



Water, Politics and Development: Introducing Water Alternatives

François Molle

Institut de Recherche pour le Développement (IRD), UR199, Montpellier, France; molle@mpl.ird.fr

Peter P. Mollinga

Department of Political and Cultural Change, ZEF (Center for Development Research), Bonn University, Germany; pmollinga@hotmail.com

Ruth Meinzen-Dick

International Food Policy Research Institute, Washington, DC, USA; r.meinzen-dick@cgiar.org

Speak to, say, a farmer about water: s/he will talk about rainfall, droughts, floods, wells, river, canals, drains, pumps, crops, calendars, fertilizers, but also about relationships with other farmers, managers, politicians, middlemen, moneylenders; about what is happening upstream in the basin, the many dams, the new diversion, deforestation, the increasing transfer to the city; about fish in waterways, encroachment of the wetlands, the strange taste or colour of the water; and about the offerings at the temple to ensure a good rainy season. Water is a "total social fact" (Mauss, 1950). Water's critical life-sustaining role in ecological functioning, food production, economic activities, health and recreation, and its importance as spiritual value, makes it a resource that traverses both nature and society. Judging from the multiplication of global forums and initiatives, the numerous ongoing water policy reforms, and the spate of related literature, water is high on many countries' policy agendas. That is likely to remain so as diversions of water from streams and extraction of water from groundwater aquifers rise and the disruptions brought by climate change become increasingly manifest.

Damming and diverting streams for human use, on the one hand, and seeking protection from floods on the other, have long been central objectives of many societies. Parakramabahu, a king of Sri Lanka in the 12th century, famously declared: "let no drop of water flow to the sea unused by man", a motto that has been reiterated by numerous leaders until present days. Knowledge about water has been overwhelmingly dominated by natural and technical sciences bent on harnessing, controlling or regulating water regimes for economic development. Engineering skills have historically been concentrated in powerful colonial or national state water agencies. The 20th century has witnessed the apogee of the so-called "hydraulic mission", a period in which engineering approaches at dominating nature fully blossomed, leaving behind a balance of 50,000 large dams and 280 million hectares of irrigated land, on which a substantial part of humankind's food and energy production is predicated (McCully, 2001; Molle, 2006; Reisner, 1986; WCD, 2000).

This social prestige of engineering and the promises of large-scale water resources development gradually turned sour in the late 1960s-early 1970s. Environmental and social costs started to emerge and were compounded by acute pollution problems. Unequal distribution, waterlogging and salinization in large-scale irrigation, overdevelopment of river basins (in general driven by the expansion of irrigation), people displaced by the tens of millions, contamination of water sources and destruction of many wetlands and other aquatic ecosystems – these have critically shifted the nature of both the problems faced by water users and managers, and the skills needed to respond to these new challenges.

Management, policy priorities, and world views shifted accordingly (Meinzen-Dick, 2007). The dramatic expansion of irrigation in the 1960s and early 1970s was followed by the recognition that many large-scale public irrigation schemes did not function well, that drainage and maintenance had been neglected, and that institutional reforms were needed to ensure better management and physical and financial sustainability. These reforms included the introduction of water fees expected to make agencies financially autonomous and accountable to users (Taiwan, Korea, Philippines, Indonesia, etc), the establishment of Water User Associations inspired from the relative successes observed in communal irrigation, and partial or total turnover of management responsibilities to user associations (Colombia, Peru, Mexico, Turkey, Philippines, etc: see Coward, 1980; Meinzen-Dick, 1997).

The UNDP *Human Development Report 2006* graphically depicts the situation in the Water Supply and Sanitation (WSS) sector. "Whether measured against the benchmark of human suffering, economic waste or extreme poverty, the water and sanitation deficit inflicts a terrifying toll". Attempts in this sector to ground physical and financial sustainability in increased involvement of communities were often complicated by the lack of political voice of the marginalised groups suffering most from poor quality and expensive water supply and sanitation. Government investments have declined, while the strong emphasis on privatisation has yielded very little improvement. The recognition of water as a human right may be the beginning of a more effective way to address what is in principle an absolutely resolvable problem.

Water resource management has been sectorally divided, especially between irrigation agencies and those involved in water supply and sanitation. Industrial uses have received less attention, governed (when governed at all) by a patchwork of permits from irrigation or municipal systems, and varying degrees of regulation of water quality. Water needs of aquatic habitats or other types of environmental flows have generally been under yet another set of environmental agencies. But with rising human populations and changing production and consumption patterns, water withdrawals have increased rapidly, bringing different uses into contact and competition with each other. But with different narratives, values, stakeholder groups and power bases for different water uses, it is difficult to deal with the resulting competition between different sectors for both quantity and quality of water.

