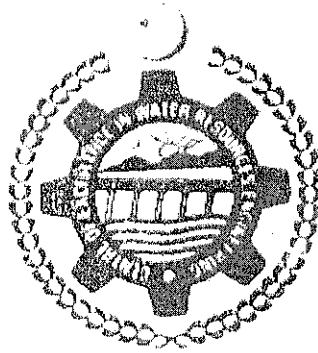


THESIS

**IMPACT OF CANAL WATER DISTRIBUTION ON
PRODUCTIVITY AND INCOME OF FARMERS**



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ABSTRACT

The study was aimed to quantify canal water distribution along with its impact on land productivity and farmers' income in selected watercourses of Thaman distributary. The distributary was divided into three reaches. Nine watercourses were selected along the distributary: three each at head, middle and tail reach of the distributary respectively. Discharge was measured at head, middle and tail ends of the selected watercourses. Crop yield and farmers' income were estimated through questionnaires and farmers' interviews.

The results confirmed that inequity of canal water distribution exists at tertiary as well as secondary level of the irrigation system. Delivery Performance Ratio (DPR) was used as an indicator of equity. It was found that overall average value of DPR at head, middle and tail ends of the selected watercourses were 0.78, 0.63 and 0.48, respectively, which reveal a considerable difference between the authorized and actual flows delivered to the farms. The results also confirmed the deprivation of tail-end farmers, as they were receiving 52 percent, on average, less water than their promised share. It was also found that the crop yield and income of the farmers were showing a decreasing trend along the watercourses as well as the distributary. The results revealed that farmers at tail ends of the watercourses were earning Rs. 499 to Rs. 3057 less income than the head-end farmers.

It was concluded from the results of this study that canal water is not distributed equally along the distributary to different watercourses and this inequity has direct impact on land productivity and income of the farmers.