

STUDY SCOPE AND CHALLENGES OF PAPER INDUSTRIES IN INDIA IN 21st CENTURY

Jay Ganesh Tripathi

Research Scholar(Management)
 Shobhit University, Meerut

This research Study focuses Scope and challenges of paper industries in India 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 occasionally as a food ingredient, particularly in Asian cultures. Paper has a long history, beginning with the ancient Egyptians and continuing to the present day. For thousands of years, hand-made methods dominated and then, during the 19th century, paper production became industrialized. Originally intended purely for writing and printing purposes, a wide variety of paper grades and uses are now available to the consumer.

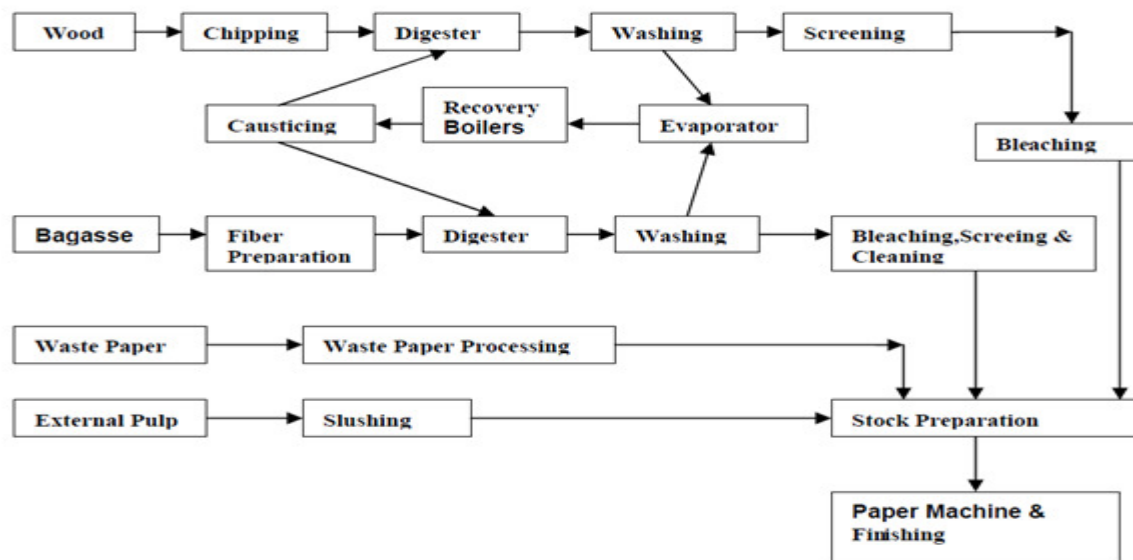
Introduction

Paper has a long history, beginning with the ancient Egyptians and continuing to the present day. For thousands of years, hand-made methods dominated and then, during the 19th century, paper production became industrialized. Originally intended purely for writing and printing purposes, a wide variety of paper grades and uses are now available to the consumer. The Indian paper industry is among the fastest-growing regions in line with India's GDP growth (second fastest at 9 percent in 2007-08). The Indian paper market, growing thrice as fast as the global average, Indian Paper Industry is among the top 12 Global players today, with an output of more than 13.5 Million tonnes annual with an estimated turnover of Rs. 35000 Crores. The country accounts for 4.7 percent of the Asian and 1.5 percent of the world's paper consumption. It provides employment to more than 1.3 million Indians and contributes around Rs 25 billion annually to the Indian exchequer by way of taxes. There are nearly 836 operational mills in India, out of which most are privatized, the rest government-owned. The country's paper industry consumes a large variety of raw materials comprising agro-residues, virgin fibre and recycled fibre, among others, to produce a vast portfolio of paper products. In 2012, India recorded paper consumption of 9.3 kg/capita vis-a-vis global average of 58 kg/capita.

	No. of Mills	Production,MT
Wood based (Large Integrated)	30	3.40
Agro based (Medium Scale)	150	2.42
Recycle Fibre based (Medium and Small Scale)	579	5.10
Total	759	10.92

Source: Report of 12th FYP

Fig: Process of Paper Production



India first Machine-made paper was manufactured in 1812. Paper industry in India is mainly plantation based and is essential that more land must be brought under plantations of eucalyptus and other trees apposite for the making of papers. Indian paper industry is a vast industry comprising more than 157 paper-producing divisions all over India. These 157 functional units manufacture handmade paper worth around Rs.21 cores and provide employment to approximately 10,000 people.

