

Water Governance, Management and Ethics: New Dimensions for an Old Problem

Symposium Keynote Address

Water Governance, Management and Ethics: New Dimensions for an Old Problem

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Introduction

Water plays a major role in the construction and development of society; a vital resource, water is considered to be a gift from God in many religions, and access to water is widely considered a human right. But water is ambivalent: it provides public health, safety, and life, while also causing mortal danger through illnesses it propagates and floods it creates. The complex relationship between man and water

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combines life and death and is symbolized by the key role played by water in religions and mythologies. This relationship considerably affects representations and mentalities and constitutes both a potential source of conflicts and a powerful factor of solidarity.

Therefore, water is not a classical commercial object, although its delivery and management necessitate services—such as supply, sewerage, and irrigation—which require investments that can sometimes be significant. One of the four sustainable water management principles defined at the International Conference on Water and the Environment held in Dublin in 1992 states that water has economic value in all its uses and should therefore be recognized as an economic good.¹ The debate between the economic dimensions of the costs of water services and the social dimensions of water begins with the issue of the universal right to water access. Market conditions must be clearly established, and the respective roles of the private sector and public authority must be discussed and defined. In this matter, the example of France is original in its combination of both sectors: water as a public service often managed by a private partnership.

Ethics and water therefore is quite an ambitious subject due to the variety of problems it involves and the high significance it has in the sustainable management of water resources. We will examine ethics and water in light of water socio-cultural dimensions and water governance, which we see as a priority in sustainable water management.

Water as a cultural and societal factor and the need for ethics: some examples

For centuries water has been a cultural factor of individual and collective identity. Using solidarity and vigilance, and supported by adequate institutions, legislation and ethical rules, communities shared water in daily life and developed management practices that provided fair allocation. The existence and role of water magistrates, as in Valencia, Spain, or Bukhara, Uzbekistan, illustrate how sharing this unique resource has been organized for a long time, both institutionally and ethically, in many regions. As an illustration, we have chosen the example of the oasis and city of Bukhara, in Uzbekistan, Central Asia.

Although an oasis in a semi to fully arid region, Bukhara became a brilliant metropolis because of an elaborate irrigation system and numerous water basins

1. *The Dublin Statement on Water and Sustainable Development*, International Conference on Water and the Environment, Dublin, Ir., Jan. 31, 1992, available at <http://www.un-documents.net/h2o-dub.htm> [hereinafter Dublin Water Principles, reprinted in Appendix 1].

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used by the population (the male population in this Muslim principality) for daily social exchanges. As recounted in the Bible, wells were favorite meeting places for the local population to perform marriages and negotiate alliances. Bukhara was almost self-sufficient in terms of agriculture because of a rather comprehensive irrigation system, which was established in the Middle Ages and became part of the cultural and social heritage of the region. This irrigation system regulated the access to water, the operation and maintenance of the supply canals, and the allocation of water. Specific administrative positions linked to water supply and distribution were created: for instance, the aryk-aksakal was the head of the canals, elected and paid by the peasants of the village. Like the magistrate of water in Valencia, Spain, he had the responsibilities of a referee and made decisions regarding the fair allocation of water.² Thus, Bukhara is a good example of the necessary and early introduction of ethics into water management, in that case through the organization of irrigation.

The Council of Europe has emphasized the vital and cultural roles of water in human life and the resulting need for common ethics in the European Charter on Water Resources adopted in 2001 by the Parliamentary Assembly of the Council of Europe.³ The Charter summarizes rather well the European theoretical ideas in that respect. The comments to the articles of the Charter can be found on the Council of Europe website. We think that these comments help to explain better what an ethical approach to water management means. The following articles are relevant to our subject:

Article 2 states: “Water must be equitably and reasonably used in the public interest,” and includes the comment:

“To determine what is equitable and reasonable, several factors must be considered: geographic, hydrographic, hydrological, climatic and ecological aspects; the economic and social needs of the populations concerned; the effects of the utilisation of the resource on other users and the need to conserve water, harness water resources and avoid wastage, as well as the cost of measures taken to this end. It is also important to consider alternatives to existing or planned uses. All relevant factors are to be considered before reaching a conclusion, with special regard being given to meeting vital human needs.”⁴

2. Jean Fried, *International Water Problems and Sustainable Co-Development*, in TRANSBOUNDARY WATER MANAGEMENT: ACTA OF THE III INTERNATIONAL SYMPOSIUM ON TRANSBOUNDARY WATERS MANAGEMENT (2006) 139 (Javier González ed., 2007).
3. Council of Eur. Committee of Ministers, *European Charter on Water Resources*, Rec(2001)14 (Oct. 17, 2001), available at <https://wcd.coe.int/ViewDoc.jsp?id=231615>; see Appendix 2.
4. *Id.* at art. 2 (emphasis added).

