I. INTRODUCTION

This monograph deals with many aspects of agricultural drainage, including some of the interactions among such aspects. By design, it is restricted to agricultural drainage, even if it is recognized that such drainage is but one component of total water management. In this chapter, an attempt is made to place drainage in the perspective of total water management.

In the 1940s and 1950s, drainage specialists aspired to change the art of drainage into a science. To the extent they were successful, drainage took on an aura of scientific respectability. It also was seen as an important practice that contributed substantially to agricultural productivity and rural well-being. Then an era set in when the changes in the landscape effected by drainage were seen as adverse and harmful to the natural ecology and especially to wildlife and birds. Many frowned on drainage. This perception is illustrated by the fact that the bulletin Farm Drainage in the United States published by the U.S. Department of Agriculture (Pavalis, 1987), was the first departmental publication dealing with drainage in some 25 yr.

The editors of this monograph do not share this view. In fact, they are adamant that drainage is a beneficial and necessary practice to maintain, or even establish, agricultural production. Yet they fully concur that drainage design and practice must be placed in the perspective of total water management, and that due consideration must be given to the many and varied uses of water resources and the impact of drainage upon them.

II. ARID REGIONS

It is axiomatic that irrigated agriculture cannot be maintained unless there is adequate drainage. As developed in detail in earlier chapters, the salts that accumulate in the root zone of irrigated crops must be removed by a downward