
STUDY MISSION TO INDONESIA & MALAYSIA

STUDY ON

**SUSTAINED FIBRE AVAILABILITY FOR PAPER INDUSTRY :
EXPERIENCE OF OTHER DEVELOPING COUNTRIES**

NOVEMBER 9-19, 1997

REPORT OF THE MISSION

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CHAPTER I

Preamble

1. Background

- 1.1 In view of the growing shortages of wood based raw materials for the pulp & paper industry in India and need for the industry to prepare itself for achieving international competitiveness in respect of quality and costs, a Study Mission visited two friendly developing countries i.e. Indonesia & Malaysia during the period of November 9-19, 1997.
- 1.2 The Development Council for Pulp, Paper & Allied Industries, set up by the Ministry of Industry, Government of India, sponsored the trip based on the proposals received from Indian Paper Makers Association (IPMA). Funding for the travel and other related costs was provided by the Development Council through Cess Funds collected from Paper Industry and released through the Ministry of Industry, Govt. of India.
- 1.3 All arrangements for local travel, fixing meetings with concerned Government Departments, Wood Based Industry Associations/Representatives and field visits to plantations for the group in Indonesia & Malaysia were made by P.T. Jaakko Poyry (Forestry Div) Jakarta, Indonesia.

2. Objectives of the Study Mission

- 2.1 The growth & international competitiveness of the pulp & paper industry in India is seriously hampered because of growing shortages of pulpwood, uneconomic sizes of the mills and absence of a coherent long term policy for the integrated development of forest resources, industrial plantations and wood based industries. Urgent and innovative policy initiatives are required to enable the industry to survive and achieve global competitiveness. The visit of the Study Mission to Indonesia & Malaysia was organised with the view to studying Government Policies related to sustainable forest development intensively managed industrial plantations and policy initiatives for achieving rapid growth of the pulp and paper industry to enable it to become major international player.

2.2 The specific objectives set for the Study Mission are summarised below :

- o To examine the historical development, current status and future prospects of Pulp & Paper Industry in Indonesia & Malaysia.
- o To examine the raw material scenario, especially wood/forests based raw material, in the context of meeting the present and future requirements of Pulp & Paper Industry in these countries.
- o To Study the status of land and its usage with reference to Raw Material for forest based Industry.
- o To Study the initiation of Industrial Plantation Programme by Pulp & Paper Industry - in historical perspective, the current status and future scenario.
- o To examine the incentive programmes - by Governments, Financial Institutions, other bodies - which have been adopted to successfully stimulate the development of Industrial Plantations.
- o The role of the Government Policy as a driving force in ensuring sustained raw material availability for the Pulp & Paper Industry.
- o To study the initiatives taken and success achieved in the areas of adoption of bio-technology, tissue culture and other R&D Programmes which have resulted in improved productivity and quality of fibre availability through Industrial Plantations.
- o To examine the direct & indirect benefits of Industrial Plantation Programmes with reference to local, regional and national economic growth & development, impact on social policies, environment and other related issues.
- o To study and examine any other issues related to the subject.

3. Composition of the Study Mission

- 3.1 The Study Mission comprised of 11 members as per list enclosed (*Annexure-I*). Mr. Piare Lal, Vice President (Plantations), ITC-Bhadrachalam Paperboards Ltd. and Chairman of the Raw Materials Sub Committee of IPMA was Leader of the Study Mission and Mr. Rajiv Budhreja, Secretary, Indian Paper Makers Association (IPMA) was the Member Secretary of the Mission. Mr. D.C. Khanduri, Dy. Inspector General of Forests (R&D), represented Ministry of Environment & Forests, Government of India and Mr. R.K. Torvi, Chief Conservator of Forests and Director (Forests) Mysore Paper Mills Ltd., represented Government of Karnataka. The remaining members of the mission were representatives of various paper mills.

- 3.2 Arrangements for the field visits and meetings with the Govt. Authorities and Industry Associations were very professionally and competently handled by P.T. Jaakko Poyry, Jakarta, under the able leadership of Mr. Goran Storck. Ms. Suryati and Mr. Goran Storck from P.T. Jaakko Poyry accompanied the Mission in its all meetings in Jakarta. For field visits to Barito group plantations in Sumatera, Mr. Alex Thorp from Jaakko Poyry accompanied the team. Mr. Goran Storck was also with the group during discussions and field visits in Sabah, Malaysia.

4. Itinerary

- 4.1 The detailed day-to-day itinerary of Study Mission is enclosed (*Annexure-II*). With the help of Jaakko Poyry, the mission members were able to have very useful discussions with Government officials at the highest level in the Department of Forests, Department of Planning and Association/Representatives of pulp & paper industry as well as plantation companies in Indonesia.
- 4.2 Unfortunately, for want of time, the group could visit field plantations of only one company in Southern Sumatera in Indonesia and Sabah Forestry Development Authority (SAFODA) plantations in Sabah State of Malaysia. The group had no occasion to meet either the State Government officials in Sabah or the Central Government officials at Kuala Lumpur in Malaysia. However, discussions with senior managers at SAFODA head office in Kota Kinabalu were very useful.

5. Miscellaneous

- 5.1 Major Observations & Findings of the Study Mission in respect of the visit to Indonesia & Malaysia based on discussions with various authorities and visits to field plantations are presented in the following chapters. Apart from the discussions, written documents/working papers or books very kindly supplied to the Mission Members by various Government Authorities, Industry Associations and Jaakko Poyry form the basis of this report.
- 5.2 List of important Government officials / Industry representatives with whom the Mission had the privilege of having detailed discussions in Indonesia and Malaysia is given in *Annexure III*. Various documents/publications which form important references for further details pertaining to issues covered in this report are listed in *Annexure IV*.

CHAPTER II

INDONESIA

Integrated Development of Forest Resources and Forest Based Industries

1. General

- 1.1 Indonesia is a fairly large country comprising of 17,000 islands in the eastern part of Indian Ocean. The total geographical area of the land mass is 200 million ha. The four largest islands - Sumatera, Kalimantan, Sulawesi and Irian Jaya along with Java are the most important islands. Nearly 70% of the land mass comprise of Indonesia's tropical forests.
- 1.2 With a population of 200 million persons, Indonesia is the world's fourth most populous country. Since it achieved independence from the Netherlands in 1945, it has developed rapidly, particularly over the past two decades during which annual economic growth has averaged seven percent. Indonesia's achievements over the past quarter century include boosting agricultural production, lessening poverty, improving health care and educational services, reducing population growth and developing an impressive economic infrastructure through public works, telecommunications and transportation development. As a result, Indonesia's poverty rate has fallen from 60% in 1970 to less than 11% today, according to World Bank. Per capita income has risen from \$70 in 1967 to almost \$1,200 today.
- 1.3 Summary of the growth of the economy and major economic indicators is given below :

Life Expectancy	48 Years (1970s)	62 years	(1994)
Poverty Rate	60% (1970s)	11.3%	(1996)
Birth rate	5.6% (1970s)	1.5%	(1997)
GDP	US \$ 8 bill. (1969)	US\$ 213.7 bill.	(1997)
GDP Growth	7.8% (1996)		
Income Per Capita	US\$ 75 (1970s)	US\$1155	(1996)
Paper Consumption	13 kg/capita (1994)	15.5 kg.	(1996)
Global Competitiveness	30 (1996)	15	(1997)
Export Value (Pulp & Paper Products)	US\$300 mill. (1991)	US\$1373 mill	(1995)
Tariff Rates	60% (few years ago)	0-10%	(1997)
		0-5%	(2003)

- 1.4 Indonesia has been implementing five year development plans. The sixth five year development plan is currently under implementation upto 1998. Indonesia has ambitious plans for long-term development of forest based industries with specific focus on pulp & paper industry in which the country has recognized its major comparative advantage in the emerging global competition. Indonesia is emerging as a major global player in the pulp & paper trade supported with intensively managed large-scale pulp-wood plantations and innovative Government Policies. A long term national strategy for sustainable development "Agenda 21-Indonesia" has been prepared by State Ministry for Environment, Republic of Indonesia with UNDP assistance.

