CHAPTER - II

ORIGIN AND GROWTH OF PAPER INDUSTRIES

IN INDIAN CONTEXT

INTRODUCTION

Paper is of significant importance to the society. Its contribution in the areas of education, dissemination of information and knowledge, hygiene and packaging cannot be easily matched. Paper is interwoven with human life in hundreds of ways. It is also a bio-degradable product and has a being footprint at the end of its life cycle. Despite the projections that digital age would render paper obsolete, Paper Industry has been growing Year after Year.

HISTORY OF PAPER INDUSTRY IN GLOBAL ECONOMY

Paper making is one of the inventions by Chinese in 105 A.D. is often cited as the Year in which papermaking was invented. In that Year, historical records show that the invention of paper was reported to the Eastern Han Emperor Ho-di by Tsai Lun, an official of the Imperial Court. Recent archaeological investigations, however, place the actual invention of papermaking some 200 Years earlier. Tsai Lun broke the bark of a mulberry tree into fibres and pounded them into a sheet. Later it was discovered that the quality of paper could be much improved with the addition of rags hemp and old fish nets to the pulp. The paper was soon widely used in China and spread to the rest of world through the Silk Road. An official history written some centuries later explained:

In ancient times writing was generally on bamboo or on pieces of Silk, being expensive and bamboo heavy, these twitch materials were not convenient. Then Tsai Lun thought of using tree bark hemp, rags, and fish nets. In 105 A.D he made a report to the emperor on the process of paper making, and received high praise for his ability.
From this time paper has been in use everywhere and is called the “paper of Marquis Tsai”. In few Years, the Chinese began to use paper for writing. Around 600 A.D. woodblock printing was invented and by 740 A.D the first printed newspaper was seen in China.

To the east, papermaking moved to Korea, where production of paper began as early as the 6th Century A.D. Pulp was prepared from the fibres of hemp, rattan, mulberry, bamboo, rice straw, and seawood. According to tradition, a Korean monk named Don-cho brought papermaking to Japan by sharing his knowledge at the Imperial Palace in approximately 610 A.D, sixty years after Buddhism was introduced in Japan.

Along the Silk Road, we learned that paper was introduced to Xinjiang area very early according to the archaeological records. The paper found at Kaochang, loulan, Kasha, Kotan, and Dunhuang sites dated as early as the 2nd Century. The technique eventually reached Tibet around 650 A.D and then to India after 645 A.D. By the time Hsuan Tsang from China arrived to India in 671 A.D paper was already widely used there.

For a long time the Chinese closely guarded the secret of paper manufacture and tried to eliminate other Oriental centers of production to ensure a monopoly. However in 751 A.D the Tang army was defeated by the Ottoman Turks at a mighty battle at the Talas River. Some Chinese soldiers and paper makers were captured and brought to Samarkand. The Arabs learned the paper making from the Chinese prisoners and built the first paper industry in Baghdad in 793 A.D. They too kept it a secret, and Europeans did not learn how to make paper until several centuries later the Egyptians learned the paper arrived in Northern Africa and by 1150 A.D it arrived to Spain as a result of the
crusades and established the first paper industry in Europe. In 1453 A.D Johan Gutenberg invented the printing press. The first paper industry in the North America was built in Philadelphia in 1690.

Paper is a thin material mainly used for writing upon, printing on, drawing or for packaging. It is produced by pressing together moist fibres, typically cellulose pulp derived from wood, rags or grasses, and drying them into flexible sheets.

Paper is a versatile material with many uses. Whilst the most common is for writing and printing upon, it is also widely used as a packaging material in many cleaning products, in a number of industrial and construction processes, and even as a food ingredient - particularly in Asian cultures. Paper and the pulp papermaking process was said to be developed in China during the early 2\textsuperscript{nd} Century A.D by the Han Court eunuch Cai Lun, although the earliest archaeological fragments of paper derived in the 2\textsuperscript{nd} century BC in China.

