CARTA (Consortium for Advanced Research Training in Africa)

One year on …

MATT BASSFORD, JANICE S. PEDERSEN AND SONJA MARJANOVIC

RAND EUROPE

Summary

Report purpose and structure

This report is an annual deliverable for the Wellcome Trust and the Consortium for Advanced Research Training in Africa (CARTA), and is produced by the Evaluation and Learning (E&L) team of the African Institutions initiative. The E&L team's role is to capture the evolution and progress of consortia funded under the initiative, and, over time, to draw out lessons about its African-led and networked capacity building model.[1]

The core purpose of this report is to provide a review of CARTA's activities during the first year of the programme (1 August 2009 until 31 July 2010) against the consortium's plans for the period. Annual reports such as this one will feed into the final evaluation of each consortium and of the African Institutions initiative as a whole. It is also anticipated that our interaction with the consortia will enable learning that can assist the consortium to effectively implement their capacity building activities.

Original timelines for the delivery of year one reports had to be postponed, as the input data could not be provided by consortia according to original E&L project schedules, given other priorities at early 'incubation' stages. Delivery dates for future annual reports aim to be more closely synchronised with the annual operating periods of a consortium.

Chapter One summarises the CARTA vision and key milestones for the first year of activity. This provides background and context for interpreting year one performance information.[2] This chapter also situates the role of the annual reports within the wider evaluation and learning project design, and makes explicit the caveats. In *Chapter Two* we discuss the evolution and performance of CARTA against their milestones. Finally, *Chapter Three* concludes with a reflection on key aspects of CARTA's evolution in year one and the associated enablers, challenges and their implications. We also share some of the wider learning that is emerging from E&L team engagements with the various consortia in the African Institutions initiative.

The information presented in the report draws on a combination of evidence from formal reporting documents provided by CARTA to the E&L team, and less formal discussions between the two parties (through meetings, telephone calls, and email). It is important to note that the evidence presented in this report comes from interested parties - consortia representatives and the source documentation they produced – and a detailed audit of the information is outside the scope of this project.

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[1] As part of the African Institutions initiative, the Wellcome Trust is funding seven consortia, each involving partnerships between universities and research institutes. The concept of collaboration is at the centre of the initiative. The assumption is that a consortia model will enable partners to make the most of limited resources and to share skills and experiences. More details on the key features of the African Institutions Initiative report is available in the inception reports produced for each consortium.

[2] More detail on the intervention logic that underpins the CARTA programme is provided in the CARTA inception report, Bassford et al (2011) Consortium Report: CARTA (Consortium for Advanced Research Training in Africa), Santa Monica, CA: RAND, PM(L)-3697-WT.

Key consortium developments in year one

A description and interpretation of CARTA's evolution and performance in year one is presented in the body of the report. Some major developments include:

1. The finalisation of selection criteria for cohort one of the CARTA fellows was completed at all relevant levels in the consortium in line with relative plans. These criteria were to be in place in advance of the call for applications for fellowships. Institutions developed institution-specific criteria for selecting candidates from the pool of applicants. The selected candidates would be put forward for fellowships. The Board of Management established overarching criteria for the ultimate selection of the 25 CARTA fellows in the cohort.

2. The curriculum for the Joint Advanced Seminars (JAS) was developed at multiple levels in order to be in place for the commencement of JAS 1 (set to take place in March 2011, year two). The overarching elements of the curriculum for JAS 1-4 were developed.

3. CARTA's dissemination plans remained largely unchanged from those outlined in the proposal to the Wellcome Trust for the African Institutions initiative and their implementation was begun. A collaborative, peer reviewed article was produced, explaining the rationale behind the CARTA model and its plans for the future as one way of reaching additional potential stakeholders, a major dissemination goal. In addition, launches were held at most of the partner institutions at which they had been planned, generally meeting aims for relatively early engagement with as many key stakeholders as possible.

4. The CARTA intervention logic rests on the enrolment of 25 CARTA fellows per year, but this depends on the availability of a steady funding stream, so there was a focus on year one on attracting additional sources of funding and on engaging funders in a better way. Support from 3 additional sources to CARTA was achieved in year one and plans were laid for a Funders' Forum.

5. A prototype of the CARTA website was developed in year one in order for a finalised version to be ready for launch at the time of calls for applications for the CARTA fellowship (in year two). The website was developed as a central and essential tool in CARTA, to be used to achieve the aims of fostering collaboration and exchange between CARTA fellows at different institutions, and to provide information about CARTA for both those involved in the consortium and for external stakeholders.

6. The strengthening of physical and ICT infrastructure in CARTA is seen as the main responsibility of the partner institutions, with support from CARTA in the form of seed money for projects identified by partners through their own needs assessments. Progress was made by partner institutions in year one to identify their needs. CARTA then identified strategic investments of seed money in addition to certain investments (e.g. in software for CARTA fellows) that were uniform across the partner institutions.

7. Changes in the governance structure were particularly significant and were made in order to increase the participation and equality of the CARTA partners in line with the consortium's intervention logic.

8. Almost all designated administrative and support staff had been recruited as compared to the plan. Their recruitment was a priority and was broadly in line

with other developments in the consortium so the delay did not have a detrimental effect overall.

The evidence from year one suggests that, overall, the consortium is broadly on track; with a focus so far on programme initiation. The majority of progress so far has been in laying the foundations for implementing the consortium's core capacity building interventions in the future, for example:

- Training programmes (in core research skills through the Joint Advanced Seminars (JAS) and in research management and governance)
- PhD research fellowships
- Strengthening collaboration between institutions and networking between CARTA fellows as well as with wider institutional authorities,

Not all year one milestones have been fully met – for example the programme was not launched at all of the African partner universities at which launches had been planned[3]; and not all staff positions were filled. However, in the context of the overall intervention logic of the programme, these delays are minor and are not expected to have a significant impact.

On the basis of the evidence we have seen and the interactions we have had, the foundations that were laid in year one are sound, and it appears that good progress has been made in terms of programme planning and establishing management structures. The outcome of this planning is expected to become tangible over the remainder of the programme, and to already become evident in year two.

In addition, developing and cementing relationships between the institutions and between members of the leadership team was important, both in terms of formal mechanisms (such as MoUs) and in terms of personal relationships between key figures. There were also activities at the institutional level in terms of needs assessments and selection criteria for PhD fellows.

Reflection on overall progress, enablers and challenges

CARTA's activities have progressed broadly according to milestones, and the consortium has a good appreciation of the main risks to programme delivery. Some of the factors which seem to have enabled progress include: strong, respected and committed leadership; a structured programme plan and implementation roadmap; the capability to attract additional funding for the programme; and a clear focus on delivering change through well-articulated intervention logic. The E&L team has not identified any major concerns about CARTA's evolution in year one.

The consortium has an ambitious vision and a diverse range of partners and stakeholders. Challenges along the way are inevitable. Some challenges which represent areas for attention include: (i) maintaining cohesion and collaboration across a broad consortium;

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[3] Launches were planned for all eight of the African universities on the application to the Wellcome Trust for the African Institutions initiative. Because Obafemi Awolowo University joined the consortium later, a launch was not planned there.

(ii) a potential over-reliance on key individuals and institutions; and (iii) a broad thematic focus which may diffuse the impact of the programme. Ensuring the CARTA programme reflects participation from partner institutions and is building capacity across the network, while driving the programme forward to meet the milestones on the roadmap may present a particular challenge.

We hope that this annual evaluation report of year one activities in CARTA will provide a helpful resource to the consortium and Wellcome Trust as they continue to work together in the African Institutions initiative. For more information about this document, please contact:

For more information about this document, please contact:

Dr Sonja Marjanovic   or   Dr Matt Bassford
RAND Europe   RAND Europe
Westbrook Centre, Milton Road   Westbrook Centre, Milton Road
Cambridge, CB4 1YG   Cambridge, CB4 1YG
Office: +44 1223 273 880   Office: +44 1223 222 708
Fax: +44 1223 358 845   Fax: +44 1223 358 845
smarjano@rand.org   bassford@rand.org

Contents

CHAPTER 1   Introduction

1.1   **This report provides the first evaluation of the CARTA programme and identifies emerging lessons for the African Institutions Initiative**

The evaluation and learning project has three core objectives: (i) to evaluate the performance of each consortium in the African Institutions initiative and ultimately the initiative as a whole; (ii) to extract lessons about this research capacity building approach and share insights with multiple stakeholders; and (iii) to help support collaboration, learning and experience sharing between consortia.

This report discusses the activities and performance of the Consortium for Advanced Research Training in Africa (CARTA) in the first year of consortium activity; covering the period 1 August 2009 to 31 July 2010. The report is an interim deliverable of the evaluation and learning project and has been prepared for the Wellcome Trust and CARTA. Annual reports such as this one enable consortium progress to be captured and reflected on during the life of the initiative (rather than ex-post). This in turn facilitates not only accountability, but can enable learning and responsiveness in real-time. Insights from the interim evaluations will hopefully also assist CARTA in its ongoing planning and management activities, by providing information which can inform any potential adaptations and modifications in action plans.

Our original intention was to produce a report on year one activities somewhat earlier. However, we needed to be flexible and revise timelines for receipt of requisite information from consortia. Some of the consortia spent significant amounts of time in the first year refining their operational plans and incubating relationships between partners. This meant that evaluation schedules for the first phase of the project had to be revisited, as consortia had more pressing incubation priorities to focus on. The timeline for producing future annual reports is more closely synchronised to the annual periods in the initiative. In order to ensure these timelines are met, the tables in Appendix A provide a reminder of when future annual reporting information is required from consortia.

The project is being implemented through four work packages. Figure 1 illustrates where ongoing annual evaluation and interim reports such as this one fit within the broader evaluation and learning project approach and methods. For more detail on this, please

consult the methodological presentations which have been shared with each consortium and the Trust[4].

Figure 1. Implementing the evaluation and learning project
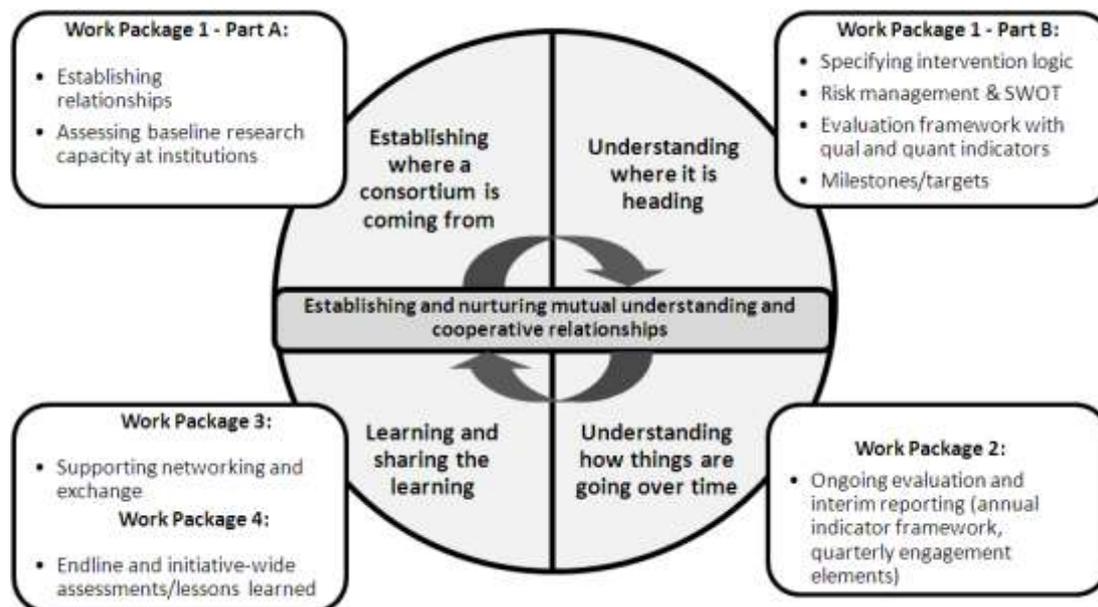
Source: RAND Europe (2010)

1.2   The evaluation uses a range of information sources but has a number of important caveats

It is important to interpret the information contained in this report in the context of the evaluation and learning project's characteristics, both in terms of information sources and in terms of associated caveats and scope. There are three main types of information that have been used in preparing this report.

First, the consortium reported on progress against the objectives and milestones that had been set for key activities, and their associated indicators in the evaluation framework (these indicators are listed in Appendix B). The consortium provided explanations for any differences between the progress achieved and that which had been planned. The framework of quantitative and qualitative indicators was co-developed with CARTA drawing on the consortium's intervention logic, and is described in the inception report. It will help to capture and structure an interpretation of the evolution and progress of CARTA in meeting its objectives: what is being achieved and why; whether or not milestones and expectations are being met; which factors influence intervention logic and implementation plans; and ultimately the extent to which CARTA's assumptions about

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[4] Examples of presentations that have been shared and are available on request include: Marjanovic, S. (2010). Learning from and evaluation of the African Institutions initiative. Wellcome Trust African Institutions Initiative Workshop; Cape Town, April 2010; (2) Marjanovic, S. (October, 2010). African Institutions Directors Meeting: the evaluation and learning project.

capacity building are valid. The indicators reflect the multiple reasons for evaluation, including learning, accountability and demonstrating achievements.

Second, consortium developments during the first year were also discussed during evaluation and learning project workshops in Nairobi in June 2010, and less formally at the initiative meeting held in October 2010 (London).

Third, additional insights were obtained through regular telephone and email exchanges, and from background documents provided by the consortium, including a journal article[5] prepared by members of the CARTA team, which was published in October 2010, at the beginning of year two of the African Institutions initiative.

It is important to interpret the information contained in this report in the operational context of the evaluation and learning project, and its associated caveats:

- The evaluation and learning project began after the consortia awards were made. In addition, some of the original schedules for evaluation activities had to be revised to accommodate consortia incubation priorities and delays in the release of funding. This implies that year one milestones for some consortium activities (i.e. targets for their associated indicators) were set retrospectively. Another consequence was that the evaluation evidence for first year could not be fully synchronised with the initiative's annual periods.

- The data provided by the consortium is self-reported – there is no external audit. CARTA's annual progress report to the Wellcome Trust for year one provides a useful complement to information sent to the evaluation and learning (E&L) team. There are no identifiable substantive discrepancies in the information provided but differences between the reporting templates used by the Trust and the M&L team as well as differences in the timings of reporting mean that the information received will be slightly different. The fact that the evaluation and learning component of the initiative began after the award of funding to consortia means that reporting to the E&L team takes place retrospectively. This allows for additional contextual information to enrich real-time information but makes it important to ensure that, for example, reflection on year one is not overly coloured by the fact that it takes place in year two and outcomes of activities in year one are therefore beginning to be seen. The information reported to the Trust is concise and clearly lays out the key aspects of CARTA's progress. This is subsequently enriched by the multiple forms through which progress is communicated to the M&L team; e-mail, phone calls, narrative reporting, and quantitative reporting on indicators. In addition, the E&L report was reviewed by the consortium's Deputy Director and Secretariat prior to submission to the Trust to ensure that any potentially necessary clarifications of the data could be made. One significant difference between the reports can be highlighted, namely funding detail:
  - The report to the Trust identifies detailed amounts of infrastructural support released to CARTA member universities and institutes, including funding from other sources than the Trust (the Carnegie and Ford Foundation). These

specific amounts are not recorded in the monitoring and learning reports on either quantitative or qualitative indicators. However, the reports to the M&L team include more detailed information on the logic behind the awards, as well as the detail of progress being made by partners in developing infrastructure and ICT.

In order to address the limitations and caveats associated with this project, we have explicitly sought to use multiple information sources to corroborate information where possible, triangulating evidence between them, and have arranged regular discussions with the consortium to clarify and test assumptions.

1.3   CARTA's intervention logic is designed to build a critical mass of African research capacity in public and population health

The key features of CARTA's conceptual approach are summarised below and are based on information provided by consortium members in written documents such as the consortium proposal to the Wellcome Trust for the African Institutions initiative, through an interview with the Director, as well as during discussions with CARTA representatives at workshops and at other meetings. Ezeh et al (2010),[6] describing the logic behind the CARTA approach, state that CARTA has two primary purposes: "*to strengthen research infrastructure and capacity at African Universities; and to support doctoral training through the creation of a collaborative doctoral training programme in population and public health.*" These objectives are designed to realise the ultimate CARTA goal which is to *"build local research capacity to understand the determinants of population health and effectively intervene to improve health outcomes and health systems".*

To achieve these objectives, CARTA has developed a strategic framework and guiding tenets to focus their efforts and target resources appropriately.

