

Indian Paper Industry - Growth and Prospects

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With the emergence of open market, economy leading to reduced tariff barriers and the promulgation of free Trade Agreements with booming neighboring economies, the competitiveness of the Indian paper industry with regard to costs and quality has come into sharp focus. The industry faced turbulence after liberalization of the economy that allowed the import of paper under the Open General License Scheme.

The demand for paper, paperboard, and newsprint has been on a steady rise and the domestic market has registered a growth of around 6% against the world average growth of 2.8%. Faced with challenges such as the availability of fibrous raw material, technological obsolescence, cost, quality and environment, the industry has taken steady steps to enhance its competitiveness.

The present paper highlights the present status of the Indian paper industry with respect to the key market indicators. Discussion has been incorporated on the basic issues and challenges confronting the industry with possible strategies to address the same.

INTRODUCTION

With the resurgence of Indian industry and its robustness in meeting the global challenge, it is not without reason that the Indian paper industry has been linked to an awakening tiger. Along with the major players in the industry, some of the medium and small players have initiated steps to grow, compete and prosper.

The industry is recognized as a core sector in the country and has a major role to play in its development. The usage of paper is considered as an index of cultural growth. To that effect, the Indian Paper Industry has seen consistent growth over time.

Today, there are more than 600 pulp and paper mills in the country producing a range of paper varieties: cultural, industrial and newsprint.

Although the country is self sufficient in the manufacture of most varieties of paper and paperboard, some specialty papers are imported. The industry always has presented a fragmented picture with a mix of large, medium and small paper mills with capacities ranging from 2 TPD to more than 1000 TPD. Nearly 6.2 million tons of paper, paperboard and newsprint is produced against an operating installed capacity of nearly 8.5 million tons. The industry has a turnover of over 16000 crores and employs about 0.3 million persons directly and 1 million indirectly.

The market forces governing the fortunes of the Indian paper industry are cyclic since they follow international trends. In fact, many analysts feel that the performance of

the Indian paper industry a greatly influenced by global macro economy factors and demand supply situations. Thus in the recent past, in keeping with the increasing paper prices in the international market, many domestic players have made upwards revisions of their product prices, irrespective of the variety of paper.

In the discussions that follow, an attempt has been made to analyse the market movement vis-a-vis certain key activity indicators. The trends have been analysed to assess their possible effect on the industry.

Structure of the Indian Paper Industry

Paper industry in India can be broadly categorized into three major segments:

- Segment based on forest-based raw material - large integrated paper mills fall within this segment that use hardwood/bamboo as the major

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fibrous raw material and are equipped with full-fledged chemical recovery and effluent treatment system. This segment contributes about 36% of the total production in India.

- Segment based on Agro based Raw materials - this segment includes medium and small paper mills that use straws, bagasse, and other annual grasses as the cellulosic fibrous raw material. Very few mills are equipped with chemical recovery system. This segment contributes about 29% of the total production.
- Segment based on recycled waste paper - This segment covers the medium and small paper mills using waste paper as a major raw material and contributes nearly 35%

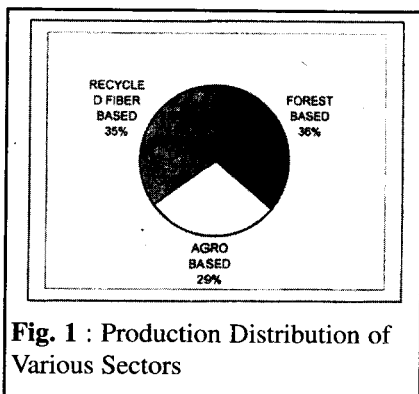


Fig. 1 : Production Distribution of Various Sectors

of the total production.

There are only 33 large pulp and paper mills based on forest based raw materials with an installed

capacity of 2.8 million tons. Since eight of these mills are closed, the operating capacity of these mills is around 2.4 million tons producing nearly 1.85 million tons of paper paperboard and newsprint. This sector performed well in the last fiscal year, notching a capacity utilization of over 80% on the total operating capacity.

The midium and small agro based / waste paper based mills produced nearly 3.6 million ton of paper, paper board and newsprint against an operational capacity of nearly 5 million tons, indicating a capacity utilization of around 70%.

Fiber Resources

The Indian Paper industry uses a variety of fibrous raw material such as wood, bamboo, agro residues (bagasse, straws, annual grasses) and waste paper. Nearly 36% of the paper production comes from the forest based raw material and the remaining from the non-conventional raw material such a agro residues and waste paper.

