

# Water Governance: Some Critical Issues

CECILIA TORTAJADA

Lee Kuan Yew School of Public Policy, Singapore; and International Centre for Water and Environment (CIAMA), Zaragoza, Spain

*ABSTRACT This paper presents an analysis of the issues discussed at a special international workshop on water governance. While it is generally accepted that good governance for the water sector is essential, it is also clear that its implementation requires qualitative and quantitative factors, which may vary from one country to another. In order to objectively assess the opportunities and constraints of implementing good water governance practices, a group of selected international experts were invited to address this complex issue.*

## Background

The International Workshop on Water Governance was organized in June 2009 by the Institute of Water Policy of the Lee Kuan Yew School of Public Policy, National University of Singapore, and the Third World Centre for Water Management in Mexico. This workshop to discuss the critical issues of water governance, and a further event to develop a priority research agenda on the topic of water governance (Tortajada, 2010) were part of the First Global Water Policy Dialogue of the Institute of Water Policy. The annual policy dialogues have the objective to provide a forum for discussions of mainly intersectoral, interdisciplinary future-oriented events on a global basis on new and innovative policy alternatives for efficient water management, including their economic, social, political, institutional, legal and environmental implications.

The workshop included three main presentations to set the scene for discussions on the various issues associated with water governance, and a panel session to identify critical and priority aspects of water governance from different water resource sectors and from diverse disciplines and perspectives. Following the workshop, there was a brainstorming session on water governance. A summary of the discussions of this session is published in this issue.

During the welcoming and opening addresses of the workshop, K. E. Seetharam, Director of the Institute of Water Policy at the Lee Kuan Yew School of Public Policy, and Woochong Um of the Asian Development Bank, stressed the relevance and need for meaningful water policy dialogues in terms of water governance. The main presentations of the workshop included: (1) plans, objectives and outputs of the workshop as well as an overview of the approaches, issues, experiences and shortcomings of water governance by Asit K. Biswas; (2) perspectives on water governance from the agricultural sector by David

---

*Correspondence Address:* Cecilia Tortajada, Lee Kuan Yew School of Public Policy, National University of Singapore, 469C Bukit Timah Road, Singapore 259772. Email: sppct@nus.edu.sg

0790-0627 Print/1360-0648 Online/10/020297-11 © 2010 Taylor & Francis  
DOI: 10.1080/07900621003683298

Molden; and (3) urban water management by this author. The session was chaired by Alexander Zehnder of the Alberta Water Research Institute in Edmonton, Canada.

The panel session was chaired by Asit K. Biswas, and the panellists included the following eminent personalities: Kishore Mahbubani, Dean, Lee Kuan Yew School of Public Policy, Singapore; Gee Paw Tan, Chairman, Public Utilities Board, Singapore; Alexander Zehnder, President, Alberta Water Research Institute, Canada; Mahmoud Abu-Zeid, President, Arab Water Council, Cairo, Egypt; Dieter Ernst, CEO, Wasser Berlin, Germany; and Gérard Payen, President, Aquafed, France.

The workshop ended with remarks from Asit Biswas on the possible future follow-up activities on water governance based on the discussions and conclusions of this event. Following is the summary of key discussions at the above workshop.

### **Governance**

Governance has been used mostly as an umbrella concept and no agreed definition exists. Governance is not synonymous with government. It is instead a complex process that considers multi-level participation beyond the state, where decision making includes not only public institutions, but also the private sector, civil society and society in general. Good governance frameworks refer to new processes and methods of governing and changed conditions of ordered rule on which the actions and inactions of all parties concerned are transparent and accountable. It embraces the relationships between governments and societies, including laws, regulations, institutions, and formal and informal interactions which affect the ways in which governance systems function, stressing the importance of involving more voices, responsibilities, transparency and accountability of formal and informal organizations associated in any process.

