CHAPTER - II

HARYANA'S INDUSTRIAL PROFILE

Though comparatively young, Haryana is a frontline State of the country. It came into being on November 1, 1966 with an area of 44,214 sq.km. and a population of just 13 millions. Today, it has a population of 2,10,8298912 and has made its mark in all fields of human endeavour whether it is agriculture or industry, water supply or dairy development, transport or tourism. Haryana is situated between 270 – 371 and 300 – 351 north latitude and 740 – 281 to 770 – 361 east longitude. It has Shivaliks in the north and river Yamuna in the east. The Aravallis running south of Delhi and through Gurgaon district upto Alwar and farther on the desert of Bikaner form its southwestern boundary. To the west, it is bounded halfway by Ghaggar and for the rest by the line drawn across Sirhind in northerly direction of the Shivalik ranges. Broadly, it can be divided into two natural areas, sub Himalayan terrain and the Indo-Gangetic plain. The plain is fertile and slopes from north to south with a height above the sea level averaging between 700 ft – 900 ft. The southwest of Haryana is dry, sandy and barren. The only river which flows through Haryana is Ghaggar which passes through the northern fringes of the State. This river is not perennial. The rainfall is meagre, particularly in the districts of Mahendragarh and Hissar.13

Politically, the legislature consists of one house, the Legislative Assembly, of 90 members. It has ten constituencies for Lok Sabha and five for Rajya Sabha.

The State is divided into 4 divisions, 19 districts, 47 sub-divisions, 67 tehsils and 116 blocks the details of which are given below:

**TABLE 2.1**

**DISTRICT WISE AREA AND POPULATION:**

<table>
<thead>
<tr>
<th>S.NO</th>
<th>Division</th>
<th>District</th>
<th>Area(Sq.Km.)</th>
<th>Population</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>AMBALA</td>
<td>Ambala</td>
<td>1,574.00</td>
<td>10,13,660</td>
</tr>
<tr>
<td>2</td>
<td></td>
<td>Panchkula</td>
<td>898.00</td>
<td>4,69,210</td>
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<tr>
<td>3</td>
<td></td>
<td>Yamunanagar</td>
<td>1,768.00</td>
<td>9,82,369</td>
</tr>
<tr>
<td>4</td>
<td></td>
<td>Kurukshetra</td>
<td>1,530.00</td>
<td>8,28,120</td>
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<tr>
<td>5</td>
<td></td>
<td>Kaithal</td>
<td>2,317.00</td>
<td>9,45,631</td>
</tr>
<tr>
<td>6</td>
<td>ROHTAK</td>
<td>Karnal</td>
<td>2,538.00</td>
<td>12,74,843</td>
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<tr>
<td>7</td>
<td></td>
<td>Panipat</td>
<td>1,268.00</td>
<td>9,67,338</td>
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<tr>
<td>8</td>
<td></td>
<td>Sonepat</td>
<td>2,122.00</td>
<td>12,78,830</td>
</tr>
<tr>
<td>9</td>
<td></td>
<td>Rohtak</td>
<td>1,745.00</td>
<td>9,40,036</td>
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<tr>
<td>10</td>
<td></td>
<td>Jhajjar</td>
<td>1,834.00</td>
<td>8,87,392</td>
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<tr>
<td>11</td>
<td>GURGAON</td>
<td>Faridabad</td>
<td>2,834.00</td>
<td>21,93,276</td>
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<tr>
<td>12</td>
<td></td>
<td>Gurgaon</td>
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<td>16,57,669</td>
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<tr>
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<td></td>
<td>Rewari</td>
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<tr>
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<td></td>
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<td>8,12,022</td>
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<td>15</td>
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<td>Bhiwani</td>
<td>4,778.00</td>
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</tr>
<tr>
<td>16</td>
<td></td>
<td>Jind</td>
<td>2,702.00</td>
<td>11,89,725</td>
</tr>
<tr>
<td>17</td>
<td></td>
<td>Hisar</td>
<td>3,983.00</td>
<td>15,36,417</td>
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<tr>
<td>18</td>
<td></td>
<td>Sirsa</td>
<td>4,277.00</td>
<td>11,11,012</td>
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<td>Fatehabad</td>
<td>2,520.00</td>
<td>8,06,158</td>
</tr>
<tr>
<td></td>
<td><strong>TOTAL</strong></td>
<td></td>
<td><strong>44,212</strong></td>
<td><strong>2,10,82,989</strong></td>
</tr>
</tbody>
</table>

Source: Statistical Abstract of Haryana 2000-01, pp.35-39
Haryana has traversed a long way on the path of industrialisation. It is now one of the leading industrial states in the country. Being on the outskirts of the National Capital and serving it from three sides, it offers excellent location to go for rapid industrialisation. The industrial growth rate of Haryana has been the subject of envy of many other states. It has witnessed continual and accelerated industrial progress during the last two decades with the expansion of infrastructure network and provision of better package of incentives to entrepreneurs. Here, the index of industrial production has been considerably higher than the all India average during the recent past and it has successfully attempted to carve out a niche for itself on the industrial map of the country recording significant achievements in large, medium and small scale sectors of the industry.

It has a big industrial estate spreading over its magnetic entrepreneurial cities like Faridabad, Ballabhgarh, Yamunanagar, Jagadhari etc. where quality industrial goods are manufactured and exported to various parts of the world. The number of registered factories under the Factories Act, 1948 has increased from 1270 in 1966 to 8804\textsuperscript{14} in 2002. Likewise, there has been corresponding increase in the workforce in these factories from 710,16 in 1966 to 5,19,613 in 2002. The number of large and medium sized industrial units has increased tremendously from 162 in 1966 to 1097 in 2001 having an investment of Rs. 20897 crores employing more than two lakh persons. This is the highest number among all other states in the

\textsuperscript{14} Statistical Abstract of Haryana; Op. Cit; p 385.
northern region. In the recent past, the State Government conducted a survey to weed out non-functional small-scale industries. At present, there are 74682 functional units in small sector giving employment to about 5.5 lakh persons. It was just 4500 in 1966. Five Central Public Sector Units namely Hindustan Machine Tools Ltd.; Pinjore, National Fertilizers Ltd.; Panipat, Maruti Udyog Ltd.; Gurgaon, Bharat Electronics Ltd.; Panchkula, Indian Drugs and Pharmaceutical; Gurgaon have been working in Haryana.

The industrial units in Haryana are making a significant contribution to the National Pool in terms of goods and products manufactured here. In automobiles, it has the pride of producing the largest number of passenger cars, motorcycles, bicycles, sanitary ware, G.I. pipes, gas stoves, scientific instruments etc. in the country. Ambala for scientific instruments, Yamunanagar for metal ware and timber industry, Kurukshetra and Trawari for rice, Karnal for agriculture implements, Panipat for machine tools, Sonepat for bicycles, Faridabad for tractors and refrigerators, Gurgaon for readymade garments, cars, motorcycles, scooters and IT industry, Rewari for brassware and television, Bahadurgarh for sanitary ware, Bhiwani for guar gum and Narnaul for marbles are the known destinations in the State. One out of every four bicycles in the country is manufactured in the State. Ambala alone accounts for 35% of the country’s total export of scientific instruments. Yamunanagar meets 60% of the demand of ammunition boxes of our defence forces and Panipat supplies 75% of the total needs of woollen blankets to the Indian Army.
In export, Haryana has tremendous contribution. In 1966, when Haryana came into being, its export was only 4.5 crores per annum, which has increased to about Rs.7000 crores in 2001. IT industry in Gurgaon alone is exporting software of about Rs. 3000 crores. After Karnataka and Andhra Pradesh, Haryana is the third largest exporter of software. The real credit of industrialisation goes to the New Industrial Policy, which was implemented in November 1999. The main thrust of this policy is to provide the basic infrastructure facilities and to simplify the procedure and rules and regulations governing industry.

