## Mapping the South African pulpwood supply chain

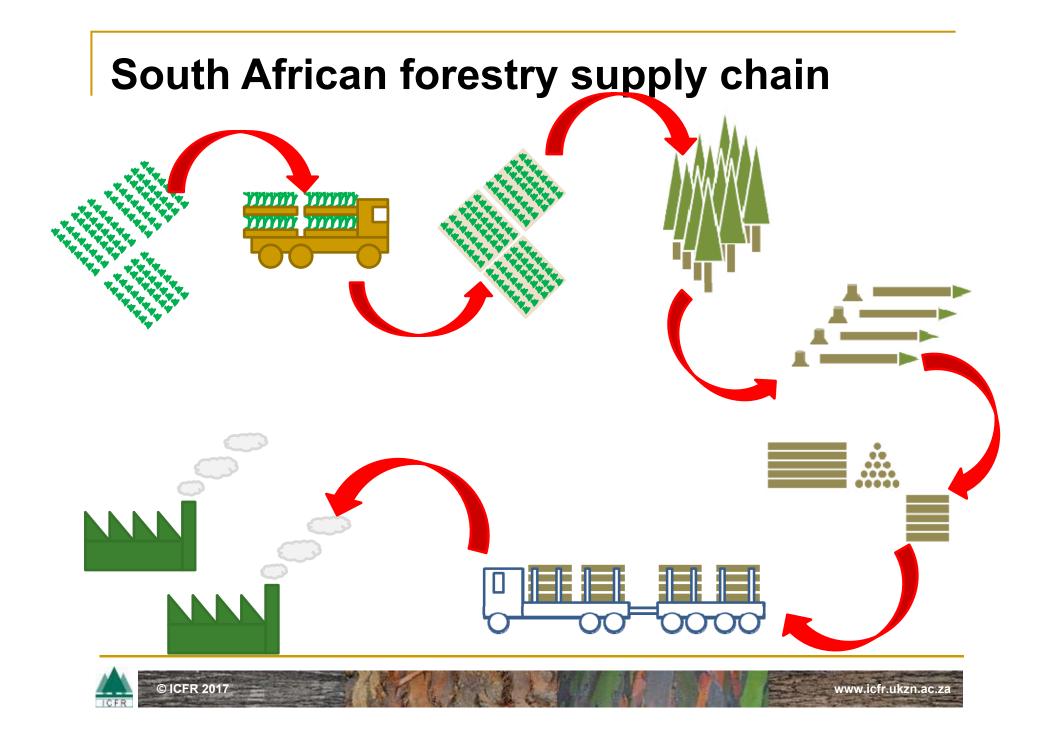
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## Background

- Awareness that in the future supply chains will compete not companies
- Improve the whole vs individual discrete events
- Integration between a series of events that take a product, from its basic form to completion
- In South Africa:



## Forestry stakeholder engagement

- The initiative started when
  - Need to understand the interaction/interface between harvesting and silvicuture
  - Tradition in South African forestry that raw material delivery means everything
  - Not much quantification of affect of this and potential poor practice
- Country wide survey and interviews:
  - Establish what the industry sees as important
  - Understand how to apply these in a framework to understand efficiencies and potential inefficiency





# Why are there issues in the SA forestry value/supply chain?

- Management structures and focus
  - Separate management of harvesting and silviculture
  - Drive to lower costs within each operational area
- Outsourcing/contracting of operations
- Increased mechanisation of operations
  - Labour ergonomics
  - Cost effective
  - Technological advances
  - Lack of flexibility
- Move from a supply chain to a value chain







## What was needed to understand the South African value chain?

- Mainly aimed at the pulpwood value chain, but has evolved
- Key people at various parts of the chain
  - Insight into particular jobs, roles and constraints
  - Also potential to critique and comment on other parts or roles
- Conducted a brown paper process
  - Done mainly in the manufacturing industry
  - Pictorial view of the supply chain
  - On ICFR staff as a start
  - Then on industry