Because of its complexity, good governance clearly does not just appear, but has to be carefully planned. It is the culmination of multifaceted, long-term processes that have to be properly planned and nurtured. For good governance to develop, overall conditions and the general environment must be made favourable: parties concerned must be amenable to collective decision making; effective and functional organizations need to be developed; and policy, legal and political frameworks must be suitable to the goals that are being pursued for the common good (Rhodes, 1996; Kooiman, 2003; Tiihonen, 2004).<sup>1</sup>

Since governance-related issues are not just public or private, but are frequently shared, governance activities at all levels become diffused over various societal actors whose relationships with each other are constantly changing. The challenge for anyone involved in governing and governance is to make public, private and societal actors participate actively and directly at solving problems and creating opportunities under both normative and institutional frameworks that provide the foundations for any activity. For these complex interrelationships to succeed they have to take into consideration that they are interdependent, and that no single actor, public or private, has the knowledge, information or power to solve the changing societal challenges on one's own. This is because no actor has sufficient knowledge or wherewithal to make the necessary instruments effective on his own, or sufficient action potential to unilaterally dominate the decision-making arena (Kooiman, 2003).

Regarding civil society, governance enables it to play a role both as a responsible stakeholder and as an increasingly important force for reforms and development processes. Nevertheless, involving civil society as a stakeholder is a very complex political,

philosophical and technical task for institution-building in any country, mainly because of its multidimensional and multi-stakeholder nature. Responsibilities cannot be transferred from the state to society simply because there is no one monolithic group known as 'society.' Society is composed of heterogeneous groups of individuals, citizens, organized associations and unorganized communities with very complex relationships and varied interests. The complexities of these interrelationships between the actors and institutions, and their continuing dynamism and evolution, have meant that governance discourses can mostly be implemented only to a certain extent, and that its application often remains mainly theoretical in nature and concerns mostly the development of strategies and principles, but not so much the difficult execution or implementation phase (Tiihonen, 2004).

The changing dynamics of governance has meant that the identification of the development needs and the implementation of programmes have to take place in the form of partnerships and within the context of the full understanding and appreciation of the intersectoral linkages. Consequently, country development strategies have to search for agreements, commitments and contributions, not only from governments at different levels, but also from domestic and foreign private sectors, development agencies and the stakeholder groups of civil society.

### **Water Governance: The Concept**

The concept of water governance, as is the case for governance in general, is still evolving. At present, there is no universally agreed upon definition for water governance, and its ethical implications and political dimensions are a matter of national and international debate. The result is that different people and institutions are using the concept in different ways, and within varying cultural, economic, social, legal and political contexts.

Water governance can be perceived, in its broadest sense, as comprising all social, political, economic and administrative organizations and institutions, as well as their relationships to water resources development and management. It is concerned with how institutions operate and how regulations affect political actions and societal concerns through formal and informal instruments (UNDESA *et al.*, 2003).

UNDP (2004) considers water governance to include political, economic and social processes and institutions through which governments, private sector and civil society make decisions about how best to use, allocate, develop and manage water resources. It refers to a range of political, social, economic, and administrative systems that are in place to develop and manage water resources and the delivery of water services at different levels of society and for different uses. It comprises mechanisms, processes, and institutions through which all involved stakeholders, including citizens and interest groups, articulate their priorities, exercise their legal rights, meet their obligations and mediate their differences. It emphasises the causality of water-related problems by pointing out not only the natural limitations of the water supply and/or lack of financing and appropriate technologies, but rather from profound failures in water governance, such as the ways in which individuals and societies have assigned value to, have made decisions about, and have managed the water resources available to them.

Water governance and water management are interdependent issues in the sense that effective governance systems are meant to enable practical management tools to be applied properly as situations require. Partnerships between the public and private

sectors, participation of stakeholders, and economic or regulatory instruments will not be effective unless there are administrative and management mechanisms in place, as well as commitments and involvements of governments, private sector groups and civil society organizations. Even though reform of water institutions and policies are taking place in many countries, progress in nearly all cases has been somewhat slow and limited, and often unpredictable. In most of the countries of the developing world, water institutions do not function properly, and most of them display fragmented institutional arrangements and overlapping and/or conflicting decision-making structures. Some even consider water governance as the framework within which integrated water resources management can be applied (Rogers & Hall, 2003). While some claim that integrated approaches are of fundamental importance to manage water in more efficient ways, the fact remains that their implementation has remained incomplete and unsatisfactory in all countries, developed or developing, after some 60 years of trying.

