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SELECTED WATER ISSUES IN LATIN AMERICAN AGRICULTURE

P. CROSSON, R. CUMMINGS and K. FREDERICK, Eds.
Baltimore: The Johns Hopkins Press for Resources for the Future. 1978.
Pp. 190 + xv.

This book contains an interesting series of studies relating to Latin American agriculture, dealing with problems ranging from water pricing alternatives in Peru to water scarcity and salinity problems in northwestern Mexico. Although the studies deal with developing countries and Latin American countries, nonetheless, the discussions are of interest to water management much farther afield. For example, the question of how to achieve greater flexibility in water management policies and institutions is one that needs to be faced almost everywhere. The problem of water pricing is a major issue discussed in the book, and has great interest in North America as well as South America, not to mention Europe.

The question of how to manage groundwater over time is a key resource issue in many arid and semi-arid zones, and the management of soil and water salinity also is of great interest wherever irrigation is used in arid zones. The paper of Dr. Cummings dealing with the management of water resources in northwestern Mexico is particularly illustrative of the contribution that can be made to proper water management by good economic analysis. In this paper, Cummings deals with the question of the efficient allocation of water between agricultural and non-agricultural uses, focusing on the northwestern coast of Mexico where fresh water can be used both for irrigation and for the maintenance of a favorable environment for the growth of shrimp in coastal lagoons. The two different industries compete for the same water. The diversion of water for irrigation purposes upstream reduces its availability to the lagoon at times when the shrimp are particularly vulnerable to such changes. The analysis of Cummings indicates management schemes which would maximize the dollar yield from the water by considering both the shrimp market and the agricultural production. Thus, the protection of the shrimp is not based upon any moral argument, no matter how well founded, but upon dollars and cents of economic analysis which will stand a much better chance of protecting the shrimp resource.

The authors state that "at the most general level it can be said that the principal issue with respect to water management in Latin America is to devise policies and institutions that approximate the sort of flexibility in water allocation which the market provides for other

resources." Certainly this same statement could be made for North America as well.

The authors conclude that greater flexibility in water planning and management institutions in Latin America would increase the efficiency of the use of the region's water resources. They go on to explore various ways of encouraging efficiency. Basic to the question of efficiency is an institutional structure that would permit water pricing and allocations to vary in response to demand and production. As one possibility they suggest a management agency which would allow markets in which water could be bought, sold, or rented. Each farmer would bid for water in accordance with its marginal productivity to him, and the efficiency price would emerge from these market transactions. They suggest that "some mechanism for arranging water transfers would probably be necessary in any case if efficiency pricing policy were adopted. With such a policy, prices inevitably would rise—at least for some farmers—inducing some of them to take less than they previously were entitled to. A water market could be the most convenient means for transferring the surplus to farmers who could profitably use it, even at a higher price, or to others receiving a price subsidy" (p. 27). Thus, the farmer would be encouraged to use no more water than he needed, because he could sell or rent the balance which he was not using and thus in effect have another cash crop, i.e., that of the excess water.

In summary, one should not be put off by the title of the book, which sounds very narrow indeed, being limited to "Latin American Agriculture." In spite of the title, the book has broad application; it has much which can be learned, and much that is of direct relevance to water management questions elsewhere in a world that is struggling to keep up with greater and greater demands for water.

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