



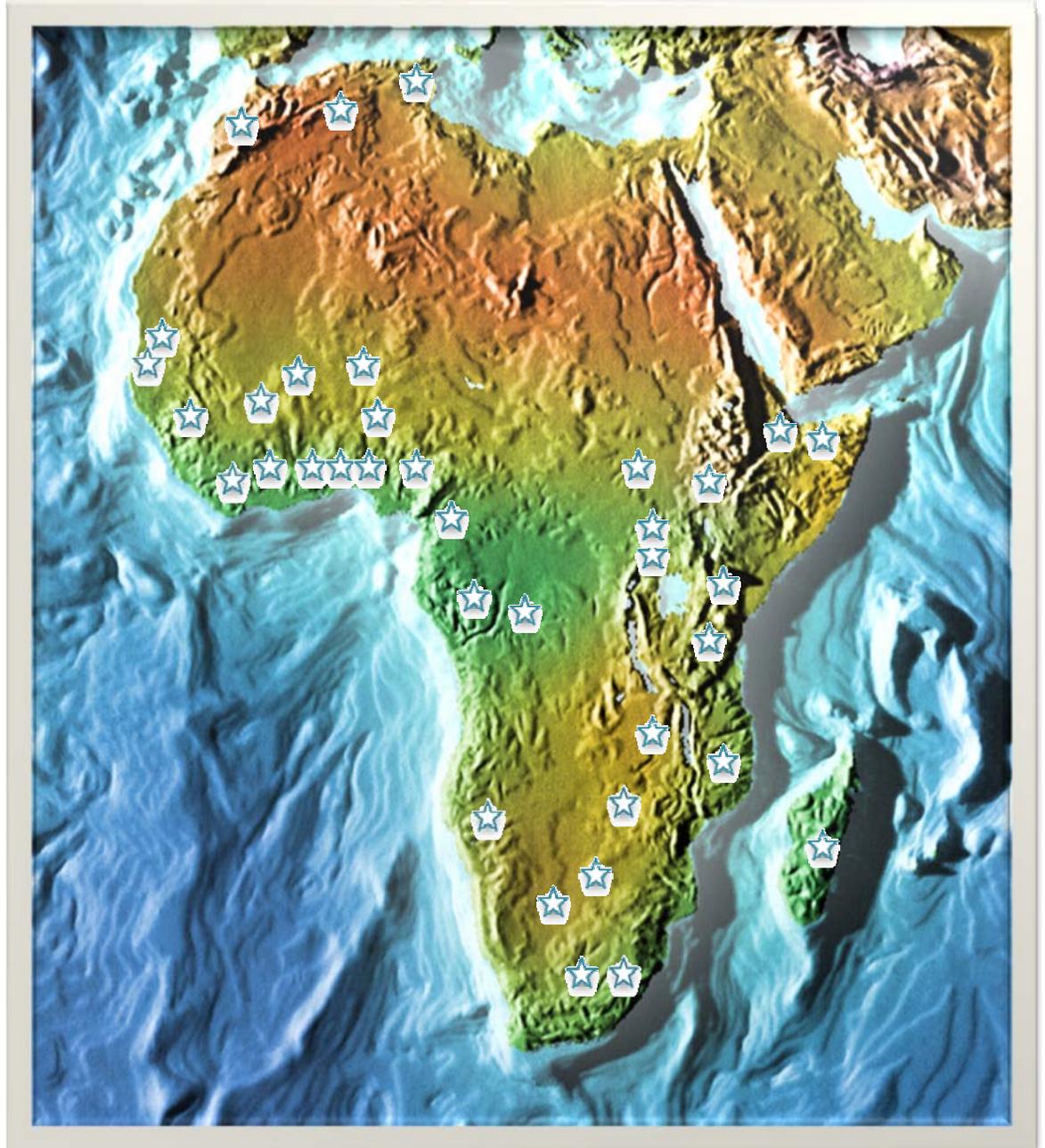
Vetiver in Africa: A continent-wide solution