2. Forest Resources

- 2.1 Country is endowed with rich tropical moist and wet evergreen forests. The total forest area in the country is nearly 140 million ha or 70% of the land. Out of this 113 ha have been earmarked to be maintained as permanent forests and remaining area is being converted for development of infrastructure, agriculture and plantation crops like rubber, oil palm, cocoa, and spices, etc.
- 2.2 The Ministry has classified 113 million ha to be maintained under forests in the following four categories:
- National Parks and Wildlife Refuges - These conservation areas will comprise of nearly 19 million ha of forest land. No commercial felling will be allowed in these areas which will be maintained for preservation of high level of their biodiversity, genetic resources and social life support systems.
 - Protected Forests - These are mostly watershed forests completely closed to commercial and even recreational use covering 30 million ha. These designated forest lands have special physical characteristics that entitle them to protection for their environmental and hydrological functions. They will remain permanent forests.
 - Limited Production Forests - These forest lands cover 30 million ha. They are managed for timber production, with limited harvesting levels permitted consistent with conservation benefits. Only selective felling is permitted in these areas with natural regeneration.
 - Regular Production Forests - Selective felling is primarily utilized, although some clear-cutting is permitted for the development of timber estates. Regular production forests comprise 34 million ha.

Indonesian Forestry industry today supports 18 million people and is the country's largest single employer. Forest based products contribute nearly 25% of Indonesia's total exports to other countries.

- 2.3 Demarcation and mapping of the permanent forest areas has been started but it may take a few years to complete the demarcation and settlement. Likewise, demarcation of areas for transmigration projects for re-settlement and conversion of areas earmarked for infrastructure/development and plantation crops is under progress.
- 2.4 Indonesia's 1945 Constitution brought legally-designated forest lands under Government control. However, the land tenure systems are not firmly in place and demarcation of forest areas on the ground is yet incomplete. Therefore, clearing of trees for developing land for agriculture and resultant conflicts are not un-common. Between the period 1972 and 1990, the average deforestation rate in Indonesia was around 840,000 ha per year including forest areas earmarked for conversion to agriculture, infrastructure development, settlement and estates of commercial plantation crops.

3. Forest Resources - Planning

- 3.1 64 million ha out of 113 million ha permanent forest area have been designated as Production Forests (PF). PF include 57 million ha to be managed for production forestry under selective logging with natural regeneration. Almost all these areas have been leased out under Forest Concession Rights known as HPH started since 1969 to various private logging companies for selection felling with mandate for the ensured natural regeneration of important species. No clear felling will be permitted in these 57 million ha of PF.
- 3.2 The balance 7 million ha PF have been earmarked for development of intensively managed technology based plantations under HTI (Hutan Tanaman Industri) concession. Most of the leased areas under HTI concessions comprise of grass lands and under productive logged over forests which can be restored to high sustainable productivity through technology based plantations. Clear filling and replanting of these areas with the appropriate species is permitted. However, no burn policy is applicable even in these areas and burning of the wood residues for preparing plantation sites for future plantations is not permitted.
- 3.3 According to the Directorate General of Forest Utilization, an average of 25.6 million cum/yr. logs have been extracted from the production forest area of 64 million ha. However, the average demand for logs by the wood processing industry is about 41.4 million cum/yr. The demand/supply gap is being resolved through increased supplies from the forest resource sector and by improving the

efficiency and utilization of logs by the forest based industries including increasing use of hitherto unused species.

- 3.4 There has been a lack of motivation and understanding on the part of the HPH / HTI companies in the past to ensure forest utilization activities in a sustainable manner. However, Government of Indonesia and HPH/HTI companies are committed to ensure sustainable management of natural forests and development of plantation areas as per ITTO guidelines by the year 2000. Government has issued regulations to reduce the harvest of timber logs progressively from natural forests to 22.5 million cum/yr by 1998 and further reduce log harvesting to 18 million cum by 2003.
- 3.5 Inventory of forest resources has been completed recently and as per information made available to the Study Mission the growing stock over 20 cms DBH class of all forest lands in Indonesia excluding Java is 13772 million cum. for all species including 5161 million cum. for commercial species. Growing stock of all species over 50 cms DBH class is 7363 million cum.

4. Forestry Research and Development

- 4.1 Most of the Government owned "Inhutani" companies have been raising plantations in the past which have been transferred to the joint sector HTI companies. Most commonly planted species for pulp wood is Acacia mangium with productivity of 15 to 20 m³/ha/year from early plantations. These early plantations contributed to the seed sources for new plantations which have been raised from seed collected from selected candidate plus trees.
- 4.2 Simultaneously new seed sources and different provenances of Acacia mangium and other species have been under evaluation in field trials on various locations. Seed source from Oriomo provenance from Papua New Guinea has been identified to be the most adaptable to the soils and climatic conditions both in Indonesia and Malaysia. Seed of this provenance is now being used for raising most of the Acacia mangium plantations. Many companies have also raised seedling seed orchards which supply high quality seed for current plantations. Simultaneously, many companies are working on development of clones of Acacia mangium and part of their future plantations will be based on clonal planting stock. The productivity of plantations from improved seed sources is projected at 30-40 cum/ha/yr.
- 4.3 Research trials in East Kalimantan for developing suitable techniques for regeneration of dipterocarps through transplanting wild natural seedlings and also vegetative propagation through rooting of cuttings from orthotropic shoots from hedge plants have been very successful. Trial plantations using these techniques have given satisfactory results.

- 4.4 Many species of eucalypts and other tropical fast growing species have been tried, and as per present indication *E. pellita* seems to have good promise. *Paraserianthes falcataria* is another fast growing species planted on a small scale.

5. Industrial Plantations

- 5.1 Government of Indonesia has recognized its comparative advantage in production of industrial wood and wood based products. Well defined policies aimed at sustainable development of forests, production forestry, encouragement to intensively managed technology based plantations integrated with development of forest based industry are under implementation. Indonesia is set to emerge as a major international player for export of value added wood based products with main emphasis on pulp & paper.
- 5.2 Accordingly, 7 million hectares areas under PF have been earmarked for intensive development of plantations for pulpwood and other wood based industries. Private sector entrepreneurs are most welcome to set up joint sector companies with Government owned companies "Inhutani" - I to V for development of industrial plantations under HTI concessions scheme.
- 5.3 By 1996, 17 HTI concessions were operational covering 3.7 million ha pulpwood extraction and replanting, 2.6 million ha for other wood based industries like plywood and medium density fibre boards and 0.7 million ha for transmigration HTI. Out of 7 million ha to be developed for industrial plantations under HTI concession, 2.17 million ha have already been planted which include nearly 1 million ha of teak plantations in Java. 50 applications for new HTI concessions have already been received, out of which 22 applications have been short listed for grant of HTI licences.
- 5.4 HTI concessions are granted for a period 43 years including first phase of initial development of plantations for 8 years. Following payments are made by the joint sector plantation companies in respect of HTI concession areas as per information provided to the Study Mission by Barito Group in Palembang, Sumatra :
- a. Fees : Lumpsum fee @ 50 cent per ha for the areas listed under HTI concessions as one time payment.
 - b. Royalty : Royalty @ US \$ 2 per cum. of wood from trees to be clear felled from the HTI concession sites to be prepared for tree planting.
 - c. Tax : Tax @ US \$ 1 per ha/yr is levied on the actual planted area out of the total area under HTI concessions.

