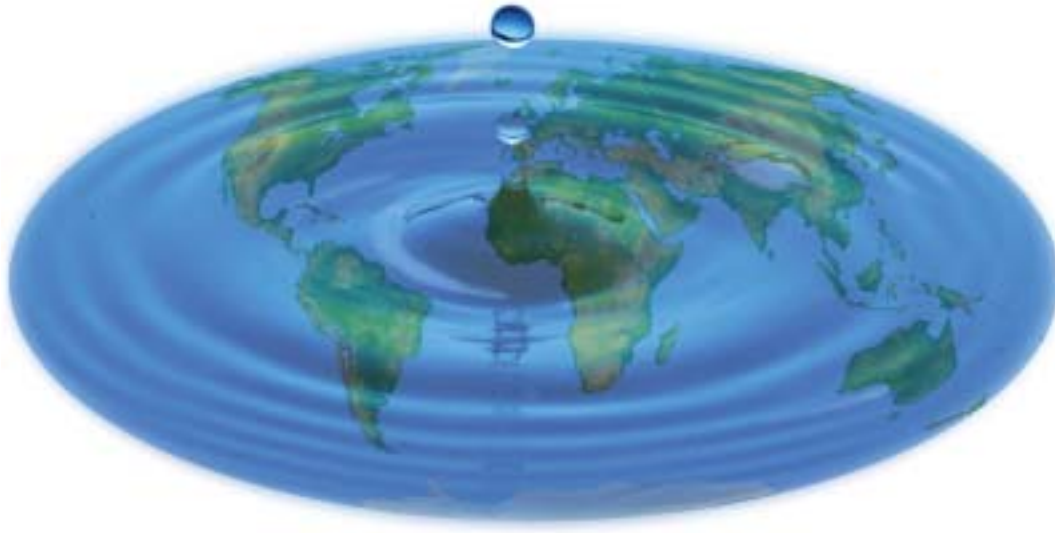


Marketing Water,



Marketing Reform

LESSONS FROM THE CHILEAN EXPERIENCE

Carl Bauer

The world's water resources are seriously strained in many places. While the nature and severity of the problem varies from country to country, the factors driving it are widely shared. Population and economic growth are spurring the global demand for water, used for a variety of purposes, including drinking and domestic needs, agricultural irrigation, mining and manufacturing, electricity generation, public health, environmental protection, navigation, and recreation.

Worldwide, water resources are becoming increasingly scarce in relation to these growing demands. This has had major consequences for public policy at both national and international levels. Shortages have led to increases in water's economic value, growing competition and conflict among different water users, and increasing environmental impacts

of water use. Because these trends are interrelated and reinforce each other, they have led to a vicious cycle of worsening water problems in many parts of the world. It is important to keep in mind that water scarcity is often a problem of water *quality* as well as *quantity*.

For example, during the past couple of years there has been serious tension between Mexico and the United States over the lack of water in the Río Grande, with American farmers claiming that Mexico has failed to deliver the amount of water promised in international treaties and the Mexican government replying that drought has made such deliveries impossible. In a purely domestic context, the San Francisco Bay–Sacramento Delta area of California has been a famous example of a high-stakes collision over water use between agricultural, urban, and environmental interests. Both

state and federal governments and many other stakeholders have been wrangling for years over how to sort the competing claims. A third recent example is Spain, where water scarcity in the country's southern regions has led the Spanish government to propose a controversial national plan to build new dams and reservoirs and to transfer water from northern rivers to the south.

In all of these examples of water scarcity and conflict, market mechanisms and incentives have been part of the debate about how to address the problems. The application of markets, however, has been limited by different political, economic, and social concerns. In Chile, by contrast, water law and policy are dominated by the free market—more than any other country in the world. For policymakers, there are important lessons to be learned from the Chilean experience.

International recognition of the world's water challenges has led to urgent calls for reforming water resources policy and management, and to substantial debate about what those reforms should accomplish. These debates have taken place at high-profile international conferences, such as the Earth Summit in Río de Janeiro in 1992 and the Second World Water Forum at The Hague in 2000, and within international development organizations, such as the World Bank, the United Nations, and many others. Much of this discussion has been part of broader international debates about how to achieve “sustainable development.” Most of the major issues



The Dublin Principles of Integrated Water Resources Management

Probably the best-known expression of IWRM is the “Dublin Principles,” named for an international water conference held in Dublin, Ireland, in 1992, as part of the preparation for the Earth Summit in Río.

