

Synthesising research for adaptive water governance

Twin2Go reviews, consolidates, and synthesises research on adaptive and integrated water resources management in basins around the world. The aim is to draw insights relevant to policy and research on issues around adaptive water governance in the context of climate change, and to make them transferable to other basins. Twin2Go further promotes sharing of research results with practitioners and high level decision makers through effective dialogue. Twin2Go is a Coordinating Activity funded under the European Commission's 7th Framework Programme from June 2009 until May 2011. Periodic newsletters every 6 months will keep you updated about Twin2Go's progress and related news.

Water governance matters –

Preliminary insights from comparative analysis

Within the last few months of the project, Twin2Go applied three complementary approaches to analysing data from 29 case studies. The objective was to detect relationships between governance regime, context and performance; to detect and establish relevant patterns; and to identify context-sensitive key factors that enable or enhance adaptive water governance. Each of the three approaches contributed its own strengths to the overall synthesis.

- **Qualitative examination of hypotheses**

A set of twelve hypotheses was formulated, which includes the most important propositions currently debated in water policy on characteristics of water governance regimes and their influence on regime performance. The qualitative assessment worked with a case-sensitive approach. Cases were clustered in groups that either supported or contradicted assumptions made in the hypotheses, or in groups that did not allow a conclusion to be drawn either way. In case of contradictions, context factors were examined as potential explanations.

- **Statistical modelling**

Small sets of performance, regime and context measures were derived by aggregating scores of individual variables. Composite measures were standardised to values between 0 and 1, and relationships between them were analysed using linear regression methods. Partial correlations were used to summarise strengths of associations before and after adjusting for the context.

- **Cross tab interpretation**

Regime indicators were aggregated according to indicator groups from the qualitative analysis hypotheses. A statistical analysis revealed co-varying context and performance indicators, which were likewise aggregated. Cross tabs served to contrast aggregations of regime with those of performance and context. The distribution of case studies in these cross tabs allowed the identification of relationships between regime and performance, as well as between regime and context.

Preliminary analysis results indicate that water governance truly matters. Numerous properties of water governance regimes are linked to performance, and important context impacts were also identified.

The **qualitative examination of hypotheses** revealed that domestic legislation is necessary but not sufficient for increasing the performance of the water governance and management regime. This performance is also affected by the capacity for implementation (knowledge, resources) and by the effectiveness of formal institutions, which is a characteristic of the societal system in general. Horizontal integration, information management and innovative ways for dealing with uncertainty seem to be key requirements for an innovative response to climate change. The quality of environmental management practice seems to be strongly related to domestic legislation and basin-level management. However, a decisive criterion is the state of economic development. Management practices, including data collection and

monitoring, depend on resources. However, there was considerable variation within a given state of economic development, which was most closely linked to good governance principles.

The **statistical modelling** of hypotheses showed that regime measures help explain the variation in some, but not all, the measures of performance. Regime measures describing institutional settings were closely related to the adoption of good governance principles in water management, but not to environmental measures of performance. Regime architecture measures were particularly important to climate change responsiveness. However, only polycentrism was clearly related to several other performance measures. Integration and coordination measures were also associated with responsiveness to climate change and adoption of good governance principles. Knowledge and information management measures were relevant to all performance measures tested. The case study context helped explain additional variation in performance measures, but hardly changed the overall type of relationships.

The **cross tab interpretation** revealed that good performance in terms of transparent, participatory, equitable and effective management is strongly related to water governance. It is associated with good coordination of formal and informal institutions and with horizontal as well as vertical integration. Equitable management with comprehensive, predictable climate change adaptation and sound water monitoring is also linked to water governance. Polycentric governance regimes have higher performance in this regard than centralised or fragmented regimes. Regarding the impact of context, water availability apparently plays only a limited role. Instead, the economic and institutional development of a society – and its climate vulnerability – turned out to be relevant for the performance of water management.

This study demonstrates the plausibility of systematic and comprehensive comparison of water governance regimes. The final results will be published on the Twin2Go website.

Synthesis Workshop took place in September 2010

In course of the comparative analysis and synthesis of results, Twin2Go held a participatory Synthesis Workshop with members of the Advisory Board, external experts in adaptive governance research, and Twin2Go project staff. The workshop took place on 1-2 September, just before the Stockholm Water Week, at the Stockholm Resilience Centre.

At the workshop, preliminary insights gained from the cross-basin comparison, as well as the different methodological approaches for further analysis and synthesis (see page one), were presented and discussed by all participants. Working groups further elaborated on performance measures and possibilities for ranking the case-study basins. Ideas for regime typologies were discussed with the aim to reduce complexity and facilitate comparison across differing case study contexts. Consolidated results from the discussions and from the analyses conducted during and after the workshop will feed into the Twin2Go Synthesis Report.



The Twin2Go Advisory Board, in particular, was asked for feedback on policy relevance of the Twin2Go approach. Experts from the UNESCO International Hydrological Programme (IHP) and from the Global Water System Project, among others, appreciated Twin2Go's combination of statistical and qualitative analysis.

Following the Synthesis Workshop, the 3rd Twin2Go consortium meeting took place. The goal of this meeting was to plan and coordinate activities of the Twin2Go project, focusing on finalising the analysis of the 29 case studies and the preparation of next activities, which address best-practices and tools (see next page).

