CHAPTER - III

PROFILE OF THE PAPER INDUSTRIES IN TAMIL NADU

INTRODUCTION

Indian Paper industries has created sustainable livelihood in rural areas and has helped generating employment for the local population especially for women to earn their livelihood. The Indian Paper Industry has emerged as a diversified and specialized industry that produces numerous types of papers that comes in various use such as watermark, filter paper, drawing sheets, etc. Other products including Paper Bags, paper diaries, paper photo Frames, Greeting Cards, Handmade paper Boxes, paper Albums, etc, are manufactured and exported across the world. Today, the Indian exporters export nearly ` 400 lakhs worth of paper products per annum to the developed nations.

The Indian Paper Industry is a booming industry which is expected to grow in the Years to come. The usage of paper cannot be ignored and it gained much importance in the future scenario awareness of which will bring about better changes in the paper industry. It is a well known from the fact that the use of plastics is being objected in these days as it does not possess the property of being degradable. The excessive of use of degradable plastics upsets the ecological equilibrium. The new millennium is going to be the millennium of the knowledge. So the demand for paper would go on increasing in times to come.

In India, paper industry was first established in 1812. The demand for paper is going up every Year with rapid growth of population and literary rate. Shortage of raw materials is a chronic problem in this industry. This has been further accentuated by the stricter ecological regulation around the world, restricting I the felling of trees.
The forest cover of India is estimated to have declined from about 51 million hectares in 1988 to about 46 million hectares in 2010. With depleted forest resources, the supply of forest based raw materials has reached a precarious stage. In Tamil Nadu, there are few small and medium sized paper industries producing less quality of paper and paper products. Since their activities are very low, there is no scope for HRM practices in these industries. Only there are two major industries in Tamil Nadu, i.e., TNPL as a public sector organization and SPB Ltd as a Private Sector organization producing 600 tonnes of paper and its products per day and 450 tonnes of paper and paper products per day respectively.

PROFILE OF TAMIL NADU NEWSPRINT AND PAPERS LIMITED (TNPL)

Tamil Nadu Newsprint and Papers Limited (TNPL) is a Government of Tamil Nadu Enterprise producing Newsprint and Printing and Writing paper at its Mill located at Kagithapuram in Karur District in1979 with an installed capacity of 2.45 lakh MT per annum. TNPL is the one most accomplished mill in the World, producing different varieties paper of acceptable quality primarily from Bagasse and pulpwood. It is a public sector enterprise under the control of Tamil Nadu government.

It manufactures high quality newspaper, writing and printing paper from Bagasse. It has two objectives.

1. To conserve the fast depleting forest resources.

2. To reduce the dependence on imported newsprint.

TNPL was established under the companyed Act, 1956 as a Public Sector enterprise under the control of State Government. TNPL is acknowledged as the world leader on Technology for the manufacture of newsprint, PWP from Bagasse Pulp mix.
The newsprint consists of 85% Bagasse and 15% hardwood, chemical pulp: Pulp is manufactured from 75% Bagasse pulp and 25% of hardwood chemical pulp.

Now, the company has installed two paper machines, one is imported from U.K. in 1985 and the second is imported from Germany in 1995. Both the machines are designed to produce newsprint as well as printing and writing paper (PWP) assuring flexibility in production depending on the market situations. TNPL has been designed for manufacturing 50,000 tonnes of newspaper and 40,000 tonnes of printing and writing paper and 1,00,000 tonnes of newsprints with flexibility. It is the most modern mill exercise with unique Bagasse handing system, multifuel boilers and highly sophisticated laboratory research and development centre.

For maximum capacity production, the mill requires about 8,00,000 tonnes of Bagasse every Year and probably it gets Bagasse from sugar mills.

1. Salem Co-operative Sugar Mills, Mohanur
2. Decan Sugars, Pugalur
3. Sakthi Sugars Ltd, Appakudal
4. Aringar Anna Sugar Mills, Karungulam
5. Cauvery Sugars and Chemicals Ltd, petavaithalai

It has executed a total no. of 11 coal fired boilers in the above sugar mills for production in order to save the Bagasse. The cost of purchase and installation of coal fired boilers is `20 lakhs. For energy formation, TNPL use innovative method, one is 15 wind farms which are largest in Asia, consisting of 60 wind electric generations.
It has the most sophisticated modern plans capable of producing first quality printing and writing paper. It has the capacity to meet large requirements with minimum lead time. In that sense TNPL is really a harbinger of new technology for the country and the third world as well. It has got the ISO-9001-reward for dedication. It has achieved the ISO 9001 accreditation with a short span. As a result is maintain a quality standard in its product.

