

# The Forest Dialogue

## “Intensively managed plantation forestry”

A Business View on the road towards  
sustainable “best practice”

Peter Gardiner (Mondi)  
China 2006

# Natural Forests - - Semi Natural - - IMPF

- To avoid any confusion and to highlight some of the real issues the view is essentially aimed at the “far right” i.e. *“intensively managed plantation forestry using exotic species for commercial gain”*
- *Acknowledge the danger of general comments about a subject that can only be adequately addressed on a “site specific” basis*
- If there is any bias it is in favour of *forestry* in its widest sense.

# Plantation Stepping Stones

- <100 yr history
- Wood production the only early objective
- Yields exceed “traditional” forestry norms
- Rapid expansion in S-hemisphere
- Socio-environmental issues surface
- Production and socio-environmental gains
- WSSD, SD, MDG and MEA add issues
- 2<sup>nd</sup> generation IMP forestry – quo vadis?

# 1. Important historical aspects

- A mere 100yrs compared to IMA crops
- Craib et. al. credited with first IMPF in S. Africa
- Substantial plantings from the 1939 depression
- IMPF well established in South Africa and New Zealand in the 1960's
- Latin American countries (Brazil in particular) import seed and technology from SA, Aus and NZ and become "global" leaders
- 50 years of widespread global use

## 2. Wood Production the only initial objective

- Wall to wall plantations
- Little or no regard to ecosystem functions
- Overuse of some ecosystems
- Site species matching only vaguely understood = planting failures
- Areas of special interest ignored
- Maximize wood/fibre production









# 3. Yields

- Early Yields far exceed traditional European Norms (1-6 MAI vs. 10-20 MAI)
- Wide genetic base and sound breeding programs support hybrid programmes and clonal propagation
- GIS mapping and Site Species Matching
- Consistent gains in yield (cellulose essentially a product of light, water and CO<sub>2</sub>) for minimal inputs of agricultural chemicals (15-35 MAI +)
- On 4% (FAO) of global forest area plantations produce 34% of global wood
- IMPF – a high tech, high yielding business



## 4. Rapid expansion in S hemisphere in particular

- Early plantings - SA, NZ, Brazil <1980's
- Later - LatAm, Indonesia, Australia
- Recently - LatAm, tropics, China
- Latest – Global companies invest in the South

# 5. Environmental and Social issues surface (Yin)

- Water use of plantations in South Africa and others
- Biodiversity issues
- Impact on ecosystems – natural forests, grasslands and wetlands in particular
- Mono-cultures
- Alien invasive species
- Green islands in a sea of poverty
- Capacity of rural people

## 6. Production and Socio-environmental gains

- Increasing yields – earlier slide
- Plantations produce 34% of global wood
- Mosaic forestry with approximately 30% set aside for conservation in SA, Brazil and other areas
- Wetland/riparian areas protected. In SA with-drawl of commercial trees and rehabilitation of significant wetlands













Fifteen  
vegetation  
classes

Legend	
	Gb - Closed Grassland
	Gc - Open Grassland
	Ka - Thicket Undifferentiated
	Ma - Maintained Area Undifferentiated
	Mb - Maintained Recreational Area
	Mc - Maintained Homestead Area
	Na - Indigenous Forest Undifferentiated
	Sc - Open Shrubland
	Sd - Sparse Shrubland
	Ta - Transitional Area Undifferentiated
	Tb - Transitional Plantation Area
	Tc - Transitional Weed Area
	Wa - Wetland Area Undifferentiated
	Wc - Wetland Vegetation - Phragmites
	We - Man Made Dam
	RIVERS
CLASS	
	COMMERCIAL







# *Smart Forestry*

**Michael Samways (12 slides ack)**

**Centre for Agricultural Biodiversity  
University of Stellenbosch**



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**Centre for Agricultural Biodiversity**

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# South Africa is a World Biodiversity Hotspot

- with 3 of the World's 33 Global Hotspots

- *Rich in endemic species*
- *But with many Globally and Nationally Red-listed species*



# We Need to Harmonize Components

- *Economic production (plantation forestry)*
- *Maintain ecosystem services (structural, compositional and functional attributes)*
- *Ecosystem health and integrity, including biodiversity*
- *Participation by local communities*

