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In 2010 Lam Pra Pleung river basin have been affected from flood disaster due to severe rainfall. Water in the dam was increasing rapidly and was draining directly to Lam Pra Pleung river with $594 \text{ m}^3/\text{s}$. The water flowed over the bank and flowed into Pak Tong Chai Town Municipality. The flooding area of 90.06 km^2 occurred during 12 day. This study aims to study the flooding and flood mitigation in the Lam Pra river basin by using MIKE 11. 3 case study are considered. Firstly, increasing of Lam Pra Pleung reservoir capacity of 50 MCM can reduce outflow of $269 \text{ m}^3/\text{s}$. The flooding area was decreased about 9.85%, but the flooding period in Lam Pra Pleung River will be increased. Secondly, increasing the capacity of the Lam Pra Pleung reservoir and the construction of regulator can block the flow which connects to the canal in Ban Mai Pa Ta Bak and Ban Mhaung Ta Bao. In this case, it represents that flooding area in the southern part of Pak Tong Chai Town Municipality can be reduced but flooding area in Lam Pra Pleung River will be expanded. Finally, increasing the capacity of the Lam Pra Pleung reservoir and closing spillway regulator, was simulated. It can conclude that inflow hydrograph of return period of 20 years can be stored in the reservoir. The maximum reservoir level is still less than the maximum retention level. The effect of rainfall in this study area rarely cause the flooding Lam Pra Pleung river but in vicinity of confluence of Mun river. Flooding still occurs regarding to the back water effect of Mun river. Increasing the capacity of the Lam Pra Pleung reservoir, it means to alleviate flooding of the Lam Pra Pleung basin with appropriate flood management.

Student's signature

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