A case for an accelerated plantation programme for the Paper Industry

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It is aniomatic that both developing and developed countries of the world are keen to promote the growth of the paper industry despite the fact that in some of the advanced countries like Japan, synthetic paper production has got a boost due to dearth of cellulosic raw-materials. In India, the need to increase paper production is far more pressing due to the existing low per capita consumption (of 4 lbs thereby relegating the country to the 80th place), a fast rate of population growth in excess of the world average, to improve literacy and for greater economic growth of the country. No Government can ever ignore the "revolution of rising expectations" which we are now facing.

In this context, Japan can be held up to us as an example to emulate. In spite of severe damage during the last war and dearth of raw materials, paper industry in Japan has taken a great leap forward during the last 25 years. Japan now expects to be the world's second largest producer of paper, ranking next to U.S.A. In concrete terms, Japan's paper output before the war (1940) was around 1.55 million tonnes; it increased to 1.9 million tonnes in 1954, further rose to 4.5 million tonnes in 1960 and 11.3 million tonnes in 1969. Japan had nearly 651 pulp and paper mills in 1971 as against 57 in India and its paper production was almost 14 times of ours in 1969. How can this be explained ? The reasons for Japan's success are obvious. The present growth rate has been brought about mainly by economic factors. In Japan there is no dearth of technical or chemical inputs. But the raw-material shortage has been bridged up partly by import and partly by an ambitious plantation programme following a supply and demand survey.

Let us now take a close look at raw-material situation. In April 1966, Japan had just over 25 million hectares under forests. This is roughly 1/3rd of ours. But of this, nearly 8 million hectares or 30% comprised of planted forest as against a meagre 0.68 million hectares in India. Consequently the total wood output in Japan was around 651 million cums, almost three times our production. Japan's average planting rate was 399000 hectares during 1960-65, which was almost 3/4th of our total Third Five Year Plan target. Its target for 1975 (10,600,000 hectares) was more than ten times of our Fourth Five Year Plan target. The long-term perspective plan for the years 1985 (126,40,000 hectares) and 2015 (134,20,000) was still more ambitious. These plantations were to be predominantly of confers i.e. nearly 10 million hectares by 1975. Besides the normal expectations of getting pulp wood from the planted forests, some of the Industries had also to cut across the national border to overcome paucity of lands at home and build up their industrial raw-material by plantations in foreign countries like Philippines, Indonesia and Singapur. The Japanese experience demonstrates that raw-material gap can be bridged up and in a country like India, even closed through a crash programme of plantation.

Let us turn to the Indian scene. Around 1940, India's paper production was negligible, but it rose to 0.19 million tonnes in 1954. 0.35 million tonnes in 1960-61 and a little more than 0.75 million tonnes in 1970-71. Although the targets set out during the First and Second Five Year Plans were exceeded the target for the Third Five Year Plan could not be reached. The physical achievement in 1970-71 was also below 50% of the estimate of demand of paper, pulp and newsprint prepared by the committee on the National Resources of the Planning Commission Corresponding to a consumption target of 3 Kgs. Several factors singly or in combination are believed to be responsible for the drag in growth. Among the main are : scarcity of raw-materials, inadequate foreign exchange, non-availability of imports for spares, increasing production cost arising out of rising wages, increased cost of materials and freight charges as also the excise levies. The Paper Industries in general appear to be under no obligation to tell the State Forest Departments their capacities under production and scheduled for expansion and to the exact extent raw-material shortage has hampered their growth.

