3.1 Introduction

Fertilizer is defined as any substance which is organic or inorganic, natural or artificial, supplies one or more of the chemical elements required for plant growth. Carbon, oxygen and hydrogen are directly supplied by air and water and therefore not treated as nutrients by the fertilizer industry. One of the vital industries for the Indian economy is the Indian Fertilizer Industry as it manufactures a very critical raw material for agriculture which is the major occupation of the country. The fertilizers especially like the ammonia urea plants are energy demanding in their operation.

Table 3.1: Size of fertilizer industry

<table>
<thead>
<tr>
<th>Size of the Industry</th>
<th>57 large-sized and 64 medium- and small-sized chemical fertilizer production units in India producing urea, DAP, Complex fertilizer, Ammonium Sulphate (AS) and Calcium Ammonium Nitrate (CAN)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Output per annum</td>
<td>121.10 lakh MT a year</td>
</tr>
<tr>
<td>Percentage in world market</td>
<td>It ranks third in the world of Fertilizer production</td>
</tr>
<tr>
<td>Market capitalization</td>
<td>25% to the GDP</td>
</tr>
</tbody>
</table>

Source: The Economic Times
Indian fertilizer industry's main objective is to ensure the supply of primary and secondary nutrients in the required quantities. The Indian Fertilizer Industry is the most energy intensive sectors according to the context of environmental discussions. As there is increasing productivity through the implementation of
competent and pollution free technologies in the manufacturing sector it would be desirable in combining economic, environmental and social development objectives. The Indian fertilizer industry in the past 50 years has grown in size and stature as it ranks third in the world.

3.2 Brief Introduction

In 1950-51 in India the consumption of fertilizer per hectare was less than 1/4th of the global average. During this particular period the production was by and large in the purview of public sector and co-operative sector. Government introduced the Retention Price Scheme (RPS) in the year 1977 with the goals of providing fertilizers to farmers at reasonable rates without affecting the profitability of the manufacturers.

Fertilizers play an exceedingly important role in the country’s performance in agriculture sector. Fertilizer industry has also been instrumental in rapid growth of capital goods and other industries in the country. Installed capacity of Fertilizers in India increased manifold since the commissioning of the first large size ammonium sulphate plant at Sindri. The total installed capacity has grown from a mere 0.35 million tons nutrients (N & P) in 1960-61 to 17.72 million tons in 2003-04. Production of Fertilizers in the country includes the whole range of nitrogenous, phosphatic and complex Fertilizers. There are 30 operating urea plants with installed capacity of more than 20 million tons and these contribute more than 85% to the total nitrogen production. In addition, there are 19 complex Fertilizers plants and a few ammonium chloride, ammonium sulphate, calcium ammonium nitrate plants. There are also a large number of SSP plants producing a low nutrient (16% P₂O₅) phosphatic Fertilizers.

It is well known that production of Fertilizers is highly capital and energy intensive. The total energy consumption in Fertilizers sector for manufacturing an entire range of products is estimated to be about 15 million tons of oil equivalents.
Major part of this energy is used as feedstock for production of ammonia which is the single most important intermediate for production of a variety of Fertilizers products. Production of ammonia itself involves almost 80% of the energy consumption in the manufacturing processes of a variety of final Fertilizers products. Therefore, ammonia is considered a key intermediate for determining the overall energy efficiency of Fertilizers production.

Fertilizers plants were built up using a variety of feed stocks viz., coke oven gas, hydrogen from electrolysis, natural gas, naphtha, fuel oil, coal, etc. The choice of feedstock was determined by Government of India depending on the availability of resources. Feedstock choice was not necessarily governed by the energy efficiency considerations.

Ammonia plants of early generation had high design energy. For example, naphtha based plants constructed in 70’s had design energy in the range of 11-12 Gcal/MT which has now come down to less than 7.8 Gcal/MT for naphtha based plants and about 7.4 Gcal/MT for the gas based plants. Fertilizers plants constructed in the initial phase of 1960’s & 70’s were constrained by availability of foreign exchange. Therefore, there was lot of emphasis on indigenization to avoid import of equipments against rupee payment. This resulted in installation of unproven and mismatched equipment in number of plants especially in the public sector. The low on-stream factor for these plants resulted in poor energy efficiency. There was also lack of awareness for energy conservation and Fertilizers pricing policy it did not provide enough incentives for investment in energy consumption.

