

# Quo Vadis - Small Paper Mills ?

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## ABSTRACT

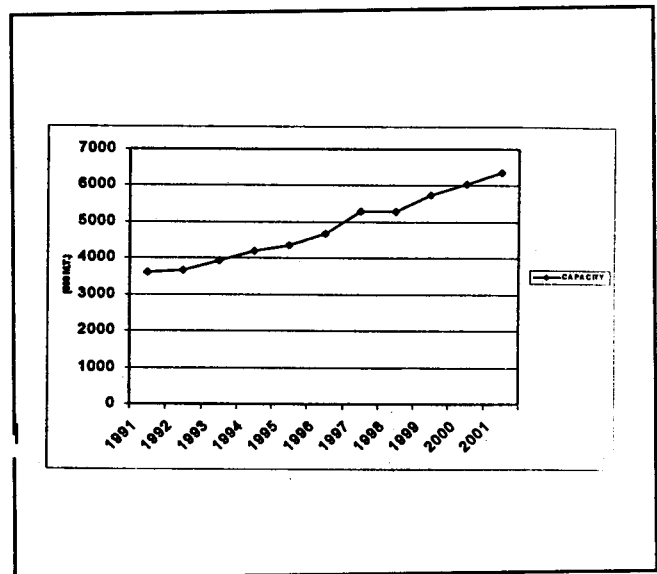
*This presentation is a graphic presentation of the STATE of the Paper Industry in India. In view of the globalisation, the role of Small paper mill has been projected which have been defined as waste paper and agro based paper mills below 100 TPD without recovery and cogeneration vis-a-vis large paper mills based on wood and bamboo as fibre furnish having chemical recovery and power cogeneration.*

*The importance of such paper mills has been quantified in term of revenue loss if 50% of small mills get closed and if 100% mills get closed due to their being inefficient in operation and heavy pollution loads for which the image of the industry is poor. It therefore, focuses that the industry must improve its performance and survive in national interest as the projected compound annual growth is estimated at 6.5%.*

Summary of the presentation made during the IPPTA Annual Seminar on March 16, 2001 at Panel Discussion on the Inaugural day of the New Delhi.

Trend in Installed Capacities of Paper and Newsprint in India	
Year	Capacity (000 " MT)
1991	3,600
1992	3,660
1993	3,923
1994	4,190
1995	4,350
1996	4,680
1997	5,289
1998	5,303
1999	5,752
2000	6,040
2001*	6,358

