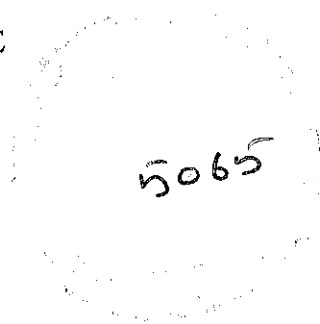


**IMPACTS OF MODEL AND PARAMETER VARIABILITY
ON DRAINABLE SURPLUS COMPUTATIONS**

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(93-PG-WRM-06)



**FOR THE DEGREE OF
MASTER OF SCIENCE IN
WATER RESOURCES MANAGEMENT**

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LAHORE 54890, PAKISTAN

August, 1994

ABSTRACT

Drainable surplus computations for any drainage project include the evaluation of different recharge and discharge components. Many models are available to compute the individual components of the drainable surplus. These models need selection of appropriate parameters, thus different persons will tend to select different models and parameters to compute the drainable surplus for the same area.

Different models were used to calculate the components of the drainable surplus (both recharge and discharge) for S-1-B area of the Fourth Drainage Project, Faisalabad. Wide variations were found in the results of individual components of the drainable surplus.

The drainable surplus were computed as a result of a combinatorial analysis of all possible combinations of the component results. This resulted in a large variations in the drainable surplus results computed for the same project area and for the same period of analysis. The computed drainable surplus varied from as low as 0.07 mm/day to as large as 1.01 mm/day, with an average value of 0.5 mm/day, and standard deviation of 0.16 from the mean value.

The results of the drainable surplus was analyzed for its frequency and distribution and the most probable value among all results was found to be 0.48 mm/day.

The drainable surplus results was found to be so widely varring that the use of a particular set of compinations for its calculation could over or under estimate the drainable surplus results computed for the same area and for the same period of analysis.