The Oldest known archaeological fragments of the immediate precursor to modern paper date to 2\textsuperscript{nd} century BC in China. Papermaking is considered as one of the Four Great Inventions of Ancient China, and the pulp papermaking process is ascribed to Cai Lun a 2\textsuperscript{nd} century A.D. Han court eunuch. With paper and effective substitute for silk in many applications, China could export silk in greater quantity, contributing to a Golden Age. Paper spread from China through the Islamic world to medieval Europe in the 13\textsuperscript{th} Century, where the first water-powered paper mills were built. In the 19\textsuperscript{th} century, industrial manufacture greatly lowered its cost, enabling mass exchange of information and contributing to significant cultural shifts. In 1844, Canadian inventor Charles Fenerty and German F.G. Keller independently developed processes for pulping wood fibers. This ended the nearly 2000 - Year exclusive use of pulped rags.
ORIGIN OF PAPER INDUSTRIES IN INDIA

The Chinese prisoners of war brought to Samarkand after the battle of Atlakh near Talas, first introduced (AD 751) the technique of papermaking from linen, flax or hemp rags on methods used in China. Ibn Nadim observed in Al-Fihristi: The Chinese write on Chinese paper made from a sort of herbage. This (industry) is a great source of income for the city. The Arabs learnt the technique of paper-making from the Chinese captives at Samarkand and diffused it westward. Al-Biruni also stated, The Chinese captives introduced it in Samarkand whence it diffused to other parts of the world.

After the paper technology reached the Arabs, the Arabians improved the technique and supplemented linen with flax and other vegetable fibres. With the conquest of Sind by the Arabs, Khurasani paper was first introduced in India early in the eighth century A.D, and it continued to be imported for several centuries. The reference to Indian paper suggests that the paper-making industry, however limited, had already been established in India, most probably in Delhi and Lahore, the two chief political and cultural seats of the Sultanate period.

In India, the first paper industry was developed in Kashmir, established by Sultan Zainul Abedin (Shahi Khan) of Kashmir in 1417-67 A.D. Actually his father Sultan Sikander (C. 1386-1410) was ruling over Kashmir at the time of Timur’s invasion of India (AD 1398). Sultan Sikander sent an embassy, led by his son, Shahi Khan, to that formidable personage and sought his friendship. Timur summoned him for a meeting but in the meanwhile political developments at home compelled him to leave India. He hastened to Samarkand but took along Shahi Khan and Kept him virtually as a hostage until his death. Shahi Khan returned to Kashmir with many artisans and persons skilled in various trades with a view to introducing new industries.
there. These included paper-makers, bookbinders, harness-makers and midwives. The author of Tarikh-kashmir stated the following about Shahi Khan, “During his stay at Samarkand he acquired knowledge. When he returned to Kashmir he brought with him a number of artisans skilled in different trades such as papermakers, book-binders, carpet-makers and well trained midwives.

The quality of the Kashmiri paper was much in demand in the world and the rest of the country for writing manuscripts. According to Tarikh-i-Farishta, Sultan Abu Said sent fine Arab horses and strong camels of good breed as presents to Sultan Zainul Abedin. Pleased with this act of courtesy, Sultan Zainul Abedin in return, sent saffron, paper, musk, perfumes, rose-water, vinegar, elegant shawls, glass bowls and other fine products of Kashmir industry.

Paper Industry belongs to the group of core industries which can have high command on social, Cultural and economic value aspects than any other industries. Paper is a unique useful product, preserves information, propagated thoughts and helps in the promotion of literary. It plays vital role in health and hygiene, in processing of data and documentation and in communication.

India first Machine-made paper was manufactured in 1812. During this time there were 15 mills with a total production of lakh tones. In India the Soft wood is the principal raw material used for making paper especially newsprint and high class printing papers. With rise in population and broadening of education the demand for paper has been constantly escalated. Owing to very narrow forest resources wood pulp is in a shortage. As soft woods grow in temperate climate India is in short supply of such woods. Thus, in such circumstances the Bamboo became the major raw materials for the manufacture of paper in the country as it grows very quickly even after cutting.
The art of paper making originated as a cottage industry in the medieval period where traditional craftsmen called as Kagzis. Then the first paper mill on modern lines was set up in 1832 at Serampore in West Bengal. Due to the failure of initial adventure new paper mills were established in 1867 at Bally. The success of the new paper mill led to setting of many mills such as at Lucknow in 1879, at Titagarh in 1881, at Pune in 1887, and at Ramganj in 1891. By 1939, there were 13 paper mills with annual installed capacity of 90,000 ton of paper.

