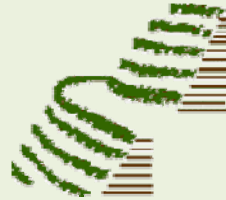


Methods to Improve Vetiver Grass Establishment on Steep Slope



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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



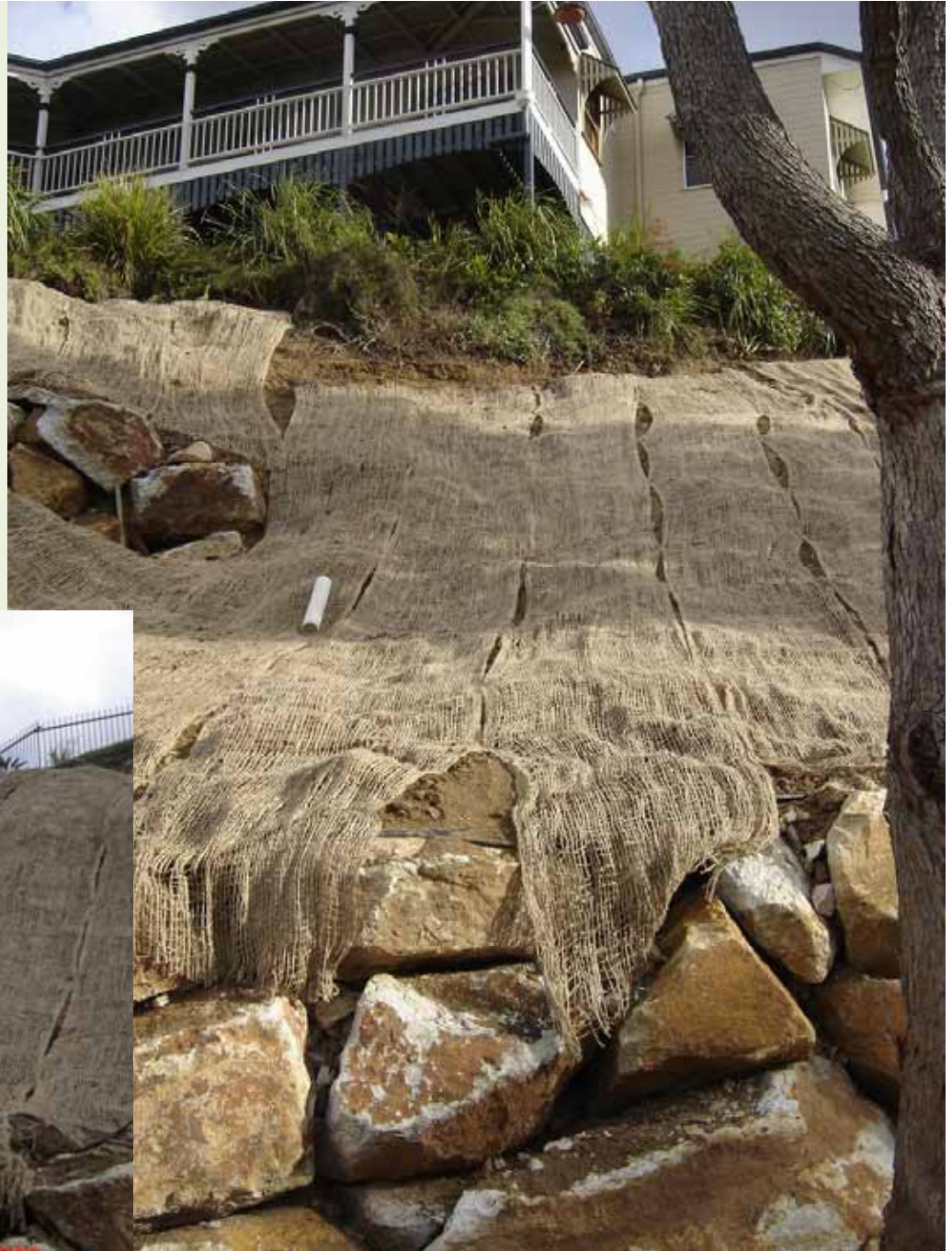
Geofabrics

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