CHAPTER - III

PAPER INDUSTRY - AN OVERVIEW AND PROFILES OF THE SELECT COMPANIES
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Paper is the basic material used for written communication and the dissemination of information. In addition paper and paperboard provide materials for hundreds of other uses, such as wrapping, packaging, toweling, insulating and photography.

Paper has been defined as a matter or felted sheet formed on a wire screen from water suspension. The word paper is derived from the name of the reedy plant papyrus, which grows abundantly along the Nile river in Egypt. In ancient times, the fibrous layers within the stem by side and crossed at right angels with another set of layers similarly arranged. The sheet so formed was dampened and pressed. Upon drying, the glue-like sap of the plant, acting as an adhesive, cemented the layers together. Complete defibring, an indispensable element in modern papermaking, did not occur in the preparation of papyrus sheets. Papyrus was most-widely used writing material in ancient times and many papyrus records still survive.
ORIGIN AND HISTORY

Paper making can be traced to about AD 105, when Ts’ ai Lun, an official attached to the imperial court of China, created a sheet of paper using mulberry and other best fibres along with fish nets, old tags and hemp waste. In its slow travel westward, the art of papermaking reached Samarkand, in Central Asia, in 751; and in 793 the first paper was made in Baghdad during the time of Harun-ar Rashid, with the golden age of Islamic culture that brought papermaking to the frontiers of Europe.

By the 14th century a number of paper mills existed in Europe particularly in Spain, Italy, France and Germany. The invention of printing in the 1450s brought a vastly increased demand for paper. Through the 18th century the papermaking process remained essentially unchanged, with linen and cotton rags furnishing the basic raw materials. Paper mills were more and more plagued by shortages; in the 18th century they even advertised and solicited publicity for rags. It was evident that a process for utilising a more abundant material was needed.

In 1800 a book was published that launched development of practical methods for manufacturing paper from wood pulp and other vegetable pulps. Several major pulping process were gradually developed that relieved the paper industry of dependency upon cotton and linen rags and made modern large-scale production possible. These developments followed two distinct pathways. In one, fibres and fibre fragments were
separated from the wood structure by mechanical means; and in the other, the wood was exposed to chemical solutions that dissolved and removed other wood components, leaving cellulose fibre behind. Made by mechanical methods, grand wood pulp contains all the components of wood and this is not suitable for papers in which high whiteness and permanence are required.

Chemical wood pulps such as soda and sulfite pulp are used when high brightness, strength and permanence are required. Ground wood pulp was first made in Germany in 1840, but the process did not come into extensive use until about 1870. Soda pulp was first manufactured from wood in 1852 in England, and in 1867 a patent was issued in the United States for the sulfite pulping process.

It seems that the Chinese were the first to make paper, from where the technology went to Samarkand. From there it eventually reached India. Soon the Indian paper was being exported to West Asia, Europe and Turkeys.

**INDIAN PAPER INDUSTRY**

There are traces of development of writing materials in India. It is noticed that the great medieval scholar, always very objective and observant, records a good deal of information about writing materials
so. The utilisation of bagasse for paper in all the sugar-producing
countries that are deficient in forest resources is a practical step.

The paper industry tends to be concentrated in those countries that
are industrially advanced and have abundant supplies of fibrous raw
material, especially wood. There is a large-scale international trade in
wood pulp, pulpwood, and paper flowing from those countries with large
forest resources to those countries with less or as the yet undeveloped.

The Indian paper industry, which took birth in 1812 when the first
paper mill was set up in Bengal, has made considerable progress during
the last 50 years. At the time of Independence, there were less than 20
mills in India with a total annual production of one-lakh tones. Today the
industry’s output is over 35 lakh tones from more than 500 mills.
However, these are trying times for the industry Sandwiched between
cheap imports and falling domestic demand, the industry has been caught
in a vicious down cycle that has rendered operations unviable. Most of
the paper producers have reported huge reduction in profits and in some
cases even losses. The demand for paper is going up every year with
rapid growth of population and literacy rate. Shortage of raw materials is
a chronic problem in this industry. This has been further accentuated by
the stricter ecological regulation around the world restricting the talking
of trees.
The budding paper industry has been protected ever since 1925 with comprehensive tariff barriers. This was replaced in 1947 by a revenue tariff. Nevertheless the industry attracted considerable entrepreneurship and resources. Gradually from the managing agents big Indian industrial houses took over the rein of the industry.