The World War and Government protection helped for the growth of the industry as a result of which the number of mills increased to 16 in 1948. By 1950-51, there were 17 paper mills in the country with the annual capacity of 14.40 lakh tonnes of paper. The industry made significant progress with the beginning of the planning era. This not only led to the increase in the number of mills and production but decline in the quantity of import. In 1997-98 there were more than 380 paper mills in the country with an annual installed capacity of 43.5 lakh tonnes. These mills have an investment of ' 500 lakhs and provide employment to about 2 lakh people. The industry is dominated by small scale units which together provide 50 per cent of the installed capacity and production of paper in the country.

There are, at present, about 515 units engaged in the manufacture of paper and paperboards and newsprint in India. The country is almost self-sufficient in manufacture of most varieties of paper and paperboards. Import, however, is confined only to certain specialty papers. To meet part of its raw material needs the industry has to rely on imported wood pulp and waste paper. Production of paper and paperboard during the Year 2002-03(upto December, 2002) is 24.52 lakhs tonnes. At present about 60.8 per cent of the total production is based on non-wood raw material and 39.2 per cent based on wood.
Performance of the industry has been constrained due to high cost of production caused by inadequate availability and high cost of raw materials, power cost and concentration of mills in one particular area. Several policy measures have been initiated in recent Years to remove the bottlenecks of availability of raw materials and infrastructure development. To bridge the gap of short supply of raw materials, duty on pulp and waste paper and wood logs/chips have been reduced. The capacity utilization of the industry is low at 60%. About 194 paper mills, particularly small mills, are sick and/or lying closed. Several policy measures have been initiated in recent Years.

GROWTH AND DEVELOPMENT OF PAPER INDUSTRIES IN INDIA

The Indian Paper Industry is among the top 15 global players today, with an output of more than 6 millions tones annually with an estimated turnover of `150,000 millions. (Approx USD 3400 million). Paper Industry in India is riding on a strong demand and on an expanding mood to meet the projected demand of 8 million tones by 2010 and 13 million tones by 2020. A large number of expansion programme and expansion of capacities with an outlay of `10,000 lakhs have been announced covering the various sectors like paper, paperboard, newsprint etc. The Indian Economy is progressing well and targeting 8% + growth. The economic reforms coupled with the liberalized Government Policies, India today offers excellent business opportunity for investments. One of the first FDI Projects may come through the proposed Finish proposal to set up a 400000 tp a capacity plant with an investment of US$ 240 million. The expanding Industrial Scenario calls for efforts to tackle related problems:

- Industry needs capital and technology.
- Since energy cost accounts nearly 25 per cent of cost of production there is an urgency to improve energy management and energy consumption.
- Quantum jump in production, called for by the demand projection is possible only by expansion of existing capacity and creation of additional capability. Upgradation of technology and new capacities also involve massive investment.

- Use of agro residues for preparation of pulp also throws up challenges like pollution control, recycling, use of cost effective technology for utilization of agro residues, etc.

The Indian Paper Industries have recently moved up to the 11th position in production. It is however highly fragmented. As per estimates, there are more than 1000 paper mills in the Country. There are three segments in the entire Industry, other than newsprint segment, viz., (i) large integrated mills, using bamboo and hardwood and large mills using waste paper / recycled fibre, (ii) medium mills using agricultural residues and (iii) small / medium mills using waste paper / recycled fibres. All the three sectors contribute equally to the total production of paper and paper board in the country. The installed capacities of these mills range from 1000 tonnes per annum to 5,00,000 tonnes per annum.

The Paper Industry is an important industrial sector having a bearing on the socio-economic development of the Country. The Industry mirrors the Country’s economic growth. It creates economic wealth in the hands of the poor, by generating rural employment. Indian Paper Industry is an important vehicle to drive the Government's National Literacy Mission. It is also an important contributor to greening India through Social Forestry Programmes. The Indian Paper Industry is a rural based industry with linkages to Agriculture and Agro Forestry. The Industry’s current installed capacity is around 11.0 million tonnes. The annual output is of the order of 10.0 million tonnes. The consumption is currently estimated at 11.0 million tonnes and
is set to grow to 20.0 million tones by 2020. The Industry provides direct employment to more than 5 lakhs people, besides indirect employment to over 11 lakhs rural poor. The Industry has grown at a CAGR of 6% in the last few years and is projected to grow at a CAGR of 7.6% in the next 2-3 years. The global demand for paper and paper board is projected to grow to over 500 million tonnes by the Year 2020. This growth is being driven by emerging markets, including India, while in the matured market, the demand is expected to be flat or decline. According to Poyry, India will witness highest annual growth of about 6.5% per annum while China’s growth is projected to be in the order of 5.25%. Japan and North America may witness marginal or negative growth. Amongst the various grades, Container Boards, Tissue Paper, followed by Carton Boards will witness higher rates of growth, while growth rate of Coated / Uncoated Wood-free Paper is expected to be under 2%. In view of paper industries strategic role for the society and also for the overall industrial growth, it is necessary that the financial performances of the industry must perform well.

