

Raw Material for Indian Paper Industry: Present and in Prospect

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An ambitiously developing country like India, which is keen to promote all round growth has to consistently endeavour and apply its mind for exploring potential for producing, within its own resources, significantly more and more quantities of Paper and Boards which commodity is so vitally and essentially required to meet the Plan Targets in the field of education, culture, Government and office work, industrial demand for packaging and lamination and a substantial quantity of Newsprint.

India, a country having population of 550 million at present is producing .8 million tonnes of Paper and Boards including Newsprint keeping per capita consumption at 1.9 kg relegating the country at as low ebb as 80th place in the world. From the point of view of quantitative production also, our country does not find place amongst the first 20 countries in the world.

However, the rate of growth in paper consumption has been faster than growth rate in national income and industrial production. The National Council of Applied Economic Research of India has estimated the demand at 1.15 million tonnes including Newsprint by 1975-76 and 2.4 to 2.5 million tonnes including Newsprint by 1980-81 and keeping in view the above, the NCAER has re-

commended paper production capacities to be expanded as under by 1975-76 in the first phase and by 1980-81 in the second phase be

The estimates below and recommendations warrant expanding the present capacity by about double during the next four years and to

Paper Grade	Capacity (000 tonnes)	
	1975-76	1980-81
Cultural	825 — 875	1,200 — 1,250
Industrial	525 — 575	750 — 800
Newsprint	200 — 300	450 — 500
Total	1,650 — 1,750	2,400 — 2,550

trebled during the next one decade.

Paper Industry in India today is highly capital intensive and for installation of new paper units, the investment in the range of 150 - 200 tonnes per day capacity plant will be of the order of Rs. 8,000/- per tonne per annum capacity. Interest and depreciation alone thereupon will demand an absorption to the extent of 65% of the selling price of paper leaving a little margin to be covered by other costs such as Raw Materials, Chemicals, Power, Steam, Salaries, Wages etc.

The next most important factor is the availability of suitable cellulosic raw materials in sufficient quantities at reasonable and economic price. The subject-matter to be discussed being the Raw Materials, I would like to touch this aspect only as it stands at present and in prospect.

The availability of coniferous woods, which is the basic raw material for producing paper and boards in most of the countries in

the world, is available by limitation in India and whatever is available is inaccessible except in very small quantities. In India today, Bamboo stands as basic raw material for producing of paper, availability whereof is also limited. The paper mills in the eastern region in particular are starved of raw materials even to sustain their present production capacity and have to resort to procurement of same from different states from very long leads at comparatively very high costs and have been forced to use substantial quantities of hardwoods which also have to be transported from long distances.

The availability of raw materials for other mills is also limited providing marginally sufficient raw materials to sustain the present capacities, but leaving little scope for expansion. The establishment of new paper units is also posed with an overall problem of availability of suitable raw material in sufficient quantities at economic price.

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As per figures published in "PULP AND PAPER INTERNATIONAL 1972", production of paper in India has been 821,000 tonnes against which pulp production has been only 640,000 tonnes, the balance apparently made up by import of pulp, re-use of waste paper and addition of fillers.

Out of the total bamboo resources available in the country estimated to be at 4 million tonnes to be theoretically exploited annually from the natural forests, the same to the extent of 1.5 million tonnes is exploited at

present to feed the existing paper units. Quite some quantities of bamboo in Assam and Bastar region of Madhya Pradesh in big bulk *inter alia* remain unexploited. Comparatively small quantity is being supplemented by coniferous long fibrous woods and by hardwoods in few paper mills only.

