



SLUF



TVNI



Sustainable Land Use Forum (SLUF)

**National workshop on The Vetiver System for
Soil & Water Conservation, Environmental
Protection and Land Rehabilitation in Ethiopia**

March 16-18, 2009

Ghion Hotel, Ethiopia



Workshop Participants Group Picture

A 3 days **Workshop on “The Vetiver System for Soil & Water Conservation, Environmental Protection and Land Rehabilitation in Ethiopia”** was conducted by SLUF in collaboration with The Vetiver Network International (TVNI) and Sida from March 16-18, 2009 with the aim to scaling out/up the use of the Vetiver System for SWC, environmental rehabilitation, stabilization and protection of infrastructures, and mitigation of climate change in Ethiopia.



Program introduction
Debela Dinka
(SLUF Programme Manager)



Welcome Addressing
Dr. Habtemariam Abate
(SLUF Executive Director)



Keynote Addressing
Abdulahdy Mohammed
(Sida National Programme Officer)



Opening Speech
Sileshi Getahun
(MoARD, NRM Directorate Director)



Introduction to The Vetiver Network International
Richard Grimshaw
(Founder & TVNI Chairman)



Facilitating
Dainel Danano
(MoARD, SLMP Coordinator)

The overall objective of the workshop was to enhance the use of vetiver grass in Ethiopia through the sharing of international and national experiences among invited participants and 17 highly experienced resource persons.

A total of 161 participants of policy making bodies of government & non-government organizations, research and higher education institutions, farmers, individuals and the private sector working on environmental protection and

food security in Ethiopia have participated. Nine of the resource persons were from abroad representing TVNI while eight were Ethiopians.



Partial overview of the workshop participants

Below are some of the pictures of the resource persons from Abroad and Ethiopia.



Roley Noffke



Eng. Elise Pinners



Dr.Paul Truong



Eng. Yoann Coppin



Richard Grimshaw



Professor Johnnie Van den Berg



Habtamu Webshet



Dr. Tesfaye Kumssa



Baye Mekonnen



Tesfu Kebede

The workshop provided a good platform for sharing worldwide experiences, awareness creation, networking and scaling up of the use of VS in Ethiopia. At the end of the workshop a network was established by volunteer members representing the above mentioned organizations to advance the promotion of the Vetiver System in Ethiopia.



Panel Discussion on progress



Workshop Closing Speech
Adane Kassa
Vice Chairpeson of SLUF BoD

Summary of workshop deliberation is presented as follows:

Summary of Workshop

As compiled by: Dick Grimshaw, Chairman, The Vetiver Network International

1. **Vetiver System application.** Ethiopia has made significant progress in the introduction of VS over the past 20 years. It is a world leader in VS application for Soil & Water conservation.

a. Agriculture and Soil and Water conservation.

- i. VS work in Ethiopia can be supported by worldwide VS practices and research results that corroborate research results in Ethiopia on the impact of VS on soil and water conservation: reduction in soil loss is as high as 90% and reduction in rainfall runoff is 70%.
- ii. If correctly planted and managed, there is plenty of evidence that suggests that VS should replace conservation structures such as engineered terraces. It is entirely probable that graded engineered terraces have negative benefits to farmers and the environment,

because these conventional structures move water off the land and are costly to construct and maintain.

- iii. Good practice multiplication and planting techniques have been well established in Ethiopia – some modification will be needed in drier areas with rainfall of less than 500 mm.
- iv. Environmental benefits include: soil fertility improvement and maintenance; increased soil moisture, improved groundwater recharge and related wetland restoration and clean drinking water availability
- v. Farm benefits include: increased crop yields (as high as 50%) and forage, reduction of pests (stem borer and nematodes), provision of mulch, and other byproducts such as handicraft material, mushroom substrate, thatch, and more.
- vi. If nematode reduction is confirmed this could be of significant importance to vegetable growers, particularly for the production of potato, tomato, etc.
- vii. VS negates the Slash and Burn system of farming (Madagascar).
- viii. VS has great potential for farms on black cotton soil in lowland areas.
- ix. VS will clean up excess agricultural chemicals and other farm pollutants when applied to clean up farm waste water.





