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
Agriculture and Forestry

Comparison of Irrigation Performance Based on the Basin, Crop Pattern, and
Scheme Sizes Using External Indicators

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Abstract: A comparative assessment allows screening of irrigation systems based on the key issues relative to performance and indicates where improvements should be made, such as in type of management, infrastructure, crop pattern and intensity, and system size. The objective of this study was to assess the performance of 239 irrigation schemes (57 DSI-operated and 182 transferred to Irrigation Associations) based on the basin, crop pattern, and scheme sizes using 6 external indicators for 2001. The basins that grow mostly orchard and industrial crops have higher output per unit land and water than that of the basins that mostly grow cereals. ANOVA test results indicated that the differences in all the indicators except for the relative water supply among the crops in all schemes were statistically significant ($P = 0.05$). However, the differences in all the indicators except for the irrigation ratio among the size groups of all schemes were not statistically significant. Although more water than demanded (approximately 2.5 times the demand) is applied to the schemes, water is not used efficiently because output per unit land and water is relatively low, possibly due to inappropriate crop pattern and intensity, irrigation infrastructure, reliability of the data, education level of the managers and farmers, and structure of the administration.

Key Words: Irrigation scheme, comparative indicators, basin, crop pattern, scheme size

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