



Bringing back Indigenous Forest: Re-Aforestation of the Garden Route



Capacitating small scale

CDM A/R Projects

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**We are tasked to restore
Social and Environmental equity**

**Southern African
Afro-temperate
Forest**

**Loss
Of
Natural
Forest!**

**Fynbos (Medt. Scrub),
Exotics & Timber
plantations**

Colonialism

**Anthropogenic
impacts up to and
eventually
Enabling
industrialisation**

**Driven by fire & wind
exacerbated by
anthropogenic impacts
(e.g. crops, burning for
grazing,)**

**We are tasked to restore
Social and Environmental equity**

Community



**Southern African
Afro-temperate
Forest**

- **Socio-economic redress**
- **Jobs in re-forestation**
- **Biodiversity conservation**
- **Ecosystem services**
- **Re-import Carbon stocks**
- **Improved H2O mngmt.**

Early humans
Colonialism

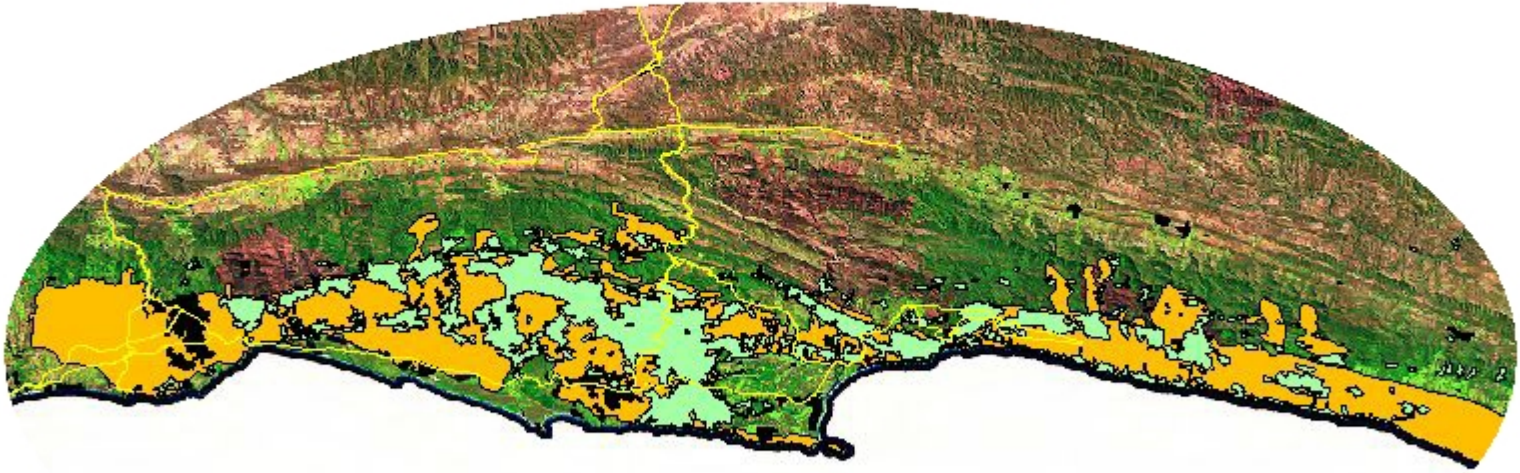
**Fynbos (Medt. Scrub), Aliens
& Timber manifested**

**Loss
Of
Natural
Forest!**

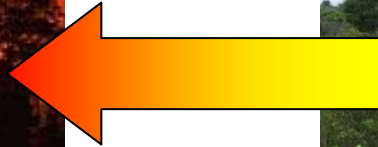
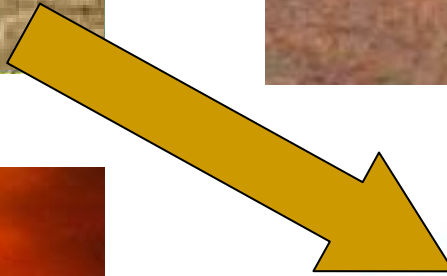
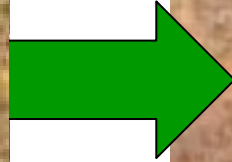
Locally, on the southern Cape Landscape wide scale...

