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A community-based disaster risk reduction system in Wanzhou, China

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Abstract

A series of disaster risk reduction (DRR) programs were carried out in landslide-prone areas in the Three Gorges Reservoir (TGR) to improve community resilience. The Wanzhou District in the TGR was selected as a case to introduce the community-based DRR (CBDRR) system. The system is community-based and government-led with the assistance of experts, police, Red Cross, etc. It involves risk investigation, education and training, landslide monitoring, information analysis, early warning system and emergency response. The landslide mechanism and element at risk were ascertained after detailed field investigation. Based on investigation, a characterized education and training to local residents was carried out. The local residents living on landslides carried out the community-based landslide monitoring. Some simple but effective monitoring methods were applied, such as steel piles, mosaic, convergence meters and smart phone, which are widely used in community-based landslide monitoring. To comprehensively understand the landslide and the data monitored by local residents, a real-time landslide monitoring system was established on several typical landslides. At last, a successful landslide emergency response was introduced to well explain the early warning system and emergency response. After carrying out the CBDRR for a decade, the landslide resilience has enhanced and the local residents are more relieved to live on landslides.

Keywords

community-based; disaster risk reduction; emergency response; disaster resilience; Three Gorges Reservoir

1 Introduction

Over 3,800 landslides existed in the TGR were a huge threaten to local residents after reservoir filling[1].To reduce the casualties caused by landslides, a series of structural and non-structural measures have been taken on landslides with great threatens, such as engineering treatments, relocation [2] and

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