

Scientific Innovations

Human Rights and Science (RandS) is a social enterprise with the mission to provide opportunities for all and to eradicate extreme poverty through scientific research, enterprising, community services and integration.



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1. Introduction

It is a common knowledge that most of the scientific research performed in the world today addresses issue that is of concern for only to a minor part of the world's population.

Vision

The vision of this program is that everyone in all countries, women, men and children equally, have sufficient access to all aspects of the internationally agreed human rights. The vision is further that high quality research is performed in all countries, lower income and higher income countries equally, and that scientific issues concerning all people and all regions are equally addressed. Researchers in all countries, women and men equally, have sufficient opportunities and resources to do research. Potential scientific results beneficiaries are informed about the results and the appropriate findings are implemented.

Mission

To achieve the vision, researchers in lower income countries, women and men equally, are encouraged and supported with developing and managing scientific projects and with dissemination and implementation of scientific results. Emphasis is put on scientific quality, relevance and knowledge sharing. Support is provided to meet challenges identified by the researchers and other stakeholders in lower income countries. Training courses on scientific methodology, scientific tools and fundraising are arranged; facilitation is made for providing access to advanced scientific equipment, literature, field sites and scientific supervisors; networks are developed and maintained and the implementation and dissemination of research results is facilitated. The mission is further to adapt all programs to the local conditions.

Expected outcome

The researchers shall benefit from the support and it shall enable them to develop quality and relevant research projects as well as attract the required research funding, have access to the required scientific equipment as well as disseminate and implement scientific results.

2. Operations

Scientific capacity strengthening

While research on a global scale is mainly driven by the higher income countries, this program addresses the needs of lower income countries. The program aims at addressing prioritised but also neglected research areas relevant for lower income countries. The program aims at supporting the research in lower income countries by providing them with a favourable environment that will facilitate the initiation, management, dissemination and implementations of high quality research. The program addresses all relevant scientific research topics and the support is provided for the whole range of activities involved with research.

Equal partnership

It is obvious that capacity strengthening programs depend on the ownership among all stakeholders for the programs to be successful. Therefore all partners design and evaluate the programs together. Thus the RandS programs always aim for equal partnership within the program team, where each partner contributes and benefits equally. Equal partnership is defined in this program as a collaboration where partners take equal responsibility in the design and operations, are equally engaged with policy decisions, equally contributes to a sustainable economy and equally benefits from financial and program outputs. A two-way reporting is used, with partners reporting equally much to each other. The strengths with an equal partnership approach are; i) open, frequent and transparent communication, ii) trust between the partners, and iii) activities benefiting fully from the knowledge and experience of stakeholders with different areas of expertise.

Needs driven programs

It has been generally agreed that implementing donor driven programs in lower income countries may delay the expected outcome. RandS argues that our partners in the Target countries are in a better position to identify the needs of their respective communities. Thus all RandS initiatives are identified, designed and locally managed by our Target partners. The contribution to the partnership by RandS and other Program partners is to provide our Target partners with the support required to address the challenges identified by them.

3. Support packages

The operations in actual practice are structured into support packages. The packages can be restructured to perfectly address a specific request, need or challenge.

Support package ONE

Developing high quality and relevant scientific projects and raising funds

- One week international or national **scientific methodology workshops** are arranged providing training on scientific methodology, access to scientific literature, how to develop research proposals and how to approach donors in general. Information is also provided on specific funding opportunities and how to approach those. The workshops also include field visits and meetings with potential end-users of scientific result.
- **Round Table sessions** are arranged where researchers and potential end-users of scientific results are discussing the need of new research topics as well as compare already generated research results with actual needs. Researchers present their project ideas and potential end-users present research topics for which they perceive that research is needed. The session also addresses communication, dissemination and implementation strategies, and financial strategies.
- **Field visits** are arranged with the purpose of sharing knowledge about realities on the ground.
- After the workshops the participants receive **guidance and mentoring** from local partners and / or workshop resource persons on how to finalise their project proposals and submit them to grant giving organisation.
- Applicants, who were not successful with raising funds using their project proposals but were assessed as having good potential, can be invited to a **revision of application workshop**. After the workshops the participants receive guidance and support from local partners on how to finalise their project proposals and resubmit them to donors.
- In parallel **training is provided by a group of trainers** who have themselves participated in the scientific methodology workshops and have special skills supporting others as well as high scientific capacity. These trainers have been provided with training material and are supported through a trainer's network.

