HUMAN RIGHTS & SCIENCE

Scientific Capacity Strengthening

By Assoc. Prof. Cecilia ÖMAN, SEO Human Rights and Science (HR&S),
www.humanrightsandscience.se.

Summary

It is a sever fact that most of the scientific research performed in the world today addresses issue that is of concern to only to a minority of the world´s population. This situation is obviously a severe constrain to development and equal sharing of resources around the world. Moreover, it hinders the world-wide growth as talented researchers from lower income countries are excluded from the possibility to do research and thereby contributing to the international development. Thus this programme aims at supporting scientific institutions in lower income countries by contributing to a favourable environment that will promote the initiation, management, dissemination and implementations of high quality scientific research. The programme aims at addressing the research topics chosen by the researchers themselves, thus both already prioritised but also neglected research areas relevant for lower income countries.

The operations are structured as stand-alone trainings and complementary support programmes. Each programme will have tailor-made activities in order to reach a certain target. For train trainer programs the goal is met when the trainers are self-sustained, both when it comes to education and logistics and as well as finances. The sequence of activities often include round tables with stakeholders, such as representatives from the government, local authorities, private sector, civil society organisations, rural communities and media. A team of senior professionals with extensive experience from scientific capacity strengthening programmes in lower income countries is ready to respond immediately to the implementation of the support programmes. The programme team has a strong commitment and are willing to do their very best to strengthen scientific capacity in lower income countries. Each programme builds on the Real-time Outcome Planning and Evaluation tool (ROPE) which measures whether the support provided enabled the partners to be successful. The programme 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 programme. The programme further builds on excellent previous outcome by its sister organisation Action10 (www.action10.org). Action10 has been operational since 2009 and is run by 30 contracted volunteer staff. The organisation has presence in seven countries through national development organisations. Assoc. Professor Cecilia has already held around 50 workshops on different scientific issues, in fifteen different countries in Africa, South America and South East Asia, during the last fifteen years and she has developed a deep understanding about the academic conditions in lower income countries.

HR&S offers the services on a consultancy basis. It can also be possible to develop a joint grant application to get started. The design of the programme does always have a component of sustainable economy and institutional capacity. The programme has potential to start sustainable social enterprises, and HR&S and the Programme partner may become business partners.

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1. Foreword

This programme was developed by Assoc. Prof. Cecilia ÖMAN and is offered on a consultancy basis by Human Rights and Science, www.humanrightsandscience.se.

2. Introduction

Scientific capacity strengthening

It is a common knowledge that most of the scientific research performed in the world today addresses issue that is of concern to only to a minor part of the world´s population. While research on a global scale is mainly driven by the higher income countries, this programme addresses the needs of lower income countries. The programme aims at supporting the research in lower income countries by contributing to a favourable environment that will facilitate the initiation, management, dissemination and implementations of high quality research. In terms of research topics, the programme supports relevant topic chosen by the Target country researchers. The programme aims at addressing prioritised but also neglected research areas relevant for lower income countries.

Vision and mission

The vision of this programme is that everyone in all countries, women, men and children equally, has 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 outcome beneficiaries are informed about the outcome and the appropriate findings are implemented. 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 outcome. 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 outcome is facilitated. The mission is further to adapt all programmes 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 and disseminate and implement scientific outcome.

Operations

HR&S offers standalone trainings as well as result based programmes addressing the below according to the below. The result based support programmes constitute of a sequence of activities where each activity builds on the outcome from the previous activity until the programme has reached a certain goal. The goal is agreed on by the partners during the design of the programme.

3. Stand-alone trainings

The trainings typically last five days and addresses:

1. The scientific method and research funding.
2. Research methods and tools.
3. Publishing scientific results and scientific communication.
4. Scientific supervision.
5. Implementation of scientific results.
6. Entrepreneurship for researchers.
7. Advanced scientific equipment operational and financial planning (FAST).
8. Cross-cultural partnership for researchers (CCP).

ONE . The scientific method and research funding

The training addresses:

- The scientific method, including;
  the scientific hypothesis, the literature review, the objectives, the research plan and the budget. We work with having access to scientific literature, communication between researchers and librarians and keeping track of scientific papers. We address quantitative and qualitative methods and experimental design and we run internet session targeting literature search.
- How to develop research proposals, including
  how to approach donors and specific funding opportunities.
- Strategic partnership
  We arrange round-table with potential scientific outcome beneficiaries and mentions and discuss research for development.