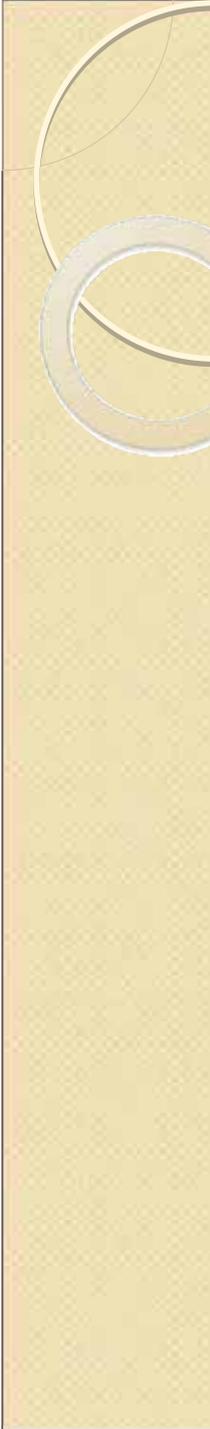
**NATIONAL WORKSHOP ON THE VETIVER SYSTEM
FOR SOIL & WATER CONSERVATION,
ENVIRONMENTAL PROTECTION & REHABILITATION
IN ETHIOPIA**

March 16, 2009

Dale Rachmeler, Ph.D

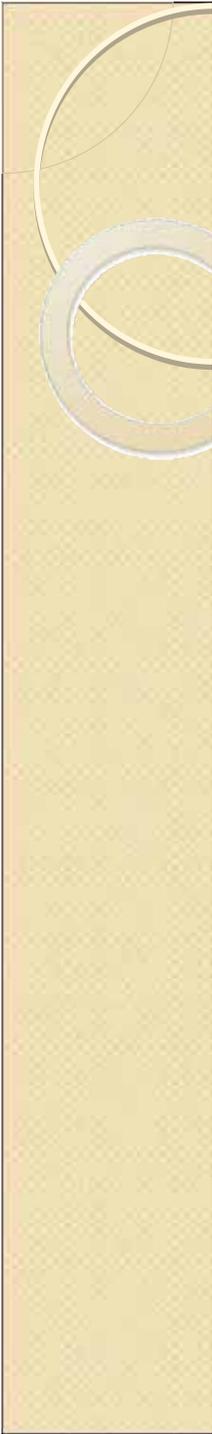
**Known
vetiver
locations**





Major applications

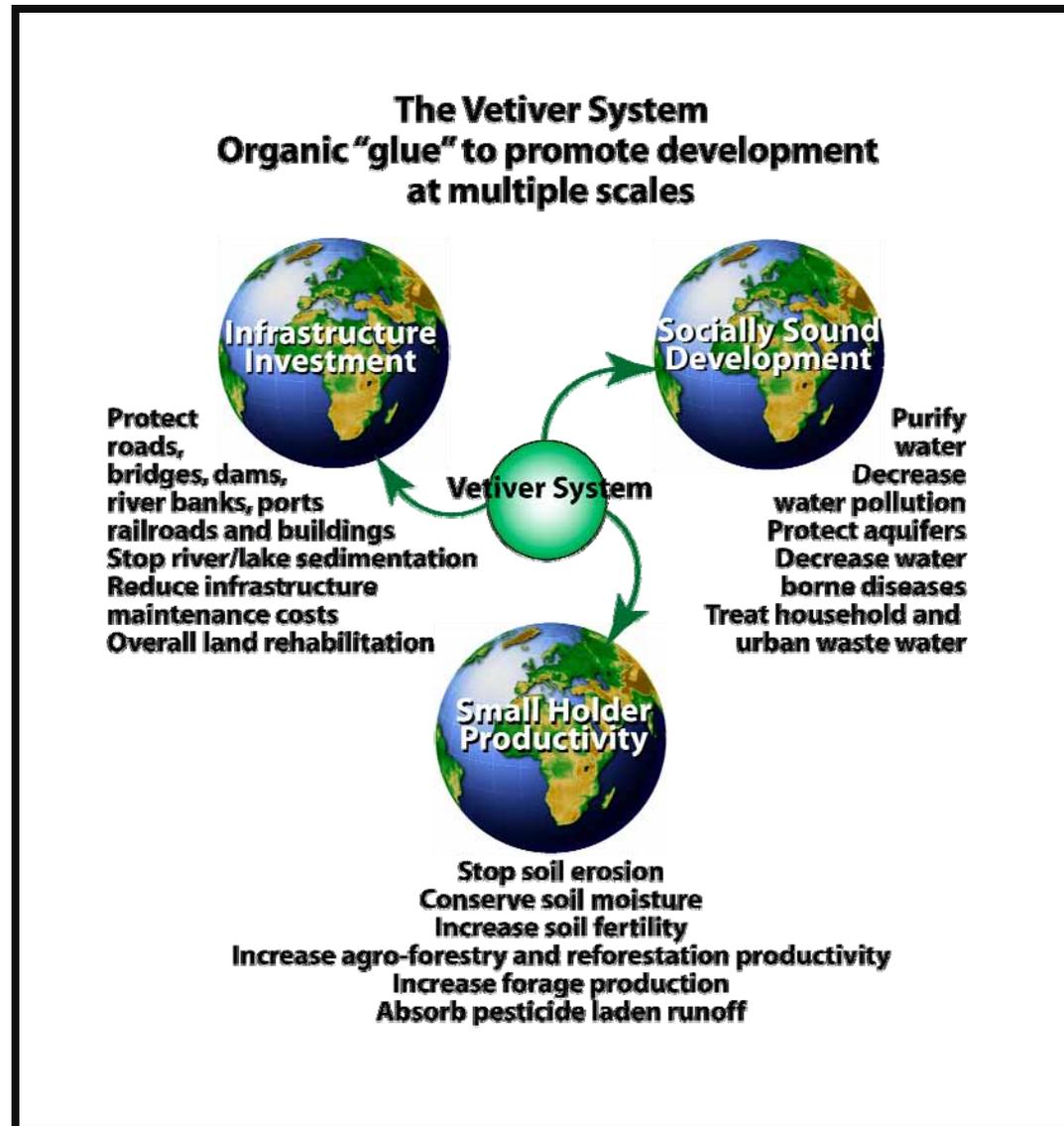
- Erosion control
- Infrastructure stabilization
- Handicraft production
- Forage production
- Agriculture and agroforestry



