

Pakistan (see Tables 2.5 and 5.12). Applied to the illustrative million acre tract, assuming the cost of these measures as Rs. 10 per acre, the Planning Commission figures show that it would be economical to undertake plant protection measures and to use presently available improved seeds on the land under cotton, sugarcane, maize, rice, wheat and oilseeds. As applied to the cropping pattern of Table 5.11, 867,000 acres would be subjected to these improved practices and an increase in value of output of Rs. 4.4 crore would result. The cost, at Rs. 10 an acre, would be about Rs. 0.8 crore, leaving a net gain of Rs. 3.6 crore from improved seed varieties and extended plant protection.

Our estimates of yield increases are brought together in Table 5.12. It will be seen that the combination of more water, nitrogen fertilizer, improved seed varieties, and plant protection promises substantial gains in crop output, particularly when applied to fields in wheat, rice, sugarcane, maize, cotton, and fodder. We have not made any estimates of the gains to be secured from use of phosphate fertilizers or by other improvements in tillage—better plowing, more extensive use of row cultivation, more energetic weed control, and so on—but we believe that they also are considerable.

Because of the principle of interaction to which we have adverted so often before, these estimates, obtained by simple summation, are surely on the low side. The gains from fertilizer and improved seed on the same field greatly exceed the sum of the gains from the two measures taken independently.

Table 5.12 does not incorporate the increases in farm income that will result from an expansion of the gross area cropped. The program will contribute to this expansion in a number of ways as we have seen. Beside allowing an increase in the intensity of cultivation, the use of tubewell water will arrest the deterioration and abandonment of land and will permit the restoration to agriculture of some land now out of use.

Recapitulation for an Illustrative Project Area

All in all we find that the proposed program of tubewell development and agricultural modernization holds forth the promise of an increase of about Rs. 23.7 crore or nearly 160 percent in the gross annual value produced in our illustrative million-acre project-area. The sources of this increase are displayed in Table 5.10 which brings together the estimates discussed above. The derivation of this table is explained in its footnotes and in Tables 5.11 and 5.12, which support it.