



Concept Note

Support of the African Groundwater Network (AGW-Net) in capacity development

1. Introduction

In Africa groundwater is considered as the only realistic water supply option for meeting the needs of dispersed rural communities, as well as supplementing the water demand from expanding urban centers. The challenge is immense. The present ineffective and unsustainable use of groundwater throughout Africa will require national, regional and international actions on a number of fronts. With the emergence of the Millennium Development Goals (MDGs), a call for managing groundwater development has arisen in order to curb irrational abstractions, ensure that groundwater demand is met, and improve poor management practices. Currently however, knowledge about groundwater is rare, specialized professionals like hydrogeologists or geophysicists are lacking and consequently it is a rather neglected and often mismanaged resource on the African continent.

Taking into consideration the capacity building needs in groundwater management problems plus the need to raise awareness for the issue a meeting¹ - recently convened by Cap-Net - brought together a group of groundwater professionals from different African countries, who agreed to establish the African Groundwater Network (AGW-Net). The newly founded AGW-Net will finally function under the Cap-Net umbrella. It will operate as an open membership forum for interaction between groundwater scientists and other water sector professionals across Africa. AGW-Net aims to increase awareness of the potential and value of groundwater across the continent and to contribute to capacity building in the groundwater sector. A specific objective of AGW-Net is to foster groundwater research and academic cooperation.

AGW-Net has expressed interest in cooperating with SPLASH in the context of capacity building activities. In this regard a common workshop for water professionals as a first joint activity (**first phase**) has already been proposed by AGW-Net (see section 5 & attachment 2). The British Geological Survey for NERC, the Danish Geological Survey for the Danish Water Forum as well as the German BGR and DIE have been closely involved in preparing this concept note paper, building on African demand. The workshop establishes a fundamental basis to assist capacity building initiatives in the groundwater field, which can provide an important contribution in solving regional water crises and in achieving the MDGs. Finally the support of this already ongoing initiative offers a long-term perspective for transnational collaboration between European and DC researchers.

Moreover AGW-Net capacity building and awareness activities are also designed to support the African Groundwater Commission (AGWC) which is presently formed under the AMCOW (African Ministers' Council on Water) umbrella. The future activities of AGWC are laid down in a Roadmap document and will comprise providing strategic advice on collaborative aspects of groundwater resources management in Africa as well as capacity building related to groundwater resources management. AGW-Net will support and eventually form part of this Commission (see attachment 1). It is planned that SPLASH will support this future initiative in cooperation with all interested SPLASH members, once the Commission is implemented (**second phase**).

2. General objective

Capacity building actions in the groundwater field have the general objective to increase awareness of groundwater problems and to acquire professional skills for developing a sustainable groundwater management.

3. Specific objectives

The specific objectives of this activity are:

- As a short-term objective (**first phase**): Organizing a training workshop for water professionals in collaboration with southern partners to improve groundwater management skills at all levels across all African countries as well as to promote demand-driven and target oriented groundwater research and academic activities
- As a long-term objective (**second phase**): to support the African Groundwater Commission (AGWC) once the commission is formally implemented

4. Expected results

- Increased awareness of the key role groundwater plays in climate change adaptation and ability to enhance groundwater knowledge sharing among African countries including data sharing and developing targeted information material for decision makers.
- Intensified dialogue and North-South and South-South cooperation in groundwater research
- Capacity building needs assessment within AGWC and assessment of possible joint actions through SPLASH

¹ The meeting "Groundwater Capacity Building Initiative (GWCB) in Africa" took place on July 21st- 22nd 2008 in Pretoria, South Africa; hosted by CAP-net – an international network for capacity building in IWRM.



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5. Activities

A concept for a 1-week-workshop with the title “Regional training on managing groundwater resources for water managers: a role of hydrogeological science” has been recently elaborated by AGW-Net. The first training will be considered as a “training for trainers”. The trainees (e.g AGW-Net members) will be selected based on their post as a water manager. One person from each country will be selected, who is expected to share the knowledge back home. Letters for application will be dispatched besides an open announcement on the Webpage. Major attention will be given for *River basin organizations* due to the fact that after the 2006 AMCOW meeting at Kampala, groundwater is considered as a crucial part of the river basin organizations. In addition further expertise will be brought from renowned institutions such as the University of Western Cape (Prof. Xu) and/or World Bank GW Mate. Out of the three scheduled trainings in three years time (depending on the needs from different countries) one will be given for Francophonic countries, while two trainings will be for Anglophonic countries.

