

calcium and magnesium content. If this is the case, leaching of the saline soils here may be practicable, even if they are afflicted with severe sodium damage, by using the ground water as the leaching agent. Sea water coagulates soil clays and thereby increases the permeability of soils with which it is in contact.

Actual experience with the desalting of saline lands in West Pakistan is limited. In 1953, a reclamation project utilizing 24 relatively small tubewells was initiated over 9,000 acres in the Chuharkana area of Rechna Doab. Nearly half the land in this project had previously gone out of cultivation because of waterlogging and salinity. By 1960, virtually all this land had been reclaimed, and the gross value of the crop production was more than double that obtained in 1952.

The Jaranwala Reclamation Scheme comprises a roughly rectangular tract of some 140 square miles in the Lyallpur District of Rechna Doab, about 45 miles west of Lahore. As we have pointed out in Chapter 1, Lyallpur is the most fertile and productive District in the Indus Plain. Most of the culturable lands of the Jaranwala area are commanded by the canals of the Lower Chenab Canal System. By 1945, the water table had risen to within 10 feet of the surface over much of the area, and soil surveys showed that 56 percent of the cultivated land contained high concentrations of salts in the top soil. Although some tubewells were drilled in the area prior to 1950, a systematic and extensive plan for reclamation was first undertaken by the Soil Reclamation Board of West Pakistan in 1954, with the assistance of United Nations and United States specialists. By 1958, 80 tubewells were completed in the central portion of the Scheme area, designated as Part I.

The results of the tubewell operation are summarized in Table 2.7. By 1960, three years after the start of pumping, the total water supply for irrigation had been doubled and the cropped area increased from 39,000 to 50,000 acres. Part of this increase resulted from the fact that the tubewells allowed irrigation of 4,000 acres which are above the level under canal command. After water course losses, the amounts of irrigation water applied to the fields were increased by a foot in Kharif and 0.8 foot in Rabi. The value of the average yield per acre had risen from Rs 171 to Rs 204, and the total value of the crops had increased by Rs 3.5 million, or 52 percent.