Visiting Fellowships through a competitive process where any academic from a CARTA institution (irrespective of their involvement with CARTA) can apply for money to visit another CARTA institution in Africa to do a set piece of work – originally it was for research training but is now more focused on research per se and developing research partnerships across institutions. As of 2019, it had given five awards.

The University of Malawi (UNIMA) started organising research collaborations through its CARTA network in September 2014. These include with Wits and non-African partner Warwick University doing joint grant-writing, research and publications; and hosting a CARTA fellow from UNIMA for writing and analytic support. There has also been a UNIMA- University of Kinshasa-Warwick-Wits research collaboration. There have been joint meetings for example a Monash-Wits-Warwick Symposium on non-communicable disease. UNIMA has invited Wits into joint course development with Wits providing an external examiner for UNIMA's MPH. The University of Gothenburg partner has advised UNIMA on curriculum for MSc Research Data Management. UNIMA also hosted an academic from U Ibadan using the CARTA interfaculty exchange money.

In their paper analysing research collaborations in CARTA, Dieudonne et. al. (2020) note the importance of collaborative research in public health, including of multi-disciplinary research indicating that collaborations of health researchers from different countries, institutions, and disciplines in Africa remains low. The Igumbor et. al. and Dieudonne et. al. analyses of publications by CARTA fellows shows 96.4% of publications were about collaborative research, with a median of four authors per publication. The majority of the papers were published by two to five authors (61.5%) and 34.8% of the published articles included more than five authors. Few publications (4.3%) were produced by single authors. Significantly, Dieudonne et. al. found

7. Note: JAS 4 includes training in writing grant proposals

that 75 of the papers published by CARTA fellows had more than one CARTA fellow as an author indicating that collaboration did occur. Of those, 53 (71%) included fellows who were not in the same cohort. However, 56 (74.7%) of those publications were with fellows who were in the same institution; only 19 (25.33%) were cross institutional publications. CARTA graduates continued to publish with each other after graduating – 11% of the collaborative publications – indicating that the collaborative approach was maintained after exiting from the programme.

Two interviewees noted that most facilitators for JAS1 and JAS4 institutions do not stay for the full period of a JAS, or if it is taking place in their own country, do not stay for meals. They argued that most of the relationship-building that enables collaborations takes place through informal conversations over drinks or meals or just in the in-between spaces. (Interviews 5 & 6)

2.5 INCREASED PROFESSIONAL RECOGNITION

Ruhweza-Katahoire et al (2020) note that a key change that participants identified in relation to their role within the university is the recognition from their peers, students and department heads that they are experts in their field as well as expert teachers and mentors. CARTA graduates are recognized as resources and leaders within their departments and institutions. Participants have been recognised outside the academy through such opportunities as invitations to present at international conferences or to review papers for journals.

Fellows report wide-ranging examples of professional recognition. For example,

- CARTA graduates Francis Fagbamigbe Adeniyi, Cohort 2, University of Ibadan, and Charles Drago Kato, Cohort 3, Makerere University, were named among 25 early career scientists by the African Academy of Sciences (AAS) Affiliates Program which recognizes exceptional young African scientists under age 40 who are charting new paths in academic and research excellence.
- Stephen Wandera, Cohort 2, Makerere University, was made Associated Editor of Chronic Diseases Epidemiology.
- Evangeline Njiru, Cohort 3, Moi University, was nominated to Kenya's National Cancer Board.
- John Alonge Ayodele, Cohort 4, University of Ibadan, was elected as the Chairperson, Library Education and Training Institutions section of the African Library & Information Associations and Institutions.
- Dieter Hartmann, Cohort 4, Wits University, won the Vice Chancellor's Transformation Award (in the team category).
- Felix Khuluza, Cohort 5, University of Malawi, was elected to the National Board of Directors of Pharmacy Medicines and Poisons Board.
- Nomfundo Moroe, Cohort 6, Wits University, won the best abstract award in Accra, Ghana during the Developing Excellence in Leadership, Training and Science (DELTAS) Africa Annual Meeting 3-5 July, 2017, which brought together African health researchers from 31 African countries to showcase groundbreaking research done on the continent to address Africa's health challenges.
- Stevens Kisaka, Cohort 7, Makerere University, was elected to the University Governing Council.

“With a strong training in research methods I became one of the few social scientists at the University who can teach research method courses, especially both qualitative and quantitative methods and techniques. Soon after graduating in 2018, the department trusted my capacity and identified me to teach research courses for PhD and Masters Students (which is usually done after two years of getting a PhD). I am also an important resource person whom the department uses to assess the quality of research proposals and dissertations before they are accepted. With this, I have been recently appointed as a coordinator of graduate studies in the department and a program coordinator for the Master of Research and Public Policy (MRPP) program. ... These skills are rare, especially in my field and institution in general. I have become an important contributor to research training in my department and my college. This has indeed created a good image for the CARTA program in the department and university at large. Because of the significant contribution I have demonstrated in research mentorship for graduate students and junior faculty, the department which has a good knowledge of the CARTA program and its innovations identify me by the name of CARTA as they often call me oemzeewa CARTA (meaning a person/man of CARTA). The skills I have acquired as part CARTA are self-revealing wherever I go and whatever I do as part of my day-to-day teaching and learning facilitation. I have come to learn and believe that even without a poster mounted somewhere in the institutions, CARTA will always advertise itself through what the fellows are doing within their institutions.”

(Ruhweza-Katahoire et al 2020)

Africa still lags behind other regions in terms of research outputs

RIGHT: Cohort 8 fellows from the University of Rwanda, Jean de Dieu Habimana and Rutayisire Robert participated in the Young East African Research Scientist Forum in Nairobi, Kenya from November 11-14 2018



3. Has CARTA had any influence on African partner's narratives, policy or practice?

Igumbor et al (2020) note that current evidence indicates that Africa still lags behind other regions in terms of research outputs, including research in the fields of population and health, producing only 2% of the world's total scientific output. The reasons for under-performance include few individuals engaged in health research, poor infrastructure such as laboratories and computers, insufficient mentorship for researchers in relation to developing manuscripts for publication, and limited collaborations or partnerships amongst research institutions in Africa. It is in this context that CARTA aims to strengthen research capacity in its partner African universities.

CARTA strengthens the university-wide structures, systems and human resources that are critical to the success and sustainability of both its programs at partner universities, and to catalyse action towards achieving a broader goal of university-wide research capacity strengthening, beyond CARTA. It has identified a number of innovations from its own practices that universities would do well to draw from in order to strengthen their own research and research-training capacities, each of which is addressed here.

This section does not include the four African research centres that are in partnership with CARTA since as research institutions they are geared towards providing a research-supportive environment. They do, however, support CARTA in implementing the various innovations, for example teaching on grant management. In addition, some of them have incorporated CARTA innovations such as training of supervisors, and use of anti-plagiarism software and of REDCap.

One focal person indicated that CARTA's model has also affected how their university structures other consortiums that it is in.



ABOVE: CARTA fellows attend the 9th Union of African Population Studies Conference, Entebbe, Uganda November 2019

14 **3.1 CURRICULUM CONTENT FROM 'JAS' SEMINARS**

The four Joint Advanced Seminars (JAS) expose doctoral fellows to research-related knowledge, skills and attitudes, varied pedagogical approaches including formal lectures, open discussions, group work, assigned readings, simulations and role-play, that are geared towards enhancing their research competencies and equipping them with transferable research skills.

'Institutionalisation' of Joint Advanced Seminars (JAS) does not mean copying the format and content. Rather it means that partners have mainstreamed the practice of providing core training to PhD students (irrespective of whether it is done in month-long sessions or some other format) and/or they have used aspects of curriculum content.

The image below indicates a substantial degree of incorporation of curriculum content or methods by the university partners.

Makerere University reviewed its PhD curriculum and transitioned from a research based doctoral program to include courses on research methods and proposal writing adopted from CARTA JASes.

The University of Ibadan adapted and integrated CARTA Joint Advanced Seminar (JAS 1 – 4) curriculum as required courses with credit units in the institution's Post Graduate college. The curriculum was reviewed for six clusters of faculties/ institutes/ centres in the university, based on shared interests while also encouraging inter-disciplinarity. Although this new curriculum is for the entire university, CARTA JAS innovation provided a template to work with. It also built a hostel for JAS participants, with other students accessing it the rest of the year. It has reset the bar for basic facilities at new hostels.

A focal person from University of Malawi noted that their Medical College PhD programme began with a collaboration with the University of Liverpool, at the same time as CARTA began, when the University lacked confidence to run its own programme. By now, however, they are able to enrol their own PhD students – 40 at present, of which half are part of CARTA.

Inclusion of JAS curriculum content in post-graduate training	None (1)			Low (1)	Medium (1)	High (5)
	Receipt of CARTA grant for institutionalisation	Nov 2019	Nov 2018	Nov 2019	3 x 2017 1 x 2018 1 no grant	

Figure 3: Degree of institutionalisation of JAS in African partner universities

The degree of institutionalisation as illustrated in the above figure corresponds somewhat with the moment at which universities received grants (of differing amounts and durations) to support these efforts by CARTA. Only Wits did not receive such a grant but as the institution co-directing CARTA and responsible for JAS 2, it had a head start in institutionalising these and already had many related innovations in place; Ibadan similarly has run JAS 3 since the start. Significantly, whereas APHRC ran JAS 1 and 4, these were taken over by Makerere University in 2017.

In November 2019 CARTA began to video its JASes, with the aim of making them available online so that other universities can use the material and methods, while also supporting partners in the institutionalisation process.

