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

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Landslide like this is common in Brazil due to highly erodible soil and extreme weather.
Landslide at Itaipava, Petropolis, Rio de Janeiro

Joao Eboli House
Site before Landslide

Site after Landslide
Landslide direction

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

74m (length)

56m (width)

Gradient 97%

Gradient 64%

LOWER SECTION
Site preparation
Preparation of polybags in nursery
Planting on contour lines at 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

Trapping sediment

Vetiver Logs
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 affected 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 guaranteed 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