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Article 5 states: “Everyone has the right to a sufficient quantity of water for his or her basic needs,” and includes the comment:

“International human rights instruments recognise the fundamental right of all human beings to be free from hunger and to an adequate standard of living for themselves and their families (Article 25, Universal Declaration of Human Rights, 10 December 1948; Article 11, International Covenant on Economic, Social and Cultural Rights, 16 December 1966). It is quite clear that these two requirements include the right to a minimum quantity of water of satisfactory quality from the point of view of health and hygiene (Article 5, paragraphs. k and l, London Protocol on Water and Health, 17 June 1999). Social measures should be put in place to prevent the supply of water to destitute persons from being cut off.”⁵

Article 19 is particularly significant because it emphasizes a most important aspect of water ethics, mentioned above, the economic value of water, and it illustrates the views of the Europeans regarding the financial management of water costs by application of the “polluter-pays” principle. In particular, it also introduces the notion that water should be paid for in order to prevent its wasteful use. Article 19 states: “Without prejudice to the right to water to meet basic needs, the supply of water shall be subject to payment in order to cover financial costs associated with the production and utilisation of water resources,” and includes the comment:

“Water has not only an ecological but also an economic value. In addition to water as such, infrastructure for its extraction, conveyance, distribution and purification generates costs which may vary from one place or community to another, but which cannot be ignored. If water costs nothing, it might be used wastefully, which is particularly dangerous in situations in which water resources are becoming relatively scarce. On the other hand, water is also a commodity with a social value, one that is necessary for meeting the basic needs of every human being.

To finance the supply and purification of water, it is essential to implement the “polluter-pays” principle. To this end, appropriate charges must be set (proportional or progressive rates, rates for low-income categories or supply of a minimum quantity of water on preferential terms), depending on the use. Charges will depend on the expected evolution of water resources, the investment required and social considerations. The “user-pays” principle, pursuant to which the price of water available for given uses – and thus of adequate quality – must be borne by the user, must be taken into account, subject to basic needs being met.”⁶

5. *Id.* at art. 5 (emphasis added).

6. *Id.* at art. 19 (emphasis added).

Sustainable development and ethics

From a theoretical point of view, the meaning of and the need for ethics in water management are rather clearly identified. But how are ethical considerations introduced in practice? An answer can be found in the new paradigm of sustainable development, in both national and international contexts, whose concern for present and future generations as a major feature of economic development is ethical in itself (we present our approach to sustainable development and sustainable co-development in Appendix 3). As Baktiari and I have stressed, “under the umbrella of this paradigm, a significant number of salient issues are covered that have significant impact on how nations conduct dialogue on issues such as environmental stress, resource scarcity, poverty, population change, development crises and violent conflict.”⁷

Sustainable development also means the preservation of natural resources through careful use without wasting them, the reduction of losses, wastes and nuisances, and the prevention of irreversible damage to the environment. Often, inadequate institutional and managerial organization leads to the wasteful use of water, while political corruption leads to the wasteful use of the funds that should be devoted to water.⁸ As we do not wish to discuss the extremely sensitive subject of corruption, which should be debated in a different forum on democracy, we shall restrict ourselves to institutional and managerial organization, namely water governance, which is an already significant and sensitive subject. As an illustration, water scarcity is not necessarily due to a lack of water resources but to their mismanagement: the 2nd World Water Development Report has estimated that twenty-six countries totaling more than 350 million people suffer from severe water scarcity, in spite of an adequate water supply, because of mismanagement and bad governance.⁹

7. Bahman Baktiari & Jean Fried, *Sustainable Development: A Strategy of Dialogue and Communication*, 35 ENVTL. POL'Y. & L. 184, 184-88 (2005).
8. Pierre-Frédéric Ténier-Buchot, *Postface: L'eau au XXIème Siècle, de la Vision à L'action*, FUTURIBLES (2000) (estimating that about 25% of water funds disappear annually in the world due to corruption).
9. U.N. Educ. Scientific & Cultural Org. [UNESCO] et al., *The United Nations World Water Development Report 2: Water, A Shared Responsibility* (2006), available at www.unesco.org/water/wwap/wwdr2/table_contents.shtml.