**RAW MATERIALS FOR PAPER INDUSTRIES**

Paper industry uses cellulosic pulp which is extracted from soft wood, bamboo, grasses, biogases, rags and waste paper. In India bamboo supplies 70 per cent of the raw material for paper industry which leads to 20 lakh tonnes of production and grows well in tropical areas of north-east India, Orissa, West Bengal, Andhra Pradesh, Madhya Pradesh, Maharashtra, Karnataka and Tamil Nadu.

Sabai grass (Euloliopsis binata), grown in the Tarai areas of India and Nepal, provides about 9 per cent of the raw material for paper mills which yields annual production for about 3-4 lakh tonnes. Bagasse, the residue from sugarcane stalk, provides about 4 per cent of the requirement of the paper industry. Waste paper and
rags meet about 5 per cent need of the paper industry. Besides straw from rice and wheat, pinewood, eucalyptus and wattle are also used for paper making. Recently new technique has been developed to utilize hard wood for paper making.

Besides cellulosic raw materials, chemicals like caustic soda, chlorine, soda ash, sodium sulphate, sulphuric acid, sculpture and lime etc. are also used in the manufacture of paper. To produce 1 tonnes of paper there is a requirement for 2.7-3.0, Tonnes of cellulosic raw material, 1.5-2.0 tonnes of coal, 0.97-1.25 tonnes of chemicals, 1500-1800 kw of electricity and 250-350 litres of water. The manufacturing of the paper passes through 3 main stages: (a) pulping of the cellulosic raw material, (b) refining of the pulp, and (c) finishing.

TYPES OF PAPER

Paper is often characterized by weight. The weight assigned to a paper is the weight of a ream (500 sheets) of varying "basic sizes", before the paper is cut into the size it is sold to end customers. The density of paper ranges from 250 kg/m3 (16 lb/ft3) for tissue paper to 1500 kg/m3 (94 lb/ft3) for some speciality paper. Printing paper is about 800 kg/m3 (50 lb/ft3).

- Bank Paper
- Bond Paper
- Book Paper
- Construction Paper/ Sugar Paper
- Cotton Paper
- Electronic Paper
- Fish Paper (Vulcanized fibres for electrical insulation)
- Ink jet Paper
- Kraft Paper
- Laid Paper
- Leather Paper
- Mummy Paper
- Tyvek Paper
- Paper Towels
- Wall Paper
- Washi
- Wax Paper
- Wet and Dry Paper
- Wove Paper
- Coated Paper: glossy and matt surface
MAJOR PAPER PRODUCERS IN INDIA

Paper industry in India is mainly raw material based industry. The states of West Bengal, Andhra Pradesh, Orissa, Maharashtra, Karnataka and Gujarat account for over 70 per cent of the installed capacity and production of paper in the country. Tamil Nadu, Haryana, Uttar Pradesh, Bihar, Kerala and Assam together contribute about 25 percent of the output of the paper.

Andhra Pradesh

Andhra Pradesh, with 18 per cent of the country's output, is the leading producer of paper in India. The state has 15 paper mills with annual installed capacity of 3.29 lakh tonnes. Rajahmundry (capacity 75,000 tonnes), Sirpur (66,000 tonnes), Kurnool (42,000 tonnes), Bhadrachalam (50,000 tonnes), Tirupati, Bodhan, Ballarshah and Khammam are the important centers of the production. Bamboo (recoverable reserve 1.5 lakh tonnes) is the main raw material used in the paper making.

