

# **Natural Disaster Prevention and Mitigation through Vetiver System**

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## **Abstract**

Slope stabilization and protection utilizing appropriate optimal “hard” engineering method, combined with vetiver grass technology or vetiver system wherever applicable, provide cost-effective and satisfactory results in China, Australia, Thailand, and Vietnam. Wherever land leveling, cutting of slopes, land filling, before, during and after constructions, namely roads, railways, irrigation canals, dikes dams, railways, infrastructures, buildings, etc., are concerned, vetiver system implementation can reduce erosion and subsequent landslides.

Torrential rainfalls sometimes reach 100-300 mm/days for 1-2 weeks when successive typhoons, cyclones or hurricanes hit high-risk area in different parts of the world. The results are landslides, collapsed buildings, cut off bridges, highways; and economical mitigation is the combination of mitigation, integrating “hard” conventional engineering methods and vetiver system.

Successful establishment of vetiver hedge rows and regular maintenance ensure the survival and effective erosion control of vetiver technology system. The maintenance cost is much less than that of “hard” conventional techniques for natural disaster prevention and mitigation. Vetiver system application in young forest trees, rubber trees, fruit trees and cash crops on slope-land agriculture reduces erosion and silting in the drainage system.

The implementation of training on community-based animal feeds, handicraft, and compost production utilizing vetiver increases the income of the people. When the inhabitants earn income from vetiver products, they adopt vetiver and grow them willfully. With this approach, sustainable vetiver system has been developed and proliferated in Madagascar and Venezuela.