
The threat of existing and future water scarcity in California and Baja California, Mexico, resulting from both drought and longer-term developmental trends and water supply problems, have produced changes to the region's traditional water use, distribution, and management practices. This dissertation puts those traditions into an historical context and analyzes the political struggle over the recent changes. Because agricultural water conservation is believed a solution to scarcity, the analysis focuses on the million acres of irrigated farmland in the Imperial Valley of Southern California and the Mexicali Valley of Northern Baja California. The method of analysis is historical and comparative.

The region's development demonstrates how the two valleys' respective water management regimes evolved to colonize the desert and divide the available water supply. This evolutionary process reflected the era's values, and was guided by the economic, political and resource demands of various settlers, entrepreneurs and government officials. The inadequacy of original management and consumption practices became apparent as rapid social and environmental changes transformed the demands and values of the region's inhabitants. Urbanization was central to both cases. It was accompanied in California by an environmental movement which restricted the development of new supplies, and in Baja California by a fiscal crisis which left authorities unable to satisfy public demands.

Over time, the political pressures arising from water scarcity and social change resulted in the transition of the region's water management regime towards conservation-oriented policies. The transition was initially resisted by irrigation farmers who were beneficiaries of the status quo. A comparison of how their resistance was overcome, and of the outcome of the transition in both valleys to date provides an understanding of the region's water politics in particular, and natural resource politics in general. The role of expert systems in resource management regimes, a unified elite versus a plurality of interests among water users, the legal definition of water as a commodity or public good, the reliance of state versus market based solutions to resource efficiency, and the consequences of alternative conservation policies for economic equality and democratic values are central themes of the conclusion.