

**Production and Consumption of Fertilisers**  
**Annual Review : 1972-73**

*(April-March)*

**(with estimates for 1973-74)**



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## PREFACE

This is the 15th issue of the *Annual Review of Production and Consumption of Fertilisers*.

2. The consumption figures for 1972-73 were compiled this spring by the Central and State Governments for the period February 1972/January 1973 in view of the Government of India's decision to prepone supply planning by a month. Readers will have to keep this reservation in view when making a comparison with previous years.

3. This issue contains:

- (i) Actual performance during the year 1972-73;
- (ii) A brief analysis of the trend of performance during the period 1968-69 to 1972-73; and
- (iii) An indication of the likely trend during 1973-74.

4. We have introduced in this issue of the Review for the first time a brief note on the world-wide trend of consumption. We hope that readers will find it useful.

5. Readers will recall that we changed the base period of the Annual Review last year from July/June to April/March for two reasons. It was hoped that this basic change would enable a better comparison with other related data published in India. Secondly, the Review would reach the readers sooner after the close of the review period than was the case in the past. We are glad that this change has enabled us to publish the Review 4 months after the close of the review period as against 12-14 months in the past. We do hope that this change will make the *Annual Review* more useful to readers by providing them a timely analysis of the developments of the previous year and projections for the future.

(iv)

6. Information contained herein has been collected from various sources. Department of Agriculture, Government of India has, as usual, supplied valuable data on Pool despatches. Manufacturers have furnished actual production and despatches to individual States. Data on consumption has been drawn from the proceedings of the half-yearly Zonal Conferences on Fertilisers. Help received from these sources is gratefully acknowledged.

7. We made a major change in the layout and format of the Review last year by separating the reading material from the statistical tables and appendices which were printed and specially folded for easier reading and quicker reference. We are gratified at the commendatory messages received from our readers regarding the new format.

8. We shall look forward to receiving suggestions from readers for further improvement of the *Annual Review*.

New Delhi  
July, 1973

SATYA NAND  
Executive Director  
The Fertiliser Association of India

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## INTRODUCTION

Until September 1966, The Central Fertiliser Pool procured and distributed the entire indigenous straight nitrogenous and all imported fertilisers. Private distribution channels only marketed domestic production of ammonium chloride, superphosphate and complex fertilisers.

In October 1966, the Government of India accepted the recommendations of the Sivaraman Committee and evolved a new fertiliser policy extending the concept of free marketing to domestic production of straight nitrogenous fertilisers also. Domestic manufacturers were initially permitted to sell 30 per cent of their production in the free market. This percentage was gradually increased to 50 in October 1967, 70 in October 1968 and 100 in April 1969.

The main objective of the revised liberalised policy was to facilitate movement of fertilisers to farmers by widening the base of distribution through the network of private distribution channels. Also, competition was expected to provide better services to the consumers. The last but not the least, was the Government's desire to attract fresh private investment into the industry.

The liberalised policy had the desired effect and the number of private dealer outlets considerably increased within a period of 4-5 years and opened up fresh areas for fertiliser use. It also gave a tremendous boost to the installation of indigenous capacity. The figures given below are self-explanatory:

Particulars	1966-67		1971-72	
	N	P <sub>2</sub> O <sub>5</sub>	N	P <sub>2</sub> O <sub>5</sub>
Installed capacity ('000 tonnes)	632	319	1,471	504
Increase in capacity percentage	—	—	133	58
Consumption ('000 tonnes)	839	249	1,760	564
Increase in consumption percentage	—	—	109	126
Number of dealer outlets	60,000		81,000	
Percentage increase	—		35	

(x)

The introduction of the high yielding varieties of seeds and the rapid increase in indigenous production from 1967 onwards necessitated extensive promotional efforts to foster increased use of fertilisers to sustain our agricultural development programmes. The Government Extension Agencies and the indigenous producers of fertilisers rose to the occasion and carried out intensive and extensive promotional efforts to create awareness among farmers about the need for and efficacy of fertiliser use resulting in rapid growth in consumption. It, however, became apparent that despite this growth there were not only great imbalances, varying in degree from State to State, in the use of fertilisers but also the rate of growth of fertiliser consumption was not in line with targets set out in the Fourth Plan. The Government of India, therefore, launched in October 1972 a coordinated fertiliser promotion programme covering 35 districts during 1972-73 and an additional 35 districts during 1973-74. These districts were allotted to the domestic producers and marketers and the State Government agencies on the basis of their existing involvements. The funds allotted for use by the Governmental agencies for the two years were Rs. 0.87 and Rs. 1.36 crores respectively.