To meet the estimated demand of paper and boards during the next one decade as per indications given above, the requirement of fibrous raw materials by 1975-76 and then by 1980-81 is estimated to be as under:

Figures in 000 tonnes

	1975-76	1980-81
Demand for Paper and Board including		
Newsprint	1,500	2,200
Estimated production of pulp	1,400	2,100
Requirement of Cellulosic raw materials (on B.D. basis)	3,600	5,300
Expected availability of Bamboo :		
(a) from natural forests	2,000	2,500
(b) from plantations	200	500
	2,200	3,000
Shortfall to be made up	1,580	2,300

The above is substantially a big gap to be made up within a short span of a decade. The problem appears to be still more acute when a solution is to be found out to meet the requirement expected to emanate within a short span of 4 to 5 years.

In regard to raw materials also, the problem is having two important facets viz (1) availability of raw materials of comparatively inferior quality and (2) in lesser quantities than required at present and in future.

To meet the challenge to produce to the extent of envisaged demand

and to make the raw materials through a short term solution for the next five years as also a long term solution to cope up with the requirement at the end of 1980-81 and in future has to be found out. Within a short span of 4 to 5 years, the gap possibly cannot be bridged by resorting entirely to the new plantations and as such existing hardwood resources have to be exploited in a major way. A long term policy has also to be implemented in the right earnest with a view to make available additional quantities of bamboo as also other fast growing species of

suitable wood.

Whereas paper and boards required for cultural and industrial use cannot be made by use of 100% hardwoods, such woods can make a major contribution by way of mixture thereof with the long fibred raw materials. Inspiration can readily be drawn from countries like Japan which use substantial percentage of hardwoods and Australia counting upon the use of different species of eucalyptus for manufacture of paper and boards in their country in a major way as a principal raw material.

It is gratifying to note that the problems relating to the availability of raw materials to meet the envisaged demand of paper and board in the country in future has attracted the attention of the Planners and they are actively engaged in the tasks of developing requisite areas in different states to be planted by Bamboo and other fast growing species. Creation of raw materials by plantation in itself is highly capital intensive project and involves huge spade work to be done all over the country in a planned and phased manner.

Looking to the paucity of time at the command during which period substantial expansion in the industry has to come forth, the pace with which the plans are being finalised and implemented happens to be a matter of great anxiety.

To illustrate the point only paper mills situated in the State of Bihar finds itself in a state of highest anxiety to meet its ends to sustain the existing production capacity and to contribute to the challenge by coming forward for an early expansion. Out of the total bamboo bearing areas available in the State of Bihar which hardly sufficient to meet the demand

of the paper mill in its own state, only about 50% raw material is available to the mill. The balance raw material has to be cured from other state which states are generally having a policy of conserving the raw materials for the existing and future paper mills to be set up in their own state and little quantity being allowed to be taken away on year-to-year basis leaving the paper mill in the State of Bihar under constrain of planning for raw material on year-to-year basis. The expansion plans are handicapped pending clearance from the state government by way of assurance to make the requisite quantity of suitable raw material available. Practically all the existing paper mills in the eastern region are confronted with similar situation. Besides disproportionate increase in the cost such state of affairs demands movement of raw material from very long distances and on account of inadequate capacity of Indian Railways, quite some material continues to lie undespached for quite some years causing starvation to the mills and allowing the precious and scarce material to decay perish by obsolescence.

In the context of the above said situation, the matter of making available raw materials for existing factories to sustain its present production capacity, to enable them to undertake expansion plans quickly and for installation of new paper units of economic size in a planned way, has to be planned and pursued in the right earnest to meet the challenge.

To meet the objective, the following approach has to be evolved:—

- (a) Maximum possible utilisation of the existing unexploited

natural bamboo forests.

- (b) Maximum utilisation of mixed hardwoods which are readily available to meet the first phase of growing demand which is likely to emanate by 1975-76.
- (c) Plantation of Bamboo in suitable areas nearest to the existing and proposed units.
- (d) Plantation of fast growing species of comparatively good quality of hardwoods such as eucalyptus and such other species of which Indian paper industry can make use of.
- (e) Evaluation of suitable methods of proper storage of bamboo and hardwoods in a bid to conserve raw material by saving it from decay.

