

Harvesting & Logistics Challenges in South Africa

- FESA's research & development role

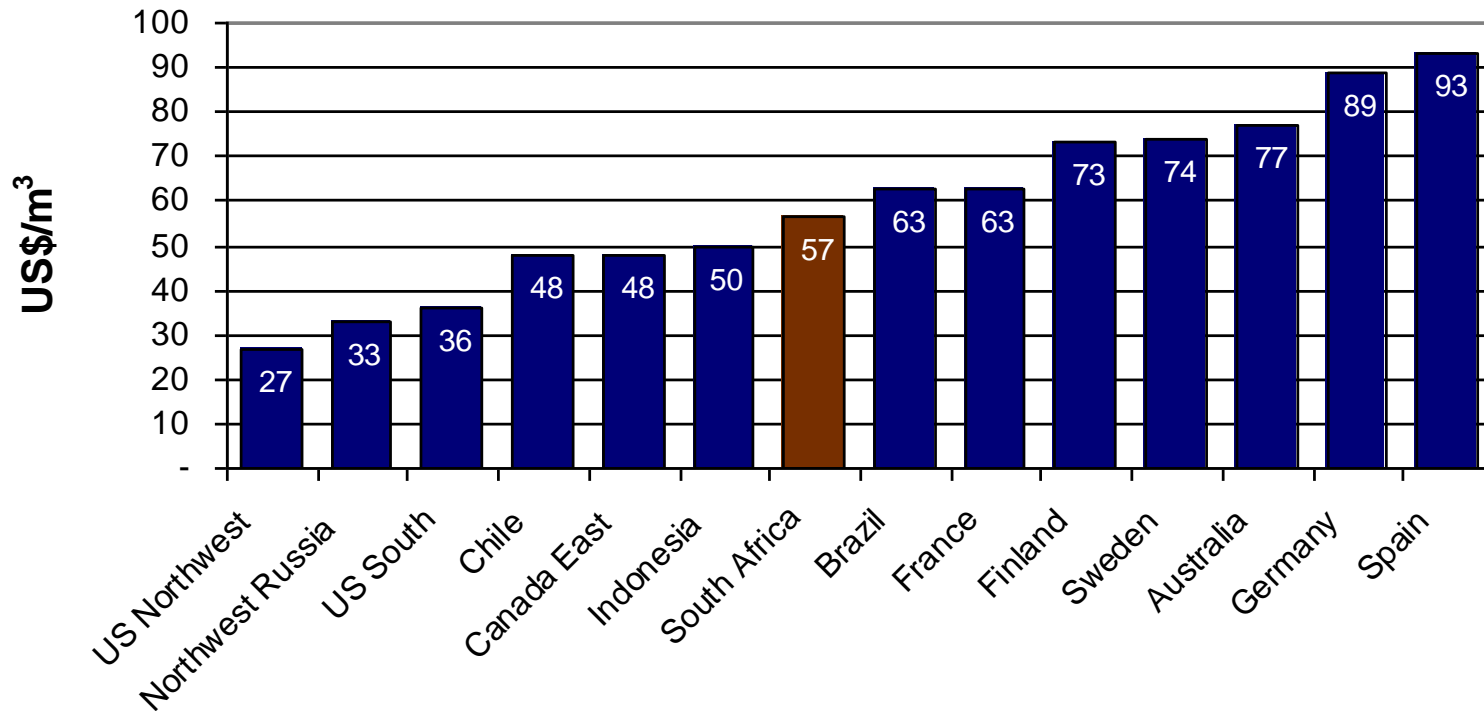
D. Längin

November 2011

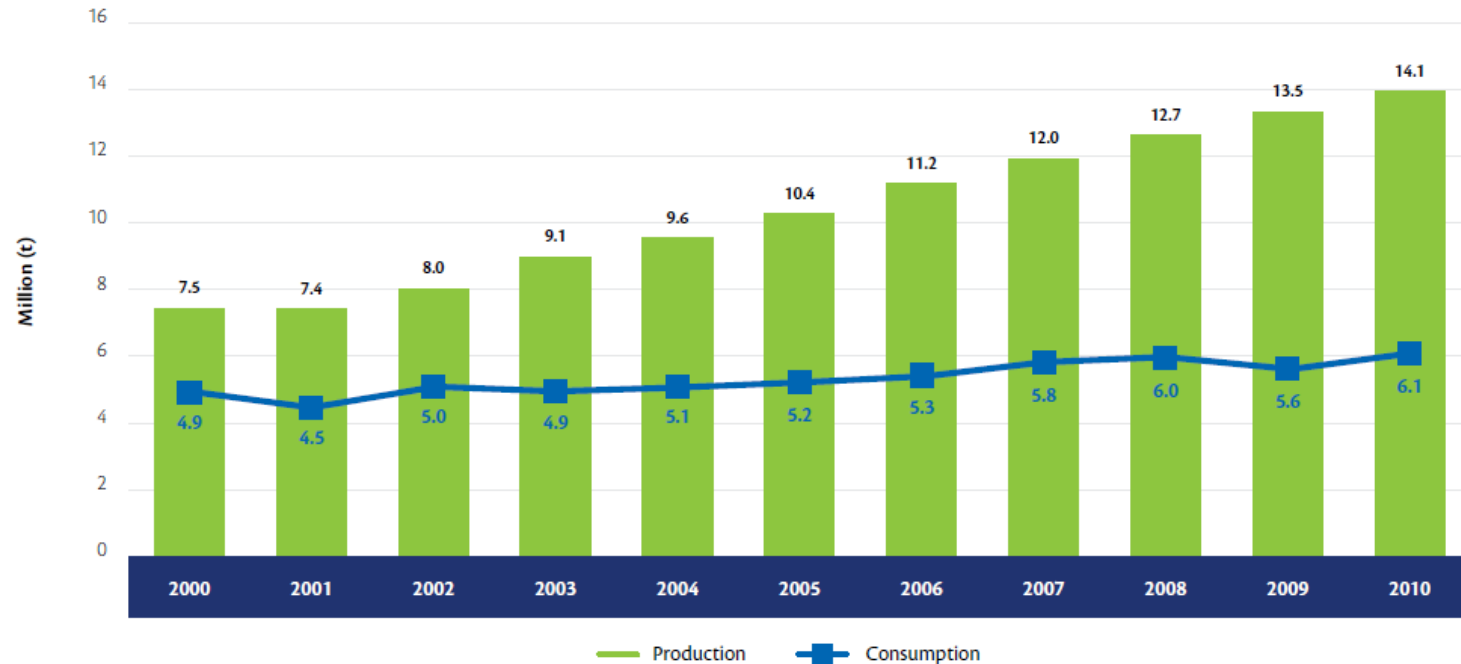


SA forest industry in context

Average delivered non-conifer pulpwood prices
(Q2 2011)



Brazil – pulp production & consumption 2000 - 2010



Source: ABIPA, ABIMCI, BRACELPA (2010/2011).

Pulp production & consumption in Brazil, 2000 – 2010 [ABRAF Statistical Yearbook, 2011]

Forest productivity comparison



Source: ABRAF yearly publication (2010) and Individual Companies Associated to ABRAF (2011).

¹ Index used: Weighed MAI (in relation to the planted area) of the areas comprising Eucalyptus and Pinus forest planting of companies associated to ABRAF.

² Eucalyptus – MAI of the companies associated to ABRAF; Pinus – MAI of the companies associated to ABRAF.

In 2010, the area occupied by forest plantations in Brazil totaled 6,510,693 ha



Brazilian economies of scale

- “In Brazil, one company might have 200 machines. The last big deal we made with a large plant was for 153 units and on average we’ll sell 25 to 30 new machines to these big guys each year”
- “Komatsu Forest probably has 200 to 300 mechanics working on taking care of Komatsu machines sold to the big companies”
- “These .. machines have been running for 25.000 to 30.000 hours each ..”

