Chapter 3

An Overview of India’s Aluminium Industry

This Chapter is devoted to the study of organisational structure and the manpower planning of India’s Aluminium Industries. The study is made on the three Aluminium Industries i.e. Nalco, Hindalco and Indal.

Aluminium Industry – An Overview: Aluminium, although not in its metal form, is actually one of the first materials put to use by man. In 5300 BC, it was observed that the best clay for making potteries is one, which contains hydrated aluminium silicate. Similarly, use of alum, which is also a compound of aluminium, as dyes, chemicals and medicines started as early as in 2000 BC. But this “Metal of Clay” remained only as a curiosity till early 19th century. Aluminium, which is most abundant metal in earth’s crust was first separated as a metal in the year 1825 and since then aluminium has never looked back and after the discovery of Hall-Herault process in 1886, aluminium gradually became the metal of common man. Within a short span of slightly more than a century, aluminium has risen to prominence from obscurity. Its global production has risen from 13 tons to more than 23 million tons. At present, in terms of production and consumption, aluminium is second to steel only. But it has more profound and far-reaching influence in stimulating industrial and economic developments.

Aluminium is already set to play a key role in the progress of industrial development in India because it serves as a basic input for a number of industries apart from its use as a strategic metal. In every day life, one finds aluminium in large number of applications. Starting from household utensils, it has made its way high up into the space. Aluminium is indeed a very
versatile metal and can be termed as a “Metal of Opportunity” with a host of areas and methods of application.

This “Wonder Metal” is light, ductile, good conductor of heat and electricity, nonmagnetic, nontoxic, durable and decorative. It can be alloyed with copper, magnesium, zinc, silicon, manganese, etc. to form various kinds of rolled products, extrusions, castings and drawn products. Aluminium is environmentally so friendly that it can be called “Green Metal” also. Over its life cycle, aluminium is more an energy saver than an energy consumer as often it is accused of. With all these virtues, it has right to become the Thrust Non-Ferrous Metal of the future and to be called “Metal of the Millennium”.

Global Status

Over the past 20 years there have been substantial regional changes in primary aluminium production. Although USA is the largest primary aluminium producer followed by Russia but most of the recent growth in aluminium industry has come from the developing countries. At present, the world smelter capacity for primary aluminium is around 21.5 million tons/year. The production in the year 1999 was 20.65 million tons. The production during 1999 in North America and Asian region has been 6.17 million tons and 1.97 million tones, respectively. Production of secondary aluminium has also grown steadily due to less energy requirement, lower environmental pressure and cheaper in cost compared to production of primary aluminium. The LME price, which was showing upward trend till 1990 fell steadily from USD 2000 per ton to around USD 1250 per ton in 1998. The prices improved thereafter and it was around 1680 USD per ton in January 2000 but it is not expected to rise very significantly. However, the demand for aluminium is forecast to pick up in coming decade due to world economic growth. The
Asian region is becoming increasingly important, as its share of world consumption has gone up from 20% in 1980’s to 35% at present. Three main end use sectors for the use of aluminium are transportation, packaging and construction.

Demand for bauxite and alumina is largely dependant on trends in aluminium sectors as aluminium smelters consume around 80% of bauxite and over 90% of alumina. The total world reserves of bauxite are estimated to be around 40 billion tons but confirmed reserves of metallurgical grade is around 28 billion tons. About 50% of the world’s bauxite reserves come from the developing countries like Guinea, Brazil, India, Vietnam, Jamaica, etc. while Australia alone accounts for more than 20% of the world deposits.

The alumina refining capacity of the world has increased from 36 million tons in 1980 to 51 million tons in 2000 and at the end of last century the alumina production of the world was around 45 million tons.\(^1\) The major alumina producing countries are Australia, USA, and Jamaica, which account for nearly half of the world production. The latest developments and additional alumina refinery by way of Brownfield expansion and Greenfield projects are coming up in Australia and Asian regions. It is expected that the demand for alumina will increase steadily but a demand supply gap of 3-4 million tons may still remain during the present decade.

**Status of Indian Industry:** India entered the field of aluminium smelting in 1943 with the setting up of 2500 tons capacity smelter by Indian Aluminium Company at Alupuram, Kerala. The production of aluminium in 1943 was 1292 tons only. But it was after 1960 that aluminium industry in

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India made a rapid growth when HINDALCO was established and INDAL expanded its capacities by putting up more smelters.

The policy changes for opening up of economy and liberalisation since 1991 has brought about considerable opportunities for Indian Industries and has generated lot of interest by multinational companies to participate in joint ventures with Indian companies by way of technology, investment, marketing and franchise arrangements. With the present opportunities, Indian Aluminium Industry is all set to move towards its vision for becoming a global player. Indian Aluminium Industry has already entered the world arena and registered its presence in global market after the entry of NALCO’s Alumina and Aluminium in world market.

Government of India entered in the field of aluminium production with the setting up of BALCO in 70’s. However, till 1980, India’s aluminium production was not sufficient to meet its domestic demand and that there was no global presence of Indian Aluminium Industry. In 1981, National Aluminium Company in Public Sector was set up as a largest integrated Alumina –Aluminium plant in Asia. It is only after NALCO came up in 1987 with its world-class alumina and metal capabilities that India could enter the “Global Arena” in Alumina and Aluminium production.

**Bauxite:** Apart from other factors, one of the important factors for the development of Indian Aluminium Industry is the availability of large quantity of bauxite in India. Bauxite is the only ore, which is being used worldwide for the extraction of alumina and India is endowed with the large bauxite deposits of good quality. Presently, India ranks 5th with estimated bauxite reserves of about 3,000 million tons, which is nearly 7.5% of the world’s total bauxite reserves of 40,000 million tons. Major bauxite deposits of the world are given in Table 3.1.
Table 3.1: **Major bauxite deposits of the world**

*(in million tons)*

<table>
<thead>
<tr>
<th>Sl. No</th>
<th>Country</th>
<th>Bauxite Deposits</th>
<th>% Share</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Guinea</td>
<td>9100</td>
<td>22.8</td>
</tr>
<tr>
<td>2.</td>
<td>Australia</td>
<td>8080</td>
<td>20.2</td>
</tr>
<tr>
<td>3.</td>
<td>Brazil</td>
<td>4000</td>
<td>10.0</td>
</tr>
<tr>
<td>4.</td>
<td>Vietnam</td>
<td>3300</td>
<td>8.2</td>
</tr>
<tr>
<td>5.</td>
<td>India</td>
<td>3035</td>
<td>7.6</td>
</tr>
<tr>
<td>6.</td>
<td>Jamaica</td>
<td>2000</td>
<td>5.0</td>
</tr>
<tr>
<td>7.</td>
<td>Indonesia</td>
<td>1760</td>
<td>4.4</td>
</tr>
<tr>
<td>8.</td>
<td>Venezuela</td>
<td>1150</td>
<td>2.9</td>
</tr>
<tr>
<td>9.</td>
<td>Cameroon</td>
<td>1030</td>
<td>2.6</td>
</tr>
</tbody>
</table>

* Source: 19th Annual Report for the year 1999-2000

Table 3.1 shows that India stands on fifth position in bauxite deposits with total of having 3035 million tons and share of 7.6%. In India, mining of bauxite is mainly done for producing metallurgical grade alumina. Bauxite mines in India are open pit type and the present mining capacity is around 5 million tons per year. Thus, India contributes about 7.6% of the total bauxite production of the world. With the proposed Brownfield expansion of alumina plant by NALCO and coming up of 100% EOU Greenfield Alumina Plants by other entrepreneurs, the bauxite mining capacity of India will be more than 10 million tons per year in the next ten year or so.