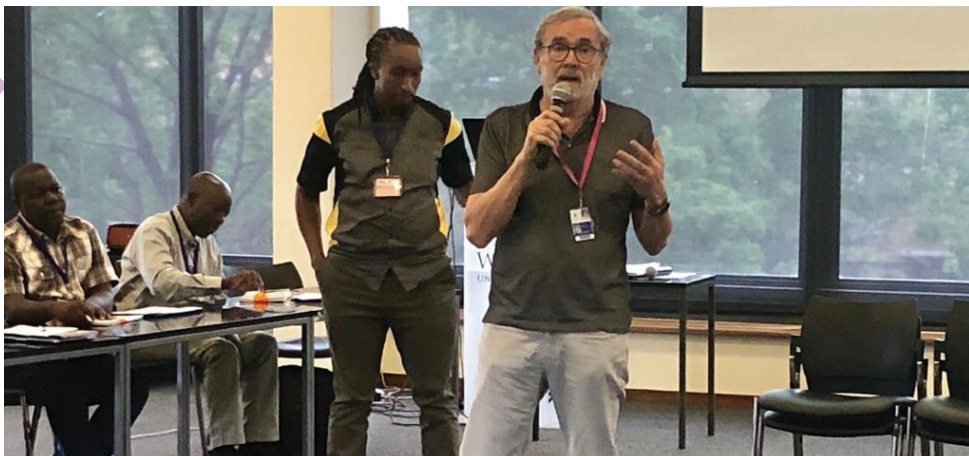
BELOW: Documenting JAS to create digital access to the CARTA curriculum. JAS1 and JAS4, Uganda 2020



3.2 SUPERVISOR TRAINING

Those responsible for CARTA's efforts to build supervisors' and fellows skills in supervision explain that "The four JASs provide fellows from their own and other cohorts with opportunities to compare supervisory and other PhD experiences, and to share how to address supervisory problems and improve their own practices. Parallel with the fellows' curriculum summarised above, we designed a set of activities involving supervisors in order to inform them about the CARTA programme, exemplify its values and pedagogic approach, and support good quality supervision." (Manderson et al 2017) CARTA runs an annual training for all supervisors of its fellows, at Wits, coordinated by CARTA's long-standing partner from University of Gothenburg. As of end of Cohort 8, 261 academics from CARTA institutions were involved as supervisors to one or more CARTA fellows. The training is unique among other things because it builds relationships among supervisors from different universities, and between supervisors and supervisees.

The University of Nairobi ran its first Supervisor Training in November 2017. It has blended its materials with those of CARTA and developed doctoral supervision guidelines targeting students and supervisors. So far 40 Supervisors have been trained.



ABOVE: Göran Bondjers, University of Gothenberg and Yandisa Sikweyiya, Medical Research Council South Africa, co-facilitating at the CARTA 2019 supervisors workshop

CARTA has encouraged focal persons, fellows and supervisors, including at the Supervisor's Trainings and at the FASEs, to build institutional processes that ensure all postgraduate supervisors (at partner universities and research centres) get appropriate training. As the figure below indicates, it has been particularly successful in this regard.

Uptake of Supervisors' Training across all African partner institutions

None (1)

Low (1)

Medium (1)

High (5)

Figure 4: Degree of institutionalisation of Supervisors training in African partner universities

A related influence on supervision has been CARTA's emphasis on multidisciplinary. One of the University of Malawi focal persons from Nursing, Prof Ellen Chirwa, noted that because of CARTA she is co-supervisor with the other focal person who is in the Department of Community Health, a multi-disciplinary collaboration that was unheard of before.

3.3 SUPERVISOR-STUDENT CONTRACTS

In contrast, there has been less thorough uptake of requiring contracts between supervisor and supervisee across most African partner institutions.

Supervisor-supervisee contracts

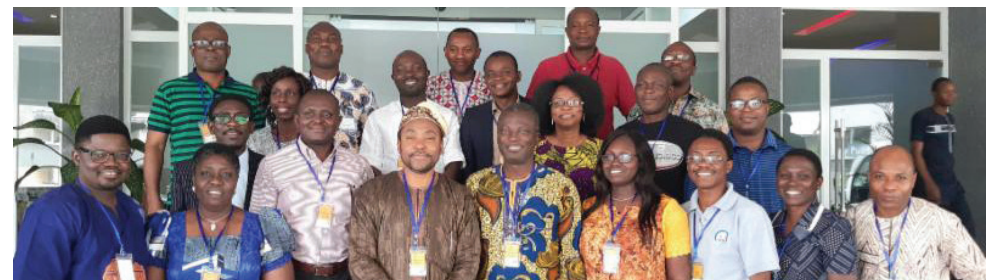
None (3)

Low (1)

Medium (2)

High (2)

Figure 5: Degree of institutionalisation of Supervisor-student contracts universities



ABOVE: CARTA collaborating with the Postgraduate College, University of Ibadan organized a writing workshop to review doctoral program curriculum. The two-day residential writing workshop which took place from June 20-21 2019, brought together Obasola Ireti Oluwaseun, Adesola Oluwafunmilola Sangowawa, Thomas Emmanuel Olusegun (Cohort 3), Joshua Odunayo Akinyemi (Cohort 1), Ayodele Alonge (Cohort 4) and Kudus Adebayo (Cohort 6) and other university members to review the curriculum. The workshop was lead by CARTA focal persons Akin Omigbodun and Funke Fayehun with support from the graduate school.

The Wits School of Public Health (SPH) has implemented the same contracting process and content used by CARTA, as faculty running the SPH's structured PhD programme realised that the supervisor(s)- student relationship was often undermining student progression. The PhD programme crosses two schools and two faculties – public health (Medical) and social science (Humanities). It is also open to other PhD students at Wits who want to benefit from the structured approach that the SPH takes (monthly seminars, setting milestones, and having a public presentation of their PhD as well as external review by outside assessors (i.e. not their supervisors) as they are reaching completion, to improve the version that they submit. The Wits SPH has been invited to present its approach to PhD training at a number of events that reached other schools and faculties within the university as it is seen to be a model even by the Wits Vice Chancellor. However, the degree to which this has been taken up is not known.

3.4 FACULTY AND ADMINISTRATIVE STAFF (FAS) WORKSHOPS

When CARTA says, “send administrator for training”, we send them to training which they use to improve our own systems as a growing institution, not just the CARTA person. CARTA can't quantify this – impossible to show how that finance officer they sent to Rwanda has supported other process of budgeting etc.

(AFP interview)

Annual Faculty and Administrative Staff (FAS) Workshops aim to strengthen the human resources and university-wide systems critical to sustaining research capacity. The target university staff are librarians and upcoming graduate lecturers and supervisors; graduate programme coordinators, including deans; bursars and finance officers; university ICT and public relations officers, and registrars and university administrators. These are large meetings of between 20 and 100 people. They are run in an interactive way to look at things like why you do your job (why at a university rather than some other place), how your work affects students, how your work does or does not relate to other parts of the university, how you can do it better to achieve a higher level of efficiency and effectiveness. More generally they talk about the place of a research in universities and post-graduate research training. People doing similar things in different partner institutions meet together. For example, Deans of Post-Graduate offices might discuss the way their offices work in each institution. In addition, participants across all the various functions from one institution may have time working in a group. For all of them it is often the first time they have met. The entire purpose is to recognise their contribution and to motivate them to work collectively and more effectively to make the university more research and research training supportive. Topics include:

- Grant and research management
- Strategic financial planning and evaluation
- Information and knowledge management
- Staff mentoring in research administration.

FAS at Moi University

A CARTA JAS facilitator in Moi University's Department of Behavioural Sciences, School of Medicine initiated a three-week training on Health Research Ethics for university Staff as well as the Moi Teaching and Referral Hospital Staff, facilitated by staff from the School of Medicines of Arts and of Social Sciences. The University's Director of Quality Assurance, who is also the CARTA Coordinator and a Senior Assistant Systems Administrative Officer has implemented an online Student Evaluation Instructor and Course – based on the CARTA Training on the topic, “The Use of ICT as a Tool for Networking” at a FAS workshop (currently as a pilot with the aim of institutionalising it). Staff participation CARTA Supervisors Training also influenced these outcomes.



In addition, different partners present on aspects of their approach to research capacity that are working well, to model approaches for other partners. Six CARTA institutional partners have run the FAS for CARTA – a sign of institutional capacity in itself.

The FASes initially aimed to strengthen institutions’ support of CARTA fellows, but their success led CARTA to promote the institutionalisation of content / approaches shared during FAS by partner institutions to support overall research capacity strengthening, with four institutions so far doing so.

One partner, University of Malawi, noted that they have invited and used funds from another project to bring faculty from other universities in the country to attend the CARTA FAS. Writing about research and capacity development at Wits University, the author notes about CARTA, “The Faculty has benefitted immensely from this programme, not only through the qualification of exceptionally well-trained PhD candidates, but also from the exposure of academic and administrative staff to training. This programme contributes to the increased numbers of publications and numbers of graduate students in the Faculty, and also to the enrichment of the research environment.” (Kramer and Libhaber 2018:4)



Degree of FAS institutionalisation among all African partners	None (4)	Medium (2)	High (2)
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Figure 6: Degree of institutionalisation of FAS in African partner universities

The FAS has had some unpredictable positive consequences. For example, Diston Chiweza, Medical Librarian from the University of Malawi), facilitated a librarians’ session on information management during the 2012 FAS in Dar es Salaam, after which the participating librarians established the Consortium for CARTA Libraries.



CARTA partners, Secretariat and funders at the Obafemi Awolowo University, Nigeria, September 2018

This programme contributes to the increased numbers of publications and numbers of graduate students



[The Consortium for CARTA Libraries \(CCL\)](#) offers a platform for inter-regional collaboration amongst libraries in Africa and puts Africa on the global research network. Essentially CCL in-line with CARTA's mission will facilitate research, knowledge sharing and collaborations amongst researchers and institutions in Africa.

Objectives

- To facilitate the compilation and digitisation of published and unpublished research works;
- To develop an electronic platform for the sharing of data, results and knowledge gained from research; and
- To encourage collaboration between and amongst academics and researchers in CARTA institutions.

Governance

Consortium of CARTA Libraries is an alliance governed by CARTA and librarians from CARTA Institutions.

Activities and benefits

- Knowledge Sharing & Easy Access to Information: Partner Universities and Institutions will advance research and learning in Africa through the CCL e-library interface, which will make more information available, enable knowledge sharing and make it easy for stakeholders to access research data and findings from remote locations.

- Visibility for researchers & CARTA Partner Universities/ Institutions: The CCL e-library interface provides global visibility for researchers and consequently link researchers to funding opportunities, consultations and further collaborations.
- Training & Capacity Building for Librarian and Information Professionals: Training of CARTA institutions staff is important in order to make resource sharing more effective and useful. The consortium will afford member universities and institutions the opportunity to empower their personnel through capacity building and training courses or programmes. This will also enjoy group cost savings.
- Institutional & Professional Strengthening: Through the CCL, CARTA institutions and librarians can form stronger collaborations, formulate policies and embark on advocacy programmes that will empower libraries for sustainability.

The group has three publications – see References for article on CARTA Librarian Group

Librarians are taking this approach into their own universities. For example, in March 2019, the University of Ibadan ran a Capacity Development Training Workshop for 27 librarians from its various different libraries.

3.5 ANTI-PLAGIARISM MONITORING

The use of Turnitin (or similar) anti-plagiarism software has been taken up by all of the African university partners although three did so prior to CARTA, making it mandatory that all these have a plagiarism check before submission for oral examination. CARTA paid the first subscription for most of the universities, but having extended its use beyond CARTA, the respective Universities now pay for it themselves. Only two research centres do not use it.



