



# Research capacity development for Africa: consolidation, ownership and independence

AFRICAN INSTITUTES NEED TO GET MORE ACTIVELY ENGAGED IN RESEARCH PROGRAMMES CONDUCTED IN THEIR COUNTRIES AND THE OWNERSHIP OF THESE RESEARCH PROGRAMMES SHOULD BE SHIFTED FROM THE NORTHERN PARTNERS TO THESE AFRICAN INSTITUTES

## CURRENT SITUATION

Currently, African institutes often depend on international collaborators for conceptualization and development of research ideas, technical support and funding. As a consequence, the bulk of research activities focuses on specific diseases selected by the international communities which may not necessarily feature highly on local national health research agendas. Furthermore, long-term visions on regional health problems that are likely to emerge, due to, for example demographic and ecological shifts, are in most cases not adequately developed. In the North, universities play a central role in health research and in maintaining health research capacity through attracting and supporting undergraduate biomedical students and postgraduates to a research career, and providing career opportunities to senior researchers. In sub-Saharan Africa, medical faculties are primarily geared towards practical training of doctors and

conduct of research projects is marginal. This being the case, students are not stimulated to seek a research career, and academic institutes are not attractive employers for senior researchers. This is partly due to lack of funding, but also due to a lack of institutional capacity to conduct and promote health research as part of, and in addition to, biomedical teaching curricula. Strengthening the role of universities in health research should therefore start by building local research capacity. However, due to brain drain and social instability in the region it is often difficult for universities to develop and maintain local research capacity. A combination of limited career opportunities, poor working environment and remuneration has been identified by talented African academics as being the main reasons not to return to their home country after completing their training (MSc, PhD and specialist training) overseas. As a consequence the research pyramid in African universities often has a narrow top of a few internationally active researchers and a weak but relatively large base of research-inactive staff.

## QUALITY OF RESEARCH

Due to the above described problems, research conducted at African institutes has not always been of high quality, neither has it been driven by local agendas. However, with the recent introduction of international research standards (e.g. Good Clinical Practice in accordance with the International Conference on Harmonization [ICH-GCP]), the quality of research being conducted in African institutes has generally improved, but it has further increased their dependence on international collaborators due to the increase in complexity and costs of conducting clinical research.

## THE ARISE CONSORTIUM INITIATIVE

In 2012 the ARISE (Africa Research Initiative and Support – Network)

consortium was founded as a joint venture of the existing COMMAL (College of Medicine - Malawi Amsterdam Liverpool) and INTERACT (Infectious diseases Network for Treatment and Research in Africa) programmes. These programmes, funded by the Ministry of Foreign affairs of the Netherlands, were initiated in 2005 with the general objective to strengthen the sub-Saharan African research and development capacity in the field of poverty-related diseases (HIV, TB and malaria).

Recently, the Ministry decided to extend the funding for a period of four years (2012-2015) with the prime focus on consolidation of capacity built under the first phase of the programme.

The objective of the ARISE consortium is to develop and consolidate a network of Research Support & Training Centres (RSTCs) in sub-Saharan Africa. These centres will be embedded in the local universities, will have ownership of the conducted research and will be working according to ICH-GCP research standards.

## RESEARCH SUPPORT & TRAINING CENTRES

As mentioned in Table 1 the key characteristics of the RSTCs are local ownership, independence and coordination.

The main focus of the ARISE consortium is:

1. To consolidate and improve research capacity within four regional RSTCs at universities in Malawi, Rwanda, Zimbabwe and Uganda by synchronizing and twinning the success models for training and research capacity strengthening of the COMMAL and INTERACT programmes.
2. To develop a coherent functional capacity building network of RSTCs

with harmonized training methodology, international accreditation and a standardized evaluation system. This includes capacity sharing of PhD training and supervision.

