To FMNR or not to FMNR?

Environment & Livelihoods Partners Presentation.

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Kampala

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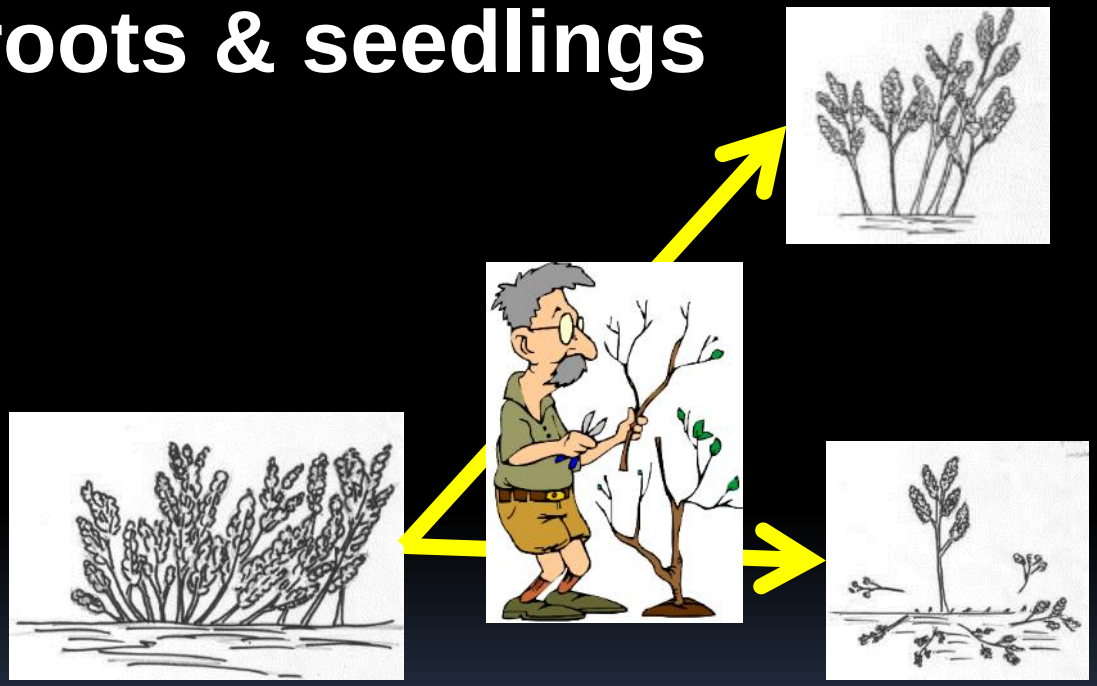
The systematic regeneration & management of trees and shrubs growing from living tree stumps, roots & seedlings



Social foundation

Same principles –

The selective thinning, pruning and management of bush encroachment


Before

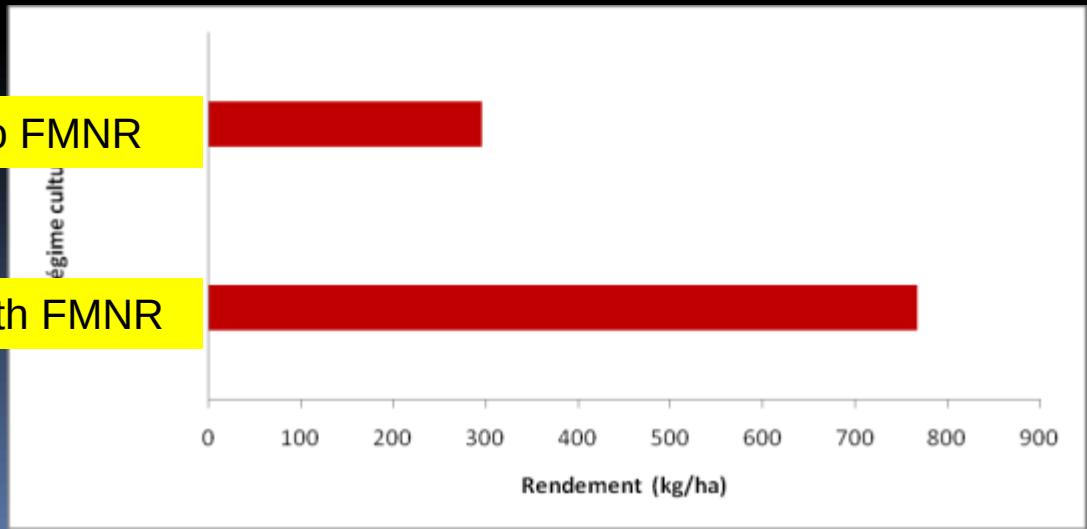
After – two year transformation

Indigenous trees are useless?

