

# Water Governance for Humans and Nature

## Water Governance in a Nutshell



### DISTRIBUTION AND COORDINATION OF POWER

Systems with several distributed and well-coordinated power centers can respond to the diverse challenges that arise from different places, scales and actors better than systems with centralized or fragmented power.



### FLEXIBILITY IN HANDLING UNCERTAINTIES

Reversible and adaptable solutions provide more flexibility to react to uncertainties, risks and variability.



### SETTING AND IMPLEMENTING RULES

Water laws and management plans are a necessary step towards good water governance but not sufficient if they are not or poorly



### Water Management...

... refers to all activities of analyzing, monitoring, developing and implementing measures to keep the state of a water resource within desirable bounds.



### Water Governance...

... sets the regulatory frame in which water management operates. It includes all actors and institutions (in terms of rulesets) which formulate and implement water policy.

## THE GLOBAL WATER CRISIS IS A CRISIS OF GOVERNANCE

Increased pressure on water resources is caused by widespread land use changes and pollution as well as population growth, urbanization and industrialization amplified by climate change impacts. Climate change is expected to amplify pressure on water resources. However, it is in large parts also caused by poor water management, which affects large numbers of people and many ecosystems worldwide. Various problems within this emerging water crisis can be attributed to governance failures rather than to the condition of the resource base itself. Such governance failures affect both industrialized and developing countries, but in different ways. In developing countries,

for instance, corruption, the absence of a functioning civil society plus the lack of effective regulatory structures create a hindrance to development processes. Thus, basic human needs are not met for large parts of the population. Industrialized countries, in contrast, are often over-regulated by bureaucracy and suffer from sectoral fragmentation. For both, economic growth is usually prioritized over environmental concerns so that economic development typically goes hand in hand with a deterioration of the natural resource base.

In the past, idealized design principles have often been applied to water issues without long-term monitoring of their performance. What seemed to work in one place was generalized to working basi-



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cally everywhere. The paradigm of full governmental control in the provision of water services shifted to emphasizing the role of markets. Privatization has been promoted in the belief that private companies operating in market-based settings would solve problems more efficiently than government organizations. Though private sector involvement can trigger innovation and mobilize action in case of lacking government capacities, it certainly cannot replace governments in their role to provide public goods and care for long-term economic, social and ecological sustainability.

## EMBRACING COMPLEXITY

The introduction of Integrated Water Resources Management (IWRM) has been a huge step towards embracing complexity: IWRM promoted water as an economic good, sustainable agricultural development, democratic par-

ticipation in governance and health improvement without compromising the sustainability of ecosystems and the environment. However, at the World Summit on Sustainable Development in Johannesburg 2002 the development of integrated river basin management plans was declared as prime goal without taking into account the limited capacity of many countries to implement even simpler legislation. In this regard, IWRM has not held up to its promise and in parts seems to be replaced by the concept of water security, which implies the availability of an acceptable quantity and quality of water for health, livelihoods, ecosystems and production, coupled with an acceptable level of water-related risks to people, environments and economies.

However, this conceptual development can only be successful if it triggers structural change and implementation on the ground,

which requires developing capacity to learn from success and failure. There is an urgent need for efforts to avoid failures from not paying attention to complex interdependencies, human behavior and social regulations.

## SCIENCE FOR SOLUTIONS

Up to now we are far away from knowing the determinants of dynamics and performance trends of water governance and management systems in different socio-economic and environmental contexts. There are only few scientific analyses limited to individual case studies and no existing comparative analyses of more than few river basins taking into account the complexity and multitude of processes characterizing water governance.

To close this gap a comparative analysis of complex water governance and management systems in 29 river basins in Latin America, Europe, Asia and Africa has been conducted by Pahl-Wostl et al. (2012): The study helps to understand in which way the effectiveness and functioning of these systems depend on certain characteristics of different forms of governance. Understan-

ding the influence of governance characteristics on water management is essential to assess success and failure and to provide guidance for governance reforms.

## FEATURES OF EFFECTIVE WATER GOVERNANCE

The results show that so-called polycentric governance forms are the ones with the best performance. Polycentric means that governance structures favor a distribution of power without losing the coordination between those centers. The power of decision as well as actual functions and resources should be distributed across different actors and levels that are being coordinated both vertically and horizontally. This includes the coordination between different actors and institutions within a chain of authority and responsibility across spatial (or administrative) levels (vertical coordination) as well as the coordination between different departments, agencies, ministries and sectors involved in joint working processes (horizontal coordination). The results of analyses clearly show that polycentric systems are most adaptive and most likely to realize good governance principles in practice.

Also, the distribution of authority among several centers enables more flexible responses that fit the specific situation and place of action which makes it easier to deal with uncertainties.

To effectively handle uncertainties is another important step toward adaptive water governance. Uncertainties require taking into account different perspectives and the variability of environmental factors i.e. by making use of scenarios while favoring reversible and flexible options.

The results show that legal frameworks have a less direct influence on the performance of water governance. Legal frameworks seem to be a necessary but not sufficient condition for good governance of resources: While there was not a single country with overall high performance that did not have advanced legal frameworks in place, at the same time several countries with well developed legal frameworks performed poorly. In some cases capacity for implementation was missing, in other cases general effectiveness of formal institutions was lacking, often because of corruption. If effectiveness is low, laws and management plans may exist but are not or only poorly applied.

## WATER GOVERNANCE FOR HUMANS AND NATURE

The study showed that economic and institutional development often focus on the needs of human populations at the expense of nature while measures to protect a resource are typically taken after degradation has already taken place. Rivers in comparatively good condition in countries with poor governance regimes highlight the urgent need to develop effective water governance structures in parallel to economic development to reduce the cost of degradation.

### SUGGESTED READING

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.

Pahl-Wostl, C., (2007): *Transitions towards adaptive management of water facing climate and global change*. Water Resources Management 21, 49–62.

Twin2Go Project  
*Coordinating Twinning partnerships toward more adaptive Governance in river basins*  
[www.twin2go.uos.de](http://www.twin2go.uos.de)

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## IMPRESSUM

Eva Flinkerbusch

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The Global Water System Project seeks to answer the fundamental and multi-faceted question:

How are humans changing the global water cycle, the associated biogeochemical cycles, and the biological components of the global water system and what are the social feedbacks arising from these changes?

GWSP is a joint project of the four Global Environmental Change Programmes: DIVERSITAS, the international programme of biodiversity science, the International Geosphere-Biosphere Programme (IGBP), the International Human Dimensions Programme on Global Environmental Change (IHDP) and the World Climate Research Programme (WCRP).

