



TR- 150

On Managing Texas Rural Water Supply Systems: A Socioeconomic Analysis and Quality Evaluation

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Research Objectives

The study reported here is aimed at evaluating the effectiveness of nonprofit, rural water supply corporations or water systems (hereafter referred to as RWSs) in Texas from a sociological perspective. Specifically, the study has attempted to:

1. Provide an overview of the organizational structure and functioning of RWSs, identifying their existing as well as emerging needs, problems, and suggested solutions. It explores socioeconomic characteristics and patterns of RWSs in Texas. It outlines a history of state and federal regulations and practices through which these systems are structured and actually function.
2. Evaluate the quality and effectiveness of the management of selected RWSs

located in different geographical regions of Texas. The evaluation of effectiveness of systems is accomplished through a systematic set of procedures and techniques. These procedures are tested for reliability and validity through empirical data. In addition, the differential levels of program effectiveness of RWSs are elaborated upon by correlating them with relevant socioeconomic variables.

3. Indicate policy and research implications of data for dealing with the future of rural water systems.

Expected Contributions

The rural populations in the U.S. started experiencing steady increases during the 1970s and early 1980s (Goodwin et al., 1984). Although the rural population growth at the national level showed a few differential trends during mid to late 1980s (Figures 3 and 4 in Appendix A), the state of Texas registered a population influx in many nonmetropolitan areas during the last decade (U.S.D.A., 1990: 11). Overall, a significant portion of Texas' population still resides in rural areas (Texas Department of Water Resources, 1984: 7). However, it appears that a larger number of studies have focused on water-management related problems and issues for urban areas than those for rural communities in Texas (e.g., Knudson, 1986; Meier and Thorton, 1973; Murdock et al., 1988; Texas Department of Water Resources, 1985; Texas Water Development Board, 1990;1 and U.S. Army Corps of Engineers, 1989). While rural water problems have been examined carefully in several parts of the country, we could not find a single study in Texas systematically examining water-related needs and issues confronting rural communities. The need to study rural water supply has become even more important now because of the challenge faced by small community systems in complying with the provisions of the 1986 Safe Drinking Water Act (SDWA). These small systems, with their limited customer and revenue bases, will face formidable expense in installing new water treatment methods (Jensen, 1990; Long and Stukenberg, 1987: 38; Texas Water Development Board, 1990: 14). The present study is a timely probe into the phenomena of rural water supply.

The study is aimed at developing and using a methodology to evaluate the program effectiveness of RWSs. In recent years, interest has mounted for employing the research techniques of social sciences in efforts to assess the effectiveness of public programs. The 1970s and 1980s, decades of rapid-paced growth of RWSs in Texas and elsewhere, were marked by the proliferation of public expenditures. The study uses a set of indicators to identify effectiveness and efficiency of rural water projects. Such measures for analysis and appraisal of these projects may contribute to more informed and intelligent planning for the future. The study is also expected to provide a critical probe and insight into an evaluation methodology that may be used in future studies investigating public programs. To this end, the research reported here is exploratory in nature and may set grounds for more critical studies in the area. The study, for example, develops a baseline against which to measure future changes and trend in rural water supplies in Texas as well as in other parts of the country.

Organization of the Report

The remaining three-section organizational design of this report emerged from the objectives of the study stated earlier. The second section presents an overview of the history, organizational structure, and functioning of the RWSs in Texas. The third section includes a systematic outline of methodology employed for evaluating the effectiveness of RWSs in Texas. It presents the major findings from surveys conducted in two phases. Data from both phases are presented and interpreted. Finally, the fourth section is meant to provide a summary of conclusions and implications of the study. Selected notes, elaborating on particular points, are given just before listing the references used in the study. Selected figures and tables as well as data collection instruments used during the two phases of research are enclosed in two appendices.



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