

Water, Policy and Governance

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ABSTRACT

This article offers an overall synthesis of the contents of a number of selected papers on water governance and policy presented at the 5th IWHA Conference ‘Pasts and Futures of Water’ that took place in Tampere, Finland, on 13–17 June 2007. Therefore, the authors do not intend to present here their own views on the topics covered, which they have described in more detail elsewhere, but rather seek to capture the key issues emerging from the broad range of perspectives on water governance and policy that informed the papers presented at the Conference.

There is growing consensus that the global water crisis is mainly a crisis of ‘governance’. In most countries plentiful water resources can no longer be taken for granted. More and more people in an increasing number of countries are experiencing water differently – as a limited resource that must be carefully managed for the benefit of people and the environment, in the present and for the future. The emerging paradigm is one of resource constraints, conservation, and awareness of the fragility of water’s life cycle. Yet, it is still open to debate what ‘water governance’ exactly means. Moreover, simple definitions of water itself have become obsolete and there is a heated global debate on the topic. Water has multiple functions and values, most of which are incommensurable. While in some of its uses water has increasingly become a commodity, in many other functions water takes the form of a social or public good. For many, the hydrosphere is a common good that must be governed and managed as such. Is the access to essential volumes of safe water a human right or not? Does it really

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matter? Water serves many roles depending on the wider political, economic, social, cultural and environmental context. Perhaps the crucial question is: Is there truly a new paradigm of water governance emerging, or are we simply engaging in delusionary rhetoric? Many signs all over the world suggest that the way water is perceived, governed, and managed is indeed changing, but the direction of this change is highly uncertain. This is reflected in the ongoing contradictions that characterise the global debates about water governance policy, some of which were captured in the papers presented at the IWHA Conference that we summarise here.

The focus of this theme paper is on identifying some of the key building elements of water policy and governance, which we identified as a common thread running through the different presentations. The paper also explores the challenges and opportunities facing the international community for living up to the principles of democratic water governance in a context of increasing global uncertainty.

KEYWORDS

Water governance, water policy, water functions and values, legislation, human right to water, common heritage, IWHA

1. INTRODUCTION

The key objective of the article is to contribute towards enhancing the thinking on future water policy formulation and management, and the effectiveness of democratic water governance. We offer an overall synthesis of the contents of a number of selected papers on water governance and policy presented at the 5th IWHA Conference 'Pasts and Futures of Water' that took place in Tampere, Finland, on 13–17 June 2007. Therefore, the authors do not intend to present here their own understanding of the topics covered, which they have described in more detail elsewhere,¹ but rather seek to capture the key issues emerging from the broad range of perspectives on water governance and policy that informed the papers presented at the Conference. We focus here on the key building elements of water policy and governance, which we identified as a common thread running through the different presentations. We also explore a second aspect that was highlighted by most authors: the challenges and opportunities facing the international community in living up to the principles of democratic water governance in a context of increasing global uncertainty. We do not have the possibility to analyse in due depth these issues here owing to space restrictions, and therefore the article offers a summary overview of the topics supported by references to relevant sources of more detailed analyses of

WATER, POLICY AND GOVERNANCE

the problems addressed.

We first briefly discuss the meaning of and the principles associated with the notion of 'good' water governance, a topic present in most of the papers. Then we consider some of the pros and cons of the notion that water is a human right, an issue that was discussed in the conference mainly from a legal and institutional perspective. The third section explores the challenges to water governance posed by the management of shared water resources, which also received significant attention in some of the sessions. Finally, we close the article by addressing some of the obstacles and difficulties facing the implementation of principles of 'good' governance.

