



## **Emergency Action Plans Implemented with Early Warning System (EAP-EWS) in Downstream Valley of Dams, a Real Case Study**

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### **Abstract**

Dams play a vital role in flood management and there is a close relation between effective flood management and dam safety. Therefore, the safety of dams and especially downstream valley of dams should be maintained at all phases ranging from design and construction to operation in accordance with legal aspects (guidelines, legislations and regulations), necessary measures for emergency planning and flood mitigation actions should be taken. It has been learned from past experiences that the best results in flood mitigation can be achieved by combining structural measures to non-structural measures. Emergency planning in terms of Emergency Action Plan (EAP), implemented with Early Warning Systems (EWS) where necessary, are non-structural measures to minimize flood impacts and play an important roles in emergency planning in case of dam break induced flood event. The aim of emergency planning is to save lives, minimize damages to properties located at downstream as well as environment, and real time warning to hazard zones located in downstream. In order to introduce early warning systems and the operation of crisis room, the experiences of using early flood warning system located in a dam site and downstream valley of a dam is shown. In this plan a Decision Support System (DSS) under title Citect is used to making sure decision makers and stakeholders about flood hazard. The results show that in order to mitigate the potential risks caused by both natural and technical reasons and to minimize the damages and casualties to the downstream induced dam break using EWS beside External Emergency Action Plan (EEAP) is necessary.

*Keywords: Dam break, Emergency action plan, EWS, DSS, Downstream valley of dams*