**Alumina:** Alumina is an intermediate product obtained from bauxite for the production of aluminium. Many developing countries, which are
having plenty of bauxite reserves and are having high cost of power generation prefer to produce alumina as value added product for export purpose rather than exporting bauxite. On the other side, the countries having cheaper energy availability want to import alumina for their smelter instead of bauxite so as to reduce tonnage and transport problem. As such, International trading of alumina has increased in the last two decades. Demand and price of alumina in International market more or less follow the trend of the metal.

The production of alumina in India started in 1945. Since then the capacity of the same has increased from 4,000 tons to 2.0 million tons at present. Presently, there are five alumina producers in the country and all others except NALCO are having their alumina capacity matching to the requirement of their smelters. NALCO is the only Company, which has planned production of alumina for the export purpose. Some other producers also export alumina only when their smelting capacity is not fully utilised. The present installed capacities along with the expected growth/expansion of alumina production capacities in India are given in Table 3.2.

Table 3.2: Present & future capacities of Indian Aluminium Plants*  
(in^000 metric tons)

<table>
<thead>
<tr>
<th>Company</th>
<th>Present</th>
<th>Planned</th>
<th>Total</th>
<th>Present</th>
<th>Planned</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>ALUMINA</td>
<td></td>
<td></td>
<td></td>
<td>ALUMINIUM</td>
<td></td>
<td></td>
</tr>
<tr>
<td>BALCO</td>
<td>200</td>
<td>---</td>
<td>200</td>
<td>100</td>
<td>---</td>
<td>100</td>
</tr>
<tr>
<td>NALCO</td>
<td>1050</td>
<td>525</td>
<td>1575</td>
<td>230</td>
<td>115</td>
<td>345</td>
</tr>
<tr>
<td>HINDACLO450</td>
<td>---</td>
<td>450</td>
<td>450</td>
<td>242</td>
<td>100</td>
<td>342</td>
</tr>
<tr>
<td>INDAL</td>
<td>388</td>
<td>---</td>
<td>388</td>
<td>117</td>
<td>---</td>
<td>117</td>
</tr>
<tr>
<td>MALCO</td>
<td>60</td>
<td>---</td>
<td>60</td>
<td>25</td>
<td>---</td>
<td>25</td>
</tr>
<tr>
<td>Other Greenfield Projects</td>
<td>---</td>
<td>2000</td>
<td>2000</td>
<td>---</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>Total</td>
<td>2148</td>
<td>2525</td>
<td>4673</td>
<td>714</td>
<td>215</td>
<td>929</td>
</tr>
</tbody>
</table>
Table 3.2 shows the capacities of Aluminium Plants before the acquisition of Indal and Balco. Here, the Hindalco’s position is third in respect of the capacities of Aluminium Plants.

India is contributing to the extent of 4% in the world alumina production while NALCO’s Brownfield expansion will increase its alumina plant capacity from 1.05 million tons to 1.575 million tons. It is expected that two more 100% EOU Greenfield alumina plants with the capacity of 1 million ton each will come up soon in India. Some minor expansion is also expected in other plants. With this, India will produce about 4.5 million tons of aluminium thereby increasing its share to 10-12% in the world market.

Aluminium: Presently, there are five operating companies in the field of aluminium smelting in India. Out of these, three are in the private sector while the remaining two are in the public sector. Every Company in India has obtained smelting technology from different sources like Alcan, Kaiser, Montecatini, VAMI and Pechiney and then modernised and upgraded it to suit their requirements. The present installed capacities of aluminium smelters in India are 7.14 lakh tons. Brownfield smelter expansions of NALCO / Hindalco and others are in progress, which is expected to take the aggregate capacity of about 9,29,000 tons by the year 2003 AD. Although, capacity utilisation has been low during the past few years but it has improved progressively over the years with the installation of captive power plants. With the production of 6.18 lakh tons during the year 1999-2000, India has contributed approximately 3% to the world’s primary aluminium production.

Apart from primary aluminium, the secondary aluminium contributes to the tune of about 30% of the world’s aluminium requirement. In India, except for small capacity of 25,000 tons of INDAL, we do not have any organised
sectors for the secondary aluminium production and, consequently, there exists a good scope for the development in this field.

**Demand And Supply Scenario**

The world consumption figure of aluminium shows an upward trend and it is expected to rise at a growth rate of about 3-4% per year. This may ultimately lead towards building up of additional production capacities in the world. The consumption of aluminium in India is also expected to grow at a rate of 7-8%. The changes in the Indian economic and industrial policies have given a boost to the exports. All these have helped Indian aluminium industry to grow. Although share of aluminium from India in the International market is small at present, the country’s export performance since 1982 has been increasing continuously. Apart from aluminium, India is exporting alumina to the tune of 6.5 lakh tons per year and with the Brownfield expansion of Hindalco/ NALCO and coming up of new 100% export oriented alumina production units, India is likely to export about 2.0 million tons of alumina per year by the end of this decade.

**Consumption pattern**

The pattern of consumption of aluminium in selected countries of the world has been shown in Table 3.3. The consumption pattern is different in India from other countries because India is mainly a rural based developing country and its priority areas for development are electrical, packaging and transport sectors. The increased availability of substitute materials has also determined the pattern of sectoral consumption in India. The electrical sectors use about 35% of aluminium in India due to rural electrification programme. On the other hand, due to the developments in transport and packaging sectors after 1980’s, the use of aluminium in these sectors started growing.
Table 3.3: Aluminium sectoral usage across countries* (in percentage)