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Water governance: toward a practical implementation of water ethics

Water governance is a major expression of the paradigm of sustainable development, with its objectives of promoting management efficiency in terms of water availability and quality, the protection of the consumers, and the solution of conflicts. Governance models are varied and complex, but from the ethical point of view, we think that four operational principles are essential:

- the role of the public authority in public-private partnership,
- the principle of subsidiarity to determine the right level of action,
- the polluter-pays principle as an instrument of justice, and
- the principle of precaution as a link between ethics and science.

Water supply and sanitation services have been largely managed by public entities, but in the French water management model, the private sector seems to be increasingly involved. Conversely, sustainable development, with its long-term philosophy challenges short-term profit-making private enterprises and stimulates public management. Combining the economic and technical efficiency of the private sector with the long-term stability and the care for public interest of the public sector, the system of public-private partnership (“PPP”) is developing world-wide as a possible solution to that paradox. To be efficient and follow the principles of sustainable development, PPP should involve a better balance between the long-term interests of the public sector and the short-term interests of the private sector. It means we must redefine the role of the public authority in both theory and practice according to the following guidelines:

- It will act as a guarantee of ethical behavior by the water companies to develop best practices for the conception, construction and operation of water supply, sanitation, and flood protection installations, as well as industrial installations presenting environmental risks;
- It will act as a guarantee of socially directed water tariffs, to prevent excesses often related to a situation of economic monopoly;
- It will also serve to arbitrate between diverging interests; and, finally,
- It will also play a major role in public health issues, setting and implementing quality standards.

The principle of subsidiarity is a policy instrument that places decisions as close to the citizen as possible. It requires decisions to be made at the right level: higher levels of public authority should be involved only when their intervention is deemed necessary for achieving objectives that would be out of reach for lower levels. From an ethical point of view, it should be stressed that subsidiarity and

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transparency are complementary requirements for decision-making to be understood and accepted by the public. An essential aspect of subsidiarity is the opening of procedures to public scrutiny and, whenever possible, to public participation with a free flow of information.

The polluter-pays principle was introduced into the French water management system by a 1964 law that divides France into six Water Agencies corresponding to the six river basins which cover France hydrologically. The 1964 law considers that the optimal water management unit is the river basin, with the difficulty that this hydrological division of the country does not necessarily reflect its traditional administrative division, therefore complicating the process of decision-making. The 1964 law has since been improved by two other laws in 1992 and 2006.

From an ethical point of view, this system introduced a “water parliament”—the Basin Committee—which is composed of representatives of the various water users, largely including the public. It is one of the first examples of public participation in the financial management of water. In addition, it enables a better balance of the financial contributions of the various water users with respect to the nuisances they create as the fees collected are directly used to alleviate the pollution created. Hence, there is a concrete attempt to introduce more justice in the management of water. The polluter-pays principle is now being widely used and promoted.

Last but not least, the precaution principle, widely discussed by UNESCO and COMEST,¹⁰ states that when human activities can possibly produce a morally unacceptable risk, measures have to be taken to avoid or decrease this risk. A morally unacceptable risk is a risk which concerns human life or health, is unfair to present or future generations, or is imposed without taking into account the human rights of those who are submitted to that risk.

We think that these four operational principles open the way to a concrete introduction of ethical considerations in water management. Yet such an introduction has, until now, rather been a wishful thinking.

Socially Responsible Investing

A practice has succeeded in combining ethics and finances: Socially Responsible Investing (SRI). SRI does not specifically concern water but sustainable development in general. SRI is an investment strategy that integrates

10. World Comm'n on the Ethics of Scientific Knowledge & Tech. [COMEST], Precautionary Principle Expert Group, *The Precautionary Principle* (2005), available at <http://unesdoc.unesco.org/images/0013/001395/139578e.pdf>.

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social or environmental criteria into financial analysis and was first formally practiced by religious investors who, nearly 100 years ago, avoided companies involved in tobacco, alcohol, and gambling. With approximately \$2.29 trillion in assets in the US today,¹¹ SRI can take three main forms:

- Socially responsible funds or sustainable development funds, which integrate social and environmental evaluation criteria of a company and are considered against financial criteria to select the best performing companies with respect to sustainable development;
- Exclusion funds, to exclude some sectors like armament or tobacco for moral or religious reasons;
- Shareholder advocacy, for the investors to demand a stronger social responsibility from the companies through direct dialogue or casting one's vote as a company shareholder.

These various approaches are usually called "ethical investments." An example is community investing, i.e. channelling affordable credit to communities underserved by traditional credit markets to create jobs, build homes, and finance community facilities. Investors often accept slightly below-market rates of return to encourage investment that can build or rebuild communities.¹²

Conclusion

These governance principles constitute the basis of a practical implementation of ethics in water management. I just wish to add that my personal experience as an adviser on water and sustainable development at the European Commission in Brussels, the governing body of the European Union, for more than twenty years, has taught me that three instruments are essential to achieve this implementation: education, law, and money.