National survey estimated forests at approx. 208 000 ha's

But in fact only 74 200 ha's remain (latest NSBA study)



**133 ha's for re-importation of carbon
through re-forestation!!**



The Problem

Fynbos and Aliens burn every 5 to 12 years

Set clock back to zero

Increasing:

- Habitat loss
- Substrate compaction
- Rampant fires
- Flooding
- Wholesale carbon export
- Regularly!!!**

The Response...



Seedbank, Skills and Re-forestation nursery

Species	Code	Nr	Plant date	Method	Treatment	Source	1 st germ	Last germ	%
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Species	Code	Nr	Plant date	Method	Treatment	Source	1 st germ	Last germ	%
Quilicqua Yellow-wood	1.A10	285	21-Sep-05	Seed	None	Local	21-Sep-05		
White-barked tree	1.A12	1000	21-Sep-05	Seed	None	Local			
Wild morning glory	1.A19	1000	21-Sep-05	Seed	None	Local	11-Nov-05		
Quilicqua Yellow-wood	1.A14	123	4-Oct-05	Seed	Animal clean	Local	10-Nov-05		
Cape ivy	1.A18	150	24-Nov-05	Seed	None	Local			
White-barked tree	1.A17	198	24-Nov-05	Seed	None	Local			
Tree lily	1.A15	282	10-Nov-05	Old Seed	None	Local			
Bulbous tree	1.A2	800	10-Nov-05	Seed	None	Local			
Flakey tree	1.A8	120	25-Jul-05	Seed	None	Local	15-Sep-05		
Flakey tree	1.B1	314	4-Nov-05	Seed	None	Local	10-Nov-05		
Flakey tree	1.B11	50	3-Sep-05	Clipping	Seed 2	Local			
Quilicqua Yellow-wood	1.B12	1424	28-Sep-05	Seed	None	Local			
White-barked tree	1.B19	120	12-Sep-05	Seed	None	Local	20-Nov-05		
White-barked tree	1.B15	1010	4-Nov-05	Seed	None	Local	24-Nov-05		
Flakey tree	1.B18	47	4-Nov-05	Seed	None	Local	24-Nov-05		
Wild Peach	1.B17	198	4-Nov-05	Seed	Animal	Local	15-Sep-05		
Wild Peach	1.B1	183	13-Jul-05	Seed	None	Local	24-Nov-05		
Flakey tree	1.B8	240	13-Jul-05	Seed	None	Local	25-Sep-05	29-Oct-05	5
Flakey tree	1.B3-26-22	120	18-Oct-05	Seed	Animal clean	Local	20-Oct-05	11-Nov-05	15.3
Flakey tree	1.B2-26-18	240	28-Jul-05	Seed	None	Local	28-Aug-05	10-Nov-05	28.8
Flakey tree	1.B2-26-11	72	28-Jul-05	Seed	None	Local	3-Aug-05	22-Aug-05	33.3

Bagged/pot	Size	Moved to
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Seedbank!