<table>
<thead>
<tr>
<th>Sector</th>
<th>India</th>
<th>Japan</th>
<th>USA</th>
<th>UK</th>
<th>Argentina</th>
</tr>
</thead>
<tbody>
<tr>
<td>Electrical</td>
<td>35.0</td>
<td>7.6</td>
<td>9.3</td>
<td>8.6</td>
<td>10.0</td>
</tr>
<tr>
<td>Consumer Durable</td>
<td>12.0</td>
<td>-----</td>
<td>7.5</td>
<td>7.1</td>
<td>14.0</td>
</tr>
<tr>
<td>Transport</td>
<td>18.0</td>
<td>31.5</td>
<td>20.1</td>
<td>21.9</td>
<td>14.0</td>
</tr>
<tr>
<td>Building &amp; Construction</td>
<td>6.0</td>
<td>25.0</td>
<td>16.9</td>
<td>15.4</td>
<td>29.0</td>
</tr>
<tr>
<td>Industrial</td>
<td>6.0</td>
<td>33.3</td>
<td>6.9</td>
<td>8.3</td>
<td>5.0</td>
</tr>
<tr>
<td>Packaging</td>
<td>7.0</td>
<td>9.7</td>
<td>35.5</td>
<td>16.5</td>
<td>17.0</td>
</tr>
<tr>
<td>Others</td>
<td>16.0</td>
<td>22.9</td>
<td>3.8</td>
<td>22.2</td>
<td>11.0</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>100.0</strong></td>
<td><strong>100.0</strong></td>
<td><strong>100.0</strong></td>
<td><strong>100.0</strong></td>
<td><strong>100.0</strong></td>
</tr>
</tbody>
</table>


Table 3.3 shows the different sectoral usage in several countries and the comparison shows that these countries are using the aluminium in different forms but the total remains the same. It is known that the domestic market largely depended on the electrical sectors, which alone account for about 35% of the consumption compared to less than 10% in developed countries like USA, UK, and Japan. The consumption in transport sectors in India has increased over the years and is around 18%, which compares well with 20-22% in USA and UK. But the building construction sectors which account for around 25% in other countries is only 6% in India. Similarly, the consumption of aluminium in packaging and consumer durable segments in India is 7% and 12%, respectively, as against 42% (both combined) in USA. Due to the growing consumption in the country as well as development in every sphere of life the consumption pattern will change and there is enough scope for high
value addition. As a result, the prospects of increased aluminium consumption in the country seem to be good. The relatively limited consumption of aluminium in India is indicated by per capita consumption of about 0.6 Kg compared to about 25 to 30 Kg in developed countries like USA and Japan. In India, aluminium is used only in about 300 different uses while world over it is over 3000 different end uses. Looking to the past trend and consumption growth of primary aluminium in India, the demand from domestic market looks bright. Considering the benefits to be accrued from increased aluminium application and the upswing in general economic conditions the outlook for Indian Aluminium Industry is bullish.

**National Aluminium Company Limited**

National Aluminium Company Limited (NALCO) was incorporated in 1981 as Public Sector Company following a major investment decision of the Government of India to exploit a part of the large deposits of bauxite discovered in the East Coast of India. As a matter of fact India was dependent on import of aluminium metal till 1988. With the commencing of NALCO's plant in 1988, a sea change has taken place in the country, and the country became self-sufficient. The total installed capacity of aluminium metal in the country is above 6,70,000 tons per annum. Its break-up is as follows: NALCO (2,18,000 tons), BALCO (1,00,000 tons), HINDALCO (2,10,000 tons), INDAL (1,17,000 tons), and MALCO (25,000 tons).

The INDAL has operating units as under:

(a) 2.5 million tons per annum, Bauxite Mines at Panchpatmali in Koraput district, Orissa.
(b) 8,00,000 tons per annum Aluminium Refinery at Damanjodi at Korapur district, Orissa.

(c) 2,18,000 per annum Aluminium Smelter at Angul Orissa.

(d) 720 MW Capacity Captive Power Plants at Angul.

(e) For export of aluminium and import of caustic soda.

In view of its excellent export performance NALCO has been receiving CAPEXIL award (Chemical and Allied Products Export Promotion Council) regularly since 1980 and has been awarded Star Trading House status in 1992.

The updated proposal for the expansion of Bauxite Mines from 2.4 Million TPY to 4.8 Million TPY and Alumina Refinery from 8,00,000 TPY to 15,75,000 TPY at an estimated cost of Rs.1645.89 crore has been approved recently. The Board of Directors headed by the Chairman-cum-Managing Director and assisted by the whole time Functional Directors in the Areas of Projects and Technology, Finance, Production, and Administration manage the company. The Executive Director stationed at sites heads the Mines and Refinery Complex at Damanjodi and Smelter and Power Plant at Angul. The company had ten Directors, six Executive Directors, one Chief Vigilance Officer and one Company Secretary.

As a part of its drive towards becoming an internationally reputed company, Quality Systems are being upgraded in all units of the Company. Alumina Refinery and Smelter Plant have been certified to ISO9002. Actions have been planned and initiated for ISO9002 certification on Captive Power Plant and Bauxite Mines, during 1995-96 for international recognition by upgrading into Quality System. Since its inception NALCO has adopted computerisation for its production facilities and commercial activities. The computerised mine planning and microprocessor based process controls were
the first steps in this direction in pursuing improvement in the computer
culture in the organisation-training course for the users’ department and
Senior Manager.

**Human Resources of Nalco**

Table 3.4: Manpower strength as on 31/03/2000 is as follows:

<table>
<thead>
<tr>
<th>Category</th>
<th>As on 31.09.2000</th>
<th>As on 31.03.99</th>
</tr>
</thead>
<tbody>
<tr>
<td>Executive</td>
<td>1520</td>
<td>1424</td>
</tr>
<tr>
<td>Supervisor</td>
<td>801</td>
<td>841</td>
</tr>
<tr>
<td>Skilled/Highly skilled</td>
<td>3032</td>
<td>3028</td>
</tr>
<tr>
<td>Unskilled/Semi skilled</td>
<td>1164</td>
<td>1175</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>6522</strong></td>
<td><strong>6468</strong></td>
</tr>
</tbody>
</table>


Table 3.4 shows that there were around 6522 employees working at the
National Aluminium Company in different categories i.e. in Executive,
Supervisors, Skilled / Highly Skilled, Unskilled / Semi skilled. Out of 6522
employees as on 31/03/2000, (according to the company annual report) 56
Persons with Disability (PWD) were employed in identified posts (Blindness
or low vision – 09, Hearing Impairment – 02 and Locomotors disability or
cerebral palsy – 45). Thus, 0.86 % belongs to persons with Disability in the
Company. In line with the organisation’s policy of infusing fresh blood into
the mainstream, 55 Graduate Engineer Trainees and 52 non-executives were
recruited during the said period.
In Nalco, the human resources are the principal assets to operate and maintain the diverse, complex and highly automated plants, equipments, and facilities. The total manpower strength is shown in the Pie-diagram

**Fig. 3.1: Pie-diagram**

The above pie-diagram (Fig. 3.1) shows that the National Aluminium Company had a maximum strength of Skilled / Highly Skilled of 3032 manpower. Second number comes in the Executive class where the manpower strength goes to 1520. Third number is of Semi-Skilled / Unskilled which has a total strength of 1164. Fourth section of the pie-diagram shows that the lowest number of manpower in the area of supervisory level is 801.
Table 3.5: Executive profile of Nalco