# The Forestry Debate - Confusion of Spatial Scales

- *Plantation patch (esp. Pine) indeed impoverishing*
- *The important scale is that of the whole land mosaic*

*Can ecosystem services be  
maintained at the spatial scale of  
landscape?*



**Sponsored by WWF(SA)**



# Habitat webs

**Sacrifice at the  
Patch level**

**Gain at the  
landscape level**

***Maintains evolutionary potential as well  
as ecological status quo***

*To test this question a series of studies were undertaken using;*

***Butterflies  
(nectarivores)***



***Grasshoppers  
(herbivores)***



***Arthropods & flowers  
(interactions)***



# *Arthropods on Flowers:*

🦋 *Berkheya speciosa*,  
*Watsonia densiflora* &  
*Kniphofia linearifolia*.

🦋 *Arthropod-plant interactions  
intact throughout network  
of corridors.*



*Even narrow corridors (20 – 100m wide) deep within  
afforested mosaic had high biodiversity value.*

# In a Nutshell:

- *Quality biodiversity reaches the centre of the web*
- *Narrow linkages (20m) are still penetrated*
- ***Disturbance** (loss of plant structural and compositional diversity through overgrazing) **is the main problem***



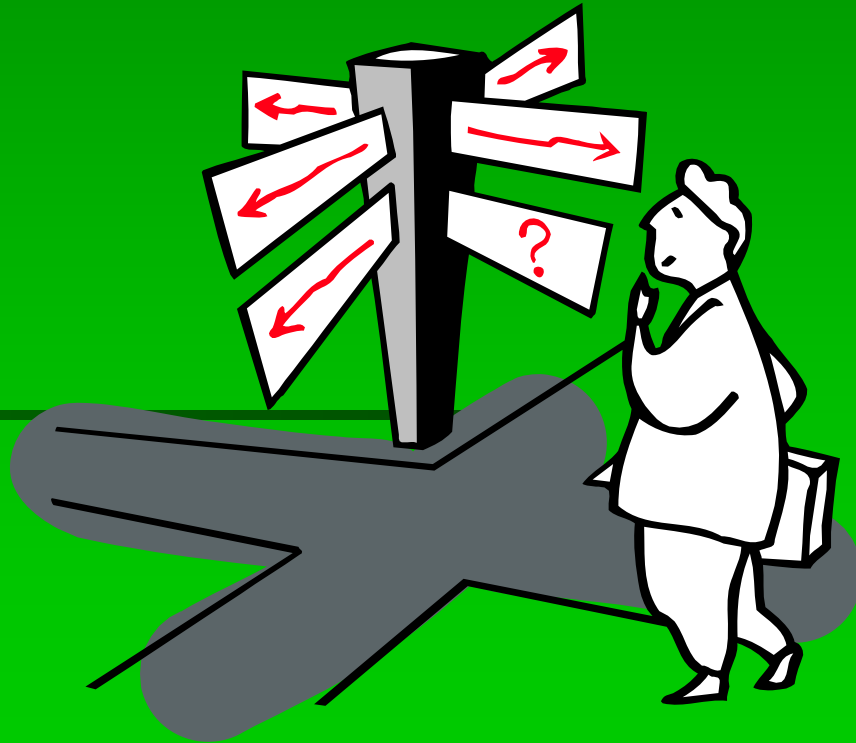
# Habitat webs in practice?

- Brazil 3.1m ha Eucalypt plantations and 1.7m ha conservation area
- Indonesia <55% plantation area – balance is conservation and community areas
- South Africa 1<sup>st</sup> gen 70%, 2<sup>nd</sup> gen 55-60%
- Supports Prof Samways rule of thumb for 2/3 intensive land use 1/3 “habitat web”
- Plantations areas and associated conservation areas - increasing contribution to global biodiversity

## 7. WSSD, SD, Stakeholders, MDG, MEA add more issues

- Water-Energy-Health-Agriculture (Forestry)-Biodiversity. WEHAB
- Dow Jones SD Index
- Footsie 4 Good
- World Bank/IFC sd constraints
- Certification
- Community Assertiveness

# How far do we go on Social Issues ?



# POVERTY



# Key Focus Areas

Health – *HIV/AIDS and community health*





“The aim of this group is, and will remain, to make profits for our shareholders, but to do it in such a way as to make a real and lasting contribution to the communities in which we operate”

