

# Future Water Governance: Problems and Perspectives

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**ABSTRACT** *One development can be predicted with complete certainty; the world in 2030 will be significantly different from what it is in 2010. Water governance, which is a broad concept, must also adopt to these changes. While there are no usable indicators for water governance that exist at present, some general indicators for governance of individual countries are available. These are of limited value for the water profession. It is argued that at least 10 to 12 good, independent and objective case studies of good water governance would be very useful to learn what were the enabling environment and critical factors that contributed to their success and could allow others to significantly improve their current practices and processes.*

Where is the life we have lost in living?  
Where is the wisdom we have lost in knowledge?  
Where is the knowledge we have lost in information?

(T. S. Eliot, Nobel Laureate, 1945)

## Introduction

Over the past three millennia, overall governance has progressively shifted from kings and chieftains to a broader coalition of elected representatives, bureaucrats and interest groups representing different sectors of civil society. There is now every indication that the old forms of governance in both the public and private sectors are becoming increasingly irrelevant because of rapidly changing conditions at the global, national and sub-national levels. These changes are due to a variety of factors which include, but are not necessarily limited to, deeper and accelerating global integration, increasing free trade, higher levels of education, rapid scientific and technological developments in nearly all fields, revolutions in information and communication technologies, institutional innovations, growing demographic diversity within countries and between countries, incessant pressures exerted by economic, social and political dynamism, changing societal perceptions, institutional values and structures, and increasing but perceptible demand by

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the governed of yesterday to become the governors of tomorrow. All of these changes, and more accelerated developments that are likely to be witnessed during the next two decades, mean that there is an urgent need to review the current processes and practices of governance which are becoming increasingly inadequate and ineffective with time. It is highly likely that many of the past (and present) methods of governance, which depended to a significant extent on command, control and obedience, will become less and less applicable and relevant in the future (Michalski *et al.*, 2001). These developments are likely to ensure that in the coming years both governance processes and the scope of the institutions through which power is exercised throughout society may have to undergo a radical break with the past and its prevailing models.

The water sector is an integral part of the global system. Its governance will not be immune to the rapid changes that have occurred, and will continue to occur, both within the governance of the sector and also of other sectors which are likely to affect the water sector, either directly and indirectly. There have to be radical changes in the governance processes and the institutions responsible for water to cope with the immediate challenges, potential future changes and uncertainties both from within the sector and around the sector.

Because of the changes that are likely to take place, water governance has to change more during the next 20 years than it has in past 2000 years if societal needs for water-related activities, including environmental requirements, are to be met successfully in a timely, equitable and cost-effective manner. While many of these changes will come from within the water sector, many more will come from outside the sector which will directly affect this sector and on which the water institutions and professionals, unlike in the past, will have only limited or even no control. They will have to react to these changes and thus these changes have to be correctly anticipated and managed.

All these likely developments will make water governance more complex than ever before witnessed in human history. The water profession will have to seriously consider 'business unusual' approaches and solutions. Yesterday's approaches and solutions, based on past and current experiences, and dependence on incremental progress to solve the global, regional, national and sub-national water problems, will most likely fall far short of what will be required to meet the turbulent times due to the increasing economic, hydrologic and technological uncertainties of the future, and also the accelerating social and political expectations of civil society for a better standard of living and quality of life in all parts of the world.

### **Water-related Issues**

During the past decade, water-related issues have attracted considerably more interest from the media, the general public and political leaders compared to what they had received during the 1980s and 1990s (Tortajada, 2008). This increasing interest could, for the most part, be considered beneficial since it has steadily moved water higher up international and national political agendas. However, whether this move of water higher up the political agenda has had commensurate positive impacts in improving its governance practices and processes is difficult to say. Developments in the water sector probably would have been somewhat similar with or without water moving higher up the political agenda. At best, the improvements have been somewhat marginal because of this move.