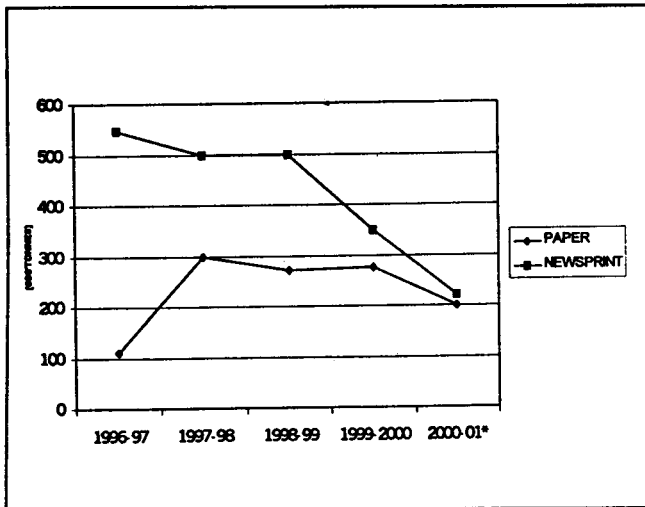
\*Estimated



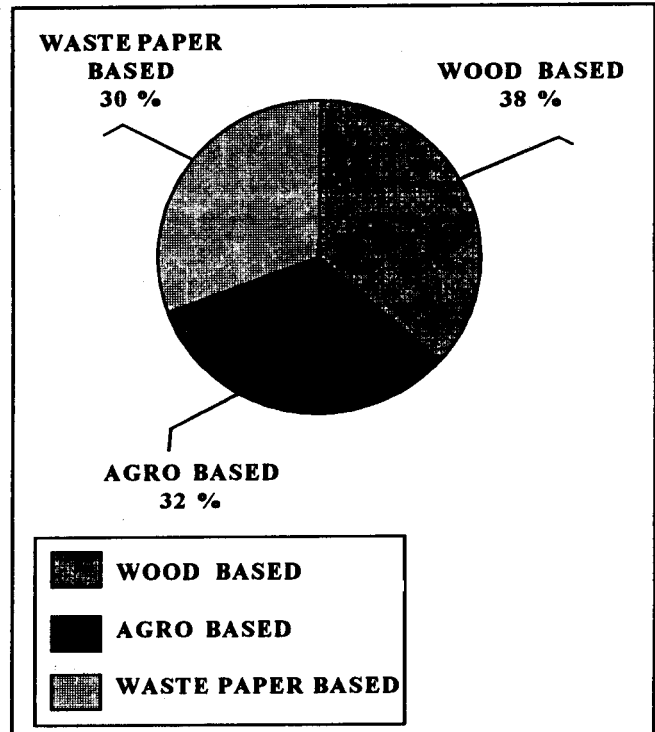
**Chemprojects Consulting (P) Ltd.**  
**Gopal Deep**  
**17, Panchshila Shopping Centre**  
**NEW DELHI - 110 017**

Trend in Imports		
Year	Paper	(000'MT) Newsprint
1996-67	110	547
1997-98	300	500
1998-99	271	498
1999-2000	277	350
2000-2001*	200	220

\* *Etimated*

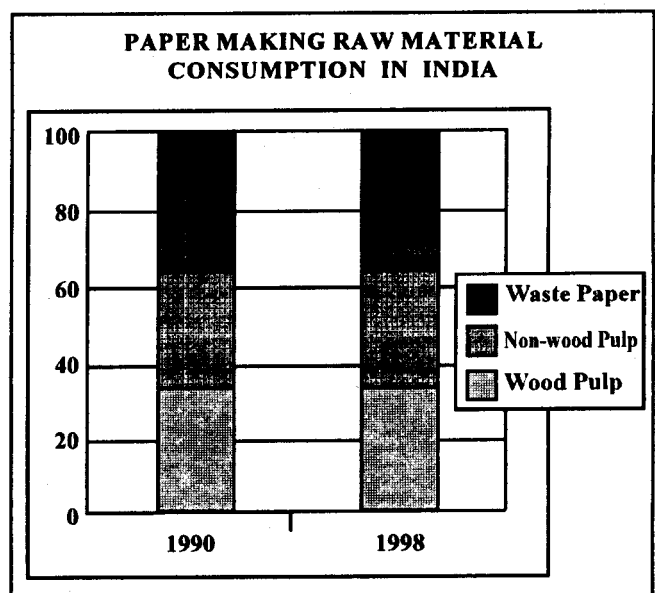


Break up of Capacity by Raw Materials (Paper & Newsprint 2001)		
		(000'MT)
Wood Based	:	2416
Agro Based	:	1907
Waste Paper Based	:	2035
<b>Total</b>	:	<b>6358</b>



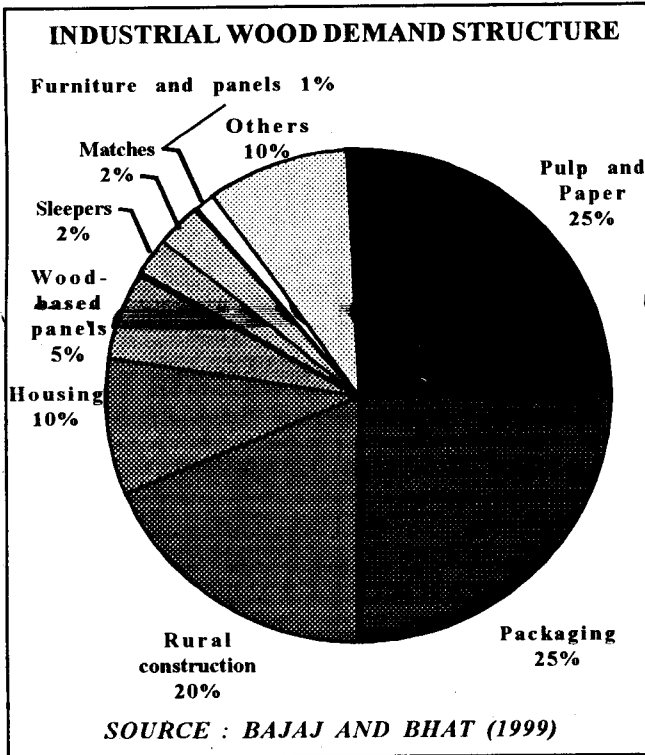
Projected Demand for Paper and Newsprint in India			
(000 Tonnes)			
Year	Paper and Paper Board	Newsprint	Total
2001	4795	700	5495
2005	5397	850	6247
2010	6256	1085	7341