It is true that involvement in policy formulation, coordination, communication and information exchange between administrations and stakeholders at various levels would contribute to a better knowledge of each others' policy objectives, working modalities and mechanisms available for implementation. However, decisions should first be coherent with a broad set of principles leading to a more progressive and efficient and equitable management of water resources. For example, it is expected that by directly involving users of water in the governance of the resource, the knowledge on which this participation is based will be more meaningful than otherwise may have been possible since local stakeholders may often be more familiar with the peculiarities of local economic, social, cultural and environmental situations. It might also mean that users involved may accept the regulations as appropriate and consistent with their values and interests and may also be more willing to comply with them (Kooiman, 2003). Nevertheless, in practice rather than in theory, many stakeholders, including water users associations, non-governmental organizations (NGOs) and local communities, may build on local knowledge and networks, but may often lack support, funds, institutional and technical capacities or even membership to significantly contribute to the management of water resources. Therefore, the means for enabling and coordinating the effective roles of different stakeholders in water governance remains an imperative but elusive challenge that has to be solved before the concept of governance can become a reality.

Water management is evidently not an issue that can be approached only from within the water sector, or only from the perspective of one single stakeholder or sector. It is instead a development challenge that requires the cooperation, collaboration and coordination from within and outside the water sector as well as from the multiple interested parties. As important as the meaning of the concept of water governance is, countries and sectors are trying to implement it when they have still not solved some of their long-standing and rampant social and economical problems that have been confronting them for decades. In the water sector, non-functional water institutions, deficient legislations, and overall inefficiency in managing water resources in most developing countries, have been well-known constraints for decades. With the involvement of multiple actors in the arena of water resources planning, development and management, and the introduction of ethical issues such as responsibility, accountability, transparency, equity and fairness, the challenges associated with making good water governance a reality has become even more complex. It now remains to be seen how countries, their governments and their societies can make the best of the opportunity to develop effective partnerships and encourage

partner participation, while giving consideration to ethical, social and environmental issues necessary to achieve the much-needed reforms in the water sector.

Seeking improved patterns of governance within an environment of different interests, dissimilar values and norms, when many times there is an absence of consensus even about goals and objectives, represents formidable challenges that require extraordinary measures of coordination, cooperation and compromise not only from the different levels of government, but also from private sectors and social stakeholders in general. Therefore, the way forward for implementation of the concept of good water governance is to realize the importance of planning and implementing frameworks within specific social, economic, environmental and cultural conditions, including processes and mechanisms of interaction between state and non-state actors looking for efficiency and mutual responsibilities.

### **Water Governance: Key Issues for Implementation**

At present, some of the common features required to achieve so-called good governance in the water sector are said to be functional institutions within a multi-sector, multi-level perspective in order to avoid major gaps or overlaps in policy, planning and funding, as well as formulation and implementation of policies, laws and regulations. Nevertheless, management and budgetary practices are still expected to deliver services with tariff structures that balance affordability, equity and sustainability. Proper monitoring, evaluation and reporting at regular intervals are not only yet to be applied to formal institutions, but also to informal institutions, such as non-governmental organizations and citizens groups. Nevertheless, when it comes to ensure that the above tasks are objectively, adequately and equitably performed, the decision of which formal or informal group has the authority and credibility to carry out the corresponding evaluations is still a matter of debate.

In terms of indicators for good governance, these were initially developed with the objective to assess the performance of public and private institutions, primarily from economic and financial viewpoints. However, as important as the concept of good governance is to all development-related activities, the fact that it is both subjective and objective makes exceedingly difficult the development of a meaningful framework which can be implemented. There are too many issues related to governance that remain unresolved and also somewhat vague, and which still require better definition, appreciation and understanding. For example, if participation is important, how do we get informal institutions, including citizens, involved in decision making that renders fruitful results? If the above sectors do get involved, how can we ensure that the outcomes achieved will be useful and better than otherwise may have been the case? Who decides who should be the participants that should be involved? Should they be only from the area where specific water development projects affect their lives, or should they include people from outside the region, or even the country? If people from outside the region, or even the country, are to be considered as stakeholders of a project, what importance should be given to their views compared to the people from the project-affected areas? Unfortunately, debates and discussions on such fundamental and complex issues have not yet been started and are still very far from being answered, the main constraint being that participation is, in most of the cases, considered as an end by itself instead of as a means to an end (Tortajada, 2007).