The decade of 80’s prove to be a watershed in the development of Fertilizers industry with the discovery of large resource of natural gas in the western offshore fields. Large single stream ammonia and urea plants using then available latest technology were constructed at the landfall points as well as along
HBJ pipeline. Simultaneously, old plants also implemented a large number of measures like synthesis converter revamp, change to reformative metallurgy, recovery of waste heat and its utilization, recycle and reuse of water, high efficiency trays in urea reactor, recovery of ammonia and urea from waste water, etc. All these measures along with better practices adopted for operation and maintenance of the plants reduced the average energy consumption in ammonia production from 12.48 Gcal in 1987-88 to 9.14 Gcal/MT in 2003-04. Average energy consumption in urea production declined from 8.87 Gcal to 6.49 Gcal/MT during the period. This is equivalent to about 5.0 MMT of oil equivalent of total urea production in the country.

There are a large number of short, medium and long-term measures still available for further improvement in efficiency of ammonia and urea plants. It is expected that plants using naphtha and fuel oil will switch to natural gas due to improved availability of indigenous as well as imported natural gas. This by itself should help to improve the energy efficiency of these plants significantly.

In addition, all existing plants have planned to implement energy conservation measures. For example, parallel synthesis converter are being installed in 5 ammonia plants which will reduce the operating pressure and hence savings in compression energy. It has to be recognized that energy conservation schemes available at present result in only small incremental savings with long pay back periods and therefore conducive pricing policy environment becomes important.

There is potential for development of futuristic technologies which can result in significant improvements in production of ammonia and urea. For example, high efficiency catalyst, better materials of construction, high efficiency moving machines, and improved process technologies could reduce the design energy of ammonia plants from the present 7.2 Gcal/MT to about 6.5 Gcal/MT.
The new pricing policy for urea effective from 1.4.2004 has provided the conducive environment for energy conservation measures. The continuation of such a policy would greatly help in initiating energy efficiency projects.

The switchover of feedstock of non-gas based plants to natural gas, availability of sufficient quantities of natural gas for the existing natural gas based plants, an implementation of variety of short and medium term energy conservation measures by existing plants should result in savings of about 0.5 Gcal/MT for the entire urea production during next 5 years. This would translate into saving of more than 1 MMT of oil equivalent energy on 22 MMT of urea production.

In view of the unique situation of Indian agriculture where 80% of the farm holdings are less than 2 acres and 12 million farmers engaged. It is easier to provide subsidy to the agriculture sector through cheaper inputs, it price therefore, is controlled at a level affordable to farmers. There is a little chance that the Fertilizers prices controls will be removed in near future.

Therefore, Fertilizers industry will continue to operate in regulatory environment. It is, therefore, imperative that any pricing policy should enable the following:

a. Switch over of naphtha and fuel oil based plants to natural gas as feedstock for higher energy efficiency.

b. The investment in medium and large size energy conservation schemes usually has long payback period. Therefore, there should be a long-term Fertilizers pricing policy valid at least for 10 years. This would help the plant management to make investment decisions.
Since natural gas is used both as feedstock (major part) and fuel in Fertilizers production. Fertilizers industry should get the top priority in allocation of the availability of natural gas.

The government under this policy would pay the manufacturers, the difference between the administered price (sale price) and the retention price (cost of production). Over and above the retention price subsidy, the equated freight subsidy was introduced to enable the manufacturers to cover the cost of transportation. Economic liberalization Policy had its effect on the fertilizer industry too. Where the government had the move to aim at reducing subsidy and decontrolled all the phosphatic and potassic fertilizers in 1992 the ratio of fertilizer utilization was strained.

The government strategized a long term fertilizer policy to be completed in three different phase, beginning in 2000-01 and ending in 2006-2007.

**Phase 1: 2000-01 and 2001-02**

- Evaluate the possibility of a coal based expertise.
- Promote joint ventures.
- Finalize policy on fertilizer pricing and capacity enhancement.
- Eliminate distribution controls on urea and augment concession scheme to biofertilizers.
- Evaluate existing capacity.
- Increase in urea prices from time to time.