Other applications

- Coastal protection
- Pollution control
- Thatching
- Medicinal use
- Essential oil production
- Pest management
- Sand dune stabilization
- Mine tailing phytoremediation
- Watershed protection

The Vetiver System



Can vetiver prevent this?



Hillside erosion in Madagascar

Cameroon

- Presence of a vetiver champion, Simon Ngwainmbi
- Use of community based NGOs
- Began as a donor funded project
- Continues to function without substantial funding



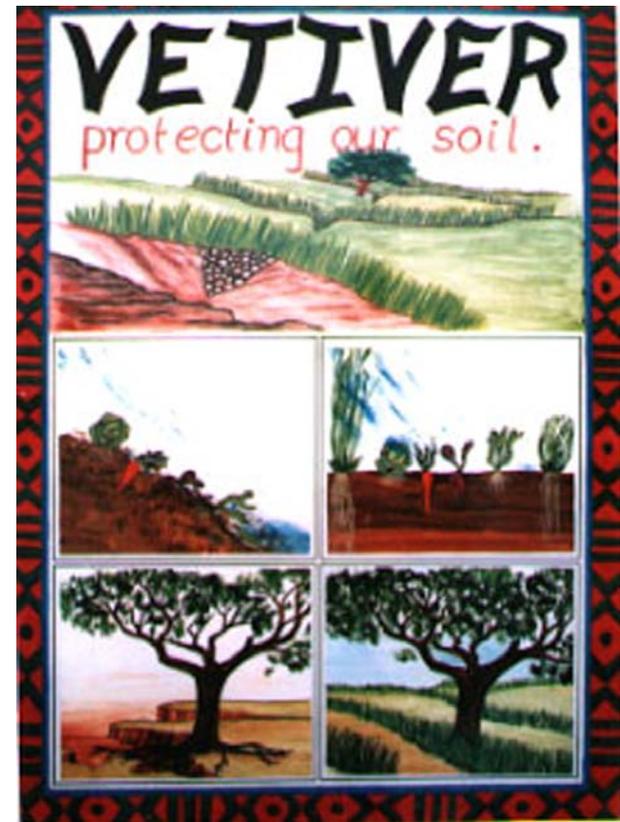
Senegal

- Introduce and promote *zizanioides*
- Large donor funded project, Dynaenterprise
- Sensitization, nursery development, demonstrations, training, local language documentation
- Post-project period led by Tony Cisse and Ibrahim Diaw



