

Better cultivation tools and practices, and more efficient bullocks

In view of the small size of cultivated plots, the lack of supporting maintenance facilities, and the ample supply of unskilled labor, West Pakistan is not yet ready for extensive mechanization of farming. For the present, bullocks should continue to serve as the main source of farm power, but their efficiency for cultivation can be greatly increased through the use of improved implements and better feeding. Improved bullock-drawn implements, including furrow-turning plows, rotary hoes, seeders, and fertilizer applicators, have been developed within the Province, but few farmers have them. These implements should be further improved where possible, produced in mass quantities, and made generally available. Where the farm size is insufficient to justify purchase of an implement, then perhaps the implement could be made available on a rental basis.

Because of inadequate feeding, bullocks are often too weak to cultivate land efficiently and to draw improved implements. In such cases, their customary feed (rice straw, ditch bank clippings, etc.) should be supplemented with grain, especially when the animals are worked.

Better cultivation tools and more efficient bullocks can be used to bring about increased yields in several ways: (1) by making possible better grading for irrigation, better seed bed preparation and more timely planting; (2) by facilitating row planting and cultivation, the proper spacing of seeds in the row, and the uniform application of fertilizer; and (3) by permitting better weed control.

Expansion of agricultural research and education

Sufficient agricultural research has been performed in the Province and especially in more developed countries, to indicate ways for increasing agricultural production in West Pakistan. But there remains a great need for additional research, mostly of an applied nature, to work out details, solve unique problems, and adapt known principles and methods to local conditions. For example, it is quite evident that increased use of commercial fertilizer will markedly increase yields per acre, but the best kinds, amounts, and methods, and time of application for various crops, especially in combination with other practices, is not known. Likewise,