A competing set of solutions to problems of water use efficiency and allocation emerged in the late 1980s and expanded during the following decade. Principles such as the user-pay and polluter-pay principles, and economic tools including stricter cost-benefit analyses, pricing, polluter taxes, tradable rights or entitlements, and markets were proposed as means to regulate demand. Neoliberal thinking also inspired a critique of state-centred management of irrigation schemes, of WSS facilities, and of the water sector altogether (Repetto, 1986). Greater reliance on private investments and markets was proposed as a viable alternative to bureaucratic inefficiency and chronic corruption. Successes, albeit relative and variable, in managing demand in urban water supply and experience in tradable rights from Chile, western US or Australia instilled hopes in the economic regulation of the water sector.

Although seen in the 1990s as a new El Dorado for transnational water industries, the privatization of urban water supply largely backfired. Worldwide coverage of popular protests in cities such as Buenos Aires, Cochabamba, Manila or Atlanta, have turned these cities into iconic sites of contestation of the privatization of water. Companies have also come to realize the difficulties of profit-making and the risk associated with such ventures (Hall et al., 2005; Castro, 2007). Whether commoditized or not, water constantly reveals ideological fault-lines and both its economic and non-economic natures.

As water found itself at the heart of many environmental debates and controversies, engineers also had to accommodate more eco-centric paradigms, where humans are seen as part and parcel of the environment rather than as its masters. Struggles around dams (e.g. the Sardar Sarovar dam in India, the Tucuri dam in Brazil, the Chixoy dam in Guatemala, and the Arun dam in Nepal); contamination of rivers, lakes and aquifers by cities, industries and agriculture; water-borne diseases spreading in human-made water bodies; flood disasters partly prompted by human modification of flood plains, land subsidence in urban areas, and uncontrolled settlements; desiccation of wetlands due to overabstraction of water; and dramatic alteration of many aquatic ecosystems and fisheries illustrate

the centrality of water in environmental degradation and human health. In response, environmentalists have promoted a more holistic view of ecosystems (c.f. the ecosystem approach: CBD, 2000), introduced the concepts of environmental flows and environmental services, and often found common ground with resource economists in their promotion of pricing and taxes as means of regulating water diversion and pollution. In some parts of the world internalisation of ecological concerns has taken place. In Europe or in the US dams are being decommissioned and a lot of re-engineering of rivers is taking place, to an important extent inspired by ecological concerns (see Disco, 2002; Espeland, 1998).

Environmental or livelihood struggles contributed to revealing the contested and political nature of water. The plurality of worldviews, ideologies, interests and discourses related to water are manifested in countless conflicts and negotiation processes aimed at solving competing claims at the level of households, distribution systems, watersheds or river basins. The expression of these competing claims also laid bare the asymmetries of power between stakeholders or interest groups, showing the tight interrelationship between the circulation of water and that of money and power (Swyngedouw and Kaika, 2002; Bakker, 2003) as well as the pervasiveness of cross-scale interactions in aquatic social-ecological systems (Sneddon et al., 2002; Molle, 2007).

The need for negotiation and conflict resolution inspired theoretical and action research: ideas of co-construction of knowledge or co-management, the mediation of conflicts or competing uses through various participatory techniques (sometimes aided by GIS or modelling tools), multi-stakeholder platforms or dialogues, propelled by concepts of deliberative democracy and communicative rationality (Dryzek, 2000; Warner, 2008). Other more radical strands of thinking inspired by struggles against dams or privatization of urban supply consider that existing power asymmetries inevitably undermine such negotiation attempts and opt for political activism (Shiva, 2002; Barlow and Clarke, 2004).

Modes of water governance, at scales ranging from small distribution systems to the global level, are constantly contested and reshaped as both the society (in terms of population density, social structure, economic restructuring, political processes, etc) and the environment (in terms of land use, hydrologic regime, climatic variability and hazards, etc) are traversed by profound mutations. Water governance regimes result from, or often associate parcels of, competing models that alternatively promote management by the state, regulation by the market, and empowerment of users, communities and civil society at large (Merrey et al., 2007; Mollinga and Bolding, 2004). Co-management, public-private-partnerships, watershed initiatives, or socially controlled water markets are typical examples of hybridized forms of governance.

Although, ideally, the definition of particular modes of water governance should be an open and unending process of self-determination of site-specific institutions, this process is frequently distorted by lopsided power relations and traversed by frontal, and sometimes uncompromising, oppositions of viewpoints and ideologies. The gap between different approaches and the difficulty to maintain a dialogue between parties is well illustrated by a number of conflicts around attempts at privatizing or pricing water. Likewise, although meant to be truly global and inclusive, World Water Forums now tend to split, as shown by the organization by alternative forums by NGOs in parallel to the 2006 Mexico forum.