Typical forest species

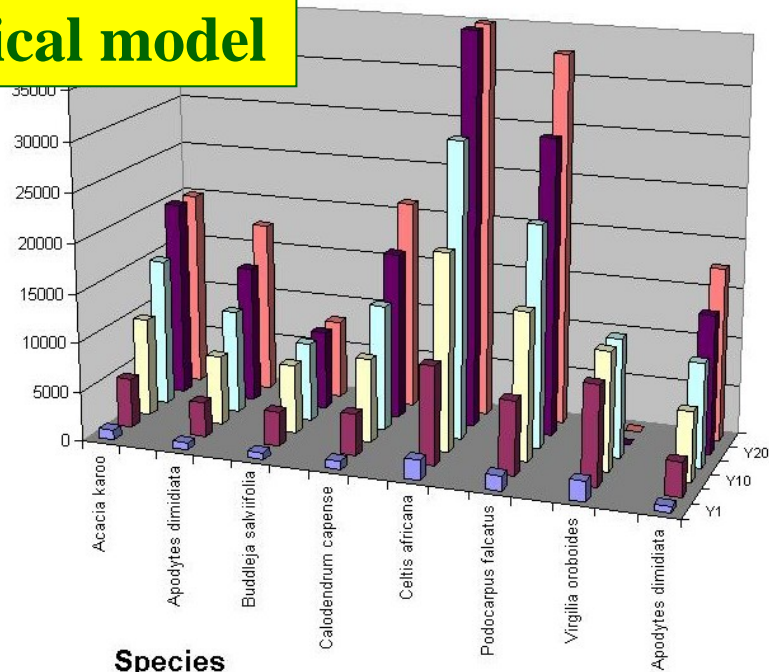
Outeniqua Yellowwood
(*Podocarpus falcatus*)

Treatment	Days	% Yield
Hot Water	71	14.5
None	110	14.5
Breach Seed	154	Low
Animal Clean	218	80 +

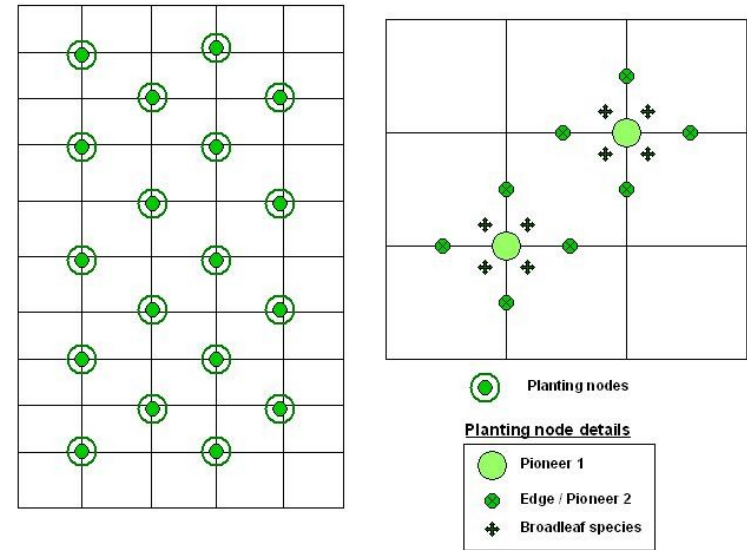
Data trail from seed origin, treatment, germination, training and planting with a unique co-ordinate address.