Application of Paper

1. To write or print on: the piece of paper becomes a document; this may be for keeping a record and for communication.
2. To represent a value: paper money, bank note, cheque, security (see Security paper), voucher and ticket
3. For entertainment: book, magazine, newspaper, art, zine,
4. For packaging: corrugated box, paper bag, envelope, wrapping tissue and wallpaper
5. For cleaning: toilet paper, handkerchiefs, paper towels, facial tissue and cat litter

Literature Review

Dr. Sanjeeb Kumar Dey (2014)The Indian Paper Industry, 15th largest in the world, accounts for about 1.6% of the world's production of paper and paperboard with an estimated turnover of Rs 35,000 crore approximately. It is a priority sector for foreign collaboration and 100% FDI is approved on automatic route by Reserve Bank of India. Currently, there are about 515 paper companies engaged in the manufacture of paper and paperboards and newsprint in India. The present paper is an assessment of paper industry in India in general and comparative study of Ballarpur Industries Limited (BILT) & JK Paper Ltd in particular. The analysis has been done with the help of selected financial ratios for a period of 14 years (2000-2013) under four broad aspects i.e. profitability, liquidity, solvency and management efficiency. The study found that none has satisfactory liquidity position. JK paper is more efficient in respect profitability, solvency and management efficiency than BILT.

Chirayil (2009), in his paper "Economic reform and Productivity Growth in Indian Paper and Paper Products Industry: A Nonparametric Analysis" had estimate total factor productivity growth and its components (efficiency change and technological progress) in Indian paper and paper products industry during pre and postreform period with the help of the Malmquist Productivity Index. He concluded that the negative TFP change was decreased (from -8.6 per cent to -5.2 per cent) during the period at the aggregate level. It was found in the study that the technical efficiency change and the technical change was the deteriorating factor for productivity change in Indian paper and paper products industry. It was suggested that specific policies should be implemented in order to improve efficiency as well as technical progress, thus ultimately facilitating long-run productivity growth.

Ray (2011) in his paper "Financial Performance of Paper and Paper Product Companies in India in Post- Liberalization Period: An Exploratory Study" studied the financial performance of Indian paper and paper product companies using data from CMIE over the period, 2000-01 to 2008-09. He has analyzed from seven key financial dimensions, namely, financial profitability, capital structure, operational efficiency, fixed asset age, current asset efficiency and liquidity position. The study suggested that liquidity position and profitability of the industry as a whole were sound and strong ensuring good liquidity management and better profitability to both investors as well as entrepreneurs. The study revealed that high and gradually increasing current asset turnover has been a contributing factor responsible for ensuring current asset efficiency which means that resources like current assets of the firms of the industry were getting utilized more efficiently. But, dividend payment being lower, the companies need to improve the quantum of dividend payment in order to satisfy the investors without affecting the future expansion and modernization programmes of the sector. Moreover, companies should make a concerted effort in maximizing assets and minimizing liabilities so that overall financial position could be improved.

Fatima, Nadeem (2013) in their thesis entitled "Performance Appraisal of Paper Industry in India- A Case Study of Some Selected Paper Mills" had been undertaken with the object of analyzing and evaluating the financial performance of the paper industry in India. The study obtains an insight into the financial position of the four companies of paper industry, namely, Ballarpur Industries Limited, Tamil Nadu Newsprint and Papers Limited, Andhra Pradesh Paper Mills Limited, and West Coast Paper Mills Limited. The financial performance of these companies during the years from 2000-2001 to 2009-2010 has been thoroughly examined. They found that there is no high deviation in the operating profit ratio of paper mills under study, net profit differ significantly, there were no similarities in return on net worth ratio, current ratio differ significantly, BILT and WCPM are in much better position to meet its short term obligations, quick ratio differ significantly, all the paper mills have satisfactory debt equity ratio and earning per share does differ significantly.