Regrettably, a significant part of the discussions in the media in recent years has been on the incorrect water-related issues. For example, much has been written on how the world will face a water crisis of unprecedented proportion in the coming years because of the physical scarcity of this resource, and there will be wars between nations because of acute scarcities of water. Publications on water crises and water wars have become a growth industry! During the past few years, one can easily identify a dozen books in the English language alone on “water crises.” The number of articles on the water crisis in the media and scientific periodicals during the past decade would easily run into the thousands in the English language alone. The media also have shown an unhealthy obsession with water wars. Many professionals and political leaders have unnecessarily fuelled this flame because of faulty reasoning, poor knowledge of the water issues, and use of erroneous data. For example, Kofi Annan, the former Secretary General of the United Nations said “Fierce competition for freshwater may well become a source of conflict and wars in the future” (Annan, 2001). In 1988, the then Egyptian Foreign Minister, Boutros Boutros-Ghali, who subsequently became the Secretary General of the United Nations, said, “The next war in the Middle East will not be about politics but over water.” Much later, during a 2006 BBC interview, when asked if he was still worried that there could be a war over water, his response was “Yes certainly . . . . Water will be during this century more important than oil” (Ghali, 2003). On sober reflection, and based on the reliable data and analyses that are now available, such statements are neither correct nor realistic. At best, they are simplistic generalizations of complex issues.

Such erroneous statements by leading public figures, several major international institutions, many water professionals, and most media pundits are based on a simple misunderstanding. Unlike oil, gas and coal which are non-renewable resources and which once used can no longer be reused, water is a renewable resource, which can be used and then reused several times with good governance. Furthermore, in contrast to fossil fuels whose efficiency of uses has undergone remarkable improvements since the 1970s because of increasing demand and higher prices, water continues to remain heavily subsidized in most countries. Consequently, water governance practices continue to be poor to very poor. During the past 35 years, the efficiency of energy usage in most countries of the world has steadily improved. Unlike energy, however, the water sector has not made commensurate progress due to misguided policies and governance practices.

While global figures for water use are extremely unreliable, it is commonly accepted that agriculture accounts for nearly 70% of all water use. And yet very few countries, if any, have realistic agricultural water pricing policies which could contribute to efficient water use. Similarly, in most countries of the world, domestic water supply is heavily subsidized. Consequently, water continues to be overused in both the agricultural and domestic sectors.

Based on research conducted at the Third World Centre for Water Management, it can be confidently said that the world is NOT facing a crisis because of the physical scarcity of water. However, the world will most certainly face a water crisis in the future if the past and current poor to very poor governance practices continue to be used in nearly all developing and developed countries. Surprisingly, at present the world has enough knowledge, technology, management capacity and investment funds to solve its water problems (Biswas & Tortajada, 2009a) within the foreseeable future.

## Water Governance

As discussed by Tortajada (2010a) in this issue, governance is a broad concept, has no agreed upon definition, and operates at many levels. Different international institutions such as the Organisation for Economic Co-operation and Development (OECD), World Bank, various United Nations (UN) agencies, and the European Union define governance based on their mandates, interests and biases. However, there are some common features for most of these definitions. These include accountability, transparency, and participatory and decentralized decision making. Furthermore, good governance requires proper allocation and management of resources to collective problems, that is, all citizens receive in a timely and efficient manner requisite public goods of appropriate and acceptable quality.

While the issue of governance has since about 1980 received increasing attention in the development literature, it is a comparative newcomer to the water resources sector. One would indeed be hard-pressed to find any serious discussion of water governance prior to 2000. Between 1980 and 2000, the overwhelming paradigms for the water sector were sustainable water management and/or integrated water resources management, neither of which managed to make any long-term impact on the water sector (Biswas & Tortajada, 2005; Biswas *et al.*, 2005).

The overall definition of governance by the various international institutions has limited value to the water sector especially in terms of the implementation of the concept. In 2003, the Global Water Partnership defined water governance as “the range of political, social, economic and administrative systems that are in place to develop and manage water resources, and delivery of water services, at different levels of society” (Rogers & Hall, 2003).

