



The use of soil bioengineering techniques in roadside slope stabilisation- a practical approach at the landslide of Pokhara–Sarangkot in Nepal

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In Nepal various soil bioengineering techniques are being used in order to address the roadside slope stability problems in a sustainable way. This paper shows practical implementation work of soil bioengineering measures at a landslide along Pokhara-Sarangkot road in western Nepal.

The 7 km long road sector was constructed in 1995. At that time, there was no use of any soil bioengineering techniques. All of the retaining structures were made of either gabion or masonry construction. Just after the completion of the road, small slope failures were started during monsoon. During the monsoon in July 2007 a huge landslide occurred. About 20 m length of road section has been damaged. In this section gabion retaining wall was constructed before and failed. The length of slide is about 250 m, average width is about 25m and the height difference is about 100 m.

Now the land slide is stabilised using series of vegetated bamboo crib walls. Hedge brush layers will be positioned between the cribwalls to prevent shallow seated slope failures. The surface water coming along road and from the top of hill is diverted to the side drain. Bushy vegetations are planted on the top of bamboo crib wall at road side to function as a parapet wall.

This contribution represents details of the implementation work of soil bioengineering by the Department of Roads. A special focus will be given to the local circumstances at the construction site. Furthermore this example also addresses the application of soil bioengineering techniques as a successful alternative engineering solution in comparison to conventional retaining structures such as masonry, concrete or gabion walls.