All the combined dysfunctions of the water sector have given rise to the concept of Integrated Water Resources Management (IWRM) that emphasizes integration of the management of land and water resources, of surface water and groundwater, of upstream and downstream uses, of sectoral approaches, of economic production and environmental sustainability, and of the state and non-state stakeholders (GWP, 2000; Biswas, 2004). The massive promotion of IWRM by mainstream institutions – in the form of literature, websites, capacity building and training sessions, MSc programmes, conferences, etc. – has contributed to inspire a new generation of professionals and to disseminate new ideas of dealing with natural resources and complex social settings. Yet, although the concept of IWRM holds the promise of reconciling goals of economic efficiency, social equity and environmental sustainability it is becoming clear that there is no consensus on how to weigh these priorities, or on how best to ensure their realization. Dominant visions of IWRM promote a view of a technical

optimality to be achieved by good science, rational and neutral problem-solving, and negotiations between well-intentioned and well informed stakeholders. They obscure the reality of the (hard) choices and tradeoffs that have to be made. State and donor-driven water reforms take precedence over the necessity of empowerment as a means of redressing past injustice or unbalanced power relationships.

The idea that water problems are not due to water scarcity but, rather, to poor management or poor governance has become popular (World Water Assessment Programme, 2006). Although this implicit recognition of politics has somehow been diluted by managerial and social engineering approaches that tend to perpetuate the dominance of the state and water experts, it has also prompted an emphasis on the institutional, as opposed to climatic or technical, dimensions of water management. The space for explicit discussion on 'the political' in water resources management mainstream debates and circles has arguably increased and different constituencies have learned how to mobilize IWRM and other mainstream concepts to promote their agendas and contest the status quo.

Freshwater resources management is inherently a regional phenomenon, given how water flows over and under land. However, water resources use and management are increasingly embedded in wider ranging processes, including regional or global ones. Examples include European policy making (e.g. the Water Framework Directive), climate change, economic globalization, and the rise of international institutions (World Water Council, Global Water Partnership, International Network of Basin Organizations, Green NGOs, etc), global conferences and initiatives (e.g. World Water Forums, World Commission on Dams, World Water Assessment Program, IPCC, and others), and global discourses. The formation and dissemination of knowledge at the global level is an important dimension of current water debates. The rationales and ideological underpinnings of various narratives and concepts that populate the water sector (water wars/peace, water scarcity, water rights, virtual water, etc) need to be investigated.

This contributes to the intensification of cross-scale interactions in what has become a globalized 'smaller world'. At the regional level, in developing countries relations between urban and rural areas are rapidly changing, deeply affecting water resources management. These changes imply a changing 'developmental role' for water resources, transforming its relationship with economic growth, livelihood security and poverty, and ecological sustainability, creating new patterns of winners and losers, along political, class, gender and ethnic lines. This puts expert-based decision-making under pressure and calls for greater involvement of the civil society as a means to opening the governance 'black-box' and address tensions and conflicts.

Although we do not expect antagonisms to dissipate and see these struggles as constitutive of the political nature of water in society, we are also intent on making *Water Alternatives* a tool that will contribute to building bridges between 'watertight' perspectives, opening the black box of water governance, exploring the historical and political depth of water in society, unpacking discourses and their expression of particular configurations of power, confronting dogmatic or textbook thinking with empirical evidence, de-sanitizing debates and giving voice to creative and alternative thinking.

Addressing the institutional, social and political dimensions of the water-society nexus, *Water Alternatives* will explore issues as varied as the history, the management and the governance of WSS and irrigation schemes (communal and public), aquifers, fisheries, watersheds, national and transnational river basins; flood control, hydropower and water conservation. Policy issues include the relationships between water use, environmental health and food production, and between water, growth and poverty; the competition between economic sectors, the processes of policy reform, planning and the decision-making process for public infrastructure, the evolution of irrigated agriculture, privatization and decentralization, transnational and global water regimes, science/policy-making relationships, the social construction of water knowledges and of the main water narratives.

Our ambition is to instil some cross-fertilization between the water community (practitioners, decision-makers, civil society groups, experts, researchers, students) and critical social sciences (cultural

and political ecology, environmental history, science and technology studies, policy sciences, planning theory, management sciences, law and legal pluralism, feminist and post-colonial studies, etc). This gap-bridging objective and the choice of interdisciplinarity imply an effort at translating some of the more theoretical insights of these disciplines into a language that can be accessible to a wider readership. Water Alternatives will promote hybridized knowledge, while retaining intellectual rigour, academic relevance, and ethical consistency.

Despite the apparent emphasis on integrated management, water problems have often been framed in too narrow and too disciplinary ways and debates have often been stifled by 'social engineering' concepts and models. *Water Alternatives*, as a free on-line electronic journal hopes to achieve worldwide outreach and widespread dissemination. The editorial team aims to contribute to enriching debates and providing productive responses to contemporary water issues. Let creative thinking flow!