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[6] Ezeh et al (2010) Building Capacity for Public and Population Health Research in Africa: The Consortium for Advanced Research Training in Africa (CARTA) Model. Global Health Action 5: 5693 – DOI: 10.3402/gha.v3i0.5693.

Table1 shows the members of the consortium in year one, highlighting changes in membership since the proposal stage of the African Institutions initiative. Key features of the consortium's intervention logic and underlying theory of change are summarised in Box 1 below, with a summary of the intervention logic provided in Table 2. CARTA's intervention logic, its underlying assumptions and implementation plan are discussed in depth in the inception report produced by the E&L team[7].

There have been no major changes to the overall intervention logic or to CARTA's proposed approach in the first year. However, CARTA has identified a need for additional input funding to that provided by the Wellcome Trust in order to meet its goal of enrolling a cohort of 25 PhD fellows every year. This is highlighted in bold in Table 2.

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[7] Bassford et al (2011) Consortium Report: CARTA (Consortium for Advanced Research Training in Africa). PM(L)-3697-WT.

Table1. Members of CARTA

Country	City	Institute	Category[8]
Kenya	Nairobi	African Population and Health Research Center	Research institute (established/lead)
		University of Nairobi	Public university (established)
	Eldoret	Moi University	Public university (promising)
	Kilifi	KEMRI/Wellcome Trust Research Programme	Research institute
South Africa	Johannesburg	University of the Witwatersrand (Wits)	Public university (established/co-lead)
		Agincourt Health and Population Unit (linked to Wits)	Research institute
Tanzania	Ifakara	Ifakara Health Institute	Research institute (established)
	Dar Es Salaam	University of Dar Es Salaam	Public university (established)
Uganda	Kampala	Makerere University	Public university (established)
Malawi	Blantyre	University of Malawi (Unima)	Public university (promising)
Nigeria	Ibadan	University of Ibadan	Public university (established)
	Ile-Ife	Obafemi Awolowo University (OAU)*	Public university
Rwanda	Butare	National University of Rwanda	Public university (promising)
Canada	Ottawa	Canadian Coalition for Global Health Research (CCGHR)*	Northern Partner
USA	Boulder	University of Colorado at Boulder	Northern Partner
Australia	Caulfield	Monash University	Northern Partner
Sweden	Gothenburg	Sahlgrenska Academy, University of Gothenburg*	Northern Partner
Switzerland	Basel	Swiss Tropical and Public Health Institute	Northern Partner
	Geneva	World Health Organisation Special Programme on Tropical Diseases (TDR)	Northern Partner
UK	Coventry	University of Warwick	Northern Partner

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[8] The classification of partner institutions as promising or established is taken from CARTA's proposal to the Wellcome Trust for the African Institutions initiative.

*Became a CARTA partner after consortia awards were made in the African Institutions initiative, i.e. in 2009 for OAU and in 2010 for the CCGHR and Sahlgrenska Academy. The CARTA Partners' Forum is responsible for approving the addition of new CARTA members.

Box 1. CARTA's capacity building approach – key features

1. *CARTA has a focus on the local production of networked and skilled researchers to create a critical mass across Africa.*

   The consortium brings together partners with a history of collaborative research on public and population health, and is also expanding networks by engaging new individuals and organisations, and sharing existing contacts and links across the consortium. It has a mix of both established and promising Universities and also includes established research institutes across the continent. Within the networked approach, CARTA believes in central institutional administration (by APHRC, the lead institution) as a means of avoiding unnecessary duplication of effort, parallel structures and competition between partners.

   The assumption behind this partnering approach is that building on established relationships will contribute to the sustainability of the consortium. At the same time, expanding this network is designed to maximise the scale of potential impacts from CARTA activities across Africa. In addition, the range of institutions bring with them existing tangible (e.g. physical resources) and intangible (e.g. intellectual capital) resources which can be leveraged through the CARTA programme. The northern partners also bring access to a greater pool of (for example) experienced supervisors and existing course material that will increase the efficiency and effectiveness of the programme.

2. *CARTA is neither focused on specific disease nor specific disciplines, but will encourage interdisciplinary perspectives on a range of public and population health issues facing Africa.*

   The overall intervention logic for CARTA is that funding multidisciplinary research in a number of different research institutes will increase critical mass and contribute to a sustainable long-term research capacity. This will help to develop interventions that improve health outcomes in the region. Consequently, the consortium brings together researchers, research groups and departments with a mix of common and unique disciplinary and professional backgrounds.

   CARTA has a focus on building networked and skilled researchers who have a commitment to working in sub-Saharan Africa through cultivating vibrant multidisciplinary research hubs at a number of African Universities.

3. *CARTA seeks to develop model collaborative doctoral training programmes for the region*.

   At the centre of the CARTA model is the selection of candidates from various disciplines relevant to population and public health. Each cohort of PhD students will be funded through CARTA with the expectation that all CARTA fellows will obtain a PhD (or equivalent) within the period of the 4-year fellowship. A key component of the CARTA training programme will be a set of four residential seminars (Joint Advanced Seminars or JAS) which all CARTA fellows will attend. These seminars will reinforce PhD training with teaching, workshops and hands-on learning and are designed to enhance skills and knowledge in core research areas; and to provide the opportunity for fellows to build networks.

   The interdisciplinary nature of the fellows should also foster a collaborative research approach among CARTA fellows and prepare the foundations for future collaborative working. CARTA believe that this approach will also help to create a sustainable research capacity through three mechanisms: first, the creation of networks; second, by increasing the number of skilled researchers within partner institutions; and third, by strengthening the capacity to supervise future PhD students.

4. *CARTA is also aiming to enable high quality research through up-skilling research management and administration staff, as well as modernising physical infrastructure.*

   In addition to investing in the training of research staff, CARTA will also support the development of both faculty and administrative staff through identifying and sharing good practice in a number of operational areas. These include information management; financial planning and management; effective student supervision; and development of institutional policies and processes. CARTA will hold workshops to facilitate capacity building in these areas. In addition, CARTA will also make seed investments in ICT infrastructure and physical infrastructure.

   The rationale for these interventions is that high quality research requires high quality support, governance and facilities. A lack of access to these key enabling functions and facilities can be a factor in low retention of researchers in Africa.

Table 2. **CARTA's** overall intervention logic

INPUT	PROCESS	OUTPUT	OUTCOME AND IMPACT
What is invested? What resources are you working with? What are your plans?	**What are you doing to accomplish your goals and objectives? And are things unfolding according to plan?**	**What has been produced? What are direct results?**	**What are the longer term outcomes, and long-term ultimate impacts?**
Funding from Wellcome Trust **and other funding bodies that will be identified.** Qualified faculty in relevant research fields from consortia institutions Initial research governance, management & administration structures to support activity Initial physical and ICT infrastructure which can be tapped into by CARTA members CARTA's strategic plan to guide activities CARTA Board of Management - experience in research capacity building initiatives and fundraising Existing networks between CARTA members and with relevant external stakeholders	CARTA fellows receive PhD training through well-supervised research projects and research skills through Joint Advanced Seminars A supervision and mentorship approach which brings together researchers with different levels of experience, to share experiences and learn from each other Strengthening institutional networks through contributions made by the networks of individual CARTA fellows. Research Governance Management and Administration skills increased through training courses and sharing of good practice Infrastructure and ICT improvements through targeted investments in relevant institutions	New PhDs as future research leaders and mentors A model doctoral programme in research with strong supervision and networking Diversified and enlarged research skills base for CARTA region Increased professional skills among CARTA fellows Mentors and supervisors with enhanced skills and experience Improved networks with policy, funders and academic community Research faculty staff, administrators and managers with new skills Improved infrastructure to support high quality research	Increased retention in African region in research or research-related position Increased capacity to train and supervise PhD students More students are inspired to learn about and adopt CARTA model, i.e. improved 'culture of research' at an institutional level Post-graduation activities – new pool of researchers, teachers and mentors for next generation (from graduated CARTA fellows) at institutional levels Post-graduate CARTA fellows increase international visibility of institution through conferences, publications Enhanced capacity of African institutions to lead globally competitive research and training programmes Improved population health in the region

In order to deliver these objectives, CARTA activities are structured within four main categories of effort:

- Strengthening scientific skills and career prospects
- Improving research governance, management and administration capacity
- Improving physical and ICT infrastructure and capacity
- Management and governance of the CARTA consortium

Individual logic models for each category of effort were discussed in detail in the inception report and are also presented in Appendix C.

1.4 The first year of the CARTA programme was focused on establishing plans and building foundations for subsequent activities

The first year of the CARTA programme can best be characterised as an incubation period, during which sound foundations were laid for future delivery. A key activity during year one was refining the strategic plan for the programme based on that presented at proposal stage and clarifying the details of a road map for its implementation.

In addition, developing and cementing relationships between the institutions and between members of the leadership team was important, both in terms of formal mechanisms (such as MoUs) and in terms of personal relationships between key figures. There were also activities at the institutional level in terms of needs assessments, selection criteria for PhD fellows and CARTA programme launches at a number of partner institutions.

CARTA specified milestones for their activities in each of the core categories of capacity building effort mentioned above. This is reflected both in the annual 'targets' for quantitative performance indicators in each category of effort (Appendix B) in qualitative information captured in the CARTA road map for the initiative (Appendix D) and associated with the qualitative indicators in the evaluation framework. The main activities planned for year one are summarised in Table 3.

Table 3. CARTA: key milestones for year one

Year 1 plans for research leadership and contributions to critical mass	Year 1 plans for improving research governance, management and administration capacity	Year1 plans for improving physical and ICT infrastructure and capacity	Year 1 plans for CARTA management and administration
• Institutions to establish the selection criteria and selection process for PhD Fellows • Develop pre-JAS curriculum and examination methods for Part 1	• Set up university CARTA committees • Identify potential supervisors at partner institutions	• Conduct needs assessments in terms of infrastructure requirements of participating institutions	• Develop a strategic plan and road map to guide CARTA activities • Establish a governance and staffing structure for CARTA • Determine CARTA's key stakeholders and partners • Establish standards for co-operation (e.g. principles, terms and conditions, MOUs, policies and procedures to guide operations) • Recruit core CARTA administrative and management staff • Implement CARTA's governance structure

1.4.1 CARTA further refined and tailored performance indicators to the consortium's needs during year one

While it is beyond the scope of this report to address developments in year two, it is useful to view changes made to CARTA's performance indicators in light of subsequent developments in order to understand the full context. Considerable attention was paid by CARTA to the consortium's performance indicators and their associated targets following the evaluation and learning workshop held in Nairobi on June 3-4, 2010. The CARTA team worked on tailoring the indicators and targets to the evolving needs of the consortium and in light of the level of funding that had been secured by this stage, which was less than had initially been planned for.

A core aim of changes made was to ensure that the performance indicators complemented CARTA's existing evaluation plans. Specifically, this has involved ensuring that targets refer to the appropriate focus for engagement within each category of effort, i.e. CARTA PhD fellow, supervisor or partner institution. In addition, some indicators that were defined too broadly have been expanded into subcategories in order to make them more relevant and measurable. The later stages of this clarification of targets was led by the African Population and Health Research Center (APHRC) Monitoring and Evaluation (M&E) officer who, as of April 2011 (in year two), would become the main contact person and coordinator for CARTA evaluation and learning (E&L) activities as well as for engagement with the RAND Europe E&L team.

At the time of writing (June 2011), all CARTA targets had been set for year one (albeit retrospectively) and year two, as had the majority of targets for the remaining years. As a result, the targets outlined in Appendix B differ somewhat from those outlined in the inception report for CARTA. The specification of targets and milestones for core activities by the consortium is part of the evaluation framework, allowing for a systematic reflection on progress over time. In order to be able to measure progress and to adjust the course of developments if necessary, it is desirable to establish targets early on, while taking into account the fact that original plans may change and be adapted over time. It is, however, equally important to ensure that indicators and targets accurately correspond to the consortium's higher level intervention logic and that they can be measured in practice. CARTA's refined indicators and their associated targets are now expected to produce performance data that can be constructively used for learning and evaluation by the consortium and to feed in to broader lessons across the African Institutions initiative.

CHAPTER 2 **CARTA's performance in the first year of** activity

This chapter describes the main activities of the Consortium for Advanced Research Training in Africa (CARTA) during the first year of the African Institutions initiative. The chapter is structured according to the four categories of capacity building effort outlined in the previous chapter.

2.1 **CARTA's performance in year one: strengthening scientific skills and** career prospects

During year one of the CARTA programme, the focus of effort in terms of strengthening scientific skills was on establishing processes for identifying potential candidates for CARTA PhD fellowships; designing suitable selection criteria; and developing plans for the allocation of supervisors to CARTA fellows, as well as plans for the delivery of training (Joint Advanced Seminars). The award of fellowships would take place in year two.

Table 4. **A summary of CARTA's progress in its efforts to strengthen scientific skills and career prospects**

Activity	Milestone for year one	Actual realised value
Award of PhD fellowships	- Develop selection criteria for CARTA fellows	- Partner institutions identified their institution-level selection criteria for CARTA fellowship nominees - The Board of Management established overarching selection criteria for the cohort of 25 CARTA fellows
Joint Advanced Seminar (JAS) curriculum development	- Develop overall curriculum for JAS 1-4 over the 4 years of the fellowship - Develop detailed curriculum for JAS1 training for cohort 1 of (25) CARTA fellows	- High level curriculum for the JAS (JAS1-4) was developed - Details of the JAS1 curriculum were finalised
Dissemination and publicity	- Develop details of CARTA communication and dissemination plans - Develop a prototype of the CARTA website - Complete CARTA programme launches for 8 African universities	- CARTA focused on specifying dissemination plans for funders and academics - A prototype of the website was developed, to be re-launched before going live for use at the JAS - Launches held at 7 African universities by the end of year one
Intra-consortium collaboration	- Build on memoranda of understanding to cement relationships between consortium partners	- Collaborative agreement signed in September 2009
Fundraising	- Identify sources of funding to complement that received	- Additional funds requested from the Wellcome Trust for M&E related activities

2.1.1 Multi-level policies and procedures to identify the first cohort of 25 CARTA PhD fellows were set in place

In order to ensure equity across the consortium's institutions, while balancing this with the award of fellowships on the basis of merit, the process of awarding fellowships takes place across three levels of the governance structure: partner institutions' CARTA Committees, the CARTA Secretariat (in charge of programme implementation), the Partners' Forum, and the Board of Management (BoM). During year one of the programme, a number of steps were taken towards determining the selection criteria and procedures for identifying PhD fellows. The first cohort of CARTA fellows did not begin the fellowship application

procedure until the beginning of year two (August 2010) but the procedure itself was established as follows:

- **Partner institutions** develop selection criteria for identifying potential candidates for CARTA PhD fellowships. These universities are meant to share their selection criteria and scoring with the CARTA Secretariat as narrative minutes from the committee meetings at which these were set. At the time of writing, detailed information about selection criteria had been received from seven of the nine partner universities; Makerere University, Moi University, National University of Rwanda, Obafemi Awolowo University, University of Malawi, University of Nairobi and University of the Witwatersrand. This is an indication of the time lag in communication between some partner institutions and the CARTA Secretariat. While this does not necessarily have a negative impact on the strengthening of scientific skills and career prospects, it does require timely and regular administrative input from the Secretariat.

- The lists of candidates nominated for fellowships by partner institutions are submitted to the **CARTA Secretariat**. Nominees are then expected to submit a full application to the Secretariat including a research proposal, as well as to complete an online course (i.e. pre-JAS, part one). The full applications are assessed by staff at partner institutions, with each application being assessed by three reviewers, each based at a different institution that is not the home institution of the applicant. The pre-JAS tasks are scored independently by staff from two institutions; for cohorts one and two this will be the University of Warwick and APHRC. Each candidate's scores for the elements of their application are compiled.

- The **Partners' Forum** selects twenty-five fellows based on assessments of their research proposal and performance on the Pre-JAS, part one course. The list of twenty-five selected candidates to be awarded PhD fellowships would then be sent to the **Board of Management** for final approval.

A call for nominations of CARTA fellows was launched through CARTA partners and applications were managed by the CARTA committee at each institution. The deadline for nominations for the first cohort of CARTA fellows was 15 August 2010 (in year two).

The CARTA Board of Management established the overarching policies for selection of CARTA fellows to ensure a balance between coverage (across all partner institutions), quality (in terms of students and research proposal), and gender. To ensure that the selection process was transparent and participatory it was decided that the final selection of fellows would be conducted in the Partners' Forum in the second part of 2010, the beginning of year two. The Partners' Forum is a permanent group in CARTA's governance structure which comprises members from all CARTA institutions and facilitates direct communication between consortium partners and also between the CARTA management team and the partners.