Greater crop resilience to drought.

Crop yields doubled

Senegal Agric. Research Institute. 2010



Farmers will not tolerate trees on farms?

FMNR on grazing land

Kenya: 200 - 500% increase in milk production in 6 months + firewood.

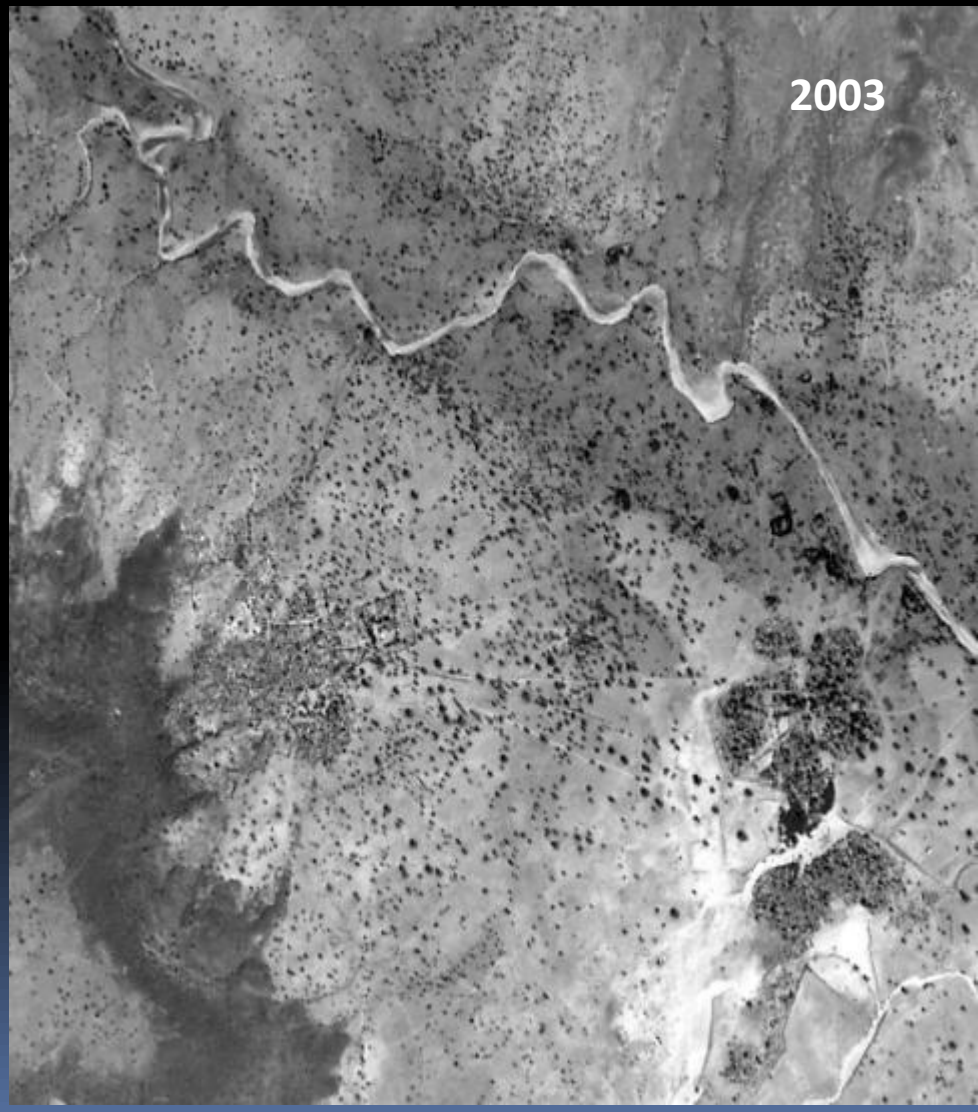

FMNR in Forest

2,700 ha. Humbo Community Managed Natural Regeneration Project, Ethiopia.

“We are too much happy.”

High-density *Faidherbia* millet systems in southern Zinder, Niger, 2006: > 1,000,000 hectares.

