Chapter IV

FERTILISER INDUSTRY

4.1) Fertiliser Production, Consumption and Gap

4.2) Government Policies.
FERTILISER INDUSTRY

This chapter is devoted to the "Fertiliser Industry". It has been divided into two sections. The first section highlights the production, consumption and (balance) of fertilisers at various levels e.g. Global (world), continental (Asia), National (India), State (Maharashtra) and region (Marathwada).

Second section deals with various government policies applicable in the fertiliser industry. These are related to the aspects like price, distribution (both in terms of place and quantity), quality, packaging and promotion.

Fertiliser:

There are 16 elements essential for growth and development of all plants. Three of which are Macronutrient Nitrogen, Phosphorus and potassium and others are Micronutrients. Continuous cropping removes these plant nutrients and depletes soil fertility. The materials generally used to add nutrients are known as 'fertilisers'. Fertilisers may contain one or more of these essential plant nutrients.

Types of fertiliser:

Before detailed description is made about fertiliser industry, it is appropriate to know the types of various
fertiliser being used in agricultural production. There are following types of fertiliser.

A) Organic Mannuers:

It comprises of animal and human waste, decomposed vegetation and all other types of decayed material. It is the oldest and most widely accepted practice of nutrient replenishment. The organics are bulky, low in nutrient value, slow but steady in supplying nutrients to the plants.

B) Biofertilisers:

It is the substance containing living micro-organisms (like bacteria, fungi and algae) which are capable of fixing atmospheric nitrogen or solubilising insoluble soil phosphate and make them available to crop plants. The application of biofertilisers is a recent concept and is yet to be accepted by farmers.

C) Inorganic Fertilisers:

These are chemically prepared compounds, releasing plant nutrients instantly when applied to the plants. These are broadly divided into 3 categories.

1. Nitrogenous ('N'):

These fertilisers release nitrogen as the main plant nutrient. They help in vegetative growth. Examples are UREA, Ammonium chloride etc.
2. Phosphatic (\textsuperscript{P}_2\textsubscript{O}_5) :

They provide phosphorous to the plants which help in root development. Examples Di-ammonium phosphate (DAP) and single super phosphate (SSP).

3. Potassic (\textsubscript{K}2\textsubscript{O}) :

These fertilisers include potassium chloride (KCL) or Murate of Potash (MOP) and Sulphate of Potash (SOP). They provide potash to the plant which helps in fruit formation.

The present study is devoted to inorganic fertilisers which can further be classified into following three categories -

a) Straight : The straight fertilisers are those which contain only one plant nutrient (NPK). These are also called simple fertilisers and may be grouped into 3 categories, Nitrogenous, (Urea, Ammonium Chloride, Ammonium Sulphate and Calcium Ammonium Nitrate), Phosphatic (Single super phosphate, Triple super phosphate and rock phosphate) and Potassic (murate of potash and potassium sulphate).

b) Complex : These are the fertilisers produced by chemical reaction process between constituents. They contain more than one plant nutrients and can broadly classified into 3 groups. Ammonium Phosphates (DAP, 20:20:0), Nitrophosphates (23:23:0) and NPK Fertilisers such as 15:15:15, 10:26:26, 12:32:16 etc.
c) Mixtures: The mixtures includes a mixture of any one or more fertilisers with a substance which is not a fertiliser. These are mixed physically and no chemical reaction takes place. There is no definite proportion of plant nutrients (NPK). It can vary from place to place depending upon requirement. These are also called compound fertiliser.

4.1.1) Fertiliser Production, Consumption and Gap:

This section deals the production, consumption and gap between demand and supply at World, Asia, India and Maharashtra level. The current position is explained with references for last few years. The fact and figures are based on the data made available from various sources.

Global fertiliser perspective - Some observations:

A review of fertiliser consumption (kg/hectare) of some countries (Table-4.1.1) shows that, the world average has been decreasing in recent times. It was 97 Kg/hectare in 1989-90 (FAO data). It has come down to 93 kg/hectare in 1991-92 and further decreased upto 87 kg/hectare in 1992-93.

The other factor revealed is that, there is huge disparity with respect to fertiliser quantity applied. It is as low as 26 kg/hectare in Australia and as high as 589 kg/hectare in Netherlands. Even in Asia, it is as high as 395 kg/hectare in Japan and as low as 71 kg/hectare in India. Even the average consumption in Bangladesh and Pakistan are higher than India. The
The world's total fertiliser consumption over the last few decades is depicted in graphs 4.1.1 and 4.1.2.

**TABLE - 4.1.1**

**FERTILISER NUTRIENTS (N+P+K) CONSUMPTION AND PRODUCTION**

**IN SELECTED COUNTRIES DURING 1992-93**

<table>
<thead>
<tr>
<th>Country</th>
<th>Consumption (Kg/hectare)</th>
<th>Production ('000 tonnes)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Australia</td>
<td>26.5</td>
<td>602</td>
</tr>
<tr>
<td>Netherlands</td>
<td>588.9</td>
<td>2127</td>
</tr>
<tr>
<td>Germany</td>
<td>238.1</td>
<td>4954</td>
</tr>
<tr>
<td>Japan</td>
<td>395.1</td>
<td>1299</td>
</tr>
<tr>
<td>United Kingdom</td>
<td>320.7</td>
<td>1355</td>
</tr>
<tr>
<td>Egypt</td>
<td>339.2</td>
<td>1000</td>
</tr>
<tr>
<td>France</td>
<td>235.6</td>
<td>3157</td>
</tr>
<tr>
<td>Korea Republic</td>
<td>465.6</td>
<td>1044</td>
</tr>
<tr>
<td>Italy</td>
<td>156.0</td>
<td>1329</td>
</tr>
<tr>
<td>China</td>
<td>302.7</td>
<td>20663</td>
</tr>
<tr>
<td>Pakistan</td>
<td>101.5</td>
<td>1332</td>
</tr>
<tr>
<td>Bangladesh</td>
<td>110.6</td>
<td>946</td>
</tr>
<tr>
<td>India</td>
<td>71.6</td>
<td>9786</td>
</tr>
<tr>
<td><strong>World Total</strong></td>
<td><strong>87.2</strong></td>
<td><strong>138132</strong></td>
</tr>
</tbody>
</table>

It is observed that, there is more than five fold increase in the total fertiliser consumption during 1960-90 period. However, the growth in fertiliser use slowed considerably during 1980s. It grew at 2.7 per cent per annum during 1980-90 period. The slow growth led to near stagnation in per capital fertiliser use. But, the table 4.1.2 shows that at in Asia the growth rate was better than other continents.