**Executive Resource Profile**

<table>
<thead>
<tr>
<th>Engineering</th>
<th>Civil: 51</th>
<th>Chemical: 65</th>
<th>Electrical: 120</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Engineering Services: 55</td>
<td>Instrumentation/Electronic: 77</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Industrial Engineering: 11</td>
<td>Mechanical: 331</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Metallurgy: 133</td>
<td>Mining &amp; Geology: 18</td>
<td></td>
</tr>
<tr>
<td></td>
<td>R &amp; D: 19</td>
<td>Refractory/Ceramics: 06</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Safety &amp; Environment: 22</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**General Management**

<table>
<thead>
<tr>
<th>Administration: 38</th>
<th>Corp. Communication: 08</th>
<th>Corp. Planning: 03</th>
</tr>
</thead>
<tbody>
<tr>
<td>Company Secretary/Share Registry: 04</td>
<td>Documentation: 02</td>
<td>Finance: 92</td>
</tr>
<tr>
<td>Horticulture: 05</td>
<td>HRD: 63</td>
<td>Law: 05</td>
</tr>
<tr>
<td>Marketing: 47</td>
<td>Medical: 46</td>
<td>Rajbhasha: 05</td>
</tr>
<tr>
<td>Secretarial Services: 34</td>
<td>Stores, Purchase &amp; Taxation: 92</td>
<td>Time Office: 03</td>
</tr>
<tr>
<td>TQM: 10</td>
<td>Transportation: 06</td>
<td>Vigilance: 10</td>
</tr>
</tbody>
</table>

Source: www.nalco.com

Table 3.5 shows the executive profiles of Engineering as well as of General Management. In the opinion of management of National Aluminium Company, the manpower resources are more significant than the capital and raw material resources particularly for a rapidly developing economy. Growth of the economy is depending upon the skills, attitudes and perspectives of its managers. Despite this, in many developing countries little attention has been paid to the manpower needs. This is according to the management of National
Aluminium Company. This is due to the fact that any forecast of the manpower requirements by an organisation is conditional upon a number of factors beyond its control such as the “uncertainties about the governmental approval or expansion plans, diversification into new product lines, imports’ licenses for the capital goods and essential raw materials, etc.” Despite these constraints, long-term manpower planning by individual organisations is considered highly essential by this company.

**Training and Development**

One of the primary objectives in the area of HR has been to provide, effective, job-based as well as developmental training inputs to our people. To that effect, the company’s approach has been two-pronged; one, to reinforce the desired behavioural traits and job skills by exposing employees to specific tailor-made training programmes on continual basis and secondly, to take fresh initiatives by organising the training programmes in new areas. Whereas employees are sponsored for in-house, external as well as foreign training, the thrust has been on developing capabilities. In this context, in-house training programmes are organised at the respective Training Institutes at the Units and Corporate Offices. The HRD Centre of Excellence set-up at the corporate office addresses training needs not only of the company but also that of organisations in contiguous areas, enabling it to operate as a profit-centre. During the current year, 16629 man-days of training were imparted covering 5300 employees under various training programmes.

Along with the extensive coverage of employees, the thrust has also been on focussing on new thrust areas like Emotional Intelligence, Neuro Linguistics Programming, etc. Programmes have been initiated to develop the skill of SC/ST employees after an extensive pre-programme survey.
Exposure of senior executives to quality management, strategic planning, human process lab, behavioural training for all the executives, cross-functional training for areas like materials, HR, specialised training for the Trade Union leaders and the productivity missions to organisations of repute are some of the other efforts to train and develop the manpower.

**Presidential Directives on SC and ST Employees**

In line with the Presidential Directives, measures to improve the representation of SC/ST communities in employment of the company, continued. As on 31/03/2000, there were 1099 employees belonging to the Scheduled Cast, 1188 employees belonging to the Scheduled Tribe and 509 employees belonging to the other Backward Classes out of 6522 employees including trainees. Thus, 16.85% of employees are SC, 18.21% are ST and 7.8 are OBC. In addition, the total number of women employees in the company stands at 253.

**Other HR Initiatives**

For the last three years, the company has been organising the HRD Meet- a platform to share experiences with other organisations as well as to enrich HR awareness among the employees. The 3rd HRD Meet was held on 11th March 2000 with the theme of ‘Humanising HR’. As in other years, a number of competitions like Poster, Case Study, Theme Paper, Slogan, Quiz, Role Play etc., were held among the employees. Team presentations were made by NTPC, HINDALCO, and NALCO. Distinguished personalities from industry and academics spoke on the occasion and there was widespread participation from various companies. In order to inculcate the spirit of learning in the organisation, a one-page handout on various aspects and issues in HR, known as ‘HRD for You’ is brought out on a monthly basis. HRD talks are arranged from time to time on the issues of interest to the
employees. Organisational diagnosis being the first step to many a remedy, a study on the work culture in the Smelter was undertaken by the Nabakrushna Chowdhury Centre for Development Studies, Bhubaneswar. In this the study has aimed to identify, analyse and explain the nature and dynamics of work culture in terms of work related values, organisational climate and employee's orientation. Also, an Open Forum Efficacy Survey has been undertaken during the year to analyse the need for holding such a forum in various units.

**Industrial Relations Scenario**

Under the early factory system, the worker was looked upon as a commodity, which could not be easily secured but also replaced. The attitude was that of considering the supply and demand position as in the case of a commodity. As the employer was in a dominating situation, he dictated both the wages as well as the conditions of service of the workers resulting in many industrial and social ills such as low wages, unduly long hours of work, poor working conditions and persecution of trade union activity. The plight of the workers was miserable, not only in India but in other countries such as in United Kingdom and other European countries. The Indian working class was denied for a very long period of time the right to organise itself in unions. It was in 1926 that the Indian Trade Union Act was passed which gave the right to form unions. However, the Industrial Dispute Act followed this in 1947, which provided permanent machinery for the settlement of disputes such as workers committees, conciliation officers and industrial tribunals.

The main cause or source of poor industrial relations has been resulting in inefficiency and labour unrest in mental laziness on the part of both management and labour. Management is not sufficiently concerned to ascertain the causes of inefficiency and unrest following the laissez-faire policy, until it is faced with strikes and more serious unrest. Even with regard
to methods of work, management does not bother to devise the best method but leaves it mainly to their subordinates to work it out for themselves. Contempt on the part of the employer towards the workers is another major cause. However, the following are the causes of poor industrial relations:

(a) Mental inertia on the part of management and labour.
(b) An intolerant attitude of contempt towards the workers on the part of management.
(c) Inadequate fixation of wages or wage structure.
(d) Unhealthy working conditions.
(e) Indiscipline.
(f) Lack of human relations skills on the part of supervisors and other managers.
(g) Desire on the part of workers for higher bonus or DA and the corresponding desire of the employers to give as little as possible.
(h) Unduly heavy loads;
(i) Inadequate welfare facilities;
(j) Inter-union rivalries;
(k) General economic and political environment, such as rising prices, strikes by others, and general indiscipline having their effect on the employees’ attitudes.

