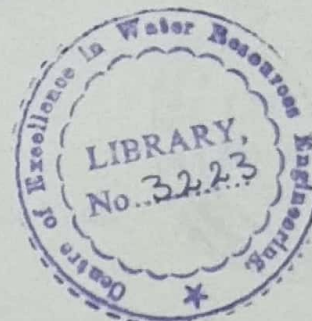


PROBABILITY ANALYSIS OF UPPER CHENAB CANAL

COMMAND RELEASES TO MEET CROP WATER

REQUIREMENTS



THESIS BY

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## ABSTRACT

This study was undertaken to establish whether known statistical and stochastic methods could be employed to determine the probabilities of Upper Chenab Canal Command releases to meet the ten daily crop water requirements.

For this purpose an assumption was made regarding the underlying distribution and was later verified that the data did follow the assumed Pearsonian type III distribution. The available data was then synthesised for a period of 100 years by the help of a modified Thomas and Fiering model. It was found that this modified model preserved the skewness of the observed data to a great extent in addition to preserving other statistical parameters.

Before carrying out the analysis, crop water requirements at the Canal head were computed using DELTA-2 model available with WAPDA. Later Probability analysis was carried out to determine success or failure to meet ten daily demands.

The method developed in this study has been found to be successfully employed for determining probable releases of Canal Commands vis-a-vis crop water requirements.