The forest cover of India is estimated to have declined from about 51 million hectares in 1988 to about 36 million hectares in 1995. With depleted forest resources, the supply of forest-based raw materials has reached a precarious stage.

During 1980-82 production of paper and paperboard increased from 3,50,000 tones to 13,00,000 tones at a compound annual growth rate of 5.9 percent of the production of newsprint, of which there is a serious shortage being met mostly by imports, improved at a compound annual growth rate of only 2.9 percent during the period.

The paper industry in India in the 1980s presents a paradox. The per capita consumption of paper in India is only 1.6 kgs as compared to 225 kgs in USA, 141 kgs, in Canada and 73 kgs. Japan, and there is a veritable famine in newsprint, despite this is early 1980s the paper industry passed through a severe crisis with low off take from mills and large unsold stocks. At the same time, students, scholars, publishers and newspapers all suffered due to inadequate supply and high prices.
The government ought to lend a hand in sporting the tangle. The setting up of the Hindustan Paper Corporation (HPC), with a string of plants in Assam, Kerala and Nagaland, is a welcome step, provided the corporation can keep a tap on costs and prices, be a model producer and supplier for the next of the industry. Another thing, the first co-operative paper mill commenced production in Prevernagar in Maharashtra in 1976, and this movement should be fostered, elsewhere in the country by the government. The joint sector must also give it a hand. The future of the industry also, therefore looks doubtful.

INDIAN PAPER MARKET

The fortune of the paper industry is closely linked to the buoyancy in the national economy. When the economy grows the consumption of paper increases. The general recession in the industry and the consequent sluggish market led to an unprecedented slump in the paper market since September 1995. Paper as a commodity is subjected to well savings in price, every time the demand equation shifts and the international prices fluctuate. The paper industry elsewhere enjoys substantial advantage, like, cheaper raw materials and power and the economy of scale.

A few years ago newsprint came into the country duty free, with the accompanying rides that only actual users would be allowed to import. Further for each tonne of imported materials, users would have to
consume two tonnes of indigenous newsprint. As paper prices rallied, duty was reduced to 20 percent from 60 percent for ordinary grades of paper and in the case of newsprint the actual user’s condition was set aside and brought under OGL (Open General License) umbrella with no duty.

Newsprint is more than an industrial product. It is an indispensable vehicle for mass dissemination of information and opinion. To that extent, it is bedrock of democracy. Besides, consumption of newsprint is a reliable index of a country’s economic and cultural development.

The Indian newsprint industry has built up, over a period of nearly four decades, a capacity of 7 to 8 lakh tones at an investment of more than Rs.20,000 crores. There has always been a gap between demand and supply. To start with, only public sector mills were engaged in manufacturing newsprint.

In the wake of economic liberalisation, the newsprint sector was thrown open to the private sector from April 1994. Since then 36 mills mostly in the small-scale sector, have developed the capacity to manufacture and market newsprint. Since all the mills use different raw material mixes and manufacturing processes, some times there is wide difference in quality.
Moreover, there is an apparent anomaly in the definition and specification for manufacture of newsprint, drawn by the Bureau of Indian Standards, Newsprint Control Order and Customs and Excise.

For example, the import of newsprint in lower grammage of 44-45 GSM and pink newsprint is freely permissible whereas indigenous newsprint in 44-45 GSM and in pink shade is not treated as newsprint by excise authorities on the ground that these papers do not conform to BIS standards. However, the BIS standard is now being revised accordingly.

Public sector companies such as Hindustan Newsprint Ltd. (a subsidiary of Hindustan paper Corporation), Mysore Paper mills, NEPA and Tamil nadu Newsprint and Paper Mills are the major players in the newsprint sector, with about 60 percent share of the total market. In the private sector, Rama Newsprint and Papers is the latest and largest.

While newsprint consumption itself has been growing at an average rate of 6.4 percent, domestic production has remained inadequate, and hence the shortfall has to be met with imports. The world production of newsprint is about 40 million tones.

