

BOOK REVIEW: Carl J. Bauer. *Siren Song: Chilean Water Law as a Model for International Reform*. Washington, DC: Resources for the Future, 2004, x + 173pp., \$33.95 cloth. ISBN 1-891853-79-1.

Water is a critical resource necessary for sustaining human life. Yet in many countries there is a shortage of clean water, and this “water crisis” is likely to grow as populations continue to expand. By some estimates, within the next 25 years water scarcity will have a detrimental effect on over one-third of the world’s population if current water management techniques are continued. A primary problem is water is often viewed as a “free good,” which exacerbates the water crisis by creating an inefficient allocation of scarce water resources across water’s many uses—agricultural, industrial, environmental, and social. Theoretically, the “water crisis” can be minimized if water is priced at its correct economic value—an efficient allocation of water resources would emerge. One approach for achieving the correct prices is to create a water market in which property rights to water are assigned and trade in those rights allowed. In *Siren Song: Chilean Water Law as a Model for International Reform*, Carl Bauer uses the Chilean Water Model, which is often recommended as an effective laissez faire approach for allocating water resources, to illustrate that the creation of a water market may not be sufficient; water markets should be imbedded in an institutional structure that facilitates trade, minimizes conflict, and protects public interests.

The book consists of an introduction and five chapters. In the introduction, Bauer identifies the problem: International agencies, such as the World Bank and the Inter-American Development Bank, have chosen to ignore the many weaknesses of the Chilean Water Model while promoting it as an exemplary model of water markets. The following five chapters are designed to discuss the pros and cons of the Chilean Water Code and highlight the lessons learned from 20-plus years of a laissez faire water market and the general application of those lessons in the international setting.

Chapter 1 presents the international problem of increasing water scarcity. As the many demands for water increase, countries need to design water policy that achieves social goals. Numerous international water policy debates have highlighted the importance of integrated water resource management (IWRM) as a model for water policy. The IWRM is a balanced approach, which promotes welfare maximization while protecting environmental amenities. Bauer notes one of the primary principles of the IWRM:

Water has an economic value in all of its competing uses and should be recognized as an economic good.

However, the exact meaning of “economic good” has also been debated in the international water setting. Specifically, how should water be privatized and to what degree should governmental oversight be implemented? The current Chilean Water Code represents the extreme case of minimal government oversight, while the previous Chilean

Water Code was an example of complete governmental regulation. As such, the Chilean experience provides some insights into the effective design of institutions for regulating water markets.

Chapter 2 summarizes the major features of the current Water Code and presents a history of the Chilean Water Code from 1951 to the present. The Chilean Water Code is of special interest because it has transformed over time from a regulated system of private rights in 1951, to centralized control over water in 1967, to the current *laissez faire* market approach in 1981. Bauer writes:

The 1981 Water Code greatly strengthened private property rights, increased private autonomy in water use, and favored free markets in water rights to an unprecedented degree.

Further, the Water Code specified two types of water rights—consumptive water rights and nonconsumptive water rights (water diverted from the stream and later returned). The intention of nonconsumptive water rights was to foster private investment in hydroelectric development. Chapter 2 further details the political and legal background surrounding the Water Code. The analysis makes the following point: The institutional rules governing water markets impact the price of water rights and the allocation of resources. Therefore, water rights must be clearly defined, and rules delineating trading of water rights must be established prior to the introduction of the water market, which did not occur in the Chilean Water Model.

The lack of institutional structure surrounding water rights created a market inadequate for protecting environmental amenities, performing river basin management, resolving conflict, and protecting other public interests, and had some people calling for a reform of the Water Code. The reform of the Water Code and the political debate that ensued is the focus of Chapter 3. Pointing to one of the more visual issues, Bauer argues that the current Water Code creates perverse incentives:

By defining private water rights in a manner that includes no duties or obligations to public interests, the code had favored private speculation, hoarding, and monopoly of water rights, and had undermined the incentives for using water rights in economically productive activities.

Much of the reform debate has centered on designing a tax system that countered these incentives. And though both sides agree that the current incentives need to be changed, they cannot agree on how to change the rules defining property rights.

Chapter 4 introduces and summarizes the research and analysis concerning the effectiveness of the Chilean Water Code. Research has focused either on the volume of trading or on the institutional structure of the water market. An active market implies water rights are being transferred from low- to high-value uses, resulting in improved efficiency. The lack of transactions could imply initial allocation of water is efficient or that the institutional structure and rules which facilitate trading are inadequate. Early research presented the Chilean Water Model as a success—touting active trading markets, improved efficiency, and investment in infrastructure. But the research is highly suspect due to inferior analysis or to the researchers' investment in the Chilean Water Model. Later research projects countered the initial claims, and suggest with one exception,

limited trading has occurred. Several reasons exist for the inactivity in the water markets: (1) transaction costs are high due to inadequate canal infrastructure; (2) there is uncertainty concerning water right title and a lack of record keeping; (3) farmers are reluctant to view water as a commodity; (4) water right prices are an inconsistent signal of water scarcity; and (5) the water rights do not conform to the practical use of water. Chapter 4 concludes with unanswered questions and directions for future research.

In Chapter 5, the author summarizes the debate and emphasizes the lessons offered by the Chilean experience to the international water policy debate. One particular theme seems to encompass all of the lessons: The rules and institutional structure that govern the transfer of water rights need to be established prior to the water market. The incorporation of legal and political institutions into the water market provides flexibility in resolving conflict, coordinating water usage, and protecting social and environmental amenities.

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