A Brief Review on Some of the Problems of Raw Materials for the Paper Industry

KALE, R.B.,* GHOSH, D.*

After independence the import of paper and paper boards, besides newsprint and other categories of special grade of paper and pulp continued in significant quantities for some years. In 1950–51, India imported about 30,000 tonnes of paper and paperboards. The imports kept on increasing upto 1955–56 and shot upto 50,000 tonnes. Thereafter, there has been a gradual decline in the import of paper and paperboards. As against the requirement of 200,000 tonnes of newsprint, we are, at present, producing 55–60,000 tonnes in the only public sector newsprint mill at Nepanagar.

Capacity requirement for paper industry in the 5th, 6th and 7th Five Year Plans has been estimated as shown in Table—I

TABLE—I

CAPACITY REQUIREMENTS FOR PAPER INDUSTRY FOR Vth, VIth AND VIIth PLANS

Industry Sector	**Capacity Requirement (in thousand tonnes)**		
	1978–79	1983–84	1988–89
Paper and Paperboard	1350	1895	2645
Newsprint	400	570	800
Rayon Grade Pulp	230	310	400
Paper Grade Pulp	100	135	180
Straw & Mill Board	120	135	150

*Hindustan Paper Corporation and U.N.D.P. Project, Delhi.

This means that an additional capacity for paper will have to be created as under :

TABLE—II

ADDITIONAL CAPACITY REQUIREMENT FOR PAPER

Paper Variety	**Additional Capacity Requirement (in thousand tonnes)**		
	1978–79	1983–84	1988–89
Printing	101	267	460
Writing	49	123	212
Total :	150	390	672
Industrial Papers:			
Kraft Brown & Wrapping	82	210	425
Others	17	65	131
Paper Boards	71	200	387
Totals	170	475	943
All Paper & Paperboard	320	865	1615

The National Commission on Agriculture in their Report have estimated the total industrial raw material requirement by 1980-90 as given in Table—III.

The Table–III indicate that due to increase in the requirement of wood both for pulp, paper and allied industries and other industrial uses, the problem of finding suitable raw material in sufficiently large quantities for meeting the future demands will need very serious attention.

TABLE—III

TOTAL INDUSTRIAL RAW MATERIAL REG. BY 1980 and 90

	By 1980				By 1990		
	Conifers in ,000 M^3	Broad leaved in ,000 M^3	Total in ,000 M^3	In ,000 T	Conifers in ,000 M^3	Broad leaved in ,000 M^3	Total in ,000 M^3
	1	2	3	4	5	6	7
Pulpwood	1,555	3,478	5,033	—	4,461	8,271	12,732
Saenwood & Sleepers	1,816	10,836	12,652	—	2,395	14,605	17,010
Panel Products	109	755	944	—	281	1,126	1,407
Roundwood	1,385	5,542	6,927	—	1,887	7,549	9,436
Total Industrial Wood (Excl. bamboo)	4,865	20,611	25,556	—	9,024	31,551	40,585
Bamboo for paper pulp				2,199			1,954
Bamboo for other uses				2,173			2,960
Total bamboo				4,372			4,914

Bamboo was so far the main raw material used in pulp and paper industry but now the supply is becoming dwindling and the only areas having bamboo surplus are (i) forests of North Eastern Region, (ii) forests of Bastar and (iii) some forests in Koraput district of Orissa, which are mostly far away from the existing mills. Agricultural wastes, bagasse etc. can not be collected at one place in large quantities because of heavy contesting demands for feed and fodder and also high transport cost on account of their bulkiness. Softwood coniferous forests in India occur only over about 4% of the total forest area in the country and constitute only 14% of the total growing stock. For want of modern techniques of logging and extraction only very limited quantities of these forests are being utilised at present. Besides it has not been possible to introduce intensive management in these forests for various reasons. The bulk requirement of pulp, paper and allied industries are, therefore, unlikely to be met from coniferous forests, however, suitable they might be as raw material. The only other alternative source appears to be the extensive broad-leaved hardwood forest of Central and South India, the bamboo forests of North Eastern region and Bastar etc. and the new raw material which may be created for pulping purposes by raising plantations of suitable fast growing tree species. Projects for setting up additional capacities based on bamboo forests of Assam have already been undertaken and shortly large sized integrated pulp and paper mills are likely to come up in these regions. Thereafter, the only dependable source for creation of significantly large capacities, additional capacities at new mills or increasing capacities at existing mills, will be from the plantation wood, the bamboo forests in other states of the North Eastern Region, Bastar District and Koraput district. The mill delivered cost of raw materials from these forests will be very high today specially in the North Eastern region where are required infrastructure is almost absent.

In India most of the paper mills started with smaller capacities and expanded to their present capacities gradually. These mills with their expanded capacities are now faced with serious constraints due to non-availability of raw materials in sufficient quantities. The demand for bamboo and other woods has also considerably increased with the advent of rayon industry which utilises raw material identical to pulp and paper industry.