The workshop will be jointly organized and conducted with AGW-Net, Cap-Net and the University of Witwatersrand. This activity will be mainly supported by SPLASH partners with hydrogeological and groundwater expertise (BGR, BGR/NERC, DGS/DWF). Further input (knowledge due to the performed work packages) from other SPLASH members will be needed concerning the future activities with the AGWC. Necessary activities for this first phase and appraisal of next steps are:

Activity	Duration	South partners Person Month	SPLASH partners Person Month
First Phase:			
Planning and organizing the workshop with special training modules and a field trip for water professionals from all African countries including the Francophonic countries.	2/09 - 4/09	2,5	1,0
Selection process for participation	4/20- 6/09	0,5	1,0
Conducting the one-week-workshop with a maximum of 15 participants from African countries in Johannesburg, at the School of Geosciences, University of the Witwatersrand,	7/2009	1,0	0,75
Planning and arrangement of further workshops for the next three years	2009-2011	1,5	0,50
Second Phase:			
Analyzing the workshop results and identifying priorities and options for ongoing programs and future joint activities in regard to the AGWC	7/09 – 9/09	0,5	0,75
Elaborate a concept for joint activities with the AGWC	10/09 – 11/09	0,5	0,65
Total		6,5	4,65

6. Input

The planning, organizing and conducting of the workshop will be mainly covered by the Southern partners. The SPLASH input includes general support to the organization of the workshop, preparation of course material and in the training delivery together with the Southern partners. The overall costs for the 1-week-workshop for 15 participants will be approximately 60.000 € (including travel expenses, accommodation costs for participants, cost for course material and facilitation costs), co-funded by Cap-Net, the University of the Witwatersrand and SPLASH in equal parts (about 20.000 Euro). The budget for a 3-years period would be 180.000 €.

7. Assumptions and risks

Assumption:

1. Regional partner organizations cooperate on a long-term basis and aim to sustainably support AGWC activities in the future.
2. AGW-Net can interest a sufficient number of participants for the workshop.
3. The AGWC starts its operation as foreseen in the roadmap in 2009.
4. The 1-week-workshop can be conducted, in case funds are secured and available for this period.

