

عنوان مقاله:

Holistic Approach to Selection of Design Floods for Large Dams

محل انتشار:

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خلاصه مقاله:

This paper describes the crucial importance of balanced and rational criteria for selection of the design flood for large dams to developing countries (where the main risk from dam failure may be from floods) and to the world as a whole from the viewpoint of both safety and economy. This is followed by a summary of key problems that arise in developing and establishing such criteria. Solution of these problems will above all require a holistic approach and dependence on risk based approaches and recognition of effectiveness and adaptability of nonstructural risk reduction measures. When plausible threats are examined with a broad view of possible ways to detect problems or warn the downstream population, then risk reduction may be accomplished with a holistic, balanced, and, therefore, cost-effective approach. Accordingly it appears that in many developing countries faced with grave social and economic challenges, the structural safety should be determined by Economic Risk Analysis. Minimizing the residual risk should be achieved by efficient nonstructural approaches and by increased structural resistance by low cost means (such as overtopping protection). Considering the dynamics of numerous factors involved in dam safety, and the potential enhanced use and effectiveness of nonstructural options in coming years, the paper concludes that the overall risk accepted should be based on a shorter time step rather than 100 years commonly assumed for the life .(of the dam (incremental risk acceptance

کلمات کلیدی:

Hydrological safety, design flood, dam safety, criteria, risk analysis

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