Normative and processual views of governance

Current debates about governance at large, and about water governance in particular, tend to emphasise different dimensions of the problem: while some authors pay more attention to the normative and policy-institutional aspects of governance, others pay more attention to governance as a sociological and political process. Normative and institutional approaches to the notion of water governance have become particularly salient in recent years in the context of the international debates associated with the activities of the World Water Forum (WWF) and related initiatives. Thus, in March 2000 the Second World Water Forum that took place in The Hague inaugurated the 'Vision for Water, Life, and the Environment' proposing what the WWF's promoters considered a fundamentally new approach to water 'governance' (Box 1). That, in turn, was

Box 1. The new approach to water governance proposed by the World Water Forum 2002.

The current water crisis is more a water governance crisis. Insufficient management has compounded the problems in the water sector worldwide. The challenge in this new millennium is to adopt a new approach. Water resources need to be managed in a more holistic way... Water governance will catalyse the much-needed investments to expand water services, to manage and conserve water resources, and to protect the environment. To improve governance in the water sector, we need to balance social dimensions with economic demands and environmental needs... Water management in each country affects the global social structure, economy, and the environment. International institutions have a major role to play in setting standards and monitoring performance within countries against these standards... Integrated water resources management is a critical element in achieving good water governance. Governance should focus on its responsibility for policy and regulation and the creation of an enabling environment, while the private sector and communities assume responsibilities for providing and operating services....

Source: World Water Council, 2002.

related to the growing interest on issues of 'governance', 'good governance' and related concepts that have been increasingly used in specialised literature, including that on water policy and management. In the context of this approach to water governance, lack of *good governance* principles came to be regarded as one of the root causes of all major constraints within our societies, including the problems behind the unsustainable management of water ecosystems and the global crisis of water and sanitation services. In the specific case of developing and transition countries, major donors and international financial institutions are increasingly making it a condition of their aid and loans that reforms, which ensure 'good governance', are undertaken.²

This notion of 'good governance' emerging from recent global debates about the water crisis is essentially normative and assumes compliance with a number of principles commonly associated with substantive democratic practice. That is, good governance should be participatory, consensus-oriented, accountable, transparent, responsive, effective and efficient, equitable and inclusive and follow the rule of law (Figure 1). It must also assure that public and private corruption is minimised, the views, values, rights, and material interests of all water users are taken into account, and that the essential needs of the most vulnerable sectors of society are given priority. It must also be responsive to the future needs of society. These principles of 'good' water governance have important implications for the management of water resources at all administrative levels – global, regional, national and local – and are considered to be a prerequisite for the successful implementation of such policies as Integrated Water Resources Management (IWRM).³

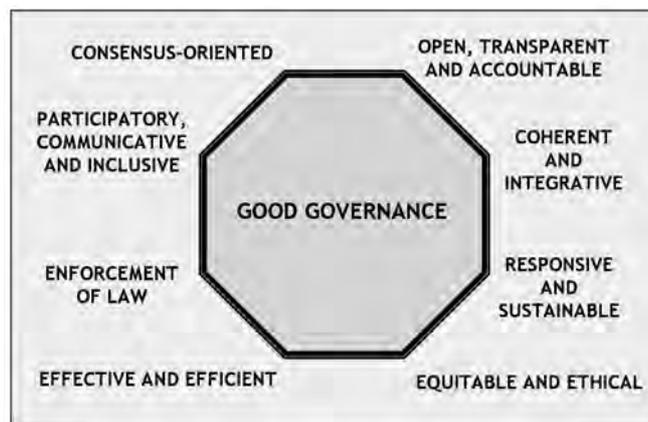


FIGURE 1. Characteristics of good governance (UNESCAP, 2002, modified by Seppala 2004).