Now, the plan is designed for a normal capacity of 180,000 T/PA using Bagasse as the principal ratio - material. It is now proposed to develop about 2000 acres of dry land adjoining the factory for using the treated effluent water. It has set-up a housing colony under the separate township named “Kagithpuram” in the adjoining area factory. It helps the country in saving precious foreign exchange agent newsprint import and it saves over 30,000 acres of forest land.

At present, TNPL consumes about 10 Lac MT of Bagasse for pulping and thereby conserving the natural forests from deforestation to the extent of about 40,000 acres every Year. Annual Sale crossed ` 1000 Lakhs for the third consecutive Year. Current Year sales of `1184.44 Lakhs is the highest ever achieved. The Profit after tax increased by 18.20% from `126.06 lakhs to `149.00 lakhs despite increase in input costs. The production capacity increased from 2, 45,000 tonnes per annum to 4, 00,000 tonnes per annum. Export Sales leaped from 50,394 MTs. to 64,776 MTs. Hardwood Pulp production increased to 97,492MTs. from 95, 514MTs in the previous Year. Pulpwood plantation touched a new peak of 15,379 acres in a single Year. The Bio-methanation Plant generated 59.34 lakh cubic metres of methane gas enabling the company to save consumption of 3,545 KL of furnace oil.
AWARDS

Adjudged the best performer at the National level in Pulp and Paper category in the EVI Green Business Survey. Received FSC Chain of Custody (C-o-C) and Controlled Wood Certificate from M/s SmartWood Program of Rainforest Alliance, USA for complying with FSC-STD-40-004 and FSC-STD-40-005 standards. Received National Award for “Excellence in Water Management 2010” from Confederation of Indian Industry (CII) for the best performance in Water Management in India among the Industrial Sectors.

BOARD OF DIRECTORS

- Dr. N. Sundaradevan, IAS Chairman
- Thiru. T. K. Ramachandran, IAS Managing Director
- Thiru. Rajeev Ranjan, IAS Director
- Thiru. A. Velliangiri, Deputy Managing Director
- Thiru. V. Narayanan, Director
- Thiru. N. Kumaravelu, Director
- Thiru. D. Krishnan, Director

FARM FORESTRY SCHEME

Under farm forestry scheme, the Company motivates and facilitates the marginal and small farmer to take up pulpwood plantation. The salient features of the Scheme are supply of quality planting material at subsidized cost, arranging credit facilities for the needy people through banks, providing timely technical advice through a team of qualified professionals and buy back arrangement with minimum support prices or prevailing market rate at the time of felling, whichever is higher, harvesting and transport of pulpwood from the farmer’s field to Factory at company’s cost. This
benefits farmers to a great extent as it helps them to improve their livelihood and obviously it enjoys great patronage from farmers.

**CAPTIVE PLANTATION**

In the captive plantation scheme, Captive plantations are raised in the lands belonging to the Company, Government Departments, Educational institutions and in the large land holdings individuals on a revenue sharing basis or on a lease rental basis. The minimum criteria for captive plantation is that the land should be a block of 25 acres and above in single location where as less than 25 acres is also considered only in the case of adjoining lands of existing captive plantation, provided the adjoining areas should be contiguous to the existing plantation. TNPL enters into a MOU with the owners of such lands for raising Captive Plantation and undertaking the responsibility of land development, establishment of plantations, maintenance of plantation and harvesting the pulpwood at TNPL’s expense. The land would be taken either on long term lease spanning over a period of 6 to 30 Years lease or on gross revenue sharing basis. In the revenue sharing pattern, if the plantation is raised in a barren land, the produce is shared between TNPL and the landowner on a 70:30 basis and in case of wet lands, the revenue sharing pattern is 60:40. In the case of lease mode, the lease rent for a barren land is ` 1000/- per acre, whereas for an irrigated land it is ` 3000/- per acre every Year paid to landowner and the entire produce is taken by TNPL. Till March 2011, TNPL has raised plantation in 66,599 acres and pursues its commitment of increasing plantation in 15,000 acres every Year to attain the target of 1 lakh acres by the Year 2012-13. As of 31.3.2011, 12,012 farmers’ lands are covered under the scheme. By extending the scheme in 15,000 acres every Year, TNPL will be adding about 4,000 farmers under the scheme additionally every Year. When the scheme is completed by the Year 2012-13, about 25,000 farmers would have been covered under
the scheme. In addition to benefitting farmer community, the plantation programmes create positive impact on the eco-system where it is implemented as it stops soil erosion and further degradation of lands. Rational agro forestry systems under these programmes will provide a green cover and thus restore the ecological balance of the operational area. Implementing of the tree farming activity in 40,000 ha (1,00,000 acres) outside the forest area is a significant step towards converting the underutilized degraded wastelands into green cover. Further, by establishing pulpwood raw material outside the forest area, the same amount of natural forest remains protected without disturbance for pulpwood and firewood.

