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Computer - assisted system analysis of Tapi river basin objective was to study system behavior resulting from various Tapi river basin management schemes pertaining to irrigation , hydropower and flood control using HEC - 5 assisted in evaluation for optimum utilization of Tapi river basin.

This study dealt with model calibration using past operation of the Rajjaprabha Dam to find suitable parameters that made a least different with operating data ;then applied them to the analysis of the Tapi river basin in 3 scenarios ; namely no development as scenario 1 ; only the Rajjaprabha Dam as scenario 2 ; the Rajjaprabha and Kaeng Krung Dam as scenario 3. The study used 28 years of data from B.E. 2507 to 2534.

The result from the study indicated that , Rajjaprabha Dam would not contribute irrigation area phase 1; but Kaeng Krung Dam would assist irrigation area phase2 up to 169,000 rai.The irrigation shortage criteria used was that irrigated water supply was less than 80 % water demand for 1 in 5 years.

The suitable hydropower generation should be 4 hrs./day for Rajjaprabha Dam and 5.5 hrs./day for Kaeng Krung Dam. Annual hydropower generation by Rajjaprabha Dam would be 480 million kwh. which was more than average annual requirements of 350 million kwh. Annual hydropower generation by Kaeng Krung Dam would be 169 million kwh. which was less than average annual requirements of 178 million kwh.

For flood control study ; since there was only one flood event that daily runoff data was available for the whole river system . Unfortunately the flood occured only in Tapi river but not in Khlong Saeng and Khlong Yan. Futhermore there was no suitable set of data for analysis , thus the efficiency of flood reduction by both dams could not be evaluated. In that particular event,both dams could reduce only little flood flow below the Khlong Phum Duang - Tapi river confluence , this was due to strong effect of local flow and Tapi river flow.