



VETIVER SYSTEM FOR ENVIRONMENTAL PROTECTION AND NATURAL DISASTER MANAGEMENT

National Workshop on Vetiver System

**21st 22nd and 23rd February 2008 at Cochin, Kerala. INDIA
(First Announcement)**

India Vetiver Network (INVN) and the Vetiver Network International (TVNI) propose to organize a National Workshop on Vetiver System on 21st 22nd and 23rd February 2008 at Cochin, Kerala. The workshop will be jointly sponsored by Kanan Devan Hills Plantations Company (PVT) Ltd., (KDHP), Tata Tea Limited, and The Vetiver Network International (TVNI)

The main objective of the workshop is to bring together key stakeholders from agriculture, industry, highways, railways, irrigation, drainage, mining, health and urban management both from the private and public sectors.

Vetiver grass, *Chrysopogon zizanioides*, has been variously referred to as ‘a miracle grass’, ‘a wonder grass’, ‘a unique plant’ ‘an amazing plant’ ‘a versatile plant’, ‘a living barrier’, ‘glory to the land’, ‘an eco friendly grass’ etc., a clear indication of its versatility. Few plants have the capability of being at the same time *economically* and *ecologically* important. Vetiver grass possesses both qualities making it one of the most versatile plants of the present day when both economical and ecological implications are of utmost importance. Few plants have emerged from obscurity to prominence in such a short time. It is probably one of the most researched (in many tropical countries, including India) plants for “environmental mitigation” applications. The many properties of vetiver grass were little known twenty years ago, but are now known through out the world. Few plants have received so much attention from such a wide range of people from all walks of life. Of late vetiver grass has emerged as one of the favorite subjects of research workers, extensionists, engineers, academicians, consultants, developers, and politicians all the way down

to ordinary farmers in many countries in all the five continents.

Vetiver grass, known in many parts of India as Khus Khus, has its center of origin in India and has been known for millennia for, amongst others, its use as a perfume, for medicinal uses, and in some areas for its soil conservation properties. Since the mid 1980s its application, elsewhere in the world, has been widely extended as an important plant for erosion control, land stabilization, water quality improvement, slope stabilization, pollution control, handicrafts, and other important applications associated with natural resources management and protection.

We envisage participation of around 300 delegates in the Workshop. We anticipate eventual introduction of the Vetiver System in our country in its widest form of applications. The duration of the workshop will be 3 days (2 days conference and 1 day field visit). KDHP and TVNI have arranged for the most experienced Indians and international Vetiver System specialists to be key resource persons at the workshop. Some of these persons have been researching and developing key components of Vetiver System applications over the past 20 years. The workshop will be oriented towards practice and applications in India.

You may be aware that the themes of the previous four International Conferences on Vetiver (ICVs) are as follow:

- ICV-1: Vetiver Grass - A Miracle Grass (1996 - Chiang Rai, Thailand)
- ICV-2: Vetiver and the Environment (2000 - Phetchaburi, Thailand)
- ICV-3: Vetiver & Water (2003 - Guangzhou, China)
- ICV-4: Vetiver & People (2006 - Caracas, Venezuela)

For details of the applications of Vetiver System, you may visit the website www.vetiver.org. For your ready reference a brief note on Vetiver System is attached.

Both national and overseas participants are welcome. **People interested in participating in the workshop should contact:**

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Vetiver System for Environmental Protection and Natural Disaster Management

The problems we face are growing at a pace that challenges our ability to solve them.

- Soil loss results in physical, chemical and biological degradation and loss of ability to produce food.
- Land slides, unstable slopes and flooding destroy agricultural land and valuable infrastructure.
- Silting of drains, lakes, reservoirs and rivers reduce storage capacity and can result in flooding
- Overuse and misuse of large areas of land and contamination of toxic run off from mine dumps, land fills, feedlots, salinization, etc., require extensive reclamation programs.
- Water polluted by mineral or organic sediments as well as the pollutants mentioned above detrimentally affect drinking water supplies, fresh and saltwater fisheries, and coral reefs.
- Decreased groundwater recharge in watersheds results in local water shortages.
- In attention to site stabilization and maintenance results in infrastructure failure and losses.

Solutions are often too complex or costly given existing resources and capacity

- The complexity and high cost of engineering and structural designs; ambitious and impractical environmental protection and remedial practices - often due to over demanding design engineers and supervisors - and unnecessary high-end quality control measures, as well as, amongst others, bureaucratic accounting and bidding procedures.
- Low potential for sustainability due to lack of funds for maintenance, unsuitability to local conditions/capacity, or need for continuous subsidies to maintain effectiveness.

Many of these problems share a common solution in **THE VETIVER SYSTEM.**

What is Vetiver System?

The Vetiver System (VS) originally known as Vetiver Grass Technology (VGT) is a low cost simple technology for soil and water conservation and environmental protection. It is dependent on the use of a unique tropical plant – *Vetiveria zizanioides* L Nash. (Recently reclassified as *Chrysopogon zizanioides* L.Roberty) whose centre of origin is India. The technology was first promoted for the agricultural sector by the World Bank for soil and water conservation and later extended by the Vetiver Network International to cover non agricultural sectors through bio-engineering and phyto-remediation for environmental protection such as slope and embankment stabilization, reclamation of waste land,

rehabilitation of contaminated land, water purification, pollution control, prevention or mitigation of natural disaster and recently poverty alleviation. The plant can be grown over a very wide range of climatic and soil conditions and if planted correctly can be used virtually any where under tropical, semitropical and Mediterranean climate.

When planted in rows Vetiver plant will form a hedge, a living porous barrier that slows and spreads run off water and traps sediment. As the water flow is showed down, its erosive power is reduced and at the same time allows more time for water to infiltrate to the soil and the hedges trap any eroded material. Although most hedges can do this function Vetiver plant due to its extra ordinary and unique morphological and physiological characteristics can do it better than all other systems tested.

The species of *Chrysopogon zizanioides* that is promoted in more than 100 countries including India for Vetiver System application originated in South India, is a sterile, non invasive and has to be propagated vegetatively using tillers separated from vetiver clumps. Generally nursery multiplication of bare rooted plants is the preferred method. These are then planted 15cm apart on the contour in hills and across the water flow in plains to create a barrier of stiff grass that acts as buffer and spreader of down slop water flow and a filter to sediment. A good hedge will reduce rainfall run off by as much as 70% and sediment by as much as 90%. A hedgerow will stay where it is planted and the sediment that is spread out behind the hedgerow gradually accumulates to form a long lasting terrace with Vetiver protection. It is very low cost but labour intensive technology (linked to the cost of labour) with very high cost benefit ratios. When used for civil works protection its cost is about 1/25th of traditional engineered systems and designs.

Although the many applications of Vetiver grass are now accepted worldwide, implementation of this in a commercial scale in India is yet to take place. The Vetiver system can be used by most of the sectors involved in rural and community development and infrastructure development which include railways, highways, canals, levees, pollution control, waste water improvement and other uses, including handicrafts and medicinal purposes.