- d. No royalty is payable on harvest of HTI plantations developed by joint sector companies. Profits from sale of pulpwood will be shared by the equity holders.
- 5.5 These arrangements can be renewed or extended as may be mutually agreed to. In fact the discussion are on for a review of all HTI concessions for extending the HTI leases for a minimum period of 60 years, for long-term integrated development of intensively managed and technology based plantations. The forest area to be allocated to any joint sector company for raising pulp wood plantations under HTI concessions is limited to a maximum of 300,000 ha and for non pulp wood HTI companies the gross areas for HTI concessions is limited to 150,000 ha per company.
6. Financing of Industrial Plantations
- 6.1 Royalty @ US \$ 2 per m3 stacked volume is charged on all wood extracted from leftover trees in HTI areas. A multi-million dollar reforestation fund has been created through reforestation fee levied on timber extracted from HPH and HTI concession areas during the last 15 years. This fund is very large and is controlled by the Central Government. Resources available from this reforestation fund have been utilised for contributing to 40% Government equity through "Inhutani" I to VI to joint sector plantation companies and long-term loans for development of plantations.
- 6.2 The HTI licencees are also allowed to clear the remaining timber trees from HTI concession areas earmarked for replanting and the net returns contribute to part of the equity of the private sector entrepreneurs forming Joint Sector Plantation Companies out of net surpluses from sale of timber logs/pulp wood. The joint sector companies under HTI concessions are responsible for development of infrastructure as well as technology based plantations securing active support of the local communities.
- 6.3 The Government reckons the plantation costs for raising and maintenance of the plantations at US \$ 1000 per ha for the purpose of equity contribution and grant of loans. 21% of the plantation cost is contributed by way of equity by the private sector entrepreneur and 14% of the plantation cost as Government equity through "Inhutani" I-V. Balance 65% funds for the development of plantations are provided by Government as long-term loans out of reforestation fund. 32.5% of the total planting and maintainance cost is provided as interest free loans and additional 32.5% at normal interest rates from the reforestation fund. Thus the total funding comprises of 35% equity and 65% long-term loans. The shareholding between private sector and Government owned "Inhutani" in the Joint Sector Companies for plantations development is in the ratio of 60:40.

7. Raw Material Scenario for Pulp & Paper Industry

- 7.1 Presently industry is getting wood from 64 million ha production forests & 30 million ha conversion areas of natural forests. Government policy desires pulp industry to shift to plantation wood completely in due course. Present planting levels are around 160,000 to 170,000 ha/year and capacity is being expanded. Planting at the rate of 300,000 ha/year will be required to switch over to plantation wood completely by the pulp & paper industry. Plantations raised by some mills have already started maturing. Share of plantation wood in pulp production is slated to grow very fast and by 2008 all pulp will be made from plantation wood.
- 7.2 Yields ranging from 30-40 cum/ha/yr are expected from new *Acacia mangium* plantations from improved planting stock. Future raw material supplies will be fully secured through HTI plantations and high quality of pulpwood will be available in a cost effective manner from high yielding technology based plantations in the vicinity of the pulp mills.
- 7.3 Recycled waste paper will continue to supplement virgin pulp. Consumption of waste paper during 1996 has been 2.3 million tonnes out of which 1.3 million tonnes had to be imported. Projected consumption of recycled waste paper for the year 2000 is 8 million tonnes out of which 5.8 million tonnes may have to be imported.
- 7.4 Oil palm plantations have been promoted in Indonesia on a very large scale. Nearly 2.2 million ha area has already been converted into oil palm plantations. By the year 2000, area under oil palm plantations is expected to be 5 million ha. Oil palm bunch is a good potential raw material for production of paper including high quality photocopier paper. Industry sources estimate that oil palm bunch from 5 million ha plantations will have the potential to produce 2 to 2.5 million tonnes pulp per year. Bagasse will be yet another option for the future. Availability of agricultural residues for pulping is negligible.

8. Indonesian Pulp and Paper Industry

- 8.1 First paper mill was started in 1923 with 3,000 TPA capacity. By 1970, there were five mills with 50,000 TPA capacity, all government owned. Privatization and liberalization since 1970s spurred growth of pulp and paper industry. Further boost to large scale expansion projects/new mills was provided by steady increase in pulp prices from 1984 onwards. Average pulpwood price is US\$ 22 to 29 per cum at factory and fibre cost is US \$ 100/tonne of pulp.

Presently 80 pulp and paper companies are operating with capacity of 3.9 million tonnes pulp and 7.2 million tonnes paper/per year. Only 3 mills are owned by Government fully or partly and these too are open to privatization. Capacity will grow to 5.5 million tonnes of pulp and 12.9 million tonnes of paper, i.e. total 18.4 million tonnes per year by 2000.

- 8.2 Industry continues to expand, renovate, modernize and invest in new capacities with a growth rate of 18 to 20% per year. Per capita consumption is up from 13 kg. in 1994 to 15.5 kg. in 1996. During 1995/96 investment in pulp and paper industry reached US\$ 5 billion and sales also worth US \$ 5 billion.
- 8.3 Export of Pulp and Paper has gone up from US \$ 300 million in 1991 to US \$ 1373 million in 1995. During 1996, because of low prices, export earnings increased by 1.2% only to US\$ 1389 million despite 55% increase in export volumes.
- 8.4 Domestic demand for paper and paperboards in Indonesia is growing almost @ 300,000 TPA, which will consume produce of one new mill of same size. Indonesia presently produces about 1% of the world's pulp production and consumes nearly 1% of paper consumed globally. As the paper and board capacity is much larger compared to pulp capacity; this explains Indonesia's emerging important role for export of paper to neighboring countries.

9. Projected Growth of Pulp and Paper Industry

- 9.1 By the year 2000 pulp capacity will grow from 3.9 million tonnes/year in 1997 to 5.5 million tonnes. 13 HTI projects will have a total capacity of 6.35 million tonnes/year by the year 2005. Out of these 5 became operational in 1996/97 with 3 million TPA capacity. 8 additional projects will be operational during 2000 to 2005 adding 3.35 million TPA capacity.
- 9.2 During 1995, government lifted the limit of 13 HTI projects and 50 applications were received for new HTI projects out of which 22 have been given green signal. This will increase the capacity of market pulp substantially beyond 6.35 million TPA in due course.
- 9.3 Sinar Mas Group, Raja Garuda Mas Group, APRIL, Fajar Surya Wisesa, Surabaya Agung Industri Pulp & Kertas are implementing major projects for substantial increase in their capacities for manufacture of paper. The expected capacity by the year 2000 will be 12.9 million TPA of paper and paper boards as follows :

Printing & Writing	7.2 million T
Industrial	5.2 million T
Tissue & Others	<u>0.5 million T</u>
Total	<u>12.9 million T</u>

9.4 Sinar Mas Group has 6 investments abroad and Raja Garuda Mas Group 4- all in Asia. Majority of these investments are in China and Malaysia and one each in India and Singapore.

9.5 Paper and Paperboard capacity will increase from 5.6 million in 1996 to 12.9 million tonnes by 2000. Export potential is slated to grow as follows (million tonnes)

	<u>Pulp</u>	<u>Paper & Boards</u>
1996	1.1	1.2
2000	3.0	4.8

However, industry sources confirmed that the industry will phase out pulp exports in due course and concentrate on export of finished value added products, i.e. paper and paperboards of international quality standards.

10. Incentives for Industrial Development

10.1 Innovative long term government policies for sustained development of forest resources and integrated planning for technology based plantations and wood based industries have been the major driving force for the phenomenal growth of pulp and paper industry in Indonesia. Enough pulpwood at very reasonable cost is available from HPH and HTI concessions. Future supplies of high quality raw materials in a cost effective manner have been secured through technology based plantations on forest lands allocated under HTI concessions supported with 14% government equity, 32.5% interest free loans and additional 32.5% long term loans at normal interest rates. Long term leases of forest lands for HTI plantations encourage the entrepreneurs to invest in research and raise technology based plantations using genetically improved planting stock.

There is no Import duty on capital goods which is a major incentive for the pulp and paper industry. Entrepreneurs enjoy income tax holiday in respect of new investments for 7-10 years and there is no levy of sales tax. These positive government policies have enabled the pulp and paper industry to make rapid strides and emerge as an important global player in a short span of time.