Indian demand, at about seven lakhs tones, forms a meagre 1.8 percent of the world total. When the international demand slows down, foreign manufactures find it easy to dump some of their production into India.
NEWSPRINT DEMAND

Demand for newsprint is expected to rise to 6.62 lakhs tones by 1994-95 and 8.90 lakhs tones by 1999-2000 A.D. Imports had risen from 2.24 lakhs tones in 1989-90 to 2.26 lakhs tones in 1990-91 before it dropped to 2.15 lakhs tones (estimated) in 1991-92. Following liberalisation, newsprint imports are allowed for actual users at concessional rate of duty. The ICICI has projected the demand at 8.50 lakhs tones by 1995-96, 8.90 lakhs tones by 1996-97 and 10.80 lakhs tones by 2000-01 A.D. Additional capacities likely to materialise are projected by the ICICI as follows:

Paper and paperboard stocks, especially the frontline ones of Tamil Nadu Newsprint, West Coast paper and Seshasayee paper, can be held and also considered for accumulation at lower levels, as the outlook for the industry in 2004 appears promising on the pricing front.

In 2003 prices of pulp, which is key raw material and whose prices provide a good indicator of likely trends in end-product prices, have shown greater resilience. They are likely to end the year with gains of 10-15 percent.

International price trends are a key factor, as domestic prices reflect a similar direction especially with the substantial lowering of import tariffs. The appreciation in the value of the rupee by 7 percent is also likely to strengthen the linkage as imports have become less...
expensive. However, the magnitude of the rise and fall is much smaller as compared to global trends.

Demand from Asian markets, especially China, has been the key factor over the past 12 months. This is in market contrast to the firm trends in the past, which were driven by strong demand in the North American markets and to lesser extent, Europe. These two key markets have been by characterised by sluggish demand. But the scorching pace of growth of the Chinese economy, a rebound in economies such as Korea and Taiwan, tenuous stability in Japan and a strengthening of other Asian markets have helped pep up demand levels.

For instance, newsprint shipments from the North American markets provide a clear view of the Asian story behind the gradual improvement in prices this year. In September, newsprint shipments were up by 35 percent on a year-to-year comparison. This was also the 18th straight month of enhanced shipments to Asia. But for this peg to the pulp, paper and newsprint market, prices may have had a third straight year of weakness.

The study improvement in the US economy augurs well. The 7.2 percent GDP growth in the July-September quarter represents a significant break from sluggish trends over the past three years. Growth rates in the quarters ahead are likely to tend to lower, through well above the insipid numbers of 2001 and 2002. But this may translate into better
demand for paper and paperboards, with a time lag though. This is clear from three vital statistics.

The industry witnessed a sharp spurt in GDP, demand for most varieties of paper was lower by about 2 percent in September 2003 on a year-to-year basis, and inventories have also declined only marginally, which points to limited scope for price increases over the next three months; however, the demand was higher on a sequential basis when compared to August.

The base level of demand is much higher than in the Asian economies and even a modest pick-up is likely to have a significant influence on paper prices. On the back of higher average prices, most paper majors have turned in better growth rates in revenues and earnings for the first two quarters of 2003-04. But they have had limited success in pushing through price hikes. However, on an average, the prices of most paper varieties have stayed higher compared to the preceding three years despite only a modest hike, so far, in Financial Year 2004. Prices in coated paperboards segment have stayed under pressure. If exports pick up and domestic growth rates in consumer goods show a sustained improvement on the back of bountiful rains, pricing may improve in this segment as well.
PAPER INDUSTRIES IN TAMIL NADU

In Tamil Nadu, there are few small and medium sized paper industries producing less quantity of paper and paper products. Only there are two major industries in Tamil Nadu, i.e., TNPL as a public sector organisation and SPBL as a private sector organisation producing over 600 tonnes of paper and its products per day and 450 tonnes of paper and paper products per day respectively.

Some of the small and medium size industries in Tamil nadu and Pondicherry states are:

1. Sun paper mill at Tirunelveli producing 80 tonnes of paper per day in order to meet its own requirements.
2. Venkateswara paper mill at Udumalpet producing 50 tonnes of paper per day having its seven small subsidiary mills in Tamil nadu.
3. Pondicherry paper mill producing 30 tonnes of paper per day.
4. Nizam paper mill at Pudukottai producing 25 tonnes of paper per day.
5. Several paper mill at Nilakottai producing 50 tonnes of paper per day.
Hence, the researcher undertook the study on the two major paper-producing industries namely TNPL and SPBL, and compares their capital structure.