Support package TWO

Managing research and communicating with end-users

It has been found that when a researcher in a lower income countries have received a research grant, it may still be difficult to manage the research plan as described in the application due to the realities in the country, in the laboratories or in the field.

- In a 1-2 week long **workshop** grantees are invited to present their research methodologies and the expected or achieved results, depending on the level of project execution, as well as the strategies for involving potential end-users. This enables researchers to learn from each other. Senior researchers also attend the workshops to support as resource persons. Each project is carefully addressed by at least one resource person, familiar with the research topic and with the scientific infrastructure of lower income countries, in order to support and improve where appropriate. Where appropriate, the senior researcher may become **mentors** to the grantee for the finalisation of the research projects.
- The workshops also contain **lectures on thematic topics** and / or **research tools**. The thematic topics and research tools are selected by the grantees themselves prior to the

workshop or by the workshop organisers by compiling the projects of the participants. Research tools include, but are not limited to; participatory approaches, sampling methods, data collection design, application chemistry and physics, scientific equipment use and maintenance, good laboratory practices (GLP) and statistical methods. Information is provided on training opportunities offered by other stakeholders.

- **Field visits** are arranged with the purpose of sharing knowledge about realities on the ground.
- These events also promote **networking** and seek to initiate and/or strengthen already developed networks when needed.
- The workshops can generate proceedings, including **policy briefs** of the research projects, which are used for follow-up events.
- **Potential end-users** of scientific results are invited to listen to the scientific presentations in order to learn about research findings and expected results as well as to provide feed-back to researchers on needs and challenges in actual practice.
- Potential **grant givers are approached** for funding or co-funding of the research.

Support package THREE

Dissemination of research results

- Once researchers have obtained quality scientific results, they can be assisted with preparing a **manuscript for publication**. This can be done through a workshop. These workshops typically last five days and focus on preparing a manuscript, selecting a journal and the publication process. During the workshop, researchers are supported by senior scientists and other resource persons to improve their manuscript. This is done by lectures, group work and individual one to one assistance sessions. After the workshop, researchers may be assigned a **mentor**, who will continue to assist them with their manuscripts until it is submitted for publication. RandS works in collaboration with partner organisations on these topics.
- Training is also provided on **oral presentations** as well as development of **posters** for conference presentations. Information is shared about organisations which offer grants for the participation in **scientific conferences**.
- Training is also provided on the development of **policy briefs** and communication with non-scientific end.
- **Round Table sessions**, meetings and seminars are arranged between researchers and scientific result beneficiaries to share knowledge about scientific findings. Other topics on the agenda are new areas with need of research as well as dissemination strategies.

Support package FOUR

Implementation of scientific results

The program acts as a facilitator between senior researchers and end-users. End-users are defined as are those who can use or implement scientific results, including government bodies, local authorities, policy makers, development organisations, Civil Society Organisations, private sector, other academic bodies, grant givers and media.

The justification for the program is that researchers may or may not have interest, time and/or funding to go beyond scientific publishing. At the same time it may be difficult for the end-users to know which research results have been generated that they could benefit from. In addition

researchers are not aware of which research topics that end-users may be interested in. To this end, research can be funded by end-users.

- **Physical meetings** are arranged between academic staff and end-users to identify national research priorities and ongoing developmental projects. The National Development Plan is presented. Implementation and funding strategies are discussed.
- Potential **grant givers are approached** for funding or co-funding of the implementation of scientific finding.
- **Round Table sessions** and other meeting platforms are arranged where researchers are provided with the opportunity to inform about research results and end-users about research needs. End-users are encouraged to submit prior to the meetings i) requests for research on identified topics, ii) communication, dissemination and implementation strategies, iii) financial strategies iv) social aspects of implementation. Researchers are encouraged to develop 2-4 pages of presentations of scientific results adapted to non-scientific readers. The meeting organiser supports well-structured discussions and output reports. Financial and social aspects of implementation are addressed. The end-users provide information on how research results can be implemented and through which resources. During the event implementation strategies of research results and products are developed. Field visits and seminars are also arranged. **End-users and researchers are matched**. Each pair or group identifies action and financial plans.