WATER, POLICY AND GOVERNANCE

From another angle, in relation to the normative and policy-institutional dimension, water governance is often described as entailing those social, political and economic organisations and institutions and their relationships which are regarded as important for water development and management.⁴ However, as suggested by Bakker, water governance also covers the range of political, organisational and administrative processes through which communities articulate their interests, their input is absorbed, decisions are made and implemented, and decision makers are held accountable for the development and management of water resources and delivery of water services.⁵ Water governance, therefore, is also the exercise of political, economic, administrative and social authority, which influences the development and management of water resources and related services delivery. It comprises mechanisms, processes and institutions through which citizens and groups articulate their interests, exercise their legal rights, meet their obligations, and mediate their differences in relation to water resources.⁶ To achieve democratic water governance, according to these authors, it is necessary to create an enabling environment which facilitates: (1) efficient private and public sector initiatives; (2) a regulatory regime which allows transparent transactions between stakeholders in a climate of trust; and (3) shared responsibility for safeguarding water resources whose management affects many people but is often the responsibility of no-one.⁷

However, as critics have repeatedly pointed out, the approaches to water governance that tend to place the emphasis on its normative and policy-institutional dimensions have significant drawbacks, in particular because they tend to overlook the socio-economic, political and cultural processes and structures that largely shape and even determine how water is actually governed and managed in the ground. To start with, we cannot take for granted that all actors formally involved in water management activities, in particular those in decision-making positions, share the same understanding of 'governance'. In fact, the opposite is often true, and the evidence suggests that water policy and management are informed by competing, even irreconcilable understandings of 'governance'. We have discussed these issues in more detail elsewhere,⁸ but to put it in a nutshell, while for some actors governance is mainly an instrument to achieve certain ends such as the implementation of full-cost recovery policies or the reorganisation of water utilities on the basis of market principles, for others governance entails substantive participation by citizens and water users in the actual definition of the goals and direction of water policy. While the former consider citizens and water users passive subjects and water policy decisions the domain of a small circle of expert politicians and sector professionals mostly outside public debate and scrutiny, the latter feel that democratic water governance requires substantive – not merely formal, consultative – involvement of citizens and water consumers.

Therefore, we can neither simply rely on normative or policy/institutional understanding of governance nor expect the principles of substantive democratic

water governance to be adopted as a necessary outcome of good governance at the policy and institutional levels. This situation confronts us with a number of crucial questions. If democratic water governance is participative, how do citizens and water users actually participate in the process? What participatory mechanisms are available to them? How are they involved (if at all) in discussing and determining the goals and directions of water policy? How are (if at all) the views, values and material interests of water users and citizens recognised? Who decides what are the best policy means and instruments to pursue the goals of water policy? Who are the beneficiaries of water policy decisions? What are the mechanisms available to exercise democratic scrutiny over decision takers and implementers in relation to water policy? These are some of the crucial questions that need to be asked if we are truly interested in promoting substantive democratisation of the governance of water and water services. Unfortunately, the answers to these questions are not straightforward and the very process of water governance worldwide is marred by an ongoing crisis grounded on a deficit of substantive democracy.

2. WATER GOVERNANCE PRINCIPLE – HUMAN RIGHT, LEGAL CONCEPT OR COMMON HERITAGE?

Although the water governance issues discussed above refer obviously to the whole spectrum of activities connected with water policy and management, perhaps the most crucial aspects are related to those water functions and uses that are essential for human survival and dignity such as the access to safe water supply and adequate sanitation services or the preservation of healthy aquatic ecosystems. In this regard, one of the most controversial and difficult issues concerns the question of whether water should be seen as a human right or not, and what that would mean in reality: debate about it gained global currency after the UN Committee on Economic, Social and Cultural Rights passed its General Comment No. 15 on 'The right to water' in 2002.⁹

This topic was thoroughly examined by Beilinskij, who paid particular attention in his paper to the arguments put forward by many organisations and academics worldwide in support of this notion that access to water constitutes a human right.¹⁰ Beilinskij highlighted the fact that most authors supporting this notion agree that the notion of the human right to water includes access to safe household water to meet basic human needs, not just water used to prevent illness and death from dehydration and disease, which is argued on the ground of either positive law or universal moral standards. Given the implicit need for public policy inherent in the notion of access to water as a human right, policy goals are also integral to it.¹¹