Figure 7: Degree of institutionalisation of anti-plagiarism software in African partner universities

3.6 REDCAP ONLINE FELLOWS TRACKING

The Research Electronic Data Capture (REDCap) is a self-reporting online fellows tracking system through which each fellow's progress is closely monitored by CARTA. Four African university partners have instituted it more as a result of their experience of CARTA's use of it since Cohort 5.

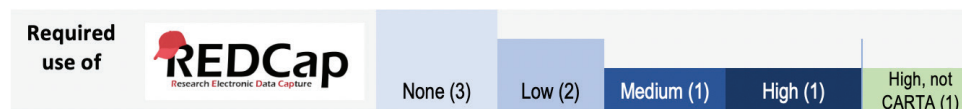


Figure 8: Degree of institutionalisation of fellows tracking system in African partner universities

3.7 FELLOWS BECOME TEACHERS WITH IMPROVED SKILLS IN PEDAGOGY AND RESEARCH TRAINING

“A number of participants in the ‘significant impact’ survey identified the impact CARTA has had on their relationships within their own institutions. Being able to implement changes within faculties and in their own teaching programs has contributed to an emerging change in the academic culture of African universities and research centres. The strengthened capacity to compete for research grants as identified by respondents also contributes to stronger research environments.”

(Ruhweza-Katahoire et al 2020)

CARTA is highly intentional about its approach to pedagogy – the relationship between teaching and learning. It encourages and supports facilitators to use adult education approaches on the understanding that these allow fellows to learn with and from each other and to practice problem-solving. They believe that this increases fellows’ participation in learning, increasing their understanding of various issues under discussion, improving their levels of thinking, and enhancing their independent learning skills.

In terms of teaching, CARTA resource persons use a blend of methods while delivering during the training. The benefits of using each method of teaching is tested and appreciated. This makes it easier for me to adopt the best teaching methods [in my teaching outside of CARTA]. ... I am particularly talking about the participatory method rather than the lecture method. I organize the class into groups comprising about 15 members. I then assign them tasks with reading materials which they are tasked to read, discuss among themselves and make presentation on specified dates. During the presentation, I score individual members according to contributions to the discussions, but also assign group marks.

Alexander Kagaha, Cohort 7 (Ponge 2019a:13)



ABOVE: One of the sessions between facilitators and fellows in JAS 3 2019 discussing how to analyse and write up their theses.

Adeyinka Adefolarin and I jointly organized a Blitz session⁸ for our PhD students in the Institute of Child Health last year. In addition, Adeyinka spearheaded the process of getting one of our JAS3 Facilitators – Mr. Braimoh Bello – to deliver a seminar to faculty and students of our departments (Health Promotion and Education and Institute of Child Health). CARTA Ibadan graciously supported this seminar and it was a huge success. I assisted Adeyinka with the event. The seminar took place on Wednesday 9 August, 2017.

(Biennial report P1 2017 fellows report)

8. 'Scientific blitz' is a method CARTA uses in JAS3 to stimulate critical thinking

In Ponge's survey of 113 fellows (2019a:6), they indicated that using the self-directed learning-teaching methodology has strengthened their students' research skills; and that their students have also appreciated the fact that learning has become flexible, enjoyable and more motivating than before. Fellows surveyed indicated that along with imparting knowledge, building skills and competencies including problem solving has been a big transformation. 48 out of 113 (42.5%) fellows perceived their new teaching methodologies to have contributed to an improved participation, interaction and learning process. The following quotes give a sense of fellows' experience,

CARTA has also influenced the way I teach in that now it's not mainly didactic but includes role plays and problem based learning.

(Ruhweza-Katahoire et al 2020)

Before joining the CARTA program, my teaching was dominantly in form of lectures, especially talk and chalk from the beginning to the end. Now I try to make my students part of the knowledge creation process. We agree together on what is important for them, which forms the basis for developing course content and course outlines. With the use of problem based learning my classes have tended to be more practical and focusing on addressing the real-world problems.

(Ruhweza-Katahoire et al 2020)

Classroom handling and teaching style has tremendously improved for the betterment of the students. More specifically, there is high interactions of the students in all the lessons delivered by me (all these due to pedagogy skills acquired during JASes).

(Ruhweza-Katahoire et al 2020)

It is no longer perceived as learning for answering examination questions, but rather developing competencies required to do research and address problems around them.

(Ponge 2019a:6)

They note that they now use skills in how to write, to support their students,

Today, using the resource kit and the principles learnt from ESE: O, I am supervising undergraduate students more efficiently by also showing them proper ways of expressing and writing ideas. This acquired skill through ESE:O is also contributing to the quality of my day to day work as teaching staff.

(Ponge 2019a:10)

60 out of the 113 fellows (53%)⁹ surveyed perceive that their use of student-centred pedagogy encourages their students' critical thinking. (Ponge 2019a:5)

Fellows note specifically how the CARTA exposure improved their teaching and ability to present.

*The teaching also has improved. Many other dimensions have been introduced to teaching-learning process. **In fact, I now facilitate learning and not teaching.** (Woman fellow, OAU, C7, Bi-annual report P1-2018) [my emphasis]*

The other issue is the presentation skills which we learned in JAS 4 in Nairobi in 2016. It included lessons on how to come up with a good PowerPoint presentation. This has made me deliver good presentations all the time. In 2017, I was the best presenter during the University of Malawi research dissemination conference. This was because of the skills I gained from CARTA.

(Ruhweza-Katahoire et al 2020)

9. 50 of the 113 fellows surveyed did not respond to this question and 3 indicated it was not applicable. It is not clear if the 'no response' was because those fellows are not currently teaching or have not applied these approaches.

I have managed to create and manage 10 courses online since 2013. I have also trained 6 members of academic staff in the department and I have been guiding them on using e-learning technology and related tools.

They note that this has strengthened their ability to support others' research

Teaching has always been my fond profession and to me, training is the ultimate. However, during CARTA training and JASes, another area of teaching unfolded. The new niche is research/research training. After graduation in 2018, the skill set of guiding students along the research path has resulted in the supervision of six Master students, two have graduated and each has published an article from their work.

(Ruhweza-Katahoire et al 2020)

I also trained my students on how to write literature review section of their thesis using methods acquired from ESE:O, particularly, the use of literature matrix.

(Ponge 2019a:10)

They note that the emphasis on collaboration as essential to research success has influenced their own practice in supporting their students as researchers,

I have, as well, formed a team of masters and PhD students, whom we meet once a month and build our capacity towards research methods.

(Ruhweza-Katahoire et al 2020)



ABOVE: JAS 3 session August 2019

ABOVE RIGHT: Jas 2 facilitators Jude Igumbor and Daphney Conco Jas 2, 2019

LEFT: Nkosiyazi Dube and Caroline Sawe, Cohort 4, from Moi University

In addition to individual fellows bringing their improved understanding and application of effective pedagogy to their students, some have gained recognition by their universities which have extended their teaching and research remit.

Abiola Komolafe, OAU, Cohort 7

“The CARTA program (JAS 2) built my capacity in organising seminars, oral and poster presentations. This ability was seen in me when I returned from JAS 2 in South Africa, the Head of Department was impressed and he made me the Coordinator of Seminar presentation, a statutory event that takes place in my department every 3rd Thursday of the Month. I have also stepped this up by introducing journal club.”

Betty Mwiti, U Nairobi, Cohort 6

“I have recently been appointed as mentor and Year Master of the Fourth Year at the School of the Arts and Design, University of Nairobi. My duties include but are not limited to: Assisting and guiding the students conduct their final year research projects; mentoring students in creating a work/study/social balance; helping students transition from school into the work place; and place students in employment where possible with the help of industry players and alumni...My opinions are highly valued, a sense of more respect. This is attributed to the fact that I have been assigned the responsibility of creating a database of alumni and industry partners who can help in the development of the School. I have also been involved in improvement of joint projects and teaching sessions. Some of these include partnerships with industry who assist in student mentorship and internship programmes (e.g. Bata Kenya, Safaricom PLC, PhotoMagic Studios, All and Sundry Ltd, Basco Paints and Magnate Ventures). I was also part of the team conducting research with my supervisor on the LIRA 2017 Grant on her ‘Energy-Health Nexus’ Project run in Mathare Slums.”

Significantly in terms of CARTA's sustainability, and something intended in CARTA's theory of change, as time has gone on CARTA graduates have increasingly been involved in either co-ordination (JAS 1 and 4 at Makerere for the past three years and at JAS 2 in 2019 at Wits) and have also begun to facilitate. Sharon Fonn observed,

“My impression has been that the graduates have been particularly motivational for the fellows as they can learn from people who have done what they are doing – the graduate facilitators are able to motivate the fellows to work harder, get on with it, prioritise their PhDs and in-depth learning in a way that the senior facilitators cannot. This is because the graduates did it themselves in the very institutions that the fellows are working in and very recently.”

BELOW: Our Cohort 1 fellow, François Niragire from the University of Rwanda was in Nairobi at APHRC for a week of mentorship, where he interacted with Elizabeth Kimani, APHRC's research scientist and head of the Maternal, Newborn and Child Health and Nutrition Unit. She holds a PhD in Public Health (2010) focusing on nutrition.



3.8 THE NETWORK INCREASES ACCESS TO TRAINING IN AND COLLABORATIONS WITH OTHER INSTITUTIONS

The relationships built by fellows and faculty working with CARTA, particularly with institutional focal persons, have all influenced the establishment of research collaborations described above. Interviews with focal persons and African and non-African partners indicate that the relationships built between individuals from partner institutions increases access of faculty and students in those institutions to training opportunities in other partner institutions.



LEFT: Anne Khisa, Postdoc Fellow (Cohort 3 from the University of Nairobi) co-facilitated a one-day workshop in collaboration with the London School of Tropical Medicine (LSTM) on how to improve Research Capacity Strengthening (RCS) evaluation practice in Africa.



LEFT: Cohort 6 fellow John Olugbenga (second left) from the Obafemi Awolowo University participated in the African Regional Conference on Ageing in November 2018. He presented two papers that are part of the findings in his ongoing PhD research.

Networking creates learning opportunities

Said Prof Adamson Muula of **University of Malawi**, “Akin – the chief of Ibadan focal person there made contact – his wife is head of psychiatry and runs a Child and Adolescent Mental Health Masters, and it so happened by serendipity that two students dropped out and she had two fellowships available. So, Akin sends me an email saying, ‘we have this opportunity – can you find me students who can come now’ – and in a few hours two people emerged, in a week they were in Ibadan doing their masters; they’re finished and are back in Malawi – they were medical doctors who had completed and were working.

We have four Malawians at University of Rwanda doing masters because of our visit there, building relationships, so when they tell us they have opportunities our students apply.”

