报告题目： **谷坊在泥石流防治中的正负效应研究**

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摘要： 泥石流往往对其形成区、流通区及堆积区的生命和财产安全造成严重威胁。对比云南蒋家沟泥石流的 2 个主要支沟，即有谷坊布设的门前沟和没有谷坊布设的多照沟，通过对比它们在沟床纵坡降、沟谷两侧斜坡稳定性及泥石流侵蚀速率等 3 个方面的差异，说明谷坊是泥石流防治重要和有效的工程措施之一。研究表明，梯级谷坊工程能够有效拦蓄松散固体物质、抬高泥石流侵蚀基准面、降低沟床回淤段纵坡降、降低泥石流流速、增大泥石流能量耗散，从而达到固定沟床、稳定岸坡、促进植被生长，最终达到防治泥石流和水土流失的目的。同时，通过2010年舟曲等泥石流灾难性事件，说明谷坊发生破坏失效、甚至级联溃决后往往引发更严重的灾害，强调加强谷坊日常管理、谷坊加固的重要性。

Positive and Negative Effects of Check Dam against Debris Flow

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Abstract: Debris flow usually cause catastrophic hazards on the safety of human life and properties along its impact area. By comparing the Menqian and Duozhao sub-gullies of the Jiangjia gully (one with but another without check dam) on the channel gradient, lateral slope stability and erosion rate, it suggests that the check dam (group) is an important and effective engineering countermeasure against debris flow. The study shows that the check dam group could effectively block and store loose materials, uplift the erosion basement, lower the channel gradient and debris flow velocity, increase the energy dissipation, further stabilize the channel bed and the slope and fascinate the vegetation growth, which finally prevent and mitigate the debris flow. Additionally, the cases such as the 2010 Zhouqu debris flow event are discussed, which shows that the failure or chain-failure of check dam group would cause serious hazards. The positive effect indicates the importance of strengthening regular management and reinforcement of check dams.