In addition to participation, accountability and transparency are considered to be other fundamental elements of good governance. However, their complexity is such that

fundamental issues, such as how accountability should be approached and to whom the policy makers and/or project authorities should be accountable, are still a matter of debate. In terms of transparency, while there is general consensus that this is an essential component of governance, there is no agreement as to which entity should be most transparent for governance to be credible: government institutions, elected representatives, and/or the general public? One more topic of intense deliberation concerns what process or processes should be instituted to ensure that accountability is genuine and relevant to the appropriate groups, especially as the requirements for transparency are different depending on the groups in question, on their interests and their views.

### *Agricultural Water Management*<sup>2</sup>

In the field of agriculture, a challenge that seriously limits the operationalization of the concept of water governance is the fact that the focus in the water sector is still in the construction of new projects and not yet on the management of the resource. That is, it is still necessary to move from the overall construction-oriented focus to the management perspective. Only afterwards may it be possible to understand the formal and informal nature of the elements of water governance to work towards public policy goals, including its institutions, regulations, partners, and direct and indirect instruments.

Some of the challenges in the agricultural water management sector include:

- the need to work with the informal nature of water economies that already exist in many countries;
- the realization that we have reached the upper limits of water use in many basins of the world and our systems have thus become much less flexible;
- the fact that transboundary water management requires broader views which should include social and environmental concerns; and
- the limitation that results because we continue seeing water in isolation from other policy levers outside the water sector, such as the energy or food sectors, which could provide us with further insights for efficient agricultural water governance.

Offering equal incentives to different people or institutions with different, and even conflicting goals and agendas has repeatedly proved to be a challenge.

Some prescriptions for improved water governance include:

- treating water as an economic good;
- declaring water a state property and creating water rights;
- introducing new implementable water laws and policies;
- establishing effective participatory structures and processes; and
- managing water at the basin level.

Nevertheless, in many countries, especially in Africa, global paradigms may have become a hindrance rather than a solution. Prescriptions for improved governance so far show too little evidence that the accepted paradigms are working over the long-term. Some examples include: the consideration of water as an economic good in Tanzania and Sri Lanka with flat water tax tariffs; water rights in sub-Saharan Africa; overall water management at the basin level; and participatory structures that still have not delivered useful results.

Tried and tested solutions developed for one context may or may not be applicable to other locations simply because technical, social, economic and environmental conditions are very different. They may not even be easily transferable. There are limits to 'best practices' and we may have to start looking for good and implementable solutions such as indirect public policy instruments (e.g., Jyotigram in India), build on success from the informal sector (e.g., Zhang He in China) and promote institutional innovations that rationalize incentives and reduce transaction costs (e.g., Zhang He and Jyotigram). The successful marriage between instruments from the informal and formal sectors are likely to result in the improvement of water infrastructure and services through improved investment patterns and management practices, and also to more formal arrangements when appropriate. Overall, it should be remembered that without good water governance, it will not be possible to achieve water security on a long-term basis in any country.

### *Urban Water Management*

In most cities of the developing world, clean water is both scarce and expensive to produce. Large sectors of the population in densely populated urban areas do not have access to potable water, and even larger sectors of the population do not have access to sanitation. The situation normally includes non-revenue water, often up to 40–60%, infrastructure either scarce or becoming complex and deteriorating, water supplies largely underpriced, and investment needs, possibly reaching billions of dollars. All the above issues are the result of a lack of appropriate water and land resources management, and lack of adequate institutions and policies which address them beyond the short-term. An important constraint is that, in spite of its importance for development, water is not the critical development issue in urban areas. Transportation, energy and housing often take priority for the development of cities.

Urban areas face challenges that require immediate action, and governance has become one of the most pressing ones. In order to be sustainable, urban areas need, in addition to economic growth and implementable social and environmental policies, proper governance systems which include adequate mechanisms for broader and meaningful participation. Since all of these aspects are intertwined with the various cross-cutting roles that water plays in urban development as an important contributor to all the other sectors, there is thus a fundamental reason why the process of water governance has become so complex and critical.