Said Dr. Jill Allison, “As the representative of **Canadian Coalition for Global Health Research** in the area of capacity building, CARTA is a perfect program for engaging our organization. I want to ensure that our members are inspired, humbled and informed by the work that CARTA is doing and the level of scholarship they have facilitated. I feel so honoured to be part of the network (both non-African and African). The value for me is a whole new set of opportunities to learn and to become a node for connecting people to one another (... When I can facilitate a connection between a colleague in Canada and a colleague or a Fellow in Malawi or Kenya or SA I feel like a new seed has been sown for something good to happen. That is my motivation and my joy in this work.”

24 3.9 INFLUENCE BEYOND CARTA INSTITUTIONS

Within the short ten years of its existence, CARTA is now recognised as having significant expertise to share. For example,

- CARTA guided discussions on common standards for postgraduate training in the region at the first-of-its-kind regional workshop on Postgraduate studies from April 23–25, 2018 in Kigali, Rwanda convened by the Inter-University Council for East Africa (IUCEA), with the support of German Academic Exchange Service (DAAD) and CARTA. It brought together higher education actors from the East African Community partner states of Burundi, Kenya, Rwanda, South Sudan, Tanzania and Uganda.
- The African Research Universities Alliance (ARUA) has expressed interest in CARTA's approach to structured PhD training (during the 2nd CARTA VCs meeting in Kigali, April 2019 – the report is somewhere in the process of being approved)
- One of the DELTAS capacity building programmes contacted CARTA to explore using its JAS4 curriculum on policy engagement

3.10 THE ROLE OF LEADERSHIP IN FACILITATING INSTITUTIONALISATION OF CARTA INNOVATIONS

A co-director of CARTA notes that “The graduates, focal people and JAS facilitators are the change agents within their institutions. Their commitment to the CARTA collaboration and their recognition of the value of CARTA approaches drives them to promote uptake of these more generically in their departments, schools and institutions.” (Email Nov 2019)

At the heart of this process are CARTA committees in each institution. CARTA's governance policy indicates,

Each participating African university shall set up a committee to promote and ensure CARTA program visibility, manage program activities at their institutions, recruit and nominate CARTA Fellows, and select the university representative to the CARTA Board of Management and Advisory Committees. The CARTA Director, Deputy Director, and Program Manager will vet the representatives appointed by universities to ensure diversity.
CARTA Governance Arrangement Policy 2015

In response to the African partners survey question, ‘Why do you participate in CARTA? What motivates you to participate and what is its value for you?’, two replied,

to contribute to the growth and development of my home institution. There are also opportunities for capacity development. I strongly believe in the CARTA dream, the innovations and the need for research capacity strengthening...
(AFP2)

I love what I am doing – building the capacity future African researchers and leaders. Chima Izugbara and Caroline Kabiru were ADDR¹⁰ co-ordinators when I got the fellowship for my PhD in 2008. I was really impressed with their organization skill and passion for doctoral candidates' research in Africa. The methodology sessions were outstanding and gave me a solid foundation in research beyond what I was taught in the University. I therefore see myself helping future generations just the way some Africans helped me during my Ph.D.
(AFP3)

In response to the question, “What factors influence the ability of African institutional partners both to take full advantage of the various opportunities CARTA offers, and to bring their own expertise, innovations and leadership into CARTA?”, focal persons repeatedly mentioned “passion”, while also noting that the positioning of focal persons in their institutions is key as making institutional changes in universities needs support from the highest levels of management,

I believe the institutions have various levels of openness. Running CARTA within institutions is serious business. It takes up significant personal time to do all the bidding that the CARTA requires. There is, however, the supportive Secretariat that is a key feature of CARTA... Being a focal requires a certain level of seniority to get things done. Too junior a person then leads to paralysis.
(AFP8)

10. African Doctoral Dissertation Research Fellowship

They noted that bureaucracy and complex procedures in the decision-making processes of the university system are constraints to implementation of some of the CARTA innovations. For this reason, CARTA has held three meetings with Vice-Chancellors (VCs). After the second meeting the VC of Wits instructed the DVC research to meet with CARTA to apply aspects of its model across WITS, but the DVC did not follow up, so this effort doesn't guarantee success. After the most recent meeting between VCs and CARTA 24 to 26 April 2019 in Rwanda, all the VCs including those that are part of ARUA (Association of Research-intensive University in Africa) instructed their CEOs to meet with CARTA as they are looking to institute a new approach to PhD training and think that the CARTA model would work for them.

Since 2017, all university partners have put in proposals and received grants from CARTA to support their efforts at applying content or approaches from CARTA more broadly in their institutions. Three were in late 2017, two in 2018 and two in 2019. It should be noted that some universities already had their own systems in place addressing similar issues, for example Wits already had an Assistant Dean research in each faculty and each faculty already provided training for their staff and students; it already had a Centre for Teaching Learning and Development which offers supervisor training or teaching skills.



Senior faculty as focal persons: University of Ibadan

“The two foundation focal persons were former Provost of the College of Medicine and Dean of the Social Sciences. Prof Omigbodun, a former provost and first CARTA Board chairman, has been an added advantage to CARTA at the University of Ibadan. He is well respected and has been a professor in the institution for more than 20 years. He has been in CARTA since inception. Funke Fayehun became co-focal person when the former dean of Faculty of the Social Sciences (Prof Uche Isiugo-Abanihe) stepped down to be a vice-chancellor in another university in 2015. (4 years ago). She is a senior lecturer in the social sciences and has brought a lot of change by diligently working with the Prof Akinyinka Omigbodun (Focal Person) to promote the image of CARTA in the university and build high-level capacity for population and public health-related research in line with CARTA vision. In our own experience, passion, motivation and openness of the institution to change are significant to institutionalization of CARTA innovation and processes.”

(AFP3)

Significantly, the CARTA meeting of Vice-Chancellors in April 2019 gave the focal persons' efforts impetus as he has supported their efforts; with the proposed curriculum going to their senate for approval at the time of writing.

LEFT: Focal persons meeting in Kigali 2019

Back left to right: Hesborn Wao (FP APHRC), Jude Igumbor (FP Wits), Prof. Anne Khasakala (FP University of Nairobi), Prof. Adamson Muula (FP University of Malawi), Prof. Akinyinka Omigbodun (FP University of Ibadan), Prof. Aluko (former FP Obafemi Awolowo University), Marta Vicente-Crespo (CARTA Program Manager), Evelyn Gitau (Director Research Capacity Strengthening, APHRC)

Front left to right: Eunice Kilonzo (former CARTA Communications officer), Florah Karimi (CARTA Program Manager), Diana Menya (FP Moi University), Catherine Kyobutungi (CARTA co-director and CEO APHRC), Pierre Claver (FP University of Rwanda), Prof. Sharon Fonn (CARTA co-director and Professor at Wits), Funke Fayehun (FP University of Ibadan), John Bosco Isunju (FP Makerere University)

26 3.11 THE ROLE OF CARTA FUNDING IN ENABLING INSTITUTIONALISATION

During the discussions on institutionalisation at the CARTA September 2019 evaluation workshop, focal persons from African institutions repeatedly indicated that even where their institutions have an interest in further institutionalising certain components of CARTA's approach, lack of funds gets in the way. Recognising this, CARTA has offered different types of support, initially predominantly to enable partners to offer components of CARTA itself. Each focal person team had a budget allocated to them. They had to write a budget to motivate how it would be used and if this was legitimate (which means work that supported CARTA) it was approved. There were various ways in which this was used including a specific investment in infrastructure. Some institutions that were to host JAS used the infrastructure funds to develop teaching space and they got bigger amounts, but all universities invested in some infrastructure which included generators, computer labs, teaching rooms, teaching equipment etc. Whenever CARTA had money for investment in institutions it was advertised to consortium members who could motivate how to use it. Some institutions specifically aimed at "mainstreaming" CARTA objectives such as upgrading library space for post graduates, creating common/meeting rooms for post graduates. This occurred before CARTA actually put forward a competitive call specifically aimed at "institutionalisation". The first large grant call (\$100 000.00) for institutionalisation came out mid-point in the first decade. This was competitive and was awarded to three institutions OAU, Makerere and Rwanda.



ABOVE: Prof. Phil Cotton VC Rwanda welcoming guests at 3rd VC meeting

CARTA has offered different types of support ... predominantly to enable partners to offer components of CARTA itself

Since 2017 CARTA has offered grants to African partner universities to support their efforts to institutionalise CARTA innovations – two in 2017, three in 2018 and two in 2019. This arose after a CARTA-organised meeting of Vice Chancellors where one Vice-Chancellor proposed to the CARTA focal person that their university develop a standard curriculum for all PhD students to be officially sanctioned at his university (i.e. go through the senate process and become official university policy). The focal person raised with CARTA the need for some funds to bring relevant stakeholders together. The executive discussed this and decided that a quick turn-around small grant would be developed, for which all partners could apply. Says co-director Fonn, *“In my personal assessment it was the success of the natural institutionalisation that was occurring that motivated the executive to think of having the award to fast track this to make it bigger and less adhoc.”*

In general, those institutions that received funds in 2017 and 2018 have institutionalised more innovations than others, except for Wits which was already on this road when CARTA began. Partners use the funds for diverse purposes such as convening meetings in decentralised campuses when consensus has to be gained to find a common way forward. Funds are also used to motivate people's participation – sometimes because of the culture of per diems, but also because there are serious opportunity costs. Said Sharon Fonn, *“a member of faculty can spend time doing unpaid work on a non-living wage salary as an academic or can earn money in that time teaching on other campuses or consultancy or raising your own chickens or whatever, but that opportunity cost is real ... the start of it is underpaid work.”*

It is nevertheless the case that without additional funds, some institutions have incorporated CARTA innovations from early on. After the very first supervisors workshop in 2011, a senior academic from the university of Ibadan invited the CARTA facilitator to run a similar workshop for non-CARTA supervisors there, funded by the University of Ibadan. That university also instituted students' review of teaching consequent on the inter-JAS task which included this method of evaluating CARTA fellow's teaching. Wits University used its own money to invite ESE:O (the partner that does writing training for CARTA fellows) to a Wits PhD seminar to teach academic writing; a research centre at Wits starting holding writing workshops – protected times during the week – to encourage younger staff to write up research. Similarly, at the Universities of Rwanda and Malawi, local focal persons decided to run local university FAS workshops.

4. Did CARTA's particular values, ways of working, relationships facilitate its ability to achieve its objectives and if so, how?

The “spirit of excellence and selfless giving is quite tangible and infectious in CARTA.”

Ruhweza-Katahoire et al 2020

Focal persons describe CARTA's values as core to its effectiveness. When asked, “CARTA has been running for 10 years. What do you think has allowed it to sustain and grow?”, one responded,

Passion, commitment, selflessness and robust accountability at all levels

(AFP2)

The mix of an inclusive ethos with an ethos of accountability and transparency seem to infuse much of CARTA's ways of working and in turn, to build motivation among focal persons, partners, supervisors and fellows.