On -Farm Flood Protection



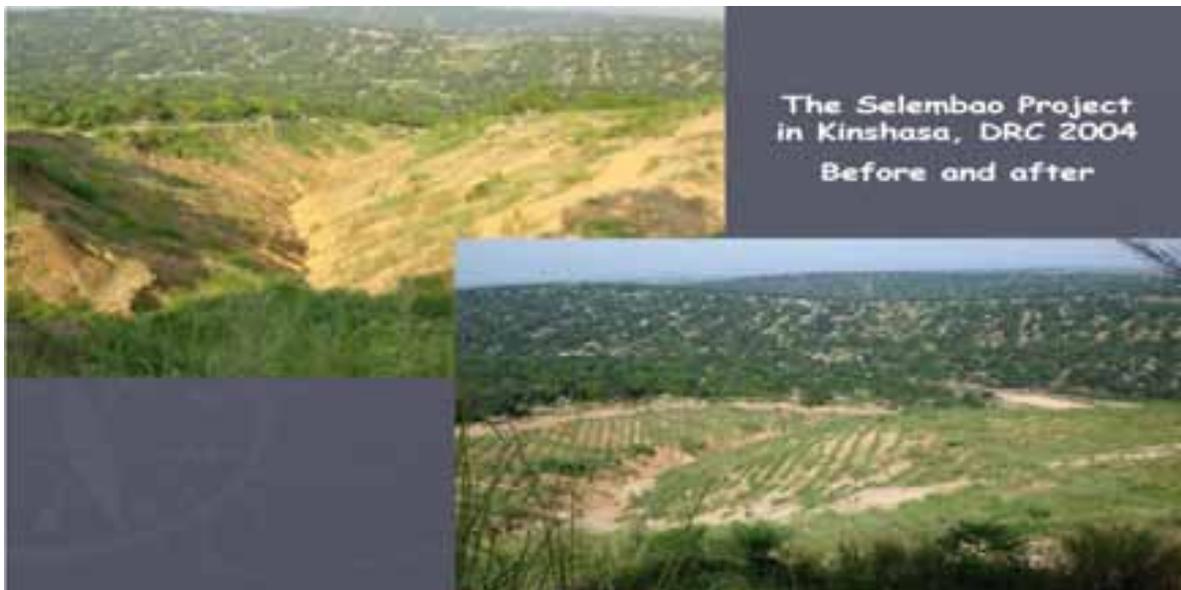
Farm land protected with vetiver terrace Metu- Ethiopia

b. Land rehabilitation.

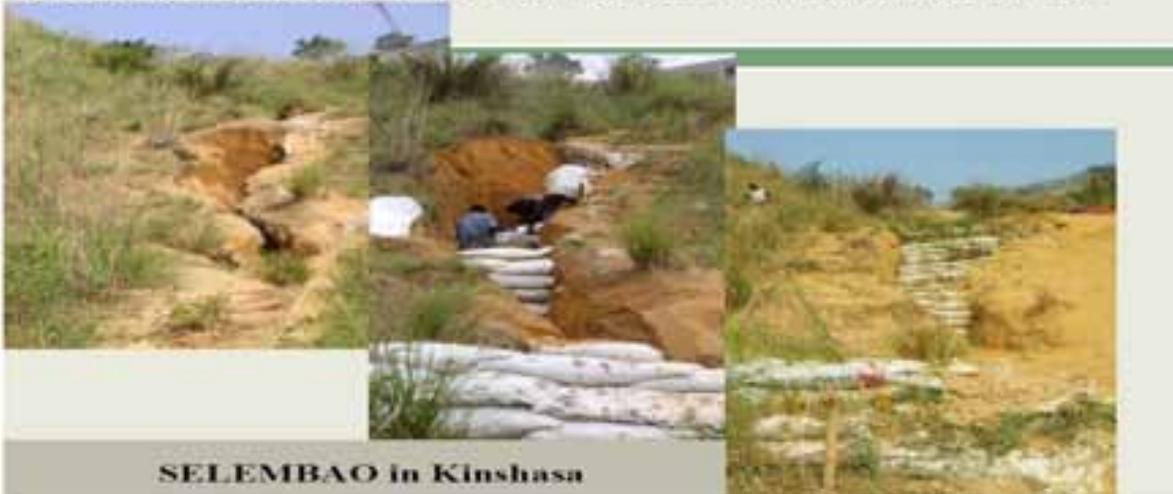
- i. Anno Farm and others have clearly demonstrated the key VS component in rehabilitating degraded farmland. VS and minimum tillage practices are a good combination: VS provides habitat for beneficial insects to control insect pest build up in minimum tilled land.
- ii. VS should be used for land rehab – has special reference to forestry development (assisting reforestation).
- iii. VS practices have special relevance to gully control: in DR Congo there are excellent examples of urban gully restoration, using sandbags reinforced by Vetiver.