2.1.2 CARTA developed the high-level curriculum for its Joint Advanced Seminar (JAS) series and detailed curriculum for the first seminar to support its aim of fostering multidisciplinary collaboration

At the centre of the CARTA model is the award of PhD fellowships to enable candidates to conduct PhDs in various population and public health-related disciplines.   These

fellowships will be awarded to students from across CARTA partner institutions for study at African universities. The approach is designed to foster interdisciplinary collaborative research, and help to create a sustainable research capacity. To enable interdisciplinary collaboration, CARTA is delivering annual training to its fellows in the form of the residential Joint Advanced Seminars (JAS). These are intended to take place at various partner institutions over the four years of the PhD, allowing all JAS participants and facilitators to learn together and to share experiences. JAS 1 and 4 will take place in Nairobi; JAS 2 will take place at Wits and JAS 3 will take place at Ibadan. The rationale behind having JAS 1 and JAS 4 at the same time and location is for JAS 4 participants to be able to act as co-facilitators for JAS1 sessions, further supporting collaboration.

These four residential seminars, which all CARTA fellows will attend, are a key component of the CARTA training programme. In addition to physically bringing participants together, the purpose of these seminars is to reinforce PhD training with teaching, workshops and hands-on learning in order to enhance skills and knowledge in core research areas and provide an opportunity for fellows to build networks. The areas of focus of the four courses are as follows:
- JAS 1: critical thinking, technical skills and other research competences
- JAS 2: data management and analysis
- JAS 3: data presentation and scientific writing
- JAS 4: professional development, including skills for raising and managing research funding

A working group to develop the JAS curriculum was formed during the first year, where the northern partners were instrumental in driving the curriculum development. Members of the working group met May 21-23, 2010 and produced a curriculum for a screening process; pre-JAS part one, to be used in conjunction with fellows' research proposals to produce a short-list of candidates for fellowships. This processes entailed a set of web-based assignments, run through the CARTA website so that they could be undertaken by candidates while at their home institutions. The working group also finalised the curriculum for JAS 1 training programme rollout. (The curriculum for JAS 2 was being developed early in the second year, while work on JAS 3 and JAS 4 curricula was intended to commence in early 2011). The participation of faculty and staff from northern and African universities in the development of CARTA's curricula provided many African faculties their first experience in curriculum development and critique. This is in line with CARTA's overall goal of building capacity in both research and teaching.

2.1.3 Dissemination and publicity activities were dependent on the CARTA management structures that were being set up in year one

Implementation of dissemination plans was begun

CARTA's dissemination plans as laid out in their Wellcome Trust proposal and other funding proposals were shared with the evaluation and learning (E&L) team. These plans formed the basis for dissemination plans in year one of the African Institutions initiative but there were no dissemination-specific milestones or targets set for this first year. Broadly speaking, in year one the focus of CARTA's dissemination efforts was on early engagement with stakeholders in order *"to raise visibility, establish channels of communication and consultation, and encourage wider take-up of successful CARTA activities."* This has been done through visits by CARTA's Director, Deputy Director and programme

management team to partner institutions, with plans to broaden the focus to external stakeholders, as planned, in year two. Trip reports have been shared with the M&L team, showing the detail and amount of engagement for each partner. In future, *"mechanisms for maintaining visibility and engagement, and for dissemination of lessons learned include: conference/workshop presentations, scientific publications, policy briefs/reports, and regularly-updated website".*

Key stakeholders and audiences for CARTA activity were identified during the Nairobi workshop in June 2010, in sessions facilitated by the E&L team. Key organisations CARTA might engage with were identified in the following stakeholder groups: 1) the academic/research community; 2) funder organisations; 3) users and practitioners; 4) international organisations; 5) policy makers in national governments; and 6) non-governmental organisations. Stakeholder engagement has primarily been opportunistic, focusing in year one on the academic and funder communities. The aim, however, is for CARTA to disseminate evidence-based outputs that can lead to the proliferation of the CARTA model, and it is expected that the scope and scale of dissemination activities will expand during year two.

The CARTA website (www.cartafrica.org) was developed in line with year one plans in order to be used for the pre-JAS, part one

A prototype of the CARTA website was developed in year one, in line with plans, and was tested in preparation for its use for the pre-JAS, part one, online tasks. CARTA's leadership expects the website to play a key role in both intra-consortium dissemination of information, and in presenting information about CARTA to stakeholders outside the consortium and to the wider public. Calls for applications for CARTA fellows are to be posted on the website at the beginning of year two, and pre-JAS and JAS tasks and curricula will also be made available and submitted online.

There will be a second level of access to the website for registered users, which will provide access to students' resources and profiles of supervisors. In addition, it is intended that CARTA fellows can communicate with each other via a chat facility on the website regarding assignments. It will be important to measure the use and usefulness of the website from year two, as CARTA plans to do through surveys and narrative feedback from CARTA fellows. To produce coherent branding of CARTA, the consortium's logo, also evident on the website, was developed prior to the first call for fellowship applications.

Seven of eight planned programme launches were held at African partner institutions

In year one, official launches of the CARTA programme were held at seven of the African universities that are CARTA partners: University of the Witwatersrand (July 20, 2009); National University of Rwanda (March 31, 2010); University of Ibadan (May 25, 2010); Moi University (June 17, 2010); University of Nairobi (June 28, 2010); University of Dar es Salaam (July 9, 2010); and University of Malawi (UNIMA) (July 26, 2010). Launches were focused on the partner institutions that were part of the original African Institutions initiative proposal, so a launch did not take place at Obafemi Awolowo University, which joined the consortium later. Although not initially prioritised at non-University and Northern partner institutions, launches were also held at African Population and Health Research Center (APHRC) and at Warwick University.

Having already secured high-level buy-in for CARTA from partner institutions' vice chancellors, the intention was to gather momentum in the CARTA project, to publicise CARTA among members of the institutions who were not directly involved with the consortium, as well as among the general public, including high-level stakeholders in government. Informal intra-consortium links and some early links with other consortia in the African Institutions initiative were made, potentially laying the ground for expanding networks and knowledge of the CARTA model, as laid out in the consortium's intervention logic. According to the CARTA representatives, during the programme launch at UNIMA, CARTA established links with the Southern Africa Consortium for Research Excellence (SACORE), in which UNIMA is also involved, through informal conversation.

In keeping with CARTA's focus on central institutional administration, core CARTA members from APHRC were present at all launches. These launches were advertised in the media and were reported in a number of newspapers. Year one plans are for links to the reports from launches to be made available on the CARTA website in year two, once it is ready to go live. Some launches were delayed relative to their expected dates because of other competing priorities within CARTA; for example the launch at Makerere University, which was held at the beginning of year two. These other priorities included the demands on staff time of setting up university committees and identifying the pool of potential supervisors for CARTA fellows. Additional dissemination of information about the CARTA programme took place by distributing posters and brochures at African universities and through presentations at various forums such as conferences.

Intra-consortium collaboration
In order to sustain collaborations between the CARTA leadership and management and the partner institutions, letters of commitment were signed by the leadership of the partner institutions at the time of the application to the African Institutions initiative. These commitments were further cemented through the signing of a collaborative agreement between the partner institutions in September 2009 which laid out details of roles and commitments for the partners. This document and the individual commitments were useful references when allocating tasks for JAS-related activities and for communicating with the CARTA Secretariat.

Some delays in getting information from consortium members regarding the available pool of supervisors for CARTA fellows suggests that consistent engagement by the CARTA management team with the consortium members is necessary. Subsequent communication with the CARTA team and the year one report to the Wellcome Trust suggests that there is awareness of this need, and that visits to the partner institutions are planned in order to engage with CARTA committees face-to-face and ease subsequent communication. These visits will support ongoing communication by e-mail, phone, and at regularly scheduled CARTA meetings.

2.1.4   **Fundraising efforts**
Raising additional funds to those received from the Wellcome Trust was a key priority for CARTA in year one, in order to ensure that the target number of twenty-five fellows in each cohort would be met. The importance of securing additional funding for CARTA was further emphasised through the consortium's request to the E&L team to produce an

addendum to the CARTA inception report, emphasising the impact of having received less funding from the Wellcome Trust than expected. In year one, CARTA successfully applied for support from the Ford Foundation, the Carnegie Corporation and DfID (DELPHE). Going into year two, three of the CARTA fellows in the first cohort, whose research focuses are on sexual and reproductive health, are to be funded by the Ford foundation. CARTA has emphasised in communication with the E&L team that securing additional funding will continue to be crucial in order to meet the goal of selecting twenty-five new fellows to start their PhD's every year. If CARTA is unable to reach this goal, the scope of the programme will need to be revised.

CARTA has also submitted a funding application with the Institute for Infectious Diseases of Poverty (IIDP). Although this was not formally reported to the E&L team in CARTA's yearly report to the E&L team that it n with CARTA, the consortium since confirmed that partners in South Africa put in an application entitled "The Potential role of Higher Educational Institutions in the use of Demographic Surveillance Data for planning towards meeting the Millennium Development Goals: A case study of Ghana and South Africa". This was in response to the call "Mobilising Regional Capacity Initiatives (MRCI) Association of African Universities (AAU)". The proposal was ultimately unsuccessful, but is an example of one of the ways in which the African Institutions initiative consortia are setting up collaborations across the region.

Although reporting on year two activities is outside the scope of this report, an important focus for CARTA in the second year is funders' meetings. According to communications from CARTA, the Funders' Forum has been set up at the request of the funders themselves in order to allow them to network and learn from each other regarding their funding structures. This will take place at yearly meetings, to coincide with a joint advanced seminar, allowing funders to interact with fellows and other CARTA stakeholders. From CARTA's perspective, it will be particularly important to discuss reporting structures and to attempt to streamline these as much as possible in order to ease the reporting burden.
Of particular concern to CARTA, as outlined in the consortium's year one report to the Trust and in communication with the E&L team, was that the evaluation and learning requirements of the Trust's award were more time and resource intensive than CARTA had anticipated. A designated evaluation and learning position in the CARTA Secretariat was not envisaged at the proposal stage, and contact with the E&L team as well as coordination of E&L activities was therefore carried out by other members of the Secretariat in year one. The bulk of this role was taken on by the CARTA Programme Manager, supported by other Secretariat members. The consortium therefore made a request to the Trust for additional funding in order to hire an external consultant to oversee evaluation activities.

2.2 CARTA's performance in year one: Strengthening research governance, management and administration capacities

As the focus of CARTA activities in year one lay in research leadership and contributions to critical mass, as well as in CARTA management and administration, there were no specific activities and associated milestones planned in this specific category of effort around strengthening research governance, management and administration capacities in

the first year. It is important to clarify that this does not mean that CARTA did not engage in any research governance, management and administration (RGMA) related activities. As discussed in the inception report, CARTA's approach distinguishes between (i) activities geared at research management, governance and administration *capacity strengthening* across partner institutions, and (ii) management and governance activities related to *running and efficiently operating* the consortium specifically. Much activity in the first year was devoted to the latter, and this is discussed in section 2.4.

However, a decision to conduct a baseline survey of research governance, management and administration capacity and needs in departments relevant to public and population health at partner institutions was made in the first year. The survey was to be implemented in the second year. In addition, the content needed in some training courses in research management skills was identified and these were also scheduled for early 2011.

2.3   CARTA's performance in year one: Strengthening physical and ICT infrastructure

Table 5. A summary of CARTA's progress in efforts to strengthen physical and ICT infrastructure

Activity	Milestone for year one	Actual realised value
Increase partner institution buy-in	- For partner institutions to submit a budget and narrative indicating how available money from Wellcome Trust, Carnegie and Ford Foundations would be spent - To allocate some investments into physical infrastructure improvements	- Some partner institutions have submitted information about ICT and infrastructure plans while others are revising their plans - Some institutions have procured the planned infrastructure while others are still in the process of completing planned buildings according to their own timelines - Some software has been procured

2.3.1   In year one, strengthening ICT and physical infrastructure was a secondary priority to developing the CARTA fellows' PhD programme

CARTA has prioritised the development of the PhD fellowship programme in the first year. The strengthening of physical and ICT infrastructure is seen partly as a means to increase partner institutions' buy-in to the project. The consortium will carry out a more detailed baseline capacity survey at the beginning of year two to complement an initial assessment of infrastructure needs at partner institutions which was carried out by partners as part of the proposal for the Wellcome Trust. Together, these are expected to form the basis of subsequently planned infrastructural improvements.

Seed money provided by CARTA for ICT and infrastructure improvements consists of funding allocated by CARTA from the African Institutions initiative grant from the Wellcome Trust, as well as from Carnegie and Ford Foundation funding. It is up to

partner institutions to identify their specific requirements regarding areas needing strengthening and to raise additional funds to be able to carry out these improvements.

This approach is in line with CARTA's overall intervention logic (see Table 2), which aims to build on existing infrastructure at partner institutions by providing targeted investments at strategically identified institutions. Some overall investment in ICT infrastructure is to be undertaken at the consortium level, with CARTA providing funding for software packages for CARTA fellows, maintenance of the CARTA website, and the maintenance of a database of resources available to all CARTA fellows. However, this is not planned until the preparations for the first cohort's JAS 1 begins early in year two of the initiative.

2.4 CARTA's performance in year one: Management, governance and communications of the consortium

Table 6. **A summary of CARTA's progress in its efforts to strengthen management, governance and communication of the consortium**

Activity	Milestone for year one	Actual realised value
Establishing governance structure	- Revise original governance structure	- Revisions were made and a final governance structure was agreed in the consortium in June 2010, and approved by the Wellcome Trust - Ad-hoc sub-committees of the board were set up to address any management related issues that needed attention
Strategic planning	- Develop programme plan - Develop route map for the plan's development	- The CARTA roadmap was finalised and provides a detailed plan of activities and milestones for each year. Provisions are in place for updates to the road map over time
Staff recruitment	- Recruit all key staff to the CARTA management team	- A Programme Manager, Programme Officer, Programme Assistant and Communication Officer were recruited but a finance officer was not

Although the origins of the CARTA capacity building concept can be traced back to 2006, the programme only formally commenced in June 2009, with a meeting in Bellagio, Italy. With a wide range of African and northern partners – and a far-reaching vision to build sustainable research capacity in public and population health in Africa – the first 12 months were largely spent in establishing management and governance arrangements, building formal and informal relationships, and laying foundations for the programme.

2.4.1 There were some delays in original timelines for establishing a governance structure, but a revised structure was developed and implemented before the end of the first year

The initial governance structure contained in CARTA's proposal to the Wellcome Trust was modified with inputs from the Trust and from partner institutions. Most notably this included the establishment of a Partners' Forum. The Forum is made up of representatives from all partner institutions and was intended as a means through which the CARTA program could be publicised to partner institutions. However, its main role is to ensure inclusive governance and facilitate participation from all partner institutions. The key

activities of the Partners' Forum revolve around raising issues for resolution by the CARTA Board of Management throughout consortium life. This particularly includes issues related to the selection of CARTA fellows according to a set of agreed criteria. As discussed in section 3.1.1 above, the selection of CARTA fellows is made by the Partners' Forum and is then confirmed by the Board of Management (BoM).

As can be seen in Table 7, below, the membership of the BoM is in keeping with CARTA's intention to be centrally managed with key management members based at APHRC. The revisions in the governance structure (Figure 2) show how it has become a more networked structure with more prominent roles for partner institutions and other stakeholders through the advisory committees.

The new governance structure was agreed by all partners and activated with the convening of the first annual Board of Management (BoM) meeting June 1-3, 2010. In addition, the Board has constituted its sub-committees, which were set up in order to address governance-related issues in the consortium that were identified from the consortium's intervention logic and strategic plan. These sub-committees are both standing (for finance and for scientific review) and ad-hoc (for the selection of fellows and for academic/curriculum development).While the membership of the Partners' Forum was still being finalised in year one, all other parts of the governance structure were fully constituted and operational.

Table 7 lists the current members of the Board of Management and Figure 2 provides a schematic of the CARTA governance structure, showing how this evolved to the current structure in the last diagram.