4.1 COMPETENT, TRANSPARENT AND PARTICIPATORY GOVERNANCE

The form of governance embeds a shared ownership of CARTA. Focal persons believe CARTA is a well-functioning consortium ¹¹.

I think CARTA functions well because of the commitment and active participation of members of the consortium and university leadership. This commitment is partly driven by an appreciation of the value it brings to the universities and greater vision for Africa. Its success can also be attributed largely to its governance system including leadership from the Secretariat, implementation process and accountability mechanisms. Its inclusive capacity building model lends it the full support of the different constituencies of the university.

(AFP5)



ABOVE: University of Ibadan focal persons Akinyinka Omigbodun and Funke Fayehun with the university Vice Chancellor Abel Idowu Olayinka



LEFT: 3rd Vice-Chancellors Meeting at the University of Rwanda 26 April 2019

11. All survey respondents responded positively except one which marked, 'to some extent'.

4.1.1 The mix of African and non-African partners in a clearly African initiative

All partners see value both in this being an initiative driven and shaped by African institutions and experiences and in having partnerships with non-African institutions – all but one from the 'global north'. The fact that it is driven by African institutions and explicitly aims to demonstrate that African institutions can deliver to internationally recognised standards is a source of inspiration to all partners, African and non-African.

Perceptions of non-African partners are broadly covered in the following quotes,

There is a sense of belonging and ownership of the CARTA innovations. Yes, the consortium is seen as home grown, timely and relevant to present needs and the mission and vision of our university.

(AFP1)

It promotes acceptability of the CARTA innovation and ownership, which are critical for sustainability.

(AFP2)

This is good for Africa. Africans should lead and take decisions about research that can influence policy in Africa.

(AFP3)

[it] shows that African Institutions have come of age and can manage on their own without being micro-managed.

(AFP4)

...the involvement of non-African partners has enriched the consortium in diverse ways. Capacity building, resource sharing, inter-university collaborations, accessing funds, infrastructural development and technical expertise.

(AFP2)

it brings about diversity of ideas and also generates alternative approaches to problem solving.

(AFP1)

I think the fact that CARTA is first and foremost an African consortium is key. As non-African partners, we definitely have a secondary and supportive role. That is entirely appropriate.

(NAFP1)

It is the most important thing: Africa for Africa, it has a vibrant emancipatory potential. The involvement [of African and non-African partners] is passionate, it is fundamental!

(NAFP4)



One non-African focal person indicated that another, African focal person, had expressed the view that he thought his opinion would be given more weight had it come from a non-African focal person implying that northern academics' views or experience are over-valued.

Survey responses and interviews with partners suggest that the thinking behind this mix has not been revisited for many years so that when new individuals come into CARTA, the original rationales are not made explicit; nor has the rationale been revisited now that CARTA has consolidated itself as an internationally recognised intervention. Comments suggest that even within the Secretariat there may be different understandings of these roles. The following quotes deepen this potential debate,

The mix of an inclusive ethos with an ethos of accountability and transparency seem to infuse much of CARTA's ways of working



ABOVE: CARTA graduates, non-African partner early career researchers and CARTA facilitators at the 2019 Graduate Workshop which is held annually.

I think being an African initiative for Africans is a fantastic landmark and a role model – and a timely response to the traditional model of letting Africans run away to do their PhD elsewhere (and strengthen academia elsewhere!). However, there is a balancing act where CARTA could scale this leadership up to the world. A great system like CARTA should not fear the openness to the rest of the world but play their card of success, thus, foster exchange not only within CARTA but also of CARTA fellows with the rest of the world to once reach the time where PhD candidates from Europe and U.S. compete for doing a PhD in Africa – in a blossom of CARTA – rather than only in the North... From a northern partner perspective, the much more important question is whether there is or should be clarity of the proper and adequate “post-imperial” role of non-African Partners in such a consortium. The idea to have northern partners seems great. The way it’s organized, lived and governed is not clear/convincing. There seem to be a propensity toward accepting/ shaping northern partners in the traditional “not-yet-post-imperial” role of “bringing funds”, “helping” in some way or the other, getting “profit”. There is a lack of clarity and concepts about whether the role should really be beyond these traditional concepts to become at equal level like such type of partnership governance lived in (e.g. European) consortia. ... There is a gap between the roles northern partners could have and the roles they are able to fulfil due to lack of clarity what is wanted and helpful, what not, and why not. The model is still rather “providing support” than “collaboration”, thus, de facto it is a one-way-road. If it was a collaboration, there could be much bigger benefits for the CARTA fellows/graduate /and seniors indeed then it currently is. It would also create better incentives to contribute as non-African partners to CARTA. This contribution is currently based on a very slim constituency of a few people who just do it “for their personal interest”. There is very little “institutionalization” on the side of non-African partners but complete dependence on these single people.

(NAFP7)

Collaborating partners and not “supporting” partners, otherwise I don’t see a change in post-colonialist attitudes. I think for CARTA and its self-conception it is important to tackle existing and hidden fears and to come over them. Otherwise there will still be the “powerful” North in contrast to the “weaker” south. I think there should be a more open discussion regarding the role of Non-African Partners. A strong opportunity I personally see in the option to train facilitators. I would suggest a new form of training for facilitators from CARTA universities and institutions. Non-African partners would then (only) deliver knowledge and methodologies to facilitators and no longer to students. What is key is linking methods and techniques to the content and discussing this jointly with the future facilitators. It is much more about the way HOW knowledge is delivered than WHAT is delivered.

(NAFP2)

My understanding of the role of the Non-African Partners is one of capacity enhancement. We support initiatives that enable the research fellows to realize their goals as the CARTA program identifies and works to bridge gaps within institutions. We are part of the Consortium in order to share some of the advantages we have had as researchers in highly resourced institutions and to facilitate opportunities for greater global health research collaboration.I think CARTA is open to Non-African Partner participation and the only obstacles to taking full advantage reside with our institutional structures. We could be facilitating greater opportunities for collaboration and post-doctoral research for fellows if we worked with our own programs to create spaces and involved more people in the active review and mentorship opportunities. ...CARTA Leadership needs to remain with the African partners and Secretariat. Innovation can be a shared process but CARTA needs to identify where innovation is needed and invite ideas from non-African partners. We can provide ideas and share our own innovations but the imposition of “innovation” from the North has a long history of colonial assumptions about what is needed.I think there are a range of ways that Non-African partners can contribute with greater mentorship of both fellows and faculty in CARTA universities. There are emergent opportunities as CARTA moves into the next phase of its program. Things like more post-doc opportunities and research grants that co-create projects.

(NAFP6)

My understanding of the role of the Non-African Partners is one of capacity enhancement. We support initiatives that enable the research fellows to realize their goals as the CARTA program identifies and works to bridge gaps within institutions. We are part of the Consortium in order to share some of the advantages we have had as researchers in highly resourced institutions and to facilitate opportunities for greater global health research collaboration.I think CARTA is open to Non-African Partner participation and the only obstacles to taking full advantage reside with our institutional structures. We could be facilitating greater opportunities for collaboration and post-doctoral research for fellows if we worked with our own programs to create spaces and involved more people in the active review and mentorship opportunities. ...CARTA Leadership needs to remain with the African partners and Secretariat. Innovation can be a shared process but CARTA needs to identify where innovation is needed and invite ideas from non-African partners. We can provide ideas and share our own innovations but the imposition of “innovation” from the North has a long history of colonial assumptions about what is needed.I think there are a range of ways that Non-African partners can contribute with greater mentorship of both fellows and faculty in CARTA universities. There are emergent opportunities as CARTA moves into the next phase of its program. Things like more post-doc opportunities and research grants that co-create projects.

RIGHT: Cohort 7 fellow Eniola Olubukola Cadmus, University of Ibadan, participated in a World Health Organization expert group meeting on “Measurement of Violence against Older Women”, Geneva, Switzerland 2-3 April 2019



4.1.2 The board

As indicated by the CARTA policy on board membership, the commitment to a partners' participation is central.

The CARTA Board of Management will comprise seven members (three members from participating African universities, one African research institute; one Northern partner; and the co-Directors of CARTA, who will also serve as the representatives from the African Population and Health Research Center (APHRC) and the University of the Witwatersrand. The Program Manager will be an ex-officio non-voting member and Secretary to the Board. To ensure that every Consortium institution has an opportunity to actively participate in CARTA's management, members will be appointed on a rotational basis for a two-year term. The Chair of Board will be elected by simple majority from one of the three African universities serving on the Board. The Board will meet quarterly (three times per year by tele/video conference and once a year in person). The terms of the first Board will be staggered with a third leaving after 2 years, a third after 3 years, and another third after 4 years. This is to avoid a mass turnover after 2 years that could result in loss of continuity.

CARTA Governance Arrangement Policy 2015

African institutional focal persons and most non-African focal persons believe the board works well, drawing out two main reasons:

- Participatory style of leadership, openness and transparency in decision making processes and policies that are informed by bottom up evidence.
- and
- A multinational board, including non-African members, bringing in diverse expertise and perspectives.

'Democracy, transparency and horizontality. I don't have much experience to know what does not work well. Diversity is fundamental, I love how institutions interact. I like that there is a 'kind distance', and that there is an insistence on the fact that CARTA is for Africans.'

(NAFP7)

Two out of seven non-African board members felt unclear on how the board works, despite having the board policy.

4.1.3 The directors

Focal persons argue that one of CARTA's strengths is that directors come from two institutions so that power is shared. They note that these particular institutions both have "robust" research and fundraising experience. One notes that the directors' different and complementary management styles is an asset.

One thing people under appreciate is that CARTA as a structure has amazingly strong leadership – obviously very opinionated but extraordinarily flexible. It's difficult to have these two things together – being flexible while very strong – typically very strong leaders are very controlling; CARTA has this value that Sharon and Alex were very focused on the mission of improving university capacities, but very willing to let people do things as they wish with the understanding that universities are not high impact research organisations; not blessed with the amount of resources some well-funded research organisations have, but they must still be the centres of research.


(Interview 2)

THE LANCET

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Repositioning Africa in global knowledge production

Prof Sharon Fonn, PhD · Prof Laban Peter Ayiro, PhD · Prof Phillip Cotton, PhD · Prof Adam Habib, PhD · Prof Peter Mulwa Felix Mbithi, PhD · Prof Alfred Mtenje, PhD · et al. [Show all authors](#)

Published: August 30, 2018 · DOI: [https://doi.org/10.1016/S0140-6736\(18\)31068-7](https://doi.org/10.1016/S0140-6736(18)31068-7)  Check for updates

ABOVE: CARTA Co-director and eight Vice Chancellors co-author an article in the Lancet on global knowledge production

The directors are very good at leading and encouraging discussions, and taking decisions (sometimes very quickly). Although it seems to me that they always listen to the partners' views. They have a lot of relevant experience. I can't judge the impact of the two different cultures. But having two strong women leading CARTA is very inspiring, since it has been rare seeing women in these positions.

