

Science for Environment Policy

Polycentric governance could encourage effective river basin management



12 November 2012
Issue 305
Subscribe to free
weekly News Alert

Source: Pahl-Wostl, C., Lebel, L., Knieper, C. & Nikitina, E. (2012) From applying panaceas to mastering complexity: Toward adaptive water governance in river basins. *Environmental Science & Policy* 23:24-34. Doi: 10.1016/j.envsci.2012.07.014

Contact: claudia.pahl-wostl@uni-osnabrueck.de

Theme(s): Sustainable development and policy assessment, Water

The contents and views included in *Science for Environment Policy* are based on independent, peer-reviewed research and do not necessarily reflect the position of the European Commission.

To cite this article/service: "[Science for Environment Policy](#)": European Commission DG Environment News Alert Service, edited by SCU, The University of the West of England, Bristol.

1. Twin2Go was supported by the European Commission under the Seventh Framework Programme (grant agreement no. 226571). See: www.twin2go.uos.de

2. See: www.un.org/millenniumgoals

3. See: <http://www.waterrgovernance.uni-osnabrueck.de/> - To contribute a case study, please contact christian.knieper@uni-osnabrueck.de

A new study has compared the water governance and management systems of nearly 30 river basins around the world. Results indicated that governance systems with distributed political power and good co-ordination help to implement the principles of good governance in water management practice, and to adopt more advanced climate change adaptation policies.

Water resources are increasingly under pressure from changes in land and water use, combined with the impacts of climate change. Many current water governance and management systems in both developing and industrialised countries are unable to address these challenges, and it is often mistakenly assumed that what works in one place, will work in another. Furthermore, most scientific analyses of river basin management are limited to individual case studies or comparisons between just a few water basins.

In an attempt to improve the knowledge base for water governance, the study, conducted under the EU Twin2Go project¹, compared water governance regimes in 29 river basins across Latin American, Europe, Asia and Africa. It defined a 'governance regime' as a system which includes formal institutions (such as water legislation), informal institutions (such as social norms), and actor networks (including stakeholders) for policy and its implementation.

The analysis focused on three key features of each case study: the characteristics of its water governance regime and its management performance, as well as its environmental and socio-economic context. A questionnaire with 98 indicators was developed to measure the different features. River basin management data from expert judgement, document analysis and international databases were collected and analysed in order to assess the different regimes.

The results indicate that it is very important for a water governance regime to be polycentric. This means it has many centres of decision-making, which are formally independent of each other, but still well co-ordinated. River basins with polycentric governance were found to adopt good governance principles in practice, such as sound public participation and stakeholder engagement, equitable and inclusive water management processes, as well as transparent water allocation. They were also more likely to adopt advanced climate change adaptation policies.

However, the study highlights that the understanding of 'polycentric' needs to be refined, in terms of identifying how the power is distributed across actors and spatial levels and how different governance modes – markets, networks and bureaucracies – act in concert under various circumstances.

The overall state of economic and institutional development was found to affect the achievement of water-related Millennium Development Goals² and the adoption of good environmental management, such as monitoring water quality and responding to water pollution. The findings suggest that water governance reforms may have little impact in countries where formal institutions are not effective, e.g. due to corruption. In such cases, intervention may be more successful with a more bottom-up informal approach, promoting civil society and local governance capacity.

The study highlights some important qualities of water governance regimes that could make them more effective in managing water resources. However, some indicators could be improved and the data collection extended to regions and countries that are underrepresented in the present survey, such as North America, Australia and China. To this end, a web database has been developed. It makes case study data available and allows collecting data for additional cases as a basis for refined water governance analyses in the future³.