Vegetation in Galma in 1975 and 2003



Yet what is the result? It is commonly acknowledged that since the UN Conference on Desertification, little has really changed for the better and where there has been success it has often been limited in size and scope. This is exemplified by the disappointing progress in village woodlots in the Sahel where between 1975-82 over $160 million was spent on various community forestry programmes. By 1982 the achievements were about 20,000 ha of 'not doing very well' plantations (at a cost of approximately $8,000 per ha). People do not see themselves as benefitting from such tree planting programmes (Eckholm *et al*, 1984).

Cost of tree planting – up to $8,000/ha (Eckholm)
with < 20% survival.

Cost of FMNR 'project' – Up to $14 /ha (IFAD, Niger)
With ~ 100% survival.

Due to FMNR, gross income has grown by $200 - $1,000 per household each year, equivalent to $900 million/year nationally, benefiting 4.5 million people.

Farmers produce 500,000 more tons of cereal per year than in the 1970s and 1980s due to FMNR. As a result, 2.5 million people are now more food secure

Pye-Smith.C. 2013. The Quiet Revolution: How Niger's farmers are re-greening the parklands of the Sahel; ICRAF Trees for Change no.12. Nairobi; World Agroforestry Centre.

Reij, C., Tappan, G., Smale, M. 2009. Agro-environmental transformation in the Sahel: another kind of "Green Revolution". IFPRI Discussion Paper 00914. International Food Policy Research Institute, Washington DC

Sendzimir, J., Reij, C.P., Magnuszewski, P. 2011. Rebuilding Resilience in the Sahel: Regreening in the Maradi and Zinder Regions of Niger Ecology and Society 16 (3): 1 http://www.ecologyandsociety.org/vol16/iss3/art1/