**Phase II (2002-03-2003-04)**

- Finalize decision on feedback.
- Eliminate MRP and encourage productive investment.
- Reorganize the association between the industry and farmers.
- Long term strategy of increased capacity.
- Decide on extent of protection to local industry.
• Judicious utilization of fertilizer and greater emphasis on eco friendly fertilizer.
• Establish Fertilizer Policy Planning Board.

Phase III (2004-05-2006-07)

• Define government's role in decontrol setup and with respect to policy relating to LNG.
• Removal of MRP
• Size of the industry

Indian Fertilizer industry today has succeeded in meeting the demand of all chemical fertilizers over the years. The first manufacturing unit was started by the Indian Fertilizer Industry which was of Single Super Phosphate (SSP) in Ranipet near Chennai with a capacity of 6000 MT a year. India's green revolution in 60’s gave a positive boost to this particular sector. The industry of Fertilizer experienced a faster growth rate and presently India is the third largest fertilizer producer in the world.
Table 3.2: Number of fertilizer Units

<table>
<thead>
<tr>
<th>Year of manufacture</th>
<th>Fertilizer product</th>
<th>Total number of units</th>
</tr>
</thead>
<tbody>
<tr>
<td>1906</td>
<td>SSP</td>
<td>65</td>
</tr>
<tr>
<td>1933</td>
<td>AS</td>
<td>10</td>
</tr>
<tr>
<td>1959</td>
<td>Ammonium sulphate nitrate</td>
<td>No longer manufactured</td>
</tr>
<tr>
<td>1959</td>
<td>Urea</td>
<td>29</td>
</tr>
<tr>
<td>1959</td>
<td>Ammonium chloride</td>
<td>1</td>
</tr>
<tr>
<td>1960</td>
<td>Ammonium phosphate</td>
<td>3</td>
</tr>
<tr>
<td>1961</td>
<td>CAN</td>
<td>3</td>
</tr>
<tr>
<td>1965</td>
<td>Nitro phosphate</td>
<td>3</td>
</tr>
<tr>
<td>1967</td>
<td>DAP</td>
<td>11</td>
</tr>
<tr>
<td>1968</td>
<td>TSP</td>
<td>No longer manufactured</td>
</tr>
<tr>
<td>1968</td>
<td>Urea ammonium phosphate</td>
<td>2</td>
</tr>
<tr>
<td>1968</td>
<td>NPK complex fertilizers</td>
<td>6</td>
</tr>
</tbody>
</table>

Source: Food and Agriculture Organization of the United Nations

The total indigenous capacity of N and P₂O₅ increased from 17 000 and 21 000 tons in 1950/51 to 12 276 million and 5 547 million tons respectively in 2004/05.
Table 3.3: Fertilizers consumption

<table>
<thead>
<tr>
<th>Year</th>
<th>Fertilizer (NPK) consumption (million tons)</th>
<th>(kg/ha)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1969/70</td>
<td>1.98</td>
<td>11.04</td>
</tr>
<tr>
<td>1979/80</td>
<td>5.26</td>
<td>30.99</td>
</tr>
<tr>
<td>1989/90</td>
<td>11.57</td>
<td>63.47</td>
</tr>
<tr>
<td>1999/2000</td>
<td>18.07</td>
<td>94.90</td>
</tr>
<tr>
<td>2000/01</td>
<td>16.70</td>
<td>89.30</td>
</tr>
<tr>
<td>2001/02</td>
<td>17.36</td>
<td>92.80</td>
</tr>
<tr>
<td>2002/03</td>
<td>16.09</td>
<td>86.01</td>
</tr>
<tr>
<td>2003/04</td>
<td>16.80</td>
<td>89.80</td>
</tr>
</tbody>
</table>

Source: Food and Agriculture Organization of the United Nations

Top leading Companies

Some of the public sector companies in India fertilizer industry:

