

Challenges Confronting Indian Paper Industry In Changing Scenario

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ABSTRACT

The Indian paper industry has made steady progress since independence and presently has an installed capacity of 9.18 million tonnes from mere 0.1 million in 1950. Today the industry is ranked among the top 15 global paper industries. The industry in the last few decades has faced a number of challenges, particularly in the area like, obsolescence of technology, non availability of good quality fibrous raw materials, high cost of basic inputs, environment issues, and competition in global market. The government of India has taken up some initiatives addressing various issues being faced by industries and has intervened to support the industry. Some of the policy interventions by govt. to support paper industry are discussed in the article, so that Indian paper industry's competitiveness could substantially be improved.

INTRODUCTION

The paper industry has a vital role to play in socio-economic development of a country. The per capita consumption of paper is generally considered as a benchmark of a country's modernization. The Indian paper industry, which is century old, has made steady progress and presently has an installed capacity of 9.18 million tonnes, generating 286 billion rupees in 2007. The paper industry employs 1.5 million people and contributes Rs. 30,000 million to the Government of India. The paper industry is ranked among country's 35 high priority economic sectors. However, the sector has not emerged as a hi-tech industry similar to that in developed countries. It is still at the crossroad facing a number of challenges from availability of raw materials through the quality of end products. The Indian paper industry has not grown in an organized scientific way and always had a short term planning. Today the industry continues to face import challenges, particularly in coping with the strong competition from import while trying to improve the profitability and productivity. Worldwide, the Indian paper industry is ranked among the top 15 global paper industries. The industry is fragmented with a capacity ranging from 10 tonnes to 800 tonnes per day. The per capita consumption of paper in India is still at about 7.0 kg which is far below the global benchmarks. Analysts and economists agree that the economic growth is linked to paper consumption and a modest increase of one kilogram per capita translates into 1.15 million tonnes of additional paper demand. This article addresses many issues

faced by the industry in the perspective of changing scenario and highlights many ways by which Indian paper industry may sustain its growth without any serious implications. The current growth status of major indicators have also been discussed.

GROWTH INDICATORS :- PRODUCTION GROWTH OF THE PAPER AND PAPER BOARD SECTOR

The growth of the Indian paper industry for last decade is indicated in Fig. 1. The data indicates that the production growth rates at the beginning of the millennium have generally shown a downward trend. This is however more

a case of capacity constraints from 2004-06, where after the industry announced many capacity expansions and up gradations. The sharp fall again in the year 2007-08 is, in all probabilities due to recessionary trends coupled with capacity constraints. This bottle neck is likely to ease out in the coming time as about 58 projects worth Rs. 20,907 crores are outstanding in the sector. Even in the face of recession, as many as 29 projects with an outlay of Rs. 6,724 crore are under implementation. However, the major project of Jagdishpur paper mills, worth 2742 crores is still stalled due to various issues.

(million tonnes)

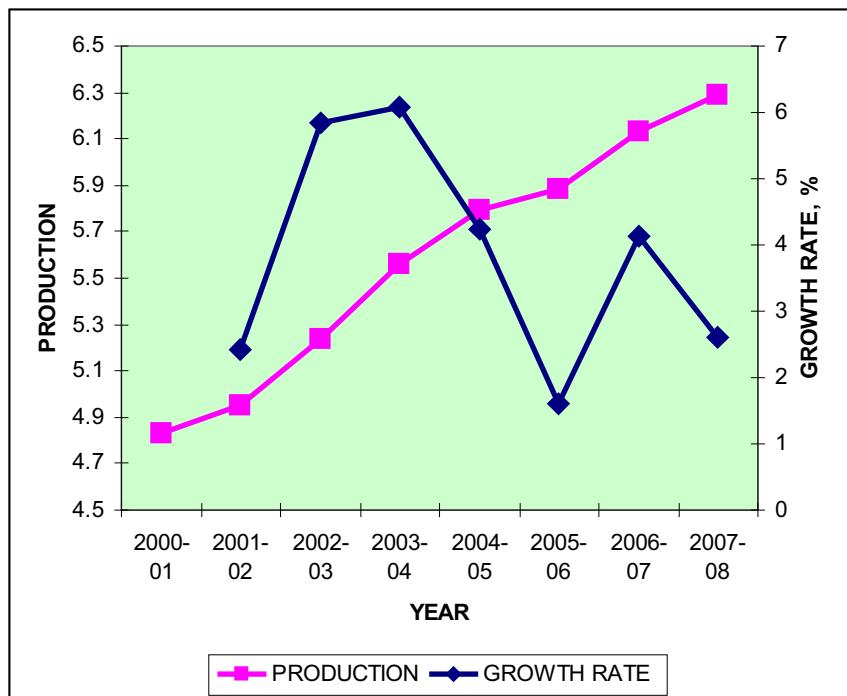


FIGURE -1 PRODUCTION GROWTH RATE OF THE PAPER AND PAPER BOARD SECTOR.