Anglo American founder,

Sir Ernest Oppenheimer

# Social progress a real challenge!

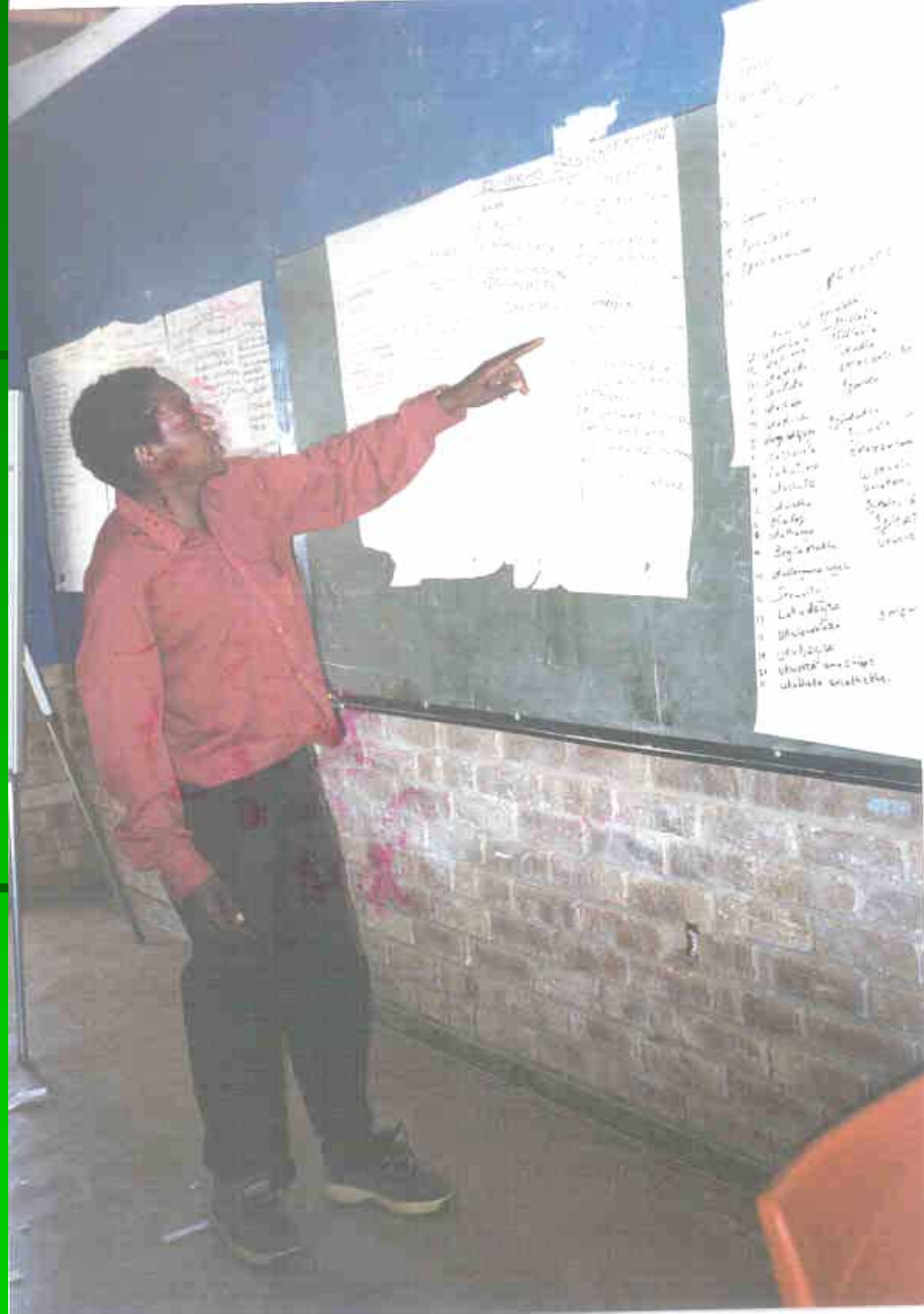
- Anglo American SEAT - a transparent public process
- Storo-Enso UNDP Environment and Social Impact Assessment in QuangXi
- Mondi stakeholder engagement includes “Community Engagement Facilitator” in each operational area as part of SHE team (17 CEFs for 500 000 ha)
- NWFPFA freshwater agreement multi-stakeholder agreement securing local community rights
- South Africa Forestry Charter: transfer of 35% of plantation land to BEE (local people?)
- Sappi and Mondi small grower schemes