Table 7. Membership of the CARTA Board of Management (2010)

Name	Institution
Alex Ezeh (CARTA Director)	African Population and Health Research Center†
Sharon Fonn (CARTA Deputy Director)	University of the Witwatersrand†
Wilson Mandala	University of Malawi
Honorati Masanja	Ifakara Health Institute
Jose Mathai	National University of Rwanda
Ogoh Alubo* (CARTA Programme Manager)	African Population and Health Research Center
Frances Griffiths / Margaret Thorogood	University of Warwick
Akinyinka Omigbodun (Chair, CARTA BoM)	University of Ibadan

† Permanent representation on the Board because of Host and Co-host status
* Secretary to the Board of Management

Figure 2. Evolution in **CARTA's Governance Structure**
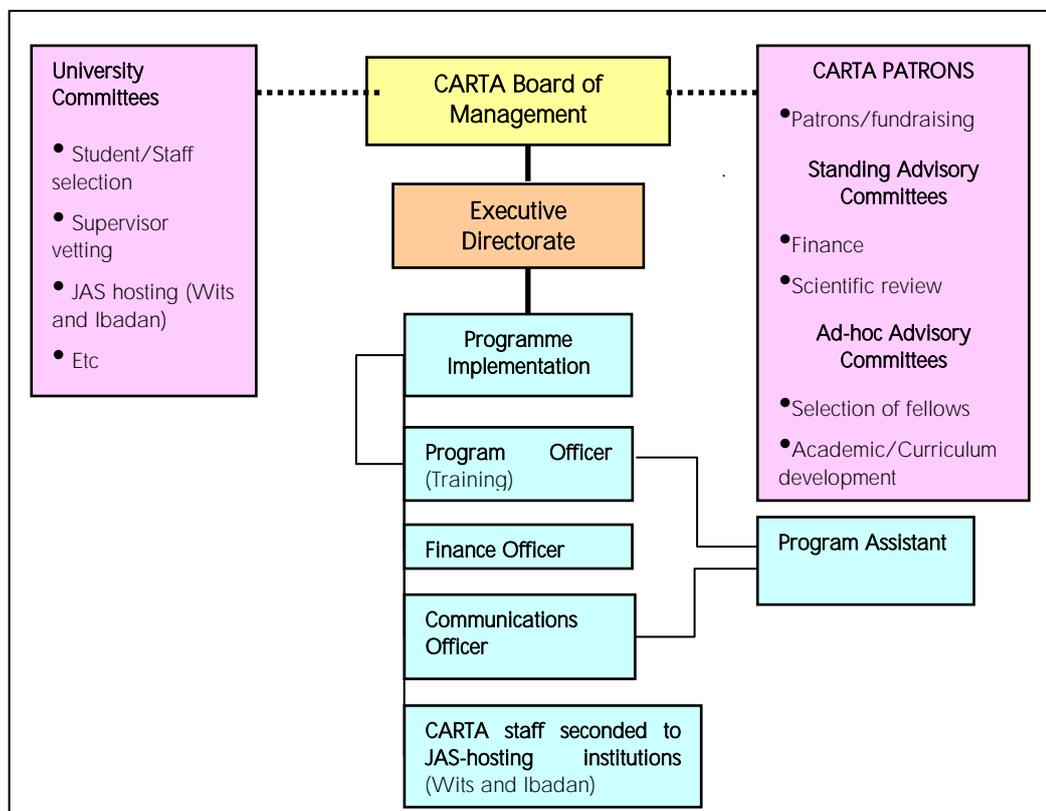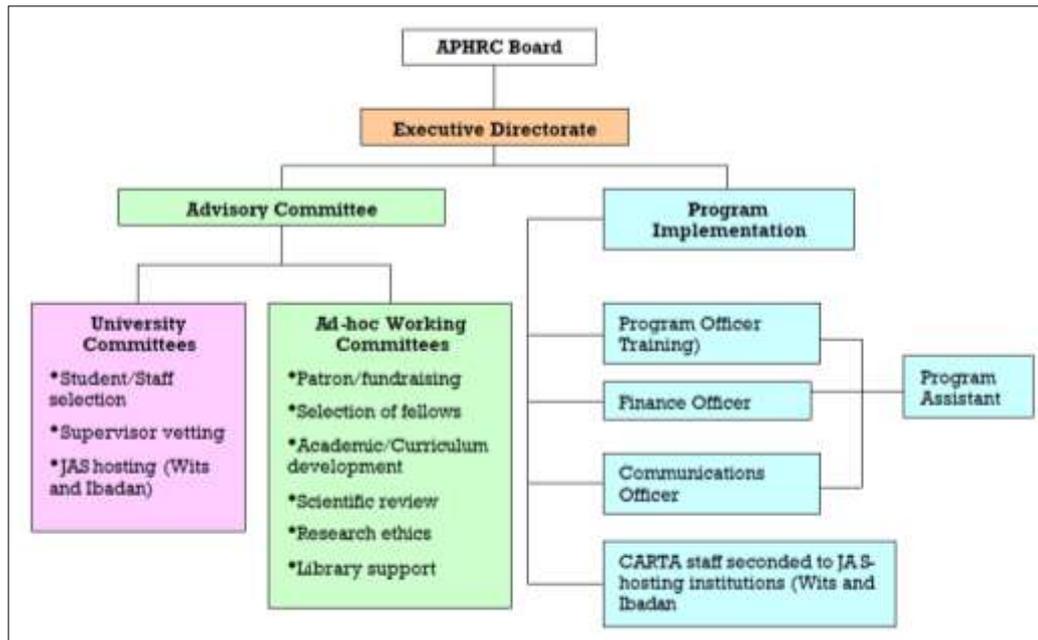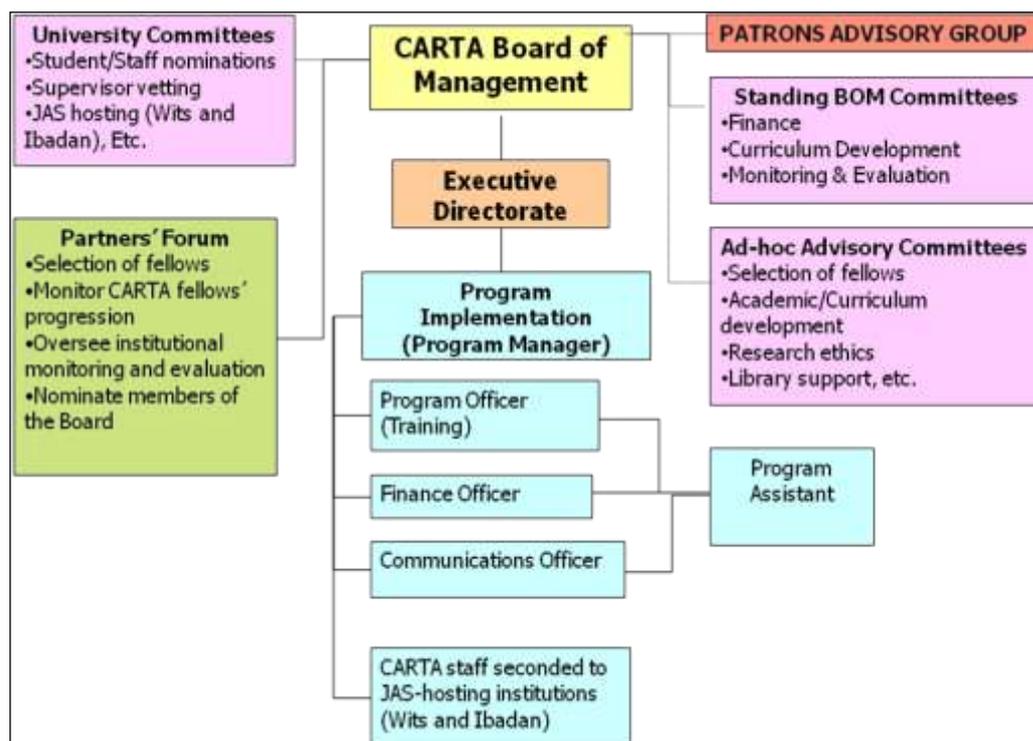
2.4.2 In year one, CARTA developed a strategic programme plan and a road map for its implementation

To facilitate programme management and track the delivery of activities and milestones, CARTA developed a structured road map that summarises the key events over the forthcoming 12 months and beyond. The road map as at March 2011 is shown in Appendix D. This road map is updated on a rolling 3 month basis to ensure a clear view of the way ahead. The only changes between June 2010 and March 2011 were to improve clarity of the road map, which is why the later version has been included here.

2.4.3 CARTA has recruited staff into most of its key administrative and support roles, broadly according to plan but with some exceptions

During the first part of year one, CARTA was sustained largely by staff of the Research Capacity Strengthening Unit of APHRC. However, the programme now has recruited dedicated staff into several roles. A Programme Manager was recruited and assumed duty in April 2010. CARTA also has a Programme Officer in charge of Training, while a Programme Assistant and a Communication Officer were employed in July 2010. There is currently no dedicated Finance Officer, but it is envisaged that this post will be filled in late 2010, the first part of year two. Having full-time, dedicated staff in these roles should help the senior leadership team in the co-ordination and implementation of detailed plans.

CHAPTER 3   Reflections and learning

This chapter reflects on CARTA's performance during year one in terms of the progress made towards achieving the consortium's objectives and vision. It covers the enablers and challenges to progress, with a view to learning from this experience and informing performance in future years. The chapter also considers the engagement of the consortium with the evaluation and learning project. Finally, the chapter describes initial insights from the aggregate experience of the consortia funded under the African Institutions initiative, during the first year.

3.1   Examining developments in the context of CARTA's intervention logic

In this section we reflect on CARTA's year one performance against core aspects of its intervention logic, as summarised in Chapter 1 (Box 1 and Table 2). Clearly, the elements discussed below are interrelated and part of a comprehensive effort to build sustainable research capacity at the levels of individuals, institutions and networks.

3.1.1   CARTA has put in place the key elements of its plans to strengthen scientific skills and improve career prospects

A key facet of the CARTA programme is the development of vibrant and viable multidisciplinary research hubs at Africa universities; with regional networks of locally trained scholars working together to address public health challenges. Attracting, funding and training PhD fellows are all central to this objective. CARTA has made progress in this area through three main activities.

- **The programme has been launched at seven African partner universities.** During the first year, the CARTA programme was launched at seven of the consortium's partner institutions, compared with a target of launches in all eight of the African universities that were CARTA partners at the time of the proposal to the Wellcome Trust. These launches are important in building awareness of the programme among the population and public health community; increasing buy-in from senior university staff; and as part of CARTA's efforts in developing regional networks.

- **Necessary policies and procedures have been put in place for selection and award of PhD fellowships in the first half of year two.** At the end of year one, the selection process for PhD fellows was underway. As part of the effort to ensure high quality PhD fellows from across partner institutions, criteria that combined geographical coverage, multidisciplinary research, a satisfactory gender balance,

and academic merit were put in place. As described in detail in section 2.1.1, above, policies and procedures were put in place for the selection of CARTA fellows which involved partner institutions, the CARTA Secretartiat, the Partners' Forum and the Board of Management. This would ensure that fellows could start the first Joint Advanced Seminar (JAS1) curriculum in early 2011 (year two). The involvement of representatives from the Partners' Forum is also expected to contribute to the development and consolidation of networks between African researchers.

- **CARTA is well-positioned to deliver the first Joint Advanced Seminar (JAS) soon after PhD fellows enrol at partner institutions.** The JAS events are important to CARTA's overall intervention logic in providing core skills to PhD fellows and facilitating networking amongst researchers. The curriculum for the first JAS was developed by the end of year one; with plans in place to deliver the residential course in April 2011. This should enable fellows to put into practice the initial training received early in their studies.

3.1.2 CARTA put in place suitable management and governance structures, which were operationalised in year one

In common with other consortia in the Africa Institutions initiative, CARTA is a multi-faceted, multi-stakeholder programme. The establishment of suitable management and governance structures was a core component of year one activities. This included developing the systems to enable the management and governance structures to work, e.g. establishing and filling the roles of groups and individuals in order to plan and deliver the programme. There were delays in establishing the governance structure to incorporate feedback from the Wellcome Trust and from partner institutions, however, an agreed structure was in place by the end of year one. This meant that the Board of Management could meet in June 2010 with plans to convene the inaugural Partners' Forum in October 2010. Most of the CARTA management and support positions have been filled in year one, which should help the programme keep on track and also allow academic staff to focus on areas of the programme where they add the greatest value.

3.1.3 Partner institutions will be responsible for prioritising future efforts in building institutional capacity in physical and ICT infrastructure

At the heart of CARTA's overall intervention logic is the development of human research capacity through the development of CARTA PhD fellows. The intervention logic around improving physical and ICT infrastructure looks at the individual level (CARTA fellows) as well as the institutional level. Some high level investments are being made by CARTA in building ICT capacity for CARTA fellows, i.e. provision of software and training in its use, as well as use in optimal of the CARTA website.

In contrast, the focus with regard to building capacity in physical infrastructure is in providing relatively small grants to partner institutions in order to provide seed funding for institutions to use as the basis for raising the necessary additional funding. This co-funding approach was designed to increase the 'ownership' of the projects by institutions for infrastructure that will benefit their post-graduate students. Consequently, responsibility for implementation of these improvements rests with the institutions. CARTA's role will be to ensure that the seed funding is being used to meet well defined

needs and that institutional projects progress within an agreed time, cost and quality envelope.

The risk of this approach is that the responsibility for delivery in line with plans does not lie with CARTA but with the individual institutional partners. Nevertheless, achieving these plans at the institutional level is essential for the consortium to reach its intervention logic outputs of using *"improved infrastructure ... to support high quality research"* and of *"improving networking and collaboration efforts"* for CARTA fellows and other researchers. Beyond year one, CARTA will need to continue to develop plans to concretely monitor and evaluate partner institutions' progress against their individual plans in line with time, cost and quality parameters. This will ensure that the consortium as a whole is contributing to building regional capacity in physical and ICT infrastructure in line with the aims of the African Institutions initiative.

3.2   Learning from the past to inform future practice

3.2.1   Overall progress and enablers

The evidence from year one suggests that, overall, the consortium is broadly on track; with a focus so far on programme initiation. The majority of progress so far has been in laying the foundations for implementing the consortium's core capacity building interventions in the future, for example:

- Training programmes (in core research skills through the Joint Advanced Seminars and in research management and governance)
- PhD research fellowships
- Strengthening collaboration between institutions and networking between CARTA fellows as well as with wider institutional authorities,

Not all year one milestones have been fully met – for example the programme was launched at all but one of the eight African universities at which launches had been intended during this period; and one staff position remained un-filled. However, in the context of the overall intervention logic of the programme, these delays are not expected to have a significant impact in the medium term.

On the basis of the evidence we have seen and the interactions we have had, the foundations that were laid in year one are sound, and it appears that good progress has been made in terms of programme planning and establishing management structures. The outcome of this planning is expected to become tangible over the remainder of the programme, beginning in year two.

As discussed in the inception reports, there are a number of factors related to consortium strategy, leadership and management practices that appear to have enabled the consortium's progress. Some of the key aspects of CARTA's evolution during year one are summarised below:

- **Strong leadership and effective management**: The consortium leadership team is dynamic, charismatic and well-respected. They have established a clear and ambitious vision for CARTA and have been proactive in promoting the CARTA

model to other funders. The management processes that have been put in place appeared to be functioning effectively in year one.

- **Structured programme management**: CARTA has a structured road map summarising the key events over the next year and has demonstrated progress in meeting milestones.   This is also reflected in a relatively robust approach to considering risk. The appointment of a programme manager has provided a single point of focus for this activity and a communication hub for the consortium and for the E&L team.

- **Clear focus on delivering change that reflects the intervention logic:** It is straightforward to summarise what CARTA is trying to achieve: to promote high-quality multidisciplinary research on priority health issues generated by a sustainable body of retained researchers in Africa. The evidence collected through the workshop, presentations given by CARTA and reviewing other documents produced by the consortium suggests that this clear message permeates all CARTA activity and helps to create unity of purpose in realising this goal.

3.2.2   Challenges and areas for further attention

Challenges were also experienced on some fronts and provide insights into areas CARTA should consider.

- **Building critical mass in research:** The concept of building a critical mass of highly qualified, well trained and networked[9] researchers is of central importance for CARTA. It reflects thinking about critical mass that goes beyond a focus on size[10] to focus on a mode of knowledge production[11] that makes communication, linkages and collaboration central to producing quality outputs. However, critical mass is an elusive target that can be difficult to describe let alone identifying concrete steps to achieve it. In addition, its shape and impact depend on the context in which it is being built or identified.