Yet, the human right to water remains controversial as reflected, for instance, in the fact that many states have not yet stipulated their formal position in this

WATER, POLICY AND GOVERNANCE

regard.¹² In this connection, Beilinskij addressed two key questions: firstly, can the individual's right to water be considered a human right under existing international law? This is relevant because international law is understood to consist of international conventions, international customs and general principles of law. Secondly, what type of legal tools could we develop to satisfy basic human needs for water better? If the right to water is considered a human right, it may inspire and encourage states to meet the basic needs of their population and formulate the corresponding rights and duties relating to water. Yet, from the point of legal positivism, the obligations in relation to access to water remain rather vague. In addition, it can be argued that the right to water is an implicit human right. Since people cannot survive without water, the right to water can be seen either as a universal moral right or as a prerequisite for the realisation of many explicit human rights, such as the right to life, adequate standard of living and health. This perspective seems relevant if access to safe household water is defined to include water used to prevent death from dehydration and diseases. Yet, the human right to water is not considered to cover only drinking water. The right to water is defined to include approximately 40–50 litres of water per day per capita piped to or in the immediate vicinity of each household. Thus, the question of the right to water as a human right is highly complex.¹³

Although the human right to water is widely supported, it is not formally part of international law in the strict sense. International conventions on human rights do not proclaim it, and international customary law is based on the consent of those legally bound. If the majority of states were to agree, for example, that the International Covenant on Economic, Social and Cultural Rights (ICESCR) provides the human right to water, they would be obliged to formulate and implement national legislation, policies and programmes. States' obligations concerning the right to water would, however, be regarded as goals, not as specific entitlements.¹⁴

According to Beilinskij, the ICESCR does not include legal remedies for an individual to enforce his right to water. Hence, the content of an individual's right to water remains vague. For example, it has not yet been established whether authorities should ensure the availability of water services in sparsely populated areas or whether authorities in developing economies should invest substantially in the water sector.¹⁵ In Finland, for instance, outside the service area of water undertakings (usually in sparsely populated areas), the individual's right to water consists only of the right to abstract surface or groundwater. Inside the service area, an individual is entitled to adequate water services by a water undertaking. Yet, in accordance with the Water Services Act, the municipality has overall responsibility for water services development and provision within its territory, that is, both inside and outside the defined and approved service areas of water undertakings. Within the service area the water undertaking is responsible for water services production, whereas outside the service area the owner/occupant of a property is responsible for its water services.¹⁶

These controversial aspects associated with the notion of a human right to water illustrate the multidimensional character of this problem, and reinforce the need for further definition and rethinking of the concept. It is clear, however, that access to water includes the right to abstract water and adequate water services. Beilinskij recommends that the focus should be more on the equitable division of waters between natural and legal persons as well as on human rights law. This approach would be in line with water rights and duties and their development in water law. Reducing the number of people with inadequate access to water would require prioritising domestic (or community – authors' note) water use over other uses in international as well as national water law as several countries already do. Indeed, there is a clear need for establishing priorities in water use purposes, and community water supply should be made the first priority.¹⁷

Belaidi extended the concept of the right to water to include also what she calls 'common heritage' in reference to the environment, a concept close to 'common good'.¹⁸ According to her, the right of future generations should be considered in everything that concerns environmental protection and the safeguarding of natural resources. Water as a common good used by individuals and communities is a fundamental element of the environment in which humans live. Water is not only a direct satisfier of essential human needs but also the element that makes life possible and, therefore, it also fulfils essential functions for humans. In this regard, the notion that protection of the hydrosphere is a component of the human right to water has international, regional, national and local relevance, in terms of governance, public policy and management of common water resources. Belaidi argues that it should be treated under the banner of 'common heritage'. Within this framework, the legal concept of 'heritage' is applied by extension to the environment in order that, whether it is appropriated or not, the environment is preserved indefinitely from generation to generation.