Maharashtra

The state of Maharashtra, with 34 paper mills and 13 per cent of total production, is the second important producer of paper in the country. The important locations of the industry are Ballarpur (largest paper mill of the country with annual capacity 85,000 tonnes), Kalyan, Khopoli, Roha, Chinchwad (Pune), Kamptee, Sangli, Khandala, Pravaranagar and Jalgaon. Vikhroli, Goregaon and Kalyan are the main centres of paperboard while Ballarpur and Sangli are famous for newsprint. The industry uses a variety of raw materials like bamboo, biogases, rags, rice bran and imported pulp.

West Bengal

West Bengal, the traditional centre of paper industry, occupies with annual installed capacity of 2.36 lakh tonnes third place with 10.5 per cent of the national
output of the paper. The state has mainly 19 paper mills located at Titagarh (capacity: 75,000 tonnes), Raniganj (50,000 tonnes), Naihati (23,000 tonnes), Baranagar, Bansberia, Sheoraphuli, Kankinara, Kolkata, Chandrahati, Haora, Tribeni, Alambazar, Dum Dum and Ganganagar. Besides the benefit of the early start the state obtains raw material from Assam, Madhya Pradesh and Bihar; coal from Jharkhand; cheap hydro-electricity from DVC and Mayurakshi project and proximity of market.

**Orissa**

Orissa contributes about 8 per cent of the total paper production of the country with 11 per cent of the total installed capacity. The state has 6 paper mills located at Brajrajnagar (capacity 76,000 tonnes), Rayagada (50,500 tonnes), Chowdwar (18,000 tonnes), etc. These mills have total installed capacity of 1.88 lakh tonnes annually. Abundance of raw material with (bamboo: 5 lakh tonnes annually) and coal are main advantages enjoyed by the industry.

**Karnataka**

The state accounts for 9 per cent of the installed capacity and 7 per cent of the total production of paper in India. Dandeli (capacity: 60,000 tonnes), Bhadravati (capacity: 75,000 tonnes), Belagula, Nanjangud, Bangalore, Mandya and Ramanagaram are the important centers of study for the industry. The main raw material is bamboo (annual recovery being 2.34 lakh tonnes).

**Gujarat**

Gujarat contributes 7 per cent of the total production of paper in the country. Its total installed capacity is 1.96 lakh tonnes. Most of the paper mills are small in size. Important centers are Barejadi, Khadki, Utran, Vapi, Gondal, Udvada, Bavla, Songadh, Valsad and Kalol etc. Besides, there are straw board units located at Bilimora, Ramol,
Dungsi, Digendranagar and Gangadhra. Biogases are main raw material used in paper making.

**Madhya Pradesh**

Madhya Pradesh has 11 paper mills with total installed capacity of 1.49 lakh tonnes. These are mainly located at Bhopal, Amlai (Shahdol), Ratlam, Vidisha, Rajgarh, Indore, Sehore, Dhemka, and Bilaspur (Chhattisgarh). Nepanagar (capacity: 75,000 tonnes) is famous for newsprint, while Hoshagabad provides currency paper for the country. Here bamboo (annual recovery: 3.73 lakh tonnes), salai wood, eucalyptus and sabai grass are the raw materials utilised in the paper making.

**Tamil Nadu**

Tamil Nadu has 15 paper mills (installed capacity 1.68 lakh tonnes) mainly located at Udamalpet, Tambaram, Pallipalayam, Charanmahadevi, Salem and Chennai. The main raw material is bamboo.

**Haryana**

Haryana has 15 paper mills with total installed capacity of 1.25 lakh tonnes. Important centers of production include Faridabad, Yamunanagar (capacity 58,000 tonnes), Jagadhari and Rohtak. Faridabad and Chandigarh units produce straw board.

**Uttar Pradesh**

The state's share in the country's total installed capacity and production of paper amount to 5 and 4.5 per cent respectively. The state has 46 paper mills with total installed capacity of 2.25 lakh tonnes. Saharanpur (capacity: 46,000 tonnes), Lai Kuan (capacity: 20,000 tonnes), Lucknow, Meerut and Modinagar are only bigger units. There are 6 paperboard units located at Saharanpur, Meerut, Modinagar, Budaun,
Mainpuri and Naini (Allahabad). Raw materials include bamboo, sabai grass, biogases, conifer wood and wheat bran, rags and scrap paper.