Objectives

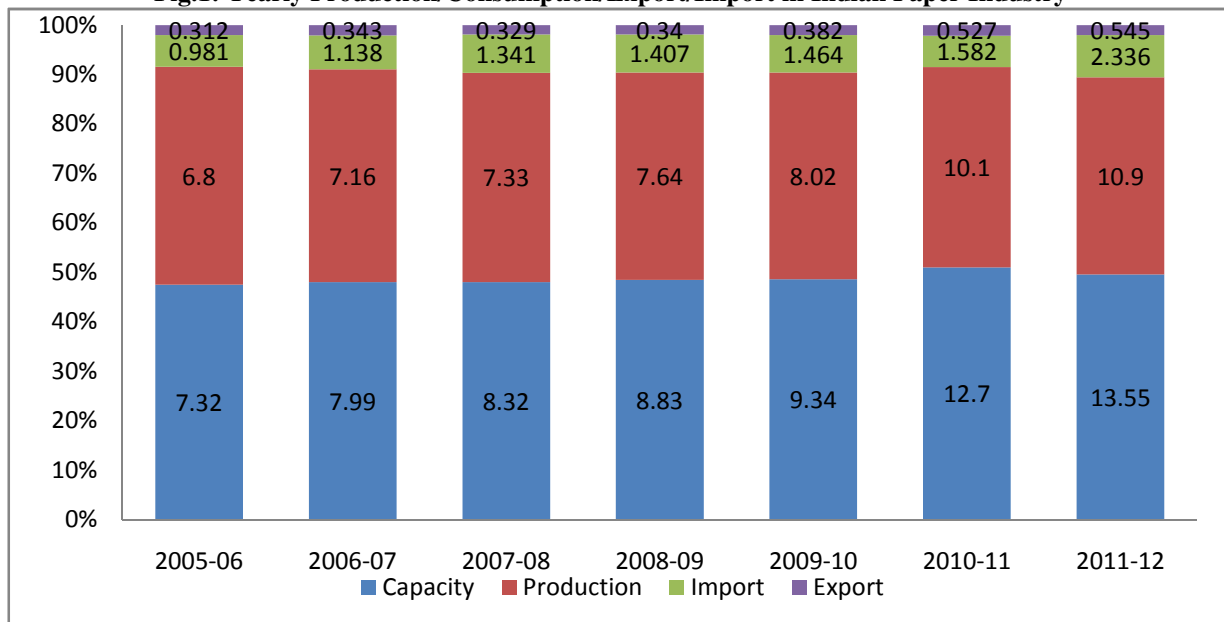
The objective of the study is to analyze the performance of paper industry of India. This study seeks to examine the changes that have occurred in the performance of the Indian paper Industries. The main objectives of this study are as under:

1. To review the development of Indian paper industry;
2. To examine the overall performance of selected paper Industries in India;
3. To offer some suggestions for improvement of the performance.

