Geophysical Research Abstracts
Vol. 16, EGU2014-1328-1, 2014
EGU General Assembly 2014

New debris flow mitigation measures in southern Gansu, China: a case study of the Zhouqu Region

Muqi Xiong (1), Xingmin Meng (2), and Yajun Li (3)

(1) MOE Key Laboratory of Western China's Environmental Systems,Lanzhou University, Lanzhou, China (mengqi19892@gmail.com), (2) MOE Key Laboratory of Western China's Environmental Systems,Lanzhou University, Lanzhou, China (xmmeng@lzu.edu.cn), (3) Department of Geography Royal Holloway, University of London, London, United Kingdom (yajun.li.2013@live.rhul.ac.uk)

Abstract: A devastating debris flow occurred in Zhouqu of Gansu Province, China, on 8th August 2010, resulting in a catastrophic disaster, with 1463 people being perished. The debris flow valleys, as other numerous debris valleys in the mountainous region, had preventive engineering constructions, such as check dames, properly designed based on common engineering practices for safe guiding the town located right on the debris flow fan. However, failures of such preventive measures often cause even heavier disasters than those that have no human interactions, as the mitigations give a false safety impression. Given such a weird situation and in order to explore a much more effective disaster prevention strategy against debris flows in the mountainous region, this paper makes a comparative study based on two cases in the area of which one had preventive structures and one hasn't. The result shows that inappropriate mitigation measures that have commonly been applying in the disaster reduction practices in the region are of questionable. It is concluded that going with the nature and following with the natural rules are the best strategy for disaster reduction in the region.

Key words: debris flow disasters, disaster reduction strategy, preventive measures