v.1.0



Research Management Programme

Concept

Definitions by HR&S.

# Introduction

The HR&S Research management programme provides a strategy for designing and implementing programmes based on the needs and the knowledge of the local stakeholders (the Target partners, TP)[[1]](#footnote-1),[[2]](#footnote-2). The Target partners for the Research management programme are for example; the scientific institution management, researchers, technicians, librarians and the scientific equipment suppliers.

The Programme provides means to overcome the challenges identified by the local stakeholders and strengthens quality values, cross-cultural learning, a sustainable economy, and institutional capacity.

### Programme journal

All information is compiled in a master document, the Programme journal (PJ), and each programme develop its own Journal. The Programme journals are quite ambitious, as a result of the complexity of research management programmes, and are used to frame the work. The work with the PJs is an iterative process, and the Journals build up with time.

## Expected outcome

Participants in Research management workshops have proposed the below examples of ROPE-Sci outcomes:

* High motivation among researchers.
* High research productivity.
* Trust between researchers.
* Open and honest knowledge sharing.
* South - South collaboration.
* Equal international collaboration with mutual benefits.
* Women empowerment.
* Stable national and international funding.
* Appropriate salaries.
* Access to advanced scientific equipment.
* Being informed about areas in the society that would benefit from scientific research.
* Addressing National Development Plans.
* Communicating science and scientific findings to non-academic stakeholders.
* Implementation of scientific findings providing products and services of importance to the local community and national enterprises.
* Employment opportunities.
* Independence from foreign aid.

# Method

The Research management programme has three components:

1. Evaluation planning.
2. Knowledge sharing.
3. Scientific equipment.

## Evaluation planning

The Scientific Research Management Real-time Outcome Planning and Evaluation (ROPE-Sci) tool builds directly on the tool ROPE[[3]](#footnote-3). ROPE-Sci consists of three sections

1. Programme design and implementation,
2. Monitoring and
3. Evaluation planning.

### Design and implementation

The Target partners are requested to identify their ambitions and goals, strategies to reach their goals and also what hinders them reaching their goals. After having identified the ambitions of the Target partners, the ROPE compiles the challenges that the Target partners face. Those challenges describe the reasons for why the Target partners are not doing what they want to do to reach their goals. We call the compilation of challenges Outcome challenges. Linked to each Outcome challenge is a Progress marker. The purpose with the Progress markers is to enable evaluation planning of the program activities. Thus, the Progress markers are well defined indicators which can be easily monitored and assessed.

After having elaborated on the goals then Quality values (QV) and Cross-cultural understanding and partnership (CUP) is addressed. During CUP the partners agree on the definition of equal partnership, including expectations and shared input and benefit. Thereafter a Sustainable economy plan is developed as well as an Institutional capacity assessment scheme. The institutional capacity includes aspects as mission, vision, strategy, goals, sustainable economy, evaluation planning, strategic partners, visibility, staff, volunteers, management, board, infrastructure, and finance administration and accounting. Thereafter outcome challenges are compiled for all topics mentioned above. together with the related Progress markers.

The next step is to develop an Output map. It is the Outcome Challenges and the Progress markers that define the Output Map. The Output Map is a set of concrete activities that needs to be addressed to reach the goals of the Target partners and the related areas. At this time, when everything has been considered, then, and only then is it time to develop an Input map. The Input map will compile who does what, how and when and what the resources required. Prior to implementing the programme an MoU is preferably agreed on.

### Monitoring

The ROPE-Sci Monitoring benefits from the principles of Process tracing, Contribution tracing, Bayesian updating and Documented story telling.

The Monitoring involves un-packing the causal mechanism that explains what it is that linked cause A to outcome B. The investigator establishes a causal chain linking A to B and tests the strength of the evidence at each step in the chain by applying a number of probability tests underpinned by Bayesian logic. It is participatory and involves all stakeholders at every step. The full team is involved with formulating the case (contribution claim), determining what evidence to look for, testing the evidence and calculating the confidence levels of a contribution claim (all with the support of someone who understands the approach).

### Evaluation planning

The ROPE Evaluation planning builds on a sequence of monitoring and evaluation events, for with dates, participants and results are recorded. Lessons learnt from the monitoring and evaluation exercises are fed into the Journal and are used for Programme design revisions.

The outcome evaluation planning is preferably done real-time so that the lessons learnt can directly contribute to the evaluation planning in actual practice. The monitoring starts at the same time as the design of the programme. The first task is to identify the baseline of the programme; thus the situation prior to the start of the programme (the control).

## Knowledge sharing

The Research management programme offers knowledge sharing workshops on the below topics. The workshops captures research topics that have been chosen by the researchers themselves, both internationally prioritised topics as well as neglected research areas.