TWO. Research methods and tools

The training addresses

- The specific needs of the participants and include, but are not limited to;
  participatory approaches, data collection design, statistical methods and chemical and physical sampling and analyses.
- Information is also shared on training opportunities offered by other stakeholders.

THREE. Publishing scientific results and scientific communication

The trainings focus on;

- Preparing a manuscript.
- Selecting a journal to publish.
- The publication process.
- Training is also provided on other types of scientific communication,
  oral presentations, power point presentations, development of posters for conference presentations, development of policy briefs, the art of e-mailing is discussed.
- Information is shared about organisations which offer grants for the participation in scientific conferences.

FOUR. Scientific supervision

The training addresses the role of being a scientific supervisor and include;

- How to share knowledge.
  The training includes a short recapitulation of the scientific method and how it can be shared with junior researchers in an effective manner, including; literature review, hypothesis, objectives, materials and methods, research plan and budget.
- How be a strong leader and build strong teams.
  We address decision making and strategic planning. We reflect on "being a leader with a vision, not just a manager" and include; looking beyond the leadership stereotypes, understand situational leadership, influencing with passion and empower others to act, increasing the performance of a scientific team by setting objectives, expectations and goals. We discuss financial management and time management.
- We also address the issue of raising funds, disseminate outcome and networking.

FIVE. Implementation of scientific results

The training addresses the need of and tools for implementation of scientific outcome and addresses different potential end-users of scientific outcome including;

- Government bodies, local authorities and policy makers.
- National and international development organisations.
- Civil society organisations and Non-governmental organisations.
- The private sector.
- Other academic bodies.
- Grant givers.
- Media.

SIX. Entrepreneurship for researchers

The training addresses;

- The business idea.
  Pitch, vision, business model the team, risk analysis, implementation plan, cash flow budget and income statement budget.
  Making financial forecasts for the development of new business ventures.
- The business Plan.
  Value proposition, customer segments, distribution channels, customer relationships, revenue, key partners, key activities, key resources and costs.
- Intellectual property rights (IPR) including patents, copyright, designs and trademarks.
- Finance administration and accounting.
- Strategic communication and negotiation.

SEVEN. Advanced Scientific Equipment operational and financial planning (FAST)

The Functioning advances scientific equipment (FAST) training addresses the selection, laboratory preparation, procurement, transportation, custom clearance, delivery, installation, calibration, quality assurance, training, use, maintenance, servicing, decommissioning and evaluation planning of advanced scientific equipment. More information is presented elsewhere.

EIGHT. Cross-cultural partnership

The training addresses issues of concern when partnering up across cultures and builds on the Ten Actions (Tact): 1. Needs driven program, 2. Equal partnership, 3. Real time evaluation planning, 4. Strategic partnership, 5. Institutional capacity, 6. Sustainable economy, 7. Quality values, 8. Resilience, 9. Knowledge sharing, and 10. Visibility. More information is presented elsewhere.
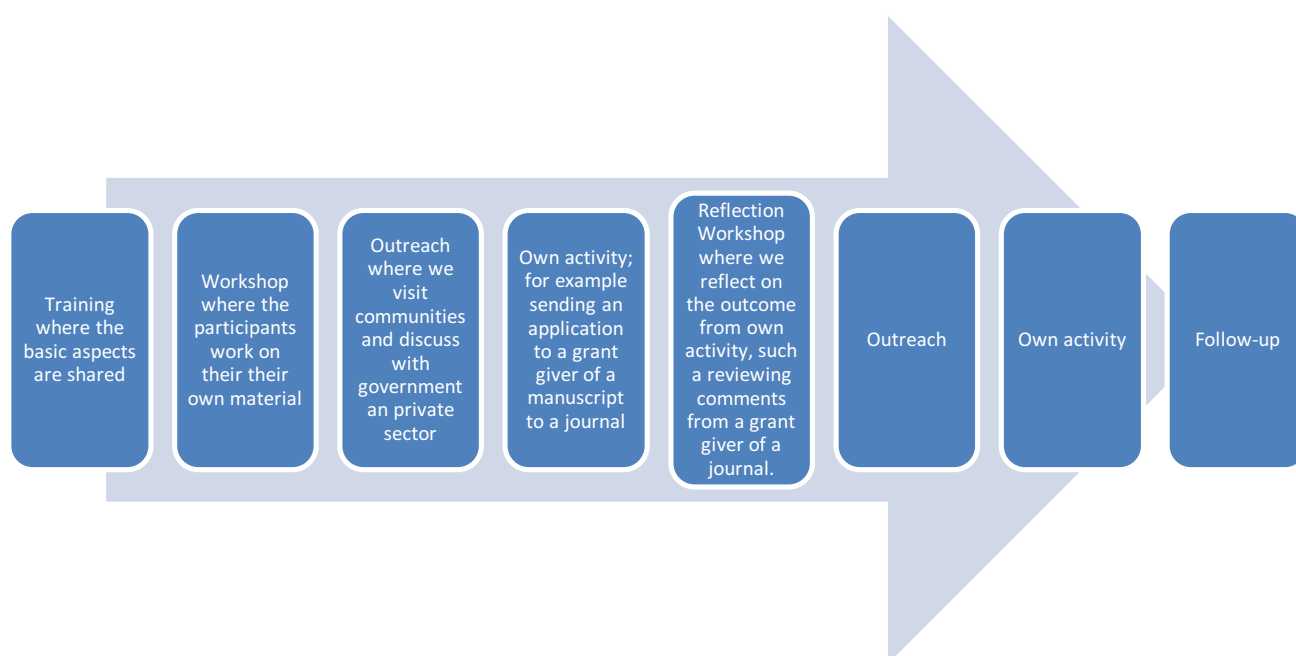