**TABLE - 4.1.2**

**REGIONAL FERTILISER USE : ANNUAL GROWTH RATES, 1960-90**

<table>
<thead>
<tr>
<th>Country</th>
<th>1960-70 (%)</th>
<th>1970-80 (%)</th>
<th>1980-90 (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>North America</td>
<td>8.4</td>
<td>4.0</td>
<td>-1.2</td>
</tr>
<tr>
<td>Western Europe</td>
<td>4.8</td>
<td>2.1</td>
<td>0.2</td>
</tr>
<tr>
<td>Eastern Europe</td>
<td>11.0</td>
<td>4.4</td>
<td>-0.4</td>
</tr>
<tr>
<td>USSR</td>
<td>14.7</td>
<td>7.9</td>
<td>4.5</td>
</tr>
<tr>
<td>Oceania</td>
<td>6.9</td>
<td>0.6</td>
<td>-0.5</td>
</tr>
<tr>
<td>Africa</td>
<td>9.4</td>
<td>6.2</td>
<td>1.9</td>
</tr>
<tr>
<td>Latin America</td>
<td>11.9</td>
<td>9.8</td>
<td>3.3</td>
</tr>
<tr>
<td>Asia</td>
<td>12.1</td>
<td>9.6</td>
<td>6.1</td>
</tr>
<tr>
<td>World</td>
<td>8.9</td>
<td>5.6</td>
<td>2.7</td>
</tr>
</tbody>
</table>

Source: Derived from FAO data.
On fertiliser production front, the trends are similar to those in fertiliser consumption. Global fertiliser production increased from 27.7 million tonnes in 1960 to 153 million tonnes in 1990 (Graph-4.1.3) Since Fertiliser industry is a demanded industry, slow use in eighties led to slow production too. The growth rate was just 3 per cent per annum during this period. The details given in Table-4.1.3(a) show that, the production growth rate in Asia was satisfactory.

**TABLE - 4.1.3 (a)**

**REGIONAL FERTILISER PRODUCTION, 1960-90**

**ANNUAL GROWTH RATES**

<table>
<thead>
<tr>
<th>Country</th>
<th>1960-70 (%)</th>
<th>1970-80 (%)</th>
<th>1980-90 (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>North America</td>
<td>10.2</td>
<td>4.7</td>
<td>1.2</td>
</tr>
<tr>
<td>Western Europe</td>
<td>5.0</td>
<td>1.3</td>
<td>-1.4</td>
</tr>
<tr>
<td>Eastern Europe</td>
<td>9.2</td>
<td>5.8</td>
<td>1.0</td>
</tr>
<tr>
<td>USSR</td>
<td>14.1</td>
<td>7.8</td>
<td>4.9</td>
</tr>
<tr>
<td>Oceania</td>
<td>5.4</td>
<td>1.7</td>
<td>-2.9</td>
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<tr>
<td>Africa</td>
<td>14.1</td>
<td>5.1</td>
<td>7.8</td>
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<tr>
<td>Latin America</td>
<td>9.8</td>
<td>10.5</td>
<td>5.5</td>
</tr>
<tr>
<td>Asia</td>
<td>18.3</td>
<td>10.0</td>
<td>6.4</td>
</tr>
<tr>
<td>World</td>
<td>9.4</td>
<td>5.5</td>
<td>3.0</td>
</tr>
</tbody>
</table>

Source: Derived from FAO data.
TABLE - 4.1.3 (b)

GLOBAL FERTILISER PRODUCTION, 1960-90
ANNUAL GROWTH RATES

<table>
<thead>
<tr>
<th>Year</th>
<th>N (%)</th>
<th>P₂O₅ (%)</th>
<th>K₂O (%)</th>
<th>Total (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1960-70</td>
<td>1.2</td>
<td>7.8</td>
<td>7.3</td>
<td>9.4</td>
</tr>
<tr>
<td>1970-80</td>
<td>6.4</td>
<td>4.5</td>
<td>4.7</td>
<td>5.5</td>
</tr>
<tr>
<td>1980-90</td>
<td>3.9</td>
<td>2.3</td>
<td>1.7</td>
<td>3.0</td>
</tr>
</tbody>
</table>

Source: Derived from FAO dates.

The graphical representation of fertiliser production and consumption in the world is depicted in Graph-4.1.1. In addition to this, the fertiliser consumption and production in some selected Asian Countries for the year 1988-89 are shown in Graph-4.1.2 and Table-4.1.4(a) and (b) given ahead.

India, at one stage was on the brink of total dependence on food grain import, has become self-sufficient. Today, India ranks third in the world, in consumption and production of both nitrogenous and phosphatic fertilisers, the first two countries being China and USA (Graph-4.1.3). It ranks second largest in fertiliser production and consumption in Asia.

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### TABLE - 4.1.4 (a)

**FERTILIZER PRODUCTION BY TYPE, SELECTED ASIAN COUNTRIES, 1988-89**

<table>
<thead>
<tr>
<th>Country</th>
<th>Urea</th>
<th>AS</th>
<th>DAP</th>
<th>TSP</th>
<th>SSP</th>
<th>NP/NPK</th>
<th>Others</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bangladesh</td>
<td>1447</td>
<td>9</td>
<td>--</td>
<td>143</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>1599</td>
</tr>
<tr>
<td>India</td>
<td>11867</td>
<td>610</td>
<td>2514</td>
<td>--</td>
<td>2945</td>
<td>2949</td>
<td>611</td>
<td>21496</td>
</tr>
<tr>
<td>Indonesia</td>
<td>4157</td>
<td>574</td>
<td>--</td>
<td>1200</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>5931</td>
</tr>
<tr>
<td>Iran</td>
<td>209</td>
<td>7</td>
<td>4</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>51</td>
<td>271</td>
</tr>
<tr>
<td>Malaysia</td>
<td>537</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>537</td>
</tr>
<tr>
<td>Myanmar</td>
<td>214</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>214</td>
</tr>
<tr>
<td>Pakistan</td>
<td>2009</td>
<td>107</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>331</td>
<td>351</td>
<td>2797</td>
</tr>
<tr>
<td>Philippines</td>
<td>--</td>
<td>--</td>
<td>161</td>
<td>--</td>
<td>5</td>
<td>639</td>
<td>5</td>
<td>810</td>
</tr>
<tr>
<td>Republic of Korea</td>
<td>628</td>
<td>182</td>
<td>265</td>
<td>--</td>
<td>15</td>
<td>2119</td>
<td>175</td>
<td>3384</td>
</tr>
<tr>
<td>Sri Lanka</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>27</td>
<td>27</td>
</tr>
<tr>
<td>Viet Nam</td>
<td>33</td>
<td>--</td>
<td>--</td>
<td>336</td>
<td>--</td>
<td>--</td>
<td>57</td>
<td>426</td>
</tr>
</tbody>
</table>

Source: FADINAP database and FAO fertilizer statistics.
## TABLE - 4.1.4 (b)