Both the production and marketing of fertilisers have become complex processes with passage of time. Aggressive and scientific marketing and improved distribution arrangement have considerably improved timely availability of fertilisers to the farmer.

Consumption of fertilisers during 1972-73 was adversely affected by non-availability of adequate quantities to meet requirements. Domestic production was short of estimates due to delay in starting up new plants, besides, low capacity utilisation of existing plants even though better than during the previous year, did not come up to the anticipated level. Nor was it possible to make up the shortfall through import due to the worldwide shortage of fertilisers. A combination of these developments led to the unfortunate situation of shortages inhibiting consumption. For example, the estimated requirement of N during 1972-73 was 1,987 thousand tonnes but the total availability through stocks in hand, indigenous production and imports, was only 1,778 thousand tonnes. Actual consumption therefore, was limited to actual availability. The impact of shortage would have been felt far more but for drought in several parts of the country.

To ensure equitable distribution of limited quantity of available fertilisers, the Government of India invoked the provisions of Essential Commodities Act in July 1972 making it obligatory for producers to distribute agreed quantities in each State. It also requisitioned, effective on 1st July 1972, 30 per cent of indigenously produced ammonium sulphate

for a period of six months for distribution through Central Fertiliser Pool for certain priority users. The movement of fertilisers by rail has been rationalised through discussions between the railways, the Ministry of Agriculture and the industry to ensure that railways could give necessary priority to fertiliser movement through optimum utilisation of the limited railway capacity. Statutory control on selling prices of urea, calcium ammonium nitrate, ammonium sulphate and the informal control on selling price of superphosphate continued during the period under review.

*Notes on presentation*

Tables in the Review following the text contain data covering all the three aspects of the industry viz., production, distribution and consumption. Tables have been drawn from the Statewise/materialwise production and distribution statistics contained in the Appendices. Consumption and distribution statistics cover indigenous as well as imported materials.

As in the past, the Review analyses data for the previous five-year period, i.e., 1968-69 to 1972-73 with projections for 1973-74\*. The five-year data is presented Statewise/nutrientwise in the relevant tables. The nutrientwise distribution figures are similarly presented. A comparison of nutrientwise distribution and consumption tables represents change in inventories.

Estimates for 1973-74 are based on past trends duly moderated to take cognizance of anticipated developments.

This Review, for the first time, contains data on the trend of world consumption. It also compares the rate of growth in India with a few other countries in the world.

Data on distribution has been obtained from the domestic manufacturers and the Pool. The consumption figures are drawn from the proceedings of the half-yearly Zonal Conferences held by the Central Ministry of Agriculture. Materialwise breakup of consumption is not readily available. Factors affecting consumption of fertilisers in different States have been analysed in depth in the chapter on "Consumption of fertilisers".

Figures of production, distribution and consumption, materialwise and nutrientwise, have been rounded off to the nearest thousand tonnes for

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\* For districtwise presentation, see *Fertiliser News*, September 1972, May 1973 and July 1973.

ease of presentation. Percentages are given to the nearest one decimal place. Owing to rounding off, the totals of the columns may not, in every case, tally with the sum of the constituent items.

Except for the consumption figures for the year 1972-73, all other production, consumption and distribution figures are on April/March basis. The consumption figures for 1972-73, however, relate to February 1972, January 1973 period.

Wherever Statewise consumption figures are not available, regionwise figures are provided.

For the purpose of this Review, the country has been divided into the following five zones to conform to the pattern of Zonal Conferences:

- South** : Andhra Pradesh, Kerala, Mysore, Tamil Nadu, Pondicherry and Laccadive Islands.
- West** : Gujarat, Maharashtra, Goa, Daman & Diu and Dadra & Nagar Haveli.
- Central** : Madhya Pradesh, Rajasthan, Uttar Pradesh and Delhi.
- North** : Haryana, Himachal Pradesh, Jammu & Kashmir and Punjab.
- East** : Assam (including Meghalaya and Mizoram), Bihar, Nagaland, Orissa, West Bengal, Manipur, Tripura, NEFA (Arunachal) and Andamans.

