

# Methods to Improve Vetiver Grass Establishment on Steep Slope



**Dr. Paul Truong**

***Veticon Consulting***

***[www.uqconnect.net/veticon](http://www.uqconnect.net/veticon)***

***Brisbane, Australia.***

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# **Methods for improvement of Vetiver Grass Establishment**

**Currently there are three commonly used methods to improve Vetiver Grass establishment on very steep slopes**

- 1. Geofabrics - Australia**
- 2. Eco Mortar (Shotcrete)- Colombia**
- 3. Sand (soil) Bags - Brazzaville Congo**

**All these methods are used to control surface erosion, improve moisture and nutrient retention, and weed control.**

# AUSTRALIA

## Open weave Jute Geofabrics



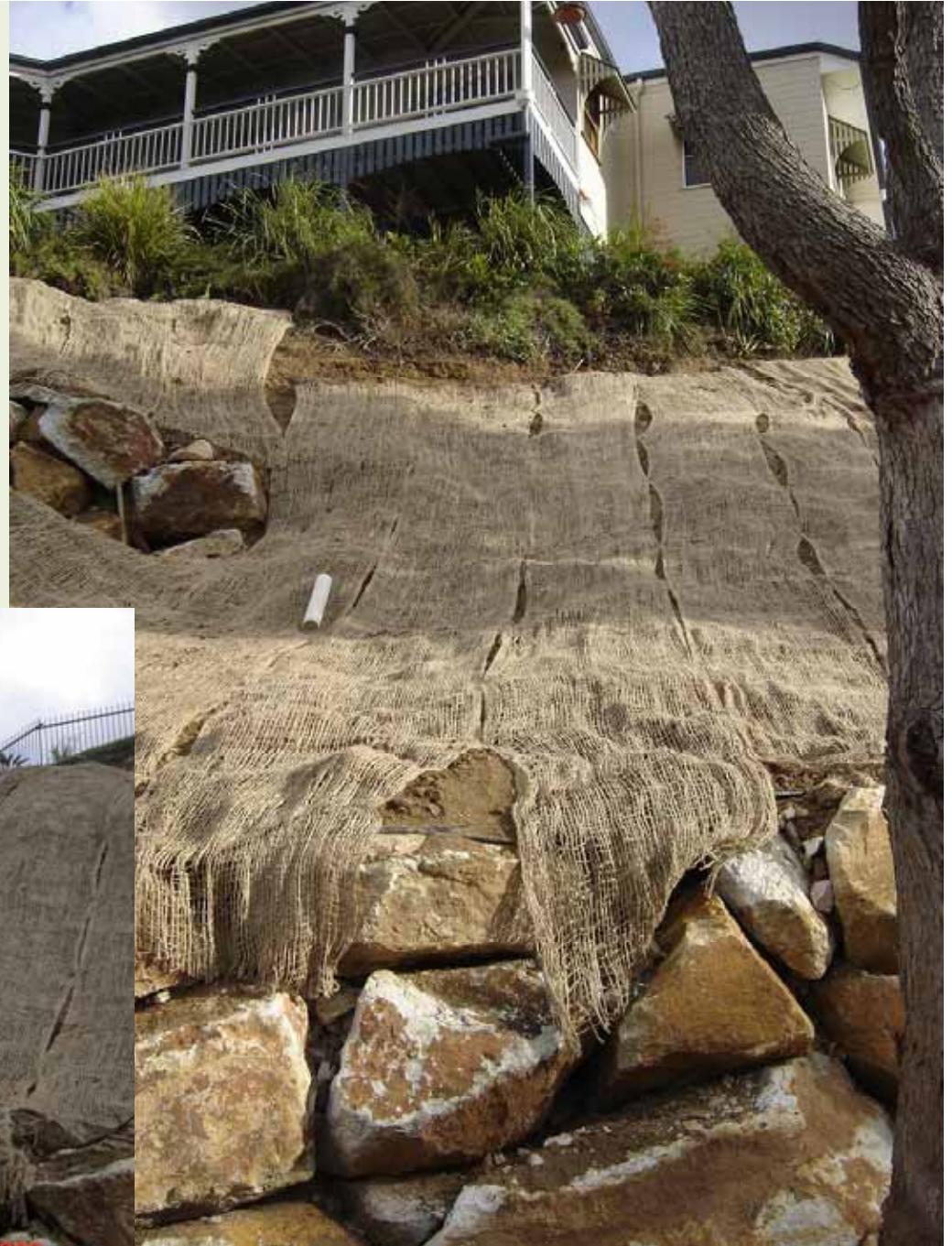
## Geofabrics

Can be made from organic materials such as jute, coconut fiber or synthetic materials



# AUSTRALIA

**Jute Geofabrics  
completely covered the  
slope**





# AUSTRALIA

**Six weeks after  
planting**





**Two and eight  
months after  
planting**



**AUSTRALIA**

# COLOMBIA

## Eco Mortar

Is a weak shotcrete, (a mixture of cement, soil and fiber). Eco Mortar was developed and used extensive in Colombia by MECETA . The following slides show how it is used to stabilize very steep slopes



# COLOMBIA



**Landslide on highways  
is a common hazard in  
Colombia**



**COLOMBIA**



**Application of Eco  
Mortar on the rough  
soil surface**



## Application of Eco Mortar



**COLOMBIA**



**COLOMBIA**



**Vetiver planted following application of Eco Mortar**



# COLOMBIA



**Completely cover  
the whole slope with  
vetiver plants**



# COLOMBIA

**Excellent establishment due to erosion control, moisture and fertilizer retention**



**COLOMBIA**



**Extremely steep  
slope covered with  
Eco Mortar**



**COLOMBIA**



**Excellent establishment  
due to erosion control,  
moisture and fertilizer  
retention**





# **BRAZZAVILLE CONGO**

**West Africa  
Ravine rehabilitation**

## **Sand Bags**

**Bags can be filled with sand, soil and fertilizer or a mixture of sand and soil where local soil is poor or rocky.**



# BRAZZAVILLE CONGO

**Vetiver is planted  
into the bags with  
soil and fertilizers**



# BRAZZAVILLE CONGO

**Excellent  
Vetiver growth  
and ravine  
stabilized**



*Thank You*