FERTILIZER CONSUMPTION, SELECTED COUNTRIES OF ASIA AND THE PACIFIC, 1988-89

<table>
<thead>
<tr>
<th>Country</th>
<th>Urea</th>
<th>AS</th>
<th>DAP</th>
<th>TSP</th>
<th>SSP</th>
<th>MOP</th>
<th>NP/NPK</th>
<th>Others</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bangladesh</td>
<td>1135</td>
<td>0.1</td>
<td>416</td>
<td>94</td>
<td>--</td>
<td>65</td>
<td>1710</td>
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<td>Fiji</td>
<td>--</td>
<td>49</td>
<td>--</td>
<td>8</td>
<td>4</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>60</td>
</tr>
<tr>
<td>India</td>
<td>12556</td>
<td>610</td>
<td>3153</td>
<td>--</td>
<td>2930</td>
<td>1711</td>
<td>3014</td>
<td>505</td>
<td>24480</td>
</tr>
<tr>
<td>Indonesia</td>
<td>3012</td>
<td>590</td>
<td>--</td>
<td>1325</td>
<td>--</td>
<td>478</td>
<td>--</td>
<td>--</td>
<td>5405</td>
</tr>
<tr>
<td>Iran</td>
<td>686</td>
<td>23</td>
<td>1062</td>
<td>9</td>
<td>--</td>
<td>12</td>
<td>--</td>
<td></td>
<td>1839</td>
</tr>
<tr>
<td>Myanmar</td>
<td>145</td>
<td>--</td>
<td>--</td>
<td>36</td>
<td>--</td>
<td>3</td>
<td>--</td>
<td>--</td>
<td>184</td>
</tr>
<tr>
<td>Nepal</td>
<td>59</td>
<td>6</td>
<td>1</td>
<td>9</td>
<td>--</td>
<td>2</td>
<td>54</td>
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<td>131</td>
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<td>Pakistan</td>
<td>2187</td>
<td>113</td>
<td>481</td>
<td>70</td>
<td>145</td>
<td>--</td>
<td>489</td>
<td>419</td>
<td>3904</td>
</tr>
<tr>
<td>Philippines</td>
<td>561</td>
<td>215</td>
<td>34</td>
<td>--</td>
<td>4</td>
<td>62</td>
<td>386</td>
<td>1</td>
<td>1262</td>
</tr>
<tr>
<td>Republic of Korea</td>
<td>552</td>
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<td>79</td>
<td>--</td>
<td>1</td>
<td>70</td>
<td>1214</td>
<td>94</td>
<td>2111</td>
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<tr>
<td>Sri Lanka</td>
<td>62</td>
<td>77</td>
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<td>44</td>
<td>--</td>
<td>88</td>
<td>23</td>
<td>48</td>
<td>442</td>
</tr>
</tbody>
</table>

Source: FADINAP database.
Fertiliser Use in India:

Fertiliser use was meager during the pre-independence era and was mainly confined to plantation crops. It was only in 1950s that the fertiliser use got impetus with the introduction of planned economy in the form of five year plans beginning 1951-52.

The first 3 five year plans (1951-52 to 1965-66) laid emphasis on increasing agricultural production and to sustain it, fertiliser was recognised as the king pin. During this period, however, increased food grain production materialised mainly through extension of area. The net area under cultivation increased from 119 to 136 million hectare and "productivity" received low emphasis.

The year 1966-67 was a turning point in Indian Agriculture when the high yielding variety (HYV) seeds were introduced. With the introduction of HYV seeds, it was possible to increase the cropping intensity (by growing 2/3 crops per annum from the same unit of land) and productivity. Use of fertiliser and irrigation have helped immensely in increasing productivity of HYV.

The resultant "Green Revolution" brought the need for increasing fertiliser production and make the availability of the same easily to the farmers to meet the rising demand. This laid the foundation for increased investment in the fertiliser sector. The fertiliser consumption and food grain production have increased sharply in the last three and a half decades (Annexure-
4.1.1). The fertiliser consumption during 1994-95 has increased to about 13.52 million tonnes and food grain production to 190 million tonnes.

The year 1988-89 recorded the highest increase in consumption of fertilisers in a single year (+2.26 million tonnes) as well as food grain production (+32.6 million tonnes) over the previous year.

Food grain production and fertiliser consumption projections for 2000 AD are about 210 million tonnes and about 18 million tonnes respectively.

Growth in Fertiliser Industry:

A) Pre-Independence Era:

Parry & Co., (Presently known as E.I.D. Parry (India) Ltd.), was the pioneer to enter the fertiliser scene in the country during 1906. At that time, their plant in Tamil Nadu produced single super phosphate by treating powdered animal bones with sulphuric acid. Two decades later, Dharmeshi Morarji Chemicals company Ltd. (DMCC), also produced single super phosphate in 1924. There was a gap of another two decades when Delhi Cloth Mills (DCM) also started producing single super phosphate in 1946 at Delhi. Today only two of the three factories are in production though some modifications/modernisation have been done. DCM factory has since been closed due to a mishap in factory.
The first nitrogenous fertiliser i.e. Ammonium Sulphate was produced by Tata Iron and Steel Co. (TISCO) during 1933, as a by-product of the steel industry. However, Ammonium Sulphate was produced through synthesis process by Mysore Chemicals and Fertilisers Company in 1941 in Mysore. The Fertiliser and Chemicals Travancore Ltd. (FACT) produced Ammonium Sulphate on a large scale in 1947.

B) Post-Independence Era:

After independence, a fertiliser plant was set up at Sindri (Bihar) during 1951. It was followed by another nitrogenous fertiliser plant at Nangal (Punjab) in 1961. During the period 1961-1971 the Indian Fertiliser Industry went into rapid expansion and about dozen major units entered the scene. FCI-Trombay, FCI-Gorakhpur, FCI-Namrup, HSL-Rourkela, EID Parry Ltd.-Ennore, CEF-Vizag, ICI Ltd-Kanpur, SFC-Kota was the achievement of this decade. After 1970, the fertiliser producing capacity gradually increased and during this period several factories expanded their capacity as well as some major units, i.e. Madras Fertiliser Ltd., (MFL)-Madras, Zuari Agro Chemicals Ltd (ZACL)-Goa, FACT, FCI-Durgapur, IFFCO-Kalol and Kandla, SPIC-Tuticorin, MCF-Bangalore, FCI-Barauni and Durgapur went into production. During eighties, some giant fertiliser factories like GNFC-Bharuch (1982), RCF-Thal (1985) and KRBHCO-(1985) have entered the market.

After KRBHCO, others that entered the field were, Mangalore Chemicals and Fertilisers Ltd. (Expansion), Karnata

Some of the plant, which should have been completed by the end of Seventh Five Year Plan, have, however, spilled over to Eight Five Year Plan. These plants include Nagarjuna Fertilisers, Kakinda (Dec. 1991) Tata Fertilisers-Babarain, UP (1995), Chambal Fertiliser, Gadepan, Rajasthan (1993) and Bindal Agro, Shahjahanpur (1995).

