Water reform in multi-layered political systems

Dr. Daniel Connell, Crawford School of Public Policy, Australian National University

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Amazon headwaters, Peru

In recent decades there have been numerous attempts world-wide to reform the governance of major hydrological systems but with a very mixed record of success. For most of the twentieth century the focus of water policy makers and managers was on the construction of infrastructure and water distribution networks to promote economic and social development. In more recent decades many unexpected costs have become apparent. In those societies with well-developed water regulation systems the emphasis is increasingly on the development of more effective governance systems. The literature on this subject describes many reform programs. Despite a vast consultancy industry, however, it has proved remarkably difficult to transplant success in one system to other systems.

It can be argued that there is insufficient discussion of the strengths and weaknesses of the different reform strategies or of the circumstances where particular approaches can be implemented. A good framework for this discussion is a three part framework developed by the public policy researcher Mark Moore. To successfully introduce and implement new policy he argued that you need an authorizing environment such as appropriate legislation, shared commitment and understanding of the task by the main groups in society with an
interest or stake in the relevant policy area and the operational capacity to make it happen in practice. These three principles highlight the need for detailed understanding of the particular circumstances in each place where water reforms are to be introduced.

**Integrated Water Resource Management (IWRM)**

The contemporary campaign to improve world-wide water management known as integrated water resource management has a number of sources. One of the most influential was the Rio Earth Summit in 1992 and the preparatory conference on water and sustainable development held in Dublin in the same year. The basic principles agreed upon at the Dublin conference were:

1. Fresh water is a finite vulnerable resource essential to sustain life, development and the environment
2. Water development and management should be based on a participatory approach, involving users, planners and policy makers at all levels
3. Women play a central part in the provision, management and safeguarding of water
4. Water is a public good and has a social and economic value in all its competing uses
5. Integrated water resources management is based on the equitable and efficient management and sustainable use of water

These five principles formed the starting point for Chapter Eighteen of Agenda 21 which deals with freshwater issues. (Agenda 21 was the official declaration of the Rio Earth Summit. It was meant to provide a sustainability agenda for the twenty first century.)

The Dublin principles have been incorporated into the philosophy of integrated water resource management which has been defined in various ways. Central to most definitions are the following elements. At the minimal level it involves the capacity to:

- Manage across political and institutional borders
- Respond expeditiously to crisis
- Base policy on good science
- Integrate river planning with wider planning processes
- Negotiate/adjudicate between competing uses
- Achieve compliance
- Adapt to novel and emerging issues

In addition to these challenging aims the IWRM agenda also involves recognition of a much wider range of stakeholders with a recognised right to be active in water policy development than were previously accepted.
Ways to promote reform or change

A number of common approaches to water reform can be identified. One of the most common is what could be described as fiscal federalism – using the word in a very loose sense to describe a political system with more than one level of government – where a national government provides financial rewards and penalties to lower levels of government within its borders to pressure them to comply with its policies. Fiscal federalism is an example of the purchaser provider model and is often seen as an alternative to coercive regulatory processes. In practice the pressure exerted can be just as coercive and as unwelcome as a threat of legal action. With the purchaser provider approach it is hard to avoid the development of competitive and hostile relationships between the contract ‘partners’. Lower levels governments often engage in cost shifting and ‘gaming the system’ to get the best result they can. In these situations national governments often over estimate their capacity to punish recalcitrant sub-governments. Both levels of government are usually elected by the same voters and if the national elected representatives from a particular region or state are party to a process that punishes their region or state they are not likely to do well in the next election.

Another driver of reform is use of the threat of intervention by a national government to pressure sub levels of government to negotiate with each other. Under these conditions reluctant cooperation between state governments or competing institutions occurs in order for them to retain some influence over the decision making process. This would be lost if the decision is made and enforced by the national government. There are numerous examples of this dynamic in the Colorado Basin. One was the agreement reached in 2007 between the lower basin states about water sharing arrangements that would be implemented in the event of the extreme drought conditions predicted to occur with increasing frequency as a result of climate change. Before this agreement was made the situation of a city such as Las Vegas with very junior water rights would have been desperate. (Whether the 2007 deal will be enough to avoid a crisis under such circumstances is still widely doubted.) The threat of court action can be a similar source of pressure for cooperation. The South Australian government recently achieved a better outcome in the form of additional environmental benefits under the proposed Murray-Darling Basin Plan by threatening High Court action because it argued that insufficient water was being allocated to achieve the sustainability targets.