Based on much of the recent discussion of water governance, a cynic may well ask, “If the word ‘governance’ is replaced with the earlier focus on ‘management’, would it make any practical and significant difference?” A cynic may further claim that the water profession has got into a muddle by being unable to distinguish between management and governance, or where management ends and governance begins, or if management is subsumed under governance or vice versa.

Regardless, if one reviews the current water literature, one fact clearly stands out, that is, the era of ‘sustainable water management’ appears to be coming to an end, or may have even ended. So too is the era of ‘integrated water resources management’ of the past two decades, which is now being gradually but quietly discarded by national water institutions and international organizations because it has not been possible to implement anywhere in the world for macro- or meso-scale water policies or programme of projects, even though this paradigm has been around for more than half a century in one form or another (Biswas, 2004, 2008a, 2008b). These two paradigms are being rapidly replaced by ‘water governance’. Only time will tell if this change is simply the old wine that is being recycled into a new bottle, or if it is indeed a new wine which will have major and perceptible impacts in improving how water is managed or governed in most countries of the world.

## Governance Indicators

While there have been dozens of governance indicators in the development literature, four have received considerable global attention. These were developed and continue to be regularly updated by International Country Risk Guide (ICRG), Freedom House,

Transparency International and the World Bank. It should be noted that even the four most popular governance indicators that are used at present are not very useful to develop a road map in terms of how to improve local and regional governance, or how best to improve the governance of any specific sector such as water, energy or agriculture. All of the available indicators of national governance suffer from lack of transparency, problems of inter-comparability between different countries, and even in the same country over time, and suffer from selection biases since all of them are based, to a significant extent, on forms of a composite perception index of experts (Arndt & Osman, 2006). The choice of experts could introduce significant biases in the overall governance indicators. In addition, no corresponding indicator specifically for water governance is available at present which remotely receives similar levels of attention from countries or the media such as the following four overall governance indicators.

#### *International Country Risk Guide*

The International Country Risk Guide (ICRG) group has provided its indicators to its clients regularly since 1980. It is an analysis of the potential risks which may be useful for international business operations. It is designed to assess financial, economic and political risks in countries and to compare them between countries (ICRG, 2010).

This indicator contains two components: financial and economic risks and political risks. The first part is based on observed statistics such as levels of economic growth and inflation, per capita GDP, relation of external debt to GDP, and budget surplus or deficit as a percentage of GDP. While it is difficult for most countries to estimate these statistics reliably, the fact remains this part of the indicator is based on observed and estimated data. The political risk assessment, in contrast, is a totally subjective view of the ICRG experts on different pre-selected issues such as the government's potential to stay in office and carry out its declared programmes, investment risks such as contract validity and expropriation, levels of corruption, the quality of the bureaucracy, and the presence of independent legal and law enforcement systems.

ICRG provides its clients with monthly assessments for some 140 countries, and also one-year and five-year scenarios on the basis of best and worst case scenarios.

#### *Freedom House*

Freedom House assesses the political rights and civil liberties of countries through its in-house experts. Both types of risk are assessed on a scale of 1 to 7 (1 is the best and 7 is the lowest), and then these risks are averaged to decide if a county is free (below 3), partly free (3 to 5), or not free (6 to 7). Political rights consider electoral process, political pluralism and participation, and the functioning of the government. Civil liberties consider freedom of expression and belief, the right to organise, the rule of law, and individual rights.

For some 192 countries and several disputed territories, Freedom House provides only the annual ratings of the two types of risks.

#### *Transparency International*

There is no question that in recent years the governance indicators formulated by Transparency International have attracted the most international attention. Transparency

International began as a small non-governmental organization (NGO) in 1993. The prime mover for its establishment was Peter Eigen, a former staff member of the World Bank. It was established when corruption was not an issue that was seriously considered, at least not openly, by international institutions. The scene changed radically when Jim Wolfenson, who became the head of the World Bank in 1995, decided that corruption is a serious issue which affects a country's economic development prospects.