Currently the paper industry meets its demand for forest-based raw materials from government sources and farmers. The industry has also been successful in raising plantations in marginal lands held by farmers but this may not be adequate to ensure sustained supply to meet the challenge of the growing industry. It is estimated that

the Indian paper industry will require more than 9.0 million tones of wood per annum by the year 2010. To meet this requirement the industry will require about 1 million hectare of land for plantations for which the industry has reportedly approached the government for allocation of degraded forests/ waste lands near the mills or in nearby forests on long-term lease for such plantation. However, responding to the challenges posed by a liberalized system of international trade, the major players have taken up aggressive initiatives through social forestry programme.

Key Indicators and growth of the Industry

The long-term outlook for the paper industry in India looks distinctly bright for a variety of reasons. Literacy rates are expected to go up as a result of a dedicated fund arising out of the education cess for primary and secondary education. This has a direct bearing on the writing and printing paper segments of the Indian paper industry. Further with increasing GDP levels and India attaining an overall higher level of affluence coupled with growing business activity the industry foresees significant opportunity in the value-added segments. The perceptible challenge is that posed by a similar groth in the capacity of the Chinese paper industry.

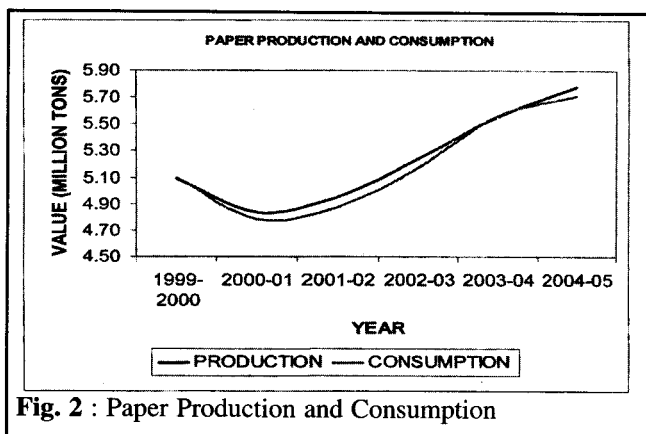


Fig. 2 : Paper Production and Consumption

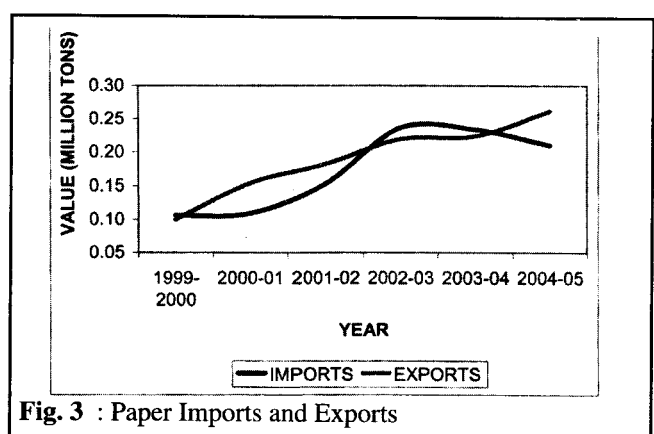


Fig. 3 : Paper Imports and Exports

According to available data, the mixed fortunes of the paper industry continue to effect the industry environment in India. The industry has exhibited a healthy growth rate in the last few years of around 6%. As can be seen from the figure 2, there has been a steady rise in the production and consumption of paper.

The imports and exports of paper and paperboard are shown in fig-3. From the data shown, it is clear that India imports even less than 5% of its total demand of paper consisting of some special varieties like coated paper, security paper and other specialty papers from USA, Europe, Singapore, Malaysia etc. About the same quantity of paper especially of writing and printing grade, consisting of art, coated paper and handmade paper is exported to neighbouring countries like Sri Lanka, Bangladesh, Nepal and the Middle East countries.

Issues and concerns of the Industry

Even as the industry plans and looks forward to a demand escalation in the future, it must also plan to address some of its weakness and threats posed under the operating environment. In this respect, there are many facets that the industry has to grapple with to find optimum strategies and solutions fig. 4.

These have been debated at many fora but a long-term solution is still elusive.

Raw material availability

The Indian paper industry is at a competitive disadvantage as the raw materials, from forest and agro based/waste paper is expensive as compared to other major paper manufactures particularly in the neighbouring countries. The landed cost of wood in India for many units is nearly 70 US dollars per ton, which is twice the amount that is paid by the forest based paper industry in neighbouring countries like Thailand and Indonesia. In order to address this issue, majority of the large players have already taken measures to adopt farm forestry based to source fibrous raw material.

