

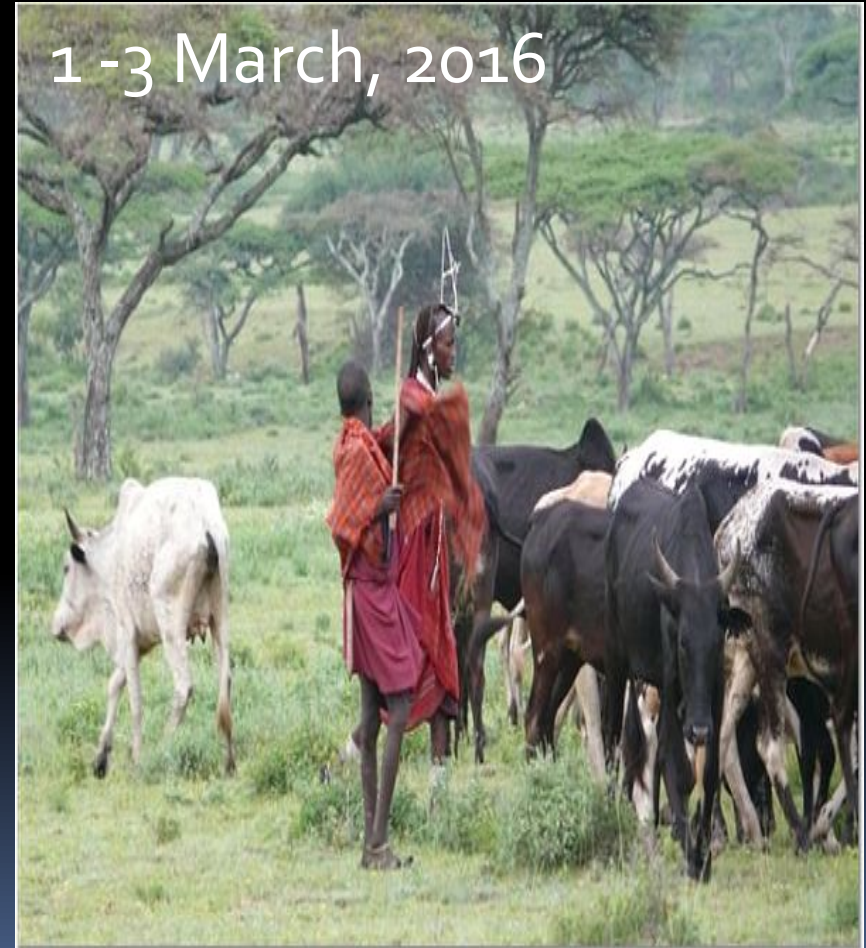
Pastoralist Managed Natural Regeneration

-Part of the solution for rangeland restoration.

Nanyuki, Kenya.

Presentation

- PMNR defined
- Underground forest
- Why tree regenerations?
- Regenerated trees and pastures
- Success stories