Raisa, Jeanette and Cecilia preparing fufu in Togo.

4. Outcome based programmes

Outcome based sequence of activities

The outcome based support programmes constitute of a sequence of activities where each activity builds on the outcome from the previous activity until the programme has reached a certain goal. The goal is agreed on by the partners during the design of the programme.

| Training where the basic aspects are shared | Workshop where the participants work on their their own material | Outreach where we visit communities and discuss with government an private sector | Own activity; for example sending an application to a grant giver of a manuscript to a journal | Reflection Workshop where we reflect on the outcome from own activity, such a reviewing comments from a grant giver of a journal. | Outreach | Own activity | Follow-up |

Possible components of a Outcome based programme are as below. The programmes are restructured to perfectly address a specific request, need or challenge.

A. Training

The training session provides the theoretical background of the topic as presented above.

B. Workshop

During the workshop the participants work with their own material (such as grant proposals or manuscript for publication) and benefit from advice from senior researchers and experts. Advisers and experts have been appointed to match need of the trainees.

C. Outreach 1

Stakeholders relevant for the topic are approached and communicated with. Potential end-users of scientific outcome are invited to listen to the scientific presentations in order to learn about research findings and on-going research and to provide feed-back to researchers on needs and challenges in actual practice. Round Table sessions are arranged where researchers and potential end-users of scientific outcome are discussing the need of new research topics as well as compare already generated research outcome 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, implementation strategies, and financial strategies. Field visits are arranged with the purpose of sharing knowledge about realities on the ground. The events also

promote networking and seek to initiate new or strengthen already established networks. Potential grant givers are approached and invited for funding or co-funding of the research.

D. <u>Own activity 1</u>
    The trainees performs and activity of their own (such as sending in an application for funding or a manuscript for publication) and may benefit from coaching.

E. <u>Reflection workshop</u>
    The output from the above activity is reflected on, and the own material strengthened. For example the comments on a rejected grant application or manuscript are discussed and the proposals revised. The trainees benefit from advice from senior researchers and experts. Advisers and experts have been appointed to match need of the trainees. The workshop may include presentations by experts on topic where the trainees request more detailed information, for example statistics.

F. <u>Outreach 2</u>
    The communication with stakeholders is strengthened.

G. <u>Own activity 2</u>
    The previous activity is repeated, now with a stronger material, when appropriate

H. <u>Follow-up</u>
    Follow-up activities are agreed on in relation to the outcome of the above and the set goals.

Outcome planning and evaluation

The design and evaluation planning is managed according to Real-time Outcome Planning and Evaluation (ROPE). The ROPE provides; i) a strategy for designing programs based on the needs and the knowledge of the Target partners, ii) means to overcome the challenges identified by the Target partners, iii) a sustainable economy, and iv) institutional capacity. More information about ROPE is presented elsewhere (www.humanrightsandscience.se).

