CHAPTER - TWO
HISTORICAL BACKGROUND OF FERTILIZER UNITS OF GUJARAT
### CHAPTER – 2
**HISTORICAL BACKGROUND OF FERTILIZER UNITS OF GUJARAT**

#### SYNOPSIS

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1. The Indian Scenario:

India is predominantly an agricultural Country. After 1970 onwards Indian agriculture is being modernized on a fairly large scale with intensive cultivation with the help of water from irrigational projects, high yielding varieties of seeds and chemical fertilizers.

Since India is still agriculture-driven country, a great amount of importance has been laid on agricultural development. It is justified by the priority given to fertilizer production in different five year plans. The Sivraman committee on Fertilizers in 1965 has advocated a scientific approach to fertilizer industry in this direction only.

The Sindri Fertilizers was one of the earliest projects to be commissioned in the country. Then followed a number of other fertilizer units. These include fertilizer factories of Rourkela, Nyveli, Trombay, Gorakhpur, then the Madras, Sindri, Alwayne, Kalol, Bharuch, Vadodara etc.

There has been a steady increase in the consumption of fertilizers as well as production.
capacities since the commencement of the planning era in India. Over the period, the installed capacity of producing several chemical fertilizers has been remarkably increased. The fertilizer units at Haldia, Hazira, Paradeep, Namrup and Manglore have been established. These plants used coal as source of power. The plants at Guna, Sawai Madhopur, Aonla, Jagdishpur, Shahjahanpur and Babrala are gas-based plants. To ensure stable supply of power, captive power generation facilities have already been installed in some of the plants and are under installation in some other.

Where large investments are involved, it is extremely important to ensure continuous improvement in capacity utilization and production. Various norms of productivity have been developed for different groups of plants depending on types of technology, age of plants etc.

Considerable R & D work has been done in fertilizer industry in India. Some of the companies, namely Rashtriya Chemicals and Fertilizers, GSFC, GNFC, Southern Petro-chemicals Industries corporation have taken steps for establishing R & D
facilities with a view to improving efficiency and diversification.

Due to a huge gap between consumption and production a sizable volume of fertilizers is imported. The prices of imported as well as indigenously produced fertilizers are subsidized at present. With the growth in imports and domestic production, there has been an increase in the quantum of fertilizer subsidy over the years.

India has to attain a target of 337 million tones of food grains production by the end of eleventh plan period as against 218 million tones during 2001-02 to ensure availability of enough food for entire population of the country.

India has been facing the challenge of average annual growth of food grain that hinges at 1.73 per cent since 1990s as compared to annual production growth of 1.85 per cent.

Fertilizers play a dominant role in nation’s agriculture economy as they have provided an important source of plant nutrients to increase crop production. It is in this context that consumption of
fertilizers has to be pushed up to about 28 million tones by the year 2011-12 from the present level of 17 million tones to attain the food grain production target of 337 million tones.

2. **About Fertilizers**:

Fertilizer is generally defined as any material, organic or inorganic or synthetic, which supplies one or more of the chemical elements required for plant growth.” There are sixteen elements which are identified as essential elements of plant growth.

<table>
<thead>
<tr>
<th>Sr. No.</th>
<th>Name of element</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Carbon</td>
</tr>
<tr>
<td>2.</td>
<td>Oxygen</td>
</tr>
<tr>
<td>3.</td>
<td>Hydrogen</td>
</tr>
<tr>
<td>4.</td>
<td>Nitrogen</td>
</tr>
<tr>
<td>5.</td>
<td>Phosphorus</td>
</tr>
<tr>
<td>6.</td>
<td>Potassium</td>
</tr>
<tr>
<td>7.</td>
<td>Calcium</td>
</tr>
<tr>
<td>8.</td>
<td>Magnesium</td>
</tr>
<tr>
<td>9.</td>
<td>Sulphur</td>
</tr>
<tr>
<td>10.</td>
<td>Boron</td>
</tr>
<tr>
<td>11.</td>
<td>Chlorine</td>
</tr>
<tr>
<td>12.</td>
<td>Copper</td>
</tr>
<tr>
<td>13.</td>
<td>Iron</td>
</tr>
<tr>
<td>14.</td>
<td>Manganese</td>
</tr>
<tr>
<td>15.</td>
<td>Molybdenum</td>
</tr>
<tr>
<td>16.</td>
<td>Zinc</td>
</tr>
</tbody>
</table>

