

THESIS

DEVELOPMENT OF PHYSICAL MODEL OF RIVER INDUS FOR THE
PROTECTION OF MINCHIN BUND, PANJNAD CANAL SYSTEM AND
CHACHRAN TOWN

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ABSTRACT

DEVELOPMENT OF PHYSICAL MODEL OF RIVER INDUS FOR THE PROTECTION OF MINCHIN BUND, PANJNAD CANAL SYSTEM AND CHACHRAN TOWN

The role of physical hydraulic models is first discussed, with a brief listing of application areas. The concept of similarity is then presented with development of the model laws by making the basic fluid equations dimensionless and separately developing the model laws through a force ratio analysis. A detailed section on the applicability of the Froude's and Reynold's criteria discussed when these criteria do or do not need to be followed. Special model types including moveable beds and fixed bed river models are emphasized. River training works, their purpose and types in sub-continent and other world is then discussed briefly.

Then the method of developing a physical model with scale selection and operation is discussed. In order to get protection of Minchin bund against erosion at river Indus, a detailed physical model developed at Hydraulic Research Station Nandipur is discussed. The data and observations collected is analysed and on the basis of this analysis, the training works are recommended.

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