REFERENCES

- Bakker, K. 2003. A political ecology of water privatization. *Studies in Political Economy* 70: 35-58.
- Barlow, M. and Clarke, T. 2003. *Blue Gold*. New Delhi: LeftWord.
- Biswas, A.K. 2004. Integrated water resources management: A reassessment. *Water International* 29(2): 248-256.
- Castro, J.E. 2007. Poverty and citizenship: Sociological perspectives on water services and public-private participation. *Geoforum* 38(5): 756-771.
- CBD (Convention on Biological Diversity). 2000. Conference of the parties to the Convention on Biological Diversity, May 2000. www.biodiv.org/programmes/cross-cutting/ecosystem/default.asp (accessed in June 2007)
- Coward, E.W. (Ed). 1980. *Irrigation and agricultural development in Asia. Perspectives from the social sciences*. Ithaca and London: Cornell University Press.
- Disco, C. 2002. Remaking "nature": The ecological turn in Dutch water management. *Science, Technology and Human Values* 27(2): 206-235.
- Dryzek, J.S. 2000. *Deliberative democracy and beyond: Liberals, critics, contestations*. Oxford: Oxford University Press.
- Espeland W.N. 1998. *The struggle or water, politics, rationality, and identity in the American Southwest*. Chicago: University of Chicago Press.
- HDR (Human Development Report). 2006. *Beyond scarcity: Power, poverty and the global water crisis*. New York: United Nations Development Programme and Basingstoke: Palgrave Macmillan.
- GWP (Global Water Partnership). 2000. *Integrated water resources management*. TAC Background Paper No.4. Stockholm: Global Water Partnership.
- Hall, D., Lobina, E. and Motte, R. de la. 2005. Public resistance to privatisation in water and energy. *Development in Practice* 15(3&4): 286-301.
- Mauss, M. 1950. Essai sur le don. Forme et raison de l'échange dans les sociétés archaïques. In Mauss, M., *Sociologie et Anthropologie*, pp. 145-279, 1991. Paris : Quadrige/Presses Universitaires de France.
- McCully, P. 2001. *Silenced rivers: The ecology and politics of large dams*. Second edition. London: Zed Books, Limited; New York: St. Martin's Press.
- Meinzen-Dick, R. 1997. Farmer participation in irrigation. 20 years of experience and lessons for the future. *Irrigation and Drainage Systems* 11(2): 103 – 118.
- Merrey, D.J.; Meinzen-Dick, R.; Mollinga, P.P. and Karar, E. 2007. Policy and institutional reform: The art of the possible. In Molden, D. (Ed), *Water for food - Water for life*, chapter 5, pp. 193-232. Comprehensive Assessment of Water Management in Agriculture. London: Earthscan.
- Molle, F. 2006. *Planning and managing water resources at the river basin level: Emergence and evolution of a concept*. Comprehensive Assessment Research Report 16. Colombo, Sri Lanka: International Water Management Institute. www.iwmi.cgiar.org/assessment/publications/research_reports.htm
- Molle, F. 2007. Scales and power in river basins management: The Chao Phraya river in Thailand. *The Geographical Journal* 173(4): 358 – 373.

- Mollinga, P.P. and Bolding, A. 2004. Research for strategic action. In Mollinga, P.P. and Bolding, A. (Eds), *The politics of irrigation reform. Contested policy formulation and implementation in Asia, Africa and Latin America*, pp. 291-318. Aldershot, UK: Ashgate.
- Reisner, M. 1986. *Cadillac desert: The American west and its disappearing water*. New York: Penguin.
- Repetto, R. 1986. *Skimming the water: Rent seeking and the performance of public irrigation systems*. Research Report 4. Washington, DC: World Resources Institute.
- Shiva, V. 2002. *Water wars: Privatization, pollution, and profit*. London: Pluto Press.
- Sneddon, C.S.; Harris, L.; Dimitrov, R. and Özdesmi, U. 2002. Contested waters: Conflict, scale, and sustainability in aquatic socioecological systems. *Society and Natural Resources* 15(8): 663-675.
- Swyngedouw, E. and Kaika, M. 2002. Urban water: A political-ecology perspective. *Built Environment* 28(2): 124-137.
- Warner, J. (Ed). 2008. Multi-stakeholder platforms for integrated water management. Ashgate Studies in Environmental Policy and Practice. Aldershot, UK: Ashgate.
- WCD (World Commission on Dams). 2000. *Dams and development: A new framework for decision-making*. London: Earthscan.
- World Water Assessment Programme. 2006. *Water: A shared responsibility*. The United Nations World Water Development Report 2. Paris: UNESCO.