1. National Fertilizers Limited
2. Fertilizers & Chemicals Travancore Limited
3. Rashtriya Chemicals & Fertilizers Limited
4. Madras Fertilizers Limited
5. Steel Authority Of India Limited
6. Neyveli Lignite Corporation Limited
7. Paradeep Phosphates Limited
8. Pyrites, Phosphates & Chemicals Limited
9. Hindustan Fertilizer Corporation Limited

Some of the private sector companies in Indian fertilizer industry:
1. Chambal Fertilizers & Chemicals Limited
2. Ajay Farm-Chem Private Limited
3. Balaji Fertilizers Private Limited
4. Deepak Fertilizer and Petrochemicals Corporation Limited
5. Bharat Fertilizer Industries Limited
6. Coromandal Fertilizers Limited
7. Gujarat Narmada Valley Fertilizer Co. Limited
8. Meerut Agro Chemicals Private Limited
9. Duncans Industries Limited
10. Karnataka Agro Chemicals
11. Godavari Fertilizers & Chemical Limited
12. ShriAmba Fertilizers (I) Private Limited
13. Tuticorin Alkali Chemicals & Fertilizer Limited
14. Gujarat State Fertilizers & Chemicals Limited
15. Indo-Gulf Fertilizers & Chemicals Corporation Limited
16. Southern PetroChemical Industries Corporation Limited
17. Maharashtra Agro Industrial Development Corporation
18. Zuari Industries Limited- Fertilizer Limited
19. Mangalore Chemicals & Fertilizers Limited
3.3 Latest developments

Indian Fertilizer demand in 2007-08 was 26 MM tons, which went up to 29 MM tons in 2008-09 against a supply of 20 MM tons in 2008-2009. It is forecasted that the demand for fertilizers in 2011-12 is going to be around 35.5 MM tons.

There is a lot of development going on to meet the demand of fertilizers in the country through indigenous production, self-reliance in design engineering and execution of fertilizer projects. There are consultancies which organize themselves to undertake execution of fertilizer projects starting from concept/designing to commissioning of fertilizer plants in India and abroad.

Many concepts have been developed to carry out research and development basic research work by mutual understanding between industry and academic institutions, and even there is support from the Department of Fertilizers to sponsor research and development projects through the Indian Institutes of Technology, Delhi and Kharagpur under the Science and even other major institutions in the country.

The fertilizer plant operators are now in the position to absorb and assimilate the latest technological developments, incorporating environmental friendly process technologies, and are in a position to operate and maintain the plants at their optimum levels without any foreign assistance and on international standards in terms of capacity utilization, specific energy consumption & pollution standards.

Indian fertilizer industry is carrying out de-bottlenecking and energy saving schemes for the existing plants to enhance the capacity and reduce the specific energy consumption per ton of product.
Today India has developed expertise for fabrication and supply of major and critical equipment such as high-pressure vessels, static and rotating equipment, Distributed Control System (DCS), heat exchangers and hydrolyser for fertilizer projects. The most significant development/advancement made by the Industry is in the field of manufacturing of catalysts of various ranges by catalyst-manufacturing Organizations like PDIL. PDIL helps in implementing the schemes for enhancement of capacity and technological upgradation in their existing catalyst plant and other utilities to compete in the International market.

Fertilizer serves as the key ingredient for the food security of the country, by increasing the production and productivity of the soil. The Industry has set the domestic food grain production target at 320 million tons by 2011-12 from the present production of 210 million tones. This target would only be achieved by higher productivity through improved farming practices, expansion of irrigation, better seeds and extensive and balanced use of fertilizers.

3.4 Present Growth

The country has an installed capacity of 120.61 lakh MT of nitrogen and 56.59 lakh MT of Phosphate. Presently, there are 57 large size fertilizer plants in the country manufacturing a wide range of nitrogenous, phosphatic and complex fertilizers. Out of these, 30 (as on 1st January, 2008 28 are functioning) units produce urea, 11 units produce DAP and complex fertilizers, 5 units produce low analysis straight nitrogenous fertilizers and the remaining 9 manufacture ammonium sulphate as-product. Besides, there are about 72 medium and small-scale units in operation producing SSP. The sector-wise installed capacity is given in the table below:-
Sector-wise and Nutrient-wise Installed Capacity of Fertilizer Manufacturing Units (as on 1st January, 2008)

