

# THE REGULATION OF WATER-USE IMPACTS OF FORESTRY IN SOUTH AFRICA: APPRAISAL OF THE DEVELOPMENT OF POLICY AND GOVERNANCE

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## INTRODUCTION

- In this paper we examine key aspects of the regulation of plantation forests in South Africa
- and describe and assess the system of governance developed to institute the regulatory regime
- against the policy requirements it is intended to serve



## OUTLINE

- Introduction and background
- The context: water, biodiversity and forestry and development in South Africa
  - Water and plantation forests
  - Plantation forests and biodiversity
  - Plantation forests and South Africa's development imperatives
- Water and the management of water use
- Governance arrangements for regulating plantation forests
  - Governance
  - Outcomes of the arrangements
  - Further considerations: governance at the strategic level
- Assessment and conclusion
  - South Africa
  - Sub-Saharan Africa



**In SA, timber comes from plantations in the finest landscapes**



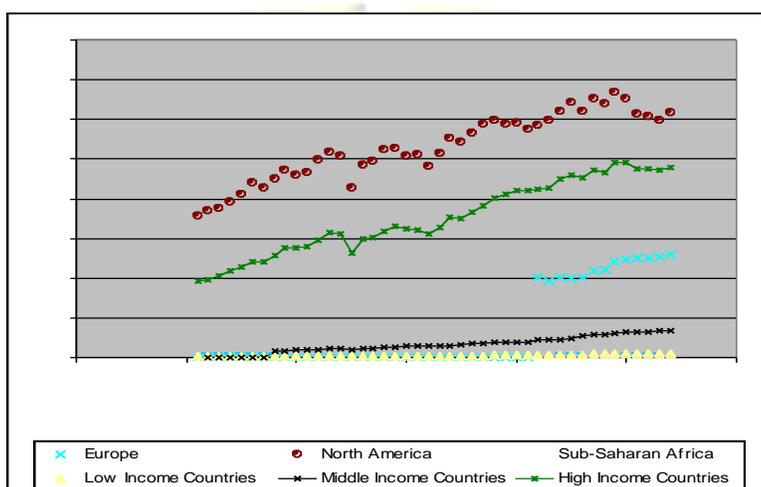


## Introduction and background

- about 1.4 m ha of plantation forest in SA, delivering about 18 mm<sup>3</sup>/yr
- but controversial, conflict-ridden
- However:
  - most of these forests are well managed; over 80% FSC compliant
  - the only significant renewable resource for the lumber, paper and board products to satisfy development needs
  - In SA, 42 kg/person/yr of paper and board consumed reflects development gap - cf 60 "sustainable" (IIED), 100 probably needed (cf Israel)
  - resolution of the joint aspects of forestry and water policy is important, urgent for South Africa's sustainable development, development goals



## Paper and board consumption as an indicator of development ([www.swivel.com](http://www.swivel.com) ex World Factbook and WRI Earthtrends)





## Water, biodiversity, and forestry in South Africa

- Water and plantation forests:
  - SA a water-scarce country:
    - renewable” water per person 1,154 m<sup>3</sup> (Israel 276; France 3,439)
  - of “available” water (i.e. assured yield):
    - 62% is used in irrigated agriculture
    - 3% to plantation forests (consumptive use)
- SA has highly biodiverse ecosystems
  - many of the most important best for plantation forestry.
  - afforestation replaces natural grasslands, & other indigenous vegetation, thus reducing biodiversity
  - so plantations redlined, etc (e.g. CBD-NEMBA-NBSAP)



## Forestry and development in South Africa

- Forest sector:
  - “the overall goal of government is to promote a thriving forest sector, to be utilized for the lasting benefit of the nation, and developed and managed to protect the environment”
- Asgi-SA - national development strategy:
  - overarching goal of halving poverty between 2004 and 2014,
  - key themes of economic growth and development, and improving the quality of life
  - forest and forest products sector key component in Asgi-SA
    - sector and industrial strategy
    - and infrastructure development, housing goals
    - Paper & board underpinning QOL



## Forestry and employment in SA

- Key requirement of Asgi-SA is accelerated employment creation
- SA since 90's has lost export competitiveness, & de-industrialised relative to e.g. Argentina
- Manufacturing sector recovery and growth vital for jobs
- Forestry and forest products key in this, especially in rural industry