For further information please visit our website:
www.twin2go.uos.de/approach/work-package-2

Regional Best Practice Workshops December 2010–February 2011

The first steps of Twin2Go involved comparative analysis of adaptive water governance in 29 case study basins and synthesis of analysis results. In order to promote transfer from theory into practice, in Twin2Go's work package 3, the project partners identified best practices and innovative tools for making water governance more adaptive. These best practices and tools will be discussed with stakeholders in a series of regional workshops where inquiry will be made into ways for better transfer and adaptation of best practices to different national and river basin contexts. The goals of the regional workshops are to:

- *Review and synthesise best practices and tools in the implementation of adaptive water governance and participatory integrated water resources management.*
- *Exchange experiences and lessons learned about the transfer and adaptation of best practices and tools across river basins and countries.*
- *Develop a dialogue on major challenges, opportunities, and constraints in the application of best practices and tools for authorities, stakeholders, and end-users in the respective regions.*

Twin2Go will organise four such Regional Best Practice Workshops (see map). Each workshop will bring together about 15 invited participants – stakeholders from the case study basins and the broader water management communities in the targeted regions, as well as international and local experts who are engaged in practice or research of water governance systems in river basins. This will allow to share practical insights and to identify regional interests, needs, and capacities in implementing innovative practices in adaptive water governance. The results of discussions during the four regional workshops will be aggregated and used by Twin2Go to formulate best practices guidelines and tools for knowledge transfer and implementation of adaptive governance in river basins worldwide.

Further information on the Regional Best Practice Workshops will be made available on the Twin2Go website:
www.twin2go.uos.de/workshops/best-practice-workshops



Policy Workshops April–September 2011

In a further step, focusing on dissemination of results, Twin2Go will draw policy lessons on adaptive governance in order to gain support at the decision-making level for implementation of best practices and tools. A set of policy briefing papers summarising policy-relevant lessons learned and recommendations will be formulated. Twin2Go will disseminate these in targeted policy dialogues designed to bring together the research and policy communities.

Policy Workshops will be organised in the target regions, where consolidated results of the project are presented and reviewed, and in which ways of translating recommendations into policies will be discussed. The interventions will be organised as side-events to relevant water conferences and meetings.

Further information will be available in due course on the Twin2Go website:
www.twin2go.uos.de/workshops/policy-review-workshops

Pursuing adaptiveness in water management – Two comparative papers published online

Two comparative papers on water management, which were completed under the acknowledged influence of the Twin2Go project, have now been published online. They appear in a special issue of the journal 'International Environmental Agreements: Politics, Law and Economics' introducing the International Human Dimensions Programme (IHDP) Earth System Governance Project. The first paper unpacks some of the ways social learning can help adaptiveness. The second paper explores some of the current and looming politics related to adaptation in large shared river basins in Monsoon Asia. Both articles can be accessed online.

The role of social learning in adaptiveness: insights from water management

Louis Lebel, Torsten Grothmann, Bernd Siebenhüner
Int Environ Agreements (2010)
DOI 10.1007/s10784-010-9142-6
www.springerlink.com/content/po216560133pgog1/fulltext.pdf

Pursuits of adaptiveness in the shared rivers of Monsoon Asia

Louis Lebel, Jianchu Xu,
Ram C. Bastakoti, Amrita Lamba
Int Environ Agreements (2010)
DOI 10.1007/s10784-010-9141-7
www.springerlink.com/content/e24u1416u174g7ul/fulltext.pdf

Guidance on water supply and sanitation in extreme weather events – Adopted by the Parties to the UNECE | WHO- EURO Protocol on Water and Health

The UNECE | WHO-EURO Protocol on Water and Health is the first international legal agreement adopted specifically to protect human health through the prevention, control and reduction of water-related disease, the improvement of water management, and the protection of ecosystems. It aims to attain access to safe drinking water and provision of sanitation for everyone through improved national water governance. The second session of the Meeting of the Parties to the Protocol took place on 23–25 November 2010 in Bucharest. It discussed a wide range of topics that have been the focus of work over the past three years, including equitable access to drinking water and access to information and public participation under the Protocol.

The Meeting of the Parties also adopted a guidance document on water supply and sanitation in extreme weather events, which provides an overview on why and how adaptation policies should consider water services management during adverse weather episodes such as floods and droughts. The guidance document addresses, among others, information tools needed to support risk reduction and disaster preparedness; and communication strategies as an integral part of adaptation and risk prevention. Further, it formulates advice for water safety plans including adaptation measures for water supply and sanitation services.

The guidance document is available at:
www.unece.org/env/water/whmop2/WHO_Guidance_EWE_Final_draft_web_opt.pdf

The Global Dimensions of Change in River Basins – Threats, Linkages and Adaptation Global Catchment Initiative Conference 2010 Bonn, Germany, 6–8 December 2010

The Global Catchment Initiative (GCI) aims to expand the focus of river basin research and management to advance a more global perspective. The aim of the 2010 conference «The Global Dimensions of Change in River Basins – Threats, Linkages and Adaptation» is to review the state-of-the-art research, advance understanding, and foster dialogue with professionals and policy makers. In particular, this conference will focus on understanding the connection between changes in a river basin and driving forces originating outside of the basin, e.g. the impact of climate change on river basin water availability; the influence of international food trade on land use and the resulting hydrologic changes within a basin; or the impact of international financial institutions on the development of water infrastructure within particular river basins.

On 6 December Twin2Go will host a workshop at the GCI conference, to present and discuss the project's framework and methodology as well as the results from comparative analyses. The aim is to share experiences with other participants, to establish cooperation with other initiatives, and to explore the possibilities of applying the Twin2Go approach to further case study basins.

For further information on the GCI conference see:
www.gwsp.org/73.html

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The newsletters are also available on our website www.twin2go.eu

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