

## CHAPTER TWO

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### PROFILE OF THE PAPER INDUSTRY IN INDIA

### 2.1 HISTORICAL BACKGROUND OF INDIAN PAPER INDUSTRY:

The beginning of the paper industry in India dates back to 1832 when the first paper mill was established by Dr. William Kerry at Serampore in West Bengal. This venture, however, failed after a few years. Meanwhile, in 1867, another paper mill, the Royal Paper Mill, was set up at Bally and the machinery of Serampore mill was transferred to this mill in 1870. Waste paper, rags and jute cuttings were used as raw materials. A decade later, another mill, the Upper India Paper Mills, started operation at Lucknow in 1881. In 1884, the Titaghar Paper Mills came into existence at Calcutta. Both these mills used 'Munji' and 'Sabai' grass as raw material. Soon two more mills were set up - the Deccan Paper Mills at Poona in 1887 and the Bengal Paper Mill at Raniganj in 1891. These two mills when they faced shortage of raw materials started importing the pulp.

At the beginning of the First Five-Year Plan, there were 17 paper board mills with an installed capacity of 1.86 lakh tonnes. These increased to 106 by 1979 with an installed capacity of 13.94 lakh tonnes. Today, there are over 350 paper mills in the country producing 20.40 lakh tonnes of different varieties of paper, paper-boards, specialty papers for a number of end-uses, which include government, education, corporate sector, packing and printing industries, newspapers,

magazines, etc. The use of paper is thus linked with the cultural and economic development of the country.

## 2.2 GROWTH OF PAPER INDUSTRY IN INDIA:

In the early 1960's, the country was faced with a paper famine. The Government came to appreciate the role of small paper units because of a short gestation period, use of cheap secondhand machinery readily available in foreign countries, use of non-conventional raw materials such as rice and wheat straw, bagasse, jute stalks and waste paper. Small units could be set up in any part of the country. The Government gave the necessary filip and encouragement to technocrats and entrepreneurs to venture into the paper industry and the investment funds came easily from the public sector financial institutions such as the Industrial Development Bank of India (IDBI), Industrial Finance Corporation of India (IFCI) and the Industrial Credit and Investment Corporation of India (ICICI). These helped the country to save Rs.300 crore in foreign exchange annually. To some extent, small units were uneconomic, their production costs were high and their quality was low. In order to ensure that these mills exist along with large paper mills, the Government gave various excise concessions and reliefs to small units from time to time. Small paper mills have grown so rapidly that they account for 50 percent of the installed capacity as well as of annual production.

Table 2.1  
Growth of Paper Industry in India

Year	Paper and Paperboard		(in lakh tonnes)
	Installed Capacity	Actual Production	Newsprint Production
1960-61	4.0	3.5	0.4
1970-71	9.0	7.5	0.4
1980-81	11.0	11.0	0.3
1990-91	30.0	20.7	0.7

Source: RBI Report on Currency & Finance, 1990-91.

### 2.3 IMPORTANCE OF PAPER INDUSTRY IN INDIA:

Beginning of the use of paper by a particular society signifies the dawn of civilization for that society. Through ages, paper has represented the growth of literacy, culture and civilization of the people. It has become a commodity of day-to-day use in all walks of life.

There are a number of paper manufacturing industrial units scattered all over India. Increase in communication systems and increasing use of paper for printing of books, computer prints, educational purposes, etc., have created the necessity to look into the paper industry. Paper also contributes to meeting the challenges in communication media such as newspapers, journals, magazines, professional books, and publications, etc., which ultimately results in the development of the society and the people of the country.

#### 2.4 RAW MATERIALS IN PAPER MANUFACTURE:

Following raw materials are used in paper industry: (i) soft woods - these include coniferous and non-coniferous woods; (ii) grasses and reeds - these include lemon, Panni, Ulla, Siru, Munji, etc., others are Sabai grass, bamboo, etc., (iii) straws - these are based on rice, wheat, bagasse, barley, reeds, etc.; (iv) cotton lints; (v) hardwoods - accacia, lemon, gum, Mysore gum, etc., eucalyptus, Pinus Patula and rubber wood; (vi) Kenaf and Mesta, etc.

Taking into consideration, the total availability of raw material and the possible paper production, the gap between demand and supply has been estimated in Table 2.2 below.

Table 2.2  
Forecast of raw materials requirements

Year	(in lakh tonnes)						Demand & Prod'n.	Gap
	Possible paper production from indigenous raw-materials	Demand	Forest	Bagasse	Straw	W.Paper		
1990	24.58	12.34	1.80	2.00	2.15	18.29	6.29	
1995	31.61	12.35	3.60	2.25	2.17	20.96	10.65	
2000	41.12	12.35	6.00	2.50	4.75	25.60	15.52	
2005	50.45	12.35	7.20	2.50	5.57	27.62	22.83	
2010	62.97	12.35	8.40	2.50	8.29	31.53	31.44	
2015	79.81	12.35	8.40	2.50	10.00	33.25	46.56	

The raw materials consumed by the paper industry can be divided into three categories - forest-based, agro-based and others. Forest-based raw materials consist of bamboo and wood pulp, agro-based raw materials consist of bagasse, rice straw,

wheat straw, cotton stalks, etc., and the others include waste paper, pulpable fibres, etc.