Break up of Capacity by Size of Units		
		(000 TPA)
Large & Medium units	:	2878
Small Units	:	3488
<b>Total</b>	:	<b>6366</b>
Large and Medium Units	:	Above 100 TPD
Small Units	:	Below 100 TPD



During the 90s Share of nonwood fibres has considerably increased. Share of waste paper has remains constant. Share of wood fibre has decreased to 27%.

Pulp wood is not available in sufficient quantity for the paper industry. Its price is relatively higher.



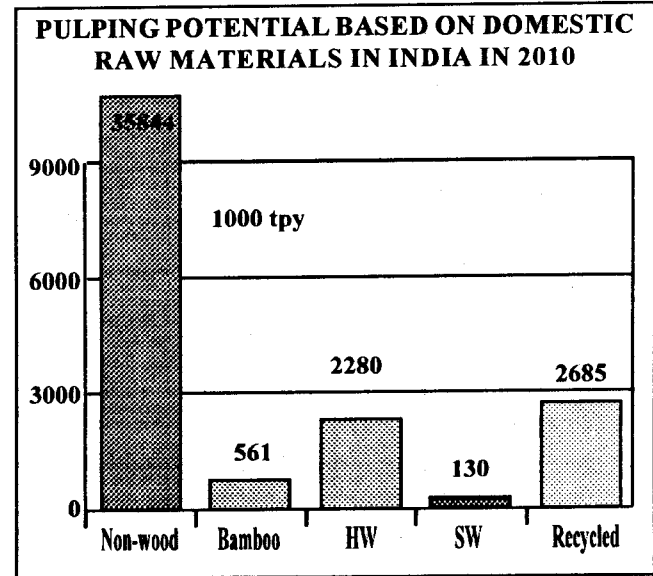
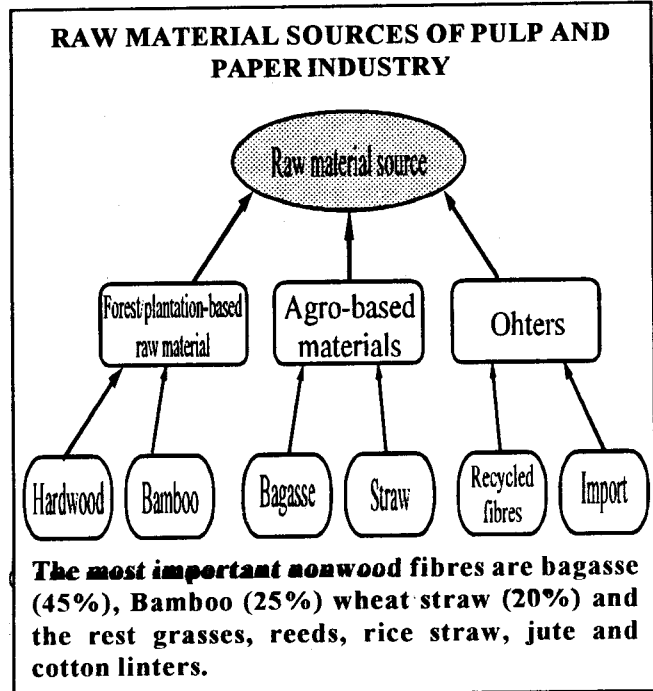
Pulp & paper, packaging industry together constitute 50% demand, pulp and paper industry consumes 5-8 Million m<sup>3</sup> of roundwood.