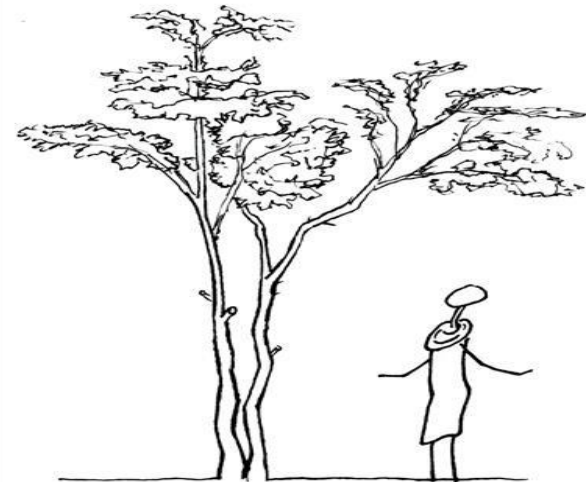
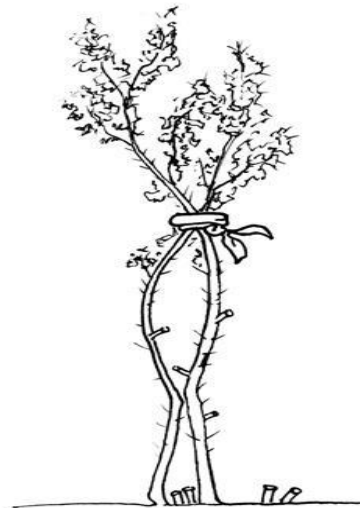
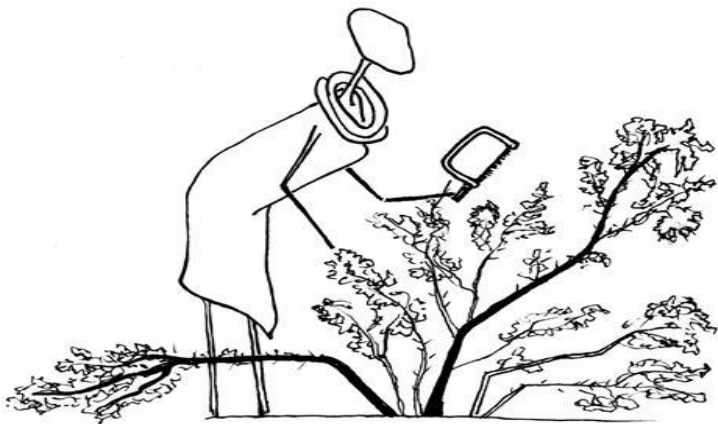


PMNR: The systematic regeneration & management of trees and shrubs growing from living tree stumps, roots & seedlings in a rangeland.

**Choose 2-5 of
healthiest, straightest
branches to prune.
Cut away other
branches.**

**Encourage
straight growth**

**Try to protect tree
from animals until it
grows out of reach.
Prune bottom
branches 2-3
times/year.**



Drawing credit: Jon Trimarco

What tools are used to prune trees?

- ▣ The best implement to use is a saw because it provides a clean cut. In fact, a wide range of commonly owned tools can be used, including axe, machete, harvesting knife and even hoe. The main requirements are that the tools be sharp and that cuts are always made in an upward motion, not in a downward motion. The objective should be to make a clean cut with minimal damage such as stem bruising or splitting, or stripping of bark. Different tree species may require different pruning techniques, something that can be determined by farmer experimentation and observation



Dos and Don'ts in FMNR

- ▣ Simple rules of pruning are:
- ▣ 1. Always use sharp implements.
- ▣ 2. Always cut upwards carefully to avoid bruising and stripping of bark.



The underground forest concept


- ▣ Most indigenous trees have a strong root system that is almost as big as the tree above the ground.
- ▣ When one cuts a tree, this strong root system remains –and can regenerate to another tree given favorable conditions
- ▣ The sprouting trees in this case are able to withstand harsh conditions of drought and animal disturbances






Grazing land.
**Can you see the vast underground forest -
waiting to be released?**