According to the Constitution of our country forestry is a subject on the concurrent list. The forests are controlled and managed by the respective State Govts. There are no significant forest areas now under privtae ownership/management. The forest lands have, therefore, always been the preserves of the concerned State Govts. The responsibility of feeding the pulp, paper and allied industries with the requisite raw materials supply, therefore, rests with the State Govts. The State Govts. are constantly jacking up royalities year after year and are obtaining higher relisations for the raw materials supplied to the paper mills. The industry on the other hand fells that the State Govt. should not raise royalties on raw material as they get huge direct and indirect revenues in the form of :—

(*a*) Salestax on the sale of Paper and by-products;

(*b*) Proportionate income from Excise duty;

(*c*) Proportionate income from Incomtax; and

(*d*) Many other indirect revenues and benifits which accrue due to development of the entire countryside by the establishment of pulp and paper industry.

The Pre-investment Survey of Forest Resources has estimated recession in forest areas at a rate higher than 1 per cent per annum. The growing demand of cellulosic raw materials for the pulp and paper industry, recession in forest areas, increased in the royalties by the State Govts. and increased cost of transportation over longer leads to the mill site are now rendering setting up of new capacities in the field of pulp and paper more and more unprofitable to the entrepreneurs. The pulp and paper industry is highly capital intensive and the capital investment in setting up new units has gone as high as Rs. 12000 per tonne annually which means that the incidence of depreciation and interest liability alone will be to the extent of Rs. 2400 per tonne of production. This leaves the new unit with a balance of about Rs. 1600 to meet the entire cost of production including profits, if any (?). This adverse economics dampenes the enterpreneurs interests in setting up new units which ultimately leads to a chronic shortage of paper in the the requirement of paper is bound to increase because of the increase in population, increase in the percentage of literacy, the development of industry and the income elasticities in the direction of higher per capita consumption of paper. In fact, the per capita consumption of paper is considered as an index of prosperity and industrial development of a country.

The National Commission on Agriculture in their Report have rightly pointed out that large scale man-made forest will have to be created to meet the future requirements of industrial raw material. They had also anticipated that it will not be possible for the State Forest Deptts. to find sufficient funds to raise these man-made forests and therefore the Commission had suggested creation of forest Development Corporations for seeking institutional financing for raising these plantations. A large number of States have already formed Forest Development Corporations. These development Corporations have yet to develop a meaningful liaison with the industry with the result that the industry is suffering by way of shortages of raw materials at present and the shortages are likely to increase at galloping speed in future. It has also been observed that the Forest Deptts./Forest Development Corporations in the matter of allotting lands for raising plantations for different purposes are generally seen to be guided by the following considerations.

(i) The best available land for raising plantations are earmarked for raising valuable timber species like Teak, etc. by the State Forest Deptts.,

(ii) The areas allotted to Forest Development/ Plantation Corporations for their "Development Programme" are also the best productive areas. These Corporations in their turn earmark best areas for raising plantations of valuable timber species etc. and the balance areas are utilised for raising industrial plantations; and

(iii) The area usually offered for raising industrial plantations is the balance poor quality area left out after allottment as in (i) & (ii) above. This area need not be close to the mill-site. The per hectare yield of short rotation crops from such areas is considerably low.

It is doubtful whether the industrial plantations raised on the third category of areas (as mentioned above) will come upto cater the future requirements of wood for pulp, paper and allied industry because of their (1) high plantations costs, (2) low per hectare yield resulting in a very high figure of per tonne stumpage value. If these plantations are raised without taking into consideration the lead from the mill site—the industry will not be able to pad up this high stumpage value with high transportation costs. Thus, the allottment of this third category of areas for raising the industrial plantations may set at naught the very purpose for which these plantations are proposed to be raised. This issue therefore needs to be very carefully examined preferably in consultation with the industry and settled rationally.

The present bottleneck against raising of captive plantations by the paper industries is mainly the provisions contained in the Land Ceiling Acts, which have been passed by several states. It is time that matter is examined at appropriate level to enable making provisions for the paper industry to raise captive plantations on line with rubber, tea and coffee estates.

The forest being an open treasure their protection against biotic factors will always pose a serious problem. It will, therefore, be necessary that the paper industries entrusted with the task of raising these captive plantations are properly delegated with necessary powers for the effective protection and efficient management of these plantations, if neceesary by making suitable amendments to the Indian Forest Act.

It is also a well known fact that the young bamboo regeneration which comes up after gregarious flowering of bamboos does not mature early to give exploitable clump. This creates great hardships to the excessive grazing are the main factors contributing to this factor. In the forests with heavy incidence of cattle and grazing large investments are required to be put in to bring about early and timely maturing of bamboo regeneration into clumps. A case study conducted in this connection for the forests of South Karnataka revealed that nearly Rs. 3 to 5 lakhs would have to be invested to rehabilitate the bamboo stocking to its preflowering quantum. In the absence of such an investment the forests which were earlier well stocked with bamboos will become devoid of it after the gregarious flowering creating in-surmountable difficulties to existing mills.

At present most of the paper and pulp industries are not properly staffed with the required number of their own forestry personnel to deal effectively with the problems of raising plantations, maintaining and protecting the same against the various interferences. Moreover, the Forestry staff employed by the paper industry are mostly not well qualified who can effectively deal with the problems of the industry. The facilities of training in different fields imparted by the various institutions mostly under the Ministry of Agriculture & Irrigation, Govt. of India can be effectively availed of. Training in Logging and Extraction is imparted by the Logging Training Centres Project, Dehradun can be quoted as an example. So, it is imperative that raising such extensive captive industrial plantations will make a big demand on the requirement of their own forestry personnel for which the indigenous facilities will have to be considerably augmented.