Atmosphere at National Aluminium Company

Employer-employee relation in the company continued to be by and large cordial and harmonious. Believing in the philosophy of participative management, employees at all the levels are interacted through the various statutory and non-statutory committees. In spite of multi-unionism, with variety of affiliations to Central Trade Union Organisations, effective
communication is held with internal leaders with mutual trust and openness. Trade Union Leadership programme is also conducted for the office bearers of various trade unions, besides sending employees in teams on industrial missions.

**Peripheral Development**

The company had also contributed towards socio-economics' development of the area in and around its centre of operations and corporate office at Bhubaneshwar. During the year, the company had spent an amount of Rs. 1.25 crore on various programmes like development of infrastructure in rural areas such as roads, lighting, providing drinking water facilities, development of school buildings, sanitation, promotion of rural sports, etc.

**Contribution to Super Cyclone Relief and National Defence Funds**

In the wake of the super cyclone that devastated the coastal belt of Orissa, the company, as a concerned corporate citizen rose to the occasion and extended a variety of support through various government agencies to carry out the relief and rehabilitation works in the affected areas. The total contribution from the company was Rs. 1.14 crore (employees contributed Rs. 0.18 crore). Technical assistance was provided to M/s. PPL just after super cyclone in normalising Emergency DG power by synchronisation of two existing DG sets, thereby preventing discharge of ammonia gas to atmosphere. Prior to that, during the Kargil war, the company also donated Rs. 1.18 crore to the National Defence Fund (employees contributed Rs. 0.18 crore). In both the cases, NALCO collectively donated one day’s salary amounting to Rs. 0.36 crore.
Environmental Management

The rapid industrialisation in the 20th century has brought its harmful effects on the environment, which is passed on to the 21st century as a curse on the human civilisation. The sound environmental performance not only enhances the prestige of the company as eco-friendly, but also its products find greater acceptability in International markets. Good environmental management practices also lead to conservation of raw materials and energy, as well as minimisation of waste and its recycling, which results in better financial performance and profitability. This company is among the few such companies, which are committed to sustained actions for protecting the environment and it is reflected in its corporate environment policy. The eco-friendly technologies adopted have substantially taken care of generation of pollutants source. The company has already spent over Rs. 200 crore on equipments and facilities for the treatment of effluents and emissions, for reducing noise level and disposal of wastes like red mud and fly ash. Various steps have been taken towards utilisation of waste, treating and recycling of wastewater. The pollution control units, installed at a cost of Rs. 1.8 crore at CPP, Angul, to purify 65 million litres of water overflowing from the ash also improving its performance in recycling of spent anodes.

As a responsible corporate citizen, the company is giving top priority to healthy working conditions at a work place. Periodical health surveys are being conducted among the employees. Occupational Health Centres have been set up to keep a close watch on occupational health aspects of the employees. Occupational Health Centre of Sand P complex, Angul, has received the State Award. A number of experts' studies have been conducted to assess the environmental impact in and around the plant areas, and plan corrective actions wherever necessary. The company had also started
pisciculture in one artificial pond created by harvesting rainwater and a biogas pilot plant was installed by using canteen waste. Over 6 million trees, covering more than 3000 hectares, have been planted to provide green cover at plant areas and townships. The company’s track record in environment management is commendable. Recently, the company had received the prestigious Indira Priyadarshini Vrikshamitra award, the highest honour of the Government of India, in the field of afforestation and wasteland development.

Vigilance Department of NALCO

The vigilance Department of the company is continuing with past endeavour, devoted considerable attention towards prevention of corruption. Preventive vigilance activities were thus restructured by means of identifying the activities in major areas into four categories. Operations/ transitions involving high value and high vigilance vulnerability have been given highest priority in planning and execution of vigilance activities. Low down in order, attention was further apportioned among the areas falling in low expenditure and high vigilance vulnerability, and low expenditure and vigilance vulnerability. Efforts are now being made to bring about better vigilance awareness among the executives. Periodical meetings at the appropriate levels helped in tackling problems in key areas of concern.

Brief History of Hindalco

Hindalco Industries Ltd., is one of the major producers of Primary Aluminium Metal and semi-fabrications in the country, is the biggest industrial enterprise of Uttar Pradesh. It is a public limited company in the private sector having about 39000 shareholders. It is the largest integrated aluminium plant in India with all its production facilities, viz. alumina,
aluminium and fabrication located at Renukoot near Rihand Dam in Sonbhadra (U.P). The company was incorporated as Hindustan Aluminium Corporation Ltd. on December 15, 1958 under the direction of late Mr. G. D. Birla in collaboration with Kaiser Aluminium and Chemical Corporation ("Kaiser") of the United States. In September 1959, an industrial licence was granted by the Government for setting up an integrated aluminium plant at Renukoot. The company commenced its production in 1962 with an initial installed capacity of 20,000 tons per annum ("TPA") of primary aluminium metal, together with an alumina plant of matching capacity. At present, the company has aluminium production capacity of 242,000 tons of aluminium per annum (TPA), alumina production capacity of 350,000 TPA and a 350 MW power plant that, under ordinary operating conditions, supplies substantially all of the company's electricity requirement. The company's operation is vertically integrated, which include bauxite mining, refining bauxite into alumina, smelting alumina into primary aluminium manufacturing semi-fabricated aluminium products and power generation. A brief account of the milestones of progress is given in Appendix, A-1.

The shares of the company were first listed on the BSE in 1960. Hindalco's manufacturing facilities are located at Renukoot, in the state of Uttar Pradesh, approximately 150 miles from the main bauxite mines operated by the company. Renukoot is a fast growing and thriving Industrial Township, which is now humming with activities and providing all the basic amenities of modern life to the inhabitants, was once a wild and desolate jungle infested by animals. From being one of the most backward areas of Uttar Pradesh, it has now carved out a place for itself on the industrial map of India and the world. Lying in the foothills of
Vindhya Range, Renukoot is about 160 Kms from Varanasi and 154 Kms from Mirzapur. Beautiful roads coming through green forests and hills connect this industrial township with Varanasi and Mirzapur. Hindalco supplies a wide range of products and services. A brief account of the activities is given below.

**Business Sector**

*Hindalco Industries Limited*, a flagship company of the Aditya Birla Group, with a turnover of about Rs. 18 billion, ranks among India's top 10 companies (in terms of market capitalisation). Hindalco is the leading private sector aluminium producer in India and amongst the lowest cost producers of aluminium internationally. It has an aggregate turnover in the range of Rs. 25,000 crore, with 40 companies operating in sixteen countries across the globe.

Product Range: Primary Aluminium, Rolled Products, Extrusions, Foil, and Aluminium Alloy Wheels.

Aluminium has been and continues to be one of the core businesses for the Group with enormous growth potential. Indal's strength in Alumina and downstream products would ideally dovetail with Hindalco's strong presence in metal. Presently it is the largest integrated primary producer of aluminium and semi-fabricated products with captive power source having the following capacities:

- Alumina Refinery with a capacity of 450,000 MTPA
- Aluminium Smelter with a capacity of 242,000 MTPA
- Rolled products with a capacity of 80,000 MTPA
- Extruded Profiles with a capacity of 13,700 MTPA
• Redraw Rod 45,000 MTPA

• Captive Power Generation 612 MW (inclusive of 37 MW Co-generation)

The product range includes Primary Aluminium Ingot, Alloy Ingot, Billet, Cast Slab, Wire Rod, Alloy Rod, Sheet Product, Extruded Profile and Conform Product. A Foil mill will soon be set up at Silvassa (near Mumbai) with an annual capacity of 5,000MT.