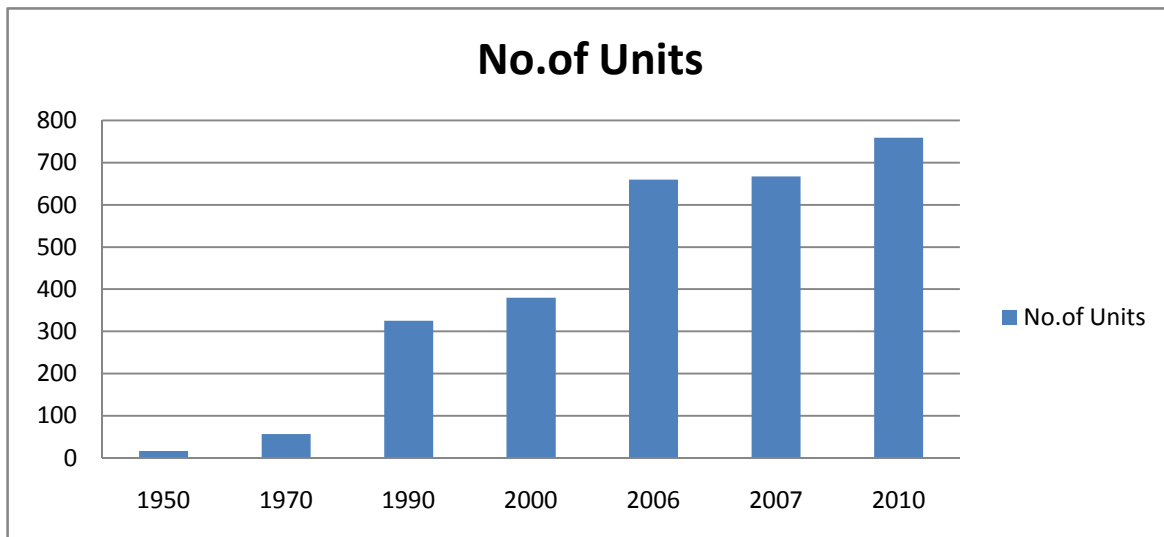
Data Interpretation/Analysis

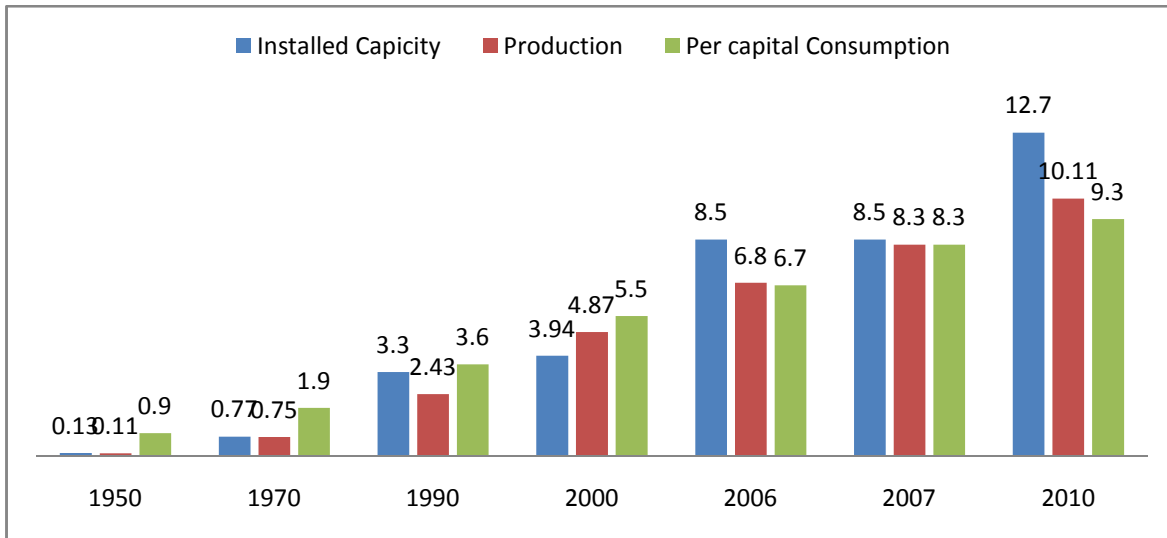
There were 515 paper mills in India in 2000 which now went up 656 units, engaged in the manufacture of paper and paperboard. Due to old technology, capacity utilization of the industry is just 79 per cent. Moreover, 194 mills under the purview of the Board of Industrial and Financial Reconstruction (BIFR) and nearly 60 mills with a capacity of 1.3 million tones have been closed. Due to increasing regulation and raw material prices, the companies are increasingly using more non-wood based raw material over the years. Round about 70 per cent of the total production is based on non-wood raw material, in 2006. Since the opening of its economy in the '90s, India has become a frequent destination for multinational businesses.