    There are a number of issues to bear in mind when considering how best to identify and achieve critical mass:
    - o the level of focus, e.g. the individual CARTA fellow or member of support staff; the public and population health department (PPH); the partner institution; or the consortium as a whole;
    - o the optimal size of a group for producing high quality research outputs[12], e.g. the size of cohorts of CARTA fellows;
    - o the importance of key outstanding individuals

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[10] Powell, W. W., K. W. Koput, et al. (1996). "Interorganizational collaboration and the locus of innovation: Networks of learning in biotechnology." Administrative science quarterly **41**(1): 116-145.

[11] Gibbons, M., H. Nowotny, C. Limoges, M. Trow, S. Schwartzman and P. Scott (1994). The New Production of Knowledge: The Dynamics of Science and Research in Contemporary Societies. London, UK, Sage Publications Inc.

[12] Rey-Rocha, J., B. Garzón-García and M. J. Martín-Sempere (2006). "Scientists' performance and consolidation of research teams in Biology and Biomedicine at the Spanish Council for Scientific Research." Scientometrics **69**(2): 183-212.

    o   the relationships between the numbers of researchers and support staff, e.g. the relative importance of supervisors compared to librarians or ICT support staff

As the CARTA programme evolves, it will be useful to bear these points in mind in order to adapt programme elements to optimize conditions for building critical mass, rather than risk falling short of aims for the programme.

- **Broad thematic focus:** CARTA has a broad agenda for building capacity. The strategy is to promote interdisciplinary and collaborative research and contributions to health needs in the region, and to support the best researchers and students in the region. However, a risk associated with the lack of a specific focus on a disease area is that it could lead to a diffusion of impact across many research areas and geographical regions; this should be reflected on when interpreting outputs and outcomes. This may also compromise the ability of CARTA fellows to forge productive networks if the areas of research are too diverse.

- **Reliance on key individuals:** The outcome of the strong leadership demonstrated by the senior leaders appears to be a real sense of momentum in the CARTA programme, and clarity of purpose among the senior leadership. However, it is possible this may lead to over-reliance on the key individuals (and their institutions at APHRC and Wits) with the associated risk that opportunities for increasing leadership capacity in other institutions are not fully realised. Additionally, the consortium should ensure that all partner institutions are fully engaged in the programme as it is driven forwards in order to maximise the benefits of the CARTA programme across all institutions.

- **Maintaining cohesion and collaboration across a diverse consortium:** The networked approach of the CARTA programme relies on strong engagement from all partner institutions in committing time, energy and resources to the initiative. It also requires an inclusive approach from the leadership team. Both of these key enabling factors will require active and ongoing attention throughout the programme. The evidence during year one (based on interviews, the workshop and documents such as MoUs and letters of commitment) suggests that relationships are working and institutions are broadly committed to the programme. However, some concerns have been raised about maintaining commitment across member organisations: for example in the engagement of some partner institutions in the development of the training programmes. In addition, some concerns were raised about maintaining commitment across member organisations, and the need for individuals at each member organisation to fulfil responsibilities in a timely fashion.

3.2.3 Engagement with evaluation and learning

- **Efforts to embed evaluation and learning in the programme:** A key theme in the E&L workshop during participant discussions was the importance of accountability and openness to CARTA's success in fulfilling its objectives. In addition, it was clear prior to the workshop that CARTA have considered how best to evaluate their activities.

- **Multidisciplinary research hubs:** A particular challenge is likely to be in the evaluation of longer-term progress in the establishment of multidisciplinary research hubs. The current approach is to evaluate and learn from the quality of the processes and activities that should contribute to this outcome (such as interaction between partner institutions and feedback from the Joint Advanced Seminars) and measure some of the outputs (such as joint publications and grant applications). Due to the long-term nature of the outcomes, and the somewhat intangible nature of informal networks and relationships it will be important for both consortium and the E&L team to continue considering the extent to which the interventions and processes in this area are likely to create sustainable outcomes.
- **Consortium capacity for internal evaluation and learning:** During year one CARTA utilised existing APHRC capacity in evaluation and have also drawn on relationships with northern partners with some experience in this area. While the recruitment of a dedicated staff member to take charge of evaluation and learning was not initially considered to be necessary by CARTA, concerns about the level of effort and resources to support evaluation and learning were raised by the consortium in year one. The request made for additional funding from the Wellcome Trust could be seen as a means to address this situation; with one option being to recruit a dedicated evaluation and learning officer.
- **Effective relationship between the E&L team and the consortium:** Following the workshop in Nairobi, clear lines of communication were established between CARTA and the E&L team. This has helped to facilitate transfer of information and provide a locus within the consortium for programme management, co-ordination and E&L.

3.3 Sharing initiative-wide learning: insights from the various consortia

CARTA's experience and the experience of the other six consortia in the African Institutions initiative, provide insights into wider learning points about the African-led, networked capacity building model which the Wellcome Trust is supporting. We hope to further enrich initiative-wide learning in the years to come. Here, we reflect on early emerging insights, drawing on year experiences in the initiative, across all seven consortia:

Most consortia were broadly on track with implementing their capacity building plans for year one. Consortia first prioritised activities needed to ensure the award terms and conditions were met, and to consolidate collaboration arrangements.

This included strengthening relationships between partners; implementing appropriate academic and financial governance and management structures; developing training programmes; maturing processes for selecting and appointing fellows, students and supervisors; and further specifying planned road-maps for activities. At the end of the first year, some of the consortia had clear, detailed and structured road maps summarising key events in their timeline and milestones. Others were still at a stage of specifying core milestones, establishing implementation timelines and clarifying areas of vagueness.

However, setting up research consortia has been time-intensive. Incubation periods have in many cases taken longer than was originally expected by both award recipients and

the Trust. Could learning from the experience of the African Institutions Initiative help in identifying issues that can be addressed at pre–award stages and help prevent some delays once awards are announced? The reasons for delays and postponements varied:

(i) Establishing requisite financial management and reporting systems for the release of Trust funding took longer than was anticipated; particularly in sub-awardee institutions. Training provided by Trust staff has helped, and a number of lead institutions have suggested that direct funder engagement with sub-awardee institutions could assist them in ensuring efficient and effective practice in not only financial management issues, but in general adherence to award terms and conditions more broadly. Exploring how different funders might coordinate and streamline financial reporting requirements was expressed as another important area for funder attention.

(ii) Recruitment processes were another area where some challenges in identifying suitable candidates were experienced (e.g. for some post docs).

(iii) Gaining approvals for various aspects of consortia activity from institutional authorities also took slightly longer than originally foreseen, particularly in the case of one partner.

(iv) Some consortia were slightly amending original plans, in light of emerging needs and changes in capacity-strengthening contexts. Consortia appreciate flexibility from the Trust in this regard. In most cases, these adaptations seem to reflect proactive leadership and management decisions rather than drift.

The African Institution's initiative promotes individual and institutional capacity building through a range of activities. In year one, interventions for progressing training programmes, fellowships and studentships generally took priority over interventions for strengthening research management skills and capabilities in most institutions.

In the first year, many consortia were revisiting the types of capacity building interventions that are needed to strengthen systems, procedures and skills for research management and administration across the initiative. In particular, this applies to identifying requisite training needs in areas such as financial and grant management, grant writing and supervisory skills, and exploring opportunities for access to existing courses at partner organisations in the network.

Most consortia have in the first year been focusing on research capacity-building interventions which are being funded through the Trust award. In a minority of cases, trying to source additional funding from non-Trust sources has been high on the priority list as well.

This applies particularly strongly (though not exclusively) to consortia which were awarded significantly less funding than they had applied for at proposal stages, and who perceive the successful pursuit of their vision and implementation of capacity-strengthening logic to be intimately related to leveraging additional support early-on. This is partly related to the fact that some consortia see the Wellcome Trust award as a spring-board for larger future endeavours, while others as a large scale and long-term programme in itself.

The buy-in for research, from high-level authorities in universities and in national ministries is widely seen to be crucial for maximising the impact of the African Institutions initiative, and for the sustainability of its outputs. It is also important for managing institutional bureaucracy. Consortia are investing into securing such buy-in.

The scale of the African Institutions initiative presents a unique opportunity for a concerted effort to change the standing of research in universities in Africa. The initiative could also shed new light on the most-effective means of advocating for and attaining such high-level support for research system strengthening. Personal relationships and the reputation, experience and networks of senior consortium leaders in national and international research and policy circles appears to be crucial. Ensuring that senior authorities are kept informed and engaged with consortia activities was also considered important by consortia leadership. Some consortia representatives also see direct foreign funder communication with Vice-Chancellors of Universities, Deans of Faculties, representatives in Ministries (e.g. of science, education, finance) as desirable.

The fundamental feature of the African Institutions initiative as a *networked* initiative appears to be materialising in practice, and it will be important for the collaborative spirit to be sustained and further strengthened as the initiative evolves.

Most consortia established effective early working relationships between partners during the first year, and it will be important to sustain these throughout the initiative's life. In some cases, partners had also already started collaborating in other initiatives. Some challenges in maintaining regular communications between participants from different institutions were expressed across the initiative, but are being addressed. These challenges appear to relate both to limitations in communications infrastructure and to the extent to which a consortium is forming *new* relationships. Consortia also identified networking and exchanging experiences with other partnerships as a possible way of avoiding duplication and inefficient use of resources. However, most senior leaders felt that it was too early to engage in much collaboration and information - sharing between different consortia during the first year. There are some exceptions. To varying degrees, consortia are also working towards engaging high-level institutional and regional authorities in their activities, and towards establishing and implementing communication and public engagement plans. In a minority of consortia, there appeared to be potential over-reliance on a single individual or small number of individuals for progress with initial activities or a strong centre of gravity around the lead organisation or one or two partners. Ensuring that all partners are fully engaged in the programmes as they are driven forward could be important for sustaining a networked and truly collaborative approach to capacity building across Africa.

Overall and at present, the initiative seems to be living up to its promise of being *African-led*, to varying degrees across different consortia.

A great deal of enthusiasm and commitment was evident in the leadership of all consortia, and across partners more widely. However, decision-making in some consortia seemed to be more markedly African-led than in others. The reputation and experience of senior consortium leadership appears to be important in this regard, including for internal cohesiveness and respect from all partners. The outcome of committed leadership seems to be a strong sense of direction and momentum, and clarity in purpose. However, senior leadership in some consortia felt that greater management and administrative support would have enabled them to direct consortia activities more efficiently in the first year. In a minority of consortia, there appeared to be potential over-reliance on a single individual or small number of individuals for progress with initial activities or a strong centre of gravity around the lead organisation or one or two partners. Ensuring that all partners are fully

engaged in the programmes as they are driven forward and that leadership has appropriate administrative and management support could be important for sustaining a networked and truly collaborative approach to capacity building across Africa. In common with delivering most large scale changes, the African Institution's initiative takes place within a wider set of social relationships, including traditional North-South power imbalances. The initiative is identifying and exploring ways to challenge and change these imbalances while maintaining effective collaborations to build research capacity. This provides a unique opportunity for learning and exploring how formal changes in ownership and control arrangements of research capacity initiatives affect incentives for collaboration, the roles and behaviours of partners, and the perceived rewards from collaboration.

Consortia have been reflective and considered the strengths, limitations and potential risks associated with their initiatives, and have considered potential risk management actions. It could be beneficial for the Trust and consortia to maintain an open dialogue around how risk mitigation and management plans unfold in the initiative, as it evolves.

Most consortia have proactively identified risks for their initiative in a number of areas. Some common examples include issues related to:

(i) Political stability;

(ii) Sustaining partner commitment over time and adherence to terms and conditions of the Trust award;

(iii) Potential staff turnover and the retention of 'organisational memory';

(iv) Challenges related to institutional and policy-level buy-in for research activity at universities;

(v) Exchange rate fluctuations;

(vi) Ensuring inclusiveness across the network and minimising over-reliance on specific individuals for progress;

(vii) Balancing expectations, enthusiasm and ambitions with budget;

(viii) Maintaining focus on overall objectives while delivering day-to-day programme elements.

Appendix A: Reporting timelines

Table 8. Annual reporting: timelines for receiving information from consortia

TIMING OF YEARLY REPORTING (Quantitative and Qualitative evaluation progress information)			
REPORT NUMBER	**African Institutions initiative PROJECT YEAR**	**REPORTING ON (PERIOD)**	**DEADLINE FOR RECEIPT OF MATERIAL FROM CONSORTIA (9am Cambridge time)**
0	Year 0	Baseline/inception report	28-Jan-11
1	Year 1	1-Aug-2009 - 31-Jul-2010	31-Mar-11
2	Year 2	1-Aug-2010 – 31-Jul-2011	15-Sep-11
3	Year 3	1-Aug-2011 – 31-Jul-2012	15-Nov-12
4	Year 4	1-Aug-2012 – 31-Jul-2013	14-Nov-13
5	Year 5	1-Aug-2013 - 31 Jul-2014 (essentially, remainder of 2013)	Communication format and timelines to be confirmed.

Table 9. Quarterly reporting: timelines for receiving information from consortia

TIMING OF NARRATIVE QUARTERLY REPORTING			
REPORT NUMBER	**African Institutions initiative PROJECT YEAR**	**REPORTING ON (PERIOD)**	**DEADLINE FOR RECEIPT OF MATERIAL FROM CONSORTIA**
1	Year 2 (1-Aug-2010 – 31-Jul-2011)	1-Nov-2010 - 31-Jan-2011	15-Feb-11
2		1-Feb-2011 - 30-Apr-2011	16-May-11
3		1-May-2011 - 31-July-2011	15-Aug-11
4	Year 3 (1-Aug-2011 – 31-Jul-2012)	1-Aug-2011 - 31-Oct-2011	15-Nov-11
5		1-Nov-2011 - 31-Jan-2012	15-Feb-12
6		1-Feb-2012 - 30-Apr-2012	15-May-12
7		1-May-2012 - 31-July-2012	15-Aug-12
8	Year 4 (1-Aug-2012 – 31-Jul-2013)	1-Aug-2012 - 31-Oct-2012	14-Nov-12
9		1-Nov-2012 - 31-Jan-2013	18-Feb-13
10		1-Feb-2013 - 30-Apr-2013	16-May-13
11		30-Apr-2013 - 31-July-2013	16-Aug-13
12	Year 5 (1-Aug-2013 - 31 Jul-2014)	1-Aug-2013 - 31-Oct-2013	15-Nov-13
13		1-Nov-2013 - 31-Jan-2014	17-Feb-14

Appendix B: Evaluation and learning indicators

This appendix lists the qualitative and quantitative indicators to assess performance annually, and compares CARTA's performance in year one to its quantitative milestones (the qualitative information was reported throughout this report). These indicators and their associated milestone were developed by CARTA in conjunction with the E&L team as part of the evaluation and learning project inception workshop and follow-up work.

Qualitative indicators

The E&L team submitted the following guidance to the consortium for reporting on the qualitative indicators:

- This document is an adaptation of the qualitative indicators outlined in tab 5 of the MLE document.
- Please only discuss progress related to activities that have occurred in **_year one_** of the African Institutions Initiative: i.e. referring to the period **of 1 August 2009 to 31 July 2010.**
- Please provide answers under each question. The question numbers refer to qualitative evaluation indicators that accompany the targets (milestones) in your spreadsheets. These have now been presented in the form of questions, with accompanying guidance for each. We appreciate that it may be too early for developments to have happened regarding some of the questions during one1. However, we have left them in this template so that we do not omit important information (if developments might have happened). Answers can be provided in paragraph format under each question, or in an accompanying document.
- Please provide any references to support the evidence you communicate (e.g. references to documents).
- If there have not been any developments in *year one* regarding a specific question, please clarify that it is too early to provide answers to the specific question.
- Please contact Matt Bassford, Sonja Marjanovic or Janice Pedersen for any clarifications.

The qualitative indicators were as follows:

Category of Effort 1: Capacity strengthening in research leadership and training

1. Please provide information on the JAS and pre-JAS curricula modules.
2. What has the rationale/selection criteria been for CARTA fellows.

3. What activities have been undertaken in year one to promote/market CARTA's opportunities to PhD students.
4. What student assessment (performance review) processes have been set up in year one?
5. Has the CARTA programme contributed to improvements in the curricula at CARTA fellows' home institutions (to be reported by university committees annually)? If so, in what ways? If not, please describe any effect of the CARTA programme.
6. What has the nature/quality of CARTA fellows' contributions to their home institutions been (to be reported annually by university committee)?
7. Is there evidence/narrative information on the increased capacity of African institutions to supervise PhD students?