As the matter stands, there is no scarcity of raw-materials in India for

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paper production. The problem is partly local and partly artificial. It is local because in a number of cases, the industries have been located far away from raw-material sources due to historical, political or other economic reasons or by accident. These industries have to move farther in search of raw-materials which enhances the transport cost, hence the cost of production and profitability. It is artificial, because most of our paper mills appear too much addicted to coniferous wood and bamboo, both of which are available in limited quantities. Potential availability of bamboo from the country's forests has been estimated around only 4.0 million tonnes. The coniferous forests over nearly 3 million hectares in the high Himalayas constitute a very small fraction. Efforts are being made here to improve production through adoption of better silvicultural techniques and transport. There was some thought to bring down wood chips along pipelines. As against this, we have in India vast quantities of hardwood remaining unutilised or underutilised in most of the states, particularly M.P., Orissa and Assam. The low cost hardwoods, lop and tops and wood chips can be laid for the paper industries, by adoption of suitable pulping process. In this respect, we have much to learn from Japan.

The raw-material situation at present as depicted above should not lead us to a state of complacency because the paper industries now appear to be poised for a massive break-through. With the present rate of growth, the Fourth Five Year Plan target of 1.0 million tonnes of paper and newsprint was likely to be achieved in 1973-74 but the projections for 1975-76 and 1980-81 would look unrealistic at the present stage. This is because, a study by the FCAFE Secretariat shows that industrial growth rate in India during 1975-80 may be around 6.3%. Even then for several reasons, economic and political, it is better to set high targets and make all out efforts to achieve them.

The Planning Commission's assessment of annual requirements and availability of pulpwood during the next ten years corresponding to a production target of 2.85 million tonnes and 4.2 million tonnes is of the following order :

Taking for granted that the physical target of plantation set out for the Fourth Five Year Plan is fully achieved, the plantation are full bearing and yield the expected annual increment of 10 cums per hectares per annum, then by 1984 when all the plantations would begin to fructify, the yield from these plantations would be around 5.5 million cums, sufficient to sustain pulp and paper mills of just over 1.5 million tonnes capacity. But the experience in certain states belie this prospect. For example in Kerala, the plantations of quicking species have already shown signs of fungal damage. In other states also there has been no realistic evaluation of output by

million tonnes

	1970-71		1975-76		1980-81	
Annual requirement of pulp wood	LF	SF	LF	SF	LF	SF
	1.50	3.80	2.45	6.50	3.60	9.60
Availability :						
(a) Long fibre						
(i) Bamboo from natural forests.	1.50	—	2.0	—	2.50	—
(ii) Bamboo from natural Plantation	0.03	—	0.23	—	0.46	—
(b) Short fibre						
(i) Pulpwood from fast-growing plantations	—	—	—	0.35	—	4.20
Total	1.53	—	2.23	0.35	2.96	4.2
Shortage	—	3.80	0.22	6.15	0.64	5.40

To bridge the gap in the shortage of pulpwood, the study recommended for creation of 4,00,000 hectares of plantation of long-fibred and short-fibred woods during the Fourth Five Year Plan and at least to the same extent in the Fifth Plan. The areas planted under quick-growing species in different states so far is given in the table on next page.

what Takle once called "an alert and knowledgeable evaluation agency". Again, if the last five years' average annual growth rate of 8 per cent in this Industry is maintained in the next 10 years, paper production in 1984 can be safely estimated at 1.8 million tonnes. Even on the basis of such a conservative estimate of production there will

be shortage of pulpwood in substantial quantities around 1984. It may then be difficult to mobilise hardwood of this magnitude for paper-mills in view of possible competing claims from other wood-based industries. As a result the paper industry shall have to fall back mainly upon pulpwood plantations. Such a situation can be avoided if a far more aggressive plantation programme of fast growing high yielding species than that is being pursued at present is launched from now on, around the existing and potential mill sites to create suitable raw-material base. There has to be some safeguards, as plantations are fairly capital-intensive enterprises and no government would like its investment to lie idle if the industrial possibilities recede to the background. In other words the plantation programmes have to be thoroughly co-ordinated with the industrial programmes and possibilities. These plantations have to be raised by the forest departments on forest lands owned by Government, (funds for this has to be found from external sources if necessary) even though the paper industry has a feeling that it has no control over the forest resources in India as the forests vest with the Government. Some of the paper-mills have their own plantation of fast growing species though on a small scale. No doubt such a measure would make the industry self-reliant in respect of its raw-material, but such plantation by the industry only outside the forest areas would be welcome. There should be no dual polity of raising and managing plantations of