Haryana is an agricultural state. Hence, Industrial policy has laid special emphasis on the growth of agro-based and food processing industries. Food sector is a sunrise industrial sector and a lot of opportunities exist in national and international market. A food processing division has been created in the Department of Industries to have proper coordination with Ministry of Food Processing Industries, Government of India and other agencies for promotion of food processing industries. Today, all over the world, Biotechnology has its contribution in every field of life. Haryana is one of the leading states in the promotion of Biotechnology. A number of reputed companies in the field of Biotechnology have already set up their units in the State. HSIDC has signed a memorandum of understanding (M.O.U) with M/s. ISMA Group which would make and facilitate investments for setting up ventures in Haryana in the areas of Biotechnology, industrial infrastructure, food storage and bulk grain handling, electronics etc. HSIDC has a prominent role in the
development of industrial infrastructure in the State. It has developed 33 Industrial Estates by developing 8088 plots and constructing them. 606 industrial sheds on total acquired estates are being developed by HSIDC: Growth Centre, Saha; Food Park, Saha; Industrial Estate, Bahadurgarh, Industrial Estate, Kundli; Industrial Estate, Rai; Food Park, Rai; Expansion of Industrial Estate, Rai.

Today, it is highly competitive world. Due to various agreements of the World Trade Organization, it is essential for the industry to be self-reliant. Haryana Financial Corporation is providing soft loan for the technology upgradation of small and medium industries. Haryana Financial Corporation has also reduced interest rates for tiny and small-scale units w.e.f. December 3, 2001. Under the Small and Medium Enterprises Renewal Fund Scheme, the State Government is providing financial assistance in the form of interest subsidy, testing equipment subsidy, ISO 9001 Certification subsidy, reimbursement of stamp duty and training expenses in favour of small and medium industries for upgrading their technology, quality and for their modernization. The State Government is also setting up Ceramic Development Centre with the financial assistance of Italian Government with an investment of Rs. 13.86 crores.

An Information Technology Fund has also been created with an initial corpus of Rs. 10 crore for e-governance and to promote the information technology in the state. A corpus fund of Rs. 5 crores has been created for the setting up of an Indian Institute of Information Technology (IIIT) at Gurgaon.
The IT industry has been declared a public utility service under section 40 of the Industrial Disputes Act so as to promote this sector in a big way. An ultra modern cyber city is also being set up over an area near Indira Gandhi International Airport, Gurgaon. It would provide employment opportunities to five lakh persons and make an impact of Rs. 15,000 crores on the economy of the State.\textsuperscript{15}

Moreover, there are some other prestigious projects on the anvil. The Indian Oil Corporation is undertaking the expansion of Panipat Oil Refinery from 6 MMTA (million metric tonnes) to 12 MMTA with additional investment of Rs. 3365 crores. The IOC is setting up a petrochemical complex at Panipat involving an investment of Rs. 4228 crore. The State Government has acquired 750 acres of land at village Baljatan in Panipat for the same. This project on implementation will generate number of Down Stream Industries based on end product of petro-chemicals. The IOC is also setting up a quality improvement project to improve the quality of petrol and to make it eco-friendly so as to meet with Euro-Standards costing 467 crore at its refinery in Panipat. It is also setting up 360 MW Generation Power Station with an investment of 2585 crore based on the feedstock of Oil Refinery.

Honda Scooters Ltd. has already been granted special package of incentives for their project being set up at Industrial Model Township, Manesar with an investment of Rs. 500 crore to manufacture two-wheelers.

\[\textsuperscript{15} \text{Economic Survey of Haryana, Economic and Statistical Organisation, Planning Department, Haryana, 2001, pp 25-27} \]
The major multi-national companies which have come to Haryana since the introduction of New Policy include Honda Motors Limited, Videocon International Ltd, Polaris Holding Limited, Mothersons Sumy Systems Ltd., Sona Koya Steering Ltd. and Duracell Ltd. Apart from these, Alcatel Network Systems Ltd., Asahai India Safety Glass Ltd. have undertaken major expansion programme.16

The State Government has also taken necessary initiatives and steps to maintain industrial safety and climate of harmonious industrial relations. As a sequel to the efforts made, level of industrial safety has improved and industrial relations have been satisfactory. The incidence of accidents in the State is 0.90 per thousand workers per year as compared to national average of 13. Minimum wages of unskilled workers of the State are Rs.1914.86 per month (w.e.f. 1.7. 2001) and are updated half yearly to fully neutralize the increase in Consumer price index related to working class. An amount of Rs. 8.52 lakh has been disbursed to the industrial workers and their dependents under various welfare schemes, run by Labour Welfare Board during the financial year 2000-2001.

The New Industrial Policy of the State Government strives to increase the share of industry in the Net/Gross State Domestic Product from the present 22% to 30% in the next five years, to increase the employment in industries and allied sector by 20%, to attain sustainable economic development through investment in all sectors of the economy and to achieve large value addition within the State for improving quality of

16 The Tribune; Chandigarh; 24 July, 2000, p-14
and to achieve large value addition within the State for improving quality of life of the residents of the State. Concrete steps are being taken to give a fresh impetus to overall industrial development by higher power generation, equitable distribution and prevention of leakage. The Government will give top priority to the development of infrastructure facilities like industrial land, power, water, easy credit, training, marketing, consultancy etc.\textsuperscript{17}

Thus, the implementation of the New Industrial Policy has proved a step forward in transforming the industrial sector. Haryana has now definitely emerged as the ultimate destination for foreign investors, non-resident Indians and domestic entrepreneurs.

**CURRENT ECONOMIC VIEW**

The State economy continued to record an excellent growth during 2000-2001. The GSDP of Haryana at factor cost at constant (1993-94) prices has been estimated at Rs. 31045.05 crores in 2000-01. At current prices, the GSDP at factor cost has been estimated at Rs. 53786.61 crores. The structural composition of State economy has witnessed significant changes since the formation of Haryana State. Agriculture sector still continues to occupy a significant position in the State economy, although, the share of this sector in GSDP is continuously declining. The predominance of agriculture sector is also responsible for good deal of instability in rate of growth of economy due to fluctuations in agriculture production owing to natural calamities and fluctuations in rainfall.

\textsuperscript{17} Industrial Policy of Haryana, 1999. Government of Haryana, Department of Industries; pp 12-14.
Manufacturing sector which occupies the second important place in the economy after agriculture and allied sector has witnessed considerable improvement in its share, which has increased from 18.7% during 1993-94 to 21.0% during 2000-01 reflecting healthy sign of industrialisation in the State.

