

Building Technical, Financial, and Managerial Capacity for Small Water Systems: The Role of Consolidation, Partnership, and Other Organizational Innovations

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Goal: Assess the role of consolidation as a strategy for small community water system to achieve technical, managerial, and financial competency under the Safe Drinking Water Act.

Methodology: (1) The research involves the development of a model of choice of regulatory compliance strategy in which water systems choose to continue independent operation or be acquired by another system. The model generates hypotheses about organizational responses to regulation. (2) Data on merger activity covering 6,502 small water systems in six states in EPA regions 5 and 7, together with system data from EPA's Safe Drinking Water Information System and county level demographic data, were collected and analyzed to describe and explain trends in the consolidation and performance of water systems serving communities of less than 10,000 people. Of these systems, 403 were acquired by another operating unit during the period of study.

Findings: (1) Environmental and public utility regulations limit organizational options for small water systems. (2) A review of relevant literature indicates that mandated changes in operational requirements, access to financial resources, and political climate can influence whether small systems consider organizational change as a way to enhance effectiveness. (3) Economic theories of organizational change emphasize competition between managers for assets to manage and market pressure for improvements in the performance of low-yielding assets. (4) The empirical analysis of recent merger activity among small water systems in the Midwest reveals that merger is more common for systems that are smaller, privately owned, already purchase water from another source, have a record of water quality violations, or have monitoring violations. Acquisitions are slightly more likely in counties with a higher density of water systems and outside of metropolitan areas. Although these findings do not directly test theories of organizational change, they are compatible with the hypothesis that low-performing water systems, and those with the costs of organizational change are lower, are more likely to be acquired.

Dissemination:

- (1) M-Y.A. Lee, “Consolidation as a Compliance Mechanism: “Small Drinking Water Systems and the Safe Drinking Water Act.” Presented to the Illinois Water Conference, Urbana, IL October 2006; also, presented to the Illinois Economics Association, October 2006.
- (2) M. Jaffe, J.B. Braden, and M-Y. A. Lee. “The Why and Wherefore of Water System Mergers.” *On Tap* (Forthcoming).
- (3) M-Y. A. Lee and John B. Braden. “Consolidation as a Compliance Mechanism: “Small Drinking Water Systems and the Safe Drinking Water Act.” In revision for submission to peer-refereed journal.
- (4) The paper noted in (3) has been accepted for presentation to the University Council on Water Resources (UCOWR), July 2007, in Boise, Idaho, and to the American Agricultural Economics Association, July 2007, in Portland, Oregon.