Table 2.1 Essential Elements for Plant Growth.
Chemical fertilizers have played a vital role in the success of Indian agriculture and consequent self-reliance in food-grain production. The increasing consumption has contributed significantly to sustainable food-grain production in the country. The GOI has been taking steps consistently to increase production and consumption of fertilizers.

As of now, the country has achieved near self-sufficiency in production of urea and DAP. With the result that India could manage its requirement of fertilizers from indigenous industry and imports of fertilizers have presently been nominal.

3. Profile of Fertilizer Units in Gujarat:

An attempt is made by researcher to present hereafter, the brief profile of fertilizer units under his study in Gujarat. They are:

3.45 Gujarat State Fertilizers & Chemicals Limited, (GSFC)
3.46 Gujarat Narmada Valley Fertilizers Company Limited, (GNFC)
3.47 Krishak Bharati Cooperative Limited, (KRIBHCO)
3.48 Indian Farmers Fertilizer Cooperative Limited (IFFCO)

We, now undertake to take a bird's eye view of each one of the organizations under study.

4. Gujarat State Fertilizers & Chemicals Limited (GSFC)

The company was established in June, 1967 with its plant located at Fertilizer Nagar, Vadodara. The Chief products of the company are urea, diammonium phosphate and ammonium sulphate. The company has three other plants at Kosamba (Surat), Sikka (Jamnagar) and Nandesari (Vadodara). GSFC has created a good image on the Indian marketing scene. The products of GSFC touch all walks of life—from household consumer to core industrial customer. It attempts to fulfill multifold needs of the market.

GSFC's incessant strive for product diversification and value addition has created a product mix ranging from more than 24 brands of product to petrochemicals, chemicals, industrial gases, plastics, fibers etc. Translating GSFC's philosophy is its vast network of plants that makes it possible. This infrastructure took its first step in 1967 with the setting
up of 6 plants with an initial investment of Rs.40 crores. This six nitrogenous and phosphatic fertilizer plants started production of Ammonia, Urea, ammonium Sulphate (AS), Diammonium Phosphate (DAP), Sulphuric acid and phosphoric acid. The expansion of ammonia and Urea production began with phase II in 1969 and an investment of Rs. 23 crores was made to meet the increasing demand for Nitrogenous fertilizers. Phase III began in 1974 when diversification of products occurred. Plants to manufacture Caprolactum, melamine, Nylon-6, Oleum-SO₂ and Oxo-synthesis Gas unit and Purge Gas Recovery Unit were set up. With Phase III, GSFC became India’s first and only Melamine producer. This provided the boost for further diversification to Nylons/Fibers/Melamine/MEK – Oxime and industrial gases like Argon Gas and Oxo synthesis Gas. In 1989, GSFC began further expansion and diversification (Phase IV) which saw the company increasing its self-reliance while also conserving energy needs. Three co-generation units using natural gas were set up. Thus GSFC is a multi-location, multi-plant, multi-services and multi-crores company.
VISION:
• A world class multi-product eco-friendly, global company.
• A leader in technological development innovation and customer satisfaction.
• One of the top companies in India
• Commitment to the upliftment of society.

MISSION:
• To provide quality inputs and services to agriculture and industry at competitive prices and contribute to improving quality of life of the people.
• To achieve excellence through creativity, innovations and services to the society.

VALUES:
• Strong commitment to clean environment and social services
• Hard work, discipline, integrity, honesty, dedication, mutual respect and transparency.
• Strong commitment to quality of products and customer service.
• Promotion to creativity and professionalism through HRD.
QUALITY POLICY:

"We, in GSFC,
Commit to excellence and continual improvement in quality of products, services and systems to ensure:

- Customer satisfaction
- Conservation of Energy and Natural Resources
- Compliance with statutory and other regulations with respect to products."