11. Environment Management and Eco-labeling

- 11.1 Environment Management Act 4 of 1982 stipulates that industrial development programmes must be based upon principal of sustainable use of natural resources consistent with environmental considerations. Government has issued regulations under this Act for control of water pollution and to enforce the principle that the polluter should pay. An Environmental Impact Assessment Association has been established.
- 11.2 Indonesia is co-operating with the International Tropical Timbers Organization to establish the mechanism to sell wood products made only from sustainably managed forests by the year 2000. Indonesia is in the process of establishing an eco-labeling system that will certify that its wood products have been produced in accordance with sustainable development principles. Eco-labeling will provide a competitive edge for Indonesian wood products in a global market and will demonstrate by example the country's commitment to developing innovative solutions for today's global forestry problems. Sustainability forms the center-piece of Indonesia's forest policies. A Memorandum of Understanding has been signed between Indonesian Forestry Community and Indonesian Eco-labeling Foundation.

CHAPTER III

MALAYSIA

Integrated Development Of Forest Resources And Forest Based Industries/

1. General

- 1.1 The Study Mission could not visit Peninsular Malaysia or Sarawak for want of time and the visit to Sabah was limited to discussions with Sabah Forestry Development Authority (SAFODA) and field visit to SAFODA plantations near Bengkoka. There was no opportunity for the mission to interact with Forest Department authorities either at Kuala Lumpur or Kota Kinabalu in Sabah. Therefore, the information given below is largely extracted from published sources and the discussions held by the Mission with SAFODA in respect of development and management forest resources.

2. Forest Resources

- 2.1 The total forest area in Malaysia during 1986 was well over half of the total land mass covering 6.4 million ha in Peninsular Malaysia, 4.7 million ha in Sabah and 9.4 million ha in Sarawak or total of 20.5 million ha. The present total forest area is 18.11 million ha in 1997 or 54 % of the total land mass of 33 million ha of land mass of Malaysia. 14.28 million ha of the forest area has been earmarked as permanent forest estate. Productivity of natural forests is reckoned at 4 cum/ha/yr. The current production of saw logs from natural forests is 25 million cum/yr. The yield from the natural forests by the year 2010 is expected to be 26 million cum/yr.
- 2.2 Integrated development of forest resources and intensively managed plantations is the future strategy of choice for ensuring sustainable management of natural forest resources and increasing the raw material supplies for the forest based industry. Nearly 0.19 million ha have been converted into intensively managed technology based plantations by the end of 1996. Extent of plantations is as follows

Peninsular Malaysia	69,217 ha
Sabah	112,679 ha
Sarawak	10,000 ha

- 2.3 Acacia magnium is the single largest species planted extensively followed by Rattan, Teak, tropical Pines and Rubber. Gmelina arborea, Paraserianthes falcata, Swietenia macrophylla, Araucaria cunninghami, Shorea macrophylla and Durio zibethinus are other important plantation species. The mean annual increment of earlier plantations raised from unimproved seed ranges between 10-20 cum/ha/yr.

- 2.4 Based on the provenance trials, the seed sources of *Acacia mangium* from Oriomo provenance in Papua New Guinea have been identified to be most suitable. Yield of plantations raised with seed from this provenance is expected between 30-40 cum/ha/yr. *Acacia mangium* is being planted both for pulpwood and timber production. Spacing and rotation age for timber production are comparatively higher.

Research trials for development and deployment of suitable clones of *Acacia mangium* are in progress in SAFODA. However, Sabah Softwoods and Sabah Forest Industries have fairly advanced plantations programmes based on rooted cuttings of *Gemlina arborea* and *Acacia mangium*.

- 2.5 The State Governments have established Forest Development Authorities for raising technology based plantations on grasslands and degraded forest lands. All such Authorities are fully owned by Government and set up under special enactments by concerned State Governments. Three such authorities have been functioning in Sabah and the areas allocated to these authorities for development of plantations in Sabah are as follows :

SAFODA	61,109 ha
Sabah Forest Industries	268,638 ha
Sabah Softwoods	60,700 ha

Total Area	390,447 ha

3. SAFODA

- 3.1 SAFODA was established through Enactment No. 20 of 1976 which came into force from 1st January, 1977. The total area allotted to SAFODA for plantations development by the State Government is 61,109 ha out of which 45,000 ha is reckoned as suitable for plantations. The project is located in four different areas including the largest one at Bengkoka. The total area planted since the start of the project in 1979 is 31,133 ha. *Acacia mangium* is the main species planted both for pulpwood and timber production. However, there are some plantations of Teak and high quality *Dipterocarps* plantations raised through rooted cuttings.
- 3.2 Government owned authorities like SAFODA are experiencing resources crunch for further development of plantations as the mature plantations are not being harvested regularly because the integration of the plantations with establishment of forest based industries was not planned. This is being rectified now and negotiations are on for promoting private sector investments in medium density fibre board plant for utilization of plantation wood from Bengkoka project.

4. Lessons from Bengkoka project of SAFODA

- 4.1 Even though the government owned Safoda has been able to raise very successful plantations, the progress has been very slow. There was no integrated approach for development of plantations and wood based industries for the utilisation of the plantation wood. This has resulted in serious resources crunch for SAFODA, with the result that plantation activity has virtually ceased after 1996 plantation season. Nurseries at Bengkoka were devoid of any planting stock for the current season.
- 4.2 State Government is now keen to find private sector partners to encourage joint sector participation for development of plantations over the remaining allocated areas. Discussions are on for finalising plans for utilization of plantation wood by the private sector industry for production of medium density fibre boards as Bengkoka plantations are not on a large enough scale to sustain a modern pulp and paper factory. Subject to finalisation of arrangements for a joint sector venture with private sector firms for plantations and the down stream processing of plantation wood, future plans of SAFODA include continuation of plantation programmes at the increased target of 4,000 ha/year. Improved planting stock of genetically superior seed sources and clones developed through vegetative propagation techniques will be used.

5. Management of Forests

- 5.1 Malaysia is also committed to promoting and following sustainable management of natural forest resources and development of technology based plantations in order to counter shortfalls. New policy guidelines are under preparation for giving increased role to private sector for the integrated development of plantations and forest based industry. Forest management units of 100,000 ha each are proposed to be given to private sector companies on long term lease for sustainable development through technology based plantations to be managed as per guidelines to be issued by the Department of Forests.
- 5.2 Plans and commitments for the sustainable management of forests include :
- To maintain the highest quality and productivity of forest resources
 - No reduction in the extent of permanent forest estates
 - Sustainable forest management
 - Promotion of intensive forest plantations
 - Reforestation of all types of lands which have little present use. (specially logged over forests and rehabilitation of badly degraded forests including ex-mining lands).

- 5.3 Wood based industries in Sabah have an installed capacity for processing 11.34 million cum wood annually. Wood production during the sixth Plan (1996-2000) is estimated to be 5.43 million cum/year. Considering the potential crisis in timber supplies, a total ban on export of logs has been implemented since 1993.
- 5.4 Likewise, in Peninsular Malaysia, a study during 1970's showed that Peninsular Malaysia will experience severe timber shortage of about 5.08 million cum. annually beginning mid 1990's. The projection was made based on the projected annual log production of 8.03 million cum. as compared to total installed processing capacity of 13.2 million cum. In order to meet such shortage, the government launched the Compensatory Forest Plantation Programme in 1982 with the planting of fast-growing timber species in four participating states of Pahang, Johor, Selangor and Negeri Sembilan. The programme aims to establish 82,000 ha of fast-growing timber species such as *Acacia mangium*, *Gmelina arborea* and *Paraserianthes falcataria*. As at the end of December 1994, the total plantation established under this programme was 54,189 ha.
- 5.5 Intensive research and development in forestry is encouraged. Species selection is based on the growth performance and availability of seed and their adaptability to plantation sites. Oriomo provenance of *Acacia mangium* from Papua New Guinea has been identified as most suitable for future plantations. Production of clonal planting stock for *Dipterocarps* and *Gmelina* is already established and research and development work is under progress for development of suitable clones of *Acacia mangium*. Research in reforestation of forest lands not earmarked for natural regeneration is another priority area for research.