There are proposals for alternatives to improve the governance of urban areas and provide citizens with better access to clean water and other services, as well as improved environmental conditions. The Organisation for Economic Co-operation and Development (OECD, 2000), for example, suggests that governance-related issues should be addressed at the metropolitan area level in order to maximize the potential of an urban region. Nevertheless, for its implementation, OECD also recognizes serious limitations such as the fragmentation of administrative jurisdictions, strain on the financial and fiscal ability of local authorities, and lack of decision-making processes that are transparent and accountable, not to mention the inability for institutions to achieve coordination and communication.

In order to ensure good water governance, it is necessary to draw lessons by analysing outcomes from cases around the world which can be considered as examples of good or bad governance. In an Asian context of urban water management, water utilities in Tokyo,

Singapore (Tortajada, 2006; Khoo, 2010) and Phnom Penh (Chan, 2009; Biswas & Tortajada, 2010) stand as cases of good governance, where remarkable progress was made within a period of 10 to 20 years, albeit over different periods of time.

What is urgently needed is some 'reverse engineering' to determine why and how these cities have succeeded to make remarkable transformations within limited timeframes as a result of which they have become world class utilities. Similarly, it will be desirable to find out why many other utilities have failed, especially where availability of funds has not been a major issue for the last several decades. Such reverse engineering is likely to throw new light on good water governance practices in the urban sector, which may be very different from the current mainly academic debate on this topic. The Institute of Water Policy of the Lee Kuan Yew School of Public Policy and the Third World Centre for Water Management are now conducting such a joint study on the reverse engineering of Singapore and Phnom Penh utilities. Preliminary results indicate that, at least for these two utilities, the current debate on good water governance may have to be reconsidered, rephrased and restructured. Equally, the Asian Development Bank (ADB) and the Institute of Water Policy of the Lee Kuan Yew School of Public Policy are carrying out studies: to identify and analyse case studies of good practices for urban water management in Asia; to host regional meetings on improving water governance; and to develop an executive leadership programme for urban water managers.

### **Panel Discussions**

During the panel session, it was discussed that there is not 'one' global structure that can be put in place to ensure good governance in the water sector. This is because societal considerations are different in the various countries and thus each requires their own specific solutions. Water governance requires particular policies including those on appropriate pricing for each city. It requires developing effective partnerships between various public entities and between public entities and the private sector. And it requires seeking the engagement of society for support and active involvement. Broadly speaking, water governance should consider both inter-sectoral water issues and cross-sectoral concerns such as those from the energy, agricultural or environmental sectors. In terms of food security, considerations could broaden from a narrow view on only agricultural water use, to policy considerations on its overall impact on water management, including the possible role that virtual water can play on the whole equation of food security.

It was agreed that the implementation of the concept of water governance requires that the entire water cycle be considered as a system. An overall 'system thinking' mentality is urgently needed wherein the entire water cycle is considered and managed under one institution and not fragmented under several institutions, each with different agendas and clients, and overlapping jurisdictions. This often contributes to inter-institutional rivalries and conflicts which, in turn, result in poor governance. Within this 'system thinking', centralized systems could support the development of strong local institutions that are able to provide better service to all sectors of society. This includes the role that central governments can play to ensure that local governments have access to financial markets, and that targeted subsidies are available so that local governments can plan for their operation on a longer term basis.

Regarding partnerships, it was discussed that functional and efficient institutions require partnerships between public and private sectors that combine healthy competition and

effective regulations. In fact, regulation and operation of water utilities by the public sector have provided them with the opportunity to develop the expertise necessary to effectively monitor and regulate the performance of the private sector. In terms of human resources, should water supply be controlled entirely by the private sector, governments would lose the opportunity to develop human resources that are skilled in the overall management of water utilities and thus on the efficient provision of services.

Constraints on efficient and functional water utilities include not only lack of experienced personnel and inadequate financing, but the fact that most state actors do not have clear targets in terms of water supply and sanitation, and many times they do not even have a clear appreciation of the resources under their control and thus on the most efficient use of their resources. In terms of pricing policies, there is no agreement as to what is the best alternative. For example, sustainable cost recovery or marginal cost pricing is part of an on-going debate, and no consensus is likely to be reached in the near future. There are differences of opinion on government interventions, subsidies, marginal pricing, water conservation taxes, flat water tariffs, and the ability of the poorest population to pay. These are best decided on a case by case basis, depending on the specific conditions of each city and their social, political, economic and environmental requirements.

