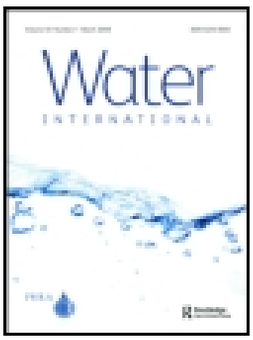

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Water, politics and river basin governance: repoliticizing approaches to river basin management

François Molle*

Institut de Recherche pour le Développement (IRD), Montpellier, France and International Water Management Institute (IWMI)

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Water management is commonly assumed to be a mere technical matter where experts and managers endeavour to match supply and demand by using technology, through rational problem-solving and by engaging stakeholders. This article, in contrast, emphasizes that river basin development and management is about the shifting patterns of access to a contested and scarce resource and is inherently a political process. An investigation of the physical and social characteristics and constraints of river basins must be conducted in parallel with an analysis of the convergent interests manifest in capital intensive water investments, and an attention to how discursive power is used in the justification of large-scale investments. Thus, repoliticizing river basin management offers a different and complementary perspective that allows a better understanding of society/environment relationships.

Keywords: Water management; political processes; convergence of interests; discursive power; overbuilt basins; repoliticization

Introduction

Mainstream approaches to water management tend to regard river basin development as a technical matter where experts and managers endeavour to match supply and demand, while limiting or mitigating unintended negative effects. The application of technology, sound scientific practices, a rational and neutral problem-solving approach and, whenever necessary, adequate participation from relevant stakeholders are deemed necessary. A large part of the research on water focuses on improving, among other things, water productivity, irrigation efficiency, crop management or manipulation of hydraulic infrastructure. All these issues are extremely important and deserve the attention they receive, but governance issues, in contrast, often do not receive the same kind of attention. Although river basin development and management require higher technical skills, they are, eventually, also about the access to, and the allocation of, a contested and scarce resource. As such, they are inherently political and this dimension is as important as the more technical dimensions.

The first section provides examples of interconnectedness within river basins and shows the diversity of the hydrologic cross-basin interactions and the social–political nature of the externalities that travel across basins through the hydrological cycle. The second section exemplifies the human-made and political nature of basin overdevelopment

*Email: francois.molle@ird.fr

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and induced water scarcity, while the third section illustrates the discursive dimension of power in shaping the trajectories of river basins. The last section reflects on the concept of river basin governance in light of the preceding examples.

Interconnectedness of river basins

Patterns of water use are often shaped by a particular hydrologic regime, characterized by its average water availability and its variability, and tend to be affected negatively by any modifications. Hydrological interactions are typified by the commonplace upstream–downstream effect, whereby downstream users have to cope with variations in the hydrological regime occurring in the upper parts of the basin. But these interactions are not socially neutral and they often define geographies of environmental injustice (Molle 2008a). Users and stakeholders differ in their access to natural or financial resources, and in their political power. Socio-political structures will therefore shape the way resources are used and the way benefits, costs and risks are distributed (Swyngedouw and Kaïka 2002, Molle *et al.* 2007). Flood-prone areas, polluted neighbourhoods or water-short localities are generally associated with vulnerable social groups characterized by a high level of poverty.

The destruction of some parts of New Orleans by Hurricane Katrina is illustrative of the socio-political dimension of flood damage (Congleton 2006). The disaster was shaped by the engineering of nature and the profound transformations of the landscape wrought to serve particular economic and class interests:

- The destruction of protective coastal marshes and wetlands because of erosion as the delta ceased to be sustained by silt, which was now directed to deep waters off the continental shelf to allow for ease in river navigation.
- Channelling and dredging of rivers, canals opened to facilitate drilling for oil and natural gas and the laying of pipelines, which eased the penetration of seawater inland.
- The raising of dykes to protect industrial and urban areas and to confine Lake Pontchartrain, once a natural buffer, which increased water levels in the river channels.
- The elevation of the sea level and the rise in temperature that is in all likelihood associated with global warming.