Table 2.3  
Category-wise consumption of raw materials in the  
paper industry in India

Raw material Category	(in million tonnes)			
	Installed Capacity	Closed Capacity	Effective Capacity	Per cent Shares
Wood-based	1.444	0.400	1.044	41
Agro-based	0.942	0.129	0.813	32
Waste Paper Board	0.918	0.256	0.662	37
<b>Total:</b>	<b>3.304</b>	<b>0.785</b>	<b>2.519</b>	<b>100</b>

The raw materials forms about 50 percent of the sales. Other major costs in the industry include power and interest.

## 2.5 CONSUMPTION OF PAPER IN INDIA:

India has over 16 percent of the world's population, yet it consumes a mere one percent of world's paper output. Against a world average per-capita consumption of 45.6 kg., India's per-capita consumption is barely 3.2 kg., Paper consumption is 11 kg. in Indonesia, 14 kg. in China and 40 kg. in the Asia-Pacific region. In Japan and the USA, it is 220 kg. and 309 kg., respectively. In respect of mill size, as against an average size of 85,000 tonnes in Asia-Pacific and 50,000 tonnes in South-east Asia, the average mill size in India in 1993 was less than 10,000 tonnes of the installed capacity. On the assumption of the paper consumption moving upto 5.0 kg. by 2000 A.D., the Planning Commission of India had estimated that the demand for paper would go up to about 32 lakh tonnes by

the year 2000 A.D.s from 18 lakh tonnes at present. Assuming a capacity utilization of 75%, this would call for an installed capacity of 42.5 lakh tonnes.

The following Table 2.4 indicates the present and the projected consumption of paper in India and also the per capita consumption of various categories of paper and pulp.

Table 2.4  
Consumption of paper and paper boards in India  
(in million tonnes)

Year	Total Paper & P.Board	Cultural Paper	Packing Paper	Paper Board	Speciality Papers
1989	1,672	0.877	0.465	0.288	0.372
1990	1,748	0.912	0.493	0.303	0.376
1995	2,184	1.103	0.661	0.389	0.397
2000	2,720	1.334	0.887	0.499	0.420

## 2.6 PROBLEMS AND PROSPECTS OF PAPER INDUSTRY IN INDIA

India's paper industry finds itself saddled with an acute shortage of raw materials. Particularly, pulpable wood, combined with a static technology of production. Bamboo and pulpable timber continue to be the basic raw materials for paper industry. Forests in India occupy 75 million hectares, which is nearly 24 per cent of the total land area of the country. This is much below the minimum requirement of forest cover, which is around 33 per cent. The yield per hectare in India forests is also one of the lowest in the world. Their growth is concentrated mainly in Madhya Pradesh, Orissa, Andhra Pradesh, Karnataka and North-eastern States.

Paper industry may consider utilizing other alternative sources of raw materials. The fibrous materials available for paper making from agricultural resources comprise mainly of bagasse, wheat and rice straw, jute stalks and certain other unconventional grasses. Of these, bagasse has the largest potential for use in paper manufacture.

India has over 270 major sugar mills providing around 46 lakh tonnes of bagasse on bone-dry basis every year. Use of bagasse as a raw material for paper making has become imperative to save our forest wealth and to make better use of this agricultural commodity.

The Union Government of India having recognized the importance of this raw material has allowed cent per cent excise duty relief on the paper manufactured by using 75 per cent of bagasse. India produces around 250 million tonnes of wheat and rice straw a year. Straw with other pulpable fibres could be used as a raw material.

Waste paper is another secondary raw material. Around 38 per cent of paper supply in Japan, 31 per cent in West Germany and 20 per cent in the U.S.A. comes from recycled paper waste, whereas in India, it is only 5 per cent. Hence, there are great possibilities in this source of raw material for the paper industry. The College of Engineering affiliated to the Tamil Nadu Agricultural University, Coimbatore, also succeeded in extracting paper pulp from Jowar chaff, cotton stalk, maize stalk, sunflower stalk, Bajra stalk, banana pseudo stem and sheath as also from papaya stem.



Paper industry, apart from facing high costs of raw materials and chemicals, has also to grapple with the rising cost of effluent treatment (paper industry is among the top 20 high polluting industries in India), unsatisfactory power and coal supply, non-availability of skilled manpower and lack of professional management. Lower capacity utilization is reflected in increased costs and prices and high excise levies. Small mills use cereal straws, rags, waste papers, bagasse, Sacrunda grass, which are replenishable and seasonal.

There is a widespread sickness in paper industry and 77 paper units with an installed capacity of about 6.45 lakh tonnes are not reporting production. These are either sick or lying closed.

#### **2.7 PAPER INDUSTRY IN KARNATAKA:**

Paper industry in Karnataka is significant from the viewpoint of its contribution to the economic use of forest resources, providing employment and participating in the growth of economy of the State. Paper industry in Karnataka consists of: (1) Mills producing handmade paper, and (2) Mills producing paper through mechanical and chemical process.