Tertiary sector which is a combination of different services like Trade, Transport, Banking, Public Administration, Education, Health etc. also witnessed significant increase in its share in GSDP at constant prices (1993-94). It has increased from 31.3% during 1993-94 to 38.9% during 2000-01.

The composition of GSDP reveals that the share of primary sector is continuously declining whereas the share of secondary as well as tertiary sector is continuously increasing. It shows that the State economy is shifting from agriculture to manufacturing and services sectors, which is a sign of healthy economy.

Regarding poverty alleviation schemes, the State has ranked second in the country by utilizing 95.49% funds under Centrally Sponsored Rural Development Schemes during 2000-01. These schemes include Antyodaya Anna Yojana, Swarnjayanti Gram Swarozgar Yojana (earlier known as IRDP), Indira Awaas Yojana (IAY), Jawahar Gram Samridhi Yojana (JGSY), Swarn Jayanti Shahari Rozgar Yojana (SJSRY) etc.

The State has also taken up several measures for carrying out socio-economic programmes especially for the welfare of the backward classes, handicapped persons, destitude women and weaker sections by adopting a
policy of one job for one family, permits to unemployed youths for operating maxi-cabs, introduction of “Sulabh Shauchalayas”, liberation of Scavengers from their traditional occupation of manual removal of night-soil and universalisation of education. A “Widow Pension Scheme” is also being implemented to provide financial assistance to widows and destitute women. The State has also taken a number of steps for rehabilitation of blind, deaf, handicapped and mentally retarded persons in the State. As many as 66,113 physically handicapped persons are being provided pension at the rate of Rs.200 per month. Scholarship ranging from Rs.150 to Rs.250 per month and retainership allowance at the rate of Rs.1500 per month is being given to blind caners.

The State Government has set up “State Commission for Women”. The main functions of this Commission are to act as a consultative body to advise the Government on legislative and departmental policies concerning the women, to take necessary steps at the level of the Government and the public to protect the constitutional and legal rights of women in order to improve their status. The Commission will monitor the implementation of laws and welfare measures, investigate complaints, demand prosecution in offences committed against women, inspect police station lock-up, sub-jails and rescue homes etc., conduct studies and researches etc.

For economic development of the State, an Economic Development Board has been constituted. The State is preparing Economic Vision 2020. To strengthen infrastructure in the State, Infrastructure Development Board
is being constituted to augment the basic amenities in the existing industrial estates.\textsuperscript{18}

The upward trend of industrial and economic growth in the State has touched new heights especially during the past few years with the availability of liberal incentives, infrastructure facilities and financial assistance. A number of large-scale prestigious units have come up in the State and several more are in different stages of implementation. The main factors conducive to industrial growth of Haryana are perhaps the best communication network in the country, a responsive administration, cordial labour relations and proximity to Delhi which is one of the biggest wholesale and retail markets of raw materials in the country.

**NATIONAL FERTILIZERS LIMITED (NFL): AN OVERVIEW**

**NATIONAL FERTILIZERS LIMITED (NFL)** is an instrument of society. It has to serve the needs of people within the scope of its basic objectives. In terms of Memorandum of Association, NFL was set up to manufacture and market chemical fertilizers, other chemicals and by-products as well as to provide allied services.

NFL is a multi unit, multi product Company and is one of the India’s largest producers of Nitrogenous fertilizers with a market share of 14.3%. NFL is a Mini Ratna Category-1 Company and has the distinction of being a profitable Public Sector Undertaking. Incorporated in 1974, to set up two

\textsuperscript{18} Economic Survey of Haryana. Op cit, pp.1-6
fertilizer plants at Bathinda (Punjab) and Panipat (Haryana), Nangal plant was merged with it in 1978 on the reorganisation of FCI and later NFL executed its gas based plant at Vijaipur (MP) and subsequently in 1997 doubled the capacity of Vijaipur. The company has an installed capacity of 31.23 lakh Mts of Nitrogenous fertilizers. NFL's two popular brands are Kisan Urea and Kisan Khad. An ISO-9002 company, it is the first one to have ISO 14001 certification in India.

Panipat Unit of NFL is situated on National Highway No. 1 on Delhi-Amritsar railway trunk route about 90 kms from Delhi in the historical city of Panipat. The unit went to commercial production from 1.9.1979. The total cost of the project was Rs.221.33 Crores. The various plants and their capacities are as below:

| TABLE 2.2 |
|------------|----------------|
| Ammonia Plant | 900MT/day |
| Urea Plant | 1550MT/day |
| Sulphur Recovery Plant | 26.5MT/day |
| Argon Recovery Plant | 120NM³/hr |
| Steam Generation Plant | 3 x 150MT/day |
| Captive Power Plant | 2 x 15MWH |
| Coal Handling Plant | 150 & 250 MT/Hr |
| DM Water Plant | 400 M³/Hr |
| Raw Water Plant | 2400 M³/Hr |
| Bagging Plant | 4000 MT/day |
| Effluent Treatment Plant | 200 M³/Hr |

Raw material requirement of the Unit is Fuel Oil/LSHS 1050 MT/day, Coal 1600 MT/day, Water 12.5 MG/day and Power 25 MWH.
PROCESS IN BRIEF

Ammonia Plant: Fuel oil is partially oxidized at 1350°C by Shell gasification process. The raw gas thus produced consists of H₂, H₂S, CO and CO₂ and is passed through ‘Rectisol’ and ‘Shift Conversion’ Sections for the removal of CO₂/H₂S and conversion of CO to H₂, H₂S and CO₂ are removed by low temperature Methanol and both gases are recovered. H₂S is sent for recovery of Sulphur. The CO₂ gas is sent to Urea plant. The process gas is sent to Nitrogen wash unit (NWU) to remove traces of impurities by liquid N₂ wash. Nitrogen is further added to obtain N₂ and H₂ in the ratio of 1:3. This gas mixture is compressed to 230 Kg/cm² pressure and synthesis is carried out in Ammonia converter to produce Ammonia. Air separation unit uses the atmospheric air and separates Oxygen and Nitrogen at cryogenic temperatures.

Urea Plant is based on Mitsui Toatsu Total Recycle ‘C’ Improved Process. Ammonia and CO₂ are pressurized to about 250 Kg/cm² pressure and synthesis takes place in Urea reactor at a temperature of 200°C to produce Urea. The reactor outlet products are then decomposed and the urea solution produced is crystallized in vacuum crystallizer, centrifuged and then dried in the dryer. Urea crystals are pneumatically conveyed to the top of prilling tower, melted in the melter and the molten Urea is sprayed through acoustic granulators from 68 meters high prilling tower. Urea in the form of prills is collected at the bottom of the prilling tower on CFD bed. It is then sent to bagging plant and bagged in 50 Kg bags. Captive power plant
meets the total power requirement of the plant and has two Turbo Generators of 15 MW each, generating power at 11KV.

**PRODUCTION PERFORMANCE during the past ten years**

![Urea Production Chart]

**POLLUTION CONTROL MEASURES**

Panipat unit is equipped with one of the most sophisticated effluent treatment plants which meets the latest standards, laid down by the Central Board for the Prevention and Control of Water Pollution. Treatment of liquid effluents is carried out by physical, chemical and biological treatment process and the parameters are well within Minimal National Allowable Standards (MINAS).