Fig.1: Yearly Production/Consumption/Export/Import in Indian Paper Industry



Source: Report of 12th FYP

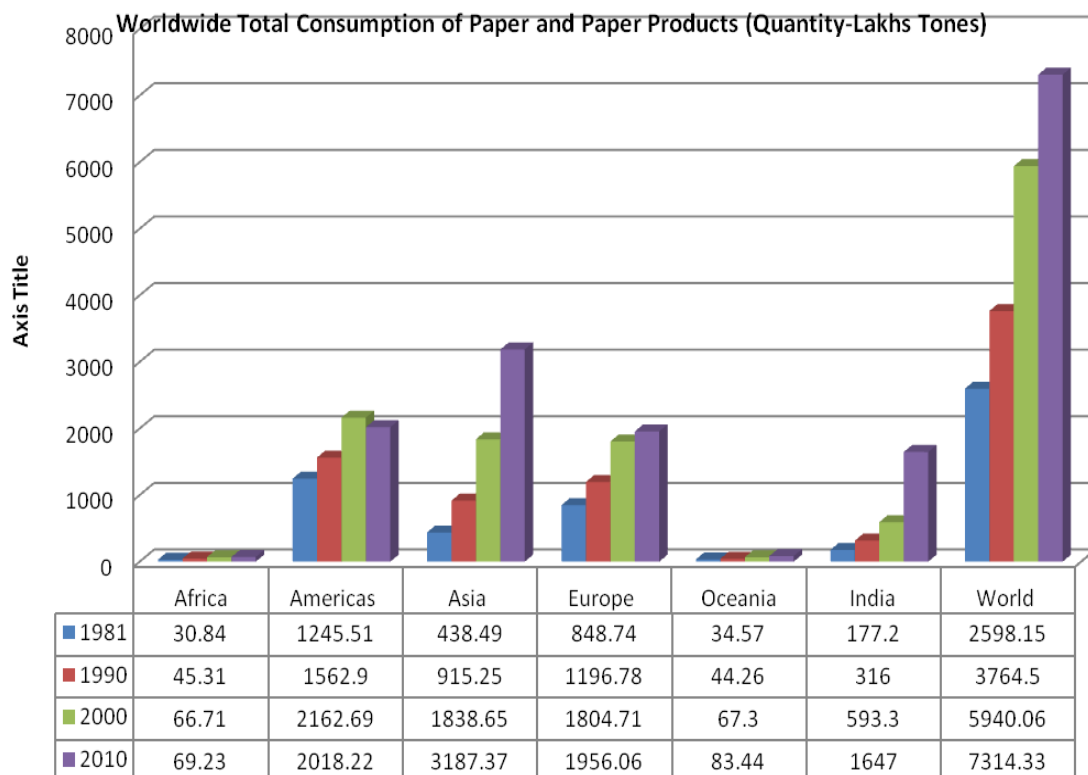




Production of Paper in World

Regions	1981	1990	2000	2010
Africa	46.5	62.52	85.09	125.4
Americas	1171.84	1473.46	2065.51	1893.85
Asia	481.91	985.11	1982.36	3303.03
Europe	825.61	1165.43	1616.46	1735.95
Oceania	37.94	49.45	79.94	93.16
India	214.01	329.1	669.559	1763.46
World	2349.78	3406.87	5159.811	5387.98

Source: Report of 12th FYP



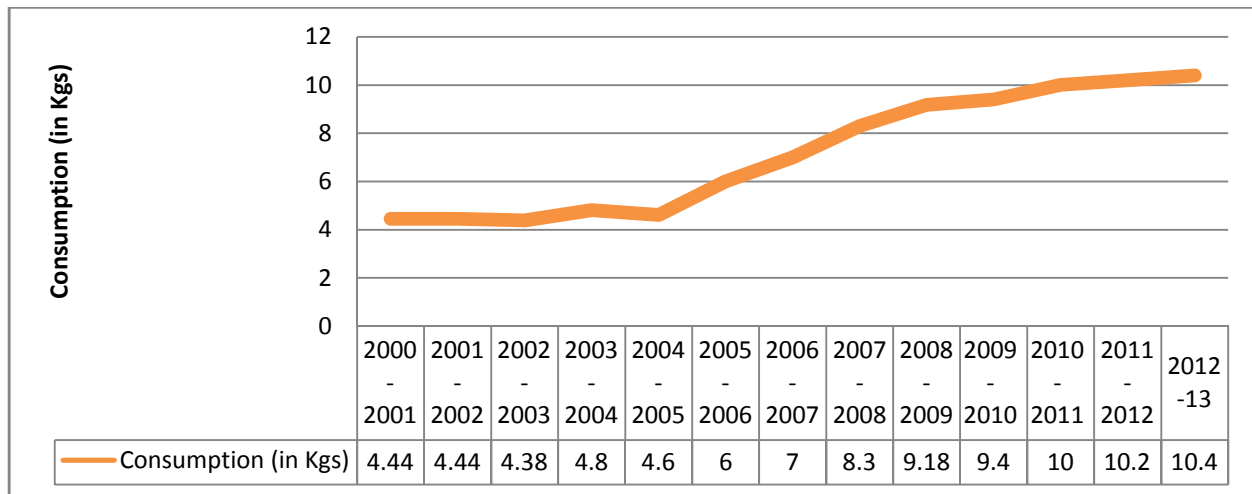
Source: Report of 12th FYP

Paper Recycling in different Countries	Percentage
USA	65
Europe	70
UK	40
China	30
India	20

Raw Material Consumption Pattern in India			
Year	Wood	Agro residue	Waste paper
1970	8.4	9	7
2000	39	31	30
2011	31	22	47

Source: Report of 12th FYP

Year	Consumption (in Kgs)
2000-2001	4.44
2001-2002	4.44
2002-2003	4.38
2003-2004	4.8
2004-2005	4.6
2005-2006	6
2006-2007	7
2007-2008	8.3
2008-2009	9.18
2009-2010	9.4
2010-2011	10
2011-2012	10.2
2012-13	10.4



This was most evident when U.S.-based International Paper (IP) acquired a 53.5 percent stake in Andhra Pradesh Paper Mills (APPM) in March 2011. India's paper industry is expected to grow at 6 to 7 percent year over year, with the packaging industry poised to grow at 22 to 25 percent annually. Advances in education, a fast-growing middle class, strong growth in sectors like fast-moving consumer goods (FMCG) and organized retailing are the main drivers of demand for paper and packaging products. Today, the Indian exporters export nearly Rs.400 crores worth of paper products per annum to the developed For construction: quilling, Paper honeycomb, used as a core material in composite materials, paper engineering, construction paper and clothing,etc.