3. SHARED WATER RESOURCES

The third issue considered in this paper concerns the discussion held at the Conference on the key role that shared water resources often play in the allocation of water for basic human needs. More than 40 percent of the world's population lives in about 270 river basins shared by two or more sovereign states. Some countries receive more than 75 percent of their freshwater from the river flows of upstream riparian states. Equitable sharing of international water resources between states is often a prerequisite for receiving sufficient drinking water.¹⁹ This is compounded by the fact that there are some 270 transboundary groundwater areas identified by the World-wide Hydrogeological Mapping and Assessment Programme.²⁰ Since groundwater aquifers are not visible, they form even a greater challenge than transboundary surface waters (authors' note).

WATER, POLICY AND GOVERNANCE

If the use of international water resources is considered indispensable for sustaining life, it should supersede other uses.²¹ Both vital human needs and the indispensability of international water resources in meeting them are the key factors in this regard. In practice, the availability of alternatives of comparable value may entitle one riparian state to use its share of international water resources in ways that may leave an inadequate amount for another. The alternative for allocating waters from an international water course, however, is the allocation of waters from national water resources.²²

In relation to this issue, Tzazaki pointed out that states have often adopted principles of international environmental law in order to manage their fresh water resources and incorporated them in regional agreements, especially when they have become aware of the importance of shared water resources.²³ The UN General Assembly adopted in 1997 the Convention on the Law of the Non-navigational Uses of International Watercourses, including the principle of cooperation, the no-harm rule, the principle of equitable utilisation and the protection of the environment of international watercourses, since they are interrelated and aim at promoting the sustainable development of international watercourses. According to Tzazaki, the UN Convention is very important for the relations between riparian states. Since it is a framework convention, it allows the formulation of regional agreements in keeping with the needs of riparian states and the natural characteristics of every watercourse. Tzazaki also argues that the Convention should now be ratified and applied. To the authors' knowledge the Convention has been only ratified to date by some 13 countries, which unfortunately have little influence on world water politics. This situation calls into question the level of commitment of the international community to the UN Convention – unless it is also ratified by those countries that have more leverage in global water politics it will remain an ineffective piece of paper.

In this regard, and focusing now on the European situation, Andersson argued that until recently, European Union (EU) water policies have resembled more declarations than specific policies.²⁴ However, water policies and related water legislation have typically been powerful and prominent in the national contexts in major EU member states. The legal status of water bodies has varied considerably. The ways and means to resolve similar constraints related to water issues have also differed greatly in the member countries. Therefore, the EU has in recent years sought to increase the effectiveness of Community legislation, and also harmonise the various arrangements applied to regulate the use of water resources. For instance, the EU Water Framework Directive (WFD - 2000/60/EC) was formulated for the protection of surface waters and groundwater. It aims at preventing deterioration of water quality that could have significant impacts on the use of water, and to promote overall sustainable use of water resources. Thus, the WFD differs from earlier environmental directives also in that it regulates the quantitative use of water through water management plans.

According to Beilinskij, the traditional division between international and national water law appears to be too sharp, since all water resources must be taken into account when weighing the priorities of water use. A state cannot allocate international and national water resources differently within its territory. From an individual's viewpoint, equitable sharing of water resources is impossible, if domestic use is not prioritised in national law. Furthermore, if we accept that based on international law, the first priority is to allocate waters to satisfy vital human needs, national law has to adhere to the same principle. Thus, the superiority of international law and the equity of individuals require that indispensable domestic consumption always enjoys priority over other uses of waters. Hence, the principle of equitable utilisation has to be applied considering all the possibilities of fulfilling vital water needs, not only the international water resources in question.²⁵

