

generated from first-phase applications of water and fertilizer to traditional crops can increase the farmer's asset position so that he can "afford" to diversify and to become more market oriented.

The number of new products that need to be analyzed for each region in West Pakistan is very large. A complete analysis, or even a listing of all alternatives, is beyond the scope of this report. Nevertheless, it will be useful to present several diversification illustrations.

It must be stressed that the major purposes of this discussion are to raise relevant questions, to set forth methods for analyzing alternatives, and to illustrate the types of data required for more precise analyses. Some of the alternatives presented may be economically unviable given present prices and production coefficients. This discussion also helps to point out possible conflict between production patterns designed to maximize farm income and those designed to correct diet imbalances.

### Increasing Animal Protein Production

#### Livestock Alternatives

Rising per capita incomes and growing urbanization will mean increased future demands for animal proteins to supplement diets that now consist largely of cereals. Sheep and cattle operations need to be established in advance of these demands, for it will take considerable time to develop herds, to create institutional arrangements for the purchase of factors and the sale of products, and to gain proficiency in management. Because livestock enterprises also may require larger units, different patterns of land settlement, and some redistribution of irrigation water, land planning should be done at an early stage in the settlement and development of new areas. A failure to do this early planning may result in the allocation of resources to types of farming systems that preclude the choice of better long-run alternatives.

In addition to providing a major source of protein for improved diets, livestock production offers a possibility for easing the foreign exchange position of Pakistan. One obvious opportunity for sheep production is the strong export market for wool. With an average wool clip of approximately four pounds per head per year (with possibilities for increasing this average) and an export price of Rs. 2.5 per pound, wool could become an increasingly important earner of foreign exchange.