The industry is placed in favourable and advantageous position from the viewpoint of the abundant forest resources available in the State. Moreover, this industry has been making contributions to the State economy by employing more than 5000 people and involving an investment of over Rs.50.0 crore.

Following are some of the major paper-mills in the State of Karnataka:

- (1) The Mysore Paper Mills Limited,
- (2) The West Coast Paper Mills Limited,
- (3) The Cauvery Paper Mills Limited,
- (4) The Mandya National Paper Mills Limited.

All these mills produce paper of different thickness and to suit the various needs of different types.

Table 2.5  
Authorized share capital and production capacity  
of paper-mills in Karnataka State

Sr. No.	Name of the Mill	Authorized capital Rs. in Crs.	Production capacity m.tons/year	End-products
1.	The Mysore Paper Mills Limited, Bhadravati	20.00	4,000	Cultural varieties & newsprint
2.	The West Coast Paper Mills Ltd., Dandeli	15.00	6,000	Printing and writing paper newsprint
3.	The Cauvery Paper Mills Limited, Satyagala	2.5	1,600	Kraft and poster paper
4.	The Mandya Paper Mills Limited, Belagola	6.0	8,000	Cultural varieties of paper

These mills were set up in their particular locations on considering the availability of infrastructural facilities like water, transportation, communication, power and basic raw materials from the nearby forests, manpower base specialized in the production of paper and allied products.

The main raw materials used by these paper mills for making paper and the allied products are:

- (1) Wood: coniferous (softwood), deciduous (hardwood);
- (2) Straw and grasses; Rice, Esperito, Subai, Wheat;
- (3) Cones and reeds; bagasse from sugarcane;
- (4) Bamboos: several varieties;
- (5) Bast fibres: linen, Ramie;
- (6) Leaf fibres: Abaca (Manila hemp), Sisal;
- (7) Seed fibres: cotton, cotton linters.

The use of a particular raw material depends upon the desired properties of paper. Thus, different companies use different types of raw materials.

The Cauvery Paper Mills Limited was started in 1965. This Company produces special type of paper such as Kraft and poster paper. The quality produced is considered somewhat superior to others producing the same varieties.

The Mysore Paper Mills Limited was established in 1936. It produces all cultural varieties of paper and paper boards. The mill specializes in the production of newsprint. No other mill in the State produces newsprint, except Mysore Paper Mills. This is the oldest among the four paper mills in the State and is a public sector enterprise.

The total investment of paper mills in Karnataka State amounts to Rs.43.5 crores. The Mysore Paper Mills has contributed about 45.9 per cent share of this investment.

## 2.8 FUTURE PROSPECTS:

The challenges to be met by the paper industry include the production of stronger paper and paper boards, cost reduction through modernization, encouraging the use of non-conventional materials for the production of paper and paper boards and striking an equilibrium between the demand and supply. Both the Central and the State Governments along with private sector should strive to promote Bamboo plantations and cultivation of other plants which form the basic input for paper and paper board making and take steps to strengthen its technological base through effective research and development.

Table 2.6  
Production and Import of Newsprint  
(in lakh Tonnes)

Year	Production	Imports	Apparent consumption	Imports as % of consumption
1983-84	176	194	370	52
1988-89	320	250	570	44
1989-90	310	250	560	45
1990-91	280	228	480	47
1991-92	320	250	560	45
1992-93	300	200	540	37
1993-94	350	150	560	27

Indigenous newsprint output has risen from 14,200 tonnes in 1958 to an estimated 3,00,000 tonnes in 1992. The demand for newsprint is expected to rise to 6,62,000 tonnes by 1994-95 and to 8,90,000 tonnes by 1999-2000 A.D. The shortage in newsprint may be around 3,50,000 tonnes in 1995-96.

Table 2.7  
Zone-wise and State-wise capacity of paper and  
paper board units (as on 1st January 1993)

Sr. No.	Zone & State	Number of units	Installed capacity	Total
<b>(A) North Zone</b>				
1.	Uttar Pradesh	62	3,32,265	
2.	Haryana	16	1,50,910	
3.	Punjab	19	1,68,980	
4.	Rajasthan	8	38,850	
5.	Himachal Pradesh	15	68,800	
6.	Chandigarh	1	3,000	
7.	Jammu & Kashmir	1	<u>3,300</u>	7,66,105
<b>(B) South Zone</b>				
8.	Andhra Pradesh	19	4,34,120	
9.	Karnataka	14	2,02,370	
10.	Tamil Nadu	21	2,22,372	
11.	Kerala	3	39,350	
12.	Pondicherry	1	<u>9,000</u>	9,07,212
<b>(C) West Zone</b>				
13.	Gujarat	50	3,24,579	
14.	Maharashtra	53	5,77,320	
15.	Madhya Pradesh	16	<u>1,77,600</u>	10,79,499
<b>(D) East Zone</b>				
16.	West Bengal	21	2,63,830	
17.	Bihar	8	91,500	
18.	Orissa	7	2,21,572	
19.	Assam	4	1,88,000	
20.	Nagaland	1	<u>33,000</u>	7,97,902
<b>Total:</b>		<b>340</b>		<b>35,50,718</b>

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