



Assessing existing drought monitoring and forecasting capacities, mitigation and adaptation practices in Africa

W.R. Nyabaze (1), L. Dlamini (1), O. Lahlou (2), Y. Imani (2), S.B. Alaoui (2), and J.S.A. Vermooten (3)

(1) W R Nyabaze and Associates, Midrand, South Africa (washy@wryabaze.com), (2) Institut Agronomique et Vétérinaire Hassan II, Rabat, Morocco (yasmina.imani@gmail.com), (3) Deltares, Utrecht, Netherlands (sophie.vermooten@deltares.nl)

Drought is one of the major natural hazards in many parts of the world, including Africa and some regions in Europe. Drought events have resulted in extensive damages to livelihoods, environment and economy. In 2011, a consortium consisting of 19 organisations from both Africa and Europe started a project (DEWFORA) aimed at developing a framework for the provision of early warning and response through drought impact mitigation for Africa. This framework covers the whole chain from monitoring and vulnerability assessment to forecasting, warning, response and knowledge dissemination.

This paper presents the first results of the capacity assessment of drought monitoring and forecasting systems in Africa, the existing institutional frameworks and drought mitigation and adaptation practices. Its focus is particularly on the historical drought mitigation and adaptation actions identified in the North Africa - Maghreb Region (Morocco, Algeria and Tunisia) and in the Southern Africa - Limpopo Basin. This is based on an extensive review of historical drought experiences. From the 1920's to 2009, the study identified 37 drought seasons in the North African - Maghreb Region and 33 drought seasons in the Southern Africa - Limpopo Basin. Existing literature tends to capture the spatial extent of drought at national and administrative scale in great detail. This is driven by the need to map drought impacts (food shortage, communities affected) in order to inform drought relief efforts (short-term drought mitigation measures). However, the mapping of drought at catchment scale (hydrological unit), required for longer-term measures, is not well documented.

At regional level, both in North Africa and Southern Africa, two organisations are involved in drought monitoring and forecasting, while at national level 22 organisations are involved in North Africa and 37 in Southern Africa. Regarding drought related mitigation actions, the inventory shows that the most common actions implemented in Africa in the past include food aid, drought relief programs, growing of drought tolerate crops, saving livestock, water efficiency and construction or rehabilitation of boreholes, wells and small dams. In the North Africa - Maghreb Region and in the Southern Africa - Limpopo Basin, respectively 73 and 39 organisations involved in drought mitigation, are identified, dealing with agriculture extension services (28), food aid (11), policy (11), advocacy (10) and water supply (3).

The most common adaptation actions identified are water harvesting, construction of water infrastructure, rehabilitation of traditional/cultural practices or implementation of technologies, water conservation, crop monitoring and crop diversification. Regarding involvement of organisations in drought adaptation, 18 organisations in the North Africa - Maghreb Region and 20 in Southern Africa - Limpopo Basin are identified. These organisations are involved in water infrastructure development or management (7), agriculture extension services (7) and policy development (13).

The paper clearly shows that there is need to improve the existing monitoring and early warning systems at continental, regional, national and local scales. It also shows that a lot of organisations emerge when there is a drought and are involved in drought mitigation but only a few are involved in drought adaptation.