Geophysical Research Abstracts, Vol. 7, 02558, 2005
SRef-ID: 1607-7962/gra/EGU05-A-02558

Slope instability in down the Tajan dam in North of Iran

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The Tajan dam located about 30 km from south of capital city of Sarry in the north of Iran The study area has a humid climate and covered by forest. The mean annual rainfall of area is more than 1500 mm. The lithology of area include alternative of limestone, sandstone, marl and sandy marl. The strength beds of limestone and sandstone make cliff morphology and the marl beds show a low terrain and hilly topography. The marl beds show the highly swelling properties when wetted. The depth of weathering is different from 3-10 m, and reach up to 40 meters in the fault zone. The area under study has a highly potential for instability. Usually many landslides occurred simultaneously after trigger events such as huge or long time rainfall or an earthquake. The high slopes usually show the creep phenomena. The depth of creep is under the effects of roots and lies in the interface of weathered and fresh rock. There are many slump slides in the bank of rivers and roads. Under cutting of river is the main reason for these slides. There is a large ancient rotational slide in the left embankment of Tajan river about 200 meters from the dam axes. In this study the landslide inventory map of area is produced and the most effective parameters in their occurrence are introduced. Then, based on the landslide map, the stable site for power plane is proposed.