A typical model



Forest Hall fine scale planting schedule per quadrant

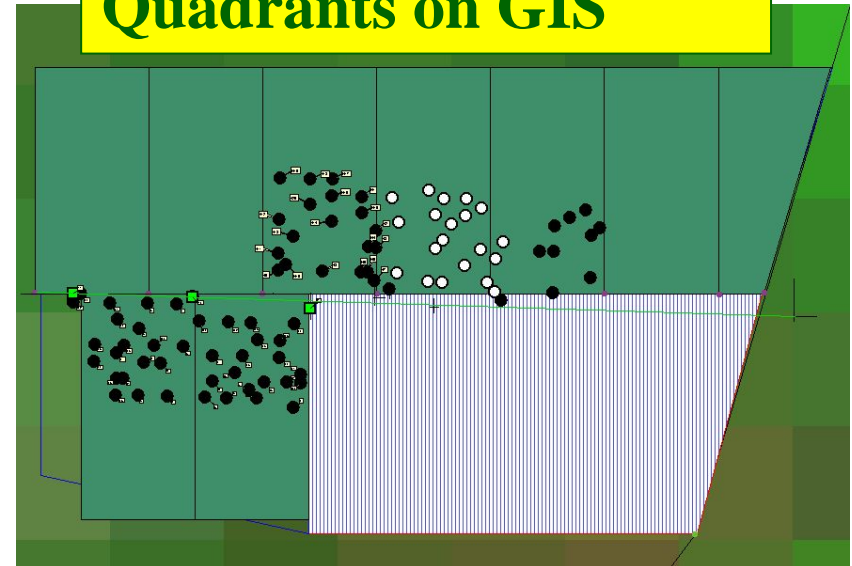


Species Database

Quadrant 4

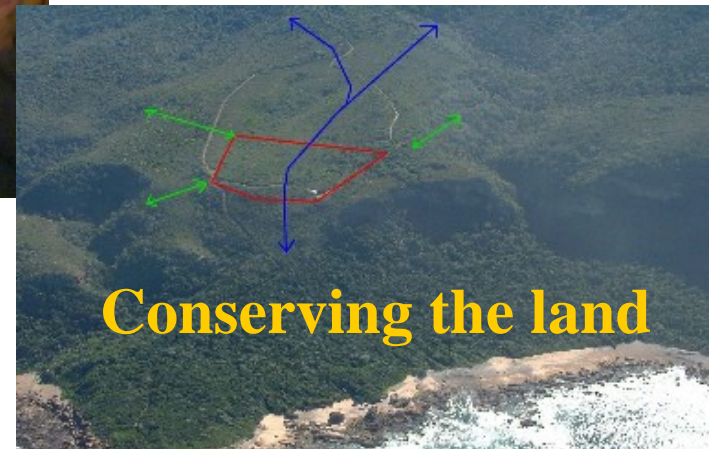
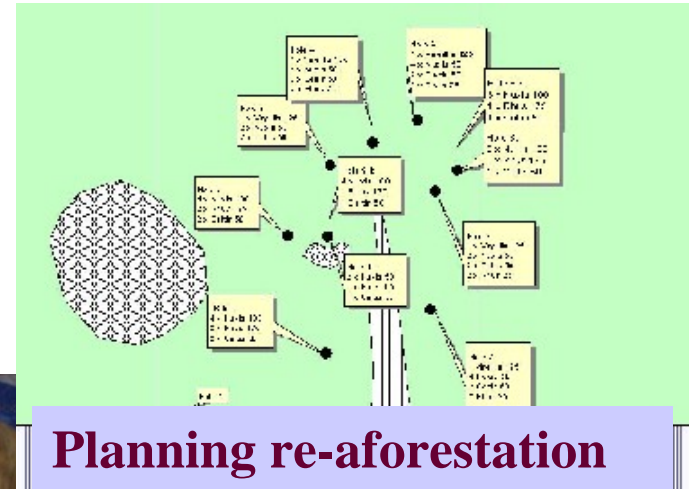
SPECIES	Nr planted	Av hgt cm	Actual average height per year (mm)						
			yr 1	yr 2	yr 3	yr 4	yr 5	yr 10	yr 20
Virgilia oroboides	10	75	2225	4350					
Rapanea melanophloeoc	20	125	2230	4325					
Podocarpus falcatus	20	50	1075	2175					
Celtis africana	20	50	1060	2120					
Buddleja salviifolia	10	125	2200	4300					
Rhus chirindensis	20	25	1050	2073					
A	0	0							
A	4	0							

Quadrants on GIS



Development of Learning Center

Science of re-forestation



Community Project - Kurland

TYPE	SIZE Ha	STATUS	LAND TENURE
Local AR (of degraded land through tree planting, asst natural regeneration)	80 Ha	Pilot project (Cur: 2 yrs +)	Private Ownership (Self Funded)



- Researched local socio economic history
- Researched and implemented rapid Re-Aforestation
- Developed economic models and
- Developed Community participation and discourse



Next Phase (Local Communities)

TYPE	SIZE Ha	STATUS	LAND TENURE
 Landscape wide AR	Replicable Multiple 8000	 Neg, Planning stage	Public Private Partnerships District Authorities, Land Affairs, NP's

Barriers to development:

Restrictive CDMs - Low pricing of CER's - Insensitivity to Africa





Baartman-Biko Environmental & Forest Research Institute

plettenberg bay - south africa

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The End