QUALITY OBJECTIVE:

GSFC is a fast-growing petrochemical company manufacturing different chemicals and supplying them to different core sectors of business. In order to keep pace with the competitive situation, GSFC management has decided to implement ISO 9001 QMS as per ISO 9001-2000 standard to fulfill the following objectives.

- Satisfy customers by timely delivery of products as per GSFC specifications.
- Continuous monitoring and control of specific consumption of inputs.
- Ensure safe and clean working environment
- Enhance IT application in various activities.

ENVIRONMENT POLICY:

"We at GSFC, are committed to conduct business in an environmentally sustainable manner."

"We, continually strive to improve our environmental performance by –

- Ensuring compliance to statutory environmental requirements through reduction, management and control of emission, discharge of gaseous liquid and solid wastes.
- Incorporating improved techniques for prevention and control of pollution, recycling and reuse of wastes into manufacturing operations and processes.
- Establishing and maintaining the sustainable use of natural resources, particularly water and raw materials.
- Promoting application of modified and upgraded processes / technologies achieved through research and technical studies towards waste reduction and resource conservation."
We develop and promote green surroundings and adopt a multi-pronged approach with respect to Health, Safety, and Environment to inculcate awareness among the employees, customers, contractors, suppliers and society at large.”

CUSTOMER CARE:

GSFC does not offer fertilizers only but happiness too. This is the prime marketing objective of GSFC’s agro products. Translating this objective is its sales supporting network that ensures that farmers get the products they demanded. Propelled by the belief that timely arrival of the product is of crucial importance, GSFC has made over 300 warehouse that store fertilizers during the off-season. Well planned transport routes connect not only the remotest parts of Gujarat but also of 10 other states. GSFC’s marketing network consists of 170 Farm Information Center-cum-Depots where the product is sold and information provided to the farmers. Ensuring the smooth functioning of the network is its team of 500 trained and experienced professionals who can ensure that every need is met.

GSFC trains farmers in the balanced application of fertilizers. GSFC also undertakes Youth Farm Programme in collaboration with Gujarat Agriculture
University. GSFC’s Agro Development and Agro service Department form a vital supplementary to services being offered in the field. Special emphasis is placed on agro technologies, tissue culture, biofertilizer, seeds etc.

The company’s Application Development Center offers technical services and provides orientation to its consumers about its industrial products. It also provides industrial parameters, laboratory trials, testing facilities, commercial viability, feedback of product and application, expertise in improvement of processing machines and guidance to new entrepreneurs in selection of machinery and products.

![Fertilizers (MTs) Production](image)

**Fig 2.1** Production of Fertilizers: GSFC
5. Gujarat Narmada Valley Fertilizer Company Limited (GNFC):
INTRODUCTION:

Gujarat Narmada Valley Fertilizers Company Ltd., (GNFC), is a joint sector enterprise promoted by the Government of Gujarat and the Gujarat State Fertilizer Company Ltd. (GSFC). It was set up in Bharuch, Gujarat in 1976. Located at Bharuch in an extremely prosperous industrial belt, GNFC draws on the resources of the natural wealth of the land as well as the industrially rich reserves of the area.

GNFC started its manufacturing and marketing operations by setting up in 1982, one of the world’s largest single-stream ammonia-urea fertilizer complexes. Over the next few years, GNFC successfully commissioned different projects – in fields as diverse as chemicals, fertilizers and electronics. Since inception, GNFC has worked towards an extensive growth as a corporation. A growth which respects the environment and springs from the progressive vision of GNFC.