## Timber shortage and the options

- SA short now, bottleneck to infrastructure, housing, mining etc
- Estimated need for timber 2030 requires the equivalent of an additional 700,000ha of plantations
- Options difficult:
  - Substitution: unlikely
  - Switching to imports & export substitution: global shortfalls in supply, price, de-industrialisation & job losses
  - Improvements in yields: attractive; but already factored into projections
  - New plantations: recent appraisal of all official studies indicates additional 200,000ha perhaps 575,000ha



## Water and the management of water use: general

- The water policy and its instrument, the National Water Act now the main focus for regulating plantation forests
- Policy intent (National Water Resource Strategy):
  - “The National Water Policy (1997) and the National Water Act (1998) are founded on Government’s vision of a transformed society in South Africa, in which every person has the opportunity to lead a dignified and healthy life and to participate in productive economic activity.”
  - achieving “the equitable allocation and beneficial use of water in the public interest”
  - Sustainable use: “striking a balance between water availability and legitimate water requirements, and by implementing measures to protect water resources.”



## Beneficial use of water

- The Strategy for Water Allocation Reform states that beneficial use in the public interest includes:
  - economic growth and social development,
  - job creation,
  - equitable access to water for productive purposes,
  - social stability,
  - investor confidence,
  - protection of aquatic ecosystems,
  - efficient and non-wasteful water use, and
  - a balance between the water using sectors.
- By law, these must apply in the approval as well as the refusal of a licence (see below)



## Relevant provisions in NWA

- water uses (several kinds) to be licensed;
- licence provides a temporary, five-year (renewable for 40 years in the case of plantation forests), right
- is employed to allocate use rights (equity and efficiency)
- classifies plantation forestry as a use called stream flow reduction activity
  - since it involves the consumptive use before water reaches the manageable and allocatable fraction of the resource.
- provides for water pricing as an incentive for efficient use,
- as well as water conservation and water demand management
- allows the trading of water-use licences.
- decentralisation of governance to statutory catchment management agencies and, at a local level, water user associations
- provides for a Water Tribunal, for appeals against official decisions



## Governance arrangements for regulating plantation forests

- Administered through Licence Assessment Advisory Committee for stream flow reduction activities
- Which are destined as WUAs in Catchment Management Agencies
- Manage process leading to decisions into statutes:
  - National Water Act
  - Conservation of Agricultural Resources Act
  - National Environmental Management Act (Environmental Impact Assessments)
- 50-step process, onerous



## Performance of the governance arrangements

- Recent analysis of 495 applications for 5 yr from 2000 to 2004 in KwaZulu-Natal and the Eastern Cape:
- Estimated costs to applicants were about R20,000, total cost would have been about R10 million (plus taxpayer, R100,000 per case)
- For KwaZulu-Natal, about 30% of applications have been approved, total 7,000ha - a prospective investment of about R30 million (about US\$4 million)
- In the Eastern Cape, 44% had been approved.
- There are among these applications that have not been resolved after four years.
- Overall, the annual rate of afforestation in South Africa has declined; in 2007 the net afforested area declined by about 3,000ha,
- Since 1990 just 6,000ha net.



## Assessment and conclusion

- Thus far, this system of governance has not served the country's goals
- This is not the policy intent
- Increased timber supply urgent and necessary for development, expansion is possible, a strong market for forest products exists and grows
- Governance systems should serve its intent - how?
  - Get rid of asymmetry, achieve balance required by law
  - Rational use of valid information
  - Effective representation of interests



## Finally, looking beyond SA

- Africa's MDGs will demand increased per capita consumption of forest products - 15-fold increase?
- May need 10m - 20 ha additional plantation area, to protect native forests
- What can we learn of SA's history that would help toward sustainability?
- Certification seems to work, but planning and regulation has fallen short in SA?
  - excessive burden?
  - lack of common understanding or scientific information?
  - lack of balance of interests?



## Final considerations

- Can we improve the combination of policy instruments, institutions, and governance?
  - What of market-based instruments?
- Are we ready for a different future?
  - What of bio-energy and energy forests?
  - See the New Zealand Lignocellulosic Bioethanol Initiative, and Bioenergy Options for New Zealand