Production Trends:

Fertiliser production capacity, actual production in Nutrient terms of 'N' and P₂O₅ and capacity utilisation for the years 1951-52 to 1994-95 is represented at Annexure-4.1.2 and Graph-4.1.4. It is seen that in case of Nitrogenous plants, the production capacity has increased from just 90 thousand tonnes in 1951-52 to 9.178 million tonnes i.e. more than one hundred times in last 44 years. The production also increased from just 29 thousand tonnes to 7.944 million tonnes during the same period (i.e. 274 times). Also, the capacity utilisation has increased from 32 per cent to 89 percent in 1994-95.
As regards phosphatic plants, the production capacity which was 78 thousand tonnes in 1951-52 has increased by 36 times to 2.842 million tonnes in 1994-95. Similarly, the capacity utilisation also showed impressive performance and has reached from 13 to 92 per cent. There is no production of potassic fertilisers in India. Entire requirement of these fertilisers is imported at present.

Sectorwise performance of fertiliser industry mainly in Public, Private and Cooperative sector is shown at Annexure-4.1.3. The highest capacity in Nitrogen sector is with public sector and for phosphatic it is with private sector. Same is the case in actual production. But, cooperatives are ahead in capacity utilisation of nitrogenous plants. In fact, cooperatives produce about 25% of nitrogenous and 11.5 per cent of phosphatic requirements of the country.

The growth of fertiliser industry shows that, there were 4 nitrogenous plants in 1951-52 which increased to 57 in 1994-95. Also, the phosphatic plants increased from 11 to 94 during same period. From the Annexure-4.1.4, it is seen that, material wise total production capacity of all the plants is 29 million tonnes. The largest capacity is of Urea plants followed by Single Super Phosphate and Diammonium Phosphate.
Growth in Fertiliser Consumption:

Before independence, the fertiliser consumption in the country was very meager and its use was confined to only plantation crops. It is only when the planned era started after independence, the fertiliser use got impetus and it started increasing.

The fertiliser consumption (in nutrient terms) has shown tremendous progress during last four and half decade (Annexure-4.1.5). In case of Nitrogen, the consumption has increased from 55 thousand tonnes in 1950-51 to 9.511 million tonnes. It increased by 173 times. The phosphatic and potassic fertiliser consumption though increased but not as high as in case of nitrogenous fertilisers. The total (NPK) Fertiliser consumption which was about 70 thousand tonnes in 1950-51 rose to 13.52 million tonnes in 1994-95. Thus, registering a compound growth of 193 times in last 45 years.

Table-4.1.5 shows that, the consumption ratio of (NPK) fertilisers in 1994-95 was 8.9:2.7:1. It is quite different from the most balanced ratio of 4:2:1. This ratio was more or less achieved in 1991-92 but, the decontrol of phosphatic and potassic fertilisers in August, 1992, raised the prices of these fertilisers abnormally. Their consumption reduced beyond expectations and ratio of NPK distorted beyond control.
**TABLE - 4.1.5**

**CONSUMPTION RATIO OF N, P₂O₅ AND K₂O - 1994-95**

<table>
<thead>
<tr>
<th>Zone</th>
<th>N</th>
<th>P₂O₅</th>
<th>K₂O</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>East</td>
<td>1202 (5.8)</td>
<td>326 (1.6)</td>
<td>206 (1)</td>
<td>1734</td>
</tr>
<tr>
<td>North</td>
<td>3641 (37.2)</td>
<td>836 (8.5)</td>
<td>98 (1)</td>
<td>4575</td>
</tr>
<tr>
<td>South</td>
<td>2174 (4.3)</td>
<td>822 (1.6)</td>
<td>503 (1)</td>
<td>3499</td>
</tr>
<tr>
<td>West</td>
<td>2494 (9.7)</td>
<td>961 (3.7)</td>
<td>258 (1)</td>
<td>3713</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>9511 (8.9)</strong></td>
<td><strong>2945 (2.7)</strong></td>
<td><strong>1065 (1)</strong></td>
<td><strong>13521</strong></td>
</tr>
</tbody>
</table>


The consumption ratio is most distorted in North Zone (37.2:8.5:1) and most ideal ratio is for South Zone (4.3:1.6:1).

The comparison of fertiliser (NPK) consumption ratio over the past years (Annexure-4.1.6) shows that in Rabi 1992-93 the ratio was worse. It was 15.1:4.6:1 and no better than even 1952-53. It was mainly because of policy changes by Government of India. The fertilisers which were decontrolled became costly overnight on 25-8-1992. The farmers switched over to area and other nitrogenous fertilisers which were cheaper.

Statewise total fertiliser consumption review of 1994-95 (Annexure-4.1.7) shows that, Uttar Pradesh consumes highest quantity (18.3%) of fertilisers followed by Andhra Pradesh (12.2%). Maharashtra is the third largest consumer of fertilisers with 10.3% of the total national consumption.
Consumption of plant nutrients per unit of gross cropped area (kg/hectare) for past one decade is shown in Annexure-4.1.8(a). The nutrientwise per hectare consumption for the year 1994-95 is also given in the annexure-4.1.8(b). The national average consumption of fertilisers NPK per hectare was 68 kg in 1993-94 and 74 kg in 1994-95. Among the states and Union Territories, Pondecherry and Delhi occupies first two positions with 490 kgs and 250 kgs respectively. They are followed by Punjab (171 kgs), Haryana (128 kgs) and Andhra Pradesh (125 kgs) in that order. The lowest consumption is in Nagaland (1.2 kg). The consumption in Maharashtra is 69 kg/hectare. It shows that, although the state ranks third largest fertiliser consuming state, its per hectare consumption is below national average. However, it is pleasant to note that, rise in fertiliser consumption (kg/hectare) was highest in Maharashtra (from 59 kg in 1993-94 to 69 kg in 1994-95). An increase of 10 kg/hectare in a year is a significant achievement.

Statewise classifications of the district consuming fertilisers in different ranges (Annexure-4.1.9) shows that largest number of districts (85) consume fertilisers between 10-25 kg/hectare. It is followed by those districts (79) which consume 50-75 kgs/hectare. Only 8 districts fall in the category of above 200 kg/hectare. Similar is the statistics of Maharashtra State. Punjab, Haryana and Andhra Pradesh have more districts in higher ranges.
Weaknesses in fertiliser consumption in India:

i) An extremely low level of consumption per unit of cropped area.

ii) Unevenness in consumption between the two main crop seasons i.e. Kharif and Rabi.

iii) Differences in consumption among the various zones, states and districts in the country.

iv) Unevenness in consumption among different crops.

v) Difference in consumption of the three plant nutrients.

Economic Reforms and Fertiliser Sector:

Consequent to economic reforms implemented during middle 1991 by Government of India, fertiliser sector also came under its per view. Highlights of some important policy changes are listed below:

July, 1991:

i) Ammonium Sulphate (AS) Ammonium Chloride (NH₄CL) and Calcium Ammonium Nitrate (CAN), commonly known as low analysis fertilisers were decontrolled.

ii) The controlled selling prices of all other fertilisers (UREA) were raised by 40 per cent in August, 1991.

iii) A subsidy ceiling on single super phosphate (SSP) was introduced.
August, 1992: Denontrol of P & K:

i) All P & K bearing fertilisers were decontrolled.

ii) Ammonium Sulphate, CAN and Ammonium Chloride were brought back within the purview of control.

iii) The selling price of urea which continued to be under control was reduced by 10%.

