Wood for Paper: Fiber Sourcing in the Global Pulp and Paper Industry

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Purpose/Objectives

1) Profile the sources of raw material supply for 90% of global supply;

2) Analyze raw material supply to the pulp & paper industry in selected countries/regions;

3) Review reports and examine available data related to illegal logging allegedly connected to the pulp and paper industry;

4) Examine extent certification is being used in sourcing for the pulp and paper industry;

5) Assess competitive aspects.
Other Background

• Collaboration with Wood Resources International, LLC
• Methods similar to those used in 1993 Study by Int. Institute for Environment & Development (IIED)
• Certification and Suspicious Fiber Sourcing are new elements
Categorizing Fiber Sourcing

Pulp Type

Recovered & Other

Wood

Softwood
  -- Roundwood
  -- Residues

Hardwood
  -- Roundwood
  -- Residues

Certified Sourcing

Suspicious Sourcing

Recovered Fiber

Other Fiber

“Original” Forest

Mixed Tropical Hardwoods

Indigenous Plantations

Exotic Plantations

Managed Natural Regeneration

Un-Managed Natural Regeneration
Forest Type Definitions

- Original Forest – not previously subject to significant commercial harvest
- Mixed Tropical Hardwoods -- tropical forests (original or being converted)
- Indigenous Plantations – planted with native species
- Exotic Plantations – planted with non-native species
- Managed Natural Regeneration – purposely planned regeneration harvests
- Un-managed Natural Regeneration – not generally associated with management plan

**None of these are necessarily pejorative**
Global Pulp Production

Million Mt

- Recovered Paper
- Other Fibre
- Semi-Chemical Wood
- Mechanical Wood
- Chemical Wood
- USA Total
Wood Pulp Production

Million Tonnes

Source: FAO and WRI, Ltd Estimates
Global Pulp and Fiber Production/Consumption
1993 - 2004

- Total Pulp Production*
- Non-Wood Pulp
- Recovered Paper Utilization
- Wood Pulp Production
- Wood Fiber Consumption

* Including pulp produced from recovered paper
Global Trade in Wood Chips

Million Mt

[Graph showing the trade in wood chips from 1995 to 2006, with separate lines for hardwood and softwood.]
Chip Exports
(2004)
Distribution of 2004 Global Wood-Based Pulp Production by Species

- Hardwood: 36%
- Softwood: 64%
Distribution of 2004 Global Wood-Based Pulp Furnish by Species

![Bar chart showing distribution of wood-based pulp by species and region. The chart includes categories for Oceania, No. America, EU-25, Rest of Europe, Africa, S/C America, and Asia. Each bar is divided into two sections: Softwood (dark blue) and Hardwood (light blue). The chart illustrates the percentage of Softwood and Hardwood in each region.]
Categorizing Fiber Sourcing
Global Summary (2004)

Pulp Type

- Recovered & Other – 47%
- Wood* – 53%
  - Softwood
    - Roundwood 63%
    - Residues 37%
  - Hardwood
    - Roundwood 82%
    - Residues 18%
- Other Fiber – 5%
  - Indigenous Plantations – 16%
  - Managed Natural Regeneration – 49%
  - Mixed Tropical Hardwoods – 3%
  - Indigenous Plantations – 16%
  - Exotic Plantations – 21%
  - Un-Managed Natural Regeneration – 9%

Certified Fiber – 65%

Suspicious Sourcing – 2%

“Original” Forest – 2%

* Virgin Wood
Categorizing Fiber Sourcing

Pulp Type

Recovered & Other – 35%

Wood* – 65%

Softwood
-- Roundwood 66%
-- Residues 34%

Hardwood
-- Roundwood 84%
-- Residues 16%

Certified Sourcing – 85%

Suspicious Sourcing – N/M

Recovered Fiber – 35%

Other Fiber – <1%

“Original” Forest – N/M

Mixed Tropical Hardwoods – N/M

Indigenous Plantations – 36%

Exotic Plantations – 1%

Managed Natural Regeneration – 46%

Un-Managed Natural Regeneration – 17%

* Virgin Wood
Categorizing Fiber Sourcing

China Summary (2004)