In all, TNPL has established pulpwood plantations in about 40291 acres (as on 31st March 2009) and is committed to raise plantation in about 15,000 acres every Year to reach the target of 1,00,000 acres by the end of the Year 2012-13. These two Plantation Schemes have given an opportunity for the Industry to promote, develop and raise green cover in the wastelands. These schemes apart from resourcing pulpwood...
raw material will also help in improving the environment, maintaining ecological balance, and providing employment opportunities to the rural population.

**CLONAL PROPAGATION AND RESEARCH CENTRE (CPRC)**

Raw material supplies from the plantation are based on the quality planting material, which is supplied to the farmer’s field. The seed routed plantation has their inherent disadvantages of low survival, establishment, low productivity and variation in quality. Whereas the clonal material produced from selected proven superior trees shows uniformity, good pulping content, high survival, growth rate and higher productivity. Therefore, TNPL has set up one of the largest Clonal Propagation and Research Centres from the Year 2005-06 onwards with a capacity of producing 1.50 lakhs saplings per Year, adopting an integrated propagation approach of using both micro and macro propagation techniques for Eucalyptus, Casuarina and other pulp wood. To cater the need of huge planting material to the tune of 15 million plants to cover 15000 acres every Year, TNPL established state-of-the-art clonal propagation and research centre (CPRC) to achieve self sufficiency in planting material and production of quality clonal/ seedling plants with a capacity of 15 million plants per annum. The clonal production centre was started with mini clonal hedge garden of 4000 sq.m, mist chamber of 8000 sq.m, 5300 sq.m of hardening chamber and 20000 sq.m of open nursery with updated technological innovations as per international standards. The clonal production center was established at an outlay of about 500 lakhs. This is considered to be a milestone in the plantation activities and assure quality planting material availability throughout the Year. TNPL received Forest Stewardship Council (FCC) Chain-of-Custody and Controlled Wood Certificate from M/s. Smart Wood Program of Rainforest Alliance, USA to manufacture FSC certified products.
FORESTRY RESEARCH and DEVELOPMENT

The search for the new improved planting materials never ends. Therefore, continuous R and D activities are mandatory for any Organisation. Provisions are made to establish various research programmes in micro and macro propagation of Eucalyptus, Casuarina and other alternative pulpwood species. Various research trials with specific objective are being laid out to improve the pulpwood productivity. Tree breeding mini-orchards are being established in CPRC to carryout breeding and tree improvement works.

Productivity improvement through clonal plantations in the country was the major break through during 90s by dedicated efforts of ITC Plantation which has developed more than 100 clonal varieties to suit various type of soil and climate in the country. Till today almost all the paper mills and the forest corporations are depending on the same old clones in their plantation programme. There is no new improved clones developed by any organisations, which is tolerant to invasive pest like Eucalyptus gall threatening the eucalyptus plantations in large. Almost all the clones were outdated and no clone is tolerant to the pest and diseases of recent times which create fear among the farmers to go in for Eucalyptus cultivation.