3. To further develop the individual RSTCs into units capable of addressing national health problems as they emerge and delivering a service portfolio based on research disciplines. This includes the establishment of necessary infrastructure for the individual RSTCs to house the different ingredients of the RSTC model.
4. To further strengthen capacity in the field of grants & administration, data and IT management and improve communication strategies with the aim of increased know-how, income and visibility, ultimately resulting in financial independence not enforced by donor funding.

The above focal areas are captured in three key elements and nine functions (Table 2). Using these elements and functions, a scoring system has been developed to facilitate standardization and structured progress assessment of RSTC output and achievements. A strong RSTC network for southern Africa will offer important opportunities for mutual support (South-South) in research projects and thereby advantages of scale. For example, specialist laboratory or analytical expertise available in one institute may be put to use, through collaborative grant proposals, in research projects primarily run at another institute and vice versa. Making use of the strongest areas in the different institutes to develop these areas in the other institutes will have a synergistic effect benefiting each partner institute and the RSTC network as a whole.

An (sub-Saharan) African network will help focusing and forwarding research agendas of regional relevance. While many health problems seem local at first glance, several of their elements are essentially of a regional nature (e.g. disease epidemiology, organization of the health sector, rapid urbanization). Addressing these in a structured manner in different African settings will improve comparability between sites and a better understanding of the overarching questions. African research networks will not only be essential for formulating research agendas in this respect, but also for attracting the funds necessary to carry out such projects.

## STUDENTS ARE NOT STIMULATED TO SEEK A RESEARCH CAREER, AND ACADEMIC INSTITUTES ARE NOT ATTRACTIVE EMPLOYERS FOR SENIOR RESEARCHERS

### TIME WILL TELL

Critical for the success (sustainability) of the RSTC-network will be the buy-in of the host institutes (universities) by recognizing the individual RSTCs as essential part of their research infrastructure. This should also include a contribution towards the basic running costs of the RSTC. It is expected that the remaining costs will be generated by the RSTCs through income generating activities (course fees, monitoring- and grant management services). Once established, the RSTC network is anticipated to make a significant contribution towards research capacity building in Africa and towards a shift of research ownership from western to local institutions. Time will tell.

**TABLE 1** Key characteristics of the Research Support and Training Centre (RSTC)

Characteristic	Details
Locally owned	Universities will fully own their RSTCs, and allow them to take ownership of the new research projects generated and of the research policy.
Independent	The RSTCs will be independent of the 'North' relying on the expertise of their own staff to provide research support and training.
Coordinated	The support, training and research infrastructural activities of the institute are coordinated by the RSTC.

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**TABLE 2** Details on the essential elements of the Research Support and Training Centre

Element	Functions	Details
Support services and consultation	Scientific support	Consultation on study design, protocol writing, data analysis and manuscript writing.
	Data management support	Database programming. Data entry and validation for medium-sized databases. Advanced system suitable for complex (multicentre) databases.
	Grants and Research project management	Support with trial design, ethics and project finance. Support with writing grant applications and negotiating research contracts (legal and financial matters).
	Clinical trial support and Quality assurance	Support with monitoring of research data against source documents, clinical trial management and other clinical trial support services. Quality assurance of study procedures and reporting.
Training & Courses	Applied training	Short modules providing basic knowledge and skills. Training in GCP, GCLP, data collection, data management.
	Academic courses	The basic package includes: research methodology, biostatistics, research ethics, evidence-based medicine, and protocol writing. Allows Institutes to train their own future researchers (MSc, MPH or PhD level).
Research governance and institutional infrastructure	Ethical review	Establishment of an ethical review board in accordance with national policy. In second instance, to upgrade the board to adhere to international standards (with respect to <i>modus operandi</i> and composition).
	Research information and communication	Communication (newsletter, website etc.) focusing on activities, policy issues and research results. Information (grants, training opportunities, conferences, etc).
	Research coordination and management	Central coordination of research support, training and governance activities. Executive committee guidance for institutional research policy through research management information system, assessments and prioritization.
	Research agenda	Developing an institutional research agenda based on local/national needs and research interests. RSC positioned directly under the responsibility of university rector or college dean in order to improve its coordination capacity.



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