IAHS2017-408
IAHS Scientific Assembly 2017

The governance of transboundary aquifers: towards a multicountry consultation mechanism, the case of the Stampriet Aquifer System

Ramogale Sekwele

In recent decades, the use of groundwater has been increasing around the world, in response to the rising demands for drinking water supplies and food production for a growing global population. In many places this has led to overexploitation of local and regional aquifers owing to poorly informed management of groundwater resources. A comprehensive understanding of the resource, its characteristics and its uses are the basis for science-based and informed decision making and planning. This is of special importance in the case of transboundary aquifers (TBAs) that are shared between two or more countries.

UNESCO is playing a leadership role in improving the governance of TBAs. UNESCO's global multi-partner initiative the Internationally Shared Aquifer Resources Management (ISARM) program is conducting an inventory of TBAs globally which will guide Member States towards the sustainable management of shared groundwater resources. In 2012 the Global Environment Facility (GEF) endorsed the implementation of the "Transboundary Waters Assessment Programme" (TWAP). The objective of TWAP is to apply indicator-based assessment methodologies to conduct a global assessment of TBAs. The UNESCO IHP project "Groundwater Resources Governance in Transboundary Aquifers" (GGRETA), funded by the Swiss Agency for Development Cooperation (SDC) is carrying out a more detailed assessment than the TWAP including a larger set of indicators and using spatially and temporally distributed data.

The GGRETA project includes three case studies: the Trifinio aquifer in Central America, the Pretashkent aquifer in central Asia and the Stampriet aquifer in southern Africa. This presentation concentrates on the Stampriet Aquifer System (SAS) that straddles the border between Botswana, Namibia and South Africa. The Stampriet system is an important strategic resource for the three countries. In Namibia the aquifer is the main source of water supply for agricultural development and urban centers in the region, in Botswana the aquifer supplies settlements and livestock while in South Africa the aquifer supplies livestock ranches and a game reserve.

The GGRETA Project, which is taking place over the period 2013-2015, adopts a 2 phase approach to multi-country resource management. The first phase of the project builds recognition of the shared nature of the resource, and mutual trust through joint fact finding and science based analysis and diagnostics. This began with collection and processing of hydrogeological, socio-economic, environmental, legal and institutional data at the national level using a standardized set of variables developed by the International Groundwater Resources Assessment Center (IGRAC). This was followed by harmonization of national data using common classifications, reference systems, language, formats and derive indicators from the variables. The variables and indicators include a gender based component, the first time a systematic gender based analysis of the transboundary aquifer has been attempted. Harmonized data on the transboundary aquifer was fed into an aquifer information management system developed by IGRAC. The harmonized data provided the basis for an integrated assessment of the Stampriet transboundary aquifer which assisted the case study countries to set priorities for further collaborative work on the aquifer and to reach consensus on the scope and content of multicountry consultation mechanism aimed at improving the sustainable management of the aquifer. This phase of the project included training for national representatives in international law applied to transboundary aquifers and methodology for improving inter country cooperation. This methodology has been developed in the framework of UNESCO's Potential Conflict Cooperation Potential (PCCP) program. It also includes consultation with stakeholders to provide feedback on proposals for multicountry cooperation mechanisms.

A major success of the project to date was the creation of the national technical teams which carried out national data collection, data harmonization and the joint aquifer assessment. The project has also increased cross-country dialogue, coordination and collaboration. The project has benefited from strong support from national water management agencies. Information gaps provided the
biggest challenge in the project. For example, there are few long period time series of borehole data or water abstractions. These information gaps are being addressed by further data collection efforts and the use of surrogate

measures, such as stock numbers as an indicator for water abstractions. However the countries have recognized the advantages of multicountry cooperation to improve key aspects of management of the shared aquifer including monitoring and limiting permitting. Thanks to the efforts of the national technical teams well supported by national administrations there are good prospects that the project will lead to new mechanisms for multicountry cooperation and improved sustainable aquifer management.