



# VETIVER GRASS:

## A solution for Land Rehabilitation

By **Fiona Imbali**

*Cultivation of Vetiver grass (*Chrysopogon zizanioides*) is one of the best ways of preserving soil especially in drylands. Its effectiveness has been proven through practice since more than 120 countries are documented as currently using it to rehabilitate degraded land. It can survive harsh climatic conditions and communities in dryland areas could also explore Vetiver grass' commercial viability.*

**V**etiver grass is known principally for soil and water conservation. Its deep root system enables it to tolerate extreme climatic conditions including prolonged droughts, flooding, fires and frost. It can tolerate a wide range of soil acidity levels and plays a vital role in clearing heavy metals from the soil. However, it is intolerant to shade.

Dr. James Owino, a lecturer at Egerton University, notes that arid regions cover roughly a quarter of the global landmass, and an estimated 70 per cent of Arid and Semi-Arid Lands (ASALs) experience moderate

to severe desertification. More than 33 percent of Kenya's population inhabits the ASALs. Vetiver grass' lack of stolons (long stem or shoot) and rhizomes (a thick underground horizontal stem) enhances its drought-tolerant characteristics.

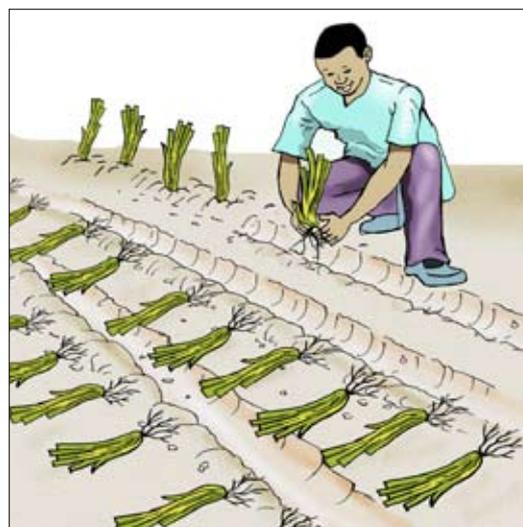
"Vetiver grass could be used to support afforestation programs. When planted across the slope, it develops into a narrow barrier of stiff stem grass hedge that reduces soil loss and water runoff. The grass can provide a source of fodder for livestock as well as promote plant diversity which makes it an effective tool that could help combat desertification. Its strong root systems enables the soil to bind together ensuring that it can withstand the effects of tunneling and cracking. The roots grow downwards and thus do



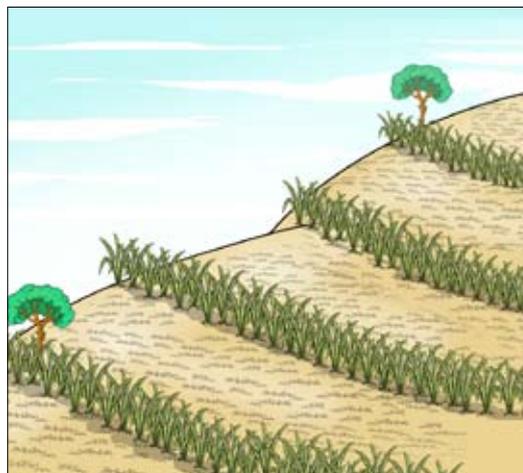
*Cut the roots to 4 or 6 inches long to prevent them from drying.*



*Keep Vetiver grass trimmed to a height of 12 to 20 inches and divide into individual splits.*



*Plant each split into a properly dug terrace on spacing between 4 to 6 inches apart.*



*Vetiver Grass growing on a hilly slope.*

not compete with crops growing next to the hedge," observes Dr. Owino.

Currently in Kenya, Vetiver grass projects are mainly located in the Coast, Rift Valley, Nairobi, Nyanza, Eastern and Western provinces.

## How to Grow Vetiver Grass

Vetiver grass grows in clumps. It is recommended that one plants it during the start of a rainy season when the ground is wet.

### Directions

- ◆ Get a clump of Vetiver grass
- ◆ Cut the roots to 4 or 6 inches (15cm)
- ◆ Keep the grass trimmed to a height of 12 to 20 inches
- ◆ Divide the clumps into individual splits
- ◆ Plant each split using spacing of between 4 and 6 inch or 45 cm by 45 cm
- ◆ Ensure that the nursery is watered properly and mulch with dry grass

- ◆ During its initial stages, ensure that weeds are controlled effectively.
- ◆ Rapid multiplication can be achieved by dividing and replanting.
- ◆ Cut the grass before flowers appear.

## Uses of Vetiver

- ◆ Dried roots can be used for the production of scented soaps as well as perfumes.
- ◆ Vetiver grass has been known to clean up the soils: In Thailand, Vetiver hedges captured and de-contaminated pesticides such as carbofuran, monocrotophos and anachlor used in cabbage growing thus preventing them from contaminating and accumulating in the soils and crops. On pineapple farms in Queensland Australia, it was able to filter river beds.
- ◆ Vetiver grass controls pests, diseases and weeds; its roots attract pests like the stem borer and once they lay eggs on the hairy roots, it prevents the larvae from moving to the leaves.
- ◆ Traditionally, it has been used as medicine in Asian countries. It is generally used for cosmetology, aromatherapy, making handicrafts and thatching among others.

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*...Vetiver grass controls pests, diseases and weeds; its roots attract pests like the stem borer and once they lay eggs on the hairy roots, it prevents the larvae from moving to the leaves..”*

Goats feeding on Vetiver.



## Case Study: Paul Mwadime's Vetiver grass Farm in Voi



*Top: A water pan rehabilitated by vetiver grass.*

*Left: Mwadime in his vetiver farm in Voi.*

For over a decade, Mr. Paul Mwadime has championed the cultivation of Vetiver grass in his home area of Voi in Kenya's Taita Taveta County. Despite abounding challenges, he is widely sought after for his efforts to promote environmental conservation through growing of the grass.

"When I started cultivating Vetiver grass in Voi, none of the local farmers knew about it. I had tried to plant Napier grass but I realized that it could not sufficiently curb soil erosion. The local tree varieties which were recommended took a long time to mature yet the community needed a quick solution to land rehabilitation," stated Mwadime.

Mwadime leased land and started a Vetiver nursery which he used to teach the community about the grass. He notes that some community members were skeptical about the viability of the project but after several forums with them, some took it up and are currently reaping maximally from it.

### Successes

Mwadime has collaborated with various organisations including the National Environmental Management Authority (NEMA) and European Union. "In 2011, I was awarded a certificate of technical excellence by the Vetiver Network International for my efforts in promoting Vetiver technology in Kenya. During the Mashujaa day celebrations this year, I was also feted as an environmental hero. Recently, I sold Vetiver to a Non-Governmental Organisation in Kajiado worth Shillings 150, 000 (US\$ 1747)."

Most of the land in his home area is rehabilitated and the yields have improved tremendously. He has helped his community stabilize river banks like the Wundanyi River. "Several farmers have now started cultivating Vetiver alongside other crops. Some have ventured into fish farming and the Vetiver comes in handy as it stabilizes fish ponds."

If taken up by the government and various stakeholders, cultivating Vetiver especially for the communities in the arid areas will go a long way in curbing desertification.

Mwadime can be contacted through his email: [mwadimekombo1@yahoo.com](mailto:mwadimekombo1@yahoo.com), or his mobile numbers: +254734835029/ +254724783690.

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