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The aggregate installed capacity by 2020 for paper and paperboard is expected to touch around 20 million tonnes.

TRADE BALANCE FOR THE PAPER AND PAPER BOARD SECTOR.

As regards the balance of trade (figure 2), it is a well known fact that the volumes of import and exports of paper in India are small. A perusal of the data indicates that imports of paper and paper boards in to India are increasing steadily in the past few years. The rate of exports growth on the other hand has shown a steady downturn. The industry needs to monitor this situation closely so that the balance of trade is maintained in the interest of the Industry.

PRODUCTION GROWTH OF THE NEWSPRINT SECTOR

The production of newsprint in the country has taken a beating since 2006 (figure-3). We do not expect this situation to change for the financial year 2008-09 as well. This has resulted due to a combination of factors. First and foremost, a declining demand in the west for newsprint suppressed prices, resulting in many global players pushing their product in the Indian market. There have also been reports of cheap newsprint being pushed in the India by China, which has spare stocks in the face of a slack in the demand in

the western world. Domestic newsprint demand has also been reduced on account of falling revenues generated from advertisements. Many newspapers have discontinued editions and merged magazines sections and supplements Fig-3

CHALLENGES CONFRONTING INDIAN PAPER INDUSTRY

With India becoming a member of WTO, it has become important for the industry to develop a strategy to (Million tonnes)

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 mixed economy, it had developed a feeling of complacency. For a long time, it often compromised quality, perhaps due to monopolistic conditions in a closed market scenario. Indeed, for the several decades, a major part of the Indian industry never really came to attach significance to terms such as market force, economy of scale, quality

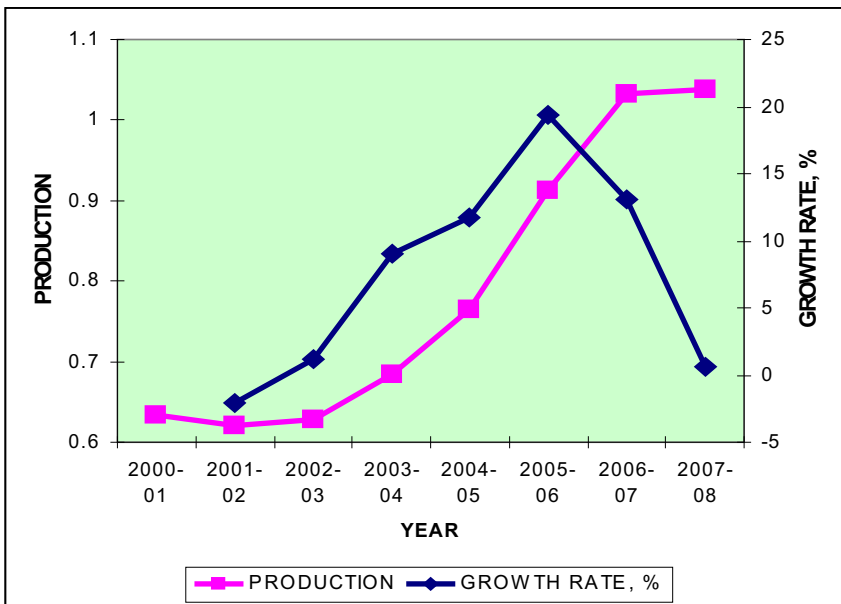


FIGURE 3 PRODUCTION GROWTH FOR NEWSPRINT SECTOR

(million tonnes)