PMNR emphasizes more on tree regeneration than tree planting because

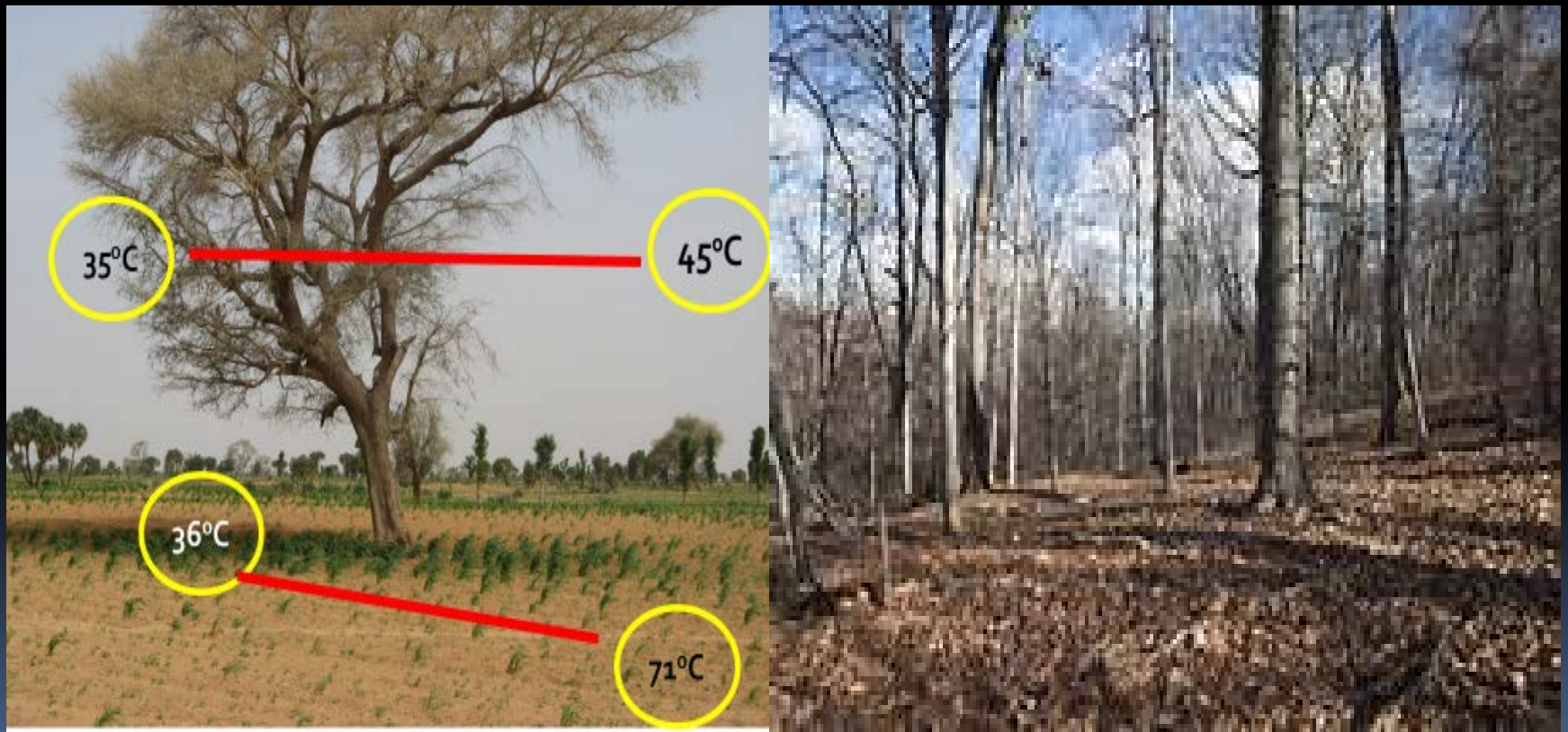
- Tree planting rarely withstands drought
 - Expensive seed
 - Livestock disturbance
 - Climatic incompatibility
 - Profit making motives
 - Tree planting is tedious and time consuming
- 