Paper is a bio-degradable product and has a benign footprint at the end of its life cycle. Paper Industry has been growing year after year. A Paper Industry has a very prominent role in the World Economy. Annual revenue from this Sector exceeds US \$ 500 billions. World consumptions of paper and boards grew from 169 million tonnes in 1981 to Current consumption is of the order of 400 million tonnes. The country out of which 12 large units accounts for production share of about 30% and balance units mostly comprising of medium and Small paper mills with production share of 70%. Wood based industry accounts for 35% of production while waste paper and agri residue accounts for 44% & 21% respectively. The Indian paper industry is an integral part of the Nation's economy and contributes to its growth and development.

While the mature markets may record a flat growth rate, the emerging markets are expected to grow at a CAGR of 4-5%. India forecasts to have the highest growth rate of 6-7 % per annum. China and Russia are expected to register impressive growth rates in excess of 5% per annum. However, the Indian Paper Industry accounted for a meagre 3% of global paper demand. The per-capita consumption amounted to about 10 kgs which is significantly lower than the world average of around 58 kgs. India's per capita consumption is also lower than China's (42 kg), Indonesia's (22 kg), and USA's (312 kg) consumption levels. This indicates the a big scope available for expansion of the Indian Paper Industry. While the market size and per capita consumption are relatively low, they have exhibited a rising trend over past several years, from 7.3 kg in 2008 to 10 kg in 2012. The paper industry is likely to continue growing at a rate of 6-8% in the medium to long term, although there may be aberrant years given the cyclical nature of the industry. Growth in Indian paper industry during 2013-14 was moderate and is likely to be so in 2014-15 also due to sluggish economic activity. Global demand to be CAGR 2% in next 5 years. 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. As per estimates, paper production is likely to grow at a CAGR of 8.4% while paper consumption will grow at a CAGR of 9% till 2012-13.. The total import of this paper rose to 10,000 tonnes in 2008 from 2,000 tones. 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%. "Pulp and paper industry is very complex, and there are more than 100 different product varieties unlike the cement industry. Under the PAT scheme, 31 units have been identified to reduce between 3-8 per cent of their current energy consumption," The capacity expansion that took place in the industry through the last few years is now being absorbed due to the rising demand for paper in India. The sector, which faced challenge from rising input (wood) costs, is now better placed due to a renewed thrust on agro-forestry and softening of pulp costs. The India Ratings report in 2014-15, said paper companies would achieve higher profitability and free cash flows due to lower capital expenditure, and this would help in deleveraging. This is because the debt levels of these companies have peaked and cost benefits will accrue from backward integration (due to capital expenditure) and a larger scale of operations. No doubt the inevitably effects of economic slow down on Paper Industry has slowly started showing up. However, several perceptible key drivers of growth capable of propelling the Indian paper industry are still very much in place and there is ample space for the paper producers, equipment and technology suppliers and more so for the trade players to draw an effective strategy to chart aggressive growth. The Rs. 22000-crore paper industry in India, rated 15th largest in world engages about 1.5 million people with the help of Rs. 2500 crore Government subsidy. Government has given paper industry as one of the 35 high-priority lists.

Demand of Paper has been around 8% and during the years 2002-07 while newsprint registered a growth of thirteen percent and Writing & Printing, Containerboard, Cartonboard and others registered growth of 5,11, 9 and 1 percent respectively. So far, the growth in paper industry has contributed in GDP growth and has grown on an average 6-7 % over the last few years. The import of pulp & paper products is likely to show a growing trend. During last few years, the Indian paper market witnessed a five-fold jump in the import of coated paper. India is the fastest growing market for paper worldwide and it presents an exciting scenario and paper consumption is poised for a big leap forward in sync with the economic growth and is estimated to reach 13.95 million tons by 2015-16.

Finding-SWOT Analysis of Papers Industries Strengths

Large and growing domestic market: India's sizeable and rapidly growing domestic market, growing financial markets, large population, and stable democratic government make it an attractive market for investors. However, India underperforms relative to its vast potential. 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. The Rs. 22000-crore paper industry in India, rated 15th largest in world engages about 1.5 million people with the help of Rs. 2500 crore Government subsidy. Government has given paper industry as one of the 35 high-priority lists. Globalisation has leveled the competitive playing fields between the industrial and emerging market countries where competitors have an equal opportunity to sell their products in a free market without restrictions.