These are all man-made ingredients for a disaster. But the disaster did not impact the population uniformly. Most poor black neighbourhoods are located in low-lying flood-prone areas. This was evident in 1965 when the city was struck by Hurricane Betsy and when the Lower Ninth Ward, an area almost entirely under the poverty line and 99% black, was intentionally flooded to spare the wealthy white uptown neighbourhoods (Caldwell 2005). Although not deliberate on this occasion, flooding by Katrina was similarly much more severe in poor black neighbourhoods.

A paradigmatic example of redistribution of costs and benefits is the construction of dams. Dams usually provide electricity for urban and industrial interests; also, they are sometimes used for irrigating downstream areas, but their impact is concentrated on rural people who are generally displaced to marginal lands with little or no compensation. Take the example of the Pak Mun dam in Northeast Thailand. The dam produces only 0.1% of electricity in Thailand but has drastically impacted all the fisheries of the lower Chi-Mun Basin and the thousands of fishermen living in it. Another typical conflict characterized by asymmetries of power is that between cities (or tourism) and agriculture (Molle and Berkoff 2006). Cities typically "siphon water away from agriculture" (Postel 1999),

generally by stealth or by administrative fiat, rarely through market mechanisms. Cities thus have the power to impose externalities on others in terms of reallocation (benefits forgone in other uses), pollution, flood damage (see above) and aquifer depletion.

Consider industrial use of groundwater in the Bangkok Metropolitan Area, which constitutes 90% of the water used by industry. The Thai Federation of Industries has always used its political clout to stave off increases in the price of groundwater that could have helped reduce water abstraction. The resulting costs in terms of land subsidence (one-third of the city is now below sea level), increased costs in drainage (pumping stations) and flood prevention (dykes have to be raised continuously) are shifted to taxpayers and to the country as a whole.

But the generation of water-borne externalities is often less straightforward and obvious than in such clear-cut cases. Modification of groundwater dynamics by excess abstraction, for example, has an indirect impact on springs and on the baseflows that support rivers in dry periods. These baseflows are invisible and can be reversed by the depletion of adjacent aquifers: instead of contributing to the river flow and to downstream users, depleted aquifers are now recharged by the river and water abstractors re-appropriate water that used to flow downstream.

Figure 1 shows the different hydrological impacts because of modifications of the hydrological regime in terms of quantity, quality, timing or sediment load. Examples include point, large-scale and scattered/diffuse human interventions. Water flows, and its four characteristics considered here, are affected not only by storage, water harvesting, pumping, diversions and so on but also by changes in land use . Alteration of flows impacts aquatic ecosystems, other users and geomorphological processes (e.g., delta fanning or land subsidence).

All these examples suggest that human manipulations of the hydrologic cycle, whether direct or indirect, are all likely to generate externalities. In addition, all the interactions described above increase with human pressure on the resources and result in basin closure. Basin closure means that most available water is depleted and that the system has less and less resilience. Conflict resolution thus becomes a central feature of water management and politics, governance and power also assume greater importance. As the stakes get higher and environmental externalities become harder to avoid, issues of spatial and environmental justice move to take centre stage.

Overbuilding of river basins

Overbuilding of river basins raises the crucial question of why water resources invariably seem to be exploited until the "slack" in the system is removed, that is, until the "excess" water that is needed to absorb variations in supply, buffer impact on ecosystems and limit restrictions to users is allocated and used. Although pressure on resources is frequently presented as the result of a Malthusian decline in per capita water endowment, it is the inability of societies to put voluntary limits on water abstraction that is more meaningful. Basin closure is predominantly driven by a process of basin overbuilding whereby development and commitment of water resources almost invariably outstrip available resources. The societal determinants of this process revolve around a powerful convergence of interests and incentives (see more details in Berkoff 2001, Molle 2008b). Continued development of water resources infrastructure appears to be a "natural" option favoured by the most powerful decision-makers:

- Politicians, whether at the local or government level, have long cherished iconic large-scale projects that are seen as the best way to build up constituencies (O'Mara 1990).
- State technical agencies and bureaucracies need projects to ensure sustained budgets and to uphold their professional legitimacy.

