

Vetiver Activities by the Vetiver Network - Southern African

An overview of the activities where TVNI has been proactive in Southern Africa

- **DNA Research at University of North West, South Africa**
The DNA research 19 different Vetiver isolates collected by Roley Nöffke from around the world by the University of North West, South Africa under the mentorship of Professor Sandra Barnard was completed during 2013. See attached report from Prof Barnard.
- **Research by Rudy Scheepers at the Municipal Sewer Works, Stellenbosch, South Africa**
Rudy is civil engineer with GIBB (Consulting Engineers) specializing in waste water treatment. He has embarked with various companies and government centers in the Western Cape (South Africa) on water quality improvement projects with Vetiver.

Project Initiatives

He has submitted a research proposal with Department of Agriculture Western Cape to conduct studies on their research farms with Floating Vetiver Systems (FVS) on various agricultural wastewaters. The proposal was submitted in Feb 2013 for review and recommendation. No feedback as yet.

1. Stellenbosch Municipality has taken the initiative in 2012 with financial support from the Dutch Ministry to use floating vetiver systems in an effort to reduce high nutrient levels for specific irrigation streams. This project has not yet commenced for various administrative reasons.
2. He is busy collecting data from pilot floating vetiver systems on Stellenbosch Wastewater treatment works from December 2012. Both Universities: Stellenbosch University for water quality computer modeling and University of Cape Town for wastewater treatment processes with vetiver as a biological buffer treatment system intend to assist with infrastructure to develop a research station for floating wetland systems.
3. The floating vetiver system project as an alternative wastewater treatment solution was submitted for the Nedbank Green funding event. The project was awarded second place as an innovative green solution in treating wastewater. Large mining companies showed interest and project proposals were submitted to them for evaluation.
4. Tests on wine wastewater in large ponds are still in process for FVS. We are presenting some results on the South African Society for Enology and Viticulture (SASEV) in November this year.
5. A local cheese factory showed interest to apply such a system on their ponds. Still under investigation.

The main focus is to develop a sustainable research centre with universities in SA to continue conducting research with vetiver as a phytoremediation approach. The universities also have the platform to apply for further research funding.

The long term goal is to develop FVS models for design purposes on various wastewaters in South Africa. Other agricultural applications in water treatment is ongoing.

Project Ideas

There are various storm water ideas we are busy compiling for students on litter control and nutrient reduction opportunities. SA is not producing any vetiver oil. We have located Andrew Hall that was the first initiator vetiver oil extraction in 2009. He developed a pilot plant. However the system is collecting dust. We are busy with a Stellenbosch chemical engineering department to initiate a first for SA vetiver oil refinery for research purposes. Currently we have no information on vetiver oil quality produced through FVS. This may be another community initiative to produce more vetiver for such a market.

- Workshop and Training of local communities in the use of Vetiver for Erosion Control and Land Rehabilitation**

Workshops/training at Hydromulch facilities Johannesburg, South Africa was carried out in association with DAFF (Department of Agriculture, Forestry & Fisheries), Limpopo Province, South Africa and Hydromulch (TVNI/IECA). 3 workshops were held during 20012/13 were around 150 people were trained in soil conservation and erosion control techniques using Vetiver grass. More workshops are scheduled to follow.
- TVNI- Southern Africa and Sukyo Mahikari (an International Community/Environmental Development Organisation) operating in South Africa under the guidance of Robin Maharaj**

They have included Vetiver as part of their Enviro-Care activity. Have started discussions with Department of Agriculture (Natal), Hospitality & Tourism Industries and Umgeni Water, South Africa regarding setting up Vetiver handicraft training courses in South Africa with the Royal Development Board, Thailand. The proposal has been positively received and they are waiting funding from the various departments.
- IECA Mining Conference-Australia 21 to 24 May2013**

Topic of paper presented by Roley Nöffke – Community development & Poverty Alleviation on Mining projects in Madagascar. A general overview of Vetiver utilisation on Madagascar mining projects with case studies was given –Well received by the delegates.
- WOCAT – TVNI/IECA Conference in Pretoria, South Africa during July 2013**

Topic of paper presented by Roley Nöffke – Poverty alleviation programs utilizing local communities for environmental restoration; Case studies from Madagascar and Limpopo province in South Africa. The paper gave a general overview of the past work in Madagascar working with the local communities as well as focusing on the combined work between DAFF and Hydromulch (under the auspices of TVNI/IECA) with 3 different communities in the Limpopo Province, South Africa -This opened many eyes on the multiple uses of Vetiver and the potential interaction between WOCAT and TVNI/IECA.
- DAFF (Department of Agriculture) Expo at Polokwane, South Africa during August 2013**

Topic of paper presented by Roley Nöffke – Vetiver Grass for combating land degradation including international best method practices for implementation in Rural Areas, Limpopo Province, South Africa. The paper gave a general introduction to TVNI and the IECA; the history of Vetiver in South Africa (planted as far back as 1892 in Transvaal); its characteristic's; an overview on Vetiver's phyto-remediation, waste water pollution control and pest management abilities as well as its social upliftment and community participation potential. -This opened many eyes on the multiple uses of Vetiver and its potential for use in social upliftment.
- An Environmental Rehabilitation project in Gabon for OLAM (Singaporean registered International Company).**

The rehabilitation of 20 hectares of extremely difficult and unstable side slopes on the Gabon Special Economic Zone project in the town of Nkok, Gabon. The project is currently in the maintenance period and hand over is expected by October 2013.