(NAFP3)



ABOVE: A session in JAS 2 (2019) for Cohort 9 fellows

4.1.4 The Partners Forum

At the heart of the governance is the Partners Forum where partners meet annually and make key policy decisions together. Arguably this renders the board more responsible for ratification than for strategic direction, which suggests an appropriate form of governance for a consortium. Focal persons express satisfaction with the system:

...the structure is participatory and encourages a bottom up approach in decision making for instance the recruitment of fellows, grant awards and transparency in other critical decisions.

(AFP2)

The PAF and other decision-making structures: transparent and efficient in implementation of decisions.

(AFP3)

It is consultative, fair and transparent and promotes participation and ownership by partners.

(AFP5)

These have stood the test of time and they provide an opportunity for the members to gel. Most decisions are therefore made collaboratively.

(AFP8)

4.1.5 The Secretariat

Focal persons note that CARTA benefits from locating its Secretariat in APRHC,

The consortium has benefited from locating CARTA Secretariat in a well-known centre of excellence in research and grant making in Africa.

(AFP3)

even while they emphasise that it is clear and should remain clear that CARTA is not APHRC, but is only hosted by APHRC. One noted that the existence of clear procedures for decision-making and clear roles have been key to its effectiveness. A few noted that after some challenges, particularly in timely planning and communications with partners, systems are improving. *I think that you need to have strong skills in project management and communication to be able to keep all partners and activities working their best. Knowledge management and an overall program overview/plans have been missing to some extent. It seems it is constantly improving.*

The absence of effective knowledge management systems until the last two years has been a major barrier to the research projects that were undertaken for this evaluation. Basic information such as lists of past facilitators, have not been available at the click of a button. This issue was identified as a key problem by the 2015 evaluation and is now being actively addressed by the Secretariat, including through their own use of REDCap, although it may be that the degree and nature of the continuing problem only became clear during this evaluation process.

4.2 PARTICIPATION IN SELECTION AND TRANSPARENCY IN RECRUITMENT PROCESS

CARTA follows a clear and rigorous process of fellow's selection, developed and agreed upon by all partners when CARTA was developing its initial proposal. In year one every African institutional partner was guaranteed at least one place – the person scoring highest from each institution – but thereafter it was strictly on merit. Applications are assessed by reviewers in three institutions (other than the applicant's own institution) with a set of criteria and a scoring system and detailed guidelines as to what to do when there are discrepancies in reviewer's scores. Applicants have to receive above a set score in order to qualify for consideration. While the top 25 scoring fellows are the preferred candidates, where a university has more than 4 candidates in the top 25, the extra candidates will create room for other partner institutions to compete for the positions. The next qualified candidate will be considered in the second round of selection to fill up available positions. Institutions are required to submit applicants with a 60women:40men balance. The final selection is done at a joint meeting of the Partners Forum and the board of management.

Acceptance into the programme requires a due diligence assessment in relation to the fellow's position within and the support of their head of department, and their own acceptance of the set of conditions CARTA sets for performance at each stage of the fellowship.

Partners ascribe this level of participation and abiding to a collectively-developed policy as part of what allows the consortium to hold together, despite competition for space and the reality that at times partners may have preferred for more of 'their' staff to be selected.

Said one focal person, "the decision-making process was very clever to have the board of management and the PAF – which provides the platform for the different universities to feel and to contribute to major decision-making. The first two selections were a make or break period – we could have killed each other when people thought there was unfairness, because the rules had not been set. Now people know what needs to be done and you see it right in front of you – how come your university has one or two fellows – the system and rules are set."

(Interview 1)

4.3 GENDER EQUITY

CARTA has a policy for gender balance in recruitment (cited in box on right) and has consistently recruited more women (56% in total). It has in place some additional policies to address 'women's practical needs' (Khisra et al 2019), recognising that childbearing affects men and women differently; in particular, how candidates are able to combine childbearing with pursuing advanced degrees. CARTA therefore applies a differential maximum age cut-off for women (45 years old) and men (40 years old) applicants to its PhD fellowships. Apart from this differentiation, men and women applicants are assessed purely on merit.

CARTA Policy: Assessment process – Gender balance
CARTA PAF and nominating Partners-Institutions will ensure a 60-40 gender distribution in fellow selection processes at all times. Where a Partner-Institution fails to observe the recommended gender distribution an explanation must be provided.
From Policy: CARTA Doctoral Fellowships Selection Process

“The first CARTA fellow to use this childcare provision in 2011 brought her husband as the care-giver for the entire four-week JAS. Every four hours he would arrive at the training venue with their 4-month-old baby who was passed along the row to her mother to breastfeed. The husband noted this was a unique opportunity to actively parent as a man, something he would not have done were it not for CARTA’s approach and would not have done had he been at home with his wife and child. It demonstrated a subversion of gender norms for all participants. This happened again in 2019 with the father expressing similar sentiments. However, in general, most fellows brought either a formally employed child minder, sister, or mother with them.”

(Khisa et al 2019)

CARTA grants fellows who request it, a leave of absence during their maternity leave, and restarts their award on their return, an option only utilised by one fellow, from Cohort 4.

To ensure breastfeeding women participants are able to fully participate in the JASes, CARTA covers the costs of their baby and child minder’s attendance. Twenty women have taken advantage of the CARTA’s childcare support opportunity so far, with three women using the facility two times during their PhD fellowship. In an external evaluation of CARTA (Christoplos et al), women fellows expressed appreciation of the CARTA opportunity precisely because it enabled them to do a PhD without having to leave their families to study outside of the continent.

A mix of CARTA leadership (staff and focal persons) point out that CARTA has gone beyond addressing practical needs by modelling women’s leadership, “We recognise the need to address women’s strategic needs; the CARTA program has done this in the way it models leadership, challenges gratuitous hierarchy and in its attempt to influence university systems.” (Khisa et al 2019) and by including in JAS content attention to *“the importance of gender equality in socioeconomic development and to challenge traditional norms and values that support or sustain gender inequality, including how these are manifested in higher education systems in Africa.”* (ibid)

That CARTA models powerful and effective leadership by women was mentioned by many African and non-African focal persons as a major asset.



LEFT: In-depth coverage of how CARTA promotes gender inclusion in its efforts to build a vibrant multidisciplinary African Academy able to lead world-class research

“To have women power in CARTA is great and much appreciated – and a well-needed contrast to the male-only academic structures we still see too often, not only in Africa. I’d say it is one of the major assets of the CARTA-success indeed.”

(NAFP7)

Nevertheless, men have a higher publication rate (see relevant sections above), even though more women raise funds. Given the higher proportion of women recruited on merit, all things being equal this differential should not exist, which suggests that broader patriarchal inequities are at play. CARTA’s interventions do not of course address the broader institutional challenges women face. In the words of the authors of the paper on CARTA and gender, “We also note that even if our fellows have been afforded a more gender sensitive learning environment, they may still be limited in their progress if they return to a less gender sensitive institution.However, strategic change is a long-term endeavour that requires a range of strategic alliances using multiple methods.” (Khisa et al 2019)

The gender mix of the Secretariat is not driven by policy but by merit but has always included men and women.

The focal persons currently comprise 5 women and 15 men. This is likely because of gender dynamics in the partner institutions, since focal persons are nominated by the institutional Vice Chancellor. This is mirrored by only 30% of women being supervisors. This begs questions about whether there needs to be a more explicit focus on gender in recruiting for these roles.

4.3.1 On 'race'

African focal persons were somewhat bemused by the survey question asking if 'race' of individuals or groups influences focal persons or others' perceptions of CARTA. The question did not resonate at all, which is indicative of this being a non-issue for them. Non-African focal persons similarly indicated they do not experience 'race' as an issue,

Obviously CARTA is meant to strengthen research and scholarship in Africa – which is of course mostly black. But as a white person I have never felt resentment from Africans about our involvement. To the contrary, it seems welcomed.

(NAFP1)

4.4 TEACHING STYLE

As noted above, in how CARTA influenced fellows' teaching, CARTA demonstrates an adult education pedagogy that recognises different types of knowledge, in particular that of the fellows, and that uses participatory methods to elicit and share this, including substantial time in groups with fellows doing their own problem-solving. Representatives of one of the non-African partners in Europe articulated how CARTA gave them the opportunity to participate in the development of "a new research training model, not only in Africa but in general including in our own university", such that when they can find the resources, they try to send their own students to JASes because of the quality of learning and the opportunity to network outside of Europe. They note that CARTA is at the forefront of research training globally. Thus far, five fellows from non-African partners have each attended a JAS, nine have attended a Graduate Workshop.

In addition, in the JAS space all facilitators are equal, and everyone in the room is respected. *"We encourage a junior lecturer to debate a professor, promoting the exchange of perspectives consistent with multidisciplinary doctoral training."* (Fonn et al 2016) This approach is a significant shift from what many fellows have experienced as normative – the requirement to accept that what the teacher says is correct and that questioning teachers is unacceptable. For many in CARTA, the tone set in which ideas are valued over hierarchy, and debate is encouraged, is unusual and attractive

I enjoy the quality of discussion by fellows and participants at meetings. I enjoy the objective mad intellectual approach to issues. I value the experience of being involved with an academic organization.

(AFP7)

an elderly professor at U Nairobi discussed with me, what are the good attributes of a research student and I said, 'I love it when they question me and say that I am stupid' and he rose up and said, 'you cannot say that you're a professor, you're destroying our status in Africa if you say such a thing'.

(Interview 5)



Fellows attended the 36th European Course in Tropical Epidemiology (ECTE) 2018 at the University of Gottenburg, Sweden August – September, 2018: Anne Khisa (Cohort 3), Anne Maina and Angella Musewa (Cohort 8), Kellen Karimi and Justus Musasiah, Olusola Olawoye (Cohort 7), Tutu Mzee (Cohort 6) Bo Eriksson (fourth from left), a long standing non-African partner facilitator who passed away in 2019

36 4.6 WILLINGNESS TO SERVE AS VOLUNTEERS

CARTA partners and focal persons exhibit tremendous commitment to its vision and values which manifests in many of them contributing significant time and energy. Asked what motivates them to participate in CARTA, focal persons responded,

Its vision of empowering African academics.

(AFP5)

To make a difference, take up new challenges and selfless service.