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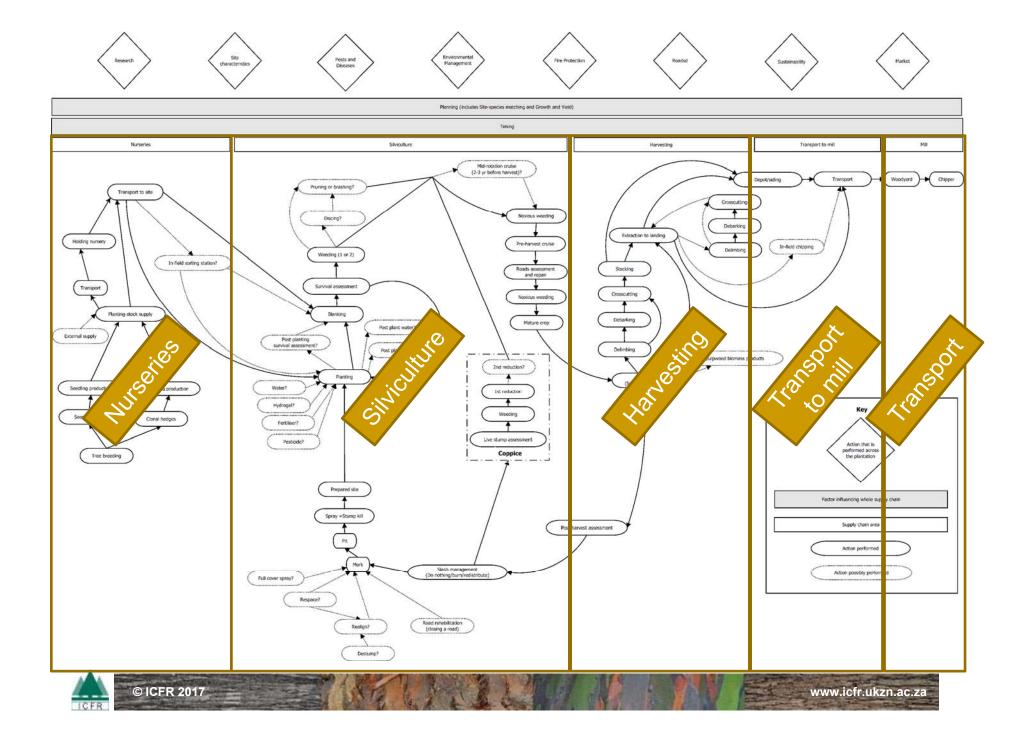


#### The brown paper... Transport Harvesting Mill **Nurseries** Silviculture HARVESTING SILVICULTURE OST PLANTIN SURVIVAL ASSESSMENT EPARED SITE BRASHING PLANTING SPRAY + WATER PRE-HARVEST CRUISE MARK NO REDUCTION YDROG ROAD 17 REDUCTIO SSESSMENT + REPAIR REALIGN WEEDING DESTUMP PRODUCTS SLASH MATURE CROM ROAD

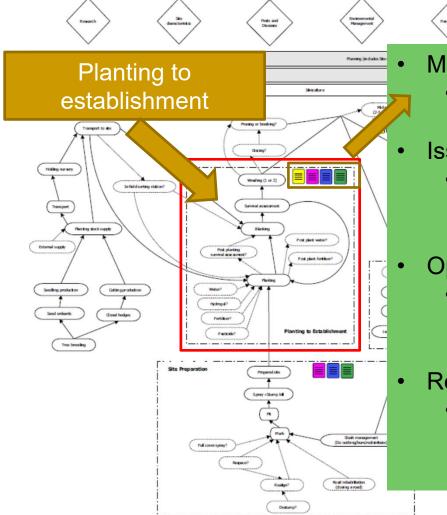


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### How did we capture the results?