6. Recent Policy Initiatives

- 6.1 In 1994, the Federal Government announced special fiscal incentives to encourage private sector participation in forest plantation establishment and development. The incentives are in the form of full income tax exemption for 10 years under the Pioneer Status or 100% tax exemption for 5 years under the Investment Tax Allowance. These incentives are applicable to companies establishing new forest plantations, as well as existing plantations which are yet to be harvested.
- 6.2 The private sector is also encouraged to seek the partnership in privatizing the forest plantations established by the Forest Department in accordance with the National Privatization Policy. However, since these plantations are located in the Forest Reserves which are constituted under enactments by the respective State Governments, special guidelines and procedures are being formulated by the Government through the Economic Planning Unit and the Ministry of Primary Industries.

- 6.3 Government is keen to ensure integrated development of forest resources, intensively managed plantations and forest based industries. Incentives to promote private investments in plantations form part of this strategy. Other government agencies related to the forest sector are also encouraged to participate in raising forest plantations. New policy envisages involvement of private sector for raising plantations including joint ventures by Malaysian agencies with foreign owned private sector companies. Forest plantations are treated on par with other plantation crops like rubber, oil palm and cocoa, etc. for income tax purposes.

7. Pulp and Paper Industry

- 7.1 First pulp mill in Sabah was established at Sipitang by SABAH Forest Industries (a wholly owned subsidiary of State Government) during the 1980's. Malaysia continues to be net importer of both pulp and paper / paperboards primarily because there has been no major policy initiatives either for encouraging private investments in technology based plantations or for expanding pulp and paper capacity despite great potential.
- 7.2 During 1995, the production of pulp has been 145,000 tonnes and consumption 248,000 tonnes, necessitating import of 103,000 tonnes of pulp. Capacity of 18 paper and paperboard mills during 1995 was 0.8 million tonnes and actual production 0.6 million tonnes. Malaysia exported 0.3 million tonnes of paper and paperboards during 1995 and imported 1.5 million tonnes paper and paperboards during the same year. Thus, consumption during 1995 was 1.8 million tonnes and per capita consumption 90 kgs. Installed capacity for newsprint during 1995 was 120,000 tonnes.
- 7.3 Two major new projects are coming up in Sarawak. Sinarmas Group of Indonesia is investing in a 600,000 TPA pulp mill which will cost nearly US \$700 million. Raja Garuda Mas Group is setting up a 1 million TPA pulp mill in Sarawak involving an investment of US \$ 1200 million. Plans for investments in new pulp and paper capacities in Sabah by private sector are being finalised.
- 7.4 Clear guidelines for joint sector development of forestry, technology based plantations and forest based industries are in the final stage of formulation. We were informed that a high level meeting on November 22, 1997, will come out with specific guidelines in the matter. The new policy which is likely to promote private sector investments, both in the plantations and forest based industries in a big way, should spurt growth of pulp and paper industry in Malaysia, which does have a comparative advantage of growing pulpwood in a cost effective manner.

CHAPTER IV

CONCLUSIONS

1. Indonesia

- 1.1 Government of Indonesia has been implementing innovative policies for ensuring sustainable management and development of country's forest resources. Long term plans are in operation for integrated development of technology based plantations and forest based industries. Even though 64 million ha forest areas have been designated as production forests, 7 million ha out of these areas have been earmarked for promoting technology based and intensively managed plantations under the joint sector with government owning 40% equity.
- 1.2 Well defined long term policies, financial support , allocation of land for pulp wood plantations and incentives like exemption of capital equipment from import duty and income tax holiday for 7 to 10 years have contributed immensely to very rapid growth of pulp and paper industry in Indonesia. The country has been able to harness its comparative advantage in this area successfully. Indonesia is forging ahead to be a major player in the emerging global competition for export of value added wood products particularly paper and paper boards.
- 1.3 New pulp capacities below 300,000 TPA are considered uneconomical and many units will be over 1 million TPA capacity to achieve economies of scale for successful global competition. Export of high quality finished products will be preferred and export of pulp will be progressively reduced in due course. Exports are slated to grow to 3 million tonnes for pulp and 4.8 million tonnes for paper and paper boards by 2000 - increase of 3 & 4 times respectively over 1996 exports.
- 1.4 Pulp capacity will be 5.5 million TPA by the year 2000 out of which nearly 4.9 million tonnes may be market pulp. Likewise, the paper and paperboard capacity will grow to 12.9 million TPA by the year 2000. Between 2000-05 eight additional HTI projects will be in operation adding a capacity of 3.35 million TPA

2. Malaysia

- 2.1 Unlike Indonesia, Malaysia continues to be net importer of pulp and paper despite clear comparative advantage for cost effective production of pulpwood and the potential for emergence of the country as major exporter of pulp and paper . 1.5 million tonnes of paper / paperboards and 0.1 million tonnes of pulp were imported during 1995. Forestry Development and raising of plantations continues to be fully

controlled by State Governments or Government owned Authorities established for replanting limited areas of degraded forests and grasslands. There has been inadequate effort in the past for integration of sustainable forestry development and forest based industries.

- 2.2 Most of the Forestry Development Authorities set up by State Government have serious financial crisis leading to difficulties in achieving the reforestation and planting targets. Harvesting of mature plantations has invariably been delayed adding to the financial difficulties of the government owned Forestry Development Authorities, as there were no plans for integration of the plantations with the establishment of wood based industries.
- 2.3 Government is now seriously thinking of implementing new innovative policies which will facilitate joint sector ownership and management of technology based plantations and promote large scale private sector investments in wood based industries. Even though valuable time has been lost, Malaysia does have the comparative advantage for cost effective production of pulp wood and rapid growth for the pulp and paper industry is possible. Two new mills with 1.6 million TPA capacity are being established in Sarawak.

3. India

- 3.1 Whereas, Indonesia has achieved an enviable growth rate for its pulp and paper industry during the recent years; this industry in India is struggling for survival. The comparison is as follows:

Paper and Paperboard Production - Thousand Tonnes

Year	Indonesia	Increase	India	Increase
1990-91	1749		2000	
1995-96	4120	135%	2800	40%
2000-01 (<i>Projected</i>)	12900	213%	3258	16%

Whereas, Indonesia exported 1.1 million tonnes of market pulp and 1.2 million tonnes of paper and paperboards during 1996, India continues to be a net importer of both pulp and paper despite ridiculously low per capita consumption of paper @ 3.6 kg. in India compared to 15.5 kg. in Indonesia. By the year 2000, Indonesia will be a major global player in exports of pulp and paper but India will have to import nearly 1.7 million tonnes of paper/ newsprint. Shortfall in domestic production in India may be as high as 3.64 million tonnes of paper by 2010-11 as estimated by High Powered Committee on Paper appointed by Ministry of Industry, Government of India during 1996.

- 3.2 India has 22% of the geographical area as forest lands, but unfortunately, reasonably well stocked forests comprise only 38 million ha or 12% of land mass. Even though both Indonesia and Malaysia have more than 50% of the geographical area under well stocked forests, both countries have wisely decided to dedicate major part of the forests for production forestry on sustainable basis including technology based high yielding plantation forests. India must also take major initiatives for ensuring time bound restoration of over 30 million ha degraded forest lands to sustainable productivity through technology based plantations. This will help India tackle growing shortages of fuelwood, industrial round wood and timber, and also halt serious ecological/environmental degradation and minimize intense biotic pressures on remaining natural forests.
- 3.3 Planning for integrated development of technology based plantations and pulp and paper mills of international standards for the future will be a prerequisite for the Indian pulp and paper industry to achieve global competitiveness. Availability of high quality fibrous raw materials at reasonable costs near the pulp mills will be a strategic advantage. Technology based plantations will not only enable India to achieve self sufficiency in pulp and paper, but also create potential for export of value added wood products in due course.

In addition to greening of India and sustainable development, such plantations will have following major benefits for the nation:

- Generation of large scale employment opportunities for the rural poor.
 - Minimising pressures on natural forests and conservation of their rich biodiversity
 - Environmental amelioration and ecological stability
 - Conservation of precious soil and water resources
 - Prevention of floods and desertification
 - Meeting future demand of fuelwood/timber and wood based products
 - Sustaining the momentum of green revolution and life support systems.
- 3.4 Pulp and Paper Industry in India must gear itself for very stiff international competition. Creation of secure and cost effective raw material base, through large scale technology based plantations, increasing mill capacities, improving quality and cost competitiveness to world standards are of critical importance. These competitive strengths must be achieved quickly failing which the industry is certain to stagnate and may very soon lose out to international competition leading to progressive closures.