The company produces and sells two main categories of products: Primary aluminium in the form of ingot and billets and semi-fabricated aluminium products, such as redraw rods, extrusion and rolled items, which are made from the company's primary aluminium. Secondly the company's integrated operations include Power Generation Capacity of 612 MW and a 450,000 MTPA Alumina Refinery. Hindaclo’s semi-fabrication facilities comprise of Rolled Products: 80,000 MTPA, Redraw Rods: 40,000 MTPA and Extrusions: 13,700 MTPA. The company has opted for induction of the most modern technology and has undertaken comprehensive modernisation over the past few years. It includes commissioning of two Gas Suspension Calciners; a high efficiency Fluidised Bed Boiler and Microprocessor based Pot Control System. The Rodding Room facilities have also been modernised. In the semi-fabrication, a state-of-the art Vertical Billet Casting and Slab Casting Facility have been installed. A new Rolling Mill has been commissioned and the existing mills have undergone a comprehensive modernisation. Hindalco has
also installed a Roll Former, a Cut to Length Line, a Rewind Line and a Tension Leveler in Rolling Mills. Hindalco products are well accepted in the domestic as well as in international markets. The company’s metal is accepted for delivery under the High Grade Primary Aluminium Contract on the London Metal Exchange. The company sells primarily in the Indian domestic market, which accounted for approximately 90.64% of its sales in fiscal year 1998-99. The company has a sales and distribution network that covers all of India and include six sales offices located in Mumbai, New Delhi, Bangalore, Chennai, Calcutta and Renukoot and 82 independent distributors and agents located in all of India's major commercial centres. The company has a domestic market share of approximately 33%. Exports constitute about 10% of the total production. The company is a regular exporter and is recognised as a "Trading House" by the Government of India. Hindalco is an ISO 9000 Company and has also received ISO 14001 Certification for its entire operations including the Power Plants and Mines. As a part of its diversification programme, a 5,000 MTPA Aluminium Foil Plant and Aluminium Alloy Wheel Plant has been set up at Silvassa.

The company is part of the multinational group of companies under the management control of Kumar Mangalam Birla (The "A.V.Birla Group" or the "Group"). The Group, which includes companies in India, Indonesia, Malaysia, Philippines, Thailand and Egypt, operates in a wide range of industries including aluminium, viscose staple fibres, rayon filament yarn, spongue iron, caustic soda, cement, fabrics and textile, and industrial machinery. Hindalco is also examining the techno-feasibility of a Brownfield
expansion at Renukoot. The Aditya Birla Group is India's second largest business house and is having:

- A Turnover of over Rs. 220 billion (US$ 4.75 billion).
- An Asset base of over Rs. 163 billion (US$ 3.8 billion).
- A premier conglomerate of India's leading companies including Grasim, Hindalco, Indian Rayon, Indo Gulf and Indal.
- Leadership position in key businesses with strong competitive edge.

Source: www.adityabirla.com

For over 50 years now, the Aditya Birla Group, has been and continues to be committed to the future of India through its quality products, services and commodities and offering total customer solutions reaching out to millions in India and globally as well. Its state-of-the-art Manufacturing Units and sectoral services span over India, Indonesia, Thailand, Malaysia, Philippines, Egypt, Canada, USA and U.K. The Group has trading operations in Singapore, Dubai, U.K., USA, South Africa, Tanzania, Myanmar, Russia and China. Excellence is the cornerstone of its worldwide presence, the common thread that binds a 72,000 strong workforce spanning 40 companies across 17 countries.

A caring corporate citizen, the Aditya Birla Group inherently believes in the trusteeship concept of management. A part of its profits is ploughed into meaningful welfare driven initiatives that make a qualitative difference to the lives of a marginalised people. Carried out under the aegis of the Aditya Birla Centre for Community Initiative and Rural Development, which is spearheaded by Rajashree Birla. Anchored in a deeply held set of values, the Aditya Birla Group's avowed mission is to deliver value for its shareholders, customers, employees and society at large.
Leadership Positions

- Viscose Staple Fibre: Among the world's largest and most cost-efficient producers, pioneered production of VSF in India, Thailand, and Indonesia.
- Aluminium: The world's largest integrated producer of aluminium; also among the world's lowest cost producers; a leading player in the Indian aluminium market; its export market spans North America, Europe, Africa and Asia.
- Cement: Third largest producer in India, India's largest and among the world's largest producers of White Cement.
- Carbon Black: World's fifth largest producer, largest producer in Thailand and Egypt and second largest producer in India.
- Insulators: World's third largest and India's largest producer.
- Viscose Filament Yarn: India's second largest producer; also a market leader.
- Fertilisers: Brand leadership in markets served.
- Copper: Market leader in India with world sized plant.
- Petroleum Refinery: Joint Venture with Hindustan Petroleum Corporation Limited (HPCL) for a 9 MMTPA crude oil refinery.
- Power: Joint Venture with Powergen Plc. (UK).
- Telecommunications: Joint Venture Company with AT&T (USA) and the Tata Group.
• Financial Services: Largest private sector mutual fund in India, Joint Ventures with Sun Life Assurance (Canada).

• IT and Software: Foray into e-learning and e-business with the take-over of Learning Bytes International (LBI), a Minneapolis-based 'e-learning' company. Birla Consultancy & Software Services (BCSS), which is software arm of the Group, also has a strategic alliance with the Lawson Software (USA).

A detailed list of workers as Department-wise is listed below:

Table 3.6: Hindalco manpower strength plant-wise

<table>
<thead>
<tr>
<th>Name of the Plant</th>
<th>Total number of Workers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alumina Plant</td>
<td>1108</td>
</tr>
<tr>
<td>Fabrication Plant</td>
<td>1473</td>
</tr>
<tr>
<td>Reduction Plant</td>
<td>2459</td>
</tr>
<tr>
<td>Central Store and Notified</td>
<td>954</td>
</tr>
<tr>
<td>Construction Division</td>
<td>904</td>
</tr>
<tr>
<td><strong>Total number of Workers</strong></td>
<td><strong>6898</strong></td>
</tr>
</tbody>
</table>

Source: As per HR office records.

Table 3.6 shows that Hindalco is having an overall strength of around 6,898 workers in five plants i.e. Alumina Plant, Fabrication Plant, Reduction Plant, Central Store and Notified, and Construction Division.

**Manpower Planning:** The need to anticipate and provide for the future manpower requirements has made manpower planning a vital function today.
in the area of staffing or the personnel function. Manpower planning seeks to ensure that required personnel possessing the necessary skills are available at the right time. Manpower planning at Hindalco is divided in two parts i.e. long-term and short-term plans.