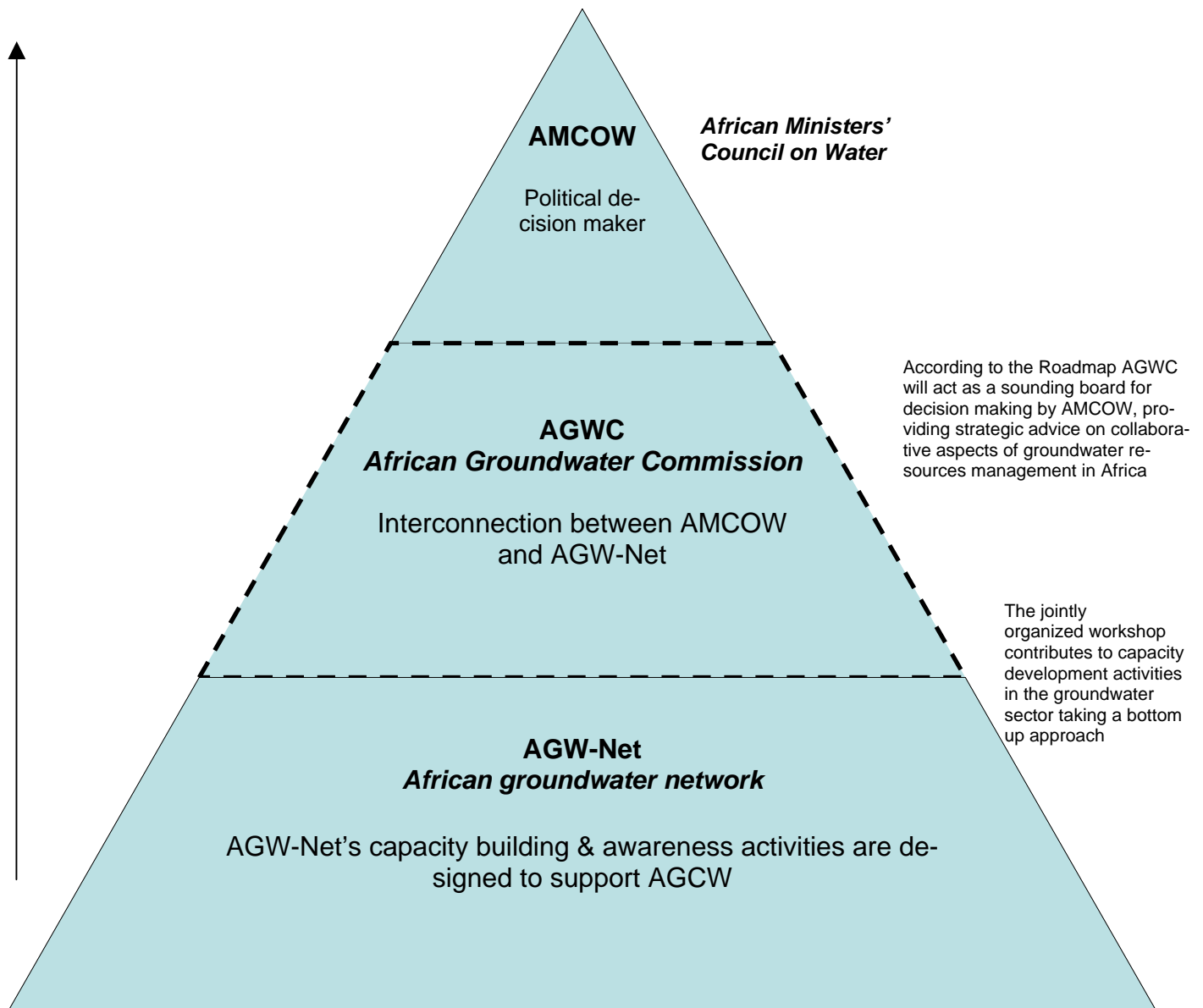
Risk: If the above assumptions are not fulfilled there is the risk that the activities cannot be successfully achieved and therefore support for capacity building in the groundwater sector is not warranted.



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Attachment 1:

Institutional overview of interaction between groundwater related practice, research and policy in Africa





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Attachment 2: Lecture topics of the first Workshop (7th-9th July, 2009):

Prepared by Prof. Tamiru Alemayehu Abiye – University of the Witwatersrand

Place: School of Geosciences, University of the Witwatersrand, Johannesburg, South Africa

Sponsors:

1. University of the Witwatersrand
2. Cap-Net
3. SPLASH Partners

Module 1

1. Groundwater and surface water: a single resource
 - 1.1 Hydrologic cycle
 - 1.2 Importance and nature of hydrogeological data
 - 1.3 Human activities on the interaction of water system

Module 2

2. Groundwater recharge processes and resource assessment
 - 2.1 Water balance estimation
 - 2.2 Process that control recharge mechanisms and Recharge estimations methods
 - 2.3 Use of integrated exploration methods
 - 2.4 Renewable and non renewable groundwater

Module 3

3. Groundwater level and quality monitoring
 - 3.1 Importance of groundwater level monitoring
 - 3.2 Water quality assessment and monitoring

Module 4

4. Sustainability of groundwater resources
 - 4.1 Groundwater availability
 - 4.2 Challenges in groundwater management
 - 4.3 Legislation for groundwater use
 - 4.4 Stakeholder participation in groundwater management
 - 4.5 Economic value of groundwater
 - 4.6 Groundwater dependent ecosystems
 - 4.7 Climate change and groundwater

Module 5

5. Groundwater vulnerability to pollution and groundwater protection
 - 5.1 Groundwater quality protection



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- 5.2 Intrinsic and specific groundwater vulnerabilities to pollution
- 5.3 Major groundwater contaminants (chemical, physical, biological etc..)
- 5.4 Artificial recharge
- 5.5 Wastewater reuse

Module 6

- 6. IWRM and groundwater management strategies
 - 6.1 Role of groundwater in IWRM environment
 - 6.2 Innovative groundwater management strategies