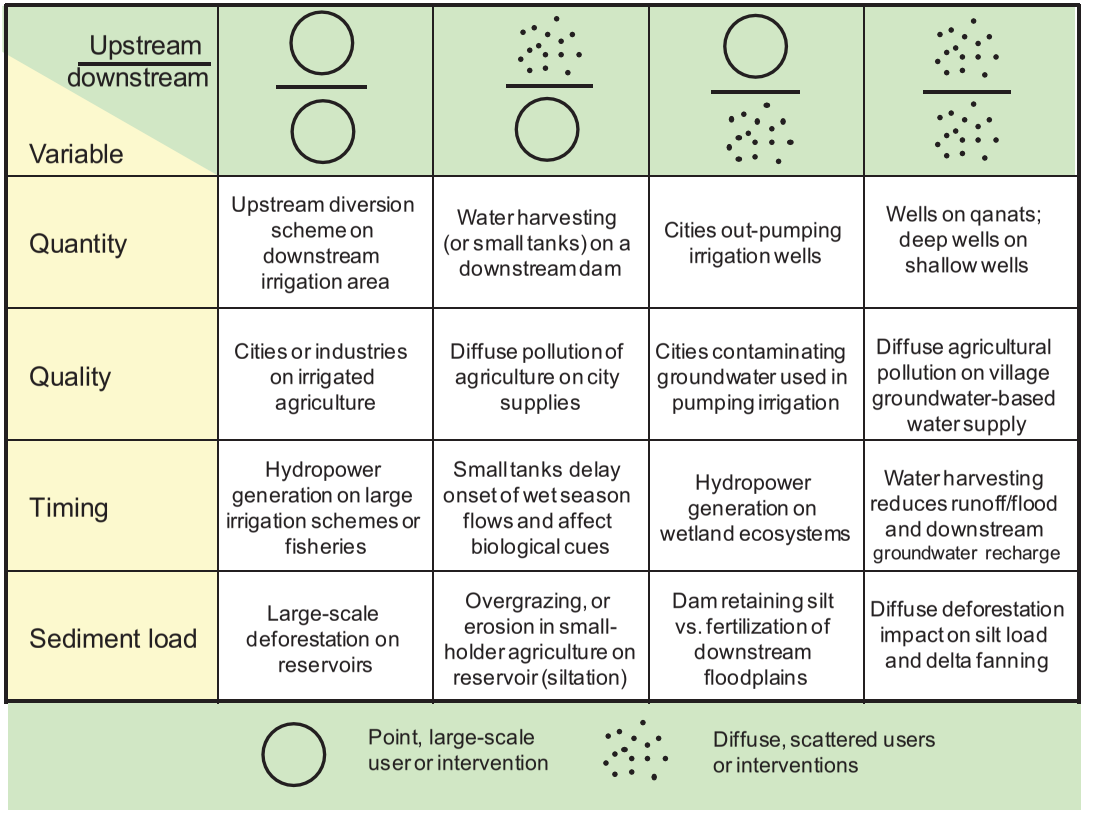

Figure 1. Examples of upstream–downstream interactions between water users in a river basin.
Source: Molle 2008a.

- Private consulting and construction firms look for a steady flow of business opportunities.
- Development banks and cooperation agencies also have vested interests in maximizing disbursement of funds (Chambers 1997).

Such a powerful convergence of interests explains why projects to develop water resources are difficult to challenge. In most cases, the segments of the population that are impacted and the civil society groups that come to the defence of the environment are weak or non-existent. This of course is not always the case, and there are numerous cases where projects have been opposed and stalled, but these examples are few compared with the 45,000 high dams that were constructed during the twentieth century, to take only one aspect of infrastructural development (WCD 2000). Capital-intensive water projects, and this seems to apply to all countries and not just to water infrastructure alone, are prone to corruption, which siphons off public money into the pockets of private individuals (Repetto 1986).