This part of the chapter brings out the aims and objectives of manpower planning at Hindalco and broadly outlines a system for carrying out the core activities in this function. Therefore, this portion gives a brief account of various components of manpower planning system and outlines procedures for important activities. As a result of the forecasting exercise a number of important activities emerge. These activities have been briefly described.

Objectives of Manpower Planning at Hindalco: In Hindalco’s context, the main objectives of manpower planning may be enumerated as:

(a) Determining the manpower requirements, i.e., quantitatively and qualitatively.
(b) Establishing and maintaining the manpower data unit-wise.
(c) To continuously monitoring the performance and effectiveness of the existing manpower and to make an effort for its improvement.
(d) To forecast the implications of changing environment, technology, and policy decisions regarding manpower and to recommend suitable remedial measures.
(e) To establish a scientific base for introducing HRD efforts for improving the quality of work life.

Stages of manpower planning: In Hindalco, the manpower planning is divided into three stages. They are as follows:

In Stage-I, the aim is to analyse, review, and predict sub-function-wise details of manpower needed by the organisation. These include
(a) Short-term objectives and schedules/plans so as to arrive at the activities planned for the following two years. Activities, which are planned, are related to the master plan.

(b) Assessing the total manpower requirements for each unit against the manpower norms that are formulated and updated as a part of the system from time to time and on the basis of man-hour date processing system and post-budget review.

(c) Preparation of manpower inventory (current manpower position), which helps to avoid the situation of over and under staffing. The company is using many stages for preparation of manpower inventory which involves the determination of the personnel to be inventoried, cataloguing of factual background information such as level, skill, work experience, data of recruitment etc., of each individual, systematic appraisal of each individual and listing the present and potential abilities and aptitudes of each personnel.

In Stage-II, the efforts are made to match the requirements with the available manpower, and to plan what action will be necessary to ensure timely placement of manpower needed. These include

(a) Determining the future needs of manpower, which is projected on the basis of production and sales budgets, workload analysis and work force analysis, taking into account the objectives, size, area of operation, expansion schemes, technology of production processes, future changes in the organisation etc.

(b) The total number of promotions from the grade within the framework of prevalent promotion policy during the period covered under planning.
(c) Analysing and estimating the absenteeism as well as the rate of loss of personnel on account of retirement, resignation, death, disability etc.

(d) Determining the quality of manpower with the use of job description and job specification on the basis of information collected from job analysis.

In Stage-III, an attempt has been made to identify the manpower gap so that skills are utilised to the best possible advantage and the legitimate aspiration of individuals are taken care of. This stage consists of

(a) Training requirements of fresh recruits and also the retraining requirements of the old employees are predicted on the basis of the projected gaps in the skills.

(b) Estimating the expected promotion and training facilities to meet such requirements on the basis of performance appraisal.

In long-term manpower planning, management has sufficient time gap to take the necessary steps and make this matching process a calculated exercise. This planning covers around five to ten years in respect of manpower requirement. Long-range manpower planning aims at working out the induction projection by matching the existing manpower strength with that of the projected strength. The outcome of this matching is found in the form of a gap between what exists and what is aimed at. The manpower estimate with respect to recruitment, training, and development are prepared on the basis of the various norms, which already exist in this regard.

In Hindalco, a number of reports pertaining to manpower are made at the unit level and sent to the Personnel Department. The number and nature of such reports depend upon the requirements, which, in turn, are linked to the
status of manpower planning activities and specific thrust areas. Ideally, periodic reports are required at the unit and the personnel department to meet the needs of external reporting and also to monitor and review the activities related to manpower planning to trigger necessary control and development measures having short-term perspective. The important reports are classified under the following heads:

(a) Manpower Status Reports
(b) Monthly Reports on Induction
(c) Executive Wastage Reports
(d) Surplus Manpower Reports

The Manpower Status Reports are prepared by each of the manufacturing units. The reports vary from monthly to yearly basis. The unit personnel send the report to the General Manager every month. Through this report, it gives a brief account of the changes in manpower strength during the month. An annual summary of the monthly report on induction, based on the previous reports, is prepared in the unit office. Executive Wastage report helps to analyse the turnover at various functions in order to take a preventive measure. In the surplus manpower report, which is the most important in the company, an annual report is prepared showing the status of each unit, is forwarded to the corporate office. A summary is prepared at the corporate office and efforts are made for their redeployment.

A Brief Account of INDAL

Established as the Aluminium Production Company in 1938, with the country's first sheet rolling mill at Belur (West Bengal). Today, with a nationwide network of plants, mines, and marketing offices across the country, INDAL holds a leading market position in alumina chemicals, aluminium
sheet, foil and extruded products in India. With access to world-class technology and expertise, INDAL has led the way for diverse applications of aluminium in India, as well as eco-friendly concepts such as aluminium scrap recycling.

**INDAL** is a member of the Aditya Birla Group, which holds 74.6% equity in the Company. As India's second largest business house with a group turnover of over Rs. 200 billion, the Aditya Birla Group is a premier conglomerate of leading companies including Grasim, Hindalco, Indian Rayon and Indo Gulf. The Group holds leadership positions in key businesses such as aluminium, cement, copper, petroleum, fertilisers, viscose staple fibre, textiles, power, telecommunications and financial services. All the business units of INDAL are ISO 9002 certified and the company's bauxite mines and power plants have also attained ISO 14001 Environment Management System Certification. INDAL is a public limited company with about 6,000 employees and about 30,000 shareholders.

**Organisation structure**

INDAL's organisation is structured with autonomous business divisions, each responsible for its own production, technology development and marketing, drawing upon centralised service functions in corporate finance, human resources development, corporate planning, engineering projects, materials' management, legal & investor services, information technology and corporate affairs.

The heads of each business and function along with the Managing Director, Operations, constitute the management committee headed by the President and CEO. The management committee formulates strategy, plans, and policies for the company and is responsible for implementing the company's annual plans and monitoring performance. INDAL's operating
businesses are broadly divided into Upstream: Chemicals (including mining), Metal & Power; and Downstream: Sheet, Foil & Packaging and Extrusions.

In Indal, before its takeover by Hindalco, there was no sophisticated or detailed manpower planning done covering the current and future needs of the entire organisation. In this, different units of the organisation are asked to present annually their manpower requirements for the different categories of the personnel to a Budget Committee, which consist of senior managers including a finance manager. These requirements include a statement of the manpower needs during the following financial year, and a tentative forecast for the two years thereafter. The budget broadly forms the basis for recruitment during the year although specific approval is required to be obtained from a committee of the top managers. This committee meets every fortnight, for initiating action for filling vacancies. Such approval is required for new vacancies. But after taking over Indals, Hindalco, which holds 74.6% equity, had made changes in its policies. Just a beginning has been made in the area of scientific manpower planning. Their scientific manpower planning system embraces organisational development, management development, career planning and succession planning. The manpower needs of their work are determined by the industrial engineering departments and are based on the planned activities of each division. Now this organisation has built up a strong skilled labour force and a broad supervisory structure over the years, largely due to the philosophy, politics and attitudes of its top management.