PROFILE OF TNPL

TNPL was conceptualised and promoted by the Government of Tamil Nadu in the year 1979 as an Indian premier institution and enjoys as one of the world’s largest non-conventional Bagasse based paper mill located at Kagithapuram in Karur District, Tamil Nadu and its corporate office at Chennai. It is a public sector enterprise under the companies Act 1956 and under the control of Tamil Nadu government.

It manufactures high quality of newspaper, writing and printing paper using bagasse as its raw materials to meet the twin objectives:

➢ To conserve the fast depleting forest resources

➢ To reduce the dependence on imported newsprint.

An optimum product mix consisting of 150,000 tpa of Newsprint and (40,000) tpa of PWP (Printing and Writing Paper) was designed for the project due to the low administered prices of NP (Newsprint) then prevailing and the fiscal incentives were available for PWP units using 75 percent bagasse pulp. PWP in the product mix was also considered as a fall back arrangement for safe guarding the investment in the event the
innovative technology adopted for production of NP from bagasse taken time to become commercially viable.

At the early stages of the company's original project, the company installed adequate chemical pulping facilities for the manufacture of PWP as a fall back measure since the technology or manufacture of mechanical pulp was not commercially proven. The pulping plant is, therefore designed for an output of 100,000 tpa of NP and 80,000 tpa of PWP, so that adequate pulp is available to manufacture PWP for the entire capacity if NP production based on bagasse proves to be difficult. The process for manufacture of mechanical bagasse pulp was however, established in time for commercial exploitation by the company.

In recognition of the pioneering effort behind this project and in view of its importance to India, the World Bank supported the project. It made us 100 million available to TNPL, for part financing the cost of the original project. Government of Tamil Nadu and Industrial Development Bank of India contributed the major portion of the equity capital. State government undertaking and sugar co-operatives picked up a relatively small portion of the share capital.

TNPL is acknowledged as the world leader on Technology for the manufacture of newsprint, PWP from bagasse pulp mix. The newsprint consists of 85 percent bagasse and 15 percent hardwood chemical pulp.
is manufactured from 75 percent bagasse pulp and 25 percent of wood chemical pulp.

The company has installed two paper machines, one was imported from U.K in 1985 and the second was imported from Germany in 1995. Both the machines are designed to produce newsprint as well as printing and writing paper assuring flexibility in production depending on the market situation. TNPL is the largest producer of bagasse-based paper in the world. Its annual consumption of bagasse stated to touch one million tonnes per annum (tpa).

In the 2002, TNPL was all set to achieve an additional expanded capacity of 50,000 tonnes per annum. And by upgrading both paper machines it intends to retain its status as the largest plant in a single location in India. From achieving 10 percent self-sufficiency in power to introducing advanced computerised management systems; TNPL has excelled as the company of the future.

TNPL has been designed to produce 1,80,000 tonnes of printing and writing paper and newsprint. It is the most modern mill exercise with unique bagasse handling system, multi fuel boilers and highly sophisticated laboratory research and development centre.

It has the most sophisticated modern plans capable of producing first quality printing and writing paper. It has the capacity to meet large requirements with minimum lead-time.
In that sense TNPL is really a harbinger of new technology for the country and the third world well. TNPL has obtained the accreditation under ISO 9001:2000 Certification from RWTVV system Germany during 2003.

TNPL in February 2002 has become an ISO 14001 company. This amply demonstrates its commitment to product the environment.

For energy information, TNPL has installed 18 MW of capacity in its wind farms in South Tamil Nadu, which is largest in Asia, consisting of 60 wind electric generation. According to its release of October 17, 2003, it has initiated to install 3 nos. of 1250 kw wind turbines of Devarkulam and enhance the overall win farm capacity from 18 mw to 21.75 mw during march 2004. TNPL’s plan is to target an internal net zero carbon trade, provide green energy to the state grid using renewable resources to the extent it has to rely on fossil fuels. TNPL is also increasingly relying on Biomass for its fuel requirement.

Exports

TNPL made and entry into the export market in 1994-95 by exporting 7168 tonnes of PWP to Egypt, Jordan, Iran and Srilanka. According to its press release of January 27, 2004, it has exported 30,098 mts of wood free pwp against 25871 mts in the previous year thus registering an increase of 16 percent in the export front. TNPL is
confident of increasing the exports to around 36,000 mts during 2004-05. During 2001-2002, TNPL has launched a new product named Hitach Maplitho with 90 percent plus brightness and improved optical properties. This new quality has been well received both in the local market and oversees market. Indian Paper Manufacturer’s Association (IPMA) has selected TNPL as “Paper Mill of the year” for 2001-2002.