4. Acknowledgments

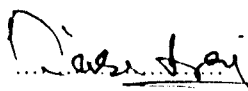
All members of the Mission express their deep gratitude and sincere thanks to the Ministry of Industry, Government of India, Development Council for Pulp, Paper and Allied Industries and Indian Paper Makers Association for sponsoring and financing the visit of the Study Mission to Indonesia and Malaysia. Members of the Mission convey their heartfelt gratitude to all the Government officials of Ministry of Forests and Department of Planning, Government of Indonesia, all senior managers of Pt. Musi Hutan Persada Barito Pacific Group, Indonesia and SAFODA officials, Malaysia, for their warm hospitality, whole-hearted co-operation and extremely valuable information provided to the Mission.

We are also very grateful to Mr. Muhmmad Mansur, President, Indonesian Pulp and Paper Association and Mr. Suresh Kilam & Mr. Atul Gogna of Asia Pulp & Paper Company Ltd. Jakarta for their kind co-operation, warm hospitality and very cordial discussions.

Mission visit would not have been successful but for the excellent arrangements made by P.T. Jaakko Poyry under the able and most professional leadership of Mr. Goran Storck very ably supported by Ms. Suriyati and Mr. Alex Thorp. We place on record our deep appreciation for their immense contribution and also take this opportunity to thank Mr. Jouko Virta, CEO of Jaakko Poyry who took the trouble of flying all the way from London to Jakarta to meet the members of the Mission and make a presentation.

We would also like to place on record our deep appreciation for the untiring efforts made by Shri Rajiv Budhraj, Member-Secretary of the Mission for ensuring a comfortable, smooth and extremely useful visit. Mission Leader expresses his heartfelt gratitude and sincere thanks to all members of the Mission for their whole hearted co-operation and extremely useful suggestions which contributed immensely for the success of the Mission.

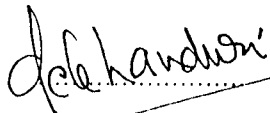
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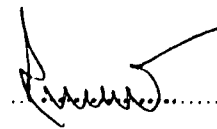
RAJIV BUDHRAJA



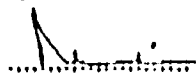
D.C. KHANDURI



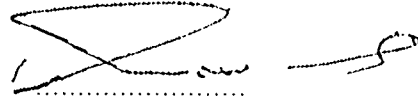
R.K. TORVI



P.B. NAIDU



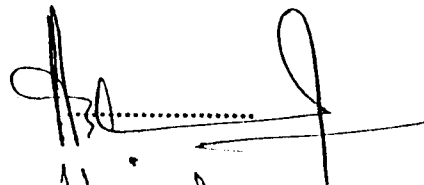
G.C. MOTWANI



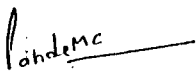
RAJ CHAURASIA



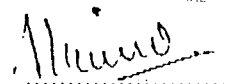
A.K. SHARDA



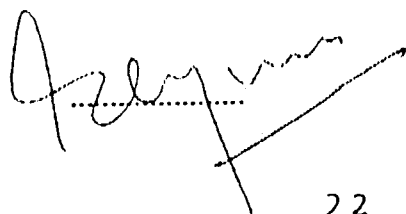
M.C. PANDE



V.V.S. PRASAD



R.K. CHOPRA





STUDY ON

*"SUSTAINED FIBRE
AVAILABILITY FOR
PAPER INDUSTRY -
EXPERIENCE OF OTHER
DEVELOPING COUNTRIES"*

*MISSION VISIT TO
INDONESIA & MALAYSIA*

November 9-19, 1997

Sponsored by
**Development Council for Paper,
Pulp & Allied Industries**
(set up under Ministry of Industry,
Government of India)

Proposed by
Indian Paper Makers Association
New Delhi

Executing Agency
P.T. Jaakko Poyry (Forestry Division)
Jakarta, Indonesia

OBJECTIVES OF THE STUDY MISSION

- o To examine the historical development, current status and future prospects of Pulp & Paper Industry in Indonesia & Malaysia.
- o To examine the raw material scenario, especially wood/forests based raw material, in the context of meeting the present and future requirements of Pulp & Paper Industry in these countries.
- o To Study the status of land and its usage with reference to Raw Material for forest based Industry.
- o To Study the Initiation of Industrial Plantation Programme by Pulp & Paper Industry - in historical perspective, the current status and future scenario.
- o To examine the Incentive programmes - by Governments, Financial Institutions, other bodies - which have been adopted to successfully stimulate the development of Industrial Plantations.
- o The role of the Government Policy as a driving factor in ensuring sustained raw material availability for the Pulp & Paper Industry.
- o To study the initiatives taken and success achieved in the areas of adoption of bio-technology, tissue culture and other R&D Programmes which have resulted in improved productivity and quality of fibre availability through Industrial Plantations.
- o To examine the direct & indirect benefits of Industrial Plantation Programmes with reference to local, regional and national economic growth & development, impact on social policies, environment and other related issues.
- o To study and examine any other issues related to the subject.

(Leader of the Study Mission)

MR. PIARE LAL

Vice President (Plantations)

ITC-Bhadrachalam

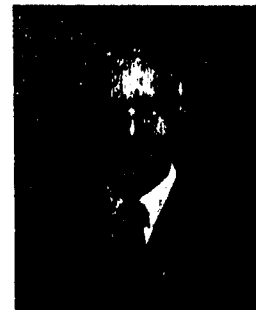
Paperboards Ltd.

106 Sardar Patel Road,
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(ANDHRA PRADESH)

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846 566

(Res.) : (040) 774 8732

Fax : (040) 842 997



Personal

Mr. Piare Lal, Age 55 years, is B.Sc. (Agri) and an Associate of Indian Forest College (Post Graduate Diploma in Forestry)

Professional

- o Having 32 years of experience
 - o Worked in Winco Ltd. in various capacities (1970-1989). Last assignment Group General Manager (Agro Forestry Division).
 - o Member of the Indian Forest Service (1968-1970).
 - o Worked in the Forest Department of Andaman & Nicobar Islands as Assistant/Deputy Conservator of Forests. (1965-1968).

Business Areas & Interests

Major responsibilities include leading R&D project for vegetative propagation/cloning & breeding of Eucalyptus, Casuarina and implementation of farm forestry project

— Major accomplishments under the clonal technology R&D project :

- o Identification of 42 outstanding, genetically superior, fast growing and disease resistant "Bhadrachalam" clones of Eucalyptus.
- o Establishment of largest clonal testing areas & gene banks.
- o Supply of genetically superior clonal planting stock to farmers, Government Forest Departments/Forest Development Corporations of select States.
- o Selection of genetically superior clones of Casuarina is in progress.
- o Management of large scale containerised nurseries and major farm forestry project.

Research/Technical Contributions

- o Presented several Technical Papers (including 10 in International level workshops).

Mr. D.C. KHANDURI, IFS

Deputy Inspector General
of Forests
(Research & Training)
**Ministry of Environment
& Forests**
Paryavaran Bhawan,
CGO Complex, Lodi Road,
New Delhi - 110 003.



Tel : (Off.) : (011) 436 1774

Fax : (011) 436 1774

Personal & Professional

- o Mr. D.C. Khanduri, age 55 years, presently working as Deputy Inspector General of Forests in the Ministry of Environment & Forests, Government of India, is an officer of Himachal Pradesh Cadre of Indian Forest Service.
- o After obtaining two years forestry training from Indian Forest College, Dehradun, he was associated with commissioning of Rosin and Turpentine factory, Bilaspur, Himachal Pradesh. In the early stage of his service. Subsequently, he worked on preparation of working schemes to supply raw material for newsprint from Himalayan Conifer Forests. However, the project had to be abandoned because of environmental considerations.
- o He worked at Agricultural Complex, Solan of Himachal University as Asstt. Professor from 1972 to 1974, where research on grassland for higher productivity was one of his areas of responsibility.