Scale of Operation

Low scale of operation has always been a major concern for the Indian paper industry and has also been a major constraint in achieving competitiveness. The Indian average scale of production is 14000 tons per annum as compared to the global average of 32,000 TPA. Yet, some of these units have been able to survive primarily because they cater to localized markets that settle for cheaper variety of the product, and often compromising with

quality. There are some large and medium sized players that have taken the challenge head on and have chalked out ambitious programs to upgrade their installed capacities.

Technological Obsolescence

Majority of the paper units in India use obsolete technology. Since the structure of the industry is complex, the technology and equipment adopted by these mills differs according to their size and raw material. This not only affects the quality and cost of the product adversely but also results in environmental degradation, as old technologies are often less efficient and more polluting. Though some of the large players have adopted modern, cleaner technologies, much needs to be done particularly in the agro based sector.

Environmental Issues

Corporate Responsibility for Environmental Protection (CREP) is now mandatory for large and small paper mills and has to be achieved in a phased manner over the next few years. Some of the provisions laid down under CREP will necessarily require modernization and technological up-gradation, which should result in making the Indian Paper Industry more competitive.

Environmental concerns and its Impact on development

The recent changes in the Indian paper industry have their genesis on the stringent environmental regulations stipulated by the Charter on Corporate Responsibility for Environmental Protection. The provisions of the Charter (which has been adopted by the industry for implementation) have acted as growth drivers for the Indian paper industry.

The large pulp and paper mills,

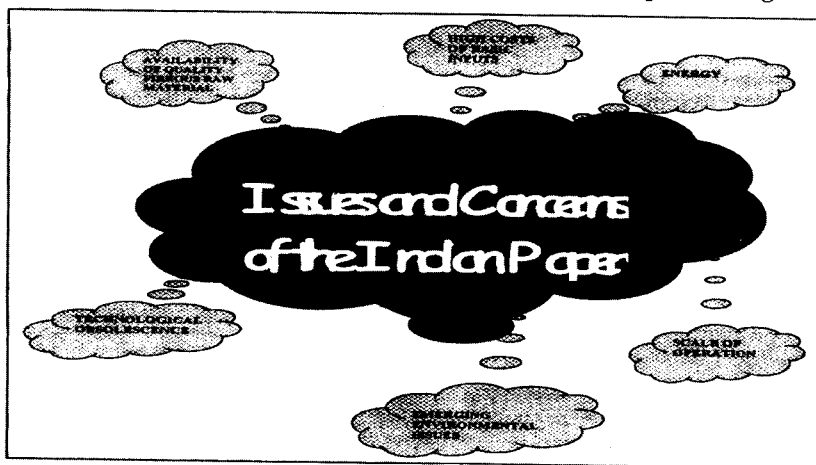


Fig. 4 : The Cloud of Concerns

which account for a little more than a third of the total production, have adopted significant technology up-gradation programs that aim to reduce AOX emissions through chlorine dioxide bleaching. This move of the large-scale sector has been driven by the AOX emission limit of 1.5-kg/ton paper, which must technically be achieved in the year (2005). Since this emission limit is to be further lowered to 1.0kg/ton it will impel the industry to adopt the state of the art ECF bleaching and oxygen delignification technologies.

The decision of the large players to go in for captive limekilns is a result of the CREP stipulation that these be installed by 2007. Lime sludge is a major source of concern for the paper industry particularly with respect to its storage and negative effect on the soil and underground aquatic environment. Hopefully, after 2007, the paper industry will reduce the negative impact of the causticization operations and also saving precious natural limestone in the long run. Further, high-grade lime (low on Mg content) has competitive use in the cement industry.

The Indian paper industry uses a lot of fresh water for the production of paper. As against the international benchmark of about 50 m³/ton, an average Indian mill uses about 200m³/ton. Recently, some units have had to suspend production in the due to lack of water. Water is mainly used for washing the pulp. As per CREP requirements, by 2005, the large pulp and paper mills, installed before 1992 have to reduce their water consumption to less than 140m³/ton paper. This stipulation coupled with the natural shortfall of fresh water has guided the industry explore efficient washing systems and systems closure by reusing various streams to reduce the total water consumption. The

industry endeavours at adopting technologies that bring down the consumption of fresh water to less than 100m³/ton paper. Small paper mills are required to achieve a target of 150m³/ton paper by 2006 which implies not only technological interventions but also daily regulation of water consumption in operations.