Table 3.4: Sector wise percentage share

<table>
<thead>
<tr>
<th>S.No</th>
<th>Sector</th>
<th>Capacity (Lakh MT)</th>
<th>Percentage Share</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Nitrogen</td>
<td>Phosphatic</td>
<td>Nitrogen</td>
</tr>
<tr>
<td>1</td>
<td>Public Sector</td>
<td>34.08</td>
<td>14.33</td>
</tr>
<tr>
<td>2</td>
<td>Cooperative Sector</td>
<td>31.69</td>
<td>17.13</td>
</tr>
<tr>
<td>3</td>
<td>Private Sector</td>
<td>53.91</td>
<td>35.13</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>120.61</td>
<td>56.59</td>
</tr>
</tbody>
</table>

Source: Food and Agriculture Organization of the United Nations

3.5 Development of the Industry

Production capacity and capacity utilization

The production of fertilizers during 2006-07 was 115.78 lakh MT of nitrogen and 45.17 lakh MT of phosphate. The production target for 2007-2008 has been fixed at 119.08 lakh MT of nitrogen and 49.14 lakh MT of phosphate, representing a growth rate of 2.85% in nitrogen and 8.79% in phosphate, as compared to the actual production in 2006-2007. Production target for nitrogenous fertilizer is less than the installed capacity because of constraints in supply and quality of natural gas for Rashtriya Chemicals & Fertilizers (RCF), Trombay and Bramaputra Valley Fertilizer Corporation Ltd. (BVFCL), Namrup. Similarly, the production target for phosphatic fertilizer is less than installed capacity due to constraints in availability of raw materials/intermediates which are largely imported.
3.6 Strategy for Growth

The following strategy has been adopted by Indian government to increase fertilizer production:

- Expansion and capacity addition/efficiency enhancement through retrofitting / revamping of existing fertilizer plants.
- Setting up joint venture projects in countries having abundant and cheaper raw material resources.
- Working out the possibility of using alternative sources like liquified natural gas, coal gasification, etc., to overcome the constraints in the domestic availability of cheap and clean feedstock, particularly for the production of urea.
- Revival of the closed units by setting up brownfield units subject to availability of gas.
- Setting up of Greenfield projects in urea sector.

3.6.1 Domestic Projects

Policy Environment

- No license is required for setting up a new fertilizer project or for expansion of capacity of existing fertilizer plants. Investments/projects in the fertilizer sector can be undertaken after filing the industrial Entrepreneur's Memorandum with the secretariat for Industrial Assistance (SIA) as per Industrial policy resolution of the Government dated 24th July, 1991.
- A prior clearance of the project site from environmental angle is, however, a statutory requirement.
- Any major public/cooperative Sector project for setting up new plants or for
revamp/retrofit/expansion of existing plants are subject to investment approval of the Government through the Public investment Board etc., depending on the investment involved and the delegated financial powers available to each company.

3.7 Technological Advancements

To meet the demand of fertilizers in the country through indigenous production, self-reliance in design engineering and execution of fertilizer projects is very crucial. This requires a strong indigenous technological base in planning, development of process know-how, detailed engineering and expertise in project management and execution of projects. With the continuing support of the Government for research and development as well as for design engineering activities over the years, Indian consultancy organizations in the field of fertilizers, Project and Development India Ltd. (PDIL) & FACT Engineering and Design Organization (FEDO) have grown steadily in tandem with the fertilizer industry. These consultancy organizations are today in a position to undertake execution of fertilizer projects starting from concept/designing to commissioning of fertilizer plants in India and abroad.

A significant development/advancement has also been made in the country in the field of manufacturing of catalysts of various ranges by our catalyst-manufacturing Organization like PDIL. PDIL is implementing the schemes for enhancement of capacity and technological upgradation in their existing catalyst plant and other utilities at Sindri to compete in the International market.
3.8 IT in Fertilizers

The advent of Information Technology (IT) has lead to a stage that every organization, be it big or small, government or private has over the years started using IT in some form or the other in their day to day operation. The role played by IT in the fertilizer sector does not need any introduction. Just to name a few departments where IT is playing a key role are HRD, Production, Marketing, and Finance etc.

