modified in the direction of more valuable but more water-demanding crops, giving an increase in average value per acre of about 5 percent. Moderate application of nitrogen fertilizer would result in an average yield increase of 25 to 30 percent, not only for the present cropping pattern, but in the increased gross sown area and for the more valuable crops. For these given percentages, the minimum increase is 103 percent: (1.10)(1.07)(1.30)(1.05)(1.25) - 1.00 = 1.03, and the maximum increase is 164 percent: (1.20)(1.15)(1.40)(1.05)(1.30) - 1.00 = 1.64. Much greater increases could be obtained, given adequate water, by larger investments in fertilizer, including both nitrogen and phosphate, use of better seeds and pesticides, and improvement in agricultural techniques. In accordance with the principle of interaction described in Chapter 2, the yield increase should be more than the cumulative one computed in the previous paragraph. When all the factors of production are used in proper combination, the yield response is much larger than the sum of the responses to each separately.

Side by side with a strong emphasis on increasing production of lands that have not yet been seriously damaged by waterlogging and salination, an early attempt should be made to reclaim salinated, but not waterlogged, land. For most crops, agricultural production will be increased by removing the slat from the soil. By the use of water pumped from wells, salt can be leached out of the soil and washed downward into the water table rapidly and cheaply. If the salinated soil has not been rendered impermeable by sodium damage, the resulting increase in agricultural production will take place faster than increases which would result from improved agricultural practices. It will take time to introduce these. As agricultural production is lowest on badly salinated soils, a greater increase in total production can be obtained from these lands than from non-salinated soils, because we are starting from a lower base level. Distribution of salinated lands is very patchy and irregular, and it is, therefore, difficult to concentrate improvement activities only on non-saline land without covering saline land also.

There are several reasons for not making an initial effort on waterlogged land.

Bad land protects good land. When the water table is close to the surface, evaporation from the aquifer can only be sustained by inflow of ground or surface water from adjacent non-waterlogged lands. Hence the present high evaporation from waterlogged areas greatly slows down, and may soon stop the rise in the water table in non-waterlogged areas.