The first corruption perception index (CPI) of Transparency International was published in 1995. The 2009 index (Transparency International, 2010) covers 180 countries and territories which are ranked in a scale of 0 (perceived to be most corrupt) to 10 (perceived to be least corrupt). The index is based on a composite of different surveys of perceptions of resident and non-resident business people, and expert assessments of the perceptions of the extent of corruption in the countries and territories. In 2009, New Zealand received the highest CPI of 9.4 and Somalia the lowest at 1.1. The 2009 CPI was based on 13 independent surveys, but these surveys did not necessarily include all 180 countries. The CPI also provides a confidence range for each country for its index, and Transparency International (2010) is "90% confident that the true score of the country lies" within this range.

It should be noted that the CPI of a specific country from one year to another changes because perception of corruption has changed, which may not mean the actual level of corruption has changed by the same extent. Because the methodologies for different surveys used to construct the CPI may change with time, one should be very cautious when using the CPI for year-to-year comparisons in the actual level of corruption within a specific country.

#### *Country Policy and Institutional Assessment*

The World Bank publishes the Country Policy and Institutional Assessment (CPIA), annual numerical scores based on assessments of the quality of a country's policies and institutions. These assessments have been published every June since 2006. The assessment considers key elements that are within a country's control, and are produced by the Bank staff. The rationale behind the annual production of these assessments is the Bank's belief that "good policies and institutions lead, over time, to favourable growth and poverty reduction outcomes, notwithstanding possible yearly fluctuations arising from internal and external factors" (World Bank, 2010).

The CPIA is derived from 16 criteria that are grouped into four clusters which are given equal weight. The clusters and the criteria are shown in Table 1. Each criteria receives a score between 1 to 6. Unlike clusters, the criteria do not have equal weight. The Bank staff assesses the country's actual performance on each criteria and assign a score. These are averaged to yield a cluster score. The average of the four clusters provides the composite country rating.

#### **Appropriateness of Global Governance Indicators to Water Sector**

While the above four commonly used indicators give a reasonable idea of overall governance in a specific country, their potential use for managing the water sector is not only difficult but also fraught with danger. Just as there is no solution that is equally applicable to all of the countries of the world, a country's overall governance performance does not necessarily reflect the effectiveness of its water governance.

**Table 1.** Country Policy and Institutional Assessment (CPIA)

Cluster	Criteria
Economic management structural policies	<ul style="list-style-type: none"> <li>● macroeconomic management</li> <li>● fiscal policy</li> <li>● debt policy</li> </ul>
Structural policies	<ul style="list-style-type: none"> <li>● trade policies</li> <li>● financial sector policies</li> <li>● business regulatory environment</li> </ul>
Social inclusion and equity	<ul style="list-style-type: none"> <li>● gender equality</li> <li>● equity of public sector resource use</li> <li>● building human resources</li> <li>● social protection and labour</li> <li>● policies and institutions for environmental sustainability</li> </ul>
Public sector management and institutions	<ul style="list-style-type: none"> <li>● property rights and ruled-based governance</li> <li>● quality of budgetary and financial management</li> <li>● efficiency of revenue mobilization</li> <li>● quality of public administration</li> <li>● transparency, accountability and corruption in the public sector</li> </ul>

Source: The World Bank

A good example is the performance of the Phnom Penh Water Supply Authority. An independent, objective and comprehensive evaluation of this Authority (Biswas & Tortajada, 2009b, 2010) indicates that its performance during the past 15 years has been stellar. Many of the performance indicators of the Phnom Penh water supply system are better than London, Paris or Los Angeles, let alone for nearly all developing country cities. Yet Cambodia's ranking in terms of CPI for overall governance is dismal. It ranks 158 in the CPI, along with countries like the Central African Republic, Laos and Tajikistan, and is lower even than Zimbabwe which is ranked at 146. Thus, the governance indicators at the national level may give some general indication of the type of water governance in the urban sector of certain cities, but in many cases these indicators may prove to be completely erroneous.