Category of Effort 2: Capacity strengthening in research governance, management and administration

1. Please describe the types of RGMA staff employed per institution during year one.
2. What relevant expertise, resources and good practice exist across the consortium which can be tapped into to help in efforts to improve research governance, management and administration? (E.g. exemplars of good practice at a member organisation that can be adopted consortium-wide). Please describe any associated developments in *year one*. Please include descriptions of the types of networking and collaboration efforts took place in *year one*, specifically to make better use and sharing of existing RGMA capacity in CARTA?
3. Has there in year one been evidence of sharing best practice/adoption and adaptation of RGMA practices within the consortium network, such as SOPs and guidelines, CV formats and updates?
4. In year one, has there been any evidence of CARTA contributions to institutions in terms of improved research governance, management and administration practices at the institutional level (e.g. whole university, not just faculty, or faculty not just research group)? Please provide any relevant information to support this.
5. In year one, has there been any evidence of strengthened relations and cooperation between CARTA individuals and research governance, management and administration support staff at institutional levels? Please provide any relevant information to support this.

Category of effort 3: Strengthening physical and ICT infrastructure

1. What improvements have been made to physical infrastructure across the consortium in year one, through CARTA support? Please provide also any relevant information related to year one developments related to ICT infrastructure (e.g. access, functionality) across partners, as well as small refurbishment and equipment grants.
2. If applicable, what networking and collaboration efforts took place in *year one*, to make better use and sharing of existing physical infrastructure in CARTA's home institutions (e.g. accessibility to existing labs and equipment)?

3. Please provide narrative information on the extent to which proposed changes have been carried out (per institution).
4. Please provide narrative information on the utility of the website for CARTA fellows. Could you provide information on the contents and maintenance of the CARTA website over *year one*? What do you consider to be the core uses of the website in year one? Also, please discuss any feedback provided on its usefulness.

Category of effort 4: Strengthening CARTA management and administration
1. Have there been further changes in CARTA's governance and management structure in year one? If so, please describe these. How is this structure meeting the needs of the consortium?
2. Please discuss the extent to which there is evidence for robust and transparent processes for allocating and prioritising resources in year one (e.g. needs assessment, other allocation criteria), backed up by available documentation if applicable.
3. If CARTA's funder networks have evolved in year one, please describe these changes since the baseline position for the consortium.
4. Which types of administrative, ICT and management positions have been filled in year one?
5. Please provide narrative information on year one activities to improve the number and nature of new funder relationships or to improve existing relationships.
6. Please discuss the nature of administrative, ICT, management positions actually filled in year one.
7. Please provide narrative information about changes to staffing in year one, the nature and effects of these on CARTA management and administration.

Quantitative indicators
The contents of the tables below present targets (milestones) which can be quantified as well as some targets that are not immediately quantifiable but that are nevertheless concretely measurable. Other more qualitative milestones are captured in Appendix D and will be referred to when evaluating progress annually. This document outlines aspects of CARTA plans regarding management, staffing, training programmes, publicity, as well as monitoring and evaluation, punctuated by Board of Management (BoM) and Partners' Forum meetings.

Category of Effort 1 – Strengthening Research Leadership and Contribution to Critical Mass

CATEGORY OF EFFORT 1 - STRENGTHENING RESEARCH LEADERSHIP AND CONTRIBUTIONS TO CRITICAL MASS				
	SUB-CATEGORY OF INDICATORS (DRAFT)	**INDICATORS**	**REALISED VALUE**	**TARGET YR 1 1/08/2009 – 31/07/2010**
INPUT INDICATOR TARGETS AT THE LEVEL OF: CARTA FELLOW				
1	Number of qualified faculty that can supervise PhD students - supervisor pool	Number of available supervisors for CARTA fellows/PhD students from administrative database of supervisors and their expertise. From all universities and institutions.	Every CARTA fellow matched to a primary supervisor and secondary supervisor.	N/A
2	Institution-level selection criteria/selection process for PhD students	List compiled from partner institutions' administrative records, minutes of CARTA institutional committee	N/A	Narrative on selection process set by each institution and shared with the Secretariat.
3a	Partners' Forum selection criteria for PhD students.	List compiled from administrative records and minutes of the CARTA institutional committee.	N/A	Narrative on selection process.
3b	▨	Number of nominees who complete pre-Jas, Part 1	N/A	Not applicable for year 1. First group of nominees for CARTA fellows complete pre-JAS, part 1 in year 2
3c	▨	Number of PhD students actually enrolling and starting PhD. To be backed by narrative if there is a shortfall.	N/A	N/A for year 1. Cohort 1 selected in year 2
4	Establishment of pre-JAS curriculum and examination methods.	Narrative information.	N/A	N/A for year1. Pre-JAS curriculum in place for Pre-JAS, Part 1, and for Pre-JAS Part 2, both to be undertaken in Year 2.
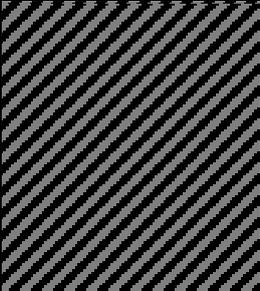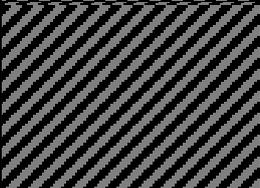
CATEGORY OF EFFORT 1 - STRENGTHENING RESEARCH LEADERSHIP AND CONTRIBUTIONS TO CRITICAL MASS				
	SUB-CATEGORY OF INDICATORS (DRAFT)	INDICATORS	REALISED VALUE	TARGET YR 1 1/08/2009 – 31/07/2010
5	Establishment of JAS curricula and examination methods.	Narrative information.	N/A	N/A for year1. JAS 1 for cohort 1 occurs in Year 2.
6	To identify facilitators for the JAS sessions	Number of facilitators for the JAS sessions	N/A	N/A for year 1. JAS 1 for Cohort 1 occurs in year 2.
INPUT INDICATOR TARGETS AT THE LEVEL OF: SUPERVISOR				
7	To identify supervisors of CARTA fellows for purposes of supervisor training	List of CARTA fellows' supervisors provided. Record of supervisor-CARTA fellow pairs at each institution prior to JAS1.	N/A	N/A for Year 1. Assignment of supervisors for Cohort 1 occurs in year 2
8	To develop curricula for supervisors' refresher course	Supervisor training curriculum developed	N/A	N/A for year 1. Supervisor refresher course for Cohort 1 fellows' supervisors occurs in year 2
9	To identify facilitators for the supervisors' refresher course.	Facilitator identified for the supervisor refresher course	N/A	N/A for year 1. Supervisor refresher course for Cohort 1 fellows' supervisors occurs in year 2
INPUT INDICATOR TARGETS AT THE LEVEL OF: INSTITUTION				
10	Number of PhD students actually enrolling and starting PhD	Number of PhD students actually enrolling and starting PhD (per institution, total per cohort, gender) (with narrative if shortfall)	N/A	N/A for year 1. Baseline reports submitted in Year 2
PROCESS INDICATOR TARGETS AT THE LEVEL OF: CARTA FELLOW				

CATEGORY OF EFFORT 1 - STRENGTHENING RESEARCH LEADERSHIP AND CONTRIBUTIONS TO CRITICAL MASS				
	SUB-CATEGORY OF INDICATORS (DRAFT)	**INDICATORS**	**REALISED VALUE**	**TARGET YR 1 1/08/2009 – 31/07/2010**
11a	To establish CARTA fellows participation/ attendance in CARTA's training programs	Number of Fellows who complete pre-Jas, Part 2 (per cohort and institution)	N/A	N/A for year 1. Cohort 1 completes pre-JAS, Part 2 in Year 2
11b	Number of fellows who actually participate in each JAS	Number of students who complete pre-Jas, Part 1 Per cohort, institution, annually per JAS. Record of number of times CARTA fellows log on to website. See student database for breakdown.	N/A	N/A for year 1. Cohort 1 begins-JAS in Year 2
11c	Number of fellows who drop out of PhD courses.	Number of students who drop out (with narrative) - Disaggregated by member institution and country	N/A	N/A for y1. Cohort 1 begins-JAS in Year 2
11d	Number of fellows not renewed.	Number of students not renewed. To be backed by narrative - this follows the review processes and how PhD progress is monitored. There can be many reasons for drop out, including personal circumstances	N/A	N/A for year 1. Cohort 1 selected in year 2
12a	To evaluate the quality of CARTA's pre-JAS, Part 2 training activities	Narrative feedback from fellows on JAS 1 sessions where pre-JAS tasks, Part 2 are presented	N/A	N/A for year 1. JAS 1 for Cohort 1 occurs in year 2
12b		Number of fellows who rate sessions where pre-JAS tasks, Part 2 are presented as helpful or very helpful	N/A	N/A for year 1. JAS 1 for Cohort 1 occurs in year 2

CATEGORY OF EFFORT 1 - STRENGTHENING RESEARCH LEADERSHIP AND CONTRIBUTIONS TO CRITICAL MASS			
	SUB-CATEGORY OF INDICATORS (DRAFT)	INDICATORS	REALISED VALUE	TARGET YR 1 1/08/2009 – 31/07/2010
13a	To evaluate the quality of CARTA's JAS training program	Narrative feedback from fellows on JAS sessions, including learning outcomes and relevance to Fellows' work.	N/A	N/A for year 1. JAS 1 for Cohort 1 occurs in year 2
13b		Number of Fellows who rate JAS sessions as helpful or very helpful	N/A	N/A for year 1. JAS 1 for Cohort 1 occurs in year 2
14a	To assess CARTA fellows' implementation of inter-JAS activities	Number of inter JAS seminars actually carried out by PhD fellows at their home institutions (per institution, total per cohort)	N/A	
		Inter-JAS 1-2	N/A	N/A for year 1. Inter-JAS 1-2 for Cohort 1 occurs in year 2-3
		Inter-JAS 2-3	N/A	N/A for year 1. Inter-JAS 2-3 for Cohort 1 occurs in Year 3-4
		Inter-JAS 3-4	N/A	N/A for year 1. Inter-JAS 3-4 for Cohort 1 occurs in Year 5
14b	Number of fellows submitting inter-JAS tasks (e.g., Literature review in inter-JAS 1-2) by stipulated deadlines	Number per institution, and total per cohort		
		Inter-JAS 1-2	N/A	N/A for year 1. Inter-JAS 1-2 for Cohort 1

CATEGORY OF EFFORT 1 - STRENGTHENING RESEARCH LEADERSHIP AND CONTRIBUTIONS TO CRITICAL MASS				
	SUB-CATEGORY OF INDICATORS (DRAFT)	INDICATORS	REALISED VALUE	TARGET YR 1 1/08/2009 – 31/07/2010
				occurs in year 2-3
		Inter-JAS 2-3	N/A	N/A for year 1. Inter-JAS 2-3 for Cohort 1 occurs in year 3-4
		Inter-JAS 3-4	N/A	N/A for year 1. Inter-JAS 3-4 for Cohort 1 occurs in year 5
15	To support networking activities among CARTA fellows in order to contribute to institutional networks	Narrative information on networking activities. Examples: usage of website for interaction; completion of joint assignments (e.g., pre-JAS tasks that require two or more fellows to complete a joint task)	N/A	N/A for year 1. Cohort 1 selected in year 2.
16	To support professional networking activities of CARTA fellows	Number of CARTA fellows with accepted abstracts who are supported to attend scientific conferences	Each Fellow Is expected to attend at least one scientific conference over the duration of the fellowship. Support is dependent on evidence of accepted abstract for oral presentation at conference	N/A for year 1. Cohort 1 selected in year 2.
PROCESS INDICATOR TARGETS AT THE LEVEL OF: SUPERVISOR				
17	To establish CARTA fellows' supervisors' participation/ attendance in CARTA's supervisor refresher course and fellows' JAS 1 proposal	Number of supervisors who attend the supervisor refresher course and Fellows' JAS 1 proposal presentations	All supervisors of CARTA fellows expected to attend JAS 1	N/A for year 1. First supervisor refresher course occurs

CATEGORY OF EFFORT 1 - STRENGTHENING RESEARCH LEADERSHIP AND CONTRIBUTIONS TO CRITICAL MASS			
	SUB-CATEGORY OF INDICATORS (DRAFT)	INDICATORS	REALISED VALUE	TARGET YR 1 1/08/2009 – 31/07/2010
	presentations			in Year 2.
18	To evaluate the quality of CARTA's supervisory refresher course	Narrative feedback from supervisors on the supervisor refresher course	N/A	N/A for year 1. Supervisors refresher course for supervisors of Cohort 1 fellows occurs in year 2
PROCESS INDICATOR TARGETS AT THE LEVEL OF: INSTITUTION			
19	To share learning from the JAS with wider university community	Number of inter JAS seminars carried out (per institution, total per cohort)		
		Inter-JAS 1-2	N/A	N/A for year 1. Inter-JAS 1-2 for Cohort 1 occurs in Year 2-3
		Inter-JAS 2-3	N/A	N/A for year 1. Inter-JAS 2-3 for Cohort 1 occurs in year 3-4
		Inter-JAS 3-4	N/A	N/A for year1. Inter-JAS 3-4 for Cohort 1 occurs in year 5
OUPUT INDICATOR TARGETS AT THE LEVEL OF: CARTA FELLOWS			
20	To promote on time graduation of CARTA fellows	Number of CARTA fellows who complete PhD in anticipated timeframe (per institution, gender, total per cohort)	The expected number of PhDs would be 100 assuming an annual cohort of 25 over 4 years. However only one cohort is expected to graduate by	N/A for year 1.

CATEGORY OF EFFORT 1 - STRENGTHENING RESEARCH LEADERSHIP AND CONTRIBUTIONS TO CRITICAL MASS			
	SUB-CATEGORY OF INDICATORS (DRAFT)	**INDICATORS**	**REALISED VALUE**	**TARGET YR 1 1/08/2009 – 31/07/2010**
			2014	
21a	To increase scientific productivity among CARTA fellows	Number of publications submitted to peer-review journals or book chapters by CARTA fellows	CARTA fellows are expected to submit at least one publication over the course of the program	N/A for year 1.
21b		Number of conference presentation (oral or poster) by CARTA fellows	No annual targets set because it is difficult to predict a feasible number of collaborative research proposals	N/A for year 1.
22	To increase CARTA fellows' capacity to generate research funding	Number of research proposals by CARTA beneficiaries that are submitted and/or funded	No annual targets set because it is difficult to predict a feasible number of research proposals submitted	N/A for year 1.
23	To ensure that fellows have contributed to international visibility/reputation of institution	As in 21a & b	CARTA fellows are expected to submit at least one publication and attend one regional/international conference over the course of the program	N/A for year 1.
24a	To improve teaching in participating African universities	Fellows' narratives of changes in teaching methods	Assessment from all participants.	N/A for year 1.
24b		Ratings of inter-JAS seminars	Assessment from all participants.	N/A for year 1.
OUPUT INDICATOR TARGETS AT THE LEVEL OF: INSTITUTION				
25	To produce new PhDs in PPH	Number of CARTA fellows who complete PhD (per institution, gender, total per cohort)	The expected number of PhDs would be 100 assuming an annual cohort of 25 over 4 years. However only one cohort is expected to graduate by 2014	N/A for year 1.
OUTCOME INDICATORS AT THE LEVEL OF: CARTA FELLOWS				

CATEGORY OF EFFORT 1 - STRENGTHENING RESEARCH LEADERSHIP AND CONTRIBUTIONS TO CRITICAL MASS			
	SUB-CATEGORY OF INDICATORS (DRAFT)	**INDICATORS**	**REALISED VALUE**	**TARGET YR 1 1/08/2009 – 31/07/2010**
26a	To retain CARTA fellows in research or research-related position (preferably home institution) within sub-Saharan Africa	Number of fellows obtaining/staying on a research (related) position in sub-Saharan Africa within one year of completing PhDs	With qualitative information please explain if this is in a university, research institute, ministry research labs, policy, IGOs, NGOs, in a funding body… For PhDs this can include post-doctoral fellowships, or junior lectureships, etc.)	N/A for year 1.
26b		2. Number of new collaborative research programs involving CARTA fellows	No annual targets set because it is difficult to predict a feasible number of collaborative research programs	N/A for year 1.
27	To enhance research productivity at participating institutions through collaborative scientific writing	Number of collaborative new publications **submitted to/accepted in** peer-reviewed journals involving CARTA fellows, supervisors, or/and JAS facilitators (per institution, gender, cohort)	Collaborative' is between at least two beneficiaries of CARTA's training program No annual targets set because it is difficult to predict a feasible number of collaborative papers	N/A for year 1.
28	To create a diversified and enlarged research skills base for CARTA region, including networks of locally-trained internationally-recognized scholars	As in 25, 26a & b, 27	No annual targets set because it is difficult to predict a feasible number of collaborative research publications	N/A for year 1.
29	To increase the number of young researchers able to generate research funding	Number of research grants awarded with CARTA fellows as named Investigators	No annual targets set because it is difficult to predict a feasible number	N/A for year 1.
30	To improve mentoring in participating African universities	Increased capacity of CARTA fellows to mentor as evidenced by self-rating of importance of being a mentor to their career satisfaction,	No annual targets set because it is difficult to predict a feasible number	N/A for year 1.