- IT Based Systems Towards Increasing Efficiency in Fertilizer Management
- Web Based Fertilizer Production Monitoring System
- Web Based Fertilizer Distribution and Movement Information System
- Web Based Fertilizer Concession Scheme Monitoring System
- Fertilizer Subsidy Payment Information System
- Application System for Monitoring Energy Consumption Norms
- Application System for Revision in Urea Concession Rates
- Fertilizer Equated Freight Fixation Information System
- Web Based Fertilizer Import Management System
- Web Based Handling & Payments System for Fertilizer Imports
- Fertilizer Project Monitoring System
- Information & Communication Technology (ICT) Infrastructure
- Web Site/ Web Applications Hosting
- Intra FERT Portal
- Fertilizer Monitoring System
3.9 Role of National Informatics Centre (NIC)

To meet the national objective of making fertilizers available timely, adequately in good quality and at affordable price to the farmers, proper planning and monitoring of various aspects like fertilizer production, imports, quality control, distribution, movement, sales, stocks, subsidies and concessions is essential. In order to manage these issues effectively, Fertilizer Management Online has been formulated by the Department of Fertilizers in consultation with National Informatics Centre. The major objective of the system is to have an evaluation system to ensure a uniform mechanism of planning and control. The web based systems for Fertilizer Production, Imports, Handling, Distribution and Movement of Fertilizers have been implemented for on-line monitoring to keep a constant vigil on the demand, supply and availability position to minimize the demand-supply gap in different parts of the country on fortnightly basis with information access to all the stake holders i.e. G2G, G2B and G2C levels. Further, to facilitate farmers by providing fertilizers at affordable prices as well as to ensure health and growth of Fertilizer Industry in the country, the IT based systems have been developed and Implemented for appraisal and disbursement of Subsidies/Concessions to the manufacturers/suppliers.

- The five major web based systems in operation are
  - Fertilizer Distribution and Movement Information System
  - Fertilizer Production Monitoring System
  - Fertilizer Concession Scheme Monitoring System
  - Fertilizer Subsidy Payment Information System
  - Fertilizer Import Management System
  - System for Import of Fertilizer Raw Materials
  - Handling & Payments System for Fertilizer Imports
  - Fertilizer Equated Freight Fixation Information System
3.10 Joint Ventures Abroad

The details of the existing joint ventures in the fertilizer sector are:

**Joint Venture Oman India Fertilizer Company, Oman (OMIFCO):**

KRIBHCO, IFFCO and Oman Oil Company with a shareholding of 25%, 25% and 50% respectively have collaborated and set up a world-class urea-ammonia fertilizer plant in Oman. It consists of 5060 MTPD granular Urea and 3500 MTPD Ammonia plants along with all other offsite and utilities in the coastal town of Sur in Oman. The annual capacity of the fertilizer complex is 16.52 lakh MT of granular Urea.

**ICS (Senegal)**

The Government of India (GOI), Indian Farmers Fertilizers Cooperative Ltd. (IFFCO) and Southern Petrochemicals Industries Corporation Ltd. (SPIC) are equity partners in a joint venture company set up in Senegal. The initial equity contribution of the Indian consortium in the venture in 1980 amounted to Rs. 13.67 crore, i.e. about 18.20% of its total equity. At present, the Indian sponsors together hold 27.28% equity (GOI-6.97%, IFFCO-19.09% and SPIC-1.13%), in the Joint Venture Company in Senegal named Industries Chimiques du Senegal (ICS).

**JV with Jordan**

SPIC, Jordan Phosphates Mines Company Ltd. (JPMC) and Arab Investment Company (AIC) have set up a joint venture project in Jordan to produce 2.24 lakh tons of phosphoric acid per annum. 52.17% of the equity of the joint venture named Indo Jordan Chemicals Company Limited is held by SPIC, 34.86% by JPMC and 12.97% by AIC. The plant had been commissioned in May 1997. The Phosphoric Acid from this venture is supplied to SPIC and few other fertilizer units in India.
**JV (Morocco)**

A Joint venture IMACID (Indo MorocPhosphore SA) between Office Cherifien Des Phosphates (OCP), Morocco and Chambal Fertilizers & Chemicals Ltd. (CFCL) to produce 3.30 lakh tons of phosphoric acid per annum was commissioned in Morocco in October 1999. After completion of first phase of revamp / debottlenecking project during 2004, the capacity has been increased to 3.65 lakhs tons per annum. The equity of US$ 65 million in the venture was held by OCP & CFCL equally. Subsequently in May 2005, both OCP & CFCL have sold one-third of their equity stake in IMACID to TATA Chemicals Limited.