- o Subsequently, being posted as Divisional Forest Officer he was responsible for managing the forests, raising plantations and implementing social forestry project upto 1992 when he was given responsibility of revising Working Plan of Shimla Forest Division. In 1993, he joined the Government of NCT, Delhi as Head of the Forest Unit and remained there upto November, 1996.
- o During the period, he worked for enactment of "The Ridges" as Reserved Forests. He also functioned as Member Secretary, Delhi Wasteland Development Board, Member Secretary, Tree Authority and Member Secretary, Ridge Management Board. In these capacities, he played an important role in preservation and maintenance of environment of capital city Delhi, in general, and "the Ridges" in particular. Presently he is working in the Ministry since November, 1996.

Mr. P.B. NAIDU

General Manager (Commercial)
The Andhra Pradesh Paper Mills Ltd.

Vth Floor, Swapnalok Complex,
 92/93, S.D. Road,
 Secunderabad - 500 003.
 (ANDHRA PRADESH)



Tel : (Off) : (040) 814 405/8

(Res.): (040) 290 997

Fax : (040) 813 717

Personal

- Mr. P.B. Naidu, age 51 Years, is BE. (Mechanical), ME (Industrial Engineering).
- Having 23 years Experience (of which 17 years in Wood Based Paper Mills).

Professional

- From last 7 years in The AP Paper Mills Ltd.
 - Heading Commercial Division.
 - Incharge of Raw Material Department
- Major activities
 - o Working of Bamboo from Govt. allotted Coupes (75,000 MT per annum)
 - o Procurement of Hardwood (300,000 MT per annum)
 - o Farm Forestry Activities of distributing 12 million seedlings to farmers and R&D activities.

Mr. RAJ CHAURASIA

Chief General Manager
(Raw Material & Plantations)
Ballarpur Industries Ltd.

Chapar House,
124, Janpath
New Delhi - 110 001



Tel : (Off.): (011) 336 8811
Fax : (011) 336 7941

Personal

Mr. Raj Chaurasia, Age 56 years, is Mechanical Engineer.

Professional

Having 33 years experience

- o 1990 onwards - As Chief General Manager, Paper Division, Ballarpur Industries Ltd. looking after raw material and forestry functions at Corporate level of all the four paper mills.
- o 1985-89 - In charge of operations of Sewa Paper Mills in Orissa as its Vice President responsible for day-to-day running and Management of Bamboo harvesting from Malkangiri Forests in Orissa.
- o 1964-84 - In various Tea Nursery, Plantation & Operations Management - Last five years as Vice President incharge of 5 estates of the Group in Assam.

Mr. G.C. MOTWANI

Dy. General Manager
(Raw Material)
Century Pulp & Paper
Ghanshyamdham,
P.O. Lalkua - 262 402
Distt. Nainital
(UTTAR PRADESH)



Tel : (Off.): (05946) 212 26,
722 43 722 46
Fax : (05946) 231 99

Personal

Mr. G.C. Motwani, age 54 years, is B.Sc. (Agricultural Engineering & Technology),

Professional

Having 30 years of experience in India & Nigeria (West Africa) in Agro Projects.

Business Areas & Interests

- o Social Forestry : Setting up of Eucalyptus and Bamboo Seedling nurseries.
- o Administration work of wood and bagasse procurement.
- o Handling & storage of raw material.
- o Saw Mill & Forestry Management Procurement of raw materials, manufacturing and sale of finished products.
- o Agricultural farming & extension farming
- o Tea estates Management - Plantation and manufacturing.

Mr. A.K. Sharda

Chief General Manager
(Forest & Plantation)
JK CORP Ltd.
Rayagada,
Distt. Rayagada - 765 001.
(ORISSA)



Tel : (Off.): (06856) 222 21,
223 48 222 58/59
Fax : : (06856) 222 38

Personal

— Mr. A.K. Sharda, Age 41 years, is M.Sc (Botany).

Business Areas & Interests

Managerial

— Having experience in various capacities in Paper Mills & Medium Density fibre Board which included Forestry Operations, such as :

- o Project conceptualization, formulation & implementation for creation of Raw Material resource base (Plantation) through involvement of the private farmers.
- o Designing & field implementation of extension strategies for mass mobilisation of the farmers for raising plantations.
- o Strategic Planning & Financial Management and Planning & Control for the Forest Organisation for sustainable supply of raw material.
- o Labour Management.
- o Purchase of hardwood from open markets of select States.
- o Raw Material logistics planning.

Technical

- o Support for raising low cost, quality nurseries with effective use of local materials.
- o Initiation of R&D activities
- o Assisting CEO's in formulation of policies.

Interpersonal

- o Assistance to the implementing staff for motivation of grassroot people including illiterate backward classes to take up tree farming on own degraded/fallow lands.
- o Development of Personal Relations with several Government Departments, Financial Institutions, Contractors, Other allied sector industries, NGO's, etc.
- o Interaction with Public, Private Sector Companies, Research Institutes, etc. involved in Plantation Technologies for update of the latest technology inventions.
- o Creation of awareness in the government, Financial Institutions, Research Institutions, etc. of the JKCL's plantation programmes through presentations in various Conferences/ Seminars/Workshops organised by the company/ national or international bodies.

Mr. R.K. TORVI, IFS

Chief Conservator of Forest &
Director (Forests)
The Mysore Paper Mills Ltd.
Old Mamoc Building,
Kote Road, Shimoga - 577 202
(KARNATAKA)

Tel : (Off.): (08182) 704 73
Fax : (08182) 704 73



Personal

- Mr. R.K. Torvi, Age __ years, is an officer of the Indian Forest Service (IFS) and having 28 years experience in Forestry Sector.

Professional

- He is working in the capacity of Director (Forests) for over a year. He is in overall charge of the Forestry Activities of the Company including raising of Captive Plantation, their tending, extraction and transportation of the raw material to the Mills, besides arranging to procure raw material from other sources.
- He is the head of the Forestry Division, which is looking after the Industrial Captive Plantation over an area of 30,000 Ha. comprising of Eucalyptus, Acacia and other tropical pines. From these areas, annually the Mills is extracting about (0.1 million tonnes) of Pulpwood from the Captive Plantations and carrying out replanting activities in about 2,000 Ha. of land and fresh planting works in about 1,000 HA.

Mr. M.C. PANDE

Raw Material Development
Manager

Orient Paper Mills Ltd.
P.O. Amlai Paper Mills
Distt. Shahdol - 484 117
(MADHRA PRADESH)

Tel : (Off.): (07652) 862 75/77
Fax : (07652) 862 74



Personal

- Mr. M.C. Pande, Age 52 years, is M.Sc (Botany).
- Having 30 years experience.

Business Areas & Interests

- Since 1993 in Orient Paper Mills looking after raw material development projects, management of environmental issues in Pulp & Paper Industry.
- Worked in Orient Paper Mills (1974-78) and looked after Pulpwood Plantations apart from field research in silviculture, management of pulpwood plantations, conventional and non-conventional fibrous raw material. Also undertook R&D on pollution control in Paper Industry (1974-78).
- Field research in the silviculture and management of pulpwood plantation forests (1971-74).
- Worked in Birla Institute of Scientific Research as Scientific Officer and did field research in genetics and breeding (1967-71).

MR. V.V.S. PRASAD

- Director of Madhya Pradesh Plantation Ltd. and Advisor to Birla Institute of Scientific Research Centres.
- Successfully implemented a farm forestry project in 10 districts of Madhya Pradesh (covering 3,500 villages and 10,000 farmers). So far 25.8 million seedlings of Pulpwood species have been planted in about 10,000 hectares of farm wastelands.
- Established first of its kind in India "timber wood Museum" - non world listed.

General Manager (Raw Materials)

The Sirpur Paper Mills Ltd.