Support package FIVE

Entrepreneurship for researchers

- Researchers are encouraged to bring their **business ideas** to a **workshop**. During the workshop each participant will have the opportunity to work on her on material and improve it. The trainees are expected to be able to develop a sound business plan. They shall also be able to assess whether a scientific result would have the potential of being commercial. The workshops address; i) how to develop a business model, ii) making financial forecasts for the development of new business ventures, iii) finance administration and accounting, iv) strategic communication and negotiation v) intellectual property rights (IPR) including patents, copyright, designs and trademarks.
- **Field-visit and stakeholder round table** discussion are arranged.

Support package SIX

Procurement, Installation, Service, Maintenance and Use of Scientific Equipment

Through the PRISM program (Procurement, Installation, Service, Maintenance and use of Scientific Equipment) support is provided on each issue related to having access to functioning advanced scientific equipment (Öman, Gamaniel et al. 2006; Öman, Gamaniel et al. 2008; Öman, 2015 a,b,c,d,e). (For more information please visit www.PRISMScientific.org). The PRISM Concept focuses on the Target partners, thus the academic institution stakeholders and the suppliers. The role of the Program partner is to address any constraint that the Target partner may experience, as well as stream-line activities that are preferably addressed in a coordinated manner.

- The Institution stakeholders are provided with **Operational plan and Financial plans Guideline**. These two documents aim at providing a structure regarding all aspects of equipment management both in operational and financial terms. The Operational plan also

has components that facilitate for the supplier to operate well. The Institution will **monitor and evaluate the equipment performance**. The Operational and Financial plan Guidelines are distributed broadly and freely.

- In addition and supplementary to the Operational and Financial plan Guidelines, the PRISM Program partners offers services that can lift the burden from the institutions to handle certain aspects of their choice related to the equipment management. The services are compiled in the **PRISM Support Services** Guidelines.
- The Program partner has the responsibility to ensure face to face **Target partner meetings** where knowledge is shared and constraints and in-efficiencies are sorted out. One of these occasions are the, **Annual PRISM Conferences** are arranged for all members where program and financial reports and plans are discussed and agreed on. Sessions are arranged where the target partners meet.
- The PP maintains the **Technologist forum** to ensure close contact between technologist from different institutions and countries. The Program partner is also responsible for selecting, monitoring and evaluating the **Agreed suppliers**. The Agreed suppliers shall be high quality, reliable suppliers of scientific equipment and related services.
- PRISM supports visibility, knowledge sharing and networking through its **web-site** (www.PRISMscientific.org) and its Facebook page.
- A solid and well organised **training program** addressing every aspect of concern is managed by the Program partner. Besides the training the program builds and maintains a network of trainers and service staff.
- **Expert support** is offered on for example equipment selection and laboratory preparations.

4. The Program team

A team of senior professionals with extensive experience from scientific capacity strengthening programs in lower income countries is ready to respond immediately to the implementation of the support programs. The program team has a strong commitment and are willing to do their very best to strengthen scientific capacity in lower income countries. The program also benefits from a dynamic and well established network of individuals, NGO's, CSO's, academia, and enterprises which captures knowledge and experience of the situation on ground and ensures needs driven program. The network also captures knowledge and experience of international and local scientific research.

5. Evaluation planning

Each program builds on the Real-time Outcome Planning and Evaluation tool (ROPE) (Öman 2009, b, c) which measures whether the support provided by the Program partner enabled the Target partners to be successful.

6. Achievements

The program was initiated in 2015, when Human Rights and Science (RandS) was registered. The program builds on excellent previous results within its sister organisation Action10 (www.action10.org). It is the achievements within Action10 that form the basis for the successful implementation of this program.

7. Acknowledgement

Dr Amah KLUTSE is acknowledged for his contribution to the design of this program.