(AFP1)

I participate because I love learning and teaching and am passionate about social justice. It has given me a possibility to make this become a tangible part of my life.

(NAFP2)

Asked what explains how CARTA has sustained itself, a focal person said,

Support from partners and stakeholders.

(AFP7)

Some describe the sense that CARTA is charting new territory,

The motivation for me is that it seems CARTA is making an impact and actually changing some things to the better in research training and capacity. I want to spend my time and energy on something which is doing exactly that. There are many inspiring people involved in CARTA and talking to them and listening to them motivates me to make an effort and to try to make progress.

(NAFP1)

A 2014 study counted the amount of time contributed by the various partners to all of CARTA’s component activities and found that African institutions accounted 82.9% of the in-kind human resource contribution and 91.6% of total in-kind contribution (including time of academics and administrators, facilities, and institutional supports [infrastructure, electricity, facilities] are taken into account). Grants to CARTA do not provide the ‘overhead’ to the host institutions that grants to universities usually cover. In all, this constitutes an amount equivalent to 20% of total annual donor contributions to CARTA. (Fonn et al 2020)

The belief in CARTA’s purpose and values is core to the voluntary commitment given it. One key voluntary resource is proposal reviewers (Appendix x). They undertake reviews of fellows’ concept notes during JAS 1 and inter-JAS assignments and of graduates’ research proposals written during graduate workshops (run for recent CARTA graduates) as well as CARTA postdoctoral grants and visiting research fellowships applications. 182 volunteers reviewed proposals in the period Sept 2016 – March 2019. A survey to the 27 reviewers who had done three or more reviews for CARTA received 16 responses (60% response rate). They indicated from multiple choice options why they choose to play this voluntary role (See Figure below), and eleven described their rationales for playing this critical voluntary role for CARTA.

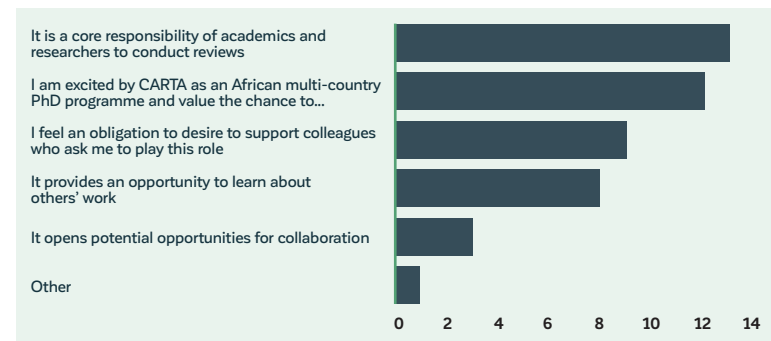


Figure 9: I have repeatedly done reviews for CARTA because... (please choose all responses that closely represent your motivations) No respondents chose the options of “it builds my academic/ research experience” or “it strengthens my CV”.

All comments exemplify that their support is driven by values shared with CARTA

- to voluntarism,

I view my voluntary contributions to CARTA as an opportunity to support the evolution of African engagement, independence, and expertise in research - in my case health research. It is also an expression of solidarity with our African colleagues. (PR1)

- to supporting a next generation of African researchers,

I review because I believe in CARTA and in the students I meet when teaching. I want them to do well. I got involved in CARTA because I was already working in Africa and saw how great the need was for stronger academic communities and for African researchers to solve Africa's problems. We Northerners can only share our expertise we can't solve the problems. (PR13)

- to supporting the development of African research institutions,

CARTA is such an exciting idea and one I very much believe in as a British-born woman of African descent whose father and Grandfather both left Nigeria for higher education in the UK (and my father never left). My cousins whose parents are still in Nigeria are now leaving for the US for higher education. Strengthening African universities so that the education on offer and the reputation is strong enough that people instead leave the UK and US to study at the cutting edge of their field in Africa would be an amazing thing. (PR16)

There are some who started for one reason but became infused with the CARTA buzz, however hard it is to describe,

I started to be involved in doing the reviews mainly because of feeling obliged to support colleagues/collaborators, given that I am working in a research Centre focusing on global health. However, I have to say that once I was taking part, I was really impressed, and inspired, by how well the process is organised with the developmental needs of the trainees at its heart.

(PR2)

Voluntarism, however, has its limits, and may be one of the challenges facing CARTA going forward, particularly in its partnerships with non-African institutions, where individual motivation and availability seems to be the key determinant of the degree of time people can and do put into CARTA activities. It begs questions regarding the conceptualisation of the non-African partnerships and whether, even while commitment and motivation need to remain the central driving force of partners, the rationale for northern partners' involvement, as institutions, and the value it adds to them, needs further reflection. This is particularly so as many northern partners find their budgets shrinking, and their sources of funding – particularly from governments – no longer being driven by the social democratic values and commitments to global equity that have driven them previously. It is also relevant as CARTA builds partnerships with non-Northern institutions on other continents that may be even more cash-strapped.

Being a focal person is something that comes (at least in a US context) with the freedom/seniority of tenure. It is something I do on top of my other duties because I believe in it, but I don't really get anything out of it from my university. The institution likes that we have the partnership, but the rewards are not tangible in terms of one's career. Perhaps that is not a bad thing because it means that those who do it truly committed for political-moral reasons.

(NAFP1)

I believe the process is invaluable to capacity enhancement and building a cohort of excellent researchers in Africa. There are opportunities to participate in a global community of practice around public health research. Publishing would be of interest but most of my colleagues in the consortium are senior faculty who do not need to add this to their CVs. They participate as volunteers out of commitment to teaching in a global community. It is always informative to teach or facilitate in a cross-cultural context. Learning and enriching experience are certainly motivators.

(NAFP5)

4.7 SUSTAINING THE WORK THROUGH CARTA FELLOWS' AND GRADUATES' VALUES

Ruhweza-Katahoire et al (2020) note that graduates and fellows reported a change in their own identities and level of confidence as scholars. This was linked to a sense of personal growth and development fostered through the CARTA program.

CARTA really changed my outlook to life. I feel I can make a unique contribution to humanity through research

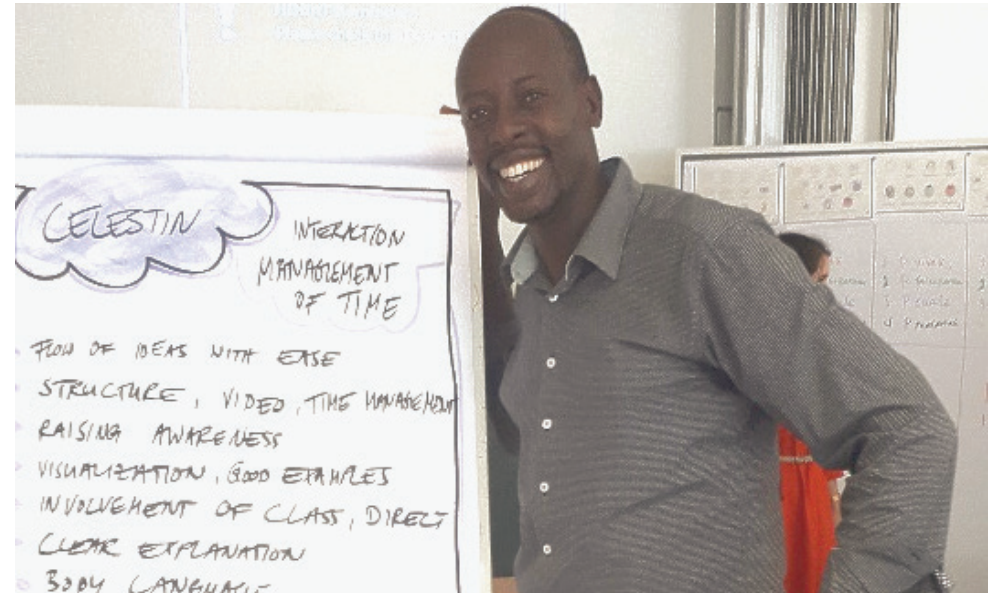
The CARTA experience was life-changing for me. CARTA inculcated in me the notion that I had been called to be a researcher – a world-class one at that.

(Ruhweza-Katahoire et. al. 2020)

One fellow described the values CARTA demonstrates as 'academic citizenship' –

CARTA philosophy has greatly influenced the commitment I have to my research career as well teaching responsibilities. I now feel like I belong and that I have responsibilities and tasks to achieve as an academic citizen by contributing high quality evidence derived from high integrity research and commitment to train others along the same way.

(Ruhweza-Katahoire et. al. 2020)



ABOVE, TOP: Our Cohort 7 fellow, Celestin Banamwana from Makerere University attended the Summer School on enhancing Learning and Teaching in Public Health at Heidelberg University, Germany from September 1-4

ABOVE: Interdisciplinary group work exploring the social determinants of health during JAS 1

RIGHT: "I got a chance to peep into the world of innovative world-class glaucoma research in Italy" says CARTA please supply name, Cohort 7 fellow, University of Ibadan who was invited and sponsored to attend the Glaucoma research Society (GRS) meeting in Parma, Italy from August 29 to September 1, 2018



D. Issues to consider for CARTA's next 10 years

Constraints to CARTA's ability to work well in support of its objectives

The perspectives of partners and volunteers of various kinds elicited for this evaluation, regarding CARTA's ways of working and effectiveness in doing so, have been overwhelmingly positive. However, here and there they have named challenges, or I have observed them.

LEVEL OF ORGANISATION OF THE SECRETARIAT

A number of those interviewed noted that if asked a question, members of the Secretariat are very quick to respond, but that there is not a culture of clear and timeous advance communication, for example about planning and dates, that would allow forward-planning and advance recruitment of facilitators and others. There is high regard for the skills and interpersonal effectiveness of the new staff in the Secretariat and hopes that this dynamic will change.

DOCUMENTING AND SENSE-MAKING OF ITS OUTCOMES AND ITS ROLE IN INFLUENCING THEM

CARTA's sense of if and how well it is achieving its goals appears to be based mostly on insights the co-directors, facilitators, Secretariat and focal persons pick up along the way. On one level this is fine because they do have observable milestones which are either met or not met. There is no fuzziness about criteria on which fellows are allowed to continue; and the adjudication of fellows PhDs is subject to external review. The Secretariat is also seen to respond when staff see problems. Said one focal person regarding what has sustained CARTA,

The results obtained and the capacity to adapt to changes and overcome challenges. The willingness to rework all the aspects considered weak

(AFP7)

There is high regard for the skills and interpersonal effectiveness of the new staff in the Secretariat

With the introduction of REDCap, CARTA is also now better positioned to record fellows' achievements (awards, promotions, publications) systematically. It does not, however, routinely analyse these to feed into its discussions (as staff, board or Partners Forums) on if and how well it is achieving its objectives in relation to fostering fellows' research careers. It has not ensured staff capacities to generate and analyse the data it has (or has not managed staff to ensure that they do this systematically), which is remarkable for a research institution. Leadership and senior staff have become aware of this gap during this evaluation exercise.

