Vetiver Solution

A Total Success in Landslide Stabilization at Itaipava, Petropolis, Rio de Janeiro, Brazil



João Eboli*, Paulo. Rogério** and Paul Truong***

***Telecommunication Engineer, Itaipava, Petropolis, RJ – Brazil**

e-mail: jheboli@gmail.com

**** Geotechnical Consulting Engineer,Pomerode-SC-Brazil**

e-mail: prrog@terra.com.br

***** Director, TVNI, Brisbane, Australia**

e-mail: truong@uqconnect.net

ICV5 Fifth International Conference on Vetiver 28-30 October 2011, Lucknow, India

Landslide in Brazil

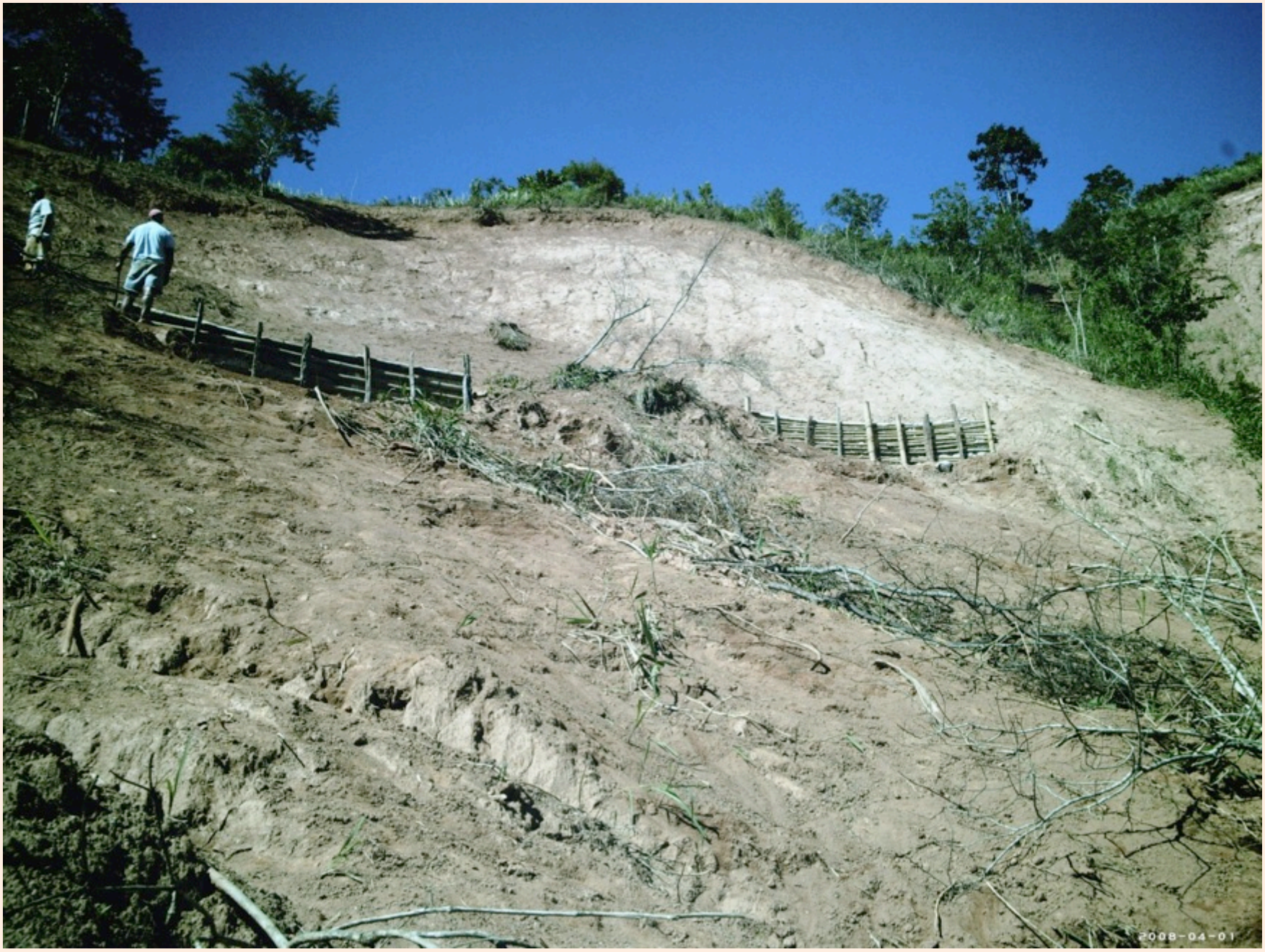
Landslide like this is common in Brazil due to highly erodible soil and extreme weather