- ④ Fresh water is a finite and vulnerable resource, essential to sustain life, development, and environment.
- ④ Water development and management should be based on a participatory approach, involving users, planners, and policymakers at all levels.
- ④ Women play a central part in the provision, management, and safeguarding of water.
- ④ Water has an economic value in all its competing uses and should be recognized as an economic good.

(From Final Conference Statement, International Conference on Water and Environment, Dublin, Ireland, 1992)

are also central to contemporary water policy debates in the United States, although the domestic discussion has generally not been set in an international context.

International Debate about Water Policy

There is growing consensus that water policy reforms should move toward what is called “integrated water resources management” (IWRM). IWRM refers to a set of general principles rather than specific policy guidelines (see box at left for more detail).

The basic idea of IWRM is to adopt a comprehensive, interdisciplinary, and holistic approach to dealing with water resource issues, including their social, political, economic, and environmental aspects. Such an approach would replace the fragmented and sector-specific approaches that historically have dominated most countries' water laws, policies, and institutions. In contrast, IWRM focuses on the overall water cycle and on river basins and watersheds as the most appropriate geographic units for water management. It therefore places more emphasis on the relationships between water uses and land uses, between groundwater and surface water, between water quality and water quantity—and between natural sciences and social sciences.

The most controversial of the Dublin Principles has been the last one—that water “should be recognized as an economic good.” What does this phrase mean, and, more importantly, what are the policy implications? How does this “economic” principle relate to the broader goals and functions of integrated water resources management? There has been heated international debate about these questions, and three major positions have been staked out.

On one extreme is the free-market argument: that water should be managed as a fully tradable commodity, subject to the forces of supply and demand in an unregulated market, and that water's economic value is the same as its free-market price. This is the Chilean model. On the other extreme is the anti-market argument: that water should be exempt from market forces, because water is a resource so essential to human existence that it belongs in the category of basic human rights and should be managed according to criteria of social equity and justice rather than economic efficiency.

An intermediate position is the argument that water should be recognized as a scarce resource, which means that we face difficult choices and trade-offs in how we allocate water to different uses. These trade-offs will be less painful if we can increase the efficiency of water use and allocation, for which market incentives can be powerful instruments as long as they are adequately regulated. From this perspective, the key word is “instruments” rather than controlling philosophy.

This is the context in which Chile's recent experience has global significance. In 1981, the Chilean government enacted an extremely *laissez-faire* water law, which privatized water rights, promoted free market forces and incentives in water use, and sharply reduced governmental regulatory powers in water management. During the two decades since then, the Chilean Water Code has been the world's leading example of a free-market approach to water law and policy—a unique experiment in treating water rights not merely as private property but also as a fully marketable commodity. Other countries, including the United States, have long recognized variations of private property rights to water, but none have done so in as unconditional and deregulated a manner as Chile. The 1981 Water Code is still in force today, protected by Chile's 1980 Constitution.

Because the Chilean Water Code is such a paradigm for free-market reforms, it has often been mentioned in international debates about water policy. The predominant view outside of the country is that the Chilean model of water management has been a success. The strongest proponents of this view have been economists at the World Bank, the Inter-American Development Bank, and related institutions, who have encouraged other countries to follow Chile's lead. Other water experts, particularly those associated with United Nations agencies, have been more critical. Too often, however, the arguments have been based on theoretical and political beliefs rather than on empirical study.

A Closer Look at the Chilean Experience

More than 20 years have passed since Chile's pioneering water law was enacted and the country's experience since then has much to offer in terms of lessons learned. This assessment is based on extensive fieldwork in Chile as well as analysis of current international water policy debates, part of a long-term RFF research project. For both political and economic reasons, this research has focused on the Water Code's second decade, after Chile returned to democratic government in 1990.