Availability of Personnel across all Levels

It provides employment to more than 1.3 million Indians and contributes around Rs 25 billion annually to the Indian exchequer by way of taxes. There are nearly 836 operational mills in India, out of which most are privatized, the rest government-owned.

Well-Developed Printing Industry

The printing industry in India is a large industry in that country. The compounded annual growth rate of the Indian Printing Industry is estimated to be 12.2% for the period 2007-12. The printing industry of India is highly fragmented. Newspapers and magazine publishing section have the large printers apart from a few in package, label and commercial printing. About 77% of the printing houses are family-owned. 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 & Board Ltd. (SPBL), ITC Paper.

Rich Know-How in Non-Wood Pulp and Applications

Recovered fibre consumption is going up globally. In India about 850,000 to 1,000,000 tons. of waste paper is recovered annually. The utilization rate of recovered fibre is only 47%. Paper mills are heavily dependent on imported waste paper which commands exorbitant price due to inadequate availability. India needs a well-defined and aggressive system for collection, sorting, grading and utilization recyclable waste paper to contain imports.

Weakness

Small and Fragmented Industry Structure

Business development risks are mainly related to the Company's strategy and also include risks related to the supply and availability of natural resources, raw materials and energy. Industry intends to reduce business volatility by preparing a less cyclical portfolio. It aims to enhance profits through Greenfield, inorganic growth options and operational improvements in the existing production base. Besides, the export value in the growth markets may be affected.

Non-Availability of Key Input Resources

Many key resources required for production but because of scarce resources industries are not performing well.

1. **Human**
2. **Rising Pulp Costs.**
3. **Increasing Energy Costs:** The Government of India has recently withdrawn core sector status enjoyed by the paper industry. Cost of coal is escalating and prospect of availability of quality coal is diminishing. The steep price rise in coal has resulted in escalation of cost of production of those mills which happened to be dependent on imported coal for generation of steam/power. Also, power purchased from the grid is proving expensive for the industry.

Environmental Hazards

Pulp mills contribute to air, water and land pollution. Pulp and paper is the third largest industrial polluter to air, water, and land in both Canada and the United States, and releases well over 100 million kg of toxic pollution each year. The production, use and recycling of paper has a number of adverse effects on the environment which are known.

Discarded paper is a major component of many landfill sites, accounting for about 35% by weight of municipal solid waste (before recycling). Even recycling paper can be a source of pollution due to the sludge produced during deinking. Environment is protected during the production, use and recycling/disposal of this enormous volume of material.

Technology Fatigue Resulting in Sub

optimal capacity utilization- From a situation where most paper mills were relatively small and with old technologies, we have now reached a stage where almost all major paper mills have adopted world class technologies and are fast progressing towards world's scale of operations as well. Demand is projected to grow by about 2-3% per annum.

- i. Enhancing Industry's competitiveness to face global competition
- ii. Economies of scale
- iii. De-fragmentation of industry

Modernization of Mills

Industry has upgraded process technologies, installed most modern fiber lines and high-speed paper machines with shoe press to boost the production, conserve energy & water and improve financial performance. Many mills have adopted extended delignification process, Elemental Chlorine Free bleaching to modernize the fiber lines. In the area of paper making, adopted alkaline sizing, replacing clay & talk with Grounded Calcium Carbonate & Precipitated Calcium Carbonate fillers and increase the ash content in paper to reduce usage of fiber. Industry has progressed in spite of challenges, improved environmental performance in terms of reduction of effluent volumes, reduction in terms of usage of steam, power, AOX reduction, apart from many other successful achievements in process technologies Building new capacities.

Meeting Incremental Demand of 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(Compounded Annual Growth Rate) of 11.9%. Productivity/quality improvement

Environmental Upgradation and Green Technologies

Air Pollution

Noise Pollution

The principal source of noise pollution inside a paper mill is derived from the vacuum pumps. We commissioned special silencers to reduce the noise.

Water Consumption

The Company is focusing upon reduction in water consumption by reuse of as much water as possible. The target taken at present is 90 cubic meters / PMT of paper which is

- i. Far lower than prescribed norms.
- ii. Setting mechanism for collection, sorting, grading and utilization of recyclable waste
- iii. Paper consumer of fresh water with consumption in the range 80-150 m³/t of paper depending on the type of raw material being used. Generally agro based mills consume much more water than RCF based mills. Disposal of wastewater, containing various chemicals (thiols, sulphur dioxide, sulphite and sulphides, fibres and resins), bleaching agents (hydrogen peroxide, chlorine dioxide, and caustic soda) and whitening agents (kaolin, calcium carbonate, talc, and titanium dioxide), is the greatest environmental concern.