CATEGORY OF EFFORT 1 - STRENGTHENING RESEARCH LEADERSHIP AND CONTRIBUTIONS TO CRITICAL MASS				
	SUB-CATEGORY OF INDICATORS (DRAFT)	**INDICATORS**	**REALISED VALUE**	**TARGET YR 1 1/08/2009 – 31/07/2010**
		and overall confidence in their ability to mentor		
OUTCOME INDICATORS AT THE LEVEL OF: INSTITUTION				
31	To develop a pool of highly skilled researchers, teachers and mentors for next generation (from graduated CARTA fellows) at institutional level	As in 24-30 above	No annual targets set because it is difficult to predict a feasible number	N/A for year 1.
32a	To create active research programs at participating universities	Number of new positions created as a result of new research programs developed by CARTA graduates and departments	No annual targets set because it is difficult to predict a feasible number	N/A for year 1.
32b		Number of new doctoral students supported with research funds secured by CARTA graduates	No annual targets set because it is difficult to predict a feasible number	N/A for year 1.
33	To enhance the capacity of African institutions to lead globally competitive research and training programs		Long term goal unlikely to be reached in project period	N/A for year 1.
34	To create an attractive research environment that mitigates brain drain from African institutions		Long term goal unlikely to be reached in project period	N/A for year 1.
35	To increase the generation of policy relevant research in the areas of public and population health	Evidence for relevance of new research to local, national or regional priorities in PPH	Long term goal unlikely to be reached in project period	N/A for year 1.
36	Improved population health in the region (very long term vision)		Long term goal unlikely to be reached in project period	N/A for year 1.

Category of Effort 2 – Improve Research Governance, Management and Administration Processes

CATEGORY OF EFFORT 2 –IMPROVE RESEARCH GOVERNANCE, MANAGEMENT AND ADMINISTRATION PROCESSES[13]				
	SUB-CATEGORY OF INDICATORS (DRAFT)	INDICATORS	REALISED VALUE	TARGET YR 1 1/08/2009 – 31/07/2010
INPUT INDICATOR TARGETS AT THE LEVEL OF: INSTITUTION				
1	To identify departments relevant to public and population health (PPH) within participating universities	Baseline narrative report on participating departments that are relevant to public and population health with each institution	N/A	N/A for year 1. Baseline reports submitted in year 2
2	To ensure that expectations (of CARTA) at participating institutions reflect CARTA's goals	Narrative on institutional expectations in terms of: research outputs; graduate teaching and supervision; quality of doctoral graduates; etc.	N/A	N/A for year 1. Baseline reports submitted in year 2
3	To develop training curricula for faculty and staff at participating universities	Training topics and facilitation schedule developed for RGMA training programs	N/A	N/A for year 1. Training programs for faculty and staff to be held from year 2
4	To identity faculty and staff to benefit from CARTA's training programs	Training programs for faculty and staff to be held from Year 2	N/A	N/A for year 1.
PROCESS INDICATOR TARGETS AT THE LEVEL OF: INSTITUTION				

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[13] Please note that this excludes the JAS which is covered in Category 1. This relates to proposed short courses for faculty and university administrative staff.

CATEGORY OF EFFORT 2 –IMPROVE RESEARCH GOVERNANCE, MANAGEMENT AND ADMINISTRATION PROCESSES[13]				
	SUB-CATEGORY OF INDICATORS (DRAFT)	INDICATORS	REALISED VALUE	TARGET YR 1 1/08/2009 – 31/07/2010
5	To implement training workshop for faculty and staff in RGMA related skills (e.g. supervision skills, grant writing, research management, information retrieval, efficient enrolment, monitoring and reporting procedures, etc.)	Number of each distinct type of training courses related to RGMA actually conducted	N/A	N/A for year 1. Trainings commence in year 2
OUTPUT INDICATOR TARGETS AT THE LEVEL OF: INSTITUTION				
6	To have a pool of faculty and staff who have been trained on effective supervision skills, grant writing, research management, information retrieval, efficient enrolment, monitoring and reporting procedures, etc.	Number of people actually trained in RGMA skills by job type (i.e. librarians, IT specialists, faculty, etc.)	Difficult to set targets because numbers will depend on numbers identified by partner institutions.	N/A for year 1. Training commences in year 2
OUTCOMES AND IMPACT INDICATOR TARGETS AT THE LEVEL OF: INSTITUTION				
7	To promote more efficient research practice enabled by improved research governance, management, administration infrastructures and practices at consortia level, institutional level, and meets international standards	Narratives showing change in research management and practice, as well post-graduate training at institutional level	Long term goal unlikely to be achieved in project period	N/A

Category of Effort 3 – Infrastructure: Improve the Physical (Includes ICT) Environment for Research

CATEGORY OF EFFORT 3 - INFRASTRUCTURE: IMPROVE THE PHYSICAL (INCLUDES ICT) ENVIRONMENT FOR RESEARCH				
	SUB-CATEGORY OF INDICATORS (DRAFT)	INDICATORS	REALISED VALUE	TARGET YR 1 1/08/2009 – 31/07/2010
INPUT INDICATOR TARGETS AT THE LEVEL OF: CARTA FELLOW				
1	To equip CARTA fellows with adequate computing hardware and software	Number and type of computers and new software packages installed on CARTA fellows' laptops.	Each CARTA fellow is to receive a laptop loaded with NVivo, Stata, Endnote and MS office software	N/A for year 1. First cohort of Fellows to be enrolled in year 2.
2	To develop training curricula on use of installed software and computing skills (including use of online learning environment)	Curricula on computing skills and software use Training program on EndNote to be implemented in Year 2 for Cohort 1. Training program on Stata and Nvivo to be conducted in Year 3 for Cohort 1 (JAS 2)	N/A	N/A for year 1.
INPUT INDICATOR TARGETS AT THE LEVEL OF: INSTITUTION				
3	To determine the current state of physical and ICT infrastructure at participating universities	Narrative information on initial physical and ICT infrastructure which can be tapped into by CARTA members.	N/A	N/A for year 1. Baseline reports submitted in year 2
4	To make infrastructural investments based on need assessments by participating institutions	Narrative information on infrastructure investments by CARTA	Financial reports on infrastructural investments at each institution	Financial reports on infrastructural investments at each institution
PROCESS INDICATOR TARGETS AT THE LEVEL OF: CARTA FELLOW				
5a	To run training program on computing and use of relevant software	Number of training sessions on installed software and computing skills	N/A	N/A for year 1. All Fellows to receive training on EndNote and use of CARTA's online learning community in JAS 1 and

CATEGORY OF EFFORT 3 - INFRASTRUCTURE: IMPROVE THE PHYSICAL (INCLUDES ICT) ENVIRONMENT FOR RESEARCH				
	SUB-CATEGORY OF INDICATORS (DRAFT)	INDICATORS	REALISED VALUE	TARGET YR 1 1/08/2009 – 31/07/2010
				on Stata and NVivo in JAS 2 JAS 1 for Cohort 1 to occur in year 2
5b	Narrative report of Fellows' feedback on usefulness of training program on computing skills		N/A	N/A for year 1. All Fellows to receive training on EndNote in JAS 1 and on Stata and NVivo in JAS 2
PROCESS INDICATOR TARGETS AT THE LEVEL OF: INSTITUTION				
6	To contribute to improvements in physical infrastructure in participating universities based on needs assessment and funds awarded	Narrative on the extent to which proposed changes have been carried out (per institution)	Reports from each institution on infrastructural improvements	Reports from each institution on infrastructural improvements
OUTPUT INDICATOR TARGETS AT THE LEVEL OF: CARTA FELLOW				
7	To increase the use of software in research and teaching	Narrative information on the utility of new software packages installed on CARTA fellows' laptops Narrative reports from CARTA fellows on utility of software for research	N/A	N/A for year 1. All Fellows to receive training on EndNote in JAS 1 and on Stata and NVivo in JAS 2 JAS 1 for Cohort 1 to occur in year 2
8	To improve networking and access of web-based resources	Narrative reports from CARTA fellows on utility of website for networking and learning.	N/A	N/A for year 1. All Fellows to receive training on the use of CARTA's online learning community in JAS 1 JAS 1 for Cohort 1 to

CATEGORY OF EFFORT 3 - INFRASTRUCTURE: IMPROVE THE PHYSICAL (INCLUDES ICT) ENVIRONMENT FOR RESEARCH				
	SUB-CATEGORY OF INDICATORS (DRAFT)	INDICATORS	REALISED VALUE	TARGET YR 1 1/08/2009 – 31/07/2010
				occur in year 2
OUTPUT INDICATOR TARGETS AT THE LEVEL OF: INSTITUTION				
9	To improve physical infrastructure in participating universities based on needs assessment and funds awarded	Number of consortium institutions that have completed the improvements designated as necessary in the needs assessment	Reports from each institution on infrastructural improvements	Reports from each institution on infrastructural improvements
OUTCOME AND IMPACT INDICATOR TARGETS AT THE LEVEL OF: CARTA FELLOW				
10	To create a pool of researchers at participating African universities with high level computing skills who are able to network and collaborate via online learning communities	Narratives of impact of improved computing skills on research and training practices and outcomes	Long term goal unlikely to be achieved in project period	N/A for year 1.
OUTCOME AND IMPACT INDICATOR TARGETS AT THE LEVEL OF: INSTITUTION				
11	To enhance research productivity by creating a physical environment that is supportive of research	Narrative institutional report on the benefits of the infrastructural improvements. Independent assessments of infrastructural improvements to be conducted in all institutions in Year 5	Long term goal unlikely to be achieved in project period	N/A for year 1.

Category of Effort 4 – CARTA Management and Administration

CATEGORY OF EFFORT 4 – CARTA MANAGEMENT AND ADMINISTRATION[14]				
	SUB-CATEGORY OF INDICATORS (DRAFT)	INDICATORS	REALISED VALUE	TARGET YR 1 1/08/2009 – 31/07/2010
INPUT INDICATOR TARGETS				
1	To develop a strategic plan or road map to guide CARTA activities	Road map developed to guide how, when and where the different program components are implemented	CARTA has a Road Map that is available	Development and updating of roadmap
2	To establish a governance and staffing structure	Document showing CARTA's organogram and position descriptions	Governance structure available. TORs for key CARTA staff positions available	Governance structure available. TORs for key CARTA staff positions available
3	To determine CARTA's key stakeholders and partners	Mapping activity based on identification of key existing networks and collaborators including academic, policy makers, public/research users, funders, media	Received in workshop and completed by RAND with data from EoI appendices	Received in workshop and completed by RAND with data from EoI appendices
4	To establish a transparent financial system for CARTA	Audit and financial reports to funders	Financial resources allocated as per stipulated budget lines (financial reports and budgets available)	Financial resources allocated as per stipulated budget lines (financial reports and budgets available)

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[14] These targets primarily require narrative (qualitative reporting, and quantitative targets have therefore not been set

CATEGORY OF EFFORT 4 – CARTA MANAGEMENT AND ADMINISTRATION[14]				
	SUB-CATEGORY OF INDICATORS (DRAFT)	**INDICATORS**	**REALISED VALUE**	**TARGET YR 1 1/08/2009 – 31/07/2010**
5	To establish standards for co-operation (e.g. principles, terms and conditions, MOUs, policies and procedures to guide operations)	Narrative information on standards for co-operation (e.g. principles, terms and conditions, MOUs)	Collaborative agreement available	Collaborative agreement available
		PROCESS INDICATOR TARGETS		
6	To activate CARTA's governance structure	Profile of CARTA board members and committees	Profiles of CARTA Staff available (www.cartafrica.org); Job descriptions available	Narrative of CARTA's governance structure including profile of CARTA's Board of Management, which was activated in June 2010
7	To recruit core CARTA administrative and management staff	Number and nature of administrative and management positions **actually filled** (backed with narrative)	Profiles of CARTA Staff available (www.cartafrica.org); Job descriptions available	Profiles of CARTA Staff available (www.cartafrica.org); Job descriptions available
8	To run an effectively managed Consortium	Narrative information on changes to staffing, as well as management challenges and successes	Annual narrative report on changes to staffing and management issues	Annual narrative report on changes to staffing and management issues
9	To raise funds for CARTA program activities	Number (and dollar amounts) of new funding proposals **submitted** by CARTA members (national, regional and international funders)	Annual narrative report on fundraising activities	Annual narrative report on fundraising activities
10a	To increase the visibility of the CARTA program	Number of presentations of CARTA work at conferences and other events	Annual narrative report on presentations of CARTA's work at various forums	N/A

CATEGORY OF EFFORT 4 – CARTA MANAGEMENT AND ADMINISTRATION[14]				
	SUB-CATEGORY OF INDICATORS (DRAFT)	INDICATORS	REALISED VALUE	TARGET YR 1 1/08/2009 – 31/07/2010
10b		Number of publications highlighting the CARTA program	Annual narrative report on publications highlighting the CARTA program	N/A
PROCESS INDICATOR TARGETS				
11	To generate new grants to support CARTA program activities	Number (and dollar amount) of proposals **won** by CARTA members to support CARTA program activities	Annual report on number of and dollar amounts of funding proposals submitted to support CARTA activities	N/A
12a	To establish a respected doctoral training program	Number of African universities expressing interest in joining CARTA	Narrative report on numbers of African universities expressing interest in joining CARTA	N/A
12b		Number of private students from partners universities seeking admission into the CARTA program	Narrative report on number of private students from partners universities seeking admission into the CARTA program	N/A
12c		Number of students from non-participating universities seeking admission into the CARTA program	Narrative report on number of students from non-participating universities seeking admission into the CARTA program	N/A
12d		Number of Northern institutions seeking membership into the CARTA program	Narrative report on number of Northern institutions seeking CARTA membership	N/A
OUTCOME AND IMPACT INDICATOR TARGETS				

CATEGORY OF EFFORT 4 – CARTA MANAGEMENT AND ADMINISTRATION[14]				
	SUB-CATEGORY OF INDICATORS (DRAFT)	**INDICATORS**	**REALISED VALUE**	**TARGET YR 1 1/08/2009 – 31/07/2010**
13a	To support change in funding and research capacity building models for doctoral training in sub-Saharan Africa	Number of African governments expressing interest in supporting initiatives using the CARTA model and dollar amounts contributed. Record numbers and amounts	Difficult to set realistic targets	N/A
13b		Number of donors expressing interest in supporting initiatives using the CARTA model and dollar amounts contributed. Record numbers and amounts	Difficult to set realistic targets	N/A
13c		Evidence of use/adaptation of CARTA model for training	Long-term goal but ongoing reviews of indirect benefits of the CARTA program to be tracked and documented	N/A

Appendix C: CARTA's intervention logic in each category of effort

Category of effort 1: Capacity building in scientific skills and career prospects			
INPUTS: What is invested? What resources are you working with? What are your plans?	**PROCESSES: What are you doing to accomplish your goals and objectives? (and are things unfolding according to plan?)**	**OUTPUTS: What has been produced? What are direct results? (Expected for now)**	**OUTCOMES: What are the longer term outcomes, and long-term ultimate impacts? (Expected for now)**
CAPACITY BUILDING AT THE LEVEL OF CARTA FELLOWS (PhD students)			
Funding for CARTA fellows Junior faculty in relevant fields from consortia institutions Institution-level selection criteria/selection process for students CARTA Board of Management selection criteria (for students) Process of selecting and advertising supervisors Pre-JAS and JAS curricula inc. examination method	Application and selection of students by university committees Selection of students by CARTA board The completion of pre-JAS by PhD candidates Assignment of location and supervisor to student CARTA fellow has PhD training • PhD research • attends the JAS • inter JAS activities Reduction in administrative burdens on CARTA fellows Student makes use of website to develop networks and facilitate knowledge sharing Attendance at conferences	New PhDs as future research leaders and mentors A model doctoral programme in research with strong supervision and networking Diversified and enlarged research skills base for CARTA region, including networks of locally-trained internationally-recognised scholars Increased number of publications (submitted) Increased professional skills in (pass/complete JAS) among CARTA fellows New collaborations (e.g. grants)	Retained in African region in research or research-related position (preferably home institution) CARTA fellow produces internationally competitive research Increased level of funding through new grants won Increased number of publications (accepted) Engages in mentoring and teaching activities