September 1992: Decanalisation of DAP:

In disguise of liberalisation of import policy, Government of India sprang another blow to Indian fertiliser industry by decanalisation of import of DAP at zero rate of duty.

October 1992: Provision of Ad hoc Subsidy:

Within about a month of its policy to decontrol of P & K, Government of India realised that farmers will not be able to pay such an increase in the prices of decontrolled fertilisers. Consequently, it made a provision of Rs.3.4 billion to be passed on to the farmers as 'adhoc subsidy' to cushion the impact of the increase in prices of decontrolled fertilisers except SSP with the following criteria:

The highlights of the scheme were:

i) The concessions (adhoc subsidy) proposed to be extended to the farmer would be Rs.1000/- tonnes each for DAP and MOP and ranging from Rs.500 to Rs.800/- per tonne for complexes.
ii) Indicative farm gate prices of DAP and MOP were Rs.6500/- and Rs.4200/- per tonnes respectively.

iii) The scheme was applicable on sales during October-December 1992 initially and later was extended up to March, 1993.

iv) The scheme was to be implemented by State Governments.

v) A provision of Rs. 2.0, 0.5 and 0.9 billion was made for DAP, complexes and MOP respectively.

May 1993 - Reintroduction of Adhoc Subsidy for 1992-93:

The highlights of the scheme were:

i) The scheme was to be implemented by State Government.

ii) A band of prices was indicated for Kharif, 1993.

iii) SSP was included in the scheme.

iv) Only indigenous DAP was eligible for the adhoc subsidy.

v) The scheme was operative for 1993-94.

vi) Funds allocated for one product will not be diverted for sale of other products.

vii) The concessions were applicable on sales from 12th June.

June, 1993: Decanalisation of Imported MOP, SOP & MAP.

June, 1994: Continuation of Adhoc Subsidy for 1993-94.

June, 1994: Price Revision:

i) Urea prices were increased by 20% w.e.f. June, 10, 1994.

ii) CAN, ACL and AS were decontrolled from price, movement and distribution.
Impact of Policy Changes:

While the economic reforms under a liberalised system have been implemented by the Government and is being lauded as a step towards making a nation strong and economically and financially sound in the world, various sectors have been treated at par. The application of economic policies cannot be at par for various sectors and fertiliser sector has certainly paid the price (Saxena, 1994) as explained below:

a) Fertiliser Production:

While the country was progressing successfully towards achieving self-sufficiency in fertiliser production, it suffered during 1992-93 and 1993-94 (Annexure-4.1.10A). Our target of producing 10 million tonnes of \(N + P_2O_5\) has so far eluded. The total production of \(N\) and \(P_2O_5\) has declined after attaining a peak during 1991-92, mainly because of the shortfall in the production of DAP and SSP.

b) Fertiliser Consumption:

Similar decreasing trend in fertiliser consumption has also been observed during 1992-93 and 1993-94 whereas during 1993-94 there is slight improvement mainly because of the spurt in Urea consumption (Annexure-4.1.10B). Urea consumption which was stagnant during 1990-91 and 1991-92 increased by almost 9 lakh tonnes during 1992-93 and by another 8.5 lakh tonnes in 1993-94. It is presumed that partial increase in the consumption of urea is
on account of decrease in the consumption of DAP. After consuming about 4.5 million tonnes of DAP during 1991-92, the fall during 1992-93 and 1993-94 has been quite steady.

The fertiliser consumption targets were finalised by National Informatics Centre (NIC) of Planning Commission, Govt. of India at the time of submission of Eighth Five Year Plan Document sometime during 1989. From the graph-4.1.6, it is clear that, the fertiliser consumption had been steadily increasing as per the targets fixed by NIC upto 1991-92. However, after decontrol of phosphatic and potassic fertilisers, there has been a steep fall in the consumption of P₂O₅, K₂O and DAP. It may also been seen that the consumption of nitrogen has also been affected though increased consumption of urea has taken place. The actual N consumption is much below the target. The trend of decreased consumption of P₂O₅ and K₂O is to be arrested and brought back to the original targets failing which it would affect the crop yields in the long run.

Fertiliser Imports:

As is clear from the above discussions, the fertiliser consumption far exceeds the indigenous production in the country. The gap is filled by importing the fertiliser. Considering the projection of fertiliser consumption by 2000 AD and the indigenous production anticipated by the year, it is quite evident that the indigenous production will not be able to match the anticipated
consumption. It is imperative, therefore, to import the fertilisers to meet the demand.

**TABLE - 4.1.6(a)**

**FERTILISER IMPORT DURING 1990-91 TO 1994-95**

<table>
<thead>
<tr>
<th></th>
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<th></th>
<th></th>
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</tr>
</thead>
<tbody>
<tr>
<td>Urea</td>
<td>Nil</td>
<td>391</td>
<td>1857</td>
<td>2840</td>
<td>2880</td>
</tr>
<tr>
<td>DAP</td>
<td>2155</td>
<td>2077</td>
<td>1533</td>
<td>1569</td>
<td>800</td>
</tr>
<tr>
<td>MOP</td>
<td>2120</td>
<td>2040</td>
<td>1761</td>
<td>1428</td>
<td>2120</td>
</tr>
</tbody>
</table>


Urea and DAP is imported to bridge the gap between demand and supply whereas 100% of demand of MOP is imported since no MOP is produced in the country. Because of uncertain atmosphere regarding the production and government policies of ad hoc concessions on DAP, the import of DAP has not been consistent with the demand (Table-4.1.6). While the overall consumption of DAP has reduced, the import of DAP has also reduced. The MOP import has been steadily falling because of less demand. The Urea, DAP and MOP imported in 1994-95 were 2.88, 0.8 and 2.12 million tonnes respectively.
### TABLE - 4.1.6(b)

**IMPORTS OF FERTILISERS**

<table>
<thead>
<tr>
<th>Year</th>
<th>Import (Lakh Tonnes) (N + P + K)</th>
<th>Value of Imports (Rs. in crores)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1985-86</td>
<td>33.99</td>
<td>1405</td>
</tr>
<tr>
<td>1986-87</td>
<td>23.10</td>
<td>651</td>
</tr>
<tr>
<td>1987-88</td>
<td>9.84</td>
<td>224</td>
</tr>
<tr>
<td>1988-89</td>
<td>16.09</td>
<td>644</td>
</tr>
<tr>
<td>1989-90</td>
<td>31.14</td>
<td>1539</td>
</tr>
<tr>
<td>1990-91</td>
<td>27.54</td>
<td>1336</td>
</tr>
<tr>
<td>1991-92</td>
<td>27.69</td>
<td>1948</td>
</tr>
<tr>
<td>1992-93</td>
<td>29.61</td>
<td>2216</td>
</tr>
<tr>
<td>1993-94</td>
<td>29.38</td>
<td>1989</td>
</tr>
</tbody>
</table>

*Source: Economic Survey, 1993-94, Govt. of India.*

**Factors affecting fertiliser consumption:**

The importance of fertiliser marketing lies in timely and adequate availability of the right type of fertilisers to farmers nearer their points of consumption. This is by no means a simple exercise in a country of the size of India.