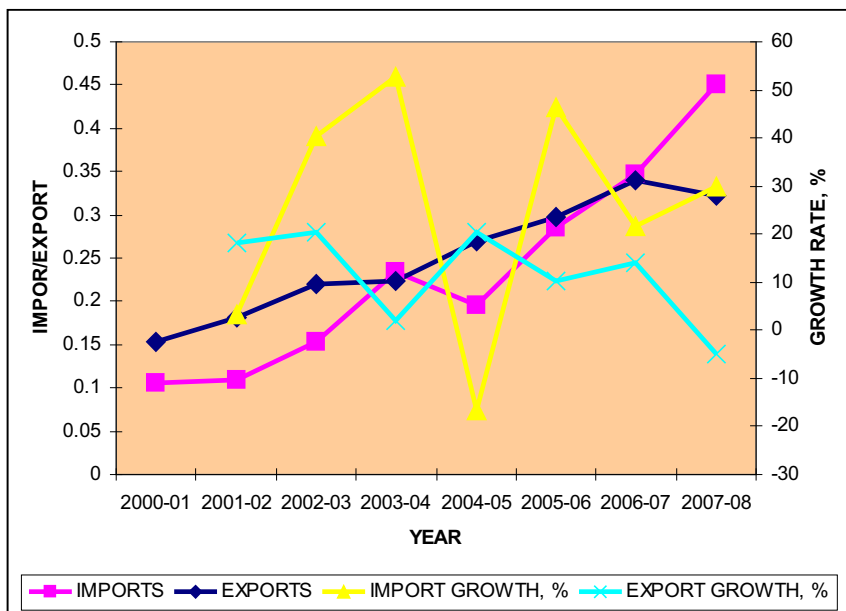


FIGURE 2 BALANCE OF TRADE FOR THE PAPER AND PAPER BOARD SECTOR.

and customer satisfaction.

But in the wake of the economic liberalization, triggered by the new economic policy of the government in 1991, the Indian paper industry found itself confronted with international competition. This also had an evolutionary effect on the traditional Indian management style, triggering a serious redesign of strategies to ensure survival. Today, the concept of globalization, eco cycle compatibility and other environmental issues are being integrated at the planning level by the major domestic players.

With India becoming a member of WTO and liberalizing its economy, it has become important for the paper industry also to evolve a strategy to become a globally competitive one. The industry in the last few decades faced with a number of challenges, particularly in the areas like

- Obsolescence of technology
- Non availability of good quality fibrous raw materials

Table-I: Fiber characteristics of available raw materials

	Softwood	Bamboo	Bagasse	Straws	Eucalyptus	Mixed hardwood
Fiber length, mm	2.7-4.6	2.0-2.8	0.6-1.5	0.6-1.3	0.7-1.9	0.7-1.6
Fibre width, μm	32-43	15-17	20-25	11-13	20-40	18-35
Primary fines content, %	1.0-2.0	12-15	15-20	40-50	12-16	13-18
Drainability, CSF (ml)	730-750	680-700	480-500	400-450	570-590	590-610
Quality	Excellent	Good	Average	Average	Good	Good

High cost of basic inputs
Environmental issues
Competition in global market

Obsolescence of technology

The mechanized paper production started using bamboo in 1852 and the industry has not kept pace with the developments.

Most of the paper mills operating in India are very old and are using outdated technology including plant and machinery. Machinery in some of the mills is more than 50 years old which lack modern process automation. Modernization of entire machines and process requires huge investment and mobilizing the financial resources is one of the major problems before the industry. Except a few mills, most of the paper mills in India operate on technologies which are more than 30 years old compared to average mill in Europe.

Non availability of good quality fibrous raw materials

At present about 64% of paper production is based on non conventional raw materials such as agro residues and recycled fiber and only 36% paper production comes from good quality of cellulosic raw material

i.e. forest resource. Sustained availability of low cost and good quality of cellulosic raw materials is one of the major factors inhibiting the growth of paper industry. The fiber characteristics of available Indian raw materials are shown in **Table-I**. The major part of Indian fibrous raw material i.e. bagasse and straw have shorter fiber length, fiber width, excessive amount of primary fines and low drainability as compared to wood fibers. In spite of these, reasonably good quality of paper is being made by Indian mills.

In terms of recycled paper, India's domestic collections are insufficient to meet the needs, and therefore it imports almost half of its recycled paper, mainly from US. In total India imports nearly 400,000 tonnes of pulp, 20,000 tonnes of recycled paper and about 2,500 tonnes of finished paper annually.

High cost of basic inputs

Steep hike in the cost of basic inputs viz. Energy, Chemicals and Raw materials is posing serious threat to the very existence of paper mills. Comparison of basic input consumption of Indian mills and mills abroad is given in **Table-II**. The energy cost of paper production has risen

Table-II: Consumption of basic inputs

Input Norms (per ton basis)	Mills in India	Mills abroad
Raw Material, tonnes	2.0-2.4	1.8-2.0
Energy, GJ	23-37	18 - 22
Water, m ³	80-150	25 - 80
Chemical Recovery, %	88-96	95-98
Manpower, Nos.	14-20	5-7
Technical manpower, Nos.	2	4

appreciably from 13% in 1975 to 30% in 2003. There is a need for benchmarking the performance of various operations for different category of mills with respect to energy consumption and environmental compliance including efficient process technology for improved economics and environmental advantage.