South Africa

- Used there since colonial times
- Many promoters, NGOs, mining companies, soil conservationists
- Developed one of the first county networks led by Tony Tantum and Duncan Hay
- Spearheaded pest management research
- Demonstrated mine tailing phyto-remediation
- Created reliable nurseries for export
- Provides technical assistance throughout the continent
- Roley Noffke and Johnny Van der Berg now lead the movement



South Africa

Hillside stabilization for housing



Pictures of the same fields
with and without crops

South Africa

Coal mine tailing just after planting



18 months later

Madagascar

- Colonial production of essential oil
- A movement started by TVNI's Richard Grimshaw and Criss Juliard using a USAID project
- Demonstrated sustainable rural road stabilization
- Developed the concept of road users associations around vetiver stabilization
- Saved the FCE railway via community vetiver use
- Roley Noffke, Yonan Coppin with new projects



Problem



Solution

Madagascar



Contour alignment using the
tried and true A-frame



Railroad bridge batter protection

Democratic Republic of the Congo

- Colonial use in Eastern Congo
- A movement started by Alain N'dona using a USAID project
- Demonstrated sustainable road stabilization, created community based nurseries, and provided solutions to massive urban erosion in Kinshasa and Kikwit
- Exported knowledge from DRC to the Republic of Congo – Brazzaville
- Linked with the vetiver movement in South Africa



Community nursery in Mbandaka

Democratic Republic of the Congo



Can urban main drains be stabilized with vetiver?



Alain N'Dona with root length demonstration

Diverse uses



Vineyard mulch in South Africa

Road protection in Tanzania



Diverse uses

Soil saved in Upper West region of Ghana in one year in maize and sorghum field



Vetiver hedges incropped with corn in Voi, Kenya



Diverse uses

New 8 acre nursery in 2007 in central Ghana on planting day



Plants as seen 18 months later



Diverse uses



Vetiver hedges demonstration on urban hillside in Dakar,
Senegal

Diverse uses

Protecting submerged crossway
Bealanana Madagascar



Vetiver collected from village
nursery for road batter
protection, Bealanana



Diverse uses

Preparing slips for planting using manure slurry Madagascar



Manapatrana road use of vetiver in very mountainous country landscapes



Diverse uses

Protecting rainfed rice bunds in
Gambia

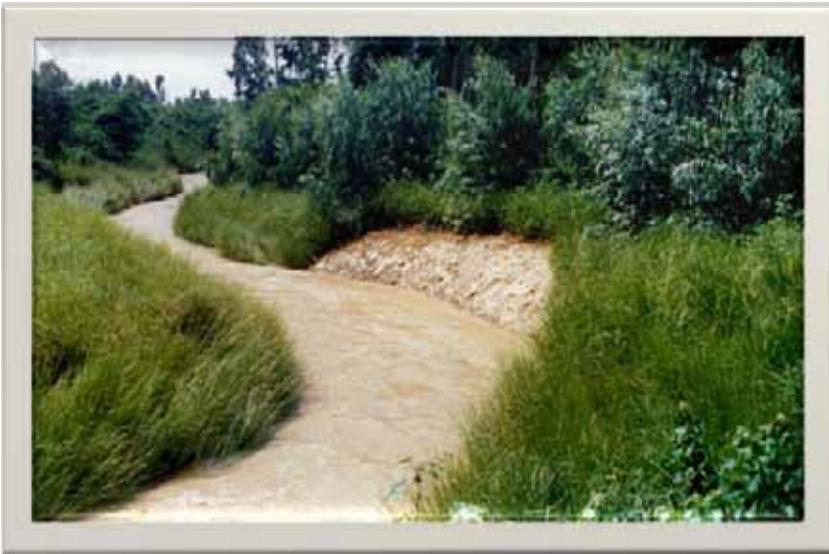


Drying vetiver for handicrafts
use in Mali by Peul herdsman



Diverse uses

River bank protection in Zimbabwe



Improved banana production in Senegal



Diverse uses

National Highway #1, Bandundu province, DRC during planting



2 months later



Diverse uses

Kinshasa home protected with 1 meter of vetiver!



Can village homes be protected from eroding foundations?

