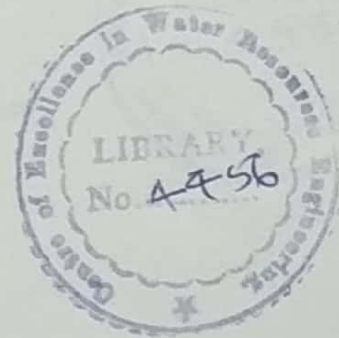


REGRESSION MODELS FOR  
REAL TIME FLOOD FORECASTING

BY

ENGR. SHAMSHAD AHMAD

FOR THE DEGREE  
OF  
MASTER OF SCIENCE  
IN  
HYDROLOGY



CENTRE OF EXCELLENCE IN WATER RESOURCES ENGINEERING  
UNIVERSITY OF ENGINEERING AND TECHNOLOGY  
LAHORE (PAKISTAN)

MARCH, 1992

## ABSTRACT

The objective of this study was to develop regression models to forecast floods one day advance of Jhelum river at Mangla. First, regression models were developed for each month of the flood season i.e May to September and second, a seasonal model for the whole season. Daily discharge of Jhelum river at Mangla was taken as dependent variable against the daily discharge of Jhelum river at Kohala and Mangla, daily discharge of Poonch river at Kotli and daily rainfall at Mangla, Palandri, Gujar Khan, Kallar, and Bagh of previous five days data. Six years (1979-1984) daily observed data of these stations was provided to SPSS/PC+ multiple linear regression package to formulate the regression models to forecast Jhelum river at Mangla.

Validity of these models was tested by comparing the observed and forecasted discharge for two years (1985 and 1987) other than that used in model calibration. Results achieved are quite satisfactory and indicate that the simulated models can effectively be applied to forecast floods of Jhelum river at Mangla one day advance.