If we look back from 2003, two key points stand out. In the first place, *within* Chile the entire period since 1990 has been characterized by strong political disagreement about water rights and water markets. This national debate has been driven by the continuous efforts of the Chilean government to modify the Water Code's most *laissez-faire* aspects. The same centrist political coalition that has governed Chile since 1990 has proposed a series of legislative reforms to strengthen regulatory capacity in water issues, in order to address growing public concerns about river basin management, environmental protection, and private monopoly and speculation in

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water rights. Much of the policy debate has been about the legal rules defining property rights to water, and about how the current rules have affected the economic incentives for water use and water rights trading.

Conservative political parties and business interest groups, however, have blocked all of the government's proposals. Under the current constitutional framework, these opponents effectively have veto power over economic and regulatory issues. The government has responded over the years by gradually weakening its proposed reforms in an effort to achieve consensus, but without success.

Somewhat surprisingly, the long-standing and highly ideological nature of this conflict has been virtually unknown outside Chile, and has been absent from most international discussions of the Chilean water-policy model. These international discussions, in other words, have been uninformed by critical aspects of the model's political and institutional context.

The second key point is that in spite of the controversy, there has been relatively little empirical research about the Chilean model's results in practice. The research that has been done has focused almost exclusively on water markets and water-rights trading, which are the aspects of the Water Code that have attracted the most attention. As a result of this focus, our empirical understanding of how Chilean water markets work has gradually improved over the course of the 1990s, evolving from exaggerated claims of dramatic success to more balanced descriptions of mixed results. It is also important to note that Chilean water markets have been largely confined to the agricultural sector.

By the end of the decade, informed observers agreed that in most parts of the country water markets have been inactive and have had a limited impact on the efficiency of water use and the reallocation of resources. These results are due to a variety of constraints and transaction costs. Clearly, the

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greatest economic impact of the Water Code has been the boost to private investment due to the increased legal security of property rights rather than the relative inactivity of the overall market for water.

This consensus refers to the empirical description of Chilean water markets, not about the policy implications that should follow. In Chile, the debate continues about whether legal reforms should seek to make water markets work more smoothly and in more circumstances or, instead, limit their scope.

But it is essential to not lose sight of the water management issues that have received much less research attention. The two most important issues are the impacts of the Water Code on social equity, especially on peasant farmers and the rural poor, and the performance of the institutional framework in coordinating multiple water uses, managing river basins, resolving water conflicts, and protecting river ecosystems and instream flows. The available studies and evidence indicate strongly that both issues demonstrate serious weaknesses of the Chilean model. This conclusion should set off alarm bells for people concerned with the policy implications for other countries, because these issues are at the heart of integrated water resources management.

Lessons Learned

Chile's 20 years of experience with its free-market water law suggest several lessons for current international discussions of water policy reforms. Perhaps the most obvious is the reminder that the effectiveness of market-based eco-

nomics instruments depends on their noneconomic contexts, including legal and institutional arrangements, political decisions, and the physical realities of geography and natural resources. This is not a new idea, but it has often been overlooked in the recent enthusiasm for the simple recipe of unregulated markets.

A second lesson is that the strengths and weaknesses of the Chilean model are closely interconnected, because both reflect the same legal and institutional framework. The Chilean approach to "recognizing water as an economic good" has led to some important economic benefits, such as encouraging private investment and allowing more flexibility of resource allocation. However, the legal and institutional consequences of this approach have hamstrung government efforts to respond to the growing social and environmental problems of water management, which the 1981 Water Code was not designed to address. This rigidity of the Chilean model, and hence its incompatibility with core aspects of IWRM, have been downplayed by the model's international proponents, who continue to argue that any flaws are secondary or can be readily corrected.

Finally, the Chilean experience confirms the need for a more interdisciplinary perspective on water law and economics in designing policy reforms. While economic principles can be powerful tools for dealing with water *scarcity*, legal and political institutions are the key to resolving water *conflicts*, and the world's water problems are driven by the ever-closer relationship between scarcity and conflict. ■

Carl Bauer is an RFF fellow. He recently spent more than a year doing research in Chile, where he wrote a book from which this article is excerpted. Much of his work there was funded by the William and Flora Hewlett Foundation. The book will be published by RFF Press in early 2004.

FOR MORE INFORMATION

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