# Key Focus Areas

- Community needs analysis (PRA)
- Education and skills (capacity) development



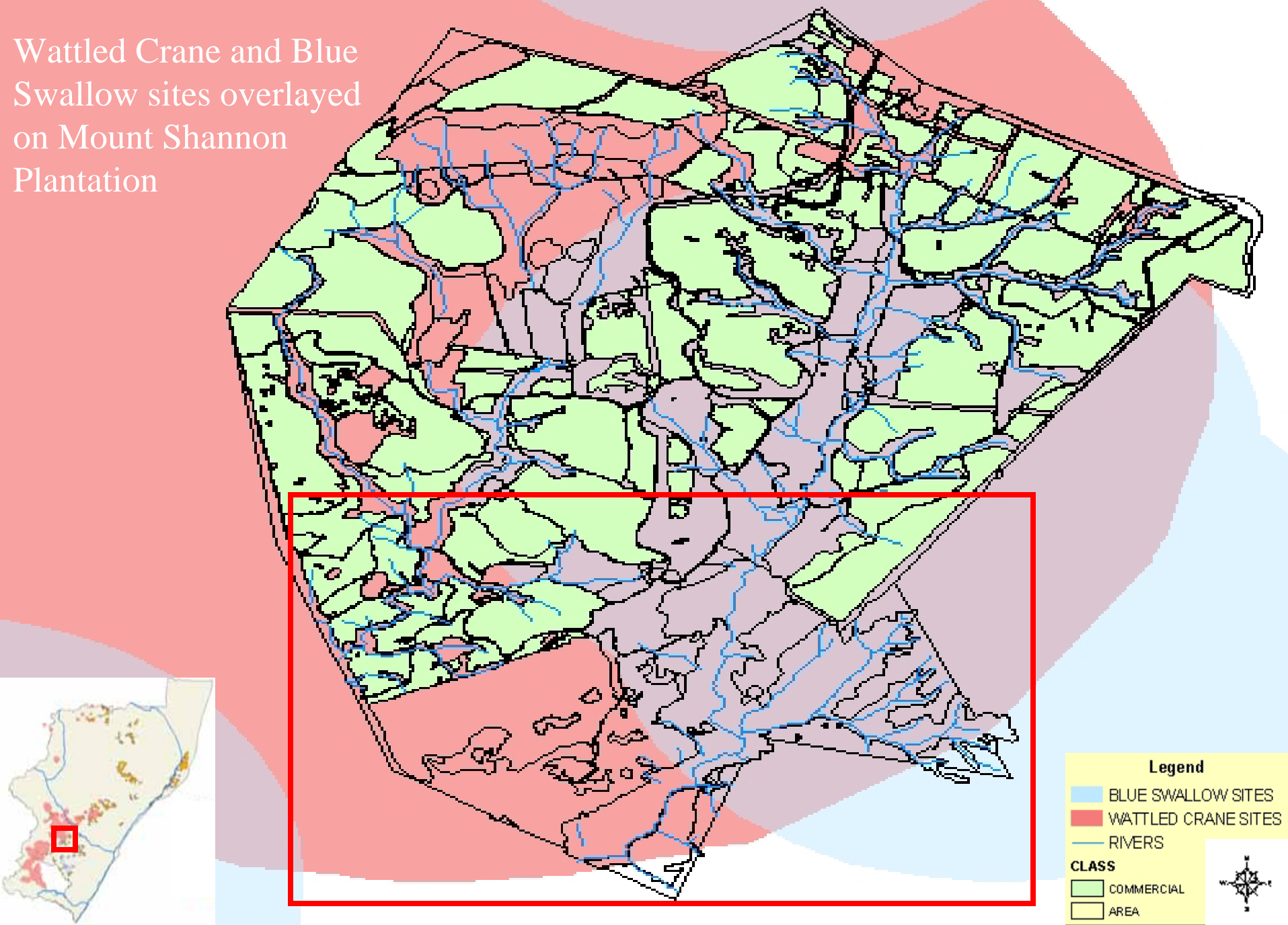




# 8. Partnerships: the way forward

- Aracruz and Storo-Enso – Veracel
- WWF-WBCSD Framework Agreement
- The Forest Dialogue
- SiyaQhubeka
- Multi-stakeholder HCVF process in Komi using a local NGO (Silver Taiga) as implementing agent
- Wetland delineation procedure for South Africa lead by the Forest Industry and local NGO
- China Stora Enso – Government – NGOs -community?
- Weyerhaeuser – Canadian local committees