One of the most debated and widely advocated strategies for achieving water reform is the introduction of water markets. It is argued that the focus on self-interest encouraged by markets unleashes greater energy and imagination than is available when governments attempt to achieve policy goals by regulation. It is also said that participants exercise ‘free
will’ within a market framework and so are more willing to accept the consequences of their decisions. This means there is less opposition than if the government mandated a particular outcome. But markets operate within regulatory contexts constructed by governments and market frameworks can be designed to achieve a range of public policy goals. If skilfully designed governments can use markets to get a better price or more value for the expenditure of public funds than can be achieved through negotiated purchase or compensation according to a policy formula. A key issue is the quality of information available to all players. Market theory often assumes the same information is available to all players but in practice this is usually not the case. Another important consideration is that the introduction of markets can promote culture change which can work against non-economic values (environmental, aesthetic, religious).

Beyond the debate about markets in principle, are the challenges involved in their implementation. The substance to be traded has to be definable as discrete units that can be delivered from seller to buyer. This is more complex than it appears. The physical water that is used by the seller is not usually the same physical water that is used by the buyer. In the case of trading within an irrigation system, for example, when water is delivered to irrigators through a regional distribution network the situation is relatively simple but in many cases irrigators draw direct from streams and rivers. In principle one person must reduce their use before the other one increases it but without very close supervision the seller can to keep on extracting water even though they have sold the right to do so to someone else in another region, maybe hundreds of kilometres away. Unlike most situations involving trading the buyer will not know if the seller continues to use the same volume of water as before. The process of defining water entitlements is also highly contentious. It is not possible to define all uses, even if the discussion is restricted to economic activities, in a form that makes them interchangeable and tradeable. For example, how should policy makers balance the economic claims of an irrigator against the economic claims of an oyster farmer in the estuary who depends on good water quality which can be threatened by reduced flows, to provide a safe product to consumers?

Courts

Decisions by courts can result in radical and abrupt shifts in water management regimes. Courts can make decisions on their merits (within the framework of the legislation) and be less exposed to the pressure from stakeholders that dominates decision making by political leaders and administrators in many countries. In some water management systems courts are a relatively unimportant influence because disputes don’t present themselves in forms that make them suitable for judicial consideration of the relative merits of different claims. On the whole that is the situation in Australia. This is in contrast with the situation in the
western United States. There, to a very significant extent, water management regimes are shaped as responses to court decisions. There are many examples. One was the compact between the lower Colorado states in 1922 which was negotiated because the United States Supreme Court indicated that under the prior appropriation doctrine it would recognise California’s right to water against upriver states that were developing more slowly unless other arrangements were put in place. Another is the management regimes put in place to protect particular fish species under the United States 1973 Endangered Species Act. Administrative systems such as that of Australia tend to be dominated by deals between powerful stakeholders. Working through different routes the same type of stakeholders also manage to thrive under the legal regime in place in the south-west of the United States but the courts can cause dramatic divergences. An example of the latter was the recognition of American Indian water rights on the many reservations scattered throughout the south western states in the Winters case in 1908. The extent of American Indian water rights is still being adjudicated but by some calculations they may own much of the Colorado water allocated to Arizona.

**Defining the Possible**

The limits of reform are set by public support and knowledge. If the reasons for change, or the methods used for implementation are not understood or accepted as reasonable, new policy initiatives will not attract sufficient support to get approved as law or regulations. Or if they do get approved implementation will be difficult. Many governments now recognise that they must support water reforms with programs to promote public participation and education. This is one of the main strategies developed to implement the European Union’s Water Framework Directive. That highly ambitious program is also backed up by large scale investments in research, comprehensive monitoring and systematic auditing.

Successful water reform involves working at many levels and combining different approaches. Rarely will one strategy work on its own. Although they are often not recognised by water industry professionals there are many different groups that have a lot to lose or gain from water reform. As soon as water reform becomes a major public policy conflict all these groups are potentially available for political mobilization to block, change or, occasionally, support water reform. To be successful reformers need to understand these relationships and take account of them in their plans.

**References:**


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