As a matter of fact, the aim of the WFD is to meet, above all, human needs.²⁶ The interpretation and implementation of the WFD principles, however, have not been problem-free according to Andersson. The author argues that, for instance, the spatial concept of the *river basin district*, a central element in the WFD framework, refers to a river basin or catchment area, whose boundaries may not coincide with national borders or even the borders of the EU. The WFD leaves no scope for member states to delimit river basin districts themselves, and wherever a catchment area extends across national borders, an international river basin district must be designated.²⁷

On another count, Beilinskij concluded that the instruments of international law already prescribe that if the use of international or national water resources is essential to human life, it enjoys priority over other uses.²⁸ Both international water law and human rights law support this conclusion. Certain water resources are essential to human life, if there are no alternatives of comparable value for indispensable domestic consumption. Thus, the order of precedence of uses can only be decided on a case-by-case-basis taking into account all available water resources. Working on the basis of undisputable water rights could provide us an approach to the dreadful water shortage. The human rights-based approach to water, for its part, may sometimes prove too ambiguous and far-reaching for the purpose.

The rationale behind the WFD is that the costs of water management should be covered through reasonable water pricing. This, in turn, would promote more sustainable use of water resources. Yet, the WFD may in practice accentuate differences between citizens and companies in member countries with regard to their competitive positions or their property rights, even though it does not aim to regulate water as a commercial product, but instead as part of everyone's common heritage that has to be duly protected and appreciated.²⁹ In his analysis of the implications of these factors, Andersson found that EU legislators have not been able to eliminate all significant features of national legal systems such as private ownership rights over waters, or the fact that water is often sold in

WATER, POLICY AND GOVERNANCE

large quantities from one country to another. If the WFD were to be used to prohibit the trade in water, it would run against the ‘four freedoms’ that underlie EU law, namely the free movement of goods, services, capital, and labour.³⁰ Moreover, if the concept of ‘heritage’ were to allow the ownership of water molecules by states, that would represent a step backwards in the development of environmental law, which has so far applied the principle that flowing water cannot be owned.³¹

4. WHY IS THE IMPLEMENTATION OF PRINCIPLES SO DIFFICULT?

The fourth and final aspect of the Conference papers that we selected for consideration is related to the challenges facing the implementation of the principles and policies of ‘good’ water governance. In this regard, although it is clear from the outset that water sector challenges are widely known and growing,³² it is not equally well recognised that these challenges are primarily related to governance problems – not solely to issues of physical scarcity or shortages of technical and managerial expertise. It is equally important to understand that factors inside as well as outside the water sector play a role, and that the water sector does not develop in a vacuum, but is an intrinsic and important part of a more general development process.

As shown by the discussion above, the legal, institutional and policy aspects of water governance cannot be effective if they are not exercised on all hierarchical levels where actions are formulated and decisions are taken, implemented and finally executed (Figure 2). The range of issues that be taken into account is the most limited at the execution level, while it expands somewhat when

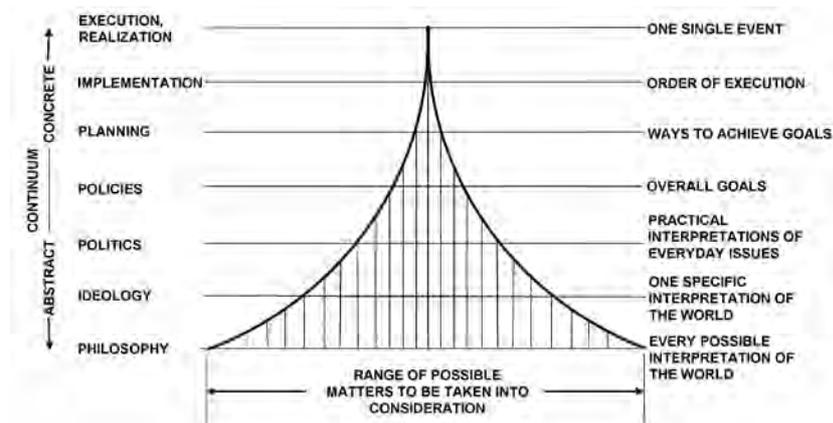


FIGURE 2. Hierarchy of consideration of matters (© Jorma Mänty 1979).

moving to the levels of implementation, planning, policy and politics and the wider issues of ideology and philosophy.