## SUMMARY

### I. Production of Fertilisers

#### *Nitrogenous*

The installed capacity for nitrogenous fertilisers did not increase during 1972-73 compared to the previous year and as on 1.4.73 was 1.471 million tonnes of nitrogen. Production, however, improved from 0.947 million tonnes during 1971-72 to 1.051 million tonnes during 1972-73. Production trend in most of the plants improved during 1972-73. The overall capacity utilisation for nitrogenous fertilisers improved from 64 per cent during 1971-72 to 71 per cent during 1972-73 primarily due to better operation of plants. Even this is considered to be low and there is urgent need for further improvement. This low capacity utilisation was mainly due to factors like teething problems on startup of new units, shortage of raw materials and power, labour unrest, etc. Three new plants namely Zuari, Durgapur and Cochin are likely to be commissioned during 1973-74 and production is estimated to reach 1.3 million tonnes of N.

#### *Phosphatic*

The installed capacity of phosphatic fertilisers plants as on 1.4.73 was 0.503 million tonnes, the same as in previous year. Production during the year 1972-73 increased from 0.290 million tonnes to 0.330 million tonnes, an improvement in capacity utilisation from 58 to 66 per cent. The production of most of the plants improved during the year. Some of the superphosphate plants worked at much higher than the licensed capacity and some of the complex fertiliser plants worked to full capacity. During the year under review, complex fertilisers have become more dominant than single nutrient phosphatic fertilisers and their share during 1972-73 was 61 per cent compared to 39 per cent of superphosphate. Production during 1973-74 is expected to be around 0.370 million tonnes of  $P_2O_5$ .

#### *Potassic*

Indigenous production of potash continued to be nil during 1972-73 and all requirements were met through imports.

#### *Growth of Fertiliser Industry*

The manufacture of chemical fertilisers commenced in India in 1906, the first fertiliser produced being single superphosphate. Ammonium

sulphate was first produced on a commercial scale in 1947. The fertiliser industry received fillip in the early fifties with the dawn of development era in the country and has since then developed into a major factor in India's economic growth. Although some progress was made during 1951-61, the major thrust to the development of the industry took place during the decade 1961-71. Table 2 gives in a chronological order, the commercial production of the diverse forms of fertilisers in the country.

The consolidated list of fertiliser plants in production along with their capacity by end-products and zonewise is given in Appendix I(b). The installed capacity of nitrogenous and phosphatic fertilisers, as on 1.4.73, was 1.471 million tonnes of N and 0.503 million tonnes of  $P_2O_5$ , the same as in previous year. This is expected to rise by 1.4.74 to 1.950 and 0.550 million tonnes of N and  $P_2O_5$  respectively.

#### *Conclusions*

During the year under review, there was a welcome improvement in the capacity utilisation compared to the previous year. There is, however, need for further improvement. With the improved performance, domestic production of nitrogenous and phosphatic fertilisers has also improved. However, the demand has also been rising and the gap between demand and indigenous production was partially bridged by imports.

## **II. Consumption of Fertilisers**

### *Nitrogen*

The consumption of nitrogen went up to 1,778 thousand tonnes during 1972-73 registering an increase of only 1 per cent over the previous year. The overall increase during the five-year period under review was 57 per cent.

The extremely low growth of 1 per cent in consumption was due to limited availability of fertilisers in the country and serious drought conditions in Maharashtra and Gujarat and parts of Mysore, Tamil Nadu, Andhra Pradesh, Rajasthan, West Bengal, Punjab, Haryana and Uttar Pradesh. The farmers are no doubt getting increasingly aware of the benefits of HYV crops through adequate use of fertilisers, multiple cropping, IADP and IAAP, credit extension and promotional programmes of both the Government and manufacturers and the scientific marketing of fertilisers by manufacturers but, in order that maximum results can accrue through such an awareness, adequate availability of fertilisers to all the consumers is an essential pre-requisite. Since the demand has been buoyant and it is only the consumption which has slumped because

of inadequate availability of product, the future prospects are encouraging. The consumption during 1973-74 is expected to be 2,219 thousand tonnes, recording an increase of 25 per cent over the previous year.

The share of urea in the total N application gradually rose from 47 per cent during 1968-69 to 64 per cent during 1972-73 largely because of the preference for obvious reasons for high analysis fertiliser. This trend is likely to continue.

