

Optimal Crop Planning for a Region in India by Conjunctive Use of Surface & Groundwater

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Water Resources Development, vol. 5, No. 2, 99-105, 1989

Optimal crop planning through the conjunctive use of surface and groundwater is necessary for the development of the agriculture-based Indian economy. In the present study a linear programming model was used to arrive at the optimal cropping pattern of a typical region between the Yamuna river and Eastern Yamuna canal. The optimal monthly allocation of canal and groundwater supplies was also determined. A sensitivity analysis was conducted upon the most important variables, namely, crop area, net individual benefit from various crops, canal and groundwater supplies, and their operation and maintenance costs.