### **Scientific tools and methods**

1. The scientific method and research tools.
2. Research funding.
3. Publishing scientific results and scientific communication.
4. Scientific supervision and leadership.
5. Implementation of scientific findings.
6. Entrepreneurship for researchers.
7. Advanced scientific equipment operational and financial planning (FAST).
8. Cross-cultural partnership for researchers (CUP-Sci).
9. Quality values in research (TAct-Sci).

The workshops can be arranged as single entities but are preferably managed to be “outcome based”.

HR&S defines outcome based as an activity that is designed by setting goal, developing progress markers and followed-up on until the goals have been reached In this context the goals shall be identified by the participants of the workshop (for example amount of fuds raised or number of papers published). A sequence of different activities is offered until the goal is reached, such as trainings, workshops, individual coaching, round table discussions, internet searches, access to scientific literature, visits to laboratories, procurement and management of advanced scientific equipment, networking, scientific conferences, international knowledge sharing platforms, and links to research grant givers. The outcome based workshops requires significant input from the workshop participants as well as by the scientific institution management.

## Scientific equipment

The Functioning Advanced Scientific Equipment (FAST) programme provides guidance on equipment and laboratory management with the aim to guarantee researchers access to the functioning advanced scientific equipment they need for their research. The FAST programme is holistic and addresses the selection, procurement, transportation, installation, quality assurance, use, service, maintenance and decommissioning of advanced scientific equipment.

The development of FAST has benefitted from a pilot project[[4]](#footnote-4) which contained a stakeholder meeting in 2002 in Cameroon (Öman and Gamaniel, 2006) and an  equipment audit at 15 universities in Africa during 2007 – 2008 with the purpose of identifying the outcome challenges (Öman et al 2008). Further, a pilot project was run in Nigeria and Madagascar during 2008- 2011, and a stakeholder meeting was held in Nigeria in 2015.

### Laboratory management

HR&S offers coaching and coordination on equipment management with the aim to provide access to functioning advanced scientific equipment (FAST). Besides facilitation on selection, procurement, transportation, installation, quality assurance, service, maintenance and decommissioning of advanced scientific equipment. FAST offers training on equipment use, applications and maintenance together with the establishment of a network of trainers and service staff.

FAST also offers coaching on the development of functioning laboratories with sustainable economies; including stakeholder meetings, technician forums and identification of reliable suppliers. The programme further offers written guidelines.

* Functioning Advanced Scientific Equipment (FAST) Concept.
* Laboratory Operational Plan guidelines.
* Laboratory Financial Plan guidelines.

### Testimony

The below testimony was provided by Prof. Charles AWORH, University of Ibadan, Nigeria; an active member of the pilot project. “The University of Ibadan Multidisciplinary Central Research Laboratory (MCRL) is a testament to the success of FAST (before now called PRISM) in Nigeria. Even though we did not achieve all our objectives, FAST was a huge success in transforming our attitude to the running of research laboratories in Nigeria and your contributions to this are invaluable. We have been able to prove in University of Ibadan through the FAST experience that we can run a research facility sustainably if we pay attention to operational and financial plans and all the strong points of FAST. Even though I handed over as Chairman over two years ago, MCRL is still waxing strong thanks to the sound foundation that we laid through FAST”.

# Services

HR&S offers Research management workshops and coaching.

# References

Öman, C. B., K. S. Gamaniel, et al. (2006). Properly functioning scientific equipment in developing countries. Anal Chem 78(15): 5273-6.

Öman, B. C., Edward, R., Gamaniel, K.S., Klutsé, A., Eriksson, S., Hovmöller, H., Feresu, S., Gurib-Fakim, A. (2008) Procurement, Installation, Service and Maintenance Commitments for Scientific Equipment in Developing Countries – PRISM, Phase One, Inventory of the current status of equipment and scientific infrastructure at selected universities in Africa and specification of what additional resources would be instrumental in strengthening scientific capacity. International Foundation for Science, Stockholm, Sweden, info@ifs.se

1. The HR&S Research Management Programme was developed by Assoc. prof. Cecilia ÖMAN and is owned by Human Rights & Science (HR&S). [↑](#footnote-ref-1)
2. The programme benefits from the HR&S tools Action Principles (TAct), Cross-cultural partnership (CUP), Real-time Outcome Planning and Evaluation (ROPE), Functioning Advanced Scientific Equipment (FAST), and Transparency and Accountability (TrAcc). [↑](#footnote-ref-2)
3. ROPE is presented in detail elsewhere, www.humanrightsandscience.se [↑](#footnote-ref-3)
4. The pilot-project PRISM was initiated, designed and managed by Cecilia ÖMAN, hosted by the International Foundation for Science (IFS) and funded by the MacArthur Foundation with supplementary funding from TETFund and the National Institute for Pharmaceutical Research and Development (NIPRID) in Nigeria. [↑](#footnote-ref-4)