(thousand hectares)

Sl. No.	State/Union territory	Physical target achieved at the end of *1968-69*	Targets for the Fourth Plan *1969-70*	Physical achievements for *1969-70*	Physical targets for *1970-71*	Anticipated achievement *1970-71*	Targets for *1971-72*
1		2	3	4	5	6	7
1.	States	252.46	278.55	45.92	44.72	44.97	49.16
2.	Andhra Pradesh	12.80	6.00	1.69	1.81	2.01	1.20
3.	Assam (general)	5.80	6.55	0.70	na	0.65	1.40
4.	(hill areas)	1	1	1	1	1	1
5.	(total)	5.80	6.55	0.70	0.65	0.65	1.40
6.	Bihar	11.50	12.00	2.40	2.40	2.80	2.80
7.	Gujarat	11.80	13.80	2.69	2.64	2.52	2.61
8.	Haryana	4.05	1.80	0.50	0.43	0.40	0.20
9.	Himachal Pradesh	3.74	22.00	0.87	0.93	1.27	2.20
10.	Jammun & Kashmir	0.50	20.00	—	—	—	—
11.	Kerala	17.50	12.60	2.18	2.14	2.35	0.70
12.	Madhya Pradesh	26.50	16.00	4.28	4.00	4.00	3.00
13.	Meghalaya	2	2	2	2	2	2
14.	Maharashtra	25.60	9.30	0.63	2.42	2.17	1.06
15.	Mysore	40.40	51.06	8.38	8.00	8.00	10.00
16.	Nagaland	0.07	0.64	0.01	0.09	na	na
17.	Orissa	20.30	15.20	2.02	2.06	1.85	3.64
18.	Punjab	2.70	4.50	0.54	0.25	0.25	0.90
19.	Rajasthan	0.50	—	—	—	—	—
20.	Tamil Nadu	8.80	12.00	2.48	2.40	2.40	2.25
21.	Uttar Pradesh	51.30	70.00	13.55	14.00	14.00	14.00
22.	West Bengal	8.80	5.10	3.00	0.50	0.30	3.20
23.	Union territories	6.00	20.00	0.42	0.30	0.30	0.50
24.	Goa, Daman & Diu	4.40	20.00	0.42	0.30	0.30	0.50
25.	Tripura	1.60	—	—	—	—	—
26.	Total	258.46	298.55	46.34	45.02	45.27	49.66

forest species on Government owned forests. The state forest departments have the machinery and expertise to do it. Management can be suitably oriented to ensure supply of raw-materials to the industries in quantity and quality according to schedule. The ticklish problem of royalty can then be settled across the table. In fact it may not at all be such a formidable problem if the industry tries to reduce its cost of production on other heads of services like chemicals, power, freight and packaging, repairs and depreciation etc. In fact in India, the cost of raw-materials is only 19% (Rs. 249/-) of the Japan.

There is no doubt now that the paper industry would make a significant contribution to the rapid development of the country in the years to come. Its importance in import saving and export promotion is immense. A high level policy decision has now to be taken to ensure fullest support to the development of the industry in the country and this should be made widely known. Besides this, a specific strategy for development and location of the Industries and pulpwood plantations in the country during the next twenty years should be worked out jointly by the Government and Industry. More appropriately, high-powered Development Boards should be set up both at the centre and the states consisting of the representatives of Government and Industries, vested with authority to co-ordinate forest and industrial planning, take effective steps to check the trend in requirements, ensure raw-material supply and guide the development of the industry in all phases of implementation.

Paper industry in India is now poised for a big leap forward and with Government encouragement and assistance things may soon start looking up.