

BUILDING THE AGENDA FOR INSTITUTIONAL RESEARCH IN WATER RESOURCE MANAGEMENT

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The National Research Council's 2001 report, "Envisioning the Agenda for Water Resources Research in the Twenty-First Century," acknowledged that "research on institutions occupies only a very small portion of the current water research agenda." (p. 9) The report hinted that insufficient attention to institutional research may be a reason why "the nation has accumulated over a century of experience with a variety of water policies and management modes, yet we have not learned as much as we might from that experience." (40)

The report recommended "that efforts should be made to invest relatively more in institutional research than has been the case in the past," (33) and identified some topics on which greater investments would be beneficial in the Council's view. Those included: Conduct comparative studies of water laws and institutions.

- Understand user-organized institutions for water distribution, such as cooperatives, special districts, and mutual companies.
- Develop legal regimes that promote groundwater management and conjunctive use of surface water and groundwater.

By pursuing these aims, institutional researchers can help advance the larger goal of improving the sustainable use of water resources in the United States and elsewhere.

In this paper we offer additional and more specific recommendations for the pursuit of institutional research in water resources, focusing mainly on the topics highlighted by the Council: comparative study of water laws and institutions, and especially user-organized arrangements. Our recommendations are based in large measure on our own experience conducting research of this type concerning the development and implementation of conjunctive management programs in Arizona, California, and Colorado, and our paper includes a background discussion based on that experience. We use conjunctive management several times in the paper as an example of a water management reform that depends significantly on institutional arrangements.

Institutional arrangements—such as laws governing water rights, and the organizations responsible for water provision and management—are significant factors in facilitating or discouraging the development and implementation of effective conjunctive management programs. They are not the only significant factors, by any means. Physical factors

matter greatly as well—without certain combinations of geology and hydrology, water distribution systems, and occasionally available surplus water, for example, conjunctive management is unlikely regardless of the institutional setting.

Where a water reform such as conjunctive management is feasible, institutional factors such as the rules governing water use and the organizational arrangements for water management are likely to play important roles in determining whether, when, and how it develops and perform. Institutions facilitate the ease with which multiple actors interact in complex situations, prescribing what actions are allowed, required, or forbidden in given situations. Thus, institutions

Following the discussion of these methodological matters, we highlight some topics for comparative institutional research that seem to us to be especially fruitful at this time. They are:

- Property rights and water policy reforms.
- Organizational fragmentation and coordination in actual settings.
- User-created organizations, especially in the watershed.
- Public participation, or water user participation.

Without question, there are several other interesting and worthwhile institutional research questions relating to water resource management that skilled and talented scholars will address over the coming years. We have focused on a few topics that we think could yield useful results at present, to help us redress the Council's concern that the nation has not been "learning as much as we might" from current experience. Even those few topics represent formidable additions to the agenda for institutional research in water resources. We hope through our recommendations for institutional research to contribute to the overall goal of building a sound agenda for water resources research in the 21st century.