[International Forest Industries, Sep. 2011]



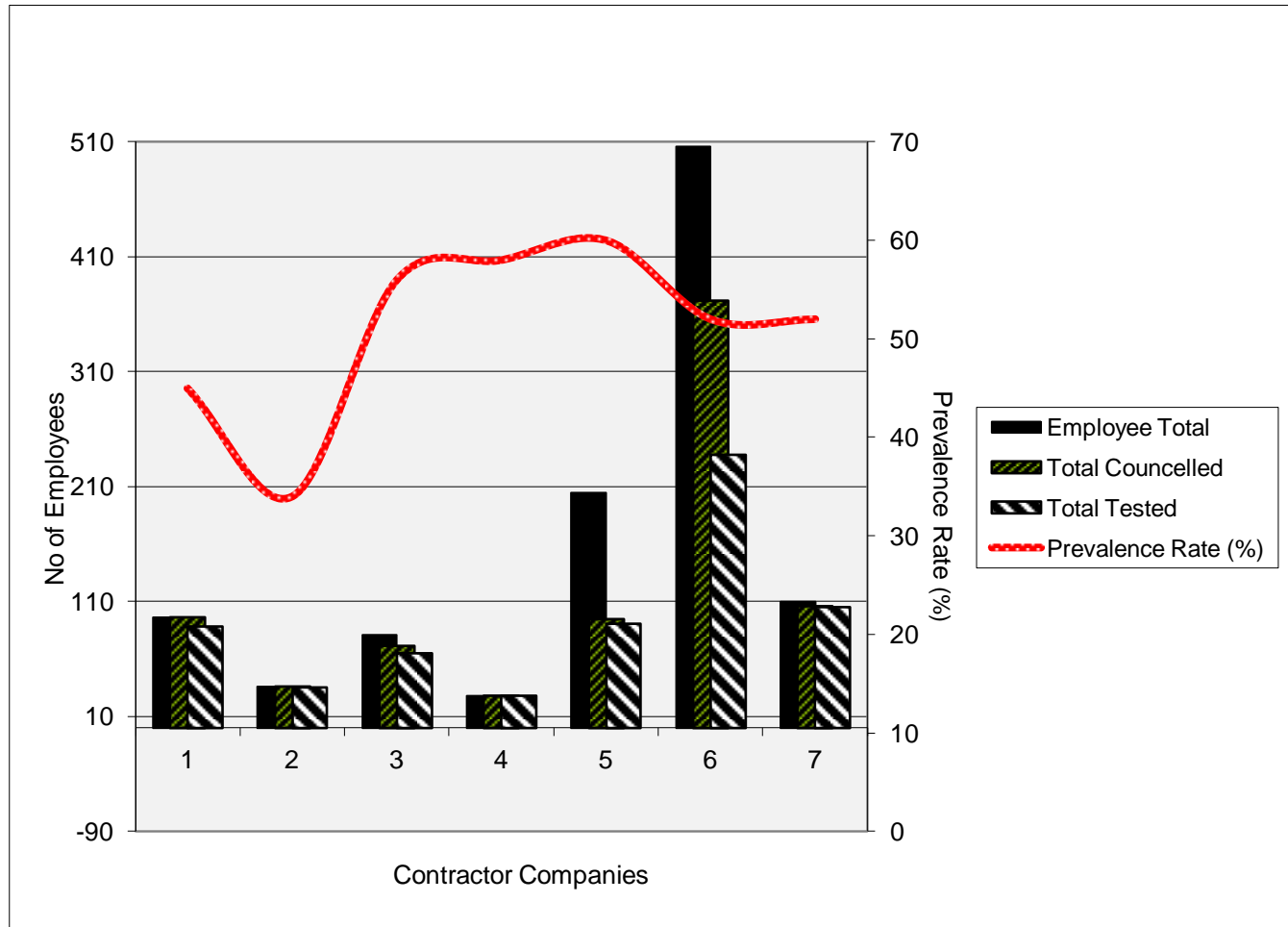
Harvesting & logistics challenges in South Africa

- Socio-political aspects
- From motor-manual to mechanised harvesting
- Limited research & development
- Equipment supply, support & backup
- Training of machine operators
- ...

Harvesting & transport operations under challenging conditions!



SA forestry workforce - 2010/2011 snapshot



Forest Engineering research & development



The role of FESA in Southern Africa

- Identify Forest Engineering and Supply Chain industry needs
- Commission and manage research projects
- Technology transfer
- Facilitate the implementation of R&D results
- Facilitate Forest Engineering stakeholder interaction
- Indirect involvement and support of training and education to support skills development in South Africa