Unfortunately, no water governance indicator exists at present that can be used with some degree of confidence. Accordingly, it would be useful to develop a usable and reasonably reliable set of indicators that can provide some insight into the quality of the governance of a utility or irrigation department. It is highly unlikely that a perfect all-purpose governance indicator can ever be developed for any one type of water use sector. Nonetheless, efforts should be made to develop such indicators which could help water managers to understand how their performance can be judged, help determine how their performances may be improving or deteriorating over time, and also how they may compare with the performance of other water management institutions in the same country.

It may, however, not be possible to develop an all purpose water governance indicator even for one country. This is because governance requirements for different types of water uses are likely to be different. For example, governance of urban water systems requires very different types of institutions, expertise and approaches compared to irrigation water governance (Molden *et al.*, 2010). The structures and functions of the institutions responsible for these two types of water uses are different. These institutions often belong to different levels of government, and the legal and regulatory frameworks under which they operate are often not the same. Thus they cannot have the same type of governance indicators. This only increases the complexity of developing usable and reliable governance indicators for the water sector as a whole.

### **Improving Water Governance**

Improving the water governance of any water use sector is hampered by the unavailability of good, objective, unbiased and independent analyses of good and replicable case studies. In the absence of analytical, comprehensive and usable studies of good water governance, learning from the advances made by other countries and applying that knowledge has been very limited. For example, at present, the water profession is not even aware of which cities and irrigation-related institutions have made remarkable progress in improving governance during the past decade. Nor is it known what were the main factors of the enabling environment that allowed these institutions to improve their water governance significantly within a period of a decade or so.

International institutions and bilateral aid agencies that have shown an interest in improving water governance have mostly been driven by the assumption of so-called 'best' practices, which have seldom been defined reliably and objectively to be of any practical use. For example, in the area of urban water governance, very few if any institutions have defined what in their opinion constitutes 'best' practices. Does this mean a 24-hour supply of water that can be drunk straight from the tap without any danger, real or perceived, to health? Does this include financial self-sufficiency through appropriate water pricing and cost recovery, or low unaccounted for losses (say less than 10%), or transparency and accountability of the utility, or if the poor have access to clean water, or low but appropriate per capita water consumption (say 100–120 litres per capita per day), or absence of corruption, or consideration of a host of other performance indicators? Or, should a utility be judged best on the basis of achieving important societal outputs like contributions to good health or poverty alleviation in preference to technical and economic indicators which relate to the use of resources (say water and/or financial) with greater efficiency? Should they include both water supply and wastewater management? Should such indicators consider all the above factors in some fashion? These are questions that are important, but, most unfortunately, are not being asked, let alone answered.

Even if such indicators could be developed, and we are not sure that these would be possible, there are some case-specific issues for each country that may not be considered, and yet they could be highly germane in terms of showing the quality and level of water governance. For example, in Mexico, the average stay of a major urban water utility manager is about 18 months, and in India, it is around 36 months. Neither in Mexico nor in India is the head likely to be an accomplished technocrat or manager with a proven track record. Under these circumstances, urban water governance in these two countries is unlikely to improve significantly until good and accomplished heads are appointed and



given adequate time to understand the specific complexities and constraints of their the urban water systems, formulate appropriate plans and then implement them. Under the current revolving door policy, it is unrealistic to expect the transient heads to achieve the unachievable. Any good head of a water utility who is realistically expected to improve water governance needs to have a minimum tenure of six to eight years, with appropriate checks on the person's performance. In water governance, like most other fields of governance, success breeds confidence and authority, and this, in turn, breeds more success.

When the 'best' practices are considered, these types of issues are seldom considered explicitly or reliably. In addition, very few terms are defined adequately and applied consistently from one so-called 'best' practice to another, thus seriously undermining the overall governance debate.