India is a wood deficit country and its dependence on import has doubled during 1990-2000.

**CHANGE IN FOREST STRUCTURE IN 1995-97**

	km <sup>2</sup> 1995	km <sup>2</sup> 1997	% Change
Dense Forest	385,037	367,260	- 4.6
Open Forest	249,309	261,310	4.8
Mangrove	4523	4827	6.7
<b>Total</b>	<b>638879</b>	<b>633397</b>	

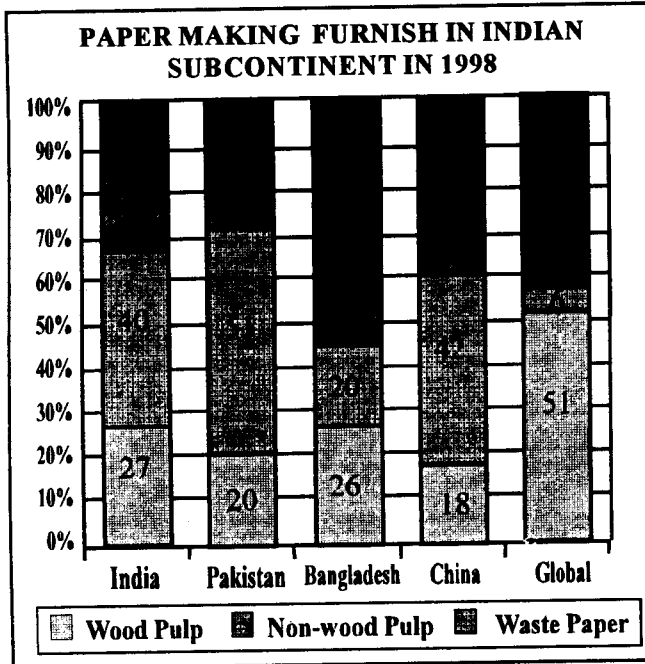
79% of land mass are non-forest areas. Although total forest cover is not so alarming, there has been a change in structure of forest cover. The share of dense forest has declined from 60% to 58%.



Of the total 38 million m<sup>3</sup> of industrial roundwood production in 2010, Assuming 30% of this volume is available to the paper industry, only 2.3 million of wood pulp can be produced.

Recycled fibres available in India would be 2.7 million tonnes with 25% recovery.

As there are no alternatives, India has to build nonwood pulp plants inspite of several technical and other limitations. Non-wood pulping will continue to be relatively small scale production, underdeveloped infrastructure and lack of financing.



**IMPACT OF CLOSURE OF SMALL MILLS  
CASE -1 IF 50% CAPACITY IN SMALL SCALE  
SECTOR ARE CLOSED**

	At Present	In 2010
A. Foreign Exchange requirement if the required quantity is imported.	US\$ 760 Million	US\$ 1950 Million
B. Wood required to produce the quantity lost due to closure.	4.36 Million Tonnes or 7.30 Million m <sup>3</sup>	11.2 Million Tonnes or 18.6 Million m <sup>3</sup>
C. No. of trees to be cut and felled	5.5 Million Nos.	14 Million Nos.
D. Plantation area to be cleared for the purpose.	2083 Hect/Annum	5300 Hect/Annum
E. Plantation area required for 8 years cycle plantation.	16,664 Hectares	42,400 Hectares
F. Plantation cost required for 8 years cycle plantation.	Rs. 333 Million	Rs. 848 Million
G. Employment Opportunities lost		
- Direct Employment	85,000 Nos.	108760 Nos.
- Indirect Employment	170,000 Nos.	217520 Nos.

