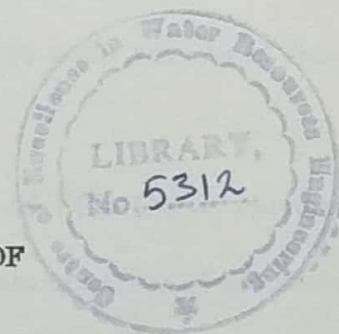


RELIABILITY OF SURFACE RUNOFF ESTIMATES USING
SOIL CONSERVATION SERVICE METHOD

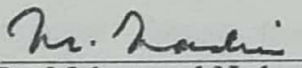
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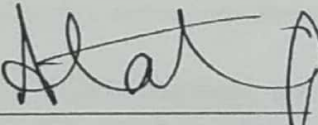
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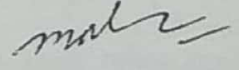
THESIS SUBMITTED IN PARTIAL FULFILLMENT OF
THE REQUIREMENTS FOR THE DEGREE OF
MASTER OF SCIENCE
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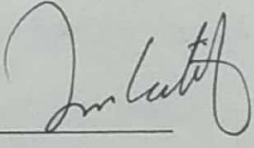


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ABSTRACT

Runoff estimation is a basic requirement for planning of a water resources project. SCS method is in use by different agencies in Pakistan for estimating runoff volumes from rainfall data for small ungaged catchments. The emphasis is on volume of flow rather than the instantaneous discharge.

No studies have been made to check the reliability of SCS Curve Number procedure to estimate volume of flow for local catchments. Main objective of the study was to explore the reliability of runoff estimates using the curve number procedure. Improvements proposed in the SCS method by Bales and Beston in 1982 were also reviewed. The results were less reliable when applied on selected catchments.

A correlation was developed between rainfall and Curve numbers (Curve number procedure as proposed by Bales and Beston in 1982.) to estimate the runoff however, the results were still less reliable. Monthly curve numbers were developed and runoff was estimated. Results from monthly curve numbers are reliable than other procedures previously used in the study. Improvements are required in SCS procedure if used for local catchments. Finally an alternate approach was proposed to estimate amount of runoff from rainfall on monthly basis for the selected catchments, which gives better results. This approach can be used after checking its reliability for other catchments.