Landslide at Itaipava, Petropolis, Rio de Janeiro

Site before Landslide

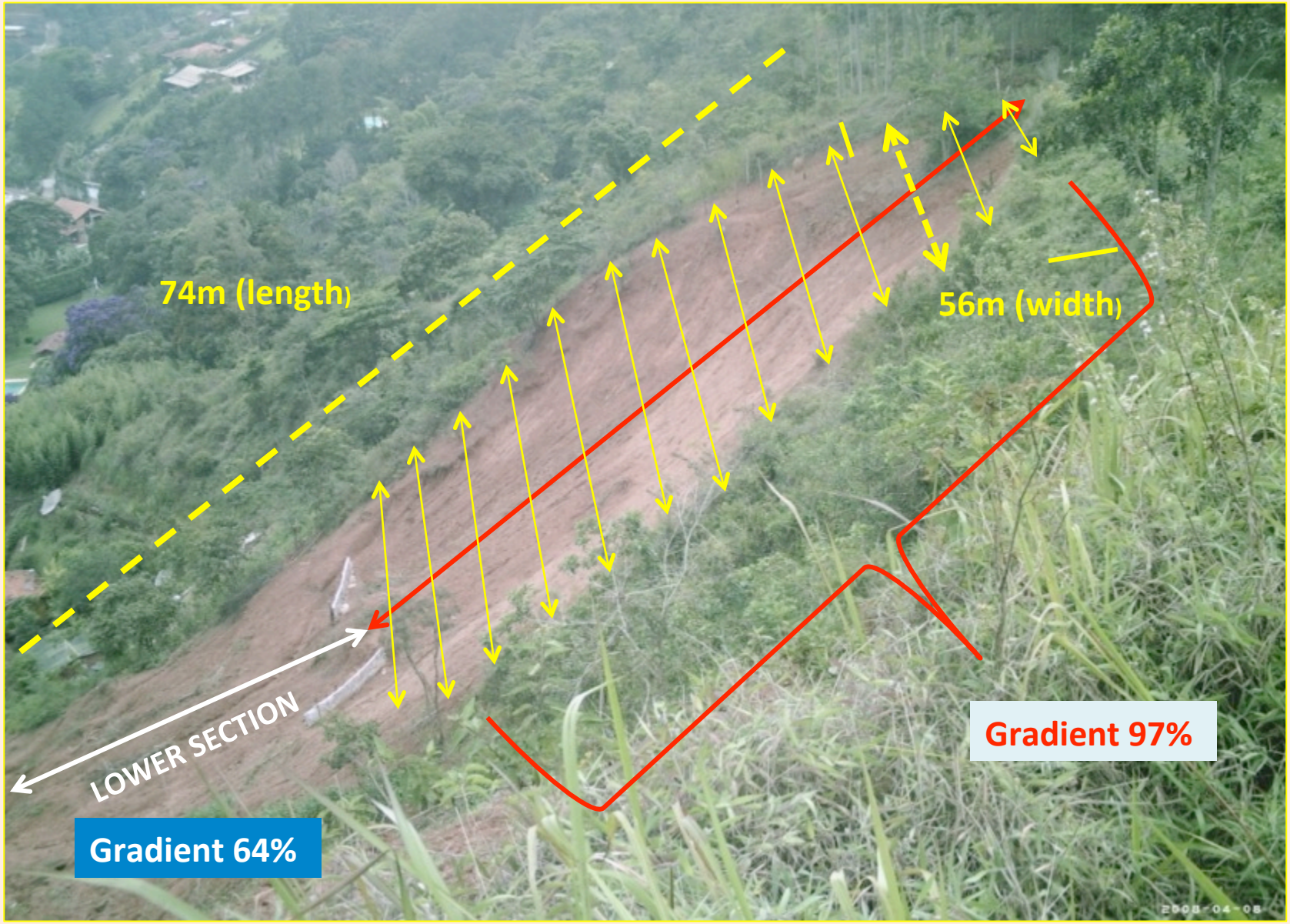
Site after Landslide

Site after Landslide



Landslide direction

Site steep gradient (66%-97%) and planting layout



Site preparation

Preparation of polybags in nursery

Planting on contour lines ay 1m Vertical Interval

New planting overview

Steep slope planting overview

One year after planting

Three years after planting and withstood several intense storms

Supporting Materials: Logs from vetiver leaves

Vetiver Logs trapped sediment and enhanced growth

Supporting structures: Terraces with soil bags

Supporting plants: Pintoi peanut to improve soil fertility

A green solution: Four years later

Conclusion and Recommendations

- **After four years the slope has maintained its integrity demonstrating and proving that Vetiver grass can rehabilitate and maintain slopes affectec by landslides.**

- **The use of VS for the stabilization of slopes not steeper than 1:1**

- **The VS will fail when not properly applied or not well maintained.**

- **The Vetiver when installed and following the correct technical guidelines is a guaranteeed success**

Perhaps the only real defect of the Vetiver solution is: Too cheap to be true, too cheap to believe when compared to heavy stone structures.


Thank You
01/11/2010