Outcome based scientific capacity programmes

Outcome based programme ONE
The scientific method and research funding

- Participants are invited to **bring their own grant proposals** to the workshop. Workgroup sessions are arranged where the participants benefit from advise by senior researchers and where the proposals are revised.
- **Round Table** sessions are arranged where researchers and potential end-users of scientific outcome are discussing the need of new research topics as well as compare already generated research outcome with actual needs. Researchers present their project ideas and potential end-users present research topics for which they perceive that research is needed.
- After the workshops the trainees can 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.
- The proposal is sent.
- Applicants, who were not successful with raising funds using their project proposals, are 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.
- The new grant application is submitted.
- A **follow-up programme** is agreed on in relation to the outcome.

Outcome based programme TWO
Research methods and tools

During the workshop the trainees work with their own material and benefit from advice and guidance from senior researchers and experts. The trainees are also invited to share about their own research methods and tools, the expected or achieved outcome, as well as the strategies for involving potential end-user. The purpose is to enable the researchers to learn from each other.

- The **research tools** include, but are not limited to; participatory approaches, data collection design, experimental design, statistical methods and chemical and physical sampling and analyses.
- Knowledgeable experts are invited to give **lectures** on topics of concern.
- **Senior researchers** 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, in order to support and improve.
- Senior researcher may become **mentors** to junior researchers for the finalisation of the research projects discussed.
- Information is also shared on **training opportunities** offered by other stakeholders.

Outcome based programme THREE
Publishing scientific outcome

Once researchers have obtained quality scientific outcome, we provide assistance with preparing a **manuscript for publication**.

- The workshops focus on **preparing a manuscript, selecting a journal and the publication process**. Internet sessions support the activity.
- During the workshop, researchers are **supported by senior scientists** and to improve their manuscript.
- After the workshop, researchers may be assigned **mentors**, who will continue to assist them while finalising the manuscript and submitting it for publication.
- **Round Table sessions** are arranged between researchers and end-users of scientific result to share knowledge about the scientific findings, new areas that require research and dissemination strategies.
- Also oral presentations, power point presentations, development of posters for conference presentations and development of policy briefs are mentioned.

Outcome based FOUR
Implementation of scientific outcome

The programme acts as a facilitator between senior researchers and end-users. End-users are defined as are those who can use or implement scientific outcome, 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 programme 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 outcome have been generated that they could benefit from. In addition researchers are not always aware of which research topics that end-users may be interested in. To this end, research can even be funded by the end-users.

- **Physical meetings** are arranged between academic staff and potential end-users to identify national research priorities and on-going developmental projects. The National Development Plan is presented. Implementation and funding strategies are discussed.
- **Round Table sessions** and other meeting platforms are arranged where researchers are provided with the opportunity to inform about research outcome 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. Outearchers are encouraged to develop 2-4 pages of presentations of scientific outcome 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 outcome can be implemented and through which resources. During the event implementation strategies of research outcome and products are developed.
- **Field visits** are arranged with the purpose of assessing direct implementation in the field.
- Potential **funding providers are approached** and invited to events with the purpose of attracting funding or co-funding of the implementation of scientific finding.
- **End-users and researchers are matched**. Each pair or group have meetings to identify activity and financial plans.

Outcome based programme FIVE
Scientific supervisor skills, leadership and teambuilding

- PhD and MSc supervisors are invited to attend a one week workshop where we combine lectures, participatory sessions, knowledge sharing among participants and networking. The workshop addresses the **role of being a scientific supervisor, how to share knowledge, be a strong leader and build strong teams**.
- The workshop includes a short **recapitulation of the scientific method** and how it can be shared with junior researchers in an effective manner, including; literature review, hypothesis, objectives, materials and methods, research plan and budget.
  We also address the issue of **raising funds** as well as **disseminate outcome.**
  We discuss and develop plans for **networking** within the scientific community as well as **communicating** with non-academia stakeholders.
- When we work on the **role of being a scientific supervisor and a strong leader** we address decision-making, strategic planning, team building. We reflect on "being a leader with a vision, not just a manager" and include; looking beyond the leadership stereotypes, understand situational leadership, influencing with passion and empower others to act, increasing the performance of a scientific team by setting objectives, expectations and goals.
- Important is also to address **financial management as well as time management**.