It was emphasized that two important pillars of governance—transparency and accountability—should help to build an efficient system that is sustainable over the long term. Instruments such as dissemination of knowledge and information are considered to enhance accountability and transparency of operations both in the public and private sectors and, as such, they should be encouraged both within the institutions and also towards the public. This is because governance-related issues are not the exclusive domain of the government any more; the increasing participation of the private sector and societal actors has made decision making an exercise which has proved to be exceedingly complex and which still needs to be built.

In terms of the provision of services, the arguments were that they include not only operational alternatives, but a very complex series of issues that have to be carefully adapted to each specific case. These include management aspects, governance concerns, and mostly shared decision making between several actors in order to suit local conditions, develop a mix of policies and instruments, and encourage human resource skills where the acceleration of socio-economic development is affected by the quality of human resources available. For example, Singapore, a city state that has managed to close the water cycle most efficiently, has implemented specific water demand and supply policies which would not be easily replicable as a whole elsewhere, but which are worth learning from as an example of the successful implementation of water governance. In an Asian context, the Institute of Water Policy of the Lee Kuan Yew School of Public Policy and the Third World Centre for Water Management have embarked on a study of reverse engineering in order to identify from an implementation viewpoint the essential factors contributing to good governance in the urban settings of the successful Asian cities of Singapore, Tokyo and Phnom Penh. Other non-Asian cities which have good urban water governance systems will also be considered. Instead of focusing on the theory of water governance and/or on defining what constitutes good water governance in an urban context, the study is focusing on the essential qualities that have contributed to good water governance in the above three cities. The results of this study will be an educational experience for other cities which could learn the reasons why these three cities have achieved good governance when most others have failed.

The analysis of Phnom Penh has been finalized and can be seen elsewhere in this issue (Biswas & Tortajada, 2010).

### **Final Remarks**

Governance, and in this specific case water governance, embraces, in addition to rules, regulations and institutions, value-related issues such as responsibility, accountability, transparency, equity and fairness. This adds an enormous complexity to the unsolved challenges that already face the implementation of water policies in an increasingly complex environment.

Since water is an intrinsic part of the overall development process, planning and implementation activities in the water sector are necessarily dependent on other economic and productive sectors where needs and interests of multiple public, private and societal stakeholders intersect with each other. Water management, and now its governance, is thus under multi-dimensional pressure. Governance of the water sector must thus take into consideration the continual changes, both from within and outside the water sector, which affect it and on which water professionals have limited control. The implementation of any long-term vision on water governance will require the understanding of the immense changes and challenges that are likely to be faced in the coming years, and on defining the ways in which these can be best understood and addressed for the overall socio-economic benefits of the countries and their citizens.

### **Acknowledgements**

The notes taken by Mr. Peng Shugang, Mr. Vinesh Kumar and Ms. Chong Su Li are gratefully acknowledged. They were students of the Master degree of Water Policy and Governance course at the Lee Kuan Yew School of Public Policy, Singapore, at the time this workshop was organized.

### **Notes**

1. In terms of definitions, each organization has described 'governance' in terms of its own interests. For example, the Organisation for Economic Co-operation and Development (OECD) considers governance to be the use of political authority and exercise of control in a society in relation to the management of its resources for social and economic development (OECD, 1995). The World Bank defines governance as the way in which power is exercised in the management of the economic and social resources of any country. It takes into consideration the countries' political regimes, the processes by which authority is exercised in the management of economic and social resources for development of the nation, and the capacity of governments to formulate and implement policies and allocate functions. The World Bank has set three goals for good governance which include empowering citizens to hold governments accountable through participation and decentralization; enabling governments to respond to new demands by building capacity; and enforcing compliance with the rule of law and greater transparency (World Bank, 1994).

The United Nations Development Programme (UNDP) considers governance as the exercise of economic, political and administrative authority to manage the affairs of any country at all levels, and the mechanisms, processes and institutions through which citizens and groups articulate their interests, exercise their legal rights, meet their obligations and mediate their differences (UNDP, 1997). Similar to other international organizations, the UNDP considers that good governance requires participation, transparency and accountability, and that it should promote the rule of law. Governance encompasses the state, but also the private sector and civil society organizations.