**IMPACT OF CLOSURE OF SMALL MILLS  
CASE -II IF ALL THE CAPACITY ARE CLOSED**

	At Present	In 2010
A. Foreign Exchange requirement if the required quantity is imported.	US\$ 1520 Million	US\$ 3900 Million
B. Wood required to produce the quantity lost due to closure.	8.72 Million Tonnes or 14.6 Million m <sup>3</sup>	22.4 Million Tonnes or 37.2 Million m <sup>3</sup>
C. No. of trees to be cut and felled	11 Million Nos.	28 Million Nos.
D. Plantation area to be cleared for the purpose.	4166 Hect/Annum	10600 Hect/Annum
E. Plantation area required for 8 years cycle plantation.	33328 Hectares	84,800 Hectares
F. Plantation cost required for 8 years cycle plantation.	Rs. 666 Million	Rs. 1696 Million
G. Employment Opportunities lost		
- Direct Employment	170,000 Nos.	217520 Nos.
- Indirect Employment	340,000 Nos.	435040 Nos.

In order to evaluate the financial cost of production per tonne of paper, we have taken 4 cases into consideration given on next page.

Page No. 151 shows that there is hardly any difference in the total cost of production an agrobased mills with chemical recovery and captive power generation (Case I) and a mixed office waste based mill with a deinking plant (Case IV). The variable cost of the waste paper based mill is much higher. Of course the investment cost per tonne is nearly one third of the agrobased mills, this leads to the conclusion that it is safer to put up mills with indigenously available raw materials in view of price volatility of waste paper of imported origin.

### COMPARISON OF COST OF PRODUCTION

S. No.		Case-I	Case-II	Case-III	Case-IV
		With Recovery & Power Generation	Without Recovery & Power Generation	White Cutting	Mixed Office Waste
1.	Cost of Raw materials, Chemicals & Utilities (Rs./tonne)	11,430.00	16,650.00	16,560.00	16,365.00
2.	Salaries & Wages (Rs./tonne)	1500.00	1300.00	1100.00	1100.00
3.	Consumables & Maintenance (Rs./tonne)	750.00	600.00	500.00	500.00
4.	Adm. Overheads (Rs./tonne)	200.00	200.00	200.00	200.00
5.	Packing Expenses (Rs./tonne)	150.00	150.00	150.00	150.00
6.	Selling Expenses (Rs./tonne)	100.00	100.00	100.00	100.00
7.	Total Cost (Rs./tonne)	14,130.00	19,000.00	18,610.00	18,415.00
8.	Estimated Project Cost (Rs. in lakhs) 100 TPD	15,000.00	11500.00	5000.00	5600.00
9.	Interest Rs/T of paper @ 15% (Rs./tonne)	6818.00	5227.00	2273.00	2545.00
10.	Cost of production with interest (Rs./tonne)	20,948.00	24,227.00	20,883.00	20,960.00

### COMPARISON OF COST OF PRODUCTION

S. No.		Case-I	Case-II	Case-III	Case-IV
		With Recovery & Power Generation	Without Recovery & Power Generation	White Cutting	Mixed Office Waste
1.	Variable Cost	12,330	17,400	17,210	17,015
2.	Fixed Cost	1800	1600	1400	1400
3.	Capital Charges	6818	5227	2273	2545
4.	<b>Total</b>	<b>20,948</b>	<b>24,227</b>	<b>20,883</b>	<b>20,960</b>

The difference in the total cost of production between Case I (A mill with chemical recovery and power generation) and Case II (A mill without recovery and power generation) is nearly Rs. 3300/-

per tonne, equivalent to an annual saving of Rs. 10 crores. The additional cost of putting up a recovery and power plant is however Rs. 35 crores.

## **CONCLUSION**

- The paper industry has attracted insufficient investment.
- Regulatory and economic burdens have taken their toll and the industry is in a critical state despite increases in efficiency and productivity and rising demand for its products.
- Has been disadvantaged by legislation and regulation which is being applied more seriously now.
- Needs to update its image to promote its unique environmental credentials and attract the right

caliber of employee for a high tech industry.

- Small mills provide wealth creation with a turnover of Rs. 800 Crores, employ directly or indirectly at least 5 lakhs people.
- The paper industry has unrealised potential in terms of indigenous raw materials, particularly wheat straw and a market that is expanding at 6.5% per annum.

To find practical answers to the barriers for future success, it is necessary for entrepreneurs to launch industry wide action plan.