Apart from this, there is a vast potential in developing new clones with high fibre yield and low lignin content which is the need of the hour for the paper mill to compete with the global market in term of cheaper cost, better quality and environmental friendly paper. Research is the key for this development and TNPL now has got the team of scientist with background of Breeding, Soil Science, Entomologist, Microbiologist and Environmental sciences to work in this front in association with the leading research organisations like Institute of Forest Genetic and
Tree Breeding, Forest College and Research Institute and Tamil Nadu Agricultural University. This would facilitate to develop new improved genetic material for production of preferred, site-specific clones suited to individual operational areas and reduce the cost of clones and emerge as a profitable enterprise to the farmers.

PROFILE OF SESHASAYEE PAPER AND BOARDS LIMITED (SPB Ltd)

Seshasayee Paper and Boards Limited (SPB Ltd), the flagship company belonging to ‘ESVIN GROUP’, operates an integrated pulp, paper and paper board Mill at Pallipalayam, Erode-638 007, District Namakkal, Tamil Nadu, India.

SPB Ltd, incorporated in June 1960, was promoted by Seshasayee Brothers (Pvt) Limited in association with a foreign collaborator M/s Parsons and Whittemore, South East Asia Inc., USA. After commencement of commercial production, having fulfilled their performance guarantee obligations, the foreign collaborators withdrew in 1969. Main promoters of the Company as on date are a group of companies belonging to the EVSIN group headed by Mr. N.Gopalaratnam.

SPB Ltd commenced commercial production in December 1962, on commissioning a 20000 t/pa integrated facility, comprising a Pulp Mill and two Paper Machines (PM-1 and PM-2), capable of producing, writing, printing, craft and poster varieties of paper. The Plant capacity was expanded to 35000 t/pa in 1967-68, by modification of PM-2 and addition of a third Paper Machine (PM-3). The cost of the expansion scheme, at ‘ 34 Millions, was part financed by All India Financial Institutions (‘ 31 Millions). In the second stage of expansion, undertaken in 1976, capacity was enhanced to 55000 t/pa, through addition of a 60 t/pa new Paper Machine (PM-4). Cost of the project, including cost of a Chemical Recovery Boiler and other facilities for enhanced requirement of utilities, was estimated at ‘ 176 Millions. The
same was part financed by term loans from Institutions and Banks to the extent of `145 Millions and the balance out of internal generation.

The first expansion of the company took place in 1969. The capacity was increased to 35,000 tonnes per annum. It went for second expansion in 1978 when the production capacity was increased to 60,000 tonnes per annum. The numbers of employees working in the Organization are 1608 as on 31.01.2001 and the total area of the company is 161 acres, out of which the Factory area is 101 acres.

The registered office and the factory is situated near Cauvery Railway Station, Erode. The Marketing office is situated at Chennai. The mill was designed to use bamboo as primarily raw material for manufacturing its pulp and paper. Letter hard woods like Eucalyptus supplemented bamboo in large measure. The ultimate answers for raw material were sugarcane Bagasse. It did not take much time for the mill to anticipate that Government would call upon the Pulp and paper Industry to shift to alternate raw material and this soon led to the birth of establishing a sugar mill. This led to yet another story “the genesis of Ponni Sugars and Chemicals in 1984.” It can acquire the required Bagasse raw material from the Ponni Sugars and Chemicals which is located adjacent to the factory. The Government of India has recently announced a shift in its licensing policy under which sugar and paper Mills will be required to be integrated, each supporting the other and forest wealth from denudation. Seshasayee paper and Boards limited is going for the next expansion at present and the production will be increased to 1,20,000 tonnes per annum. The Seshasayee’s annual production is 60142 tonnes of paper and paper product during 2009-2010. It is a major private sector industry in paper production.
The mill is first ever in the world to cook bamboo in its continuous digester (Pandia Digester). This is the first mill to cook both bamboo and bagasee in the same digester. Owing to continued short supply of bamboo, the mill started using various types of hard wood and soft wood in its furnish and as at present the admixture of bamboo and wood is in the ratio of 10:90. Such high percentage of wood in the furnish can truly be acclaimed as a technological breakthrough.

The mill began to outgrow its size and expanded and diversified capacity in 1969 to 35,000 tonnes of pulp and paper per annum, including capacity to produce 10,000 tonnes of duplex board. In 1976, the mill embarked upon its second expansion project to increase its capacity to 55,000 tonnes of paper per annum which was commissioned in 1978 in a recorded time of 24 months involving an outlay of ₹.18 lakhs. It is worth mentioning that the two expansions were achieved by the company without any foreign collaboration.