As for the levels of policy and politics, Feitelson pointed out that implementation is by and large considered a technical stage, whereby agencies carry out the directives of decision makers.³³ As Bardach has shown, implementation is anything but certain.³⁴ The passing of a bill or a decision of the executive branch is only the opening stage of a political process that he called the 'implementation game'. This is even more the case when we ask why decision makers, who are usually politicians, do not take more advice from knowledgeable professionals. Feitelson suggested that the fault lies with the experts, who do not take heed of politics, rather than with the decision makers. In relation to water management planning in the Tennessee Valley, USA, Thackston et al. concluded that success is based on '70 percent politics, 20 percent engineering and 10 percent luck'.³⁵

Feitelson mentions three main faults related to implementation. The one lies in the proposals professionals advocate. The most widely outspoken concepts are IWRM and basin management. Yet, the establishment of the relevant management regimes, especially with regard to transboundary water resources, implies exceedingly high political transaction costs. These transaction costs are an outcome of three factors that need to be overcome if such a regime is to be established.

Firstly, a transboundary regime may imply that states have to forgo some element of sovereignty, something no state is willing to do unless it has a very strong incentive to do so. Secondly, a new regime is likely to change the authority or operations of existing entities and agencies. Such actors often have many discreet ways in which they can impede the establishment of a regime they do not support, as these actors are very capable at manipulating the multiple administrative details that need to be addressed in establishing such a regime. Thirdly, such a regime may work at counter purposes to existing power structures and reduce the influence of various stakeholders. Hence, they may face strong internal or local opposition, which can be very effective.

The second fault, according to Feitelson, is that many water experts do not utilise political opportunities. Kingdon found that advancement of policy proposals and turning them into policies requires a great deal of entrepreneurship.³⁶ He actually calls the professionals who bulldoze such proposals in the policy arena policy entrepreneurs. If water experts want to advance various objectives, it is insufficient to just write them up and explain their merits. Rather, there is a need for long term political action. In particular, it is necessary to wait for the opening of 'policy windows' and then to formulate proposals, which are attractive to decision makers in a specific circumstance. This requires political skills that water professionals all too often lack.

The third fault identified by Feitelson, lies in the studies water professionals' conduct. Most of the studies presented at water conferences have to do with the way water has been or should be managed. However, it is quite rare to hear

WATER, POLICY AND GOVERNANCE

any implementation analysis in the water sector. That is, there is a need to carry out research and diagnose the factors that support and those that impede water policy adaptations and innovations.

5. CONCLUDING REMARKS

‘World Problematique’ is a concept created by the Club of Rome to describe the set of the crucial problems – political, social, economic, technological, environmental, psychological and cultural – facing humanity.³⁷ The complexity of the world problematique rests in the high degree of mutual interdependence of all these problems on the one hand, and in the long time it often takes until the impact of actions and reactions in this complex system becomes visible. Subsequently, there is a need for ‘World Resolutique’ in order ‘to connote a coherent, comprehensive and simultaneous attack to resolve as many as possible of the diverse elements of the problematique, or at least to point out tracks to solutions and more effective strategies’.³⁸

The IWHA 2007 conference papers cited above offer an excellent background to better understand the ‘World Problematique’ with regard to key water policy and governance questions or elements. Yet, the papers also point out some of the key constraints we are facing in the quest for the ‘World Resolutique’, i.e. good water governance.

Even in Finland, a nation of considerable wealth, citizens outside the service areas of water undertakings enjoy only the right to abstract water, not the right to water services provided by the municipality. Can we thus seriously maintain that the citizens of developing economies can enjoy ‘extended rights’ in practice?