GNFC today has extended its profile much beyond fertilizers through a process of horizontal integration. Chemicals/Petrochemicals, Energy Sector, Electronics/Telecommunications and Information Technology form ambitious and challenging additions to its corporate portfolio. GNFC has an enterprising, strategic view towards expansion and diversification.
PRODUCTION HIGHLIGHTS:

<table>
<thead>
<tr>
<th>Product</th>
<th>Production for Apr.2005-Mar2006</th>
<th>Capacity Utilization</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ammonia</td>
<td>5,22,090 MT</td>
<td>117%</td>
</tr>
<tr>
<td>Urea</td>
<td>6,42,832 MT</td>
<td>101%</td>
</tr>
<tr>
<td>Methanol</td>
<td>2,22,327 MT</td>
<td>148%</td>
</tr>
<tr>
<td>Methyl Formate</td>
<td>19,313 MT</td>
<td>85%</td>
</tr>
<tr>
<td>Formic Acid</td>
<td>15,456 MT</td>
<td>155%</td>
</tr>
<tr>
<td>Acetic Acid</td>
<td>1,42,978 MT</td>
<td>143%</td>
</tr>
<tr>
<td>Weak Nitric Acid</td>
<td>3,01,548 MT</td>
<td>122%</td>
</tr>
<tr>
<td>Concentrated Nitric Acid</td>
<td>70,600 MT</td>
<td>107%</td>
</tr>
<tr>
<td>Ammonium Nitro phosphate</td>
<td>2,03,575 MT</td>
<td>143%</td>
</tr>
<tr>
<td>Calcium ammonium Nitrate</td>
<td>1,72,808 MT</td>
<td>121%</td>
</tr>
</tbody>
</table>

Table : 2.2 Production Highlights of GNFC

DISCOVER GNFC:

There is more to GNFC than meets the eye- and fertilizers is only a part of the Company’s growing sphere of activities. In fact, industrial chemicals have been the dominant driver of growth for the Company in recent times. GNFC is also making a foray into the

As part of an evolved strategic thrust, the focus is on consolidating and driving growth through core competencies, absorbing technologies from the world’s leading technology providers and latching on to business areas with high potential. A business outlook that is fresh, dynamic has always been part of the GNFC culture. So expect something new every time. The current profile of GNFC is presented in the following passages.

BROADENING THE BASE:

- Went public in 1981 with the largest shareholder base of the time for GNFC’s first project, a single-stream Ammonia-Urea plant.

- 1985 onwards, GNFC has been active in a major diversification into industrial chemicals. Methanol, Formic Acid, Acetic Acid, Weak Nitric Acid (WNA), Concentrated Nitric Acid, (CAN), etc. revamp or expansion of capacities for high-demand chemicals like Methanol. CAN and Acetic Acid consolidation in GNFC’s flagship concern, fertilizers with new plants for Ammonium Nitrophosphate (ANP) and Calcium Ammonium Nitrate (CAN), and a foray into IT infrastructure. As foreseen, the above projects have gone
on to strengthen the value chain and build a diversified based of products that has helped the Company sail through cyclical changes in business environment year after year.

- Establishment Narmada Chematur Petrochemicals Ltd. (NCPL) in 1992 to manufacture the petrochemicals Aniline and Toluene Di-Isocyanate (TDI).

**HIGH POINTS:**

- Set up the world’s largest single stream, fuel oil based Ammonia-Urea plant.
- All fertilizers under the brand name of Narmada, along with extensive support activities, have been well accepted by the country’s farmer community.
- India’s largest producer of Formica Acid, Acetic Acid and Methanol.
- India’s only manufacturer of Glacial Acetic Acid through the cutting edge Methanol route.
- Record capacity utilization in all plants, defying the vintage through ingeniously innovative maintenance measures.
- A 50 MW captive power plant enhances self-sufficiency of all units.
• Development of the first indigenous, eco-friendly technology for H2S removal, CATSOL, a much awarded product of the company’s R & D labs.

IT’S GROWTH PLATFORM:
ONGC INFOTOWER:

GNFC Info-tower is 14,405 sq. mt. facility, set up to provide ready to use infrastructure required by IT companies under one roof. It is a hub for major BPO (Business Process Outsourcing) and ITES ventures of the reputed companies. Currently, more than 2500 people are employed by different companies at this facility.

