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Better Irrigation Through Systems Management

Irrigation Investment, Technology, and Management Strategies for Development. By K William Easter (ed.) Boulder, CO Westview Press, 1986, 207 pp \$27.50

Reviewed by John C. Day

Development specialists believe that irrigation schemes in Third World countries have generally not lived up to expectations. Many systems have failed to generate the levels and distribution of farm output and income that were originally anticipated. As editor, Easter takes this gap between expectations and reality as his "problem statement." His introductory remarks indicate that the issue is how to improve the performance of existing and future irrigation projects so that they will realize their potential and contribute more to agricultural growth in developing countries. The collected papers focus on the need for better project evaluation, planning, and operation and maintenance rather than on matters relating to technical design and construction.

The 14 chapters by different authors rely for source material on research sponsored by the U.S. Agency for International Development and papers selected from presentations at a workshop on water management held in Thailand, 1983. All the material is written in terms that should be understandable to both the irrigation specialist and the general reader.

The thematic organization of the book is largely along country lines, although there is an introductory section of three chapters that defines the overall purpose, scope, and issues to be covered. Three chapters deal with irrigation problems and potentials in India and focus on strategies for improving small-scale irrigation schemes through better management and rehabilitation efforts. Criteria for selection of tank systems to be rehabilitated are developed in this section. The next three chapters review irrigation issues in Thailand, again emphasizing small scale tank and river pumping schemes. A special feature is an

assessment of an Asian Development Bank approach utilizing small pilot projects to identify management practices that will improve the performance of a large irrigation project. Of particular interest is a chapter presenting a critique of agricultural policies as determinants of schemes successful in Thailand. One chapter summarizes the impact of water trading and water markets on system operations in tube-well projects in Pakistan, and another shows the effect of alternative water pricing mechanisms on a representative farm in Egypt's northern delta. Another chapter discusses case studies of the implications of community ownership on the operation of small scale irrigation systems in Asia. The final summary chapter offers recommendations for future activity including research needs.

My reaction to the book is somewhat mixed. It contains considerable information on irrigation system operations in major regions of the world. The geographic coverage is not intended to be exhaustive, but selective. It emphasizes small-scale systems as opposed to large-scale systems such as the Gezira and the Rahad schemes in the Sudan. Easter includes pieces that explain the important role farmers play in efficient system operation and water allocation. This contribution is often overlooked in project planning and operation efforts. The interpretive sections written by Easter and some of his colleagues on the AID project provide the necessary insight and syntheses needed for drawing conclusions from the cross-country studies. These aspects of the book provide practical guidance to irrigation planners.

Perhaps too much attention is given to factors that affect the technical management of the physical aspects of irrigation (including water allocation), and not enough to the influence of general agricultural policies and programs on farmers and their decisions about crop and livestock production. It is, after all, these decisions affecting the whole complex set of farm input-output relationships that ultimately determine the success of an irrigation scheme. Although two chapters deal with the importance of water markets and pricing on system operations and farm water use and income, only one chapter is

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devoted to general policy effects. In fact, in this chapter author Sam Johnson says "irrigation infrastructure is a necessary, but not sufficient, condition for expanded agricultural production. Other agricultural policies must complement the irrigation investment in order to obtain positive production increases" (p 112). Thus, in terms of the marginal gains to new knowledge, I wonder if the payoff to more concentrated attention on economic policies affecting such things as input/output prices, exchange rates, inflation, exports, food aid importation, regional growth objectives, input subsidy programs, food vs export crop incentives, and their impacts on irrigated farming and system effectiveness might not have been great. In the concluding list of policy recommendations, for example, only one of eight is directed at government agricultural policies.

One last comment concerns the "flow" of narrative from chapter to chapter as it relates to identification of problems, issues, and solutions. The country-by-country approach is perhaps too repetitious. Given this organization, repetition is unavoidable because many of the same problems and issues arise wherever irrigation development is undertaken. However, Easter's introductory and summary chapters sort out the lessons to be learned from a variety of situations.

This book is a useful addition to the literature on water resources development because it helps readers understand the complex set of technical, institutional, and economic factors that work together to determine the success or failure of irrigation schemes everywhere.

In Earlier Issues

Agricultural economics work is carried on in the public interest and every researcher or statistician, regardless of his field, does have a responsibility for seeing that his material is prepared in such a way as to be readily accessible to his fellow workers and to the public.

O V Wells
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