

IRRIGATION SYSTEM PERFORMANCE ASSESSMENT
BY DECISION SUPPORT SYSTEM AND THE ROLE
OF A MODERN INFORMATION TRANSMISSION SYSTEM
IN ITS OPERATION

By

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ABSTRACT

The performance of most of the irrigation systems is deteriorating with time. Lack of reliable data and its evaluation by the concerned authorities is a serious constraint for carrying out sustainable improvements. The operational performance of the Mirpurkhas Irrigation Sub-division of Jamrao Canal has been evaluated for two seasons, i.e. Rabi 1996-97 and Kharif 1997. Similarly, the role of information system has also been conceptualized.

Irrigation water supplies vary from channel to channel and time to time. Out of the eleven offtakes studied, none has received a stable amount of water for some time (e.g. a week or so). The inequity in water distribution to different offtakes was the highest in the middle of the season and lower towards the beginning and ending of the cropping season.

Erratic implementation of rotational schedules has caused considerable variability in water distribution. Results showed that variability in the flow with rotation was as high as 120 percent, while ignoring the rotation periods, the variability was as low as 20-25 percent. Similarly, the reliability of water supply was also badly hampered by selective or arbitrary implementation of the canal closure plans.

On average, the gates of head regulators have been adjusted for more than 50 percent of the monitored period. The multi-gated head regulators have received more manipulations than single-gated ones. Usually, water levels are expected to increase in kharif and decrease in rabi; this is true for the West Branch Canal Section, while water levels in the Jamrao Canal Section have not changed much, only by 0.10 - 0.20 feet.

Proper downstream gauges and their calibration is essential for proper operation of the irrigation systems. Similarly, daily water depths data collection and its evaluation by the operating agency is of equal importance and has been recommended. The role of gate keepers and daroghas in decision making regarding the operation and regulation of the system needs to be eliminated. Reliable and accurate data about the design parameters and the dynamic data regarding the operation and regulation of the system should also be maintained.

The current manual information transmission system is time consuming and more prone to errors. The telecom facilities recently provided at the sub-divisional turnover points and the managers should also be extended to other important control points along the system. The teleprinter facility at the turnover points could play an important role in proper operation of the system

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