COMMERCIAL CERTIFYING AUTHORITY:

As a Commercial Certifying Authority (n) Code Solutions, division of GNFC Ltd., has established its position as a thought leader in DSC issuance and PKI technology in India. (n) Code recently won the CSI Nihilent Award for the best deployment of technology of e-governance. Backed with world class technology and motivated team, (n) Code as a certifying authority has pioneered and mastered innovations in DSC issuance. It is the leading DSC issuer in projects of national significance. More than 45,000 DCSs have been issued in just one year.
E-PROCUREMENT:

(N) Code has successfully carved a niche for itself in the revolutionary domain of e-Procurement or Tendering. It manages **n-procure-com** the portal that facilitates e-tendering. It caters to most of the State Government Departments, Boards, Corporations and PSUs. 500 Tenders worth more than 10 billion have already been floated on this portal and there are many more in the offing.

IT & SECURITY SOLUTIONS:

The software and application group at the info-tower provides Digital Signature based application like e-procurement, online from signing, bill payments etc. (n) Code Solutions Provides managed PKI and hosting services. It also provides security consulting, security audit and system integration services for the secure networks.

DATA CENTRE CREATION AND IMPLEMENTATION:

(N) Code has evolved into Data Centre design and development expert. It has successfully executed three data centers and three more are under implementation one of which includes Data Centre for Govt. of Gujarat. This expertise matched with its prowess in IT security services has empowered (n)
Code to position itself as a front-line player in this domain at national level.

**VSAT. INTERNATIONAL GATEWAYS AND ISP:**

Services are provided from GNFCs head office at Bharuch. VSAT is satellite based communication technology. A special product called Transportable VSAT suitable for remote locations for specific applications is also available. With two international Gateways, GNFC is one of the largest internet Bandwidth providers in Gujarat.

**CLOSE TO CUSTOMERS:**

- GNFC has an extensive marketing network with nodes at major cities in the country.
- There are 2 liasion, 9 regional and 19 area offices.
- 58 Narmada Khedut Sahayak Kendras (NKSK) have been set up to cater to GNFCs farmer fraternity in Gujarat including Kamrej (near Surat) model NKSK with infokiosk and touch screen. More are being set up elsewhere in the country.
HUMAN ASSETS:
• A workforce that is 2400 strong, well-trained, competent and dedicated.
• A singular distinction of not losing a single minute due to industrial discord in the 32 years of existence of the country.
• Consistent track record of innovation and creativity displayed through, suggestion schemes to improved cost efficiency, productivity, safety, operational reliability and customer service.

GREEN DRIVE:
• Huge investment in pollution control measures, especially in effluent treatment and re-use.
• A continual endeavour to discover eco-friendly processes, procedures and system.
• ISO-14001 certificate awarded by TUVNORD for the Company’s Environment Management system in the entire campus.

NCPL : LEADING THE WAY:
• Narmada Chematur, Petrochemicals Ltd. ( NCPL) is a company promoted by GNFC jointly with Chematur Engineering AB, Sweden and IBI Chematur Ltd., India in 1992 to manufacture speciality chemicals, viz. Anilline
and Toluene Di-Isocyanate (TDI). GNFC holds more than a 56% stake in the equity capital of Rs. 61.62 crores of NCPL.

- NCPL is only manufacturer of Toluene Di-isocynate 80.20 (TDI) in South & South East Asia and Middle East region. It has India’s largest single stream plant of Anilline.

- Against the installed capacity of Anilline plant of 20,000 MTPA & that of TDI plant of 10,000 MTPA, the company is able to produce 35,716 MT of Anilline i.e. @ 178.58% capacity utilization and 15.804 MT of TDI i.e. @ 158.04% capacity utilization during the FY (05-06). Both these products are well accepted in domestic and international market.

- TDI is one of the major raw materials for manufacturing Flexible Polyurethane foam which finds use in mattresses, pillows and quills. It is also used in automobile seats, linings, acoustic insulation, coating, adhesives, sealant and elastomers.