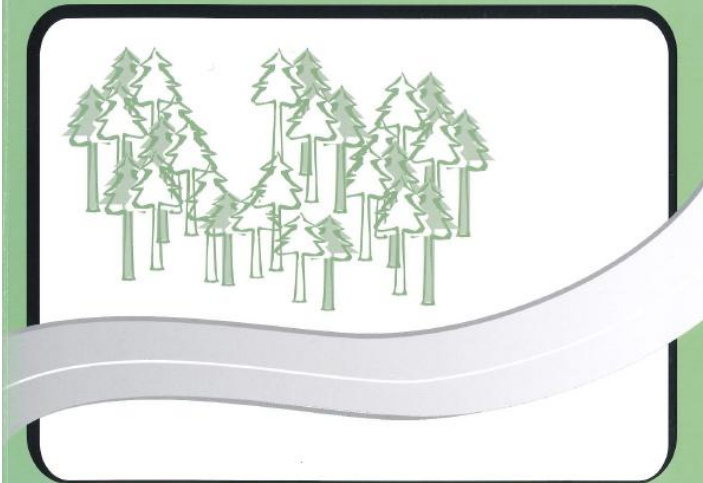


FESA's research & development 2011/2012

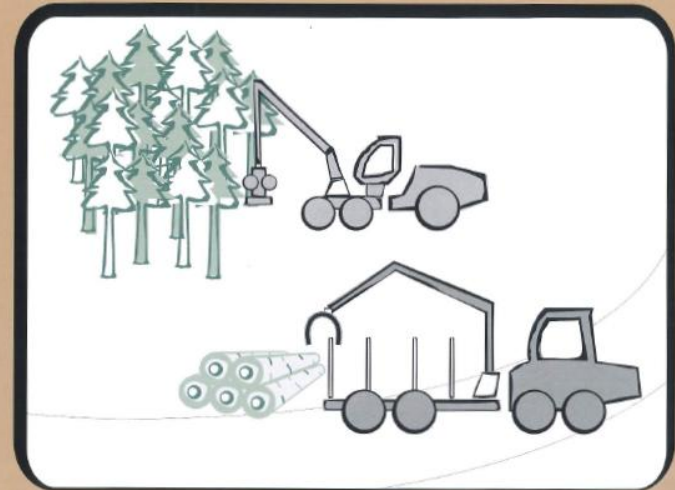
- Mechanised steep slope harvesting operations (NMMU)
- Forest residue for bio energy (Stellenbosch)
- Harvesting effect on silviculture & vice versa (ICFR)
- Review of the SA National Terrain classification system
- Review of the Cable Yarding handbook
- Update Guidelines for Forest Engineering Practices in South Africa
- Technical notes on chainsaw PPE etc.



South African Forest Road Handbook




South African Ground Based Harvesting Handbook




2010





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Current Initiatives

Fesa Publications

Fesa Publications

FESA has produced a number of publications under the broad focus areas of:

- Forest Engineering (general),
- Roads & Transport,
- Ergonomics and
- Harvesting.

All of the FESA publications have been placed in the public domain.

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Forest Engineering

- Forest Engineering Southern Africa: A research overview. (2010)
- Forest Engineering Southern Africa: Stakeholders meeting. (2010)
- South African Forest Technical Survey. (1998)
- South African Forest Engineering Survey 2006/2007 - Final report. (2007)
- Forest Standards Generating Body. (2001)
Part 1 [793 KB]; Part 2 [825 KB]; Part 3 [3.5 MB]; Part 4 [4.8 MB]; Part 5 [1.2 MB]; Part 6 [4.6 MB]; Part 7 [1.5 MB]; Part 8 [1 MB]; Part 9 [2.4 MB]
- Forest Operation Time Studies, Nomenclature and Calculations.
- Guidelines for Forest Engineering Practices in South Africa. (1999) [400 KB]

Roads & Transport

- South African Forest Roads Handbook (2005) [4.8 MB]
- South African Forest Road Surveying Handbook. ICFR Bulletin 01-2007. (2007) [89 KB]
- National Forest Road Classification System, Standards and Specifications. (1994) [1.5 MB]
- Terminology for roundwood timber transport. *Fesa Technical Note 02-2002.* (2002) [860 KB]
- Central Tyre Inflation (CTI). A literature review. (2002) [6.2 MB]
- The benefits of using central tyre inflation in forestry. *Fesa Technical Note 02-2003.* (2003) [483 KB]
- A new tool to improve vehicle scheduling for the timber transport industry. *ICFR Technical Note 01-*

Russian harvesting operations



FESA – an industry initiative supported by



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