Pulp Type

- Recovered & Other – 90%

  - Wood* – 10%

    - Softwood
      -- Roundwood 95%
      -- Residues 5%

    - Hardwood
      -- Roundwood 100%
      -- Residues

  - Recovered Fiber – 56%

  - Other Fiber – 34%

  - "Original" Forest – N/M

    - Mixed Tropical Hardwoods – 1%

    - Indigenous Plantations – 12%

    - Exotic Plantations – 51%

    - Managed Natural Regeneration – 14%

    - Un-Managed Natural Regeneration – 22%

Certified Sourcing – 2%

Suspicious Sourcing – 10%

* Virgin Wood
Categorizing Fiber Sourcing
Indonesia Summary (2004)

Pulp Type

Recovered & Other – 36%

Wood* – 64%

Softwood
-- Roundwood
-- Residues

Hardwood
-- Roundwood 100%
-- Residues

Certified Sourcing – 10%

Suspicious Sourcing – 20%

Recovered Fiber – 35%

Other Fiber – 1%

“Original” Forest – ?

Mixed Tropical Hardwoods – 70%

Indigenous Plantations – N/M

Exotic Plantations – 30%

Managed Natural Regeneration – N/M

Un-Managed Natural Regeneration – N/M

* Virgin Wood
Categorizing Fiber Sourcing
Brazil Summary (2004)

Pulp Type

Recovered & Other – 33%

Wood* – 63%

Softwood
-- Roundwood
-- Residues

Hardwood
-- Roundwood 100%
-- Residues

Certified Sourcing – 80%

Suspicious Sourcing – 0%

Recovered Fiber – 32%

Other Fiber – 1%

“Original” Forest – N/M

Mixed Tropical Hardwoods – N/M

Indigenous Plantations – 1%

Exotic Plantations – 99%

Managed Natural Regeneration – N/M

Un-Managed Natural Regeneration – N/M

* Virgin Wood
Categorizing Fiber Sourcing
Russia Summary (2004)

- Recovered & Other – 26%
- Wood* – 74%
  - Softwood
    - Roundwood
    - Residues
  - Hardwood
    - Roundwood 100%
    - Residues

- Recovered Fiber – 25%
- Other Fiber – <1%
  - “Original” Forest -- 3%
  - Mixed Tropical Hardwoods – N/M
  - Indigenous Plantations – N/M
  - Exotic Plantations – N/M
  - Managed Natural Regeneration – 70%
  - Un-Managed Natural Regeneration – 27%

- Certified Sourcing – 42%
- Suspicious Sourcing – 14%

* Virgin Wood
Certified Pulpwood/Pulp

- Large (and growing) share of world pulp market is being certified
- SFI, FSC, PEFC, LEI, CERFLOR and Others
- North America, South America and Europe lead in certification (also S. Africa)
- Based on certified forests and/or certified procurement (SFI)
- Most product is not labeled
Certified Pulpwood/Pulp*

*Based on fiber sourced from certified forests or through certified procurement systems
Certified Pulpwood/Pulp*

*Based on fiber sourced from certified forests or through certified procurement systems
Suspicious Sourcing in Pulp & Paper

- Less of an issue because of plantation fiber, residue use, managed forests
- Countries with issues of suspicious wood fiber supply represent small global share of wood pulp production
- Not a significant issue in some countries where allegations about illegal logging otherwise prevail – i.e. Brazil
- Suspiciously (potentially illegal) procured wood fiber for the pulp and paper industry likely represents less than 2% of the total fiber consumption
- Credible allegations of suspicious wood fiber for the pulp and paper industry in Indonesia, Russia and China are the three major
- However, many producers are complying with existing laws and regulations and have implemented programs to ensure the legality of their supplies
GFPM Modeling*

- Slightly lower world production
- Trade in Pulp & Paper Increases
- Not much change for the US
- Slightly higher world prices

Summary

• Since 1993, increase in wood fiber use has been mostly from plantation sources
• Globally, over 85% of wood fiber used to make pulp and paper is from managed forests
• Globally, 65% of wood fiber used for wood pulp is from certified sourcing and/or certified forests
• Suspiciously sourced wood fiber is estimated at 2% globally
  – Mostly an issue where capacity is expanding more rapidly than new fiber supply
Questions??