There is a variety of factors (diagram-4.1.1) which affect fertiliser consumption. Major factors affecting consumption are given below:
1. **Ready and timely availability:**

Adequate availability of fertiliser nearer the points of consumption is very important for stimulating consumption of fertiliser. It is necessary that the fertiliser is available at the doorsteps of farmers as and when they require it.

2. **Weather:**

It is beyond doubt that weather plays a very important role in consumption of fertiliser. If we scan through the figures for the last 15 years, we find that in the years when the weather was good, the rate of growth in consumption was much higher compared to these years when the weather was poor.

3. **Irrigation:**

More than 80 per cent of the fertiliser is consumed in assured irrigated areas which cover only 30 per cent of the cultivated area, the balance 20 per cent is in 70 per cent of the land under rainfed cultivation.

4. **Prices:**

Both fertiliser and crop prices affect the use of fertiliser. Whenever there has been a reduction in fertiliser prices, it has led to an increase in fertiliser consumption and vice versa. Particularly, the impact of drop in price in immediate. For instance, the negative growth rate of consumption in 1974-75 turned to be positive growth rate of 12.5 per cent in
1975-76 when there was a small drop in prices and again in 1976-77 recording 17.9 per cent growth. It is, therefore, necessary that for achieving the targeted agricultural production a favourable cost benefit ratio is ensured to induce the farmers to take up or increase the use of fertilisers. Like fertiliser prices, the crop prices also have an impact on fertiliser use. Whenever there is an increase in procurement/support prices, it makes the use of fertiliser more profitable to the farmer. As a matter of fact, it is the input/output price ratio is an important factor affecting fertiliser consumption.

5. Fertiliser response:

Various carried out show that there is generally a response ratio of 1:10. That means for every single unit of fertiliser nutrient used there will be an additional 10 units of crop production. There is a definite need in the direction of agricultural research to improve fertiliser response function in both irrigated and rainfed areas. Another aspect of this measure is the efficiency of fertiliser use which needs to be improved.

6. Credit availability:

Credit can have a major influence on consumption of fertilisers. We have to ensure that adequate credit is available to farmers through cooperatives, banks and other institutional agencies so that credit does not become a constraint in the use of fertilisers. It is important that credit is available on time and
at reasonable cost to the farmer. Likewise, it is necessary that credit is available to the dealer network which would go a long way to promote fertiliser use.

7. Infrastructure for storage and marketing:

It is necessary that to stimulate fertiliser consumption, we have adequate infrastructure for handling, storage, transportation and marketing including large number of retail outlets etc. It hardly needs any emphasis that bottlenecks in this area will create problems and the farmer will not get fertiliser as and when he need it.

8. Transfer of technology:

It is obvious that the farmer should get the benefit of improved farm practices and technology. The benefit of research and improved technology should be transferred to the farmer through a system of education and training.

9. Promotion and extension:

This job is undertaken not only by the manufacturers of fertilisers but also by government agencies including research institutes and agricultural universities. The objective is mainly to ensure timely and adequate supply of all basic agricultural inputs to the farmer near his doorstep in order to ensure input security.
10. Seasonality of Demand:

In India, we have two main agricultural seasons known as 'Kharif' and 'Rabi'. Kharif refers to summer season and covers a period of April to September. Rabi refers to winter season and covers a period of October to March. However, the bulk of consumption takes place during a few weeks in each of two seasons. The average month-wise consumption during 1982-83 to 1988-89 is shown in Annexure-4.1.11.

It may be seen that during Kharif season about 50% of N is consumed during July-August, whereas about 47% of P₂O₅ is consumed during June, July. Similarly in Rabi season about 68% of N is consumed during November-December and January, whereas 69% of P₂O₅ is consumed during the same period. This, however, is an indicator, since the month-wise consumption varies from state to state. On the whole, Rabi crops consume more fertilizers than Kharif.

Fertiliser Use in Maharashtra and Marathwada:

Total fertiliser nutrients (NPK) consumed in Maharashtra during 1994-95 were 1389 thousand tonnes and registered an increase of 16 per cent above 1993-94. This increase was experienced after a gap of 3 years in which there was decline in fertiliser consumption as a result of decontrol of some fertiliser (Annexure-4.1.12). The consumption of N, P₂O₅ and K₂O at 876, 345
and 168 thousand tonnes during 1994-95 registered an increase of 9.33 and 29 per cent respectively over 1993-94.

The consumption per hectare also shown an impressive rise in 1994-95. It registered 69.2 kg/hectare and was up by 16.3% from 59.5 kg/hectare in 1993-94 (Annexure-4.1.13). The consumption ratio of N, P₂O₅ and K₂O also narrowed from 6.1:2.0:1 in 1993-94 to 5.2:2.1:1 in 1994-95. However, Kharif:Rabi share in total nutrient remained unchanged at the level of 59:41 in 1993-94 and 1994-95. The estimated distribution of fertilisers by various agencies in Maharashtra during 1992-93 and 1993-94 is given at Annexure-4.1.13(a).

A districtwise review of the fertiliser material consumed in Marathwada during past few years (Annexure-4.1.14) shows that, fertiliser consumption increased gradually and was highest in 1990-91 (2.7 lakh tonnes). However, since then, it gradually declined till 1993-94 (2.2 lakh tonnes) as a result of decontrol of phosphatic and potassic fertilisers. The share of fertilisers consumed in Marathwada to the total fertiliser consumed in Maharashtra, ranges between 18-21 per cent.

The per hectare fertiliser consumption in Marathwada is much below the states and national average. The highest figure was reported in 1990-91 against 70 kg/hectare in Maharashtra. But, it declined to 37.2 kg/hectare in 1993-94 compared to 67 kg/hectare in the state (Annexure 4.1.15 and Graph-4.1.8). Thus, the fall in
per hectare fertiliser consumption was much more (27.6%) in Marathwada as compared to Maharashtra (4.3%).

While reviewing the districtwise fertiliser consumption in Marathwada and comparing their position at national level (Annexure-4.1.16), it is revealed that, the ranking has deteriorated in most consuming districts of Nanded and Parbhani. However, Aurangabad, Jalna, Beed and Latur has improved their position. The fertiliser consumption in Osmanabad district is so low that, it has not figured out in first 200 districts in India.

A comparison of various fertilisers consumed in Maharashtra and Marathwada in last few years, has been made (Annexure-4.1.17). It is observed that, consumption percentage of nitrogenous fertilisers like, Urea, Ammonium Sulphate, CAN etc. in Marathwada have remained same or increased slightly on the other hand, that of phosphatic fertilisers like DAP, 15:15:15, 19:19:19 and 10:26:26, there is decline after decontrol. It is because of this reason that, the total fertiliser consumption in Marathwada has dropped in higher proportion, then Maharashtra in past few years.