- Education: From elementary school to university, curricula should systematically include courses on surface water and groundwater, their significances, and the ethics of their uses and protections. These fundamental courses should be complemented by continuous training in the scientific bases of surface water and groundwater management designed for practitioners, policy-makers, economists, sociologists,

11. Social Investment Forum, *2005 Report on Socially Responsible Investing Trends in the United States* (2005), available at <http://www.socialinvest.org/pdf/research/trends/2005%20trends%20report.pdf>.

12. Calvert Online, *An Introduction to Socially Responsible Investing* (2008), www.calvert.com/sri.html.

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and other representatives of disciplines having a role in water management, and by actions of awareness-raising of the public.

- Law: Legally binding texts protecting water quality and quantity should be developed based on the example of the Water Framework Directive of the European Union.¹³ These directives are still rather technical; for example, they are more concerned with maximum admissible concentrations of would-be pollutants than with regulating the proper use of the resource. But the situation is evolving. For instance, the European water policy has to address the increasing awareness of citizens and other involved parties of water issues. At the same time water policy and water management should address problems in a consistent way. Hence, the new European water policy was developed in an open consultation process involving all interested parties, and two of the key aims of the Water Framework Directive are to get the prices right and to get the citizen involved more closely. Of course, laws have to be implemented, implying a system of inspection and enforcement complemented by adequate courts of justice. Again, the example of the European Union is interesting in that respect, with the European Court of Justice and the ability of any citizen to bring a claim against his own country.
- Money: Finally, money is also a key instrument for the application of ethical rules, which we have illustrated by the example of the polluter-pays principle. Financial sanctions, complemented by financial incentives, will considerably help such application.

While concern for ethics results from various factors—e.g. the worry of the water managers about an environment of good quality; the pressures of the inhabitants of a neighborhood concerned with water problems; or, as mentioned in the SRI example, the concerns of shareholders applying pressures on their industry—water and ethics is becoming a key issue of sustainable water management. It is now necessary to clarify the definition and meaning of water ethics in an intrinsic manner, to establish a reference catalogue of possible examples, and finally, to build the various principles and other theoretical considerations into a corpus of practical implementation methods. This article should be considered an attempt at such a methodological objective.

13. Council Directive 2000/60/EC, pmb1., 2000 O.J. (L327) 1 (EC).

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Appendix 1

Dublin Water Principles

The Dublin Water Principles, agreed to at the International Conference on Water and the Environment, held in Dublin in 1992, summarize the principles of sustainable water management:

- Principle No. 1: Freshwater is a finite and vulnerable resource, essential to sustain life, development, and the environment.
- Principle No. 2: Water development and management should be based on a participatory approach, involving users, planners, and policy-makers at all levels.
- Principle No. 3: Women play a central part in the provision, management, and safeguarding of water.
- Principle No. 4: Water has an economic value in all its uses and should be recognized as an economic good.

Appendix 2

The European Charter on Water Resources

Adopted by the Committee of Ministers of the Council of Europe on 17 October 2001, at the 769th meeting of the Ministers' Deputies

1. Fresh water resources must be used in keeping with the objectives of sustainable development, with due regard for the needs of present and future generations.
2. Water must be equitably and reasonably used in the public interest.
3. Water policy and law must protect the aquatic ecosystems and wetlands.
4. It is up to everyone to help conserve water resources and use them prudently, in conformity with this charter.
5. Everyone has the right to a sufficient quantity of water for his or her basic needs.
6. Public and private partners must introduce integrated management of surface water, ground water and related water that respects the environment as a whole, takes regional planning into account and is socially equitable and economically rational.
7. Integrated management must be based on an inventory of water resources and aim to ensure their protection, conservation and, if necessary, rehabilitation. In particular, any new deterioration and exhaustion of these resources must be prevented, the recycling of

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waste water encouraged and, where appropriate, limitations placed on certain uses.