**ENVIRONMENT CONTROL & ECOLOGICAL BALANCE**

Panipat unit is acknowledged for its environment friendliness. The unit is fully conscious of its responsibility towards pollution control and environmental protection. Utmost care is taken to ensure that no harmful gases are discharged to the atmosphere. The unit is regularly monitoring the level of emissions from various stacks before letting down to atmosphere.
Various air pollution control measures installed at Panipat unit include the following:

**Urea Plant Prilling Tower**: A urea dust recovery system has been installed at the top of prilling tower. The dust evolved during prilling of Urea in the prilling tower is scrubbed in the dust chamber by spraying water. Any Urea dust escaping after scrubbing operation is retained by the foam filters provided at the top. There are four induced draft fans provided at the top to create draft so as to suck air from the dust chamber and discharge it to atmosphere. The gaseous effluents so discharged contain less than 50 ppm of Urea. Automatic washing of the foam filters has been installed to further improve the existing system. The liquid Urea solution so produced contains around 10-15% Urea which is being fed to the process for recovery.

**Flare Stack in Ammonia Plant**: The unit has provided a flare stack of 80 m height to release the gases from production stream. The gases are discharged after ignition in a properly designed flare system. The height ensures a ground level concentration of pollutants well within the maximum permissible limits.

**Stack in Sulphur Recovery Plant**: A Sulphur recovery unit for recovering Sulphur has been installed to eliminate the pollution problem. After recovery of Sulphur, the gases are burnt in an incinerator to eliminate residual Sulphur and subsequently discharged to the atmosphere through a 50 m height chimney.
Ash Collection System: A complete system of electrostatic precipitators, ash collecting and disposal equipments are installed in the flue gas path of the steam generation and captive power plant boilers. The dust collection efficiency is more than 99.5%. After recovery of flue ash, the flue gases are discharged through a chimney of 80 m height in steam generation plant and a chimney of 90 m height in captive power plant. Stack emissions are monitored regularly by Iso-Kinetic stack samplers.

Wind Monitoring System: A computer-based wind monitoring system has been installed in the monitoring stations located at the top of Central Laboratory. The system is automatic and computes average wind speed and direction after every 10 seconds. It helps to judge the dispersion of air pollutants.

Ecological Balance: In order to maintain ecological balance, more than two lacs trees have been planted within the Factory and Township premises.

Environment Protection: Pollution-free atmosphere is the highest priority of the unit. In order to achieve this, sophisticated treatment systems are in operation. The unit has a well-equipped laboratory which is recognized by the State Pollution Board and Central Pollution Control Board. The surrounding areas of the unit have been covered for anti-larvae treatment and fogging operations.
Prevention of Leaching: The unit has taken special care to prevent leaching of effluents to sub-soil from ash ponds by providing LDPE film lining and HDPE film lining in Carbon ponds.

ACHIEVEMENTS

Panipat unit has maintained a very high standard of production and productivity since its inception. The unit has been honoured with many awards and recognitions so far. Some of them are :-

**TABLE 2.3**

<table>
<thead>
<tr>
<th>Category</th>
<th>Organization</th>
<th>Years</th>
</tr>
</thead>
<tbody>
<tr>
<td>Good House-Keeping</td>
<td>Haryana Safety Council, Government of Haryana</td>
<td>1984</td>
</tr>
</tbody>
</table>
SOCIO-ECONOMIC DEVELOPMENT OF POOR / NEEDY PERSONS OF SURROUNDING VILLAGES / AREAS OF NFL, PANIPAT

National Fertilizers Limited is very much conscious of its responsibility towards the residents of neighbouring areas. The unit has an excellent track record not only on production/productivity front but also equally towards the service of masses. The unit has served the masses by providing basic civic amenities and by undertaking welfare schemes as under:-

Social Responsibility: A sizeable number of persons from surrounding areas have been given employment in the company. Besides, a number of ancillary units have come up around Fertilizer complex and these units have generated substantial employment. The unit management has undertaken a number of welfare schemes for residents of surrounding areas, which include construction of roads, drainage system, installation of hand pumps for safe drinking water, installation of electric motors on tube-wells. To make women self-sufficient, tailoring training has been imparted in 'Manoranjan Kendra' and free sewing machines have also been distributed to poor/needy women. For safety and convenience of residents of the City, the Unit has sponsored traffic lights at Lal Batti Chowk in Panipat city. The unit has a well-equipped Fire Station, which has been rendering useful services in the event of any eventuality of fire etc. in surrounding areas/city.
**Health & Hygiene**: The unit has its own 25 beds Hospital, fully equipped with modern facilities. The Hospital not only caters to the needs of residents of NFL Township but also provides free first aid to outsiders in emergency. The unit has donated ceiling fans/coolers to Sanjay Gandhi Eye Hospital for welfare of patients. Blood donation camps are organized in NFL Hospital from time to time to help Red Cross Society. The management/employees make regular contribution for running of two dispensaries (one each of Homeopathy and Ayurved), which provide free medicines to poor/needy persons of surrounding areas. Besides, free medical camps have been organized with the help of Ladies Club where free consultation/ medicines is given to poor/needy persons of surrounding areas, with special emphasis on SC families. Expenses for Cataract operations are also borne by the Club.

**SC/ST Families**: For upliftment of weaker sections of the society, the unit management has undertaken a number of welfare schemes, which include construction of Harijan chaupals, takhats for Harijan chaupals, distribution of blankets, stoves, sewing machines, books and scholarships to poor SC students and furnishing of Ambedkar Hostel¹⁹.

**Working Shift:**

<table>
<thead>
<tr>
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<th>Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>Morning Shift</td>
<td>6:00 a.m. to 2:00 p.m.</td>
</tr>
<tr>
<td>Evening Shift</td>
<td>2:00 p.m. to 10:00 p.m.</td>
</tr>
<tr>
<td>Night Shift</td>
<td>10:00 p.m. to 6:00 a.m.</td>
</tr>
</tbody>
</table>

Industrial Relations: There is only one registered and recognised Worker's Union i.e. NFEU (National Fertilizers Employees Union) affiliated to FWFI (Fertilizer Workers Federation of India). No outsider is a member of the union.

Future Plans: The unit plans to undertake a large number of welfare schemes in schools situated in surrounding villages, where 80-90% students from SC community are studying. The schemes include provision of basic civic amenities such as drinking water, toilets etc. in the surrounding areas.

CO-OPERATIVE SUGAR MILLS, KARNAL: AN OVERVIEW

Co-operative movement has been acknowledged to be a very important, effective and powerful medium of economic development for the society. It has three-fold objective of alleviating poverty, generating gainful employment opportunities and eliminating economic backwardness in different sectors like institutional debt, housing, labour and production, handlooms, industries, urban finance, milk and other processing sectors. According to the Annual Report of Cooperation Department, Haryana for 1999-2000, there are about 22,969 units operating in Haryana with over 45.71 lakh members which have been rising continuously over the years indicating a positive attitude towards these societies. Owned Funds and Working Capital of all kinds of societies has crossed an amount of Rs. 12,159.64 crores which reflects the sound financial and economic condition of these societies.