The Commission on Global Governance regards governance as a multi-level phenomenon. It describes it as the sum of the ways in which individuals and institutions, public and private, manage their common affairs through a continuing process that accommodates conflicting and diverse interests while fostering cooperative

actions. In other words, governance refers to the many channels through which ‘commands’ flow in the form of goals framed, directives issued and policies pursued. It includes formal institutions and regimes empowered to enforce compliance, as well as informal arrangements to which people and institutions either have agreed to or perceive to be in their interest (Commission on Global Governance, 1995).

The European Union has established its own concept of governance in the White Paper on European Governance (Commission of the European Communities, 2001). The term ‘European Governance’ refers to the rules, processes and behaviour that affect the way in which powers regarding openness, participation, accountability, effectiveness and coherence are exercised in the European Community. Multi-level governance identifies the challenge of articulating the action of independent public actors at different geographic levels towards shared objectives. Since the idea of governance highlights the involvement of regional, local and non-governmental actors in the policy-making process, it is increasingly clear that the success of decision making and the acceptability of its rules depend on such actors being involved.

2. This section is based on the presentation of David Molden at the workshop. The final paper on this topic can be seen elsewhere in this issue (Molden *et al.*, 2010).

## References

- Biswas, A. K. & Tortajada, C. (2010) Water supply of Phnom Penh: an example of good governance, *International Journal of Water Resources Development*, 26(2), pp. 157–172.
- Chan, E. S. (2009) Bringing safe water to Phnom Penh’s city, *International Journal of Water Resources Development*, 25(4), pp. 597–609.
- Commission of the European Communities (2001) *European Governance: A White Paper* COM (2001), 428 final Brussels: Commission of the European Communities.
- Commission on Global Governance (1995) *Our Common Neighbourhood* (Oxford: Oxford University Press).
- Khoo, T. C. (2009) Singapore water: yesterday, today and tomorrow, in: A. K. Biswas, C. Tortajada & R. Izquierdo (Eds) *Water Management in 2020 and Beyond*, pp. 237–250 (Berlin: Springer).
- Kooiman, J. (2003) *Governing as Governance* (London: Sage Publications).
- Molden, D., Lautze, J., Shah, T., Bin, D., Giordano, M. & Sanford, L. (2010) Governing to grow enough food without enough water—second best solutions show the way, *International Journal of Water Resources Development*, 26(2), pp. 249–263.
- OECD (1995) *Participatory Development and Good Governance* (Paris: OECD).
- OECD (2000) *The Reform of Metropolitan Governance* (Paris: OECD).
- Rhodes, R. A. W. (1996) The new governance: governing without government, *Political Studies*, 44, pp. 652–667.
- Rogers, P. & Hall, A. W. (2003) *Effective Water Governance* TEC Background Papers No. 7, Stockholm: Global Water Partnership.
- Tiihonen, S. (2004) *From Governing to Governance: A Process of Change* (Tampere, Finland: Tampere University Press).
- Tortajada, C. (2006) Water management in Singapore, *International Journal of Water Resources Development*, 22(2), pp. 227–240.
- Tortajada, C. (2007) Water governance in the MENA region: critical issues and the way forward—the case of stakeholder participation and public awareness. Paper presented during the Second Partners’ Forum on “Water Governance in the MENA Region: Critical Issues and the Way Forward”, organized by InWent Capacity Building International, Germany, and the Arab Water Council, Cairo, 23–26 June 2007.
- Tortajada, C. (2010) Water governance: a research agenda, *International Journal of Water Resources Development*, 26(2), pp. 309–316.
- UNDESA, UNDP & UNECE (2003) Governing water wisely for sustainable development, in: United Nations, *World Water Development Report: Water for People, Water for Life*, pp. 369–384 (Paris: UNESCO).
- UNDP (1997) *Governance and Sustainable Human Development* (New York, NY: UNDP).
- UNDP (2004) *Water Governance for Poverty Reduction: Key Issues and the UNDP Response to Millennium Development Goals* (New York, NY: UNDP).
- World Bank (1994) *Governance: The World Bank’s Experience* (Washington, DC: World Bank).