- In India, Anilline is mainly used for manufacturing of dyes, dye intermediates and rubber chemicals. It also finds applications in photographic chemicals, pharmaceutical product, pesticides, insecticides herbicides etc.

- NCPL has been accredited with ISO 9001. Quality Management System, ISO 14001 Environment

• Technology Partners: Chematur AB, Sweden, Du Pont, USA.

YEMAN'S CONTRIBUTION TO SOCIETY:

• A trust formed by GNFC, Narmadanagar Rural Development Society (NARDES), works for the less privileged by organizing or supporting eye camps, health camps for the disabled, blood donation camps, book banks, self-employment programmes, relief and rebuilding operations after disasters, including village adoption, women empowerment programs and senior citizens activity club.

• Efforts towards improving quality of the of GNFC employees include creating a township with all amenities, building recreation and sports complexes, hospital with ICCU, establishing a school and four English - medium colleges/Institutions for Science, Commerce, BBA, MBA, MCA and Post Graduate Diploma Courses.
6. INDIAN FARMERS FERTILIZER COOPERATIVE LIMITED (IFFCO) :

IFFCO – AN EPITOME OF COOPERATION :

Indian Farmers Fertilizer Cooperative Limited (IFFCO), globally acclaimed cooperative in fertilizer production and marketing has been striving for socio-economic upliftment of the rural populace of India since inception. Remarks made by Hon’ble President of India Dr. APJ Abdul Kalam in his Independence Day Address to the Nation, “Our private sector has also made significant progress in food processing industries, whereas there is a need for Rural Farmers’ Cooperative in Partnership with banking institutions on the pattern of the Indian Farmers Fertilizer Cooperative Limited” aptly sums up the saga of its success.

To ensure timely availability of quality fertilizers to the farmers, IFFCO, came into being on 3rd November, 1967. It is heartening to note that an amazing experiment in Indian Cooperative Movement in which farmers’ cooperative joined hands with Government of India with technical assistance from CFI, USA resulted into creation of a unique organization like IFFCO. With entire equity of cooperatives held in IFFCO, it has emerged as cooperative of the farmers, for the farmers and by the farmers.
Initially, IFFCO commissioned Kalol and Kandla plants in Gujarat in early 1975. Subsequently, the society expanded its base by erecting two more plants at Phulpur and Aonla in U.P. in the year 1981 and 1988 respectively. Last year, it acquired the DAP/NPK unit at Paradeep in Orissa having an annual capacity to produce 19 lakh tonne of NAP/NPK. The marketing of IFFCO’s products NPK/DAP/URREA— is channelized through 37,500 member cooperative societies and 158 Farmers Service Centres in over 28 States / Union Territories in the country.

The society has steadily grown in strength and stature from a modest membership of 57 societies in 1967-68 to a staggering 37,500 societies as on March 31, 2006. The Initial equity capital of Rs. 6 lakh contributed by the cooperative in 1967 – 68 has also risen to Rs.422.51 crore in 2005-06 which is fully owned by cooperatives.

In the field of Energy Conservation too, IFFCO, did not lag behind. It has clocked to the overall lowest annual energy consumption of 5.989 Gcal/tonne of urea. The year also witnessed the best ever manpower productivity of 1969 tonne/head.

**PRODUCTION:**

Production outfits of IFFCO have displayed remarkable performance by producing 64.35 lakh tonne of fertilizer material comprising 37.18 lakh tonne of urea and
27.17 lakh tonne of NPK/DAP during 2005-06. All the plants have attained the capacity Utilization of over 100 percent during the same period.

IFFCO contributed 18.4 per cent to country’s total nitrogenous production and 23.4 per cent to total phosphatic production during the year 2005-06.

MARKETING:

IFFCO has notched up a record sale of 81.95 lakh tonne of fertilizer material comprising 50.13 lakh tonne of urea and 31.82 lakh tonne of NPK / DAP during the year witnessing a growth of 27 percent as against 64.64 tonne, the year before. Best ever marketing productivity also sprang to 5,565 tonne / head.