**Overseas Joint ventures under implementation/consideration**

**JV in UAE**

SPIC is in the process of setting up a gas based nitrogenous fertilizer plant at Dubai in United Arab Emirates to produce 4.00 LMT of urea per annum at an estimated cost of US$ 170 million. The joint venture company by name SPIC Fertilizers and Chemicals Limited, incorporated in Mauritius is promoted by SPIC with equity participation of US $ 22.64 million and Emirates Trading Agency of UAE with equity holding of US $ 6.4 million. The project is currently under discussion.

**JV (Egypt)**

Indian Farmers Fertilizers Cooperative Ltd (IFFCO and El Nasr Mining Co. (ENMC) have formed a Joint Venture Company, the ‘ Indo Egyptian Fertilizers Company’ on 15th November 2005 for setting up a Phosphoric Acid plant in Egypt with an installed capacity of 5,00,000 tons of P205 per annum. The estimated cost of the Project is US$ 325 million, which is expected to be financed with a debt: equity ratio of 67:33. IFFCO and its Affiliates would hold the majority equity shareholding of 76% while ENMC and Affiliates would hold the
balance equity of 24% in the Joint Venture Company. ENMC, the largest Rock Phosphate Mining Company of Egypt will supply Rock Phosphate, the basic raw material of the Project and IFFCO will buy back the entire Phosphoric Acid production. The Project construction period is estimated at 36 months. While the financial closure of the project has been achieved, the construction of the project has not commenced due to delay in issuance of licence by the Egyptian Industrial Development Authority.

**JV (Tunisia)**

Gujarat State Fertilizers & Chemicals Ltd (GSFC) and Coromandel Fertilizers Ltd (CFL) alongwith Group ChimiqueTunisien (GCT) & M/s Compagnie Des Phosphates De Gafsa (CPG) are setting up a joint venture project in Tunisia for production of 3,60,000 MTs of Phosphoric Acid per annum. The name of the JV Company is M/s Tunisian Indian Fertilizers S.A. (TIFERT). The JV will sell its full production to both the Indian parties viz GSFC and CFL. An MOU to this effect was signed in October, 2005 between GSFC & GCT/CPG. The cost of the project is approx. US $ 165 million + 5% with equity of US$66 million and borrowings of US $99 million. The project is expected to be commissioned by mid 2009 or latest by December, 2009.

**JV (Jordan)**

The Indian farmers Fertilizers Cooperative Ltd (IFFCO) and Jordan Phosphate Mining Company (JPMC) have agreed on a joint venture for setting up of a Phosphoric Acid plant in Jordan with an installed capacity of 5,00,000 tons of P2O5 per annum. The equity holding is 52:48 between IFFCO and JPMC, respectively. The financial closure and environmental closure are in progress and are likely to be achieved within May 08. The project construction period is estimated at 36 months thereafter.
**Concessions/incentives on import**

To encourage investment in the fertilizer sector, the following concessions are available to the domestic industry:

- Concessional customs duty on import of capital goods for setting up of new plants/substantial expansion /renovation/modernization of existing plants.
- Deemed export benefit to indigenous suppliers of capital goods for new/revamp/retrofit/modernization projects of fertilizers projects of fertilizers provided such supplies are made under the procedure of International Competitive Bidding.

**Impact of Budget 2007/08**

- Rs 60,000 crore debt relief package scheme for farmers.
- An Outlay Of Rs 2,80,000 crore for agricultural credit
- Greater Emphasis on irrigation projects
- Customs duty on phosphoric acid to be reduced from 7.5% to 5%
- Naphtha used in the Fertilizers industry to be exempt from customs duty
- Dividend tax paid by parent company allowed to be set off against the same paid by its subsidiary & under-estimation causes scarcity.