**Indal's concern for the welfare for its employees:**

INDAL’s care and concern for its people reflect its business values. The INDAL Occupational Health Service (OHS), one of the first in the private sectors, was set up at Alupuram, Kerala, and co-sponsored by the Canadian International Development Agency and Canadian Public Health
Association as well as the Confederation of Indian Industry. The centre provides regular programmes in health care and hygiene; also offering consultancy services in occupational health, health information systems to other industrial units. Awareness and training in safety have given INDAL a track record that matches the world’s best in the aluminium industry.

Commitment to the community

INDAL, in its efforts to improve the quality of life, extends a number of welfare measures to its host communities viz. promoting vocational training, adult literacy and hygiene awareness; providing medical facilities, drinking water, sanitation and primary education, and enhancing the employment opportunities for the local people through the Vocational Education Trust established for this purpose.

The INDAL Vocational Education Trust has been set up to enhance employability of people in economically underdeveloped areas of Kolhapur (Maharashtra), Sambalpur (Orissa) and Lohardaga (Bihar). INDAL also helps the local community in setting up various income generating schemes, such as dairy cooperatives and mushroom cultivation. Special attention is given for the welfare of women and children. INDAL is actively associated with ‘Swayamsiddha’, a group working under the Savitribai Phule scheme for women’s education.

A well-equipped medical centre, the Rajarshi Shahu Grameen Vikas Prakalp, has commenced medical service to the community around Radhanagri district in Maharashtra. Future plans include setting up a full-fledged hospital in Radhanagari, under the guidance of Health Care International, Lady Ratan Tata Medical & Research Centre, Mumbai.
Related Companies & Joint Ventures: Annapurna Foils Limited: Indal acquired a 26.5% equity stake in this company during 1994, through a scheme of rehabilitation sanctioned by the Board for Industrial and Financial Reconstruction (BIFR). Shortage of working capital has currently impacted on the operations of this plant. A revival package, including options to simplify structure, align ownership, upgrade assets and synergise operations, is under preparation.

Orissa Extrusions Limited: A joint venture company with the Government of Orissa and Hydro Aluminium s.a., with capacity to manufacture 6,000 TPA of quality aluminium extrusions was setup. The company had been referred to BIFR in September 1998 and has currently applied for closure due to the shortage of working capital and problems related to marketing of its products.

Utkal Alumina International Limited: The proposed alumina refinery is to be set up in Doragurha in the Rayagada district of Orissa, to produce one million ton per annum of alumina, sourcing bauxite from the rich reserves at Baphlimali, in Rayagada, Orissa. Alcan, Canada and Alesa-Alusuisse, Switzerland are the technical collaborators for this project. The revised equity holding stands at Hydro Aluminium s.a. of Norway with 45%, Alcan Aluminium Limited of Canada with 35% and INDAL with 20%.

A comprehensive Rehabilitation and Resettlement Package forms the basis of the Company's Corporate Social Responsibility plan. Land acquisition for the first phase of the project has been completed and the Utkal Rural Development Society has been formally registered as an independent body, to plan and carry out social welfare and community development activities on a long-term basis.
Indal is concerned about Preserving Ecological Balance

A clean and sustainable environment through resource conservation and protection of the eco-system forms the basis of INDAL’s environment management system. Electrostatic precipitators and scrubbers control dust and keep emissions at minimal levels. Extensive afforestation drives help build a greener landscape. Precious resources like water and energy are carefully conserved benign mining techniques have done away with drilling and blasting. Plant generated wastes are recycled and put to innovative applications, such as power plant fly ash as a soil substitute for growing paddy and vegetables. Not surprising, therefore, that INDAL was the first in Asia to receive ISO 14001 Environment Management System Certification for its bauxite mines and power plant.

Quality and R&D

Research and Development has always been accorded prime importance. INDAL’s two principal R&D Centres at Belgaum, Karnataka and Taloja, Maharashtra are recognised by the Government of India’s Department of Scientific and Industrial Research. Moreover, every plant is fully equipped with its own analytical research centre. The R&D establishments have contributed significantly in upgrading manufacturing processes and ensuring environment friendly operations. But most of all it is the technical expertise and skill of INDAL scientists, engineers and technicians that have made the difference. These led to earning recognition with an ISO 9001 certification for process / product development and ISO 9002 certification for testing and analysis.
International Trade

Exports, initially to neighbouring Bangladesh and Sri Lanka, have helped pave the way for INDAL’s current reach into demanding and competitive international markets around the Indian Ocean Rim, West Asia, the Far East, Europe and Africa. Consistent standards in quality and service have resulted in repeated export awards from the Engineering Export Promotion Council and the Chemicals & Allied Products Export Promotion Council.

In short, it is observed that with the rapid technological advances, acquisitions and mergers taking industries by a storm, the ability to accept, absorb and implement has emerged as the highest competitive edge that a manager can possess. High professionalism ushered in by MNCs that have entered the Indian market, have further soared the expectations of customers. In such a scenario, where challenges are posed from all quarters—automation, downsizing, re-engineering, repositioning, cross-functional teams and empowered workers—the power to take this upfront has emerged as the single decisive factor for the survival. Thus, in order to meet the challenges of increased competition, lowered profitability, increasingly aware and demanding work force organisations in the present socio-economic milieu have been finding an answer in various practices such as Total Quality Management for which ISO 9000 certification is the first step or by introducing concepts like Just in Time (JIT), World Class Manufacturing (WCM) or Flexible Manufacturing System (FMS) and Total Productive Management (TPM). None of these, however, could be achieved without suitable manpower management, interventions and support mechanisms.

As Nalco concerns, there is no sophisticated or detailed manpower planning done, which is covering both the current and future needs of the
entire organisation. What is done is that different units of the organisation are asked to present annually their manpower requirements for the different categories of personnel to a Budget Committee, which consists of senior managers. These requirements include a statement of the manpower needs during the following financial year, and a tentative forecast for the two years thereafter. The budget broadly forms the basis for recruitment during the year although specific approval is required to be obtained from a committee consisting of top managers. This committee meets every fortnight for initiating action for filling vacancies. Such an approval is required for the new vacancies.

In Hindalco, where Quality Improvement Programme was a relatively new feature, the company decided to go in for Quality Improvement Program through Small Group Activity wherein workers and staff come together to identify and solve quality and cost related problems. After ISO 9000 and ISO 14001 Certification for its entire operation of their units, the organisation decided to adopt the Company wide Quality Improvement Program. HRD initiative like Managerial and Team Building programmes were launched to provide inputs. Performance Appraisal system was modified as Performance and Development System (PDS) as a support system. After the initial awareness phase, a reasonable number of Small Groups and Cross Functional Teams were constituted. There was initial enthusiasm in the company to start this new feature and many of the middle level staff members played a key role in initiating the improvement process.