

## **Mechanism of high risk Akha landslide**

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For interpretation the mechanism of motion and predicting the time to rapid failure and also, the length of travel distance after main failure, it is necessary to prepare large scale of surface and underground maps as well as monitoring data.

Akha landslide with the dimensions of 700m width and 900m length is located in northeast of Tehran. Two villages and public service buildings are located in active zone of this landslide. It seems that the main effective cause of its reactivation is due to the rapid development of garden and farmland on hillside. Many houses were damaged around its major and minor scarps.

Field investigation has been started since 1996. It has been conducting in two categories; field study and monitoring works. Large scale of surface topography and geology maps (1/500) were prepared. The geology of the area is composed of weathered material detached from lime stone, marl stone and clayey shale of Jurassic so called as Shemshak Formation in this area.

For study the mechanism of motion, two sets of devices have been used. Since 1998, the displacement of surface has been detecting using GPS method. The result is satisfactory till the end of August 1999. Few extensometers are fixed along active scarps. Simoultaneusely the precipitation and ground water changes are monitoring on site.

The processing of obtained data confirms that the main effective factor on frequent activities of landslide is ground fluctuation during rainy seasons and artificial irrigating periods.