Perhaps the most useful thing to do in attempting to solve the key elements of the problematique would be to determine what the concept of the right to water means in practice. For that, it would be more important to reach a consensus on who has a right to water and who has priority access to water rather than discuss the right to water as a human right. Does an individual citizen, a community, a state or a company have a right to water, what kind of right and what is the order of precedence? Is ownership a prerequisite for the right to water?

Good governance also requires that transparent and responsive political, organisational and administrative processes lead to a consensus on effective and efficient, equitable and inclusive measures and practices for safeguarding and sharing of our common heritage, i.e. both national and international water resources. Moreover, we need to move towards a better balance between the techno-scientific, socio-economic, political, and cultural dimensions of water policy and management, and to overcome the artificial disciplinary and corporatist divisions characterising water research and practice. As Price suggests, we should promote ‘pracademic research’ – by various means seek better convergence and interaction between academic research and practice.³⁹ Democratic

water governance also requires an ethic of scientific water research that is not subservient to party interests but is rather informed by holist and universalistic principles and values.

Perhaps these processes could be pushed more proactively by researchers who could, when they deem it necessary, exchange the role of an academic for that of a policy entrepreneur, whose diagnoses and arguments would still be based on sound science. That would hopefully lead to sound decisions in the present which will govern our common future. Alternatively, decision and policy makers could be more involved or 'educated' to make them more aware of what the water sector needs. That, for its part, could improve our understanding of the pasts for more sustainable futures.

NOTES

¹ See e.g. Castro, 2009; Castro and Heller, 2009; Juuti, Katko and Vuorinen, 2007.

² E.g. UNESCAP, 2002.

³ On IWRM see e.g. Grigg, 1996; Mitchell, 1990.

⁴ GWP, 2002.

⁵ Bakker, 2002.

⁶ UNESCO, 2003.

⁷ GWP, 2002; Rogers and Hall, 2002; UNESCO, 2003, p. 103.

⁸ Castro, 2009; Swyngedouw, Kaïka and Castro, 2002.

⁹ UNESCAP, 2002; see also Gleick, 1999.

¹⁰ Beilinskij, 2007.

¹¹ For an in-depth discussion of the notion of water as a human right, see e.g. Langford, 2005.

¹² On this issue, see e.g. Amnesty International, 2003.

¹³ Beilinskij, 2007.

¹⁴ McCaffrey, 1992.

¹⁵ On the legal aspects and implications of this debate, see also e.g.: Langford, Khalfan, Fairstein and Jones, 2004; Salman and McNerey-Lankford, 2004; Cahill, 2005.

¹⁶ Ministry of Agriculture and Forestry, 2001.

¹⁷ Katko and Rajala, 2005.

¹⁸ Belaidi, 2007.

¹⁹ Salman, 2005, cited by Beilinskij, 2007.

²⁰ UNESCO-WHYMAP, 2009.

²¹ ILC, 1994, cited by Beilinskij, 2007.

²² Bogdanovic, 2001, cited by Beilinskij, 2007.

²³ Tzazaki, 2007.

²⁴ Andersson, 2007.

²⁵ Beilinskij, 2007.

WATER, POLICY AND GOVERNANCE

- ²⁶ Krämer, 2000 cited by Andersson, 2007.
²⁷ Andersson, 2007.
²⁸ Beilinskij, 2007.
²⁹ Andersson, 2007.
³⁰ Barnard, 2007.
³¹ Andersson, 2007.
³² See, for instance, Varis and Tortajada, 2007.
³³ Feitelson, 2007.
³⁴ Bardach, 1977, cited by Feitelson, 2007.
³⁵ Thackston et al., 1983, cited by Grigg, 1996.
³⁶ Kingdon, 1984, cited by Feitelson, 2007.
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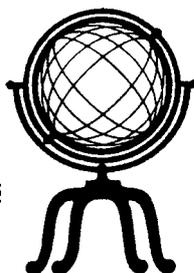
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