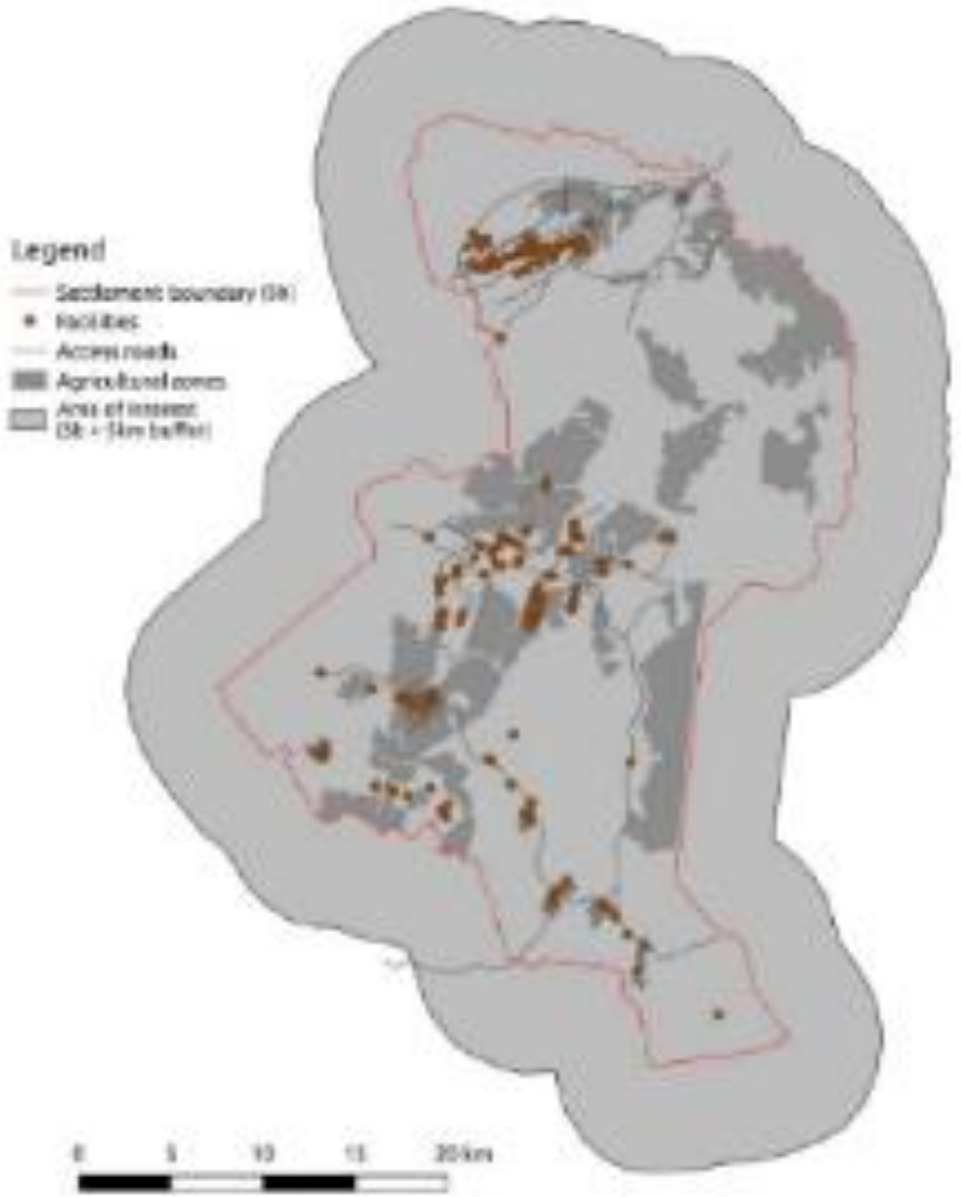


Legend
Settlement boundary (5k)
Facilities
Access roads
Agricultural zones
Area of interest
(5k + 5km buffer)
0
5
10
15
20 km

Table 7. Area of each land-use/land-cover class in the Bidibidi settlement and within 5 km of the settlement boundary

LULC class	Area within Bidibidi settlement boundary (ha)	Total area, including 5-km buffer (ha)
Closed woodland	3 356	8 935
Open woodland	39 492	69 164
Bushland and grassland	18 166	34 185
Cultivated land	10 598	29 829
Bare/open land	3 249	5 101
Burnt area	4 905	14 352
Water	1	126
Total	79 765	161 693

= 103,349 ha

= 29,829 ha

= 19,453 ha

= 152,631 ha

2006

2005

2015

2017

Humbo, Ethiopia fuel wood harvest. Tons/hectare

year	Abella Longena Tons/ha	Bossa Wanche Tons/ha	Hibicha Bada Tons/ha	Hobicha Bongota Tons/ha	Total/4 sites Tons/ha	Average Tons/ha
2008	4.2	4.9	5.45	5.85	20.4	5.1
2009	4.37	4.97	5.94	5.99	21.27	5.3
2010	4.71	5.16	5.81	6.50	22.19	5.5
2011	4.97	5.48	6.97	7.07	24.50	6.1
2012	5.11	5.78	7.02	7.5	25.41	6.4
2013	5.35	5.9	7.52	7.95	26.72	6.7
2014	5.71	6.04	8.11	8.01	27.87	7.0
2015	5.94	6.5	8.92	8.4	29.76	7.4
2016	6.32	6.78	9.12	8.72	30.94	7.7
2017	6.48	7.4	9.79	8.99	32.66	8.2
2018	6.75	6.63	8.76	8.37	30.51	7.6

Land class	Area (ha)	Estm. Wood yield (tons/ha) in year 2.	Total (tons)
Open Woodland, Bushland, Grassland	103,349	5	516,745
Cultivated land	29,829	1	29,829
Bare/burnt land	19,453	3	58,359
Total	**152,631**	-	**604,933**

Estim. annual fuel wood requirement for Bidibidi –

347,480 tons/yr.

Estim. fuel wood yield though FMNR program in year 2

604,933 tons.

N.B Yield will increase annually Even as the forest continues Growing.

Agricultural "*waste*" , burn it – or use it?

Offaka, West Nile, Uganda – 450% increase in livestock on same land.

Arua honey industry?

Stretch target: Arua become the biggest honey producing district in Uganda?

Small farm dams and horticultural crops

Recommendations:

1. **Mobilization for landscape scale FMNR uptake**
2. **Research feasibility – firewood production, Honey, briquettes, small farm dams, horticulture, pressed bricks…**

3. **Skills training & equipping for local employment**

   (Manufacture of charcoal kilns, Brick making presses, Bee keeping materials, Processing & marketing of horticulture & timber and non timber forest products)


11 06 2011

Offaka, West Nile.

Fighting myths

- Indigenous trees are useless
- Indigenous trees grow slowly
- Farmers will not tolerate having trees on crop or pasture land
- People will not change traditional practices

Native trees grow slowly?

July 2010

May 2012

March, 2014

“If you only focus on landscape restoration (deforestation, fuelwood crisis, poverty, food insecurity,…..) you will fail. If you focus on changing mindsets you will succeed.” Aba Hawi, Abreha Weatsbha, Tigray, Ethiopia.

FMNR is about –

Re-greening mindsets in order to re-green landscapes

2006