There are additional major problems with the 'best' practices approach. All of the current so-called 'best' practices are not selected on the basis of detailed and objective analyses of a large number of water governance case studies from different urban centres. For example, international institutions have the tendency to consider a developing world city to have a 'best' practice of urban water governance primarily when they have given the particular authority a loan. This not only introduces a serious selection bias, but also raises questions about the reliability and objectivity of such a label when the institutions that decide what is a best practice have a vested interest in showing that their loans may have resulted in outstanding results. In the absence of independent and reliable assessments of these best practices, it is difficult to have much confidence in such analyses.

In addition to the selection biases from which the so-called 'best' practices are selected, it ignores many cities that may have good urban water governance but are not being considered because they do not have 'godfathers' who could give them the 'best' practice label. It is essential to cast a wider net to find the 'best' practices from which different utilities can learn some lessons.

In addition, the concept of 'best' practice is fundamentally erroneous. Not only is Voltaire's wise statement "the best is the enemy of the good" valid for water governance, but also conceptually and factually there cannot be a 'best' practice that would be 'best' for the entire world. This is because the world is heterogeneous, with different cultures, social norms, climatic patterns, skewed availability of water and financial resources, management capacities, institutional structures and levels of corruption. The systems of governance, legal and regulatory frameworks, decision-making processes, and types and effectiveness of water governance institutions often differ materially from one country to another, and from one city to another even within one country, often in significant ways. Furthermore, developing countries are at different stages of social and economic development, and their capacity for technology use and uptake are also dissimilar. Their water needs and requirements, as well as water availability, are also different. Accordingly, under such diverse conditions, it is simply unrealistic to expect that a 'best' practice of water governance will encompass all countries and cities with very different physical, economic, social, political, cultural and institutional conditions.

In terms of good and implementable water governance practices, it is imperative that each country or city formulates its own specific strategy based on its special conditions, requirements, expectations and capabilities. It would be dangerous for countries and cities to blindly copy any so-called 'best' governance practice promoted by the various international institutions, without adopting them very carefully and appropriately to suit

their own specific conditions and requirements. Water governance strategies must not be structured based on the latest international bandwagon without careful and detailed assessment of their relevance, usefulness and replicability potential within the specific context of the country or the city concerned.

What is needed is a determined attempt to identify cases of ‘good’ water governance (in contrast to the ‘best’) from different parts of the world which can then be used to learn lessons which can be considered for possible use, after suitable adaptations and modifications, in other countries or cities. What is urgently needed are at least 10 to 12 independent, objective and reliable case studies of good governance that could form a community of good practices from which countries trying to improve water governance can learn. This type of rare studies are simply not available at present. After analysing such a community of good practices, and assessing their potential replicability, countries or cities can pick and choose what aspects of each good practice can be incorporated in their own water governance strategies.

### Concluding Remarks

With this overall philosophy in mind, the Institute of Water Policy, Lee Kuan Yew School of Public Policy, Singapore, and the Third World Centre for Water Management, Atizapan, Mexico, convened the first Global Forum on Water Policy and Governance in June 2009 in Singapore, within the overall framework of the Singapore International Water Week. Eminent experts from different parts of the world were carefully selected because of their acknowledged expertise on water governance and then specially invited to share their views and experiences in this First Global Forum. While the speakers were specifically invited, participation to the Forum was open to any one interested in the subject.

An important component of the First Forum was a brainstorming session to identify research priorities in the overall area of water governance which the Institute of Water Policy, the Third World Centre for Water Management and their partners from different parts of the world could undertake. This was a closed session with only 14 invited participants to ensure free, frank and extensive discussions. An analysis of this brainstorming session can be seen in this issue (Tortajada, 2010b).

Papers published in this special issue include some that were presented at this Forum and subsequently modified appropriately by their authors in the light of the discussions. The rest are papers that were very specifically selected in line with the philosophy outlined before. They analyze and discuss different aspects of water governance from different parts of the world, including their successes, shortcomings and constraints.

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