#### Measurements

• What is recorded understood and to current specifications

#### Issues

 What are the shortcomings of these measurements and specifications

#### Opportunities

 Are there ways to improve or capitalise on measurements and shortcomings

#### Research needs

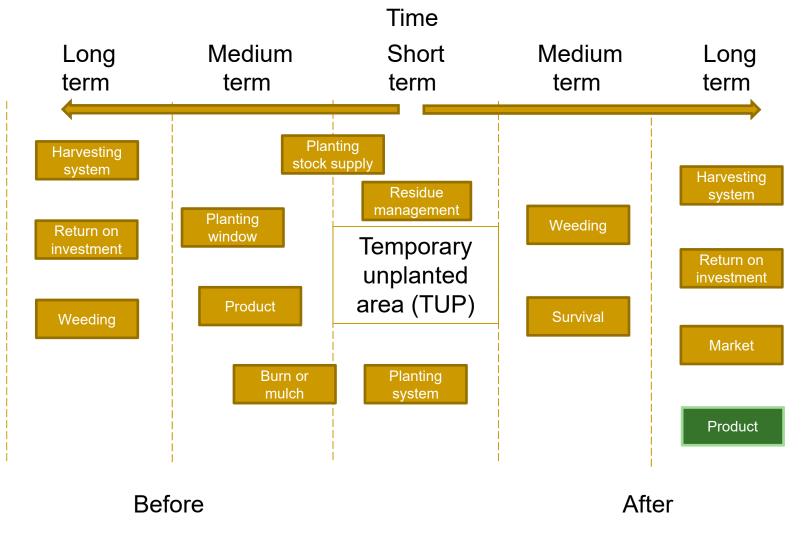
• Can research and research initiatives be prioritised or piloted based on this information

Reserved mode



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## Understanding the complex value chain





## Where to from here?

- Report results presented here (in process as an ICFR bulletin)
- Use the map as the basis for a framework to model available information (operation vs productivity curves, effects on uniformity etc.)
  - Initially focus on residue management (vital as a part of RSA forestry)
  - This will identify gaps in the research and understand management of costs, productivity and sustainability
- Additional use of this information:
  - Benchmark this supply chain against other similar value chains and analyse for additional opportunities
  - Use this process to map other forestry value chains (sawtimber, poles etc).

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## Re-focus of research and presentation of research results...

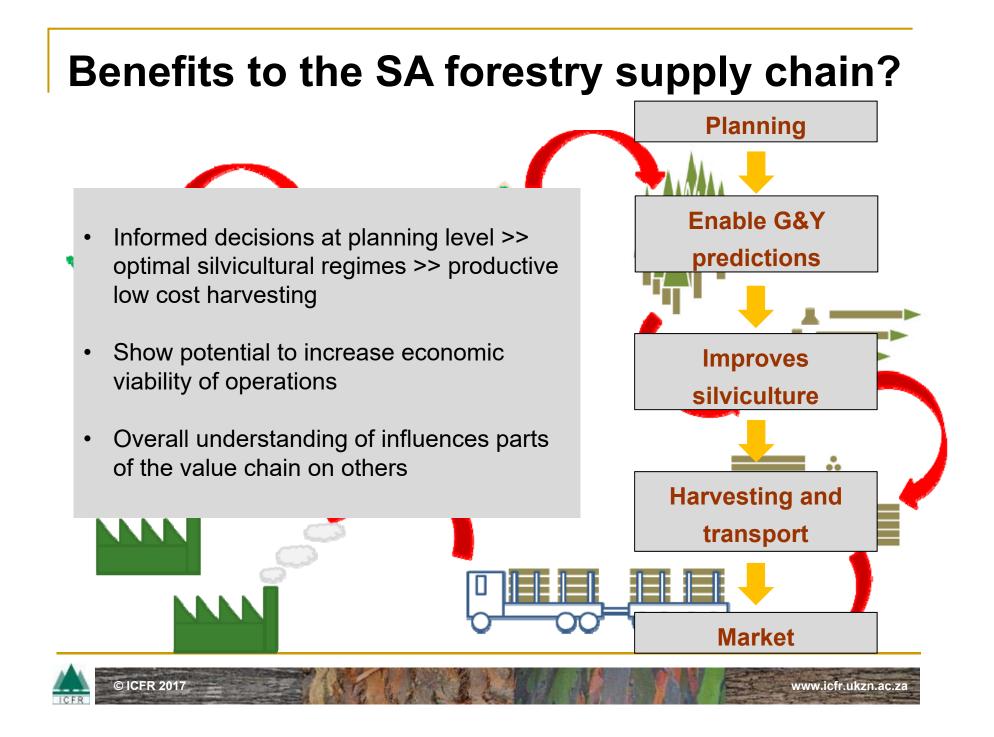
- Development of new research areas at the ICFR
  - Forest operations research, inter-rotation management FOR forest management at the ICFR
    - Understanding of the influence of management decisions
    - Use of precision forestry to answer value chain questions
    - Apply past, current and new research results in a standardised framework
- Collaboration between companies and other research institutes
  - Framework for forestry enterprise simulation >> MSc. studies around research return on investment and cost sensitivity
- Greater understanding of the full value chain approach to research and operational forestry interventions



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Thank you

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