Environmental issues

The Indian industry recognizes that it is a polluter. The paper industry releases chlorinated compounds, dioxins and furans, wastewater are known to carry high levels of BOD, COD and suspended solids.

On the atmospheric side, the industry faces the daunting task of tackling the emission of non-condensable gases. The problem of solid waste disposal is also a major concern to the industry in the face of local environmental pressures.

The industry having realized the importance of being a clean corporate citizen developed the CREP charter in consultation with Central Pollution Control Board (CPCB). The major players took the lead and decided to restrict and reduce emission levels. The CREP charter for the large pulp & paper mills, which account for nearly a third of production, emphasizes the reduction of AOX emissions to 1.5 kg/tonne of paper within two years of March 2003. These large mills will have to install lime kilns by 2007. By the same year, all mills that use sulfur in the cooking process must have an odor control system.

These environmental requirements should keep the equipment vendors busy. The AOX emissions target presents opportunities for the introduction of ECF & TCF bleaching processes. Ideally, all mills going in for conventional recovery systems need to go in for lime kilns. Moreover, all mills will have to at least partially close the water loop to reduce water consumption. As per CREP requirements the level of water consumption has to be reduced to 100-125 m³/tonne. Present consumption is as high as 150 m³/tonne. There are some example of the mills which have achieved water consumption well below 50 m³/tonne and are aiming for even much more reduction

Competition in global market

Quality products at competitive price are necessary for effective global competition. The Indian paper mills are facing quality problems due to lack of

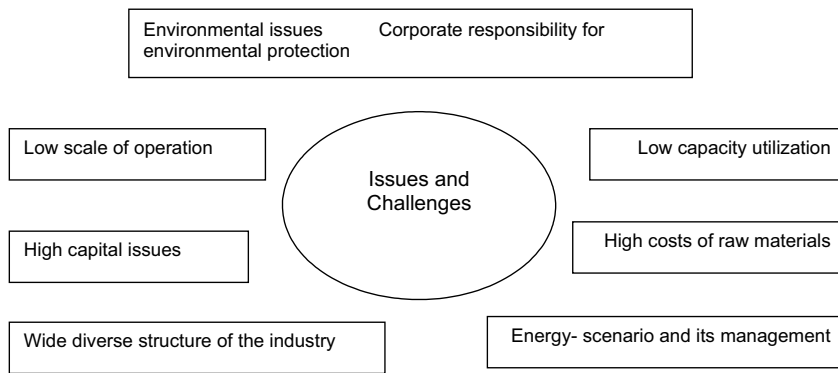


Fig. 4: Issues and challenges before the Indian paper industry

good quality cellulosic raw materials available in the country. The industry will have to ensure that it stays in open market competition by maintaining quality standards of product at competitive price. The Indian paper industry has a growth potential, but it cannot meet the growing demand unless the major constraints are overcome. Issues and challenges presently faced by the paper industry are summarized in **Fig. 4**.

ADDRESSING THE ISSUES- THE WAY OUT

Apart from the challenges faced by the industry on various fronts, the sector is operating keeping in mind the progress of the nation. Major operatives of the industry are in the forestry sector by way of developing a public private partnership to develop forest plantation to ease the fiber shortage. Similarly there are various other issues which industry is addressing by many other alternatives. The Government of India has taken up some initiatives to fill up the gap for the industry and has intervened to support the industry. Some of the policy interventions by Govt. to support paper industry are given below, so that Indian paper industry's competitiveness could substantially be improved.

Looking into Government's serious concern about the competitiveness of the paper industry, a study on "Global Competitiveness of Indian Paper Industry" was outsourced to M/s Jaakko Poyry Consulting Company, Finland by Central Pulp & paper Research Institute in 2003, to understand various issues relating to the growth and development of paper,

paper board and newsprint industry. The comprehensive report submitted after the study resulted in number of recommendations to enable the industry to become sustainable. The study also done strength and weakness analysis and predicted a good future for the industry. A task force was constituted for implementation of the recommendations to make industry globally competitive on following issues faced by the industry.