**Bihar**

Bihar has six paper mills with annual installed capacity of 87,600 tonnes. Which contributes of the natural. These are located at Dalmianagar (capacity 60,000 tonnes), Rameshwarnagar, Samastipur, Dumka (Jharkhand), Barauni and Patna. Raw materials come from the Tarai region (sabai grass) and the Chotanagpur Plateau (bamboo, annual recovery about 1 lakh tonnes).

**Kerala**

Kerala's paper mills are located at Punalur (capacity 33,000 tonnes), Kozhikhode, Rayanpuram and Ernakulam. These contribute about 3 per cent of total production of paper in the country. The state has good supply of bamboo and electricity.

**Assam**

Assam contributes about 1.5 per cent of the national output of paper. Nagaon (capacity: 1 lakh tonnes), Jorhat, Gauhati and Cachar are the main centers of the industry. The state has rich bamboo forest which can be used for raw material.

**Nagaland**

Nagaland has its paper mill at Tuly (Mokokchung) with installed capacity of 33,000 tonnes which contributes percent of the natural output.

**Paper Production in India**

In 1925, bamboo Paper industry (Protection) Act and in 1931, Indian Finance (Supplementary and Extending) Act came into existence which provided the protection,
and some more mills appeared on the scene. Rohtas industries Ltd., Dalmianagar; Orient Paper Mills, Brajraj Nagar; Mysore Paper Mills Ltd., Bhadravati; Star Paper Mills Ltd., Saharanpur; and Sirpur Paper Mills, Kagajnagar, Sirpur; were set up just before the outbreak of the Second World War. Indian paper Industry made remarkable progress during the war period.

In 1925, Punjab Paper Mills was started with an annual capacity of 6000 tonnes. By 1930-1931, the total capacity of paper production in India was increased to 45,600 tonnes as against 33,000 tonnes in 1925. The share of indigenous production in national consumption was now 71% as against 54% in 1925.

EMPLOYMENT OPPORTUNITIES

The industry provides employment to more than 0.12 million people directly and 0.34 million people indirectly. Some of the paper products are sheet paper, paper boxes, tissues, paper bags, stationery, envelopes, and printed-paper products such as books, periodicals, and newspapers. Specialty papers like sandpaper, blueprint paper, carbon paper are not a part of paper products industry. Stationery includes greeting cards, printing and writing papers, school and office papers, etc. The toiletry products include paper towels, tissue paper, and bath tissue.

IMPORTS AND EXPORTS OF PAPER IN INDIA

Imports of paper and paper products was growing over the Years. However, it has increased during 2001-02 after a fall in 2000-01. About 1, 40,000 tones of paper were exported in 2000-01 mainly to the neighbouring countries. India's per capita consumption of paper is around 4.00 kg, which is one of the lowest in the world. With the expected increase in literacy rate and growth of the economy, an increase in the per capita Consumption of paper is expected. India exports nearly 55-60 000 tonnes of
wood free printing and writing papers 30,000 tonnes of board, 10,000 tonnes of other grades. In addition to this, India exports all grades and newsprint liner/fluting to Neighbouring countries like Bangladesh, Sri Lanka, Nepal, Myanmar and Pakistan which provide natural export markets for most grades. Seshasayee Paper and Board is planning to invest `2500 million to increase its production capacity to 80,000-90,000 tonnes per day to take its total production capacity to 2 lakh tonnes per day. It has adequate raw material requirement and a captive power plant of 37 MW which will meet its requirement. It may be noted, the company had proposed this expansion programme last Year and was put on hold is revived now Paper industry, which faces difficulty in getting wood pulp has started to induce farmers to take contract farming. Now every farmer, who plants eucalyputus, acacia or sabaul will get `15000 per acre. The agreements are done to benefit the farmers, either they get market price for wood pulp or as per the contract price or whichever is higher. The industry also provides assistance in lending or coax banks to lend, as most plantations take 4 Years to yield. Expected demand for paper is to go up from 8.0 million tonnes to 11.5 million tonnes by 2010.

Indian Paper industry is to face a mismatch in demand-supply as large and small players are adding capacities. Around 4 lakh tonnes of capacity is being added this Year where the demand may not be there, though the industry is growing at 5-6%. Importers are also vary in such a situation as larger players are lobbying for safeguard duty. Looking at export opportunities as prices have corrected largely in Europe and US. Locally, the prices have dropped considerably from `50,000 /tonne to `38000 /tonne where large mills could barely break even. Indian Paper industry gets safeguard duty on uncoated paper and copy paper. The Director General (Safeguard) has recommended imposition of provisional safeguard duty of 20% according advalorem
on all imports. This was sought by over 80% of domestic industry thorough their association Indian Paper Manufacturers Association (IPMA). It has also recommended 20% of provisional safeguard on coated paper and paperboards. Import price have come down steeply from USD 817 to USD 680 in the last Year.

