STRUCTURAL STUDY OF THE HUANGTUPO LANDSLIDE IN THE RESERVOIR AREA OF THE THREE GORGES PROJECT OF THE YANGTZE RIVER, CHINA

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In 1995 two slope failures at the Huangtupo slope in the Reservoir Area of the Three Gorges Project have attracted great attention of engineering geologists and the government of China. Although much research has been done for the slope, controversy still exists over the characteristics of the slope. Identification of the slope architecture and restoration of its deformation history will be the key to understand the characteristics of the slope. Based on the thorough field investigation, three-stage model of downslope overlapping – landsliding – modification is proposed to the evolution of the slope deformation. Long-term deformation referred to here as "downslope overlapping" is identified, which can be classified as two basic types, i.e. toppling and deep-seated creep. The Huangtupo landslide with volume of $4 \times 10^7 m^3$, elevation of 640m at the back and of 80m at the front edges is derived from the preceding downslope overlapping and brings into being the step-like landform. The significant evidence for the landslide is the varied attitudes of structural surfaces and lines of outcrops at the slope. The landslide has being modified by many secondary landslides. It is concluded that the downslope overlapping–landsliding–modification is an organic process of deformation and failure of the Huangtupo slope.