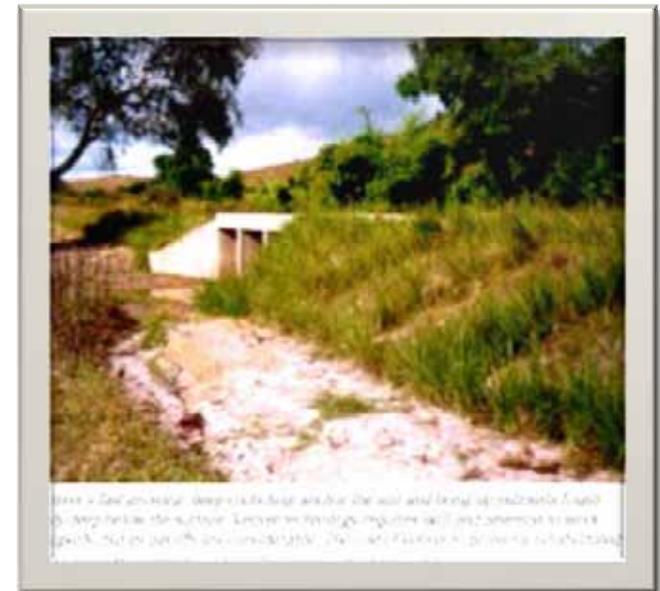


Diverse uses

Use of chopped roots to repel stored grain insects in Nigeria

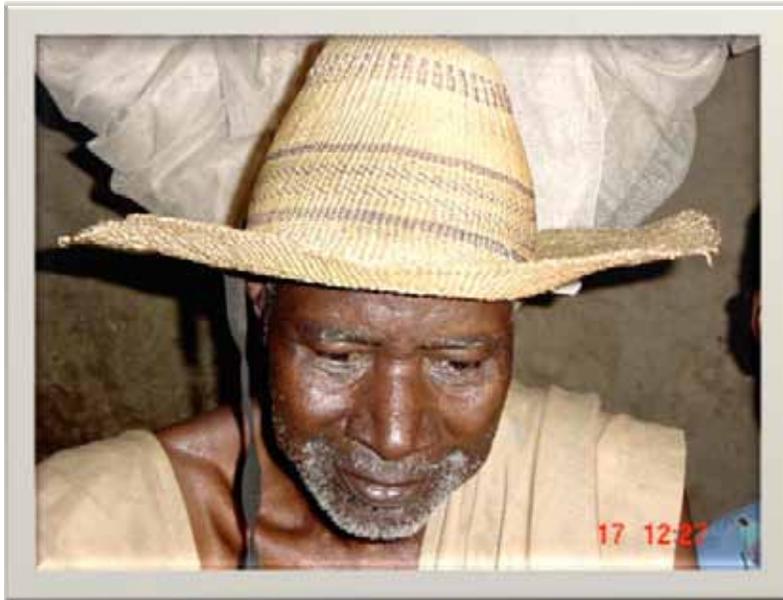


Road bridge stabilization near Majunga Madagascar



Diverse uses

Vetiver hand crafted hat in Senegal



Income generation from vetiver sales, Southern Madagascar

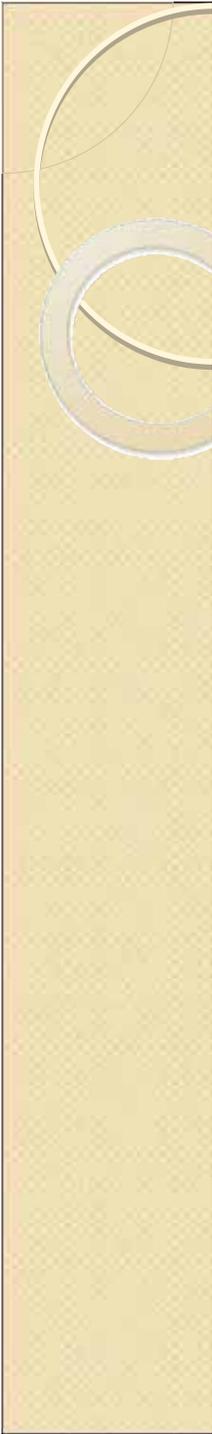


Diverse uses



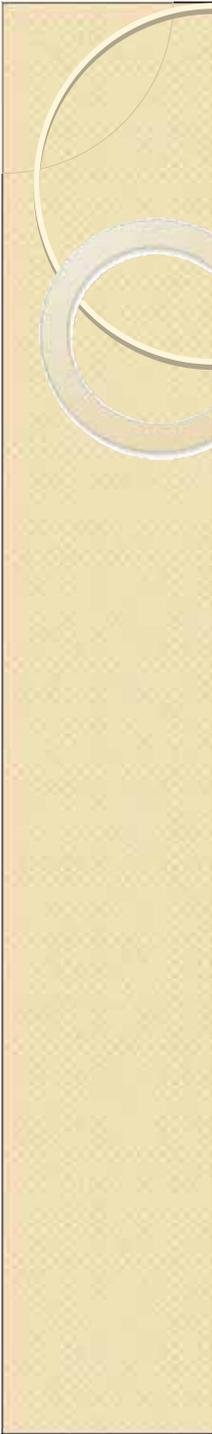
This is the head of a 100 meters long ravine and is 15 meters deep and covers 20,000 square meters. It required 120,000 slips and is seen just after the initial planting was done. 12 kilometers of hedges were planted and all the work was completed in 18 days and cost \$7,000. There are 180 ravines like this one that need stabilizing in Kikwit, a town of 1 million people.





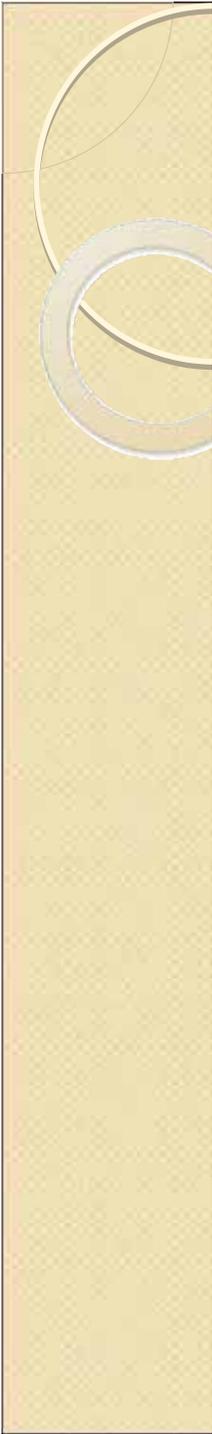
Lessons learned

- Demonstrations and their visibility are vital as reference points to generate the demand for future interventions.
- Diversity of funding sources creates competition not adoption and it needs coordination and oversight that a network might provide.
- Projects versus community driven activities are usually not sustainable.



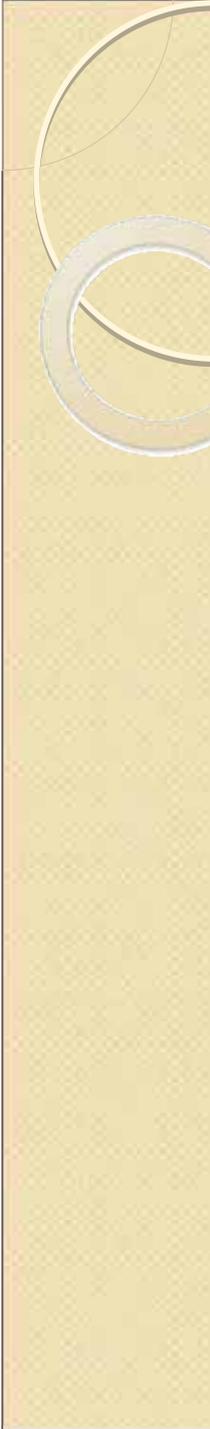
Lessons learned

- Meeting a need felt by local populations versus project perceived problems must be harmonized to insure sustainability.
- Need for funding and a need for champions, both are essential for a program to proceed and be sustained.
- Research is needed, but the knowledge base is already very large and there is little need to repeat research work already done.
- Networking is critical but is difficult given the huge African diversity with respect to climate, languages, cultural differences, and the hesitance to try something new within countries and across countries.



The Way Forward

- Country networks need to be motivated, funded and technically supported.
- Information sharing needs to be increased – for example: blogs and discussion groups, vetiver clubs.
- Search for and support to vetiver champions when they emerge.



The Way Forward

- Resolve the lack of funding and define the means to mitigate this, for example reminders to major donors of previous work using vetiver and the need to continue promoting solutions instead of beginning afresh.
- Interact more with successful movements in SE Asia especially China whose engagement in many African countries is increasing.

Thank you

15 year old
vetiver
clumps in
Bas
Congo,
DRC