4.2) Government Policies in Fertiliser Industry :

This section primarily deals with the Government Policies with respect to fertilisers. The important policies discussed ahead are fertiliser control order, retention pricing scheme, fertiliser subsidies, ECA allocation, rationalisation schemes and lead fertiliser supplier scheme.
1) Fertiliser control order – 1985:

India is third largest country in the world in terms of the quantity of fertilisers produced, imported and consumed. But, at the same time, the per hectare consumption in this vast country is relatively low when we compare the situation with the developed countries in the world. Agriculture being the primary occupation for large population in India, the fertiliser consumption would have to grow in future.

In spite of best efforts of the Government of India to supply the right type of fertilisers at the required time, the occasional local shortages in availability can not be ruled out. This situation may lead to mal-practices like adulteration and also sale of non-standard fertilisers by unscrupulous elements.

The fertiliser (control) order first came into force in 1957, essentially to regulate the sale, price and the quality of fertilisers. As per the powers conferred by sub-clause (xi) of clause (a) of section-2 of the Essential Commodities Act 1955, the Central Government has declared the fertiliser as one of the essential commodities. The fertiliser control order has been enacted as per section-3, sub-section(c) and section-5 of the Essential Commodities Act, 1955. This provides ample powers to central production, supply distribution etc., of essential commodities.
Since 1957, nearly one hundred odd amendments have been carried out in the order, and revised "Fertiliser Control Order 1985" came into effect on September 25, 1985. Some of the important provisions of Fertiliser Control Order, 1985 are given below:

Certificate of Registration:

According to clause number 7, a manufacturer, a pool handling agency, wholesale and retail dealers shall have to obtain the registration certificate from authority appointed by the concerned states by notification in the official gazette, to manufacture or sale or carry on the fertiliser business of selling fertilisers through him or his agency.

Registration can be obtained only on prescribed forms and is valid for 3 years from date of issue. The registration fee is nominal and fixed by State Government.

Every dealer shall have to display the information of stock position and price list of fertilisers and shall have to issue cash/credit memorandum. He is also required to maintain record and submission of returns to the controlling authority (A.D.O.).

Other provisions:

The Fertiliser Control Order ensures the sale of good quality of fertilisers with following specifications:
1. The nutrient contents should be available as per the molecular weight in chemical formula. e.g. 46 percent nitrogen in urea.

2. Moisture contents should not exceed 1 per cent by weight.

3. At least 80 per cent of granule's size should be between 2-4 millimeters.

4. The fertilisers which don't fulfill all or any of the above conditions, are termed as sub-standard. Sale of such fertilisers are prohibited to farmers for agricultural use.

However, these can be sold for reprocessing after following prescribed disposal procedure. Fertiliser Control Order does not permit, sale or distribution of any fertiliser-

a) which is not of prescribed standard.

b) the container whereof is not packed and marked in the manner laid down in this order.

c) which is an imitation or a substitute of another fertiliser under the name of which is sold.

d) which is adulterated.

e) contains label of any fictitious firm or individual, or false claims or misleading information.

f) a substance which in fact is not a fertiliser.

g) without exhibiting the minimum guaranteed percentage by weight of plant nutrient.
Any dealer found selling above mentioned material, is treated as offender and liable for punishment under section 7(i)(a)(ii) of Essential Commodities Act, 1955.

2) Retention Price Scheme (RPS):

Since mid sixties, maximum retail prices of nitrogenous fertilisers were fixed by Ministry of Agriculture, but phosphatic and complex fertilisers were not under price control. The oil price hike of 1973-74 led to institution of fertiliser pool equalization charge on June 1, 1974 to absorb the excessive costs resulting from high prices of imported material. The charge was gradually reduced and abolished w.e.f. 8th June, 1980.

The Government of India had appointed a high powered committee (Marathe Committee) in 1976 to look into above matter. Arising out of its recommendations, the retention pricing scheme (RPS) was implemented in November, 1977 for nitrogenous fertilisers and February 1979 for complex/phosphatic fertilisers. At this point, the later's selling price were also controlled under the FCO. SSP was brought under formal price control and the retention price scheme in May 1982. To complete the picture, AS and CAN which were decontrolled in 1980, were brought back under price control in 1984. Ammonium chloride was also brought within the purview of control in 1985.

Under the RPS, Government pays subsidy or mops up the excess to the extent of the difference between fair price fixed for
various fertiliser products of different manufacturers on the basis of prescribed efficiency norms and their net realization (Consumer Price minus distribution margin) available from selling the product to the farmer at a controlled price. Along with RPS, the government also runs a scheme of equated freight which provides for reimbursement of cost of transportation of the material from Factory/Port to consuming centres based on rational allocation pattern and optimum internodal mix. The operation of the scheme meets the two following basic objectives of government policy towards fertiliser.

i) It enables consumer price of fertilisers to be kept at a reasonably low level thus, ensuring the incentives to use fertilisers. despite the cost of making it available, tending to be higher in a world of inflation.

ii) It ensures a reasonably attractive investment climate keeping manufacturers in business despite their realization being pegged at an unrealistically low level, unrelated to the cost of production.

Also, the fact that the price fixed for a particular unit is related to prescribed efficiency norms in respect of capacity utilisation and consumption of raw material and utilities ensures that, the unit will be able to earn the return allowed under the system (currently at 12 per cent post-tax on net worth) only if
achieves the prescribed standards of efficiency. In short, the fundamentals of the RPS are so designed as to contribute to a growing and efficient fertiliser industry on the one hand and increasing consumption on the other. The sixth pricing policy for nitrogenous fertilisers was cleared by the Committee on Economic Affairs (CEA) on 26th August, 1994. It pertains for the period w.e.f. April 1, 1991 and valid upto 5 years. It provides for -

i) Full reimbursement of capital related charges upto 110 per cent capacity use, 50 per cent reimbursement between a capacity use of 110 and 120 per cent and no reimbursement above 120 per cent cut off limit. However, conversion and input charges would continue to be reimbursed beyond 120 per cent ceiling; validity of which to be for four years.

ii) Consumption norms remain unchanged 90 per cent.

iii) 12 per cent post-tax return on net worth to continue.

iv) Depreciation norms approved at 6.33 per cent on a straight line basis for a period of 15 years.

v) No charges regarding reimbursement of turnover tax, purchase tax and additional surcharge.

3) Fertiliser subsidies:

Although the RPS system resulted in increased production and consumption of fertilisers in the country, this had significant budgetary implications in terms of fertiliser subsidy. It increased from Rs.266 crores in 1977-78 to Rs.5796 crores in 1992-
93, though, indigenous fertiliser subsidy has been rising continuously, the imported fertiliser subsidy has shown an erratic trend depending upon global availability and prices. Various factors behind increase in subsidy over the years has been shown graph 4.2.1.