8. Appendices

Appendix 1 ROPE short applied summary

Progress markers

ROPE benefits from using the concept of “Outcome challenges¹” to identify the challenges that the Target partner face in order to achieve their goals. The “Progress markers” are indicators measuring progress and reflect directly on the Outcome challenges. The progress markers must be formulated in a way that they are measurable. They are separated into single units which can be easily measured and are developed per Target Partners and by the PPs and the TPs together. There are three levels of Progress markers depending on how difficult these are to achieve, where level one is most easy. These progress markers can be defined according to two approaches, namely term duration and degree of realism. In the term duration approach, level 1 are immediate responses that will be expected during the initial phase of the program, level 2 are long-term responses that one would expect after some time, and level 3 are responses that one might expect after some years. In the degree of realism approach, level 1 are items that are brutally realistic, level 2 are items that are somewhat idealistic, and level 3 are items that are close to being unrealistic.

Please find in the below table examples of Progress markers for support package ONE. These shall be adjusted and improved for every program initiated in actual practice.

Table. Examples of Progress markers from Support package ONE.

Level 1
The researchers seek support to develop research proposals for organisations providing such support.
The researchers seek skills in finding and using scientific literature on internet.
The researchers seek scientific supervision from senior researchers.
The researchers submit applications for research funding.
Level 2
The researchers revise projects that were not approved and resubmit to a donor.
The researchers achieve funds.
The researchers procure the scientific equipment required for the research
The researchers arrange with the required transport to field sites.
The researchers initiate a scientific study.
The researchers connect with established teams and networks.
The researchers achieve funds from more than one donor.
The researchers support colleagues to have access to research grants.
The researchers develop and maintain new research teams.
The researchers build and maintain new formal and informal networks where established ones are lacking.
The researchers influence the university management to provide training on scientific methodology and fundraising.
The researchers influence the university management to develop procedures on equipment management.
Level 3
Among researchers in all countries there are equally many women as men.
An equal amount of research is addressing lower income country issues as higher income country issues.

¹ RandS defines outputs and outcomes as that outputs are activities we have control over and these are compiled in the Strategy map, outcomes are the desired results of outputs and something we do not have control over. The progress markers address outcomes rather than outputs.

Strategy map

The Strategy map is developed as a result of the previous Program design parameters, especially addressing each of the Outcome challenges. The strategy map compiles outputs, which are the expected result of the activities that the partners take as a result of the Progress markers. The Strategy map is a creative tool and provides a useful overview. Causal actions are directly related to the desired outcome and have a single purpose, persuasive actions are indirectly related to the desired outcome or attempts to produce the desired outcome indirectly, and supportive actions relate to providing and fostering an environment that enables or encourages the desired outcome with very little direct bearing on it.

Please find in the below table examples of a Strategy map for support package ONE. The activities shall be adjusted and improved for every program initiated in actual practice.

Table. Examples of a Strategy map from Support package ONE.

	Casual	Persuasive	Supportive
Individual	<p>Training on the use service and maintenance of scientific equipment.</p> <p>Support to present research results at conferences.</p> <p>Compilation of review comments and forwarding these to each applicant.</p>	<p>Scientific methodology workshops where research projects are developed.</p> <p>Scientific international review of research proposals submitted to grant givers.</p> <p>Revision of research proposal workshops addressing the feed-back from the international review.</p>	<p>Targeted support to women researchers by addressing role-models, providing lap-top to facilitate works from home and accepting longer more time when preparing applications due to expected family responsibilities.</p> <p>Guidance and support to each workshop participant by local partner or resource persons to facilitate submission of applications to grant givers.</p> <p>Provide information on tools for having access to literature on internet generally.</p> <p>Procurement, service and maintenance of equipment at universities.</p>
Environment	<p>RandS visibility activities.</p> <p>Appoint research team coordinators.</p> <p>Train trainer workshops.</p>	<p>Reaching out for more women researchers by tailoring the wording in the invitations and by appointing women role-models.</p>	<p>Provision of workshop packages on scientific methodology for Universities to be used in their education schemes.</p> <p>Recruit and maintain a network of senior scientific advisors.</p> <p>Support to formal and informal networks, addressing scientific issues and equipment.</p>

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