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20 Discussions with Officials of National Fertilizers Ltd.; Panipat.
DEPARTMENTAL ADMINISTRATION AND ORGANISATION
OF COOPERATION DEPARTMENT

The Cooperation Department, Haryana works under the supervision and control of Registrar, Cooperative Societies. All the cooperative societies work under the guidance of their management committees and general bodies. The Registrar, Cooperative Societies plays the role of a friend, philosopher and guide of these societies. According of various provisions of Haryana Cooperation (Amendment) Act 1989, the Registrar is empowered to take action whenever the need arises but under normal circumstances, he restrains himself from interfering in the day-to-day working of these societies thus making them autonomous and independent in their respective spheres.

HEADQUARTERS SET-UP

Registrar, Cooperative Societies, Haryana

Departmental Work Management

Additional Registrar (Administrative)

Additional Registrar (Debt)

Additional Registrar (Stores)

Additional Registrar (Distribution)

Chief Auditor

Joint Registrar (Godowns)

Joint Registrar (Information)
SECOND CLASS OFFICERS

In addition to above-mentioned class I officers, there are some Class II gazetted officers like Appointment Officer, Assistant Registrar (Debt), Assistant Registrar (Sugar Mills), Statistical Officer, Accounts Officers etc. Besides, there is one Deputy District Attorney, Assistant District Attorney and one Police Commissioner in the police cell of the department.

REGIONAL SET-UP

Haryana is divided into 6 regional zones for convenience viz. Kurukshetra, Karnal, Rohtak, Bhiwani, Gurgaon and Hisar. There is a Deputy Registrar in all the zones who controls and manages his field area. There are 31 Assistant Registrars and 4-5 Inspectors working for and supervising the cooperative societies. The number of Deputy Inspectors is more at places where there are more societies.

Moreover, one Deputy Registrar of Cooperative Societies also functions as the Principal of Training Centre, Rohtak.

It is obligatory for all the societies to submit their annual audit reports to the Registrar, Cooperative Societies.
COOPERATIVE SUGAR MILLS

There are 14 registered sugar mills in Haryana out of which 10 are in operation. These are situated at Panipat, Sonepat, Karnal, Jind, Shahbad Markanda, Palwal, Kaithal, Meham, Bhuna (Hissar) and Rohtak. Two new mills are being set up at Panniwala Mota (Sirsa) and Aahulana (Sonepat). All these mills have a federation. The Haryana State Federation of Cooperative Mills is their apex body. This Federation played a major role in strengthening and streamlining the working of these mills. Its main role is promotional and advisory as it works as the spokesman of mills representing their viewpoints at the State level as also at the National level.

All the sugar mills in Haryana have been adopting and implementing progressive plans and strategies to encourage farmers to produce new varieties of sugarcane in large quantities to boost up the production of sugar in Haryana. The total cane crushing capacity of these mills stands at 20800 tonnes per day\(^\text{21}\). Sugar mills have been in the forefront for making competitive cane price payment in the State and the payment of price to the cultivators is much higher than the statutory minimum cane price fixed by the Government of India during the year 2002-03. The prices fixed by the State Government are Rs. 104, Rs. 106 and Rs. 110 per quintal for different varieties of cane in the State and it is understood that these are highest in the country.

### TABLE 2.4

**FINANACIAL POSITION OF HARYANA STATE FEDERATION OF CO-OPERATIVE SUGAR MILLS**

<table>
<thead>
<tr>
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<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Number of members</td>
<td>2</td>
<td>2</td>
<td>10</td>
<td>10</td>
<td>10</td>
<td>10</td>
<td>10</td>
</tr>
<tr>
<td>2.(i)</td>
<td>Share Capital</td>
<td>Nil</td>
<td>Nil</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
</tr>
<tr>
<td></td>
<td>Of Which Govt</td>
<td>Nil</td>
<td>Nil</td>
<td>Nil</td>
<td>Nil</td>
<td>Nil</td>
<td>Nil</td>
<td>Nil</td>
</tr>
<tr>
<td>3.</td>
<td>Owned funds</td>
<td>0.43</td>
<td>0.80</td>
<td>117.88</td>
<td>126.36</td>
<td>157.51</td>
<td>180.54</td>
<td>194.35</td>
</tr>
<tr>
<td>4.</td>
<td>Working capital</td>
<td>0.43</td>
<td>0.81</td>
<td>150.91</td>
<td>216.08</td>
<td>247.23</td>
<td>262.56</td>
<td>493.58</td>
</tr>
<tr>
<td>5.</td>
<td>Commission earned</td>
<td>Nil</td>
<td>0.13</td>
<td>38.30</td>
<td>49.99</td>
<td>78.18</td>
<td>59.53</td>
<td>68.59</td>
</tr>
<tr>
<td>6.</td>
<td>Amount of profits</td>
<td>Nil</td>
<td>0.02</td>
<td>Nil</td>
<td>Nil</td>
<td>Nil</td>
<td>Nil</td>
<td>Nil</td>
</tr>
<tr>
<td>7.</td>
<td>Amount of loss</td>
<td>Nil</td>
<td>Nil</td>
<td>Nil</td>
<td>Nil</td>
<td>Nil</td>
<td>Nil</td>
<td>Nil</td>
</tr>
</tbody>
</table>