PROFILE OF SPBL

Many states in India had built pulp and paper mills during 1950’s but the state of Tamil Nadu was without any paper mill till the drawn of 1960, but in 1960 Sri. S.Viswanathan (chairman) took efforts to put a papers mill. SPBL incorporated in June 1960 was promoted by Seshasayee brothers (Pvt) limited in association with a foreign collaborator; US based leading company M/S Persons and White More, South East Asia Inc., USA. After commencement of commercial production, having fulfilled their performance guarantee obligations the foreign collaborators withdraw in 1969. Main promoters of the company as on date are a group of companies belonging to the Esvin group headed by Shri. N.Gopalarathnam.

SPBL commenced commercial production in December 1962, on commissioning a 20,000 tpa integrated facility, comprising a pulp mill and two paper machines (PM-1 and PM-2), capable of producing, writing, printing, Kraft and poster varieties of paper.
The plant capacity was expanded to 35,000 tpa in 1967-68, by modification of pm-2 and addition of a third paper machine (PM-3). The cost of expansion part financed by All India Financial Institutions (Rs. 31 Millions).

In the second stage of expansion, undertaken in 1976, capacity was enhanced to 55,000 tpa, through addition of a 60 tpa new paper machine (pm-4). Cost of the project, including cost of a chemical Recovery Boiler and other facilities for enhanced requirements of utilities, was estimated at Rs. 176 million. The same was part financed by term loans from institutions and Banks to the extent of Rs.145 million and the balance out of internal generation. The number of employees working in the organisation is more than 1600 and the total area of the company is 161 acres, out of which the factory area is 101 acres.

The registered office and the factory is situated near Cauvery Railway station, Erode. The marketing office is situated at Chennai. The mill was designed to use bamboo as primary raw material for manufacturing its pulp and paper. Later hard woods like Eucalyptus supplemented bamboo in large measure. The ultimate answer for raw material is sugarcane bagasse. It did not take much time for the mill to anticipate that government would call upon the pulp and paper industry to shift to alternate raw material on this soon led to the birth of establishing a sugar mill. This led to yet another story’ the genesis of Ponni Sugars and Chemicals in 1984’. It can acquire the required bagasse raw material
from the Ponni Sugars and chemicals, which is located adjacent to the factory. The Government of India has recently announced a shift in its licensing policy under which sugar paper mills will be required to be integrated, each supporting the other and forest wealth from denudation. Seshasayee Paper and Boards Limited is going for the next expansion at present and the production will be increased to 1,20,000 tpa.

The mill is first ever in the world to cook bamboo in its continuous digester (Pandia Digester). This is the first mill to cook both bamboo and bagasse in the same digester. Owing to continued short supply of bamboo, the mill started using various types of hardwood and softwood in its furnish and as at present the admixture of bamboo and wood is in the ratio of 10:90. Such high percentage of wood in the furnish can truly be acclaimed as a technological break through.

The mill began to outgrow its size and expanded and diversified capacity in 1969 to 35,000 tonnes of paper per annum, which was commissioned in 1978 in a recorded time of 24 months involving an outlay of Rs.18 crores. It is worth mentioning that the company without any foreign collaboration achieved the two expansions.

Considerable research and development is undertaken by the mill which already helped it to identify a wide spectrum of primary raw materials to supplement the conventional raw materials, namely bamboo, for manufacture of pulp and paper, joint research is also undertaken with a neighboring agricultural university for growing new strains of fast
growing species of wood which can be used as raw material with advantage.

**Export**

SPBL’s exports are nearly 20 percent of its production and are a significant exporter in the Indian paper industry. Due to its excellent export performance, it has been awarded “Golden Export House” status.

What is needed is an integrated policy for the development of paper industry, with incentives for recycling waste paper collection use and clearance of plantation projects by utilising degraded forest areas. The research and development focus should be directed at developing new raw material inputs that can help the industry to produce quality paper at competitive prices. With its track record behind, the industry can become truly global both in terms of quality and competitive strength in the constraints are overcome.