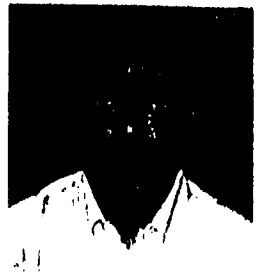
Sirpur - Kaghaznagar,

S.C. Rly - 504 296

(ANDHRA PRADESH)

Tel : (Off.): (08738) 680 44/45

Fax : (08738) 680 03



Personal

- Mr. V.V.S. Prasad, Age 55 years old, is B.Com (Advanced Accountancy & Auditing as Special subjects)
- Having 34 years experience

Business Areas & Interests

- At the Sirpur Paper Mills Ltd. (1986 onwards) responsible for procurement of Raw Materials from the State Government and other available sources for uninterrupted production.
- Worked in The Bengal Paper Mill Co. Ltd. (1974-86) and responsible for :
 - o Controlling the forest operations in the plantation areas allotted by the State Governments and leases from the other States.
 - o In charge for raw material accounting and co-ordinating.
 - o Liaison with Insurance companies for early settlement of claims.
 - o Liaison with the Railways for efficient movement of the raw material.

Past Experience

- Worked in Rohitas Industries Ltd (1963-74).
- Worked in Sahujain Services Ltd. (Cement Division) (1965-66).
- Worked in New Central Jute Mills (1963-64)

MR. R.K. CHOPRA

Dy. General Manager
(Raw Material)

**The West Coast Paper
Mills Ltd.**

P.B. No. 5, Bangur Nagar,
Dandeli - 581 325
U.K. Distt. (KARNATAKA)



Tel : (Off.) : (08284) 31 3 91/5
Fax : (08284) 31 2 25

Personal

— Mr. R.K. Chopra, Age 42 years, is B.Sc., MBA (Specialisation in Financial & Marketing Management).

— Attended following important Management Developing Programmes conducted by Indian Institute of Forest Management.

- o National workshop on Management of Nurseries and Plantations.
- o Financial Management for Forest Managers.
- o Project Formulation and Financing for Social Forestry Programmes.

— Training Programme on Technology for Industrial Plantation conducted by Tata Energy Research Institute.

— Workshop on Non-Government participation in Forestry Sector in Maharashtra State, conducted by Tata Consultancy Service.

Business Areas & Interests

- o To procure and transport 3,60,000 MT of raw material annually comprising of different species viz., Eucalyptus, Casuarina, Subabul, Acacia and Bamboo.
- o To raise and distribute 4 million quality seedlings to the marginal farmers and provide free extension service.
- o To undertake research for producing genetically superior high quality planting stock of Eucalyptus and Acacia species.

(Member Secretary of the Mission)

MR. RAJIV BUDHRAJA

Secretary

Indian Paper Makers Association
PHD House, (4th Floor)

Opp. Asian Games Village,
New Delhi - 110 016.



Tel : (Off.) : (011) 651 8379
Fax : (011) 651 3415

Personal

— Mr. Rajiv Budhraj, Age 38 years, is B.A Hons (Economics), and M.A. (Business Economics) from University of Delhi.

— Having 15 years of experience.

Professional

— Working in a Service Organization with focus on Industry related programmes and developmental activities.

— Developing and successful implementation of self-financing projects for a service organization.

— Analysis and interpretation of Trade and Economic Policies with focus on Industrial Development & Environmental improvement.

INDIAN MISSION TO INDONESIA & MALAYSIA
10th-19th November, 1997

<u>Day/Date</u>	<u>Activities</u>
01/Monday (10/11/97)	Introduction & Briefing by Mr. Goran Storck & discussions with Mr. Titus Sarijanto, MSc. (Dir. Gen. Of Forest Utilization) Mr. Usman, Msc. (Chief of Data & Statistic who replaces Director of Forest Programme) Mr. Dr. Ir. Silver Hutabarat (Chief of Sub Directorate of Technical Cooperation) Mr. Ir. H. Walter Nadadap (Director of forest Product use and Circulation System).
02/Tuesday (11/11/97)	Meeting/Discussion with Mr. Prof. Dr. Ir. Herman Haeruman (Deputy for Regional Development & Staff) Presentation & Discussion chaired by Mr. Jouko virta Meeting & Discussion with Mr. M. Mansur, Chairman, Indonesian Pulp & Paper Association & other officials.
03/Wednesday (12/11/97)	Departure to Palembang Arrival Palembang. Discussions with Pt. Musi Hutan Persada
04/Thursday (13/11/97)	Visit to Field Plantations. Night halt at Palembang
05/Friday (14/11/97)	Palembang-Jakarta-Singapore
06/Saturday (15/11/97)	
07/Sunday (16/11/97)	Singapore-Kota Kinabalu & Bengkoka in Malaysia
08/Monday (17/11/97)	Field visit to Bengkoka Plantations & return to Kota Kinabalu
09/Tuesday (18/11/97)	Discussions with SAFODA Officials & visit to their Research Station.
10/Wednesday (19/11/97)	Kota Kinabalu - Kuala Lumpur - Delhi.

LIST OF DIGNITARIES MET IN INDONESIA / MALAYSIA

INDONESIA

Ministry of Forestry

1. Mr. Ir. Titus Sarijanto,
Director General of Forest Utilization
2. Dr. Ir. Toga Silitonga,
Director General of Agency for Forest Research & Development
3. Mr. Ir. Usman,
Director of Forest Programming
4. Mr. Ir. H. Walter Nadadap
Director of Forest Product Use and Circulation System
5. Mr. Ir. Komar Sumarna
Director of Forest Utilization Planning

BAPPENAS (National Development Planning Agency)

1. Prof. Dr. Ir. Herman Hactuman
Deputy for Regional Development

APKI (Indonesian Pulp & Paper Association)

1. Mr. Muhammad Mansur
Chairman of APKI
2. Mr. Suresh Kilam
CEO & Managing Director, APP Co. Ltd.
3. Mr. Atul Gogna
Manager Marketing Services, APP Co. Ltd.
Executive Assistant to CEO, APP Co. Ltd.

Jaakko Poyry

1. Mr. Jouko Virta, CEO
2. Mr. Goran Storck
3. Mr. Alex Thorp
4. Ms. Suriyati

MALAYSIA

SAFODA

1. Mr. Francis G. Otigil
Dy. General Manager
2. Mr. Zulkifli Nasir
Director of Planning & Marketing
3. Mr. Missanto Masric
Regional Forestry Director of Bengkoka
4. Mr. Crispin Kitingan
Director of Research & Development
5. Mr. Rahimah Haji Ahmad
Director of Corporate Affairs
6. Mr. Norbert Bolong
Director of Private Tree Farm
7. Mr. Rudolfo Blantocas
Asst. Director of Marketing
8. Mr. ABD Majin Afsan
Information Officer

DOCUMENTS / PUBLICATIONS FORMING IMPORTANT REFERENCES

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4. Anon, (1997); Sabah Forestry Development Authority (SAFODA), Kota Kinabalu, Malaysia
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7. Anon, Plantation Trip - A Handout : PT. Musi Hutan Persada, Subanjeriji, South Sumatera
8. Anon, Sabah Forestry Development Authority (SAFODA), Bengkoka Project, Kota Kinabalu, Malaysia
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11. Kiam, Thai See, (1995); Status of Forest Plantation in Peninsular Malaysia. Paper presented at "Workshop on Forest Plantation" August, 1995, Tawau Sabah.
12. Mansur, M., (1997) The Indonesian Pulp & Paper Industry, 1997 - Presentation at the 8th Asian Pulp and Paper Conference, Seoul, 12-14 October, 1997.

13. Rahim Sulaiman & Anuar Mohammad; The Current Status of Forest Plantation in Sabah.
14. Rubeli, K., (1986) : Tropical Rain Forest in South-East Asia.
15. Sumahadi, Burhanuddin Sarbini, Kustanta B Prihatno; (1997); Forest Resource Monitoring and Assessment at National Level : An Indonesian Experience In: A State-Of-The-Art Report on Some Recent Forestry Policies, Initiatives and Achievements In Indonesia, Ed. B.D. Nasendi, Ministry of Forestry of the Republic of Indonesia, Jakarta.
16. Virta, Jouko, (1997); Information Package on Indonesian Forestry - Presentation made to Indian Industry Delegation to Indonesia, November, 1997: Jaakko Poyry Consulting.

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