TABLE - 4.2.1

<table>
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<th>Years</th>
<th>Subsidy on fertilisers</th>
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</thead>
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<tr>
<td></td>
<td></td>
<td>Imported</td>
<td>Indigenous</td>
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<tr>
<td>1977-78</td>
<td></td>
<td>241</td>
<td>25</td>
</tr>
<tr>
<td>1981-82</td>
<td></td>
<td>100</td>
<td>275</td>
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<td>1985-86</td>
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</tr>
<tr>
<td>1993-94</td>
<td></td>
<td>600</td>
<td>3800</td>
</tr>
<tr>
<td>1994-95(BE)</td>
<td></td>
<td>500</td>
<td>3500</td>
</tr>
</tbody>
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BE = Budget Estimate

Fertiliser subsidy accounting for the highest share of visible subsidy has become a controversial issue between the Government and the industry. The industry has been protesting against the word "Subsidy to Industry" proclaiming it to be a misnomer. Subsidy is the compensation for increasing cost of inputs controlled by Government and also government determined selling prices. So if the subsidy has to be eliminated, controls must go. Against this background, while negotiating the IMF loan under the standby facility, the Government promised complete elimination of fertiliser subsidy within 3 years starting from 1991-92.

Joint Parliamentary Committee (JPC):

Looking into bulging subsidies, Dr. Manmohan Singh, the Finance Minister, Government of India, while presenting the Union Budget 1992-93, formation of announced JPC. The committee submitted its report on August 20, 1992. While disfavouring total abolition of fertiliser subsidy and complete decontrol of fertiliser process, it emphasized on the need to contain fertiliser subsidy within limits. The strategy suggested by the committee was:

a) Reduction in the urea prices by 10 per cent.

b) Removal of price, distribution and movement control on phosphatic and potassic fertilisers.

c) Decanalisation of DAP imports so as to provide them at competitive prices.
d) Bringing back low analysis nitrogenous fertilisers
i.e. CAN, AS and ACL, under price control which
were earlier decontrolled in July 1991.

The first 2 recommendations came into force w.e.f. 25th
August, 1992 while third was implemented from 17th September,

Impact of Decontrol:

The decontrol of P & K fertilisers, which constituted about
50% of the total tonnage brought about a fundamental change in the
industry. There was an immediate increase in the prices of these
fertilisers in the absence of any subsidy support of government.
(However, adhoc subsidy was provided on seasonal basis). The
prices of DAP, SSP and MOP board up and were 70-75%, 115-120% and
230-240% higher than the corresponding controlled selling prices
prior to 25 august 1992 respectively. This culminated in decline
in consumption and production of both P & K while the consumption
of N rose (Being cheapest fertiliser). It led to imbalances in
nutrient application of fertilisers. As against the recommended
NPK ratio of 4:2:1, the balance tilted more towards nitrogen and
it was 9.5:3.2:1 in 1992-93, 9.7:2.7:1 in 1993-94 and 8.9:2.8:1 in
1994-95. This is an unhealthy trend and can have adverse impact
on crop yields.
4) Government Policies for Fertiliser Distribution:

In view of the importance of fertiliser to the national economy, its high cost, the simplicity and literacy of its consumers, the fertiliser has been declared as an essential commodity in India. This possess problems of logistics as an essential commodity has to be distributed equitably to offer equal opportunities to all the segments of the economy to grow side by side to help reduce socio-economic disparities in the interest of peaceful co-existence. In order to fully meet these economic and social objectives, the distribution of fertilisers is regulated by Government under the essential commodities of fertiliser is regulated by Government under the Essential Commodities Act (ECA)

ECA Allocations:

Half yearly plans are drawn up manufacturerwise and statewise at zonal conferences participated by Government and the industry. The manufacturers are required to follow the agreed supply plan for distributing the fertiliser to different states. These conferences are held before each agricultural season. The main objectives of this exercise are:

1. Equitable distribution statewise.

2. No fertiliser manufacturer to solely depend on one state for supplies.
3. No state to rely on one manufacturer for its requirements.

4. Movement of product to long distances to be discouraged.

5. Criss-Cross movement of fertiliser to be minimized.

6. Transshipment of material from one gauge to another gauge to be avoided or minimized.

The gap between the domestic production and consumption is filled by imports, allocation of which is also a part of the overall supply plan drawn up by the Minister of Agriculture, Government of India. Even though the manufacturers are required to supply the quantities to the states as per the supply plan, the system is fairly flexible as it provides for changes and revision in the supply plan as and when necessary depending on the market exigencies. There are monthly review meetings both at the state and Central Government level where progress of despatches against the supply plan is reviewed and monitored regularly. Such meetings prove very useful in sorting out all problems in an atmosphere of cooperation amongst all concerned. Outwardly the system appears to be very stringent. But in actual practice it is very objective, smooth, result oriented and flexible.
5) Transport Rationalisation Scheme:

The half yearly conferences are followed by quarterly Railway Transport Planning meetings which are also conducted under the Ministry of Agriculture. These meetings are also attended by the officials of Ministry of Railways. These meetings review the fertiliser industry's requirement of wagons on monthwise basis. An approval plan of wagon requirement is given priority for movement of fertilisers, and instructions are issued accordingly by the Railway Board to different railways to make wagons available, as per the plan approved, to the manufacturers for movement of fertilisers. The objectives of such meetings are to avoid criss-cross movement of the same material, minimize transshipment and lead distance per tonne of fertiliser movement with a view to keep the overall equated freight under control. Efforts are made to provide for the rake movements of material to single destinations. The overall objectives of this exercise is to ensure optimum utilisation of the existing limited transport capability.

6) Lead Fertiliser Supplier Schemes:

In 1986, during the national level zonal conferences, it was decided that there should be a lead fertiliser suppliers at district level and at state level. They were entrusted with the following functions.
a) At district level:

i) Assessment of requirement of the district for each season, in consultation with the district agricultural authorities.

ii) Compilation of fertiliser statistics regarding consumption and stock position etc.

iii) Fertiliser promotion activities, particularly in rainfed, difficult and inaccessible areas.

iv) Training of the dealers as well as farmers and

v) Opening of additional retail outlets in the rainfed areas.

b) At state level:

The Director of Agriculture associates the state 'lead fertiliser supplier' for chalking out a strategy for fertiliser promotion in the state, compiling the state level fertiliser statistics regarding consumption and stock position, finalising the state's requirement of fertilisers and any other activity which may be relevant to the fertiliser industry.

The action plan for lead fertiliser supplier suggested that-

1) Depending upon the potential available by way of cropping pattern, area under irrigation, pattern of rainfall, infrastructural facilities, capability of Department of Agriculture and Industry, the lead fertiliser chalks out a
long term plan (5 years) to increase fertiliser consumption in the state.

2) To evolve a system of compilation of statistics on consumption and stocks at district level and finally to be aggregated for the state as a whole.

3) To evolve strategies for generating fertiliser demand through various promotional activities like field demonstrations, soil testing, training of dealers and farmers.

In the State of Maharashtra, M/s Rashtriya Chemicals and Fertilisers Ltd. (RCF) is the lead fertiliser supplier at state level. While other manufacturers like KRBHCO, IFFCO, ZACL, etc. are district lead fertiliser suppliers.