Category of effort 1: Capacity building in scientific skills and career prospects			
INPUTS: What is invested? What resources are you working with? What are your plans?	**PROCESSES: What are you doing to accomplish your goals and objectives? (and are things unfolding according to plan?)**	**OUTPUTS: What has been produced? What are direct results? (Expected for now)**	**OUTCOMES: What are the longer term outcomes, and long-term ultimate impacts? (Expected for now)**
CAPACITY BUILDING AT THE LEVEL OF CARTA SUPERVISORS AND SUPERVISION PRACTICES			
Qualified faculty in relevant fields from consortia institutions Criteria for selecting and allocation of supervisors (with students and senior/junior supervisors)	Processes of selecting and recruiting supervisors driven by clear and agreed on selection criteria of supervisors Supervisors attend initial JAS and attend workshops Less experienced supervisors work with more experienced supervisors as a means of strengthening mentoring capacities in the network, as well as a mechanism of quality control	Mentors and supervisors with enhanced skills to perform their jobs	Increased capacity to train and supervise PhD students
INSTITUTIONAL LEVEL CAPACITY BUILDING			
Appointed CARTA fellows	Inter-JAS activities – CARTA fellows give seminars to members of home institution CARTA fellows help to develop a policy-relevant research agenda and improve existing curricula in home institutions Networking activities of CARTA fellows contribute to institutional networks	Fellows are now qualified new supervisors for post-graduate courses CARTA fellows through their activities are contributing to policy-relevant research agendas (multi-disciplinary) Fellows have contributed to international visibility/reputation of institution Improved networks with policy, funders and academic community	More students are inspired to learn about and adopt CARTA model, i.e. improved 'culture of research' at an institutional level More funds for research at institutional levels Post-graduation activities – new pool of researchers, teachers and mentors for next generation (from graduated CARTA fellows) at institutional levels Post-graduate CARTA fellows apply for additional funds Post-graduate CARTA fellows increase international visibility of institution through conferences, publications Enhanced capacity of African institutions to lead globally competitive research and training programmes Creation of an attractive research environment mitigating brain drain from African institutions Increased influence on public and

| Category of effort 1: Capacity building in scientific skills and career prospects			
INPUTS: What is invested? What resources are you working with? What are your plans?	**PROCESSES: What are you doing to accomplish your goals and objectives? (and are things unfolding according to plan?)**	**OUTPUTS: What has been produced? What are direct results? (Expected for now)**	**OUTCOMES: What are the longer term outcomes, and long-term ultimate impacts? (Expected for now)**
			population health policy in the region
			Improved population health in the region (very long term vision)
			Institution develops and becomes and/or continues to be part of vibrant, networked research community (self-sustaining and increasing in capacity)

Category of effort 2: Strengthening research governance, management and administration (RGMA) capacity			
INPUTS: What is invested? What resources are you working with? What are your plans?	**PROCESSES: What are you doing to accomplish your goals and objectives? (and are things unfolding according to plan?)**	**OUTPUTS: What has been produced? What are direct results? (Expected for now)**	**OUTCOMES: What are the longer term outcomes, and long-term ultimate impacts? (Expected for now)**
STRENGTHENING RGMA CAPACITY AT THE INSTITUTIONAL LEVEL			
Funding allocated for improving research governance, management and administration (RGMA) Consortium member faculty and administrative staff Course modules/curricula Initial research governance, management & administration structures to support activity -Board of Management -executive directorate -university committees -CARTA patrons	Workshops and courses for faculty staff in RGMA related skills: -e.g. supervision skills, grant writing, research management, information retrieval, efficient enrolment, monitoring and reporting procedures, etc. Sharing of information about good practice in RGMA between consortium members	Research faculty staff, administrators and managers with new skills gained through training	Application of RGMA skills in institutions (i.e. administrative systems) Adoption and adaptation of good practice from other consortium institutions Strengthened, skills and commitment of faculty at African institutions to lead and manage research initiatives, with staff to support them More efficient research practice enabled by improved research governance, management, administration infrastructures and practices: -consortia level -at institutional levels -that meets international standards

Category of effort 3: Improving physical and ICT infrastructure			
INPUTS: What is invested? What resources are you working with? What are your plans?	**PROCESSES: What are you doing to accomplish your goals and objectives? (and are things unfolding according to plan?)**	**OUTPUTS: What has been produced? What are direct results? (Expected for now)**	**OUTCOMES: What are the longer term outcomes, and long-term ultimate impacts? (Expected for now)**
STRENGTHENING RGMA CAPACITY AT THE INDIVIDUAL LEVEL			
Funding for physical and ICT infrastructure	New software packages installed (and made use of) on CARTA fellows' laptops Use of website for networking, online information retrieval, e-publishing and e-learning etc.	Improved capacity for research among individuals due to new software Improved networking and access to information, as well as expertise	Students less isolated as a result of embeddedness in research networks Increased efficiency in research practice
STRENGTHENING RGMA CAPACITY AT THE INSTITUTIONAL LEVEL			
Initial physical and ICT infrastructure which can be tapped into by CARTA members Funding for physical and ICT infrastructure Plan for how it is to be spent per institution	Infrastructure grants to participating institutions based on needs assessment Consortium institutions improving infrastructure based on needs assessment and funds awarded	Improved infrastructure is being used by institution faculty and students to support high quality research Improved networking and collaboration efforts to make better use/share existing infrastructure in the consortium's home institutions (e.g. accessibility to existing labs and equipment)	Improved research environment through improved infrastructure - i.e. efficiency and improved communications New projects facilitated by new infrastructure (that would not have occurred without it)

Category of effort 4: Management and governance of the CARTA consortium			
INPUTS: What is invested? What resources are you working with? What are your plans?	**PROCESSES: What are you doing to accomplish your goals and objectives? (and are things unfolding according to plan?)**	**OUTPUTS: What has been produced? What are direct results? (Expected for now)**	**OUTCOMES: What are the longer term outcomes, and long-term ultimate impacts? (Expected for now)**
CARTA's strategic plan that will guide activities CARTA governance and management structure CARTA board of management – experience in research capacity building initiatives and fundraising Process to set priorities for resource-allocation among CARTA activities (selection and allocation criteria across all aspects of CARTA activity) Standards for co-operation (e.g. principles, terms and conditions, MOUs, policies and procedures to guide operations) Total CARTA funding Existing networks with relevant stakeholders (e.g. funders)	Recruit administrative and management positions e.g. finance officer, IT officer, training manager, etc. CARTA activities carried out to time and budget The effective 'running' of the consortium enabled by: • Adherence to governance and management policies and procedures and agreements between partners • annual consortia meetings and bi-annual Board of Management meetings • Clear delegation of responsibility and coordination by specialised committees for core consortium activities (e.g. for student selection, supervision, the JAS programme, and advisory committees) • Fundraising activity by CARTA members (national, regional and international funders – for CARTA as a whole):Establishment of new funder relationships and/or improvement of existing relationships • Managing and administering funding bids • Sharing information on funding opportunities across the network Presentations of the CARTA model at conferences and through other communications mechanisms	Effectively managed consortium Promotion of the CARTA model	Increased grant funding leveraged by CARTA members (national, regional and international funders – for CARTA as a whole) New donors/institutions supporting the CARTA model

Appendix D. CARTA's student pathway and road map

CARTA's student pathway

Activities Jan-May 2010
Management
•Set up management structure - Completed
Staffing
•Appointment and start, Program Manager - Completed •Advertisement of posts for CARTA program assistant (651 applications received), communication officer (120 applications received) and training coordinator (16 applications received)- Completed
University committees
•University committees set-up - Completed for eight universities •Universities submit list of potential supervisors including area of specialization - Ongoing
Training programs
•Template for fellowship application advertisement - Completed •Set up team for pre-JAS, JAS I, and JAS II curriculum development - Completed(Curriculum development meeting held May 21-23, 2010) •Draft curriculum for pre-JAS, JAS I, JAS II - Drafts available •Reading List Repository compiled for JAS I and JAS II - ongoing compilation
Publicity
•CARTA launches: University of the Witwatersrand (July 20, 2009); APHRC (September 16, 2009); National University of Rwanda (March 31, 2010); University of Ibadan (May 25, 2010) •Prototype of CARTA website - Completed •CARTA Logo - Developed
Monitoring and evaluation
•Baseline tool for monitoring and evaluation framework - Ongoing

The main road map below is best printed and viewed on A3 size paper. This version is the most up-to-date version received by the evaluation and learning team, in April 2011. There are, however, only minor changes made to the road map between June 2010 and April 2011. These are all additions of information for increased clarity.

		January	February	March	April	May	June	July	August	September	October	November	December	OTHER
2010		SEE SHEET ACTIVITIES-JAN-MAY-2010					CARTA Board of Management Meeting (June 1-3, 2010)	Meeting of JAS I and II curricula committees	Facilitators for JAS I and II identified and contacted	Logistical arrangements for JAS 1 venue bookings, etc				**M&E**
									•Cohort 1 prepares CARTA application (including agreement from CARTA-approved supervisor; proof of university admission) Cohort 1 begins pre-JAS		Cohort 1 Fellows selection		Pre-JAS Cohort 1 completed	
											Board of Management Meeting October 19-20, 2010 Partners' Forum October 18th 2010			
2011		•Computers and software for Cohort 1 purchased •Travel and accommodation logistics for JAS I (Cohort 1) finalized •JAS I (Cohort 1) Reading list shared with fellows •Final course materials for JAS I (Cohort 1) produced	Copying of materials for JAS 1 (Cohort 1)	•JAS 1 (Cohort 1)6 (Host APHRC) •Pre-JAS curriculum revised						•Travel and accommodation logistics for JAS 2 (Cohort 1) finalized •Final course materials for JAS 2 (Cohort I) produced	Copying of materials for JAS 2 (Cohort 1)	JAS 2 (Cohort 1) (Host WITS) - Wits to provide exact dates		**M&E**
			Call for applications for Cohort 2		University student selection (Cohort 2)	•May 1: University to notify selected Cohort 2 applicants to apply to CARTA. •Universities work with Cohort 2 applicants to identify supervisor. •Cohort 2 applicants apply to university for admission.	•Cohort 2 prepares CARTA application (including agreement from CARTA-approved supervisor; proof of university admission) •Cohort 2 begins pre-JAS		Cohort 2 Fellows selection		Pre-JAS Cohort 2 completed		

	January	February	March	April	May	June	July	August	September	October	November	December	OTHER
	Call for applications for faculty and staff training programs I Identification of suitable institutional development workshops Development of curriculum for staff and faculty training I		Faculty and staff development training programs I										
			Inauguration of Patrons Advisory Group March 22-23, 2011 CARTA Funder's Meeting March 23-24, 2011 Board Meeting (Virtual) March 24, 2011										
2012	•Computers and software for Cohort 2 purchased •Travel and accommodation logistics JAS 1 (Cohort 2) finalized •JAS I (Cohort 2) Reading list shared with fellows •Final course materials for JAS 1 (Cohort 2) produced	Copying of materials for JAS 1 (Cohort 2)	JAS 1 (Cohort 2) (Host APHRC)			Meeting of JAS 3 and 4 curriculum committee Revise JAS 2 curriculum	Board Meeting/Partners' Forum		•Travel and accommodation logistics for JAS 2 (Cohort 2) finalized •Final course materials for JAS 2 (Cohort 2) produced	Copying of materials for JAS 2 (Cohort 2)	JAS 2 (Cohort 2) (Host Wits) - Wits to provide exact dates		Mid-Term Internal Evaluation (M&E)
		Call for applications for Cohort 3	Pre=JAS curriculum revised	University student selection (Cohort 3)	May 1: University to notify selected Cohort 3 applicants to apply to CARTA. Universities work with Cohort 3 applicants to identify supervisor. Cohort 3 applicants apply to university for admission.	•Cohort 3 prepares CARTA application (including agreement from CARTA-approved supervisor; proof of university admission) •Cohort 3 begins pre-JAS		Cohort 3 Fellows selection		Pre-JAS Cohort 3 completed			

	January	February	March	April	May	June	July	August	September	October	November	December	OTHER
							Development of curriculum for staff and faculty training II						
		Board Meeting (Virtual)									Revise JAS 1 curriculum		
2013	• Computers and software for Cohort 3 purchased • Travel and accommodation logistics for JAS 1 (Cohort 3) finalized • JAS I (Cohort 3) Reading list shared with fellows • Final course materials for JAS 1 (Cohort 3) produced	Copying of materials for JAS 1 (Cohort 3)	JAS 1 (Cohort 3) (Host APHRC)		•Travel and accommodation logistics for JAS 3 (Cohort 1) finalized •Final course materials (JAS 3) produced (Cohort 1)	Copying of materials for JAS 3 (Cohort 1)	JAS 3 (Cohort 1) (Host Ibadan)	Board Meeting/Partners' Forum	•Travel and accommodation logistics for JAS 2 (Cohort 3) finalized •Final course materials for JAS 2 (Cohort 3) produced	Copying of materials for JAS 2 (Cohort 3)	JAS 2 (Cohort 3) (Host Wits) - Wits to provide exacts		**External Evaluation and new WT proposal** / **M&E**
		Call for applications for Cohort 4		University student selection (Cohort 4)	•May 1: University to notify selected Cohort 4 applicants to apply to CARTA. •Universities work with Cohort 4 applicants to identify supervisor. •Cohort 4 applicants apply to university for admission.	•Cohort 4 prepares CARTA application (including agreement from CARTA-approved supervisor; proof of university admission) •Cohort 4 begins pre-JAS		Cohort 4 Fellows selection		Pre-JAS Cohort 4 completed			
		Call for applications for faculty and staff training programs II			Faculty and staff identified for staff development training programs II		Faculty and staff idevelopment training programs II						
		Board Meeting (Virtual)					Revise JAS 2 curriculum				Revise JAS 1 curriculum		
2014	• Computers and software for Cohort 4 purchased • Travel and accommodation logistics for JAS 1 (Cohort 4) finalized • JAS I (Cohort 4) Reading list shared with fellows • Final course materials for JAS 1 (Cohort 4) produced	Copying of materials for JAS 1 (Cohort 4)	JAS 1 (Cohort 4) (Host APHRC)		•Travel and accommodation logistics for JAS 3 (Cohort 2) finalized •Final course materials (JAS 3) produced (Cohort 2)	Copying of materials for JAS 3 (Cohort 2)	JAS 3 (Cohort 2) (Host Ibadan)		Travel and accommodation logistics for JAS 2 (Cohort 4) finalized Final course materials for JAS 2 (Cohort 4) produced	Copying of materials for JAS 2 (Cohort 4)	JAS 2 (Cohort 4) (Host Wits) - Wits to provide exacts date	Cohort 1 completes	**M&E**

	January	February	March	April	May	June	July	August	September	October	November	December	OTHER
		Copying of materials for JAS 4 (Cohort 1)	*JAS 4 (Cohort 1) (Host APHRC)										
		Board Meeting (Virtual)	Revise JAS 3 curriculum				Revise JAS 2 curriculum				Revise JAS 4 curriculum		
2015	•Travel and accommodation logistics for JAS 4 (Cohort 2) finalized •Final course materials for JAS 4 (Cohort 2) produced	Copying of materials for JAS 4 (Cohort 2)	JAS 4 (Cohort 2) (Host APHRC) Revise JAS 3		•Travel and accommodation logistics for JAS 3 (Cohort 3) finalized •Final course materials (JAS 3) produced (Cohort 3)	Copying of materials for JAS 3 (Cohort 3)	JAS 3 (Cohort 3) (Host Ibadan)					Cohort 2 completes	M&E
		Board Meeting (Virtual)	Revise JAS 3 curriculum								Revise JAS 4 curriculum		
2016	•Travel and accommodation logistics for JAS 3 (Cohort 3) finalized •Final course materials for JAS 4 (Cohort 3) produced	Copying of materials for JAS 4 (Cohort 3)	JAS 4 (Cohort 3) (Host APHRC)		•Travel and accommodation logistics for JAS 3 (Cohort 4) finalized •Final course materials (JAS 3) produced (Cohort 4)	Copying of materials for JAS 3 (Cohort 3)	JAS 3 (Cohort 4) (Host Ibadan)				Revise JAS 4 curriculum	Cohort 3 completes	M&E
2017	Travel and accommodation logistics for JAS 3 (Cohort 4) finalized Final course materials for JAS 4 (Cohort 4) produced	Copying of materials for JAS 4 (Cohort 4)	JAS 4 (Cohort 4) (Host APHRC)									Cohort 4 completes	M&E