Considerable research and development is undertaken by the mill which already helped it to identify a wide spectrum of primary raw materials to supplement the conventional raw materials, namely bamboo, for manufacture of pulp and paper joint research project is also undertaken with a neighboring agricultural university for growing new strains of fast growing species of wood which can be used as raw material with advantage.

The company has now established a separate Research and Development cell to enlarge the scope and amplitude of the existing R and D activities. The cell would primarily concentrate upon identification of chapter substitutes for costly chemicals, improvement in process efficiencies, thermal energy recovery studies and treatment and
utilization of liquid effluent for irrigation purposes. The company has also undertaken a joint research programme in association with Belloit Jones Division, U.S.A.

The Company also renders consultancy services in the establishment of integrated pulp and paper plants both within India and abroad including TNPL. After having completed initially some minor consultancy assignments both within the country and abroad, the company is now actively engaged in the Newsprint project of the TamilNadu Government for which it has been acting as the project consultant. This mammoth project involving capital outlay exceeding ` 200 lakhs is nearing completion within the original cost and time schedule. Besides, the company also rendered consultancy services to a neighbouring sugar mill, Ponni sugars and chemicals limited for setting up its plant.

The company undertook some renovations like modernization programme in 1980, to diversify and enlarge its product range and produce specialized grades of paper and boards. This project was completed in 1984. As a part of its continuous efforts to become self reliant on the energy front, the company has installed an ignited boiler which has fluidized bed to burn different types of fuel like coal with single ash content pith, lignite and Leo.

SPB Ltd undertook various equipment balancing and modernisation programmes, since then, for improving its operating efficiency, captive power generation capacity, etc., up to 1992-93.

The Company, with its technical, financial and managerial inputs, has successfully de-bottlenecked the land operations of SPBPL and has fairly stabilised production during the Financial Year 2011-12. Further, product quality of SPBPL is now well accepted by both the domestic and export markets.
In these circumstances and in the business interest of SPB Ltd and SPBPL and having regard to the synergistic linkages that exist between them, the Board of Directors have considered and proposed the amalgamation of the entire undertaking and business of the SPBP Ltd with SPB Ltd. The amalgamation will enable appropriate consolidation of SPB Ltd and SPBPL Ltd with pooling and more efficient utilization of their combined resources, greater economy of scales, reduction in overheads and other expenses and improved operating performance. The benefit of such integrated operations could be derived from better resource management, reduction in overall working capital requirements and tie-up of resources on more competitive terms. The amalgamation will enable the business of the merged SPB Ltd to be carried on more conveniently and advantageously. The product range of SPB Ltd and SPBPL are complementary and hence the combined operations would help cater to a wider market segment. With the help of De-inking Plant located in SPBPL and facility to handle recovered fibre, there would be diversified raw material source, including environment friendly source of raw material, for the combined operations of SPBL, post-amalgamation. The amalgamation is thus intended to have beneficial results for the said companies, their shareholders and other stakeholders.

BOARD OF DIRECTORS

The Company's Board is broad based comprising 11 Directors:

- Sri. N. Gopalaratnam, Chairman and Managing Director
- Sri. R.V. Gupta, I.A.S., (Retd.)
- Dr. S. Narayan, I.A.S., (Retd.)
- Sri. Bimal Kumar Poddar
- Sri. Arun. G. Bijur
- Sri. V. Sridar
• Sri. Md. Nasimuddin, I.A.S (Nominee of TIIC)
• Sri. C.V. Sankar, I.A.S (Nominee of Govt. of Tamilnadu)
• Smt. Philomina Thomas (Nominee of LIC)
• Sri. K.S. Kasi Viswanathan, Deputy Managing Director
• Sri. V. Pichai, Director (Finance) and Secretary

ISO 9001 / ISO 14001 Accreditation

The Company’s quality systems continue to be covered by the “ISO 9001” accreditation awarded by Det Norske Veritas, The Netherlands.

The company has also been accredited with “ISO 14001” Certification by Det Norske Veritas, The Netherlands, for its Environmental Quality Systems.