The problems warrant to be tackled at the National level instead of the same being delegated to the states which in accordance with its suitability follow different policies in the matter of allocation of existing areas, development of man-made forests, exploitation of additional available resources and fixing prices for forest produce by way of royalty.

The situation also casts a big responsibility upon the technologists to explore the possibilities and evolving the methods to use maximum hardwoods without impairing the quality of paper being produced in the country. Consistent research and pooling of knowledge, however, will bring about a solution in sight. Particularly during the period of next five years when production of paper and boards is envisaged to be practically doubled, the industry can hardly count upon any material out of plantations or man-made forests

by maximum use of mixed hardwoods having short fibre available from the natural forests. The use of mixed hardwoods of different varieties, allocation thereof and existence of different properties therein in regard to chipping, cooking, bleachability and runability on machines warrant significant contribution from the technologists to enable maximum use of such raw materials.

As the growth of paper industry and development of raw materials, therefore, should have a systematic and coherent plan at the national level, it is proposed that:—

- (a) An organization shall be set up at national level which shall have representatives of Government and industry which shall review the present position and plan the future keeping in view all relevant dimensions for quick and healthy growth of the industry and exploitation and development of the natural forests and creation of the man-made forests in a planned way keeping in view the short term and long term growth of the industry consistent with the envisaged demand of paper in the country.
- (b) It is, therefore, a matter of utmost importance that to the extent possible, man-made forests should be developed in the vicinity of the existing paper mills to obtain maximum relief by way of national investment on creating paper mill capacities and for this purpose the nearest available hardwoods should be felled in a phased way and plantations made at the earliest keeping in

view the future growth and site of the plantation.

- (c) In view of the fact that the industry is required to make rapid strides now and in future the technologists have to apply their minds in right earnest to acquire knowledge by its import from countries like Japan and Australia and research within the country and thus pool the current and latest know-how for use of the tropical hardwoods for manufacture of paper and for this purpose the government and the industry should address itself in the pursuit of research and all financial encouragement and subsidy be granted for this purpose and the knowledge so obtained should be widely spread amongst the paper industry in India.
- (d) The allocation of the present and proposed available raw material be made on the basis of nearness to the factory instead of different states following different policies in the matter of their allocation, keeping the industrial growth retarded.
- (e) Immediate steps have to be taken to plant in sufficient quantities quick growing species of suitable woods for manufacture of paper keeping

in view the nearness to the existing and proposed factories, and availability thereof in a consistent way at an economic price.

- (f) Sufficient guidance will be readily available in the matter of developing man-made-forests by fast growing species of woods and use thereof to the maximum extent, from countries like Japan and Australia. The government as also the industry should lose no time in equipping itself with the know-how available and pool the knowledge through an agency like IPPTA, which may open a separate cell for the purpose.
- (g) Industry shall take all possible steps in the matter of improving the systems of stock keeping of raw materials in forests as also at the mills. For this purpose also necessary knowledge should be developed and pooled.
- (h) The price of raw material for industrial use by way of royalty should also be decided by way of commonly applicable national policy having rational approach which shall *inter alia* take into account the concept of industrial use of forest produce versus commercial use thereof, forest utilisation and development by cultural operations, employ-

ment, potential for working of the forests, additional revenue to the exchequer by way of taxes on production of paper and boards, development of the area by way of putting up means of communications etc. Of course, suitable incentives should be given to the new units to come up and such other incentives in regard to the existing units so that the cost of Bone Dry material ex-Mill is more or less equalised in the country which is an important task for allowing industrial development to occur in each state. In any case, in the interest of industrial development, unscrupulous competition amongst the buyers in the matter of rate of royalty just to increase the revenue with a short term approach should not be allowed to be adopted.

- (i) For research and development each paper unit should handle a suitable sized farm for carrying out continuous research and development in regard to various species of woods.

However, the entire problem needs consideration at the national level and evolution of common national policy for the growth of paper industry and development of raw materials therefor.