The share of N in the total fertiliser application during 1968-69 was 67 per cent. This dropped to 65 per cent during 1972-73 indicating a healthy trend towards balanced fertilisation. Balanced fertilisation would have received additional fillip and the overall availability of fertilisers would have also improved considerably by a better capacity utilisation of superphosphate plants had the State Governments enabled full utilisation of the idle capacity of granulation units in the country by releasing to them adequate quantities of nitrogenous material.

#### *Phosphates*

The consumption of  $P_2O_5$  during 1972-73 was 587 thousand tonnes registering an increase of 4 per cent over the previous year—the lowest recorded during the last five years. The overall increase during this period was, however, 51 per cent. The growth rate followed nearly the same pattern as that of N.

Superphosphate has been the premier phosphatic fertiliser, though its contribution to total  $P_2O_5$  consumption has gradually been decreasing. Beginning with 32 per cent during 1968-69, its contribution came down to 24 per cent during 1972-73. The reason for this drop in share was the swing away from straight phosphates to complex fertilisers because of their many comparative advantages, both commercial and of convenience. This trend is likely to continue in spite of better capacity utilisation of domestic plants and extensive promotional efforts.

A new chapter has been opened in the product pattern with the commissioning of plants for manufacturing complex fertilisers in the country. Availability of domestic complex fertilisers and mixtures would help in creating awareness among farmers of the benefits of balanced fertilisation. The position so far has, however, not been encouraging with a drop in  $P_2O_5$  share in the total fertiliser consumption from 23 per cent during 1968-69 to 22 per cent during 1972-73. Greater promotional efforts may have to be put in to motivate farmers to take to  $P_2O_5$ . The survival of superphosphate industry also largely depends on such efforts.

*Potash*

The consumption during 1972-73 was 332 thousand tonnes registering an increase of 9 per cent over the previous year. The overall increase during the five-year period was 113 per cent. This growth rate was nearly twice as much as that of N or  $P_2O_5$ , indicating a positive trend towards correction of imbalance in  $K_2O$  use.

The pattern of growth has been cyclic; low and high consumption alternating each year. The high consumption year 1973-74 is expected to record a growth rate of 17 per cent.

The source of  $K_2O$  through complex fertilisers gradually increased from 7.3 per cent during 1968-69 to 34.3 per cent during 1972-73 indicating a diminishing importance of straight muriate of potash as a fertiliser for direct application. The shift in favour of NPK was apparent because of obvious advantages, economic and otherwise, of balanced fertilisation. With the increased indigenous capacity of complex fertilisers and mixtures, the extent of direct consumption of muriate of potash is likely to further decrease in favour of NPK fertilisers.

**III. Regionwise Analysis of Production and Consumption***Consumption*

In the matter of consumption of  $P_2O_5$  and  $K_2O$ , South zone continued to lead all other zones. In N consumption, however, South was for the first time during 1972-73 beaten to the second position by Central zone by a small margin of 0.6 per cent. Whereas limited availability of fertilisers and drought conditions plagued the South zone during 1972-73, Central zone had a comparatively better availability and favourable agro-climatic conditions.

Imbalance continued to exist between production and consumption in all the regions. Pronounced deficit of N existed in South and North and of  $P_2O_5$  in North, Central and East. West, Central and East zones were surplus in N and South and West in  $P_2O_5$ . Shortfall in each zone was met through inter-zonal movement as well as from imports.

**IV. Plant Nutrients Consumption Per Unit Area and Ratio of Consumption**

Consumption of plant nutrients per hectare has increased progressively and has more than doubled during the last six years (1967-68 to 1972-73) from 6.7 to 14.9 kg/ha. However, the growth rate had been very