Establishment Highlights

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<th>Category</th>
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<td>Incorporation of the Company</td>
<td>1960</td>
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<tr>
<td>Commencement of Production</td>
<td>1962</td>
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<td>First Expansion</td>
<td>1969</td>
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<td>Second Expansion</td>
<td>1978</td>
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A planned and well laid Housing colony accommodates at present nearly 1,100 of its employees with facilities of a High School and Elementary school, Recreation Clubs an Open Air Theatre, Parks, a Temple, a Church and a Mosque, a Shopping Complex and other amenities.

The Company is proud of its technical executives and its army of skilled and semi-skilled personal. The Company is professionally managed with number of individuals or group having a controlling or vested interest in the Company. About 60% of the shares are held by Government and Quasi Government bodies.
The Company continues to make a steady progress and it is rated high in terms of operational efficiency. It has established a good record for capacity utilization and energy conservation. Mindful of its multifarious duties to its shareholders, employees, customers and the nation as a whole, it would leave no stone unturned to contribute its share to the national wealth by improving productivity.

ORGANISATION SET UP

The Company is managed by Board of Directors who have delegated to Managing Director substantial powers of management, plus power to appoint personnel at all levels, enter into contracts in ordinary course of business, purchase and sell assets and invest funds of the company within limits fixed by Board from time to time. The Managing Director delegates his power to Vice President (Operations) who is the sole in charge for the normal administration and day-to-day functioning of the factory.

Determination of Sales policy, fixing selling prices, settlement with labourers, undertaking new projects, borrowing long term loans are done with the approval of the Managing Director and if necessary the same will be submitted to the Board, Purchase and Salem, selecting suppliers, placing orders to them, production, planning, distribution of finished goods, manpower planning and recruitment up to middle management and decisions are taken care of by the Vice President (Operations).

The Vice president (Operations) is aided by three Deputy General Managers viz., Deputy General Manager (Works), Deputy General Manager (Purchase and Systems) and deputy General Manager (personnel / HRD). There is a flow of delegation of authority from Deputy General Manager to functional Chief Managers. The Functional managers are fixed with the responsibility of achieving the target and goals of their respective functions.
Monthly meetings of various Heads of Departments are convened to assess and review the performance of functional Chief Managers to monitor and control their activities. These meetings are beneficial to all Heads of Departments in appreciating problems faced by individual sections and ensuring better co-operation and coordination. It exports papers to different countries and thus fulfills the new economic policy laid by the Government of India. It even competes with other industries for making the sick units viable.

3.1 ORGANIZATION CHART - SPB Ltd

Personnel Management is that part of Management process which is primarily concerned with human constitutes of an organization.
3.2 ORGANISATION STRUCTURE - SPB Ltd (At Management Level)

EXPANSION / MODERNISATION PROJECT

The Company embarked on an Expansion / Modernisation Project to enhance its production capacity from 60,000 tonnes per annum, to 1,15,000 tonnes per annum and to upgrade some of the existing facilities, at an estimated cost of `1890 millions. The said Expansion / Modernisation Project were completed in December 2000. After successful trials, the Commercial Production out of the new Paper Machine commenced on July 1, 2000. The current installed capacity of the Company stands at 1,15,000 tonnes per annum.

RAW MATERIALS

The Company's paper plant was originally designed for using bagasse, as the primary raw material mixed with 20% bamboo fibre. Bagasse was being obtained from nearby sugar mill on substitution basis using oil fired boilers. With sharp increase in oil prices in 1970-71, the Company shifted over to the use of hardwood, at the time of its expansion undertaken in 1978. Raw material mix underwent a substantial change, with
bamboo and hardwood forming 60% and 40%, respectively, of its raw material consumption.

Soon Company started apprehending difficulties in procurement of bamboo. In 1981, it added one more digester, to increase the share of the hardwood in the furnish mix to 80% and restricting bamboo use to only 20%. With the commissioning of more wood based industries in Tamil Nadu, there was again an apprehension about availability of hardwood. As a long term strategy, the Company at this time decided on restructuring use of bagasse which was seen to be the most reliable source of fibre for the entire Industry. In 1984, the Company promoted Ponni Sugars and Chemicals Limited, as the captive source for bagasse supply. It added bagasse handling systems and modernised PM-1 and PM-2, to shift over to the use of bagasse.