Outcome based programme SIX
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 their on materials and improve their ideas.
- The workshops address; how to develop a **business plan**; making financial forecasts for the development of new business ventures; finance administration and accounting, strategic communication and negotiation; intellectual property rights (IPR) including patents, copyright, designs and trademarks. The trainees are expected to be able to develop a sound business plan after the workshop. They shall also be able to assess whether a scientific result would have the potential of being commercial.
- **Round Table sessions** are arranged where researchers and potential end-users of scientific outcome are discussing the need of new research topics as well as compare already generated research outcome with actual needs.
- **Field visits** are arranged with the purpose of sharing knowledge about realities on the ground.

Outcome based programme SEVEN
Access to Functioning Advanced Scientific Equipment (FAST)

Through the FAST programme (Functioning Advanced Scientific Equipment) support is provided on each issue related to having access to functioning advanced scientific equipment. The programme is presented elsewhere.

Outcome based programme EIGHT
Cross-cultural partnership

The training addresses issues of concern when partnering up across cultures and builds on the Ten Actions (Tact) as below (Öman, 2009a). The programme details are presented elsewhere.

1. Needs driven program.
2. Equal partnership.
3. Real time outcome evaluation planning.
4. Strategic partnership.
5. Institutional capacity.
6. Sustainable economy.
7. Quality values.
8. Resilience.
9. Knowledge sharing.
10. Visibility.

5. Programme framework

Equal partnership

It is obvious that capacity strengthening programmes depend on the ownership among all stakeholders to be successful. Therefore all partners design and evaluate the programmes together. Thus the HR&S programmes always aim for equal partnership within the programme team, where each partner contributes and benefits equally. Equal partnership is defined in this programme as 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 programme 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. In collaboration with our Program partners we can develop needs driven, sustainable and goal oriented programs. So that we run programs where we ensure and measure a set outcome.

Strategic partnership

The structure also includes round tables sessions with stakeholders such as government representatives, the private sector and the media. During the Round-table sessions the following procedures are followed: All stakeholders present themselves and what they bring to the table; Run a brainstorming during a defined period of time and conclude it; Narrow down the discussion towards expected outcome and outputs from the collaboration and method for collaboration; Agree on follow-ups, activity plan and where and when to meet again, and appoint a coordinator; Report summarising the Brainstorming session, Expected output and outcome, Method for collaboration, Activity plan; Information on next meeting and assigned coordinator. It also includes meetings with and visits to local communities. The purpose is to encourage a dialog between academia and society stakeholders, to capture topics that need to be researched as well as support the implementing of new scientific outcome. Field visits are arranged with the purpose of sharing knowledge about realities on the ground. Questionnaires are developed and after the visit the outcome are analysed. The workshops also contribute to the generation of sustainable networks between researchers.

Sustainable economy

The programme should also aim to be financially self-sustained with time, thus the programme shall have a build in component generating a sustainable economy.

Outcome planning and evaluation

Each programme builds on the Real-time Outcome Planning and Evaluation tool (ROPE) which measures whether the support provided by the Programme partner enabled the Target partners to be successful. ROPE is presented elsewhere.

Train trainers

In parallel and within the workshops and the implementation of support programmes, training is provided for potential trainers. The potential trainers are selected by those who have special skills in supporting others, scientific capacity and training experience. Besides knowledge the trainers are provided with training material and are supported through a trainer's network.

6. The Programme team

A team of senior professionals with extensive experience from scientific capacity strengthening programmes in lower income countries is ready to respond immediately to the implementation of the support programmes. The programme team has a strong commitment and are willing to do their very best to strengthen scientific capacity in lower income countries. The programme 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 programme.

7. Finances

HR&S offers the services on a consultancy basis.

It can also be possible to develop a joint grant application to get started, and the design of the programme is the complemented with sustainable economy and institutional capacity.
The fundraising work can be structured as follows: A fundraising committee with three - five members is appointed in the Target country. The team gets basic fundraising training and a small reward for their extra work. The fundraising committee meets a certain period of time a certain day each week; maybe three hours every Monday afternoon. The task of the team is to benefit from Internet to search for grant opportunities. The committee will develop draft proposals, which will be processed by HR&S before being submitted to donors.

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