The dominant concept of infrastructure development is based on technical and economic rationality. Engineering design and cost–benefit analyses are supposed to guide decision-makers in their investments. More recently, environmental impact assessments and strategic impact assessments have been added to the planners' tool box to better estimate the social and environmental impacts, which used to be glossed over in the past. Yet, as is familiar to any practitioner involved in such matters, practice has often been little affected by these refinements. One reason is that the range of acceptable hypotheses (e.g., what will be the cropping pattern or the yield of rice after completion of the project?) is large enough to make conclusions malleable. Another is that in the absence of scrutiny, public disclosure or discussion, many of these studies are either conveniently ignored or limited to mitigation measures. Eventually the projects tend to reflect the expectations of the agencies that fund them.

Here, again, it becomes clear that decisions regarding development of water resources are seldom the result of strict rational approaches but, rather, a reflection of the nature of dominant interests and the distribution of decision-making power. The provision of a public good is almost inevitably intertwined with financial and political interests. Failure to recognize this inevitably leads to basin overbuilding. Water scarcity is therefore artificially generated by the overcommitment of resources, paving the way for future calls for yet further development.

River basin trajectories and discursive power

Continued development of water resources, as also particular policies seeking to conserve or to reallocate water, or to control floods, must be legitimized and made acceptable to the broader community, especially in terms of their anticipated impacts on society as a whole. Although plans, data and cost–benefit analyses are important, they are often secondary instruments in the wider political debate.

Decision-makers or interest groups use discursive power to frame debates in ways that favour, obscure or exclude particular options. The pervasiveness and influence of discursive power in the debate over development of river basins and environmental justice overwhelm the weaker segments of the population, who have little voice and political influence and have limited access to information, media and other channels of communication.

One important aspect of the politics of knowledge is what Foucault has termed "political technologies", that is, the devices by which inherently political debates are

framed in scientific, technical, neutral and allegedly objective terms (Shore and Wright 1997). The concept of integrated water resources management (IWRM) is an example of the woolly consensual "Nirvana concept" (see Molle 2008c), which obscures the antagonistic nature of the criteria of economic efficiency, social equity and environmental sustainability. IWRM holds the promise that with goodwill and benevolent stakeholders, sound data and good scientific practices, these dimensions can be reconciled for the common good. The legitimacy of IWRM, allegedly sanctioned and embraced at the international level, is used to justify particular policy options or interventions.

For example, the concept of the river basin as a "natural" unit for managing water resources has served to justify interventions in upper catchments by downstream stakeholders such as urban elites and state bureaucracies. In Thailand, for example, this has led to extensive "state enclosures" in the north of the country. Hill tribes and their swidden cultivation practices are blamed for floods and scarce dry-season flows alike. Widespread afforestation has been justified on the grounds that trees are good and on the myth that forests act as "sponges"; dams have been built by mobilizing the support and symbolic power of the King as a means to close debates. In practice, the "need to control our headwaters" has resulted in displacement of minorities, eased state control over border areas, favoured urban-based interests of keeping nature for consumption (ecotourism) and business interests (e.g., logging, pulp, construction industries).

Another dimension of discursive power with impacts on basin-level equity is that of green ideologies propagated by international conservationist NGOs. These organizations have been instrumental in "sanctuarizing" large areas of Africa as national parks, sanctuaries or game reserves. While all contribute to biodiversity conservation, they also fuel ecotourism and game-hunting industries that are largely in the hands of foreigners; and they restrain the access of local residents to natural resources (or exclude them altogether).

One particular dimension of state discursive power is the recourse to overriding justifications that "securitize" a particular issue and foreclose further debate (Molle 2008b, Warner 2008). National security, food self-sufficiency, import substitution and modernization have been heavily used to justify mega water projects and to paint their negative consequences as a necessary sacrifice. Other justifications, more frequently used nowadays, include poverty alleviation and self-sufficiency in energy. I do not suggest that these arguments are irrelevant: the problem lies in the use of a TINA (there is no alternative) type of rhetoric, where projects are withdrawn from scrutiny because the decision has already been taken.

Repoliticizing river basin governance: why learning from the past is not enough

Few would deny that nowadays development of water resources often entails unexpected or neglected social and environmental impacts. But does not the solution, after all, lie in learning from past mistakes? And are not current paradigms giving due attention to issues that used to be overlooked?