The furnish mix for the existing Paper Machines of the Company is 55% bagasse and 45% hardwood. The Company has vast experience in handling bagasse and is expected to be one of the major strong points vis-à-vis its competitors in India, as the Indian Paper Industry will continue to be bogged down by the problem of raw material availability. For the new Paper Machine, the furnish is imported waste paper and imported pulp which are sourced from Far East countries, Europe and USA. A small quantity is supplemented out of captive pulp production.

**EXPORTS PERFORMANCE**

SPB Ltd's exports are nearly 20% of its production and is a significant exporter in the Indian Paper Industry. Due to its excellent export performance, SPB Ltd has been awarded 'Golden Export House' status.
AWARDS

SPB Ltd is in receipt of various Awards awarded by Government of India, Government of Tamil Nadu, Industry Associations, etc. Some of the Awards received by SPB in the past include:

- Capacity Utilisation Award
- Energy Conservation Award
- Environmental Protection Award
- Safety Award
- Export Performance Award
- Good Industrial Relations Award
- TERI - Corporate Environmental Award

ENVIRONMENTAL PROTECTION

The Company continues to provide utmost attention to the conservation and improvement of the environment. The Power Boilers and Recovery Boilers are equipped with Electro Static Precipitators, to arrest dust emissions. The Company has installed and operates an Anaerobic Lagoon, for high BOD liquid effluents and a Secondary Treatment System, for total Mill effluent and an Electro Static Precipitator and Cascade Evaporator to the Recovery Boiler. These facilities are operating efficiently, enabling the Company to comply with the pollution control norms, prescribed by the Pollution Control Authorities, on a sustained basis. The treated effluent water continues to be utilised for irrigating nearby sugar cane fields. These facilities will ensure sustained compliance by the Company of the pollution control norms prescribed by the Pollution Control Authorities. With the commissioning of all the equipment under the Mill Development Plan, the Mill has enhanced its
environmental performance and compliance thereby complying with the Charter on Corporate Responsibility for Environmental Protection (CREP) on a sustained basis.

**CONSERVATION OF ENERGY**

NANSULATE application in Dryer end Covers and Scanner Sensor Vicinity, related to Paper Machine - 5. Increased HP steam generation from Chemical Recovery Boiler through reduction in Soot Blower and Air Pre-heater steam consumption. Specific steam consumption reduction through implementation of newly developed scheme for ensuring high Condenser vacuum and exhaust steam dryness in the 21 MW Extraction Condensing Steam Turbine. Mist Cooling System with the Evaporation Plant process condensate, ensuring saving in fresh water consumption. Higher inlet feed concentration of Black Liquor Solids and improved Condenser vacuum in Multi-effect Evaporator had resulted in lowering of LP steam consumption. Variable Frequency Drive for Boiler 10 ID Fan. Reduction in Power consumption in the Evaporator and Recusticizing / Lime Kiln sections. Refining Power reduction through Enzyme addition. The above measures have resulted in reduced consumption of energy, increased productivity, reduced machines downtime, etc.

**RESEARCH AND DEVELOPMENT (R& D)**

Research and Development was carried out by the Company in the following areas:

(i) Hardwood/Bagasse pulping-Pulping and bleaching studies of new wood species and bleaching: such as Malaiwemmu, Cashew and Jute Sticks, etc. Studies on Effect of Bark on Pulp characteristics of Eucalyptus Hybrid, Casuarina and Soobabul, etc.

(ii) R & D trials and tests for - Development of new products like, Light Green quality improvement and Poster, Dark coloured Ballot Paper, Drawing cost effectiveness: Papers, etc.
Development of new shade for Branded Paper Products with higher brightness and pleasant shade. Implementation of Refining Enzyme for improving the quality and reducing the power consumption. Conducting various plant trials with different Polymer. Additives for improving strength and surface properties of paper. Introduction of high bright filler like Soap Stone Powder 92% with finer particle size for improving the quality and filler retention. Introduction of Carbonate Filler, like PCC and GCC, along with Pigment Dyes for branded varieties. Various benefits derived as a result of the above R and D such as consistent Pulp quality of both Wood and Bagasse Pulp with improved strength helps to improve the quality of paper. Due to proper refining filler loading is increased resulting in lower fiber consumption. Cost savings in the manufacture of Green Posters, Drawing Papers and Orange Posters. Considerable cost reduction by using Refining Aid during Hardwood Pulp refining.