ISSUES WITH PAPER INDUSTRY

- **Wood**: Indian wood resources are limited therefore, cost of wood is much higher in global comparison.
- **Bagasse/ Straw**: Though annual availability of agro residues is large yet, this may not be able to sustain the future growth of the Industry. Moreover, bagasse is increasingly used by sugar mills for co-generation of power.
- **Waste Paper**: The recovery rate works out to about 20% which is much lower in comparison with 65% recovery achieved by many global players. Low recovery is on account of alternate use of paper in wrapping, packing, etc.
- **Energy Cost**: Cost of coal is escalating and prospect of availability of quality coal is diminishing. Also, power purchased from the grid is proving expensive for the industry.

PAPER RECYCLING IN INDIA

Natural resource can be converted through recycling of waste papers. Recycled paper are used to which make new paper reduces the number of trees that are cut down there by conserving natural resources. Moreover recycling services are cheaper than trash-disposal services. Recycling paper saves landfill space and reduces the amount of pollution in the air from incineration. In India, however only about 20% waste paper is being currently recovered annually. Low recovery is on account of alternate use of paper in wrapping, packing, etc. Lack of source segregation results in waste paper
getting contaminated and becoming unusable. In comparison in developed countries the percentage of recovery of waste paper is very high. For instance in Germany it is 73%, Japan 60%, USA 49% and Italy 45%. Sri Jayalakshmi Enterprises, a Chennai based enterprise is one of the leading company in the recycling of old paper and cardboard for final recycling.

LATEST DEVELOPMENTS

- The US government’s recent move to clamp anti-dumping duty against the paper imports from China and Indonesia has affected the Indian paper manufacturers. The Indian Paper Manufacturers Association (IPMA) has urged the Centre to raise tariff walls or at least retain the 10% current level of import duties.

- Indian paper and newsprint industry has a huge potentials and prospects in coming future. In our, country, demand for paper and newspaper is rapidly increasing. There are vast demands in the area of tea bags, filer paper, tissue paper, medical-grade coated paper, lightweight online coated paper, etc.

- Indian paper industry is one of the underestimated industries for quite some time because India's per capita consumption of paper is just about 5 kg. Whereas it is 337 kg in North America, 110 kg in Europe and 30 kg in China. Compared to this scenario, India' par capita consumption is one of the lowest in the World.

- The `22000-lakhs paper industry in India, rated 15th largest in world engages about 1.5 million people with the help of `2500 lakhs Government subsidy. Government has given paper industry as one of the 35 high-priority lists.

- There are about 515 manufacturing units of processing and production of paper. Newsprint and paperboards in India which have the annual capacity of 8.3
million tonnes, is likely to be 16 million tonnes by 2014. There are few state
owned and private players in the emerging paper industry like Hindustan
Newsprint Ltd (HNL), Tamil Nadu Newsprint and Papers Ltd (TNPL),
Ballarpur Industries Ltd (BUILT), Seshasayee Paper and Board Ltd. (SPBL),
ITC Paper.

- Virtually paper industry is decontrolled and there is no price control on finished
  product. As a result entire cost has shifted upon the end-users. Newsprint prices
  increase sharply by 24% in a short span of three months to touch a high of $760
  per ton, an increase of $145 since December 2007. India also, imports bulk of
  newsprint from foreign countries. From North America we have imported 18.9
  lakh tonnes in 2004 to 26.45 lakh tonnes in 2007, a CAGR of 11.9%.
- Domestic consumption move up by 6.40 lakh tonnes to 9.70 lakh tonnes, a
  CAGR 14.9%, while import went up by 12.50 lakh tonnes to 16.75 lakh tonnes,
  a CAGR of 10.3%.
- Indian handmade paper industry is a vast industry comprising more than 157
  handmade paper-producing divisions all over India. These 157 functional units
  together manufacture paper worth around ` 21 lakhs and provide employment
to 10,000 people.