FINANCIAL PERFORMANCE:

The Society recorded an all time high turnover of Rs. 9,943 crore during 2005 – 06 while its pre-tax profit stood at Rs. 482 crore. The Society declared a dividend of 20 percent for its shareholders for fifth year in a row.

RURAL DEVELOPMENT PROGRAMMES:

IFFCO focused its agricultural extension activities to educate the farmers on the concept of balanced fertilizer use for sustainable agriculture through its dedicated field team at the grassroots level. It has organized several farmers
meetings, field days crop seminars and laid two-plot and block demonstrations for the benefit of farmers. IFFCO conducted a large number of soil testing campaigns in which samples of soil were analyzed. Since its inception IFFCO has developed over 3300 villages under village Adoption Scheme. It has also set up 127 Storage-cum-Community Centres throughout the country for storage of fertilizers and agri inputs.

**ENERGY SAVING SCHEMES PROJECT:**

IFFCO embarked upon an Energy Saving Schemes Project for its all the five Ammonia Plants at Kalol, Phulpur-I & II and Aonla-I & II at an estimated cost of about Rs. 405 crore in the Year 2003.

Phase I – Energy Saving Schemes Project has been implemented and commissioned at all the five Ammonia Plants in their respective plant turnaround in the year 2005. Phase II Energy Saving Schemes Project has also been commissioned at all the Ammonia Plants except Aonla-I Unit during the turnaround in 2006. Phase- II Scheme at Aonla – I shall be commissioned during April 2007 turnaround.
COMMUNICATION / INFORMATION TECHNOLOGY:

With rapid growth in business volume and complexity, a need was felt for high speed, reliable and secure connectivity for our manufacturing units and offices to enable instant and quick decision making. Accordingly, virtual Private network (VPN) based on MPLS (Multi Protocol Label Switching) technology has been implemented and rolled out across the entire organization including corporate office, New Delhi, all manufacturing units, Marketing Zonal Offices, State Marketing offices and 65 Area offices. Simultaneously, PSTN Dial -up VPN services have been provided to around 400 Marketing Field Offices. In this regard IFFCO has signed MoU with MTNL and BSNL for all its communication needs which benefited IFFCO in the form of discounts and prioritized services. MPLS VPN Data Network is also being used for voice communication resulting in considerable savings in communication costs. Around 200 Cisco IP phones have been installed at different offices. These IP phones are using the existing MPLS based VPN bandwidth for communication and has no extra cost for usage. Over 100 Touch Screen Monitor based information Kiosks have become operational and more such user-friendly Kiosks are proposed to be set up to promote e-culture in rural India.
IFFCO FOUNDATION:

IFFCO laid the foundation of a ‘Think Tank’ and ‘Brain Bank’ named “IFFCO FOUNDATION” whose main objective would be to focus on strengthening primary cooperatives, social human resources and cultural development in cooperative sector empowerment of women and youth, financial discipline and reforms in cooperatives. Eminent experts are assisting the Foundation for taking up various programmes.

IFFCO KISAN SEWA TRUST:

IFFCO’S charitable Trust named “IFFCO KISAN SEWA TRUST” has been catering to the needs of economically backward farmers and is functioning effectively. The TRUST has undertaken various programmes, including programmes for the welfare of people affected by natural calamities and critical medical attention of needy farmers with emphasis at improving the quality of life of affected farmers. Recently, the Trust has donated 11,600 woolen jersies worth Rs. 10 lakh to the earthquake victims of J & K state.

VISION –2010:

Having accomplished the objectives envisaged in ‘Vision 2000’ and ‘MISSION-2005’, the Society embarked
on "vision 2010" which focuses on future growth and development of the Society and aims at:

- Attaining an annual turnover of Rs. 15,000 crore by 2010.
- Installation of ammonia and urea plants including acquisition of fertilizer units.
- Backward integration to meet feedstock requirements such as Phosphoric acid.
- Generation of Power.
- Production and marketing of micro-nutrients, seeds, bio-fertilizers, pesticides etc.
- Value addition to agri-products and marketing.
- Information Technology and IT enabled services.

