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### 灾害地质

## 四川省8·13特大泥石流灾害特点、成因与启示 许强

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摘要:

2010年8月12~14日,四川省部分地区普降大到暴雨,在5·12汶川地震极重灾区的绵竹市清平乡、汶川县映秀镇和都江堰龙池镇诱发了极为严重的泥石流灾害。本次泥石流灾害表明:地震区和非地震区、震前和震后的泥石流在发育分布规律、启动条件、暴发规模、活动形式及其成灾方式和危害性等方面都具有显著的差别。通过对8·13清平乡泥石流、映秀红椿沟泥石流以及龙池泥石流的基本分析,表明8·13泥石流具有群发性、突发性、破坏性、灾害链效应等特点,同时还具有沿发震断裂呈带状分布、物源主要来自于汶川地震触发的崩滑堆积物、活动形式主要表现为"拉槽"侵蚀等显著特征。震区异常丰富的松散固体物源和极端气候所造成的局地短时强降雨是泥石流暴发的根本原因。针对汶川地震区泥石流暴发的新特点,应进一步加强对震区泥石流的防治,尤其是针对具有重大泥石流隐患的沟谷,一方面应提高设防标准,强化工程治理和专业监测预警,另一方面更应引入风险管理和控制的理念,注重"防""治"结合;"软""硬"结合;工程措施与非工程措施结合;"治理"与"管理"结合,调动全社会力量,共同防范地质灾害。

关键词: 8·13泥石流灾害 成因机理 群发性 灾害链效应 汶川地震区

THE 13 AUGUST 2010 CATASTROPHIC DEBRIS FLOW IN SICHUAN PROVINCE: CHARACTERISTICS, GENETIC MECHANISM AND SUGGESTION

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Abstract:

From 12 to 14 of August 2010, heavy rain even rainstorms have been dropped in part of area in Sichuan province, and catastrophic debris flow have been induced in Qingping town of Mianzhu city, Yingxiu town of Wenchuan county and Longchi town of Dujiangyan city, which belonged to the worst-hit areas of the 5·12 Wenchuan earthquake. This disaster was referred by government as the 13 August 2010 catastrophic debris flow in Sichuan province. This debris flow disaster demonstrated that the debris flow in seismic zone or in non-seismic zone, pre-earthquake or post-earthquake had significant differences in distribution, forming condition, scale, moving style as well as other disaster mode and harmfulness. Firstly, a brief introduction to the 8·13 Qingping, Hongchungou of Yingxiu and Longchi debris flows have been made in this paper. The characteristic and formation reason of the 8·13 catastrophic debris flow, in Wenchuan earthquake region, have been analyzed and summarized and several revelations and suggestions to the prevention of the debris flow in disaster area have been put forward. The research result showed that the 8·13 debris flow not only had the characteristics of group properties, sudden features, destructiveness and hazard chain effect, but also had the significant characteristics of zonal distribution along the seismic fault, materials mainly coming from rock slide deposit which triggered by the Wenchuan earthquake and down-cutting being the mainly moving mode. Extraordinary abundant loose solid materials and local short-time heavy rainfall by the extreme climate in the earthquake region were the basic reason of the debris flow occurrence. In allusion to these new characteristics of the debris flow in Wenchuan earthquake region, the prevention

measures to debris flow in earthquake region should be strengthened, especially those valleys of great debris flow hidden trouble. On the one hand, the standard of the garrison should be improved and the engineering management as well as specialty monitor should be intensified. On the other hand, risk management and control ideal should be brought in. The combination of prevention and administration, the combination of soft and hard, the combination of engineering measures and non-engineering measures, and the combination of administration and management was supposed to be focused on. What else, mobilizing the whole society to prevent geological disaster all together.

Keywords: The 13 August 2010 catastrophic debris flow Genetic mechanism Group properties Hazard chain effect Wenchuan earthquake region

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