8. Water policy and law must be based on the principles of prevention, precaution and correction at source as well as the “polluter-pays” principle. To this end, they must use regulatory instruments such as quality objectives, discharge standards, the best available technologies and economic instruments compatible with meeting the population’s basic needs.
9. Underground water resources must be the subject of special protection, and their use for human consumption must take priority.
10. Water resources must be regularly monitored and their general state periodically assessed.
11. The terms of water concessions must be compatible with this charter. Concessions must be granted for a limited duration and must be subject to periodic review.
12. Large-scale consumption of water in agricultural or industrial processes must be carefully assessed and monitored with a view to ensuring better protection of the environment and avoiding unsustainable utilisation.
13. At each state level, central, regional and local authorities must adopt and implement water management plans in a spirit of solidarity and co-operation. These plans should be based on the catchments basin.
14. Decisions on water must take into account the particular conditions at regional or local level and be implemented by the relevant authorities closest to the areas concerned in keeping with water management plans.
15. States must co-operate, preferably within permanent institutions, to agree on an equitable and reasonable method of managing international watercourses and other shared water resources in conformity with international law and the principles of this Charter.
16. The public must have access to information on the state of water resources.
17. The public must be informed in a timely and appropriate manner of water management plans and projects for the utilisation of water resources. It has the right to take an active part in planning and decision-making procedures concerning water.

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18. The persons and bodies concerned must be able to appeal against any decision relating to water resources.
19. Without prejudice to the right to water to meet basic needs, the supply of water shall be subject to payment in order to cover financial costs associated with the production and utilisation of water resources.

Appendix 3

Sustainable development and sustainable co-development

For more than twenty years, the United Nations has defined sustainable development as a development that meets the needs of the present without compromising the ability of future generations to meet their own needs. Many interpretations have been made of this rather fuzzy definition, and the objectives set at Rio in 1992 have not been achieved.¹⁴ Yet Johannesburg in 2002 has reinforced many of the ideas derived from that definition over the years, such as the integration of the long-term evolution of the environment into the sectoral economic policies to prevent irreversible damages to the environment, or the prevention of wasteful use of natural resources.¹⁵ And the multiplication of local initiatives has contributed to a better understanding of how to identify the economical, social, environmental, historical, and cultural dimensions of development and how to achieve their necessary integration in a philosophy of the long-term, based on:

- Political will: expressing the necessity and the common desire for evolution of the populations towards political stability and social balance through: 1) a better definition of the relationships between civil society and the public authorities; 2) the research of adequate institutional, legal, administrative, and financial structures; and 3) the participation of the citizen in development through public debate and active citizenship.
- Financial resources: an economic policy aimed at a market economy regulated by public action and the search for a balance between liberalization and planning and a balance between public and private.

14. U.N. Conference on Env't & Dev. [UNCED], Rio Declaration on Environment and Development, U.N. Doc. A/CONF.151/5/Rev.1 (1992).

15. U.N. Comm'n on Sustainable Dev., *Report of the World Summit on Sustainable Development, Johannesburg, South Africa, 26 August-4 September 2002*, U.N. Doc. A/CONF.199/20 (2002).

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- Human resources: expressed as work force, competences, capacities for innovation, access to scientific and technical progress, knowledge, and use of the cultural and historical heritage.
- Preservation of natural resources: careful use without waste, and reduction of losses, wastes, and nuisances without irreversible damages to the environment.

Most generally, international cooperation will play a significant role as, on the one hand, economic and environmental interdependence at regional, and sometimes even world, levels is the rule and, on the other hand, many countries are unable to mobilize the adequate long term financial means all alone and, often, do not have the necessary scientific and technical knowledge and know-how. Furthermore, experience shows that most countries, developed or developing, have know-how, craftsmanship, experience of methods and solutions adapted to specific environmental problems, which they can share with their partners, giving its real sense to the word “cooperation.”

A domain of full application of the principles of sustainable development is water, essential to life in the present and in the future, hence a vital and strategic resource. Therefore, and especially in its international dimensions, water cannot be managed according to classical business rules and purely commercial interests. Water resources management should follow a solidarity and mutual trust logic, nationally and internationally. International cooperation in the domain of water should be based on genuine partnership, in a perspective of shared responsibilities and mutual benefits.

To fully express these ideas of partnership based on bidirectional exchanges of knowledge and know-how, and the responsible participation of each partner in the cooperation, we have introduced the concept of “sustainable co-development,” which, when applied to water, becomes “sustainable water co-development,” and whose operational principles are the following:

- a) Know and take into account the history, culture, and physical environment of the partner to better understand its institutional, political, social, and geographic characteristics, aiming at identifying the real needs and priorities of the partner and establishing mutual trust as a basis for a long term cooperation;
- b) Identify the competences, experience, and know-how of the partner which could benefit the cooperation;

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- c) Give actual responsibility to each partner through the use of their own financial, natural, and human resources, especially aiming at the disappearance of the mentality “assistant-assisted”;
- d) Ensure cooperation in the long term, making use of sustainable political, economic, financial, technical, scientific, and human means, completed by a systematic follow-up and a regular evaluation to adapt dynamically the cooperation to evolutions that will possibly occur with time.