7. KRISHAK BHARATI COOPERATIVE LIMITED (KRIBHCO):

INTRODUCTION:
KRIBHCO has setup a Fertilizer complex to manufacture Urea, ammonia & Bio-fertilizers at Hazira in the State of Gujarat, on the bank of river Tapi, 15 kms. From Surat city on Surat, Hazira State Highway.
Late Smt. Indira Gandhi, former Prime Minister of India laid the Foundation Stone on February 5, 1982.

Hazira Fertilizer complex has 2 streams of Ammonia Plant and 4 Streams of Urea Plant. Annual re-assessed capacity for Urea and ammonia is 1.729 million MT and 1.003 million MT respectively, the total Project cost was Rs. 890 crores as against the estimated cost of Rs. 957 crores. This shows a saving of Rs. 67 crores (approximately 7\% ) in Capital cost of the Project.

The trial production commenced from November, 1985 and within a very short time of 3 months, the commercial production commenced from March 01, 1986. Since then, it has excelled in performance in all areas of its operations.

Bio-Fertilizer plant of 100 MT per year capacity was commissioned at Hazira in August, 1995. KRIBHCO has also completed the installation of an expansion of the Bio-Fertilizer plant with an additional capacity of 150 MT and the same was commissioned in December, 1998.

Ten Seed Processing Plants are also in operation in various states.

OBJECTIVES:

• To increase the urea installed capacity, maintaining its market share.
• To ensure optimum utilization of existing plant and machinery.
• To diversify into other core sectors like power, LNG terminal/port, chemicals.

QUALITY POLICY:
Continually upgrading technology to improve management of KRIBHCO, Hazira plant is committed to operate and maintain its fertilizer manufacturing complex through quality assurance, environmental protection to the satisfaction of customers.

KRIBHCO, Hazira plant shall achieve this quality policy through following objectives.
(1) Continually upgrading technology to improve plant efficiency and reliability
(2) Maintaining and improving the safety and environmental performance.
(3) Improving the skills and knowledge of personnel.
(4) Continuously improving the quality management system.

KRIBHCO: ITS GENESIS:
In pursuance of the provisions of the multi Unit Cooperative Societies Act. 1942, Krishak Bharati Cooperative Limited (KRIBHCO) was registered on 17th
April, 1980 as a Multi Unit Cooperative Society under the Delhi Cooperative Societies Act 1972. with Registered Office at Delhi. With the enactment of Multi State Cooperative Societies Act, 1984, KRIBHCO has been registered as a National Level Cooperative Society under the provision of the said Act.

Membership of KRIBHCO is open to the Government of India, National State, District and Village level Cooperative Societies. Its objectives are to promote the economic interest of its members by undertaking manufacture and distribution of chemical fertilizers and allied products and to undertake activities as are incidental and conductive to give upliftment to agriculture and rural development.

Its mission is to contribute to agricultural and rural development in the regions and services to member Cooperative Societies by selecting, financing and managing socially desirable and commercially profitable investment opportunities preferably at multiple locations.

KRIBHCO is dedicated to function in the best interest of its shareholder members in accordance with cooperative principles enunciated in the first schedule to the Multi State Cooperative Societies Act, 1984. Subject to compliance with aforesaid principles and adoption of ethical and fair practices and human approach, the society’s business is guided by sound commercial principles.
Presently the society has Gas based ammonia and urea Complex, largest in the Cooperative Sector in the World, which is situated on the banks of river Tapi, near Surat in Gujarat. It has two phases of Ammonia Plants of 1,350 MTPD capacity each and two phases of Urea plant 2,200 MTPD, capacity each. It has an annual capacity to produce 14.52 lac tones of Urea.

To market its products, KRIBHCO has a marketing network throughout the country. Allocation of Fertilizers is made under the provisions of Essential Commodities Act by the Government of India.
REFERENCES: