The Vetiver System: A Toolkit in Support of Community-Led, Climate Change Adaptation

By Tim Motis

This article summarizes a presentation from the 2023 ECHO International Agriculture Conference. The presentation, available on ECHOcommunity.org, featured many more applications of vetiver. You can also find a wealth of information on The Vetiver Network International website, vetiver.org.

Vetiver in systems

Jim Smyle, Chairman and President of The Vetiver Network International, presented The Vetiver System as a practical and affordable option for community-led adaptation to climate change. The Vetiver System, as a concept, refers to the many uses of vetiver grass (*Chrysopogon zizanioides*).

Vetiver grass:

- is clumping
- is long-lived
- thrives in the tropics and subtropics.
- has fibrous roots
- is non-invasive due to its sterile seeds

Figure 1. Vetiver hedgerow along the contour of sloping ground at the ECHO Global Farm in southwest Florida. Source: Tim Motis

Benefits and cultivation of vetiver

Smyle pointed out that the benefits of vetiver grass are well documented. Applications of vetiver serve as a valuable toolkit of proven technologies. Smyle presented many positive traits of vetiver that contribute to its usefulness. One of the most significant of these is its fibrous roots that grow downward, reaching a soil depth of 5 m or more. Vertical instead of lateral root growth minimizes competition with nearby crops.

To cultivate vetiver:

1. Multiply it by division (Vetiver Network International, 2021) 1

2. Plant individual plants close together to form a hedge (Figure 1).

With deep, extensive roots and dense, stiff shoots, vetiver hedgerows along slope contours are extremely effective in protecting soil from erosion.

Many climate-related challenges can be addressed by making use of vetiver. Table 1 lists a few examples that Smyle mentioned.

Table 1. Some of the ways vetiver can be used to cope with climate-related challenges.

Challenge	**How vetiver helps**
Drought*	Conservation of soil moisture and improved infiltration of water
Flooding	Reduced runoff along with trapping of sediments and ground stabilization
Land degradation	Conservation of soil moisture, reduced soil erosion, retention of sediments, and removal of toxic chemicals and heavy metals

* Droughts can be anywhere from 2 to 8 months in length

Reference

The Vetiver Network International. 2021. "How to Propagate Vetiver." *Photo Essay on Propagation.* https://www.vetiver.org/vetiver-grass-technology/how-to-propagate/