Source: Statistical Abstract, Cooperation Department; 2000-01, p-21

### TABLE 2.5

**CO-OPERATIVE SUGAR MILLS: VITAL STATISTICS**

<table>
<thead>
<tr>
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<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>(i) Number of Mills</td>
<td>4</td>
<td>5</td>
<td>14</td>
<td>14</td>
<td>13</td>
<td>14</td>
<td>14</td>
</tr>
<tr>
<td></td>
<td>(ii) Of which in Production</td>
<td>2</td>
<td>2</td>
<td>10</td>
<td>10</td>
<td>10</td>
<td>10</td>
<td>10</td>
</tr>
<tr>
<td>2.</td>
<td>Number of Members</td>
<td>30798</td>
<td>30411</td>
<td>36976</td>
<td>37377</td>
<td>37786</td>
<td>38310</td>
<td>39349</td>
</tr>
<tr>
<td>3.</td>
<td>(i) Share Capital</td>
<td>115.88</td>
<td>116.58</td>
<td>7594.32</td>
<td>7868.49</td>
<td>7792.88</td>
<td>7851.34</td>
<td>9390.21</td>
</tr>
<tr>
<td></td>
<td>(ii) Of which Govt</td>
<td>40.00</td>
<td>41.07</td>
<td>4623.75</td>
<td>4747.20</td>
<td>4519.58</td>
<td>4536.96</td>
<td>45.34.55</td>
</tr>
<tr>
<td>4.</td>
<td>Owned Funds</td>
<td>349.74</td>
<td>387.64</td>
<td>27677.87</td>
<td>28613.67</td>
<td>3279.76</td>
<td>32106.19</td>
<td>33862.67</td>
</tr>
<tr>
<td>5.</td>
<td>Working Capital</td>
<td>438.22</td>
<td>716.35</td>
<td>55210.17</td>
<td>51996.31</td>
<td>54868.67</td>
<td>61091.07</td>
<td>71232.81</td>
</tr>
<tr>
<td>6.</td>
<td>Sugar crushed (lac quintals)</td>
<td>19.49</td>
<td>33.09</td>
<td>377.11</td>
<td>280.80</td>
<td>250.64</td>
<td>264.85</td>
<td>292.21</td>
</tr>
<tr>
<td>7.</td>
<td>Sugar (lac quintals)</td>
<td>1.66</td>
<td>2.92</td>
<td>31.98</td>
<td>37.02</td>
<td>20.69</td>
<td>23.41</td>
<td>27.63</td>
</tr>
<tr>
<td>8.</td>
<td>Sugar Produced (value)</td>
<td>172.63</td>
<td>516.40</td>
<td>36152.65</td>
<td>33231.24</td>
<td>28908.60</td>
<td>32766.70</td>
<td>37524.31</td>
</tr>
<tr>
<td>9.</td>
<td>Sugar Sold (value)</td>
<td>362.14</td>
<td>524.28</td>
<td>29120.24</td>
<td>38545.94</td>
<td>28357.81</td>
<td>27420.50</td>
<td>28959.49</td>
</tr>
<tr>
<td>10.</td>
<td>Number of Mills in Profits</td>
<td>Nil</td>
<td>3</td>
<td>3</td>
<td>9</td>
<td>5</td>
<td>1</td>
<td>Nil</td>
</tr>
<tr>
<td>11.</td>
<td>Amount of Profits</td>
<td>Nil</td>
<td>9.62</td>
<td>313.85</td>
<td>2544.22</td>
<td>733.75</td>
<td>0.07</td>
<td>Nil</td>
</tr>
<tr>
<td>12.</td>
<td>Number of Mills in Losses</td>
<td>4</td>
<td>2</td>
<td>7</td>
<td>1</td>
<td>6</td>
<td>11</td>
<td>13</td>
</tr>
<tr>
<td>13.</td>
<td>Amount of Losses</td>
<td>32.18</td>
<td>0.05</td>
<td>4461.63</td>
<td>388.93</td>
<td>3215.23</td>
<td>7188.24</td>
<td>6521.02</td>
</tr>
<tr>
<td>-----</td>
<td>-----------------</td>
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<td>--------</td>
<td>---------</td>
<td>--------</td>
<td>--------</td>
</tr>
<tr>
<td>14.</td>
<td>No. of Mills neither in Profits nor in Losses</td>
<td>Nil</td>
<td>Nil</td>
<td>4</td>
<td>4</td>
<td>2</td>
<td>2</td>
<td>1</td>
</tr>
</tbody>
</table>

*Mills not in operation have been shown as neither in profits nor in losses.*

Source: Statistical Abstract, Co-operation Department; Haryana, 2000-01, p. 22

**KARNAL SUGAR MILLS LTD: A BRIEF SKETCH**

Karnal Sugar Mill was registered on March 3, 1966 under Punjab Co-operative Societies Act, 1961 and it was issued a license for crushing capacity of 1250 TCD. It is situated on Meerut Road in Karnal. It became operative w.e.f. January 1, 1977 with an investment of 6.64 crores. It is providing employment to about 2000 employees. It is a profit making concern where the profits culminated to 9.19 crores in 1998-99.

Export quality of sugar is being produced by the Mill which is of the best quality in Northern India which has been testified by Pepsi Laboratories, an international company.

**PRODUCTION PROCESS**

```
Cane Crushing | Milling of the Cane | Addition of Water
| Passage of Bagasse through the Boilers | Straining of the Juice
| Heat Treatment and Passage of SO2 | Clarification
```
INCENTIVES TO FARMERS AND WORKERS

Interest free cane seed loan for high sugared varieties is given and subsidy is provided for seed and soil treatment. To encourage the farmers for increasing cane production, the outstanding farmers are being honoured at the Mill's level by distributing cash prizes. Various facilities being provided to cane growers include cash incentives for growing cane seed nurseries, supply of improved cane varieties, subsidy on transport, supply of chemicals, insecticides and pesticides at subsidized rates, supply of sugar at subsidized rates to growers linked with supply of cane to the mills etc.

In addition, one bag of DAP and urea is also supplied to the cane growers free of cost for high sugared varieties.

ACHIEVEMENTS OF THE MILL

The Mill has many remarkable achievements to its credit. It has the distinction as the first mill in the State to pay 20 percent bonus to its workers for the last 15 years in addition to the incentives under the Incentive Scheme of the State Federation. It was also awarded the commendation Certificate for technical efficiency for 1966-97 and declared first among all Co-operative Sugar Mills for the same period by the
Government of India. During 1999-2000, the Mill was at second place in cane crushing and percentage sugar. It topped in selling price per quintal, which stood at Rs. 1450.

TECHNOLOGY

It has been technologically advancing year by year. Several steps have been taken to enhance its production and promote contentment among farmers and workers. Weighing bridge has been computerized to simplify the selling process of cane. A new gear pinion has been installed in the turbine and the capacity of the boiler has been increased. Two machines with increased capacity for making sugar have been installed to boost up the daily cane crushing.

PAYMENTS

As per the directions of the State Government, all the payments to cane growers are made within 14 days of the cane supply through banks. The indents are being distributed amongst the cane growers at their doorsteps.

WORKING SHIFT

Morning Shift - 2:00 am to 10:00 am
Day Shift - 10:00 am to 6:00 pm
Night Shift - 6:00 pm to 2:00 am

WORKER'S UNION

There are two unions in the Mill:

1. Bhartiya Mazdoor Sangh with 250 members and
2. Indian Trade Union Congress with 500 members.

23 Discussion with workers & Trade Union Leaders of Karnal Sugar Mills Ltd.
NEW MILESTONE

The Mill has been declared as India's best cooperative sugar factory. It has bagged three prestigious awards for the season at national level. The prizes include Best Cooperative Sugar Factory in other recovery area, second prize for financial management in other recovery area and India's Best Cooperative Sugar Factory.

FUTURE PLANS

The proposal of expansion of the existing plant to have a crush capacity of 3500TCD with incidental co-generation is under consideration which will benefit the Mill as well as the farmers of the area. The Mill also plans to take up a proposal with the State government for setting up of a distillery plant with the Edhalon unit which would cost about Rs. 20 crore24.

SPL (KASSAR): A PROFILE

The ceramic tiles industry is dependent on the growth in the construction industry and the housing sector. The government is offering incentives to bridge the demand supply gap of 40 million dwelling units. The tile is a low priced, attractive and easy to use product with a bright future.

India's installed capacity for floor and wall tiles is around 130 million square metres per year. Production growth is largely centered in the west and south where there is paucity of natural minerals. Utility of floor tiles in India has created a huge demand for floor tiles market, which has grown by

20% over the last few years leading to drop in the selling prices providing opportunities to consumers in this market.

Another growth sector in the floor tiles is the vitrified tile or the 'granito' segment. The value-addition to the companies is considerably higher in this product range. A superior ceramic tile product, the vitrified tile is also considerably stronger and is emerging as a favoured item with consumers. They are given the opportunity to study the designs they need and create the spaces of their choice.

The key driver of the ceramic tile market continues to be the growth in the infrastructure market. The revival in the demand, aided by a mild industrial turnaround, is also registered by the tile industry.