Why is it important to have trees on
rangeland? Relation with pastures

Minimize evaporation

When tree shed off leaves
they increase SOM





Reduces heat stress, softens
soils under the tree

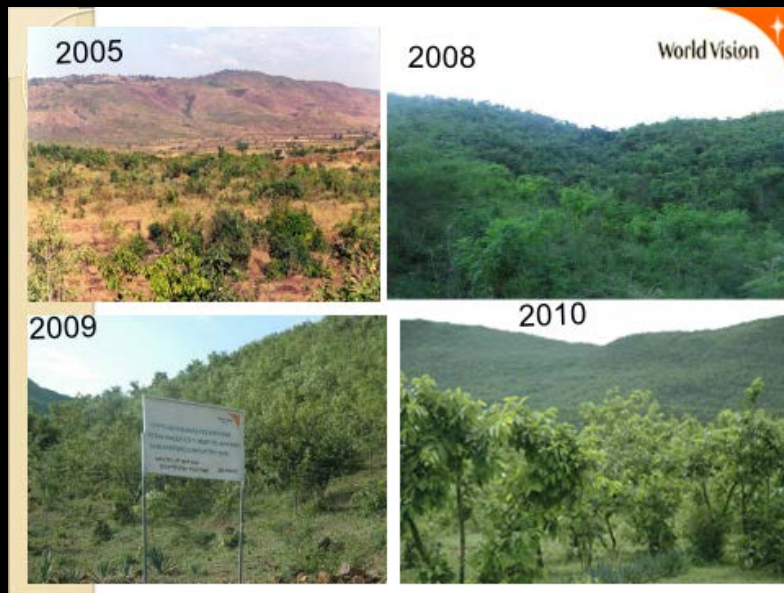


Some trees are source of
fodder for livestock



SOME SUCCESS STORIES

ETHIOPIA



HUMBO

Humbo (Ethiopia): 300 bundles – harvested in

1st year.

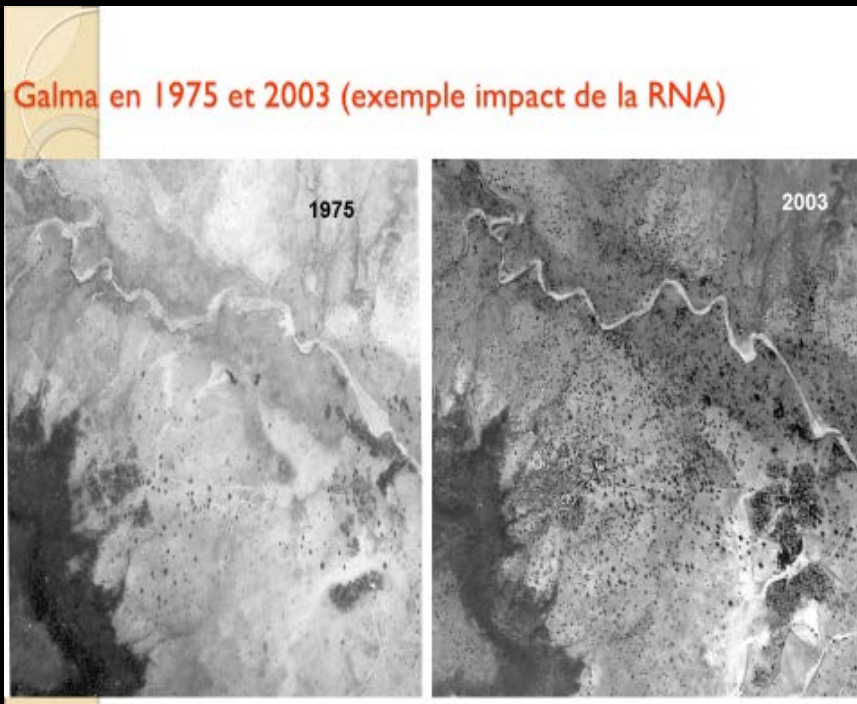


Fodder



SUCCESS STORIES -

NIGER



INCREASED AVAILABILITY OF FODDER



EARLY RESULTS: TRANSFORMATION OF LANDSCAPES KENYA

Before

After



Pastureland regeneration

- ▣ An interesting thing about PMNR is that, efforts to regenerate trees –leads to regeneration of vegetation thus making available pasture for livestock
- ▣ It takes the same simple and almost cost free initiatives to regenerate a pastureland
- ▣ A good example is just close by in Mukogodo, Nanyuki

Steps in pastureland regeneration

- ▣ Communities bring together their animals and pasturing is done jointly.
- ▣ A herd of cow of recommended size is shelted in an area to be regenerated for 7 days. The animals get pastured in chosen place but return for shelter in the area to be regenerated for 7 days.
- ▣ Cow hooves help to break bare soil's hard pan through day to day trampling.
- ▣ The chosen area gets fertilized through animal dung.
- ▣ The chosen area gets seeds from animals' dung .Pastures consumed by animals are rich in seeds.

Through this very simple process- bare areas are regenerated and they become covered by grass again.



After 1 months



After 3 months



Regeneration is not just a nice thing to do,

its not even a matter of either living well or just scraping through

its a matter of survival

Its all in our hands!



**This is the Future!
Asante!!**

