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## A vital resource in danger

The wise and efficient management of our natural resources is one of the most demanding tasks facing federal, state, and local governments. We have evolved from a land of such plenty that even today it is difficult for some to accept the limited availability and fragile nature of our land, water, and energy resources. In a few short decades we have seen an evolution from an economic system that encouraged unrestrained use of these resources, to an era in which we must reckon with finite supplies and devise ways to use our vital resources more judiciously.

The challenge goes beyond the interests or capabilities of a single group; it involves all components of our society. That is certainly true in the case of salinity — one of the oldest and most serious problems facing agriculture in California today, and the subject of this special issue. The scope of the problem and the diversity of the agencies engaged in attempting to find a solution to it are reflected in the selection of articles and the affiliations of the authors.

Learning to cope with salinization of our soils is not just a job for researchers or farm managers or politicians — it requires the best thinking of all three groups. The stakes are high. Once soil is lost from productivity because of the accumulation of salts, it takes years of treatment, large amounts of water and energy, and careful management to re-establish its viability. Yet California, like many other areas of irrigated agriculture, continues to manage its soil and water systems as if there will be no day of judgement. In the rich San Joaquin Valley, with 4.5 million acres under irrigation, more than 400,000 acres are now seriously affected by salt. It is projected that by the turn of the century, in just 16 years, another million acres could be lost to salinity. A loss of that magnitude could mean many millions of dollars in lost agricultural productivity and even greater costs to rehabilitate the land. The nature of the salinity problem in the Imperial Valley is somewhat different, but this region too faces the potential loss of large portions of its productive land.

To prevent such disasters from occurring will take the same type of cooperative enterprise for which agriculture has become famous in the harvesting and marketing of its commodities, the management of serious pest problems, and the control of infectious diseases of crops and livestock. It will take a coordinated research and extension plan to identify the gaps in our knowledge and educate managers on the best ways to minimize the advance of salinity.

The University of California conducts extensive research in salinity to add to our basic knowledge in this area and to find practical solutions to the problem. A few of these projects are reported in this issue. Salinity has been the special mission of the Kearney Foundation of Soil Science during the past five years.

Others are also deeply involved in the effort. For the past three quarters of a century the U.S. Department of Agriculture, through its Salinity Laboratory in Riverside, the Soil Conservation Service, and the Bureau of Reclamation have significantly advanced our understanding and our ability to deal with salinity as have the California Department of Water Resources and other state agencies.

To halt the advance of salinization of some of our most valuable and most productive areas, however, will require even more coordinated effort among research organizations, legislators, government agencies, and educational bodies. It will also require a program to deal with soil and salinity problems on a regional basis rather than on a site-specific approach. Present irrigation and drainage districts, agricultural corporations, commodity groups, and farmers are each struggling to protect their interests in a sea of policy makers. Unless a framework is developed within public policy that includes the chemical, biological, and environmental consequences of salt control on a regional basis, over the long term as well as the short term, the salinity issue in California cannot be satisfactorily resolved.