SPL Limited formerly known as Somany Pilkington's Ltd is one of the oldest and the largest companies in India engaged in the manufacture of the ceramic tiles. The company diversified into the manufacture of the value-added vitrified tiles in 1999-2000 and also put up a floor tiles plant at Kadi (Gujarat) during 2000-2001. Kassar plant produces floor-tiles, wall tiles and vitrified tiles. The Kadi plant produces floor tiles and wall tiles. Both plants are ISO certified, additionally, the Kadi Plant has an ISO 14001 certification, the first instance of this in the ceramic tile industry in the world. SPL enjoys a basket of approximately 600 designs and 1200 colour combinations.

The company’s aggregated capacity is 36,000 Sq.m. per day at Kassar. The material is largely sold within India. SPL exports to Dubai, Doha, Fiji, Bahrain, Brussels, Kuwait, Ghana, Maldives, Mauritius, Mozambique, New
Zealand, Saudi Arabia South Africa, Uganda, West Indies, Yemen, Zambia and other countries in the region.

It recorded a total income of 171.96 crores in 2000-01 and profit after tax of Rs.3.18 crores in 2000-01 and profit after tax of Rs. 3.18 crores. The Company's shares are listed on the Bombay, National, Calcutta and Delhi Stock Exchanges.

The company enjoys an excellent technological background. The Kassar plant was established in collaboration with Pilkington's Tile Holding, U.K. The vitrified porcelain tiles technology was sourced from Leonardo Ceramica, Italy

When SPL was started in 1968, India had just emerged from colonial rule. There was little industrial enterprise in the country, the little that existed worked under controls. Products were scarce. The national priority was to become self-sufficient. SPL was created to respond to this requirement. When the Kassar plant was commissioned, the neighbouring population was poor; there was little employment in the area. Employees had to commute long distance to purchase clothes and groceries. Today in just a couple of hours, one can organise a fleet of 200 vehicles to meet any eventuality. SPL went into business in 1972 at a time when the country faced a significant shortage in the availability of ceramic tiles. Even though the business environment has changed significantly – a shortage has evolved into a surplus – the rationale for business continues to be relevant. India remains an under penetrated country with a consumption of 110 sq.m. of tiles per 1000 of the population for ceramic tiles; the global average is 750
sq.m. of tiles per 1000 of the population. Also, the government has declared housing for all as a priority area through a National Agenda; it has set a construction target of two million houses every year with an emphasis on the poor and deprived; 0.7 million houses shall be constructed in the urban areas. The government's renewed emphasis is bridging the gap – manifest in fiscal benefits to individuals, construction companies and housing finance agencies – give us the optimism that there is considerable demand latent within the country for companies like SPL Limited to tap.

**FINANCIAL OBJECTIVE**

SPL's principal financial objective is the improved return on the capital employed (ROCE) in the business. In 1999-2000, the company registered a ROCE of 17.14% against 15.85% in the previous year. SPL expects to strengthen its return on capital further every year by adding value to its realisations, reducing the variable cost of manufacturing, reducing the cost of loans and its debt exposures.

**PRODUCTION CAPACITY**

(a) **WALL TILE**

Kassar plant was dedicated to wall tiles with its capacity to produce 4.5 lacs sq.m. per annum in 1972; this was doubled to 9 lacs per annum in 1975; this was again doubled to 18 lacs sq.m. per annum in 1978. SPL's capacity presently stands at 7,548,000 sq.m. per annum. Against this, the actual production was 7,426,376 sq.m. in 1999-2000.
(b) FLOOR TILES DIVISION

This division was set up with an installed capacity to produce 9 lac sq.m. of floor tiles per annum. Expansions have been reasonably aggressive thereafter: doubled to 18 lacs sq.m. in 1998.

(c) VITRIFIED PORCELAIN TILES DIVISION

This division was set up to produce about one million sq.m. of polished vitrified porcelain tiles in March 2000 by converting a part of the existing tile plant at a cost of Rs. 25 crore. The actual production was 10,977 sq.m. in 1999-2000. As a result, of it, the renewed capacity of the floor tiles stands at 21 lacs sq.m. per annum. The actual production was 2,041,222 sq.m. in 1999-2000.

RAW MATERIALS

Ball clay, feldspar, quartz, frits, glazes and specialty chemicals are raw materials used in the manufacture of ceramic tiles. The company stocks at least 30 days of stock to overcome any raw material shortfall; this rises to three months during the monsoons. SPL continuously strives to enhance the raw material quality and reduce costs by replacing more expensive material by less expensive substitutes.

POWER AND FUEL

The energy sources are natural gas, electrical power, liquid fuels like high-speed diesel (HSD), light diesel oil (LDO), kerosene oil (KO) and liquefied petroleum gas (LPG). The gas for the plant is supplied by the Gas Authority of India Ltd.(GAIL). The electricity supply is provided by the Haryana State Electricity Board. The company has effectively used its R&D
to reduce energy consumption to counter the effect of higher prices. The company has entered into agreements with potential suppliers of energy like GAIL to overcome the threat of energy shortage.

MANUFACTURING PROCESS

The company uses three technologies across its three plants: the traditional double firing technology; the double fast firing technology and single fast firing technology. The difference is evident in their respective names: the traditional firing method has a cycle time of 60 hours in the biscuit section and twelve hours in the glossed firing line. The double fast-firing technology has a cycle time of nearly 40 minutes in the biscuit tin and 40 minutes in the glossed firing line. The traditional firing line has more disadvantages: the tiles are placed on top of each other and this results in poor distribution of heat. The double fast firing permits the manufacture of larger sized tiles. It is also more energy efficient and the process and production controls are superior to the conventional technologies. Approximately 60% of SPL’s tiles are made using the newer double fast firing technology.

PRODUCTION PROCESS

The raw material is largely an aggregation of clays. This is taken from the godown, is mixed with additives and sent to the ball mill for crushing. It is then mixed with other chemicals and water in the mixing tank to form slurry, which is taken to the spray drier. The mixed and processed clay is pressed into tiles of different sizes and dried. Thereafter, the tiles are taken for glaze application. Glazes are special coatings used by the ceramic tiles
industry. These are used on the upper surface of the ceramic tile to impart colour and character. Following the application, the finished products are selected on the sorting line and packed and dispatched for sale.

CYCLE TIME EFFICIENCY

New developments in the traditional double firing technology have improved the cycle time from 20 hours to 12 hours. It has resulted in the closure of three older technology kilns. The addition of horizontal dryer in the floor tile has reduced breakage in the manufacturing process. Incremental production is 200 sq.m. a day.

QUALITY STATEMENT

(a) QUALITY POLICY

SPL is committed to achieve customer satisfaction by fulfilling their needs on a continuous basis; to develop human resource to create a work culture in tune with the quality goals; to strive continuously to improve quality as a consistency of purpose by upgrading of technology and process.

(b) QUALITY CHECKPOSTS

The quality check begins with raw materials: no material can enter SPL without a check that covers the physical appearance, size and moisture content, thermal expansion, density and residue. The modulus of rupture (MOR) test is conducted to verify whether the clay conforms to SPL's standard. The pressing checks of thickness, green strength and dimension are done every hour for a batch of tiles. The loading into the kiln is kept uniform. The drying in biscuit kiln is
checked for moisture of the dried tile (less than 1.50%) biscuit firing and defect analysis.