Raw material issues:

➤ Indian Pulp & Paper Industry uses diverse raw materials from forest resources, agriculture residues and waste paper. Wood being one of the preferred raw material for paper making, there is a trend towards increased use of mixed hardwoods in Indian paper industry from natural forests and eucalyptus from both farmers as well as from plantations. The JPC study had given thrust on revision of forest policy so that plantations can be increased. Study recommended that small percentage (about 5%) of degraded lands should be converted as "production forests" by having corporate involvement in the plantations. Degraded forest lands should be identified by state governments and offered to industry on long leases for plantations. Inter ministry approach had been initiated to identify the degraded forest lands for plantations by the industry. Though some state governments have expressed willingness to provide "degraded land", there are certain issues such as time of lease,

quantum of land made available, inter state restrictions on movement of wood/ felled trees etc. which the industry needs to clarify and negotiate before this scheme can be put in to practice.

- The waste paper used by the industry comes from both domestic and imported sources. Government is providing incentives for local recycled fiber paper producers in order to support them. As India moves towards a WTO enabled trade system duties on items of Chapter 47 of ITC-HS will be dropped. This will definitely ease the woes of the Industry based on recycled fiber. Nevertheless, the need of an efficient domestic post consumer collection system needs no underscoring. This becomes very significant as most developed economies are moving towards a situation where they will reduce if - not totally ban, the export of all recyclable material.
- Various Cess funded projects are being sponsored in order to support the industry. Studies have been initiated for clonal propagation of plant species to ensure high yield & improved quality of cellulosic raw materials for the industry and satellite mapping of the wood resources.

Technological issues:

Most of the paper mills operating in India are very old using outdated technology including plant and machinery. Modernization of entire industry calls for huge investment and mobilizing the financial resources is one of the major problems before the industry.

- In view of this a focused and time bound technology upgradation scheme (TUFS) has been proposed to provide impetus in modernization effort by technology upgradation in the industry. The objective of the TUFS is to provide funds for upgradation to improve competitiveness of the industry through;
 - Acquisition of proven technology of foreign or indigenous origin/design and drawing
 - Acquisition / license of patent rights
 - Acquisition of capital goods for transfer of process technology

Contractual R&D activities leading to technology upgradation of the unit within 2 years.

Technical support on production planning, quality management, inspection and testing including ISO certification etc.

The upgradation should lead to emergence of core competencies in critical areas including quantifiable increase in productivity, quality improvement with reduced cost, improvement in energy efficiency norms and better compliance with environmental protection legislations, safeguards for eco-sustainability of products as also compliance with legislation relating to patent etc. as per the WTO regime.

Financing:

- Under the liberalization policies, 100% Foreign Direct Investment (FDI) to paper industry has been allowed by the Govt.
- Various agencies like IDBI, ICICI, IREDA etc are willing to support and finance the Industry through long term loans at nominal cost for the Industry to upgrade their technology.

Environmental policy:

- Government is intervening to form uniform policy as regards to non-biodegradable materials (e.g. ban of plastic bags in certain states).
- Also Eco labeling scheme based on sustainable raw material base (wood/ waste paper/ agro) and

environmentally friendly processes is being encouraged.

Research and development:

- The Government has set up the most advanced R & D facilities at Central Pulp & Paper Research Institute, Saharanpur (CPPRI) to assist the paper industry in applied research related to pulping, papermaking, chemical recovery, energy and environmental issues.

H u m a n R e s o u r c e Development:

- Human Resource Development programs are also being undertaken at CPPRI. Industry is encouraged to exploit the R & D and HRD facilities at CPPRI.
- Indian Institute of Technology, Roorkee (IIT,R) is also providing assistance to the industry by producing technically skilled manpower in the area of pulping & papermaking.

Conclusions

There have been many comments and studies on the Indian paper industry. Not very long ago, analysts were declaring with confidence that globalization has finally caught up with the paper industry. There was a flurry of activity and the market was abuzz with news of capacity expansions being announced by many players. All seemed to be going well when almost out of the blue the major economies of the world derailed. The ripple down effect took its toll on industry

sentiments if not the actual performance, exposing one of the fall outs of globalization. Therefore, the industry must look in to and develop the local market, which has provided it with much solace in these tough times. One would be tempted to say that technological upgradation in the pipeline will ultimately make the industry competitive at least regionally, so that a proper balance of trade is maintained at least in the paper and paper board sector.

Subsequent to the implementation of various recommendations of the JPC study, Government of India has in principle agreed to conduct another study, from a suitable consulting firm, looking into the requirement of the industry to assess its current status. Based on the fresh study a new set of operative recommendations may emerge and which would help the industry to further consolidate its sustainability. The Indian paper industry with the support from the Government has, therefore, a good future ahead and efforts are required by the industry to improve their competitive strengths with the support of Govt. Adoption of modern technology, innovation and R & D support to the industry, will play a major role to address the various challenges faced by the industry.