Similarly, CARTA does not have a systematic way of documenting if and how well it is achieving its objective of strengthening university research capacity. Partners receiving institutionalisation grants are required to report, and even prior to these, partners do report at the annual Partner Forums. Perhaps this is enough for internal purposes – these provide the moments where directors, staff or partners generate ideas about in what ways CARTA to provide further support particularly since it has begun offering institutionalisation grants. What it does not allow is the keeping of an accurate internal record that would allow it to answer questions and learn about the 'how' of institutionalisation – what actions have influenced what outcomes over time in what university context?; why has one university institutionalised CARTA innovations only in the Departments where CARTA people are based, and another across the entire institution? As a result, CARTA cannot share lessons in this regard from any formal evidence base. While its directors and focal persons could share their personal assessments in this regard, this lack of institutional memory makes it vulnerable to shifts in leadership, and makes it less able to share lessons with the field.

LACK OF FORMALISATION OF THE MEANING AND REQUIREMENTS OF CARTA WITH NON-AFRICAN PARTNERS

In both surveys and interviews, some non-African focal persons noted that while original relationships were built through the process of collectively imagining and then implementing CARTA, as personnel change, or as leaders of their institutions change, more work needs to be done to formalise relationships so that everyone is in agreement about expectations.

For instance, at our university the VC has officially signed up everything about CARTA; but my Head of Department questioned me being away a lot – in my organisation we don't count hours but I had to motivate and explain what it is – now with new people there have to be clear documents – 'this is what's in it for our university, this is the goal etc.

(Interview 6)

LACK OF FEEDBACK LOOPS

Two peer reviewers expressed concern at the lack of feedback as to if and how fellows had taken up the suggestions made by the peer reviewers; with one noting that few comments were indeed addressed, which was demotivating.

Similarly, in my survey of non-African focal persons, it became clear that some fully understand CARTA's governance, but some do not, for example, said one in relation to the brief of the board, its role, policy on its composition etc., *"like in many other areas, I wish to receive more information"* (NAFP2)

THE IMPACT OF CARTA ON FELLOWS' PRACTICE AND CAREERS

The available evidence suggests that CARTA has been exceptionally successful in its PhD programme, retaining fellows and enabling them to complete their degrees timeously. The mix of skills it has enabled fellows to build, as evidenced both by their publications and by institutional recognition of their teaching and research skills has positioned fellows well in their careers. The connections it has fostered both for fellows within their own institutions, and with other institutions in Africa and internationally, appear to be providing critical resources fellows are leveraging.

IMPACT OF FELLOWS' RESEARCH ON PUBLIC HEALTH

Despite that 70% of fellows' publications pertained to the Sustainable Development Goals, we have little information about actual knowledge translation and use of fellows' research to influence public health narratives, policy or practice. This is an issue that would benefit from a research project with findings in turn influencing proposal development and the training of fellows in how to build in opportunities for influence from the start of their research processes – the current 'knowledge translation' module is only in JAS4. Alternatively, this intention of research use – currently articulated only implicitly in the framing, *"conduct research on critical areas around public and population health in the region,"* (cartafrica.org) – should be removed from CARTA's description. CARTA may want to consider initiating research to find out if and how fellows and graduates' research has influenced narratives, policy or practice. This could also explore whether graduates had shifted their areas of study and their engagement with the influencing of public health narratives, policy or practice in their post-PhD careers.

As part of this evaluation, CARTA asked the online source [The Conversation](#) – by line 'academic rigour, journalist flair' – to analyse what of their coverage was by CARTA people who indicated they had carried 35 articles.

Table 8: Articles published by CARTA academics in The Conversation and their reach. Analysis provided by The Conversations

	No. of articles	No. of reads
Program manager	2	32984
Fellow	9	27076
Focal person	9	90406
Co-director	15	111996
Total	35	262462

The screenshot shows the homepage of 'THE CONVERSATION', which describes itself as 'Academic rigour, journalistic flair'. A search bar is visible in the top right corner. Below the navigation menu, which includes categories like COVID-19, Arts + Culture, Business + Economy, Education, Environment + Energy, Health + Medicine, Politics, and Science + Tech, the main headline reads: 'How Africa's largest city is failing its older people'. The date and time of the article are listed as 'August 28, 2018 3.45pm SAST'.

ADVANCEMENT OF GRADUATE TRAINING IN PARTNER INSTITUTIONS

There is ample evidence that aspects of CARTA's innovations are being incorporated in the graduate programming and systems of African partner universities. This is happening at different rates and in different ways in each institution which seems to relate to the quality of effort and leadership of focal persons as well as their location (or seniority) within their institutions. Funding also seems to be a significant factor.

While CARTA's institutionalisation grants can enable the process of decision-making to institutionalise specific CARTA innovations, it does not enable institutions to create the kinds of infrastructure needed to really deepen these. For example, CARTA's emphasis on adult education pedagogy, to be institutionalised beyond application by fellows who learnt it through CARTA, would mean setting up centres for teaching and learning to strengthen faculty capacity for using more innovative teaching methods, for welcoming and enabling multi-disciplinary approaches and so on. If and how CARTA can provide or catalyse partner institutions' access to funding for these kinds of interventions needs further consideration.

Aside from fellows' self-reports, there is not data on which fellows are using innovative research methods or innovative teaching practices, influenced by their CARTA experience, and such information would be hard to garner systematically. CARTA may want to gain some deeper insights into this, for example having this as a topic of its 'research conference' and inviting fellows or graduates to submit papers or to offer demonstration sessions in this regard.

HOW DO CARTA'S VALUES, WAYS OF WORKING AND RELATIONSHIPS INFLUENCE ITS EFFECTIVENESS?

A major finding of this evaluation is that CARTA's values and ways of working are key to its success. Particular dimensions of this include

- holding fellows accountable for achieving non-negotiable milestones as a means of ensuring excellence in the quality of the PhDs while providing critical inputs and supports to enable them to succeed
- building relationships of trust over time, collectively negotiating and then implementing policies that make transparent the bases on which institutions and fellows participate in the consortium and ensure accountability
- the mix of formal policy and highly intentional leadership with the space for each institution to participate as much as it is able and to incorporate approaches and methods in ways that work for its own context
- the explicit commitment – associated with public health – to equity demonstrated not only in the content of training on public health, but in the approach to teaching, the adult education methods that enable everyone to learn with and from each other, and the deliberate efforts to foster gender equity and ensure that patriarchal norms do not

undermine women's ability to succeed in the programme

- maintaining an explicit commitment to the leadership of the African institutions in CARTA in a global context that continues to undermine this possibility.

Questions to consider going forward

CARTA's effectiveness has resulted from the vision and type of leadership provided by its co-directors, the individuals who entered into the Consortium from both African and non-African partner institutions, and the highly skilled staff.

Now that CARTA has achieved proof of concept, as it were, it may be time to revisit how African institutions that have been running key CARTA interventions (such as JASes) for some time understand CARTA and their responsibilities for this. Can the lessons learnt thus far on institutionalisation be leveraged? Is there a need to further formalise these roles so that they are not tied to specific individuals who may move on, or to formalise the process of inducting new people into leadership roles in each institution?

In relation to non-African partners, there is a myriad of assumptions some that were explicit and some implicit in the conceptualisation of CARTA, that have continued over time without being discussed substantively to ensure that new representatives of partner institutions understand both the analysis of the global context which influenced these assumptions and to assess their continuing relevance. They need revisiting as the actual individuals involved change. Is this about committed individuals, or about institutions? What does the shifting context of academia even in the Global North, in terms of public funding, publishing in 'internationally recognised' journals given the shift to open source, mean for CARTA's continuation of or establishing new partnerships? Do African and non-African partners have a full understanding of the institutional dynamics each face (and the diversity within these) that in turn influences their ability to support CARTA? This evaluation suggests that while early members of the Consortium are of one mind, as members change, and as new staff are brought on board, there is no longer a single analysis of the dynamics of global inequity, nor a shared vision. Cohesion is maintained through the strong leadership and commitment of original leaders and of leaders who have grown within CARTA, for example having originally been fellows. To some extent these issues all fall within a broader question of how to understand how the continuing growth of economic inequities between north (arguably also 'east' – China, South Korea etc.) and south and the hegemony of western culture impact on initiatives like CARTA and what forms of partnership are appropriate for what purpose in relation to these.

The questions raised here should not, however, be considered out of context. One non-African partner notes that at his university, *“there is actually a competition among the teachers to be part of the CARTA faculty. I hope this means that when I and others of the original team here retire, [the university] will continue to be part of the CARTA initiative. This illustrates that CARTA has established a name as something worth learning from.”*

There are, nevertheless, also the challenges of retirement. As key initiators of CARTA move on, CARTA will have to rely less on the deep trust and shared values embedded in personal relationships that characterise the initiative’s ability to reflect and make decisions collectively – some jokingly refer to it as a ‘club’¹²; but underlying this is the real challenge of sustaining an initiative that so closely reflects the values and expertise of the initiators. Does the model need any adaptation? What can be done without additional funding? Does the building up of a ‘next generation’ of leadership, which is happening implicitly through inclusion of past fellows as focal persons, and bringing in of new highly skilled people onto the Secretariat, need to be done more intentionally, naming the skills and networks that need passing on and planning accordingly? Does there need to be much more attention to orientation of individuals from partner institutions and even from the Secretariat as they join – to the formal policies, and to the informal assumptions and values?

CARTA has in some ways set itself up to succeed within prevailing normative assumptions about what constitutes internationally recognised knowledge and about where such knowledge resides. Its fellows compete for recognition as international scholars within a system that continues to recognise journals from the global north as ‘international’, and those from the global south as ‘national’ and of lesser value. They operate in a context where the vast majority of research funds still come from the global north. Hence producing scholars and scholarship that can compete in this unequal system has been a significant achievement. CARTA has not invested substantially in making explicit what about its ways of working really challenge prevailing assumptions in the academy. For example, it has not invested substantially in documenting and building evidence around the role and effectiveness of its unusual approaches to pedagogy, nor about how it undercuts normative hierarchies in the programme. Should it do so? Should CARTA leverage its experience, surfacing the relationships between its approaches and the call for decolonisation of knowledge and of universities?

12. Despite the sense that those who have long been in the initiative have deep personal relationships, a new focal person emphasized how included she felt at her first CARTA meeting, saying “Everybody is really easy to approach; they come to you and introduce themselves and it’s just makes you feel part of the team” (Interview 4)

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