(c) QUALITY PROCESSES

The entire giant of operations is covered by the ISO 9002 certification; from checking raw materials to booking orders and appointing dealers. The quality process is preventive and corrective in nature. The company's processes ensure that the relevant information and data is recorded at all levels; besides, there are approximately 36 parameters across which quality is appraised. Data is sourced across all these parameters monthly by the quality team headed by the President and quarterly a management review headed by the Managing Director. The quality processes are audited by internal quality team on a regular basis.

DESIGNS

SPL has a range of 500 designs; following colour and texture permutations, the total designs on offer are nearly 1200. SPL adds to this aggressively: nearly 50 contemporary designs are added each year in most sizes being produced. There has been a conscious transition towards value-added designs as well: consumers prefer glossy floor and this trend is reflected in large number of SPL's designs being created around the lustre series and the vitrified line of production.

HUMAN RESOURCES

Skilled human resources represent a long-term competitive edge for SPL. The quality of SPL's manpower is reflected in this statistic: even
though installed capacity doubled over the last few years, SPL became leaner by 35%. It has undertaken extensive skill-need identification for personnel at all levels. Two Types of training needs have been identified: on the job and soft skill training. A training calendar has been formulated and SPL is targeting 20 hours of training per person per year. On the shop floor, a number of teams have been formed; training is being imparted to the trainers. These trainers and external consultants conduct extensive training programmes throughout the company. The skill set training was imparted in the technical, inter-personal and specific technical areas. SPL interacts with its customers to study the impact of training programmes.

SOCIAL CHANGE

This is the power enterprise. The Somany Group can be given some credit for this: it accounts for 70% of the organised sector employment in Kassar and Bahadurgarh region. The group is running a school providing quality education. Giving back to society through education is the biggest investment one can make. The group has also started a school-cum-college in Ohirawa, Rajasthan which is now one of the most impressive institutions in the State.

ENVIRONMENT CONSCIOUSNESS

Both the plants at Kassar and Kadi have been certified as ISO 14001-compliant.

CONSERVATION OF ENERGY

SPL keeps introducing new methods and upgrade technology to conserve energy in its manufacturing operations. Major steps taken are:
installation of energy monitoring systems and energy efficient lighting system in the Plant, upgradation of presses into efficient models, installation of water treatment plant to save on water consumption and improve productivity, improvement in load management system to provide continuous power in critical areas and improve generation efficiency, project for utilizing waste heat from the generators taken up.

TECHNOLOGY ABSORPTION

(1) RESEARCH & DEVELOPMENT

(i) Specific areas where R&D is being carried out by the company.

(a) Development of indigenous glazes for production of glazed porcelain for the first time in India.

(b) Installation of latest generation glaze application machines to produce special finishes at minimum glaze consumption.

(c) Use of fly ash in ceramic tile body.

(d) Installation of computer design studio in R&D section.

(e) Installation of state-of-the-art rotary printers to produce better quality and to increase productivity.

(ii) Benefits derived as a result of above R&D:

Cheaper inputs have been substituted and consumption of energy is reduced in some sections of the manufacturing process.

(iii) Further plans and expenditure of R&D:

This continues to be an ongoing process. Up to 2% of the sales is earmarked for expenditure on R&D.
(2) TECHNOLOGY ABSORPTION, ADAPTATION AND INNOVATION

This continues to be an ongoing process and has resulted into productivity improvement, significant saving in energy and material consumption.

FOREIGN EXCHANGE EARNINGS AND OUTGO

Foreign exchange earnings: Rs. 1,089 lacs

Foreign exchange outgo: Rs. 2,777 lacs

The foreign exchange outgo of Rs. 2,777 lacs as above includes Rs.1,163 lacs on account of import of capital goods.

DISTRIBUTION

Distributors act as effective intermediaries between SPL and the vast Indian market. Most distributors are multibrand in character. They stock tiles made by a number of manufacturers. At 559, SPL possesses one of the biggest family of distributors in India; this increased by 21% in 1999-2000. More distributors are being added in the west and south to increase penetration.

The table below shows the region wise distribution penetration:

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</tr>
</thead>
<tbody>
<tr>
<td>East</td>
<td>70</td>
<td>91</td>
<td>122</td>
<td>30%</td>
</tr>
<tr>
<td>West</td>
<td>105</td>
<td>131</td>
<td>191</td>
<td>24.76%</td>
</tr>
<tr>
<td>South</td>
<td>120</td>
<td>147</td>
<td>209</td>
<td>22.50%</td>
</tr>
<tr>
<td>North</td>
<td>162</td>
<td>190</td>
<td>220</td>
<td>17.28%</td>
</tr>
<tr>
<td>TOTAL</td>
<td>457</td>
<td>539</td>
<td>742</td>
<td>22.32%</td>
</tr>
</tbody>
</table>
In addition to above the company has in all 17 sales depots across the country to service the above dealer network. The company’s distribution network has been strengthened to address the urban and semi-urban markets.

INSTITUTIONAL Vs RETAIL SALES

SPL’s tiles are sold through the institutional and retail channels. The institutional sale is direct: generally to industrial and construction projects; retail sales transpire through dealers. SPL focuses on the retail segment. Institutional projects are one-time and do not strengthen brand value, they do not generate a favourable word of mouth which accounts for 80% of the industry’s sales; besides, retail margins are better.

PRODUCT PROFILE

Glazed Floor Tiles

- High Abrasion Resistant Tiles
- Rustic Finish Tiles
- Super Glossy Tiles
- Anti-Skid Tiles
- Large Format Tiles (45cm.x45cm.)
- Satin Matt Finish Tiles

Glazed Wall Tiles

- Super Glossy Tiles
- Large Format Tiles (35cm.x45cm.)
- Satin Matt Finish Tiles
- Dark & Light Combination Tiles
Vitrified Tiles

- Salt & Pepper Tiles
- Anti-Skid Tiles
- Polished and Unpolished Tiles
- Granite & Italian Marble Prints
- Large Format Tiles (45cm.x45cm.)

3rd Fired Tiles

- Listelloes
- Tozettos
- Hand Painted Tiles
- Lustre and Vitrosa Tiles
- Concept Tiles

Glass Basins

WORKING SHIFT

The factory is running 24 hours. The timings of the shift are as follows:

Morning Shift — 6:00 a.m. to 2:00 p.m.
Evening Shift — 2:00 p.m. to 10:00 p.m.
Night Shift — 10:00 p.m. to 6:00 a.m.

BOARD OF DIRECTORS

Chairman — Mr. H.L. Somany
Managing Director — Mr. Shreekant Somany
Executive Director — Mr. Abhishek Somany
Director — Mr. M. G. Damani
Director — Mr. Ravi Mohan

TRADE UNION

There is only one registered trade union in SPL with a membership of 380 workers. The cabinet of INTUC affiliated to Congress wing is comprised of the following office bearers:

1. President — Mr. Rajender
2. Vice President — Mr. Gopiram
3. General Secretary — Mr. Chander Bhan
4. Joint Secretary (i) — Mr. Suresh Chander
5. Joint Secretary (ii) — Mr. Vikramrai
6. Cashier — Mr. Randhir Singh
7. Propaganda Secretary — Mr. Raghav Yadav

The same union continues every year. Elections are held only in case of opposition to any of the office bearers.26

26 Discussion with Managers & Workers of SPL Ltd. Bahadurgarh.