Ethiopia



In certain cases it is necessary to stabilize the head of a gully using sand bags in association with vetiver: Kinshasa, Selembao ravine



c. Slope Stabilization.

- i. VS should be used widely for slope stabilization – highways, railways, river banks, levees, canals, drains and building sites. Technical specs need review and amendment. These specs should be incorporated into design and contract documents.



Bridge abutment stabilization

d. Contaminated water and land.

- i. VS for waste water and toxic site cleanup has huge potential in Ethiopia. If applied it would significantly impact on improving health and reducing environmental damage. Data and experience from other countries is available, that can be used effectively in Ethiopia.





2. Community and Watersheds

- a. Community and Watershed development should go together. Communities have an interest in all aspects of livelihood improvement – agriculture, land, water, health, etc. VS is a cross cutting technology that is commonly applied addressing most of the community needs related to land and water issues.
- b. Communities and those who serve the communities need to be aware of all VS applications to assure optimum use of the technology.
- c. In developing priorities in the community/watershed point source sediment and pollution sites should be prioritized for VS treatment.
- d. Along with VS training, handicraft training should be introduced using VS as source material (amongst others plastic bag replacement, roof thatching, etc.).



Handy Craft using Vetiver Grass

3. Future VS Research. There is a lot of opportunity to refine existing research carried out in Ethiopia and in other countries. The following are some of the research priority:

(a) ground water recharge, (b) pest management – particularly VS impact on nematodes, (c) VS establishment and management practices in drier zones and on degraded lands, (d) gully control, (e) VS and its potential as a bio-fuel (VS has high BTU value but needs “compacting” into logs and or pellets to reduce speed of burning – should look into Indian type improved cooking stoves), (f) carbon sequestering, (g) Vetiver plant collection to identify different cultivars that may have evolved in Ethiopia, (h) management of VS for forage and the balance between cutting for forage and the maintenance of the hedge as insect habitat, (i) research into economic and social aspects of Vetiver applications. We know it is low cost – but how low? We need to quantify both cash and economic benefits better.

4. Up Scaling.

- a. **Training:** Will be required for users and those who service communities. Short sector focused workshops work best. VS course work should be introduced in schools and universities. Special workshops for community leaders would be useful.
- b. **Publications and information:** Good and relevant publications and other information need to be developed and made available on large scale.
- c. **Plant material:** Private sector needs to expand multiplication of good quality slips. As demand grows this should not be difficult if properly orchestrated. Vetiver “banks” should be established.
- d. **Technical Specifications:** These need reviewing and establishing.
- e. **Institutional and Service Organization role:** Much of this is already in place. It will need review, modification, and clarification.

5. Policy.

- a. Government should be firmly committed to the up-scaling of VS and should incorporate VS use in all relevant sectors. The role of government departments, NGOs, private sectors and end users should be clearly defined.
- b. Current policy relating to FFW funds for structures should be reviewed. It is possible to cover 5 times or more land improvement using VS than structures. Net benefits from structures are minimal compared to VS.
- c. Government should fund relevant training and research.
- d. Bilateral and multilateral funding agencies should be informed that VS is part of government policy for land and water development. Special stand alone VS funded projects should be considered.

- e. Monitoring systems need to be developed to identify VS application and impact. High-resolution satellite imagery can do much of this.

6. Conclusion. At this time of increasing hazards from climate change and population demand The Vetiver System would appear to be the best stand alone technology that, if widely applied, would at low cost and without high demands on professional and financial resources, result in significant and sustainable improvement of water and land resources. Based on the past 20 years of experience in Ethiopia and other countries wide up-scaling of VS in Ethiopia could be done relatively quickly (10-20 year program) and would have great impact on poverty reduction and the betterment of a sustainable environment.