Opportunities

Enormous Domestic Market Potential: Indian paper and paperboards industry has potential and also capabilities to service the growing demand in domestic and international market and also to create huge employment avenues in the rural-India through agro/production forestry and at mills, provided the competitiveness of the value chain is encouraged by the government.

Strong Forest Plantation Potential: India, shares about 16 percent of world's population and 15 percent of its livestock but just 2.4 percent of its land area and only 1.7 percent of its forest cover. Industrial plantations are established to produce a high volume of wood in a short period of time for each society. Plantations are grown by state forestry authorities the paper and wood industries. In southern and southeastern Asia, teak plantations have recently replaced the natural forest. Worldwide consumption of paper has risen by 400% in the past 40 years, with 35% of harvested trees being used for paper manufacture. Plantation forest, from where the majority of wood for pulping is obtained, is generally a monoculture and this raises concerns over the ecological effects of the practice.

Import Substitution Across Some Paper Varieties: Now days we used electronic medium like internet, e-mail, e-ticket so demand of paper decreased day by day. So per capital consumption decreases because of small demand of some varieties of paper Indian person import it from various countries like U.S., China etc.

Threats

Mills Lacking International Standards: This globalization trend, together with the rapid advancement of technology and intensifying time-to-market demands, is influencing consumer expectations. Industry is responding by seeking more efficient ways to define global standards, which, in turn, help expand the global markets. Thus, the global standards paradigm is evolving. Global standards today are developed, adopted and recognized in multiple ways. Standards bodies and industry are adapting to a more nuanced international standards paradigm. Global standards have been driving innovation, contributing to the growth of markets and protecting the health and public safety of workers and the general public for centuries. Global standards are fundamental tools of engineering, and they are fundamental to social wellbeing. Furthermore, global standards'

value and necessity are coming into keener focus in this age of globalization. Today, more than ever, the world needs global standards to enable the creation of products and services that will be implemented and used by customers globally.

Delay in Plantation Growth and Deficit of Wood Fibre: Non-availability of fibre may disrupt the supply chain, forcing the Company to pay higher prices or alter manufacturing operations. The primary raw materials consumed by the Companies are bagasse (a by-product of sugarcane), wheat straw and other long-fibres like softwood, old gunny and kraft carrier board.

The apparent threat of bagasse unavailability following an increase in its captive use for power generation is inaccurate, as power generation becomes unviable below a certain capacity level. Single-location capacity enhancement becomes a constraint because of high capital expenditure and well defined cane procurement areas. manufacture of pulp, paper, and paperboard—consumes over \$7 billion worth of purchased fuels and electricity per year. Energy efficiency improvement is an important way to reduce these costs and to increase predictable earnings, especially in times of high energy price volatility.

Government Policies

Department of Industrial Policy and Promotion, Ministry of Commerce & Industry, Government of India made the major highlights of Industrial Approval Policy include the following:

1. Acquisition of proven technology of foreign or indigenous origin
2. Acquisition / license of patent rights
3. Acquisition of capital goods for transfer of process technology
4. Contractual R&D activities leading to technology up gradation of the units
5. R&D and demonstration projects

High Capital Costs Deterring Investments

Conclusion

The India Ratings report in 2014-15, said paper companies would achieve higher profitability and free cash flows due to lower capital expenditure, and this would help in deleveraging. This is because the debt levels of these companies have peaked and cost benefits will accrue from backward integration and a larger scale of operations. “The capacity expansion that took place in the industry through the last few years is now being absorbed due to the rising demand for paper in India. The sector, which faced challenge from rising input (wood) costs, is now better placed due to a renewed thrust on agro-forestry and softening of pulp costs.”

With 10 per cent growth in per capita consumption in paper over the last one year, India has emerged as the fastest growing paper market in the world from 7.5 kg per capita consumption in 2007-08, the figure has gone up to 8.3 kg. “Pulp and paper industry is growing rapidly with an estimated CAGR (Compounded Annual Growth Rate) of 7-8% projected over the next decade.

The Indian paper industry accounts for about 1.6% of the world’s production of paper and paperboard. The estimated turnover of the industry is Rs. 25,000 core (USD 5.95 billion) approximately.

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