There seems to be progress in the way water problems and problems and solutions are framed. IWRM provides a handy integration of competing conceptions of water management, with development banks, aid agencies, consultants, and even green or livelihood-oriented NGOs having seemingly adopted this shared platform. There is a common perception that water should be managed with due attention being paid to its economic (efficiency), social (equity) and environmental dimensions. The massive promotion of IWRM by international agencies, conferences, academic literature and countless training and capacity-building sessions suggests that integrative concepts have now been mainstreamed and have successfully displaced narrow sectoral or technocentric viewpoints.

In practice, however, the implementation of IWRM has generally remained short of expectations (Biswas 2004) and frequently appears as a smoke screen for "business as usual" strategies (Molle 2008c). The prevailing concept seems to be that problems have become more complex and thus need to be addressed through redoubled efforts at mobilizing more data, better information and bigger computers to come to terms with this complexity.

The tendency to depoliticize problems makes these new approaches appear as mere extensions of the earlier technical approaches. IWRM, for example, despite the emphasis on participation placed by its proponents, is most frequently conceived of as advocating a managerial approach. Its definition emphasizes the three desired E's (efficiency, equity and environmental sustainability). It implies that all three can be achieved concomitantly if, as the word "maximize" suggests, problems are solved by neutral and rational decision-making and by the application of good scientific practices and expert knowledge that reflect all three dimensions, instead of being informed by only one the them. River Basin Organizations, for example, are said to be "increasingly promoted as a scientific/rational means of administration for water" (UNDESA and GWP 2006). A striking example of an enduring expert-based approach is provided by the recent Asian Water Development Outlook published by the Asian Development Bank (2007) and summarized by Biswas and Seetharam (2007) who state:

> In-depth analyses prepared for the Outlook [2007] indicate that the Asian countries are not facing a water crisis because of physical scarcities of the resource, but because of poor management. *With the knowledge, technology and experience that are now available* within the Asian region as a whole, the water problems of all the Asian countries can be solved. Given adequate capacity development, intensified political will, and appropriate investments, *one can be cautiously optimistic of Asia's water future* (my emphasis).

Another example is provided by the World Bank background paper for the Mexico World Water Forum, *Water, Growth and Development.* Emphasis is placed on water "security" and the report develops the argument that national development is impossible without comprehensive development of water infrastructure. Past mistakes "will be avoided" and paralleled by "sequenced" investments in capacity-building and by "strengthening institutions", resulting in "responsible growth" (Grey and Sadoff 2006). Accordingly, the solution lies in the money and the expertise that development banks and other institutional actors are ready to provide.

Further evidence of the adherence to expert-driven approaches is provided by the popularity of approaches based on the implementation of "best practices" and models, defined as recipes supposedly sanctioned by international experience, which can be picked up where and when similar situations arise. In other words, IWRM approaches draw more on a concept of instrumental rationality than on the politics of resource management (Miller and Hirsch 2003, Merrey *et al.* 2007, Molle *et al.* 2007). In the background, proper "policies and institutions" must be in place and the governments must be able to exercise "their responsibilities of good water governance", while "ensuring empowerment of the poor" (Jonch-Clausen 2004, UNDESA and GWP 2006).

Summing up, the political dimension of the development of river basins is consistently overlooked. The adjective "political" seems to be a dirty word that comes with ideas of corruption or malpractice, social conflicts or upheavals and party politics. But it also refers to the sound and fair provision of public goods to society. The naked truth, however, is that little improvement is possible without a rebalancing of decision-making power and the empowerment of the community at large.

In this article I have shown that the nature of the hydrologic cycle and the complexity of societies constantly combine to create and rework new spatial distributions of the costs, benefits and risks associated with water in its broadest sense. This spatial distribution is inherently social and political, and is shaped by the distribution of power within society. It is also defined by the connectivity of aquatic ecosystems and how these are affected by human interventions. The analysis of a basin trajectory must answer the question, "How did we get there?" The technical or institutional options proposed must be analysed in terms of their distributive impact and of their link to the ideas, interests and institutional configuration that characterize and define the individual and collective actors concerned.

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