# Wattled Crane and Blue Swallow sites overlayed on Mount Shannon Plantation

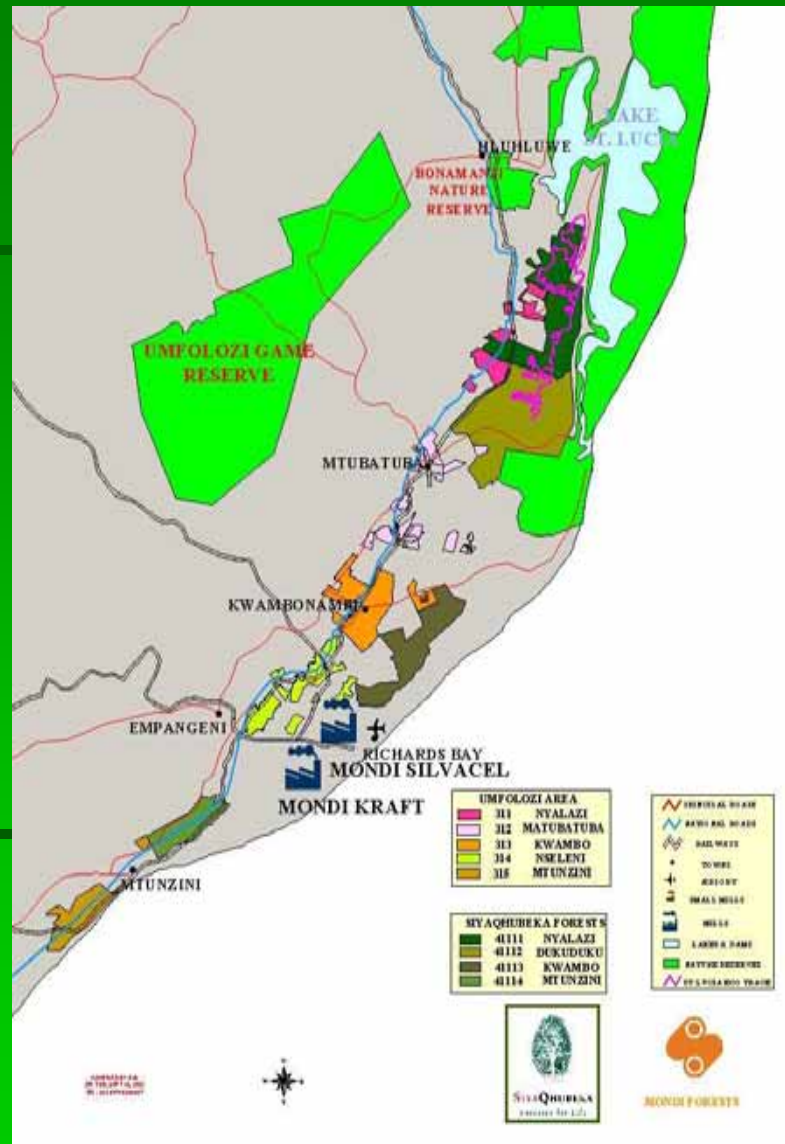






SIYAQHUBEKA

Forestry for Life





# Shareholding

■ MONDI	51.0+(10.8%)
■ GOVERNMENT	25.0%
■ IL	13.2%
■ COMMUNITIES	
AMAKOSI	5.4%
KHULANATHI	5.4%

2  
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4



# Ecoboundary between plantations and the GSWP World Heritage Site



# Delineation of Wetlands that feed Lake St Lucia (critical freshwater for the estuary)



























## ■ Conclusion

# What do plantations offer society (Yang)

- Sustainable products
- Profits
- Jobs
- Skill development
- Taxes
- Sustainability
- Stewardship of land and freshwater system
- Global/national influence
- Rural stability/development

# Sustainability comparisons with ?

- Cash crops
- Other plantations –
- Sugar
- What land based industry is the “benchmark”

# Thank You