The emission of malodorous gases from various operations is another important pollution problem that is peculiar to the paper industry. The emission of methyl mercaptan and its oxidized products as well as hydrogen sulphide occurs in the process where sulphur is used in the cooking liquor. These gases are not only toxic but also are obnoxious to smell and affect the local populace directly. The main unit operations where these emissions occur are the digester relief and blow, black liquor evaporation, smelt dissolving tanks, recovery boiler and to a lesser extent the line re-burning operations. This problem has been addressed in a substantial manner by the large pulp and paper mills, primarily because the odour control technology has to be installed before 2007. A few mills have already installed dedicated systems for the collection and destruction of these odour-bearing gases

Small and medium agro-based sector do not face the problem of malodour, as they do not use any sulphur. However, in the absence of any viable chemical recovery plant, many agro-based units are draining their pulping spent liquor to recipient bodies. According to the CREP requirement, these units are now forbidden to discharge any effluent from the pulp mill after 2006. This means that these units will either have to adopt chemical recovery systems or switch to using recycled fibres. This has led to a growth in the sector as some mills have expanded their capacity

substantially so that the conventional chemical recovery becomes viable.

CREP also requires that the final effluent from small/medium mills must be fit for use in irrigation. As mentioned, units without a chemical recovery facility cannot produce irrigation quality effluent. With the up-gradation of the capacities of mills with chemical recovery process of shifting to using recycled fibre, this goal can be achieved.

The problem of colour in the final effluent is a serious issue that needs to be tackled both by large and small paper mills. CPPRI has been identified as the nodal agency for devising the relevant processes that would reduce the colour in the effluent for these mills. After exploring several technologies, one based on electroflocculation has been identified as the most appropriate. Efforts are being made to fabricate a pilot demonstration unit for this technology.

Thus it can be seen that the environmental concerns and pressures have had a significant impact on the medium and long-term plan of paper mills in India. Naturally, this would translate in to requirement of capital and technology. A more efficient and environment friendly paper industry would thus emerge in India.

Indian Paper Industry and Competitiveness

Coping with Global Competitiveness

With India's entry into the WTO, it has become important for the paper industry to evolve a strategy to become globally competitive. During the phase of industrialization after independence, the immediate focus of the industry was essentially on growth and expansion. In a regulated market under a mixed

economy, it developed a complacent attitude. For long, standards of quality were compromised with - largely due to monopolistic conditions in a closed market scenario. Indeed, for several decades, a major part of the Indian industry could neither relate to nor understand the significance of market forces, economy of scale, quality and customer satisfaction.

However, with economic liberalization followed by the new economic policy of the Government in 1991, the Indian paper industry was confronted with stiff international competition as it was faced with the challenge of integrating with the global economy almost overnight. Liberalisation also affected the traditional Indian management style resulting in redesigning strategies for survival. Today, the concept of globalisation, eco-cycle compatibility and other environmental issues are being integrated at the planning level, not only by the major player of the Indian paper industry but by many other mills that are planning expansion and growth strategies for sustainability and to be competitive at the domestic and global spheres.

In addition, the industry has traditionally faced challenges such as the sustained availability of good quality of cellulosic raw materials, inadequate infrastructure, uneconomical scale of operations, technology obsolescence and the need to incorporate environmental

issues.

CONCLUSION

There is ample scope for growth in many segments of the paper industry. At the top of the pile is the writing and printing segment that is expected to register a comfortable growth. The present trend of increasing quality consciousness and international business opportunities, few of the varieties in the writing and printing grades of paper like branded copier, stationery and in the industrial grade papers like duplex board and kraft paper are poised for higher growth.

With increasing literacy rate of the population and the growth in the use of computers, a sustained demand for paper in the future is assured. The government has also levied a 2% cess on the value of all imports coming in to India. The fund thus generated has been earmarked for use in the educational sector particularly for primary education in rural India. This factor will contribute significantly in generating demand in the writing and printing sector. The growth of the paper industry is assured by the phenomenal upsurge in the printing sector in India. Indian printing industry is undergoing rapid modernization and is using advanced machines that demand consistent and high quality of paper. There is a ready market of substitution of imported paper being used in the printing industry by

indigenously manufactured paper for high quality jobs. Another factor that goes in favour of the Indian paper industry is relatively low personnel costs. Qualified manpower is available in India at far lower cost as compared to Europe, Scandinavia and America. With the competitive financial market offering funds at very competitive interest rates, the Indian paper industry seems poised for recovery.

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