



Terms of Reference

Documentation of Research on Climate Change, Human Health, Water and Food Security in Southern Africa

1. Background

The Fourth Assessment Report from the Intergovernmental Panel on Climate Change (IPCC) of 2007 highlights Africa south of Sahara as one of the most vulnerable regions in the world with regard to climate change. The report further states that there is evidence that some areas in Africa, including parts of southern Africa, are highly vulnerable to climate variability and change. Current climate predictions for southern Africa foresee increased variability and changes of different climate factors. These changes are expected to impact on human health, water and food security through modifications of environmental and socio-economic determinants.

The agricultural sector is crucial in terms of sustaining local livelihoods and contributing to the GDP in all SADC (Southern African Development Community) countries. Recent assessment studies, including regional-scale analysis, estimate significant decrease in suitable rain-fed land for crop production. Some parts of the southern Africa are likely to experience considerable reductions in maize production with serious implications for food security and human nutrition, especially among poor and vulnerable groups. Food insecurity and malnutrition is also likely to be further aggravated by climate change interacting with other multiple stressors such as HIV/AIDs, poor governance and poor adaptation. Water, primarily in the form of rainfall, is one of the most important resources in all SADC countries. Changes in temperatures and rainfall patterns associated with global warming may therefore have significant consequences for a wide range of environmental and economic activities. Climate variability and climate changes are also expected to lead to changes in disease transmission, range, prevalence, incidence and seasonality. Such changes may in turn cause health risks from flooding, changes in temperatures and precipitation. Southward expansion of the transmission zone of malaria may likely occur. It is worth noting, however, that not all changes in climate will be negative, and that the impact of climate change on e.g. water resources, is not uniform. Positive changes may also occur in some parts of the region under favourable scenarios with lengthened growing season, rainfall changes and derived health opportunities for local communities.

Against this background it is clear that adaptation to climate change is closely linked to issues of sustainable development. Climate change and variability is an additional hindrance and a serious threat to achieving the MGD's in Africa. Given its low income, weak institutions limited knowledge, responding to the impacts of climate change will be a huge challenge for southern Africa.

Detailed and context specific knowledge of the consequences of climate change at global, regional, national and local levels is vital for overcoming the negative effects of climate change in southern Africa, and to secure the most needed and efficient adaptation to climate change. In order to facilitate the access of policy-makers and development practitioners to the results from existing research on climate change in SADC and enhance networking and knowledge sharing for action, the three Danish research networks: Danish Development Research Network (DDRN), Danish Water Forum (DWF), and the Danish Research Network for International Health (ENRECA Health) have decided to develop three separate overviews of results from research projects and of key institutions and networks working within the area of climate change and climate variability focusing on mapping of:

- i. Research projects on **climate change and human health** (overview 1)

- ii. Research projects on **climate change and water** (overview 2), and
- iii. Research projects on **climate change and food security** (overview 3)

The mapping of research results and key institutions will be at the regional-scale focussing on southern Africa represented by the SADC countries. The overview will cover atmospheric sciences, including biophysical science, sociological and economic sciences as well as health sciences.

The mapping/overview will be presented at a planned North-South-South regional knowledge sharing workshop on: "Understanding the linkages between climate change human health, water and food security: Research and knowledge sharing for Southern Africa" to be held in South Africa in February 2009. Furthermore, it will facilitate the development of joint research proposals, and inform developing practices and policies within the areas covered by the networks.

2. Objectives of the consultancy

Based on a desk study of relevant projects and documents the main purpose of the consultancy is to provide:-

- a. A profile of key research institutions in the SADC region with competences and activities within climate change and human health (overview 1); climate change and water (overview 2), or climate change and food security (overview 3).
- b. An overview of the results from ongoing and completed (since 2000) research projects on climate change and human health (overview 1); climate change and water (overview 2), or climate change and food security (overview 3) in the SADC region.

3. Scope of Work

The scope of work should include but not necessarily be limited to the following activities:

- Collection and review information on climate change, human health and food security using relevant institutions' databases, web pages, libraries, programme documents etc.
- Identification of research projects that address linkages and interaction between focal themes, and 'gaps' and perspectives on future research areas
- Make recommendations on how the overview of research can be used and disseminated.
- Identification of existing networks on climate change in SADC
- Presentation of findings at the workshop to be held in February in South Africa

4. Outputs

The consultant will be responsible for compiling a report including:

- An overview of existing knowledge and outcome of research projects regarding climate change and human health, climate change and water, and climate change and food security in the SADC region. The overview will cover research since 2000, but earlier highly relevant work may be included, and include current research projects and publications by leading research institutions in the SADC region undertaken by individual researchers, research groups, institutes and universities.
- Identification of linkages between and interaction with other themes and factors, addressing also the spatial variation of challenges, issues and linkages across the region.
- A mapping of the institutions that operate within the region linked to climate change and the focal themes (human health, water or food security). The mapping should serve as a useful tool in identifying partners and supporting the development of future joint research projects.
- Identification of research and knowledge areas of common interest to researchers and development practitioners
- Recommendations on 'gaps' and perspectives on research areas for possible future collaboration

5. Methodology and staffing

It is proposed that the overview is compiled by a person based in a SADC country and specialised in climate change knowledge and development in the SADC region. Knowledge of and work experience from southern Africa is obligatory. The work will be carried out in close collaboration with the secretariats of the Danish knowledge networks (Health: SUNNET; Water: DWF and Agriculture, Environment and Governance: (DDRN).

The assignment will be done by a researcher within one of the mentioned research fields/themes or by a person holding at least a Master's degree in one of the research fields and with documented relevant working experience. Knowledge of the SADC resource centres within the areas to be covered is important.

6. Timing and Reporting

Within three days after starting on the assignment the consultant will present a tentative list of content for the report with the main headings and a tentative standard format for the mapping of lead institutions. The consultant will submit a draft of the report in English for comments to the contracting network no later than 17 January, 2009 The final report should be submitted on 24 January 2009 The contract will last 20 days within the period November 2008 – January 2009.

Estimated duration of consultancies: 20 days (each)

Starting time: ASAP

Salary: According to qualifications

Expressions of interest with curriculum vitae and proposed budget should be submitted by email no later than November 30, 2008 to:

Overview 1: Research projects on climate change and human health

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Overview 2: Research projects on climate change and water, and

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Overview 3: Research projects on climate change and food security.

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