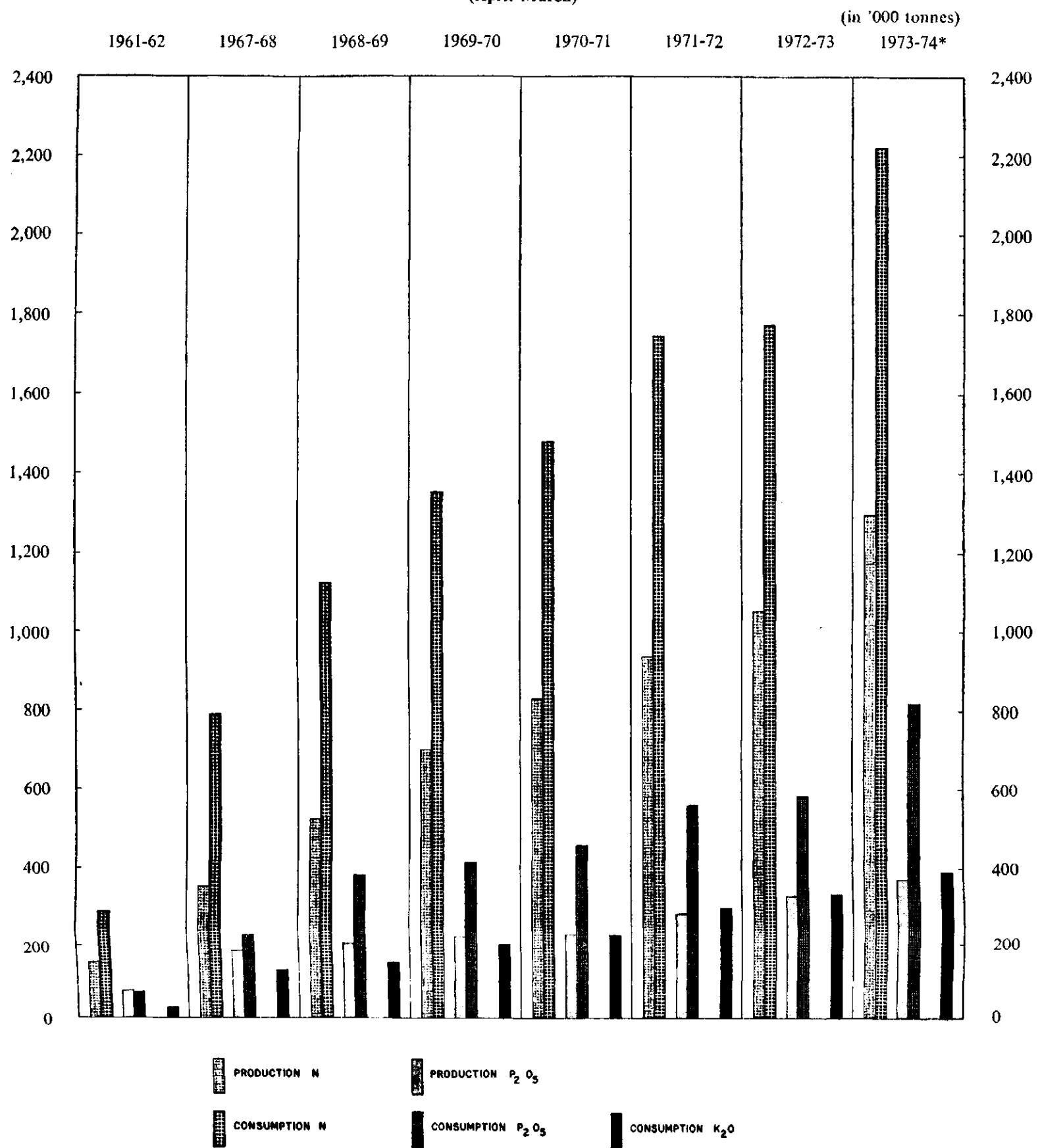


erratic, not following any definite trend. Nor has it kept pace with the estimates. It is estimated that the consumption of plant nutrient will increase by 28 per cent in 1973-74 over the year under review.

There is considerable disparity in consumption of plant nutrients between different zones and States of the country. Northern Zone ranks first with consumption of 31.62 kg/ha which is slightly more than double the all-India average consumption. The Southern zone consumed 23.11 kg/ha followed by Western zone (11.76 kg/ha), Central zone (11.29 kg/ha) and Eastern zone (8.60 kg/ha). There has been a slight increase in plant nutrients consumption per unit area in all the zones except in Western zone where it has decreased in all the States during the year under review over the preceding year. The reasons for disparities in the consumption of plant nutrients in the zones and States are described.

The ratios of plant nutrient consumption in the country and different States reveal considerable imbalance in the use of plant nutrients, nitrogen fertilisation receiving considerable importance despite the widespread deficiencies of phosphate and potash in the country. Micronutrient deficiencies are also seen widely. It is only in the Southern Region (followed by Western Region) that the consumption of plant nutrients was nearer to the desired ratio of 4 : 2 : 1. The predominance given to nitrogen use would result in depletion of soil fertility at a faster rate. This calls for vigorous promotional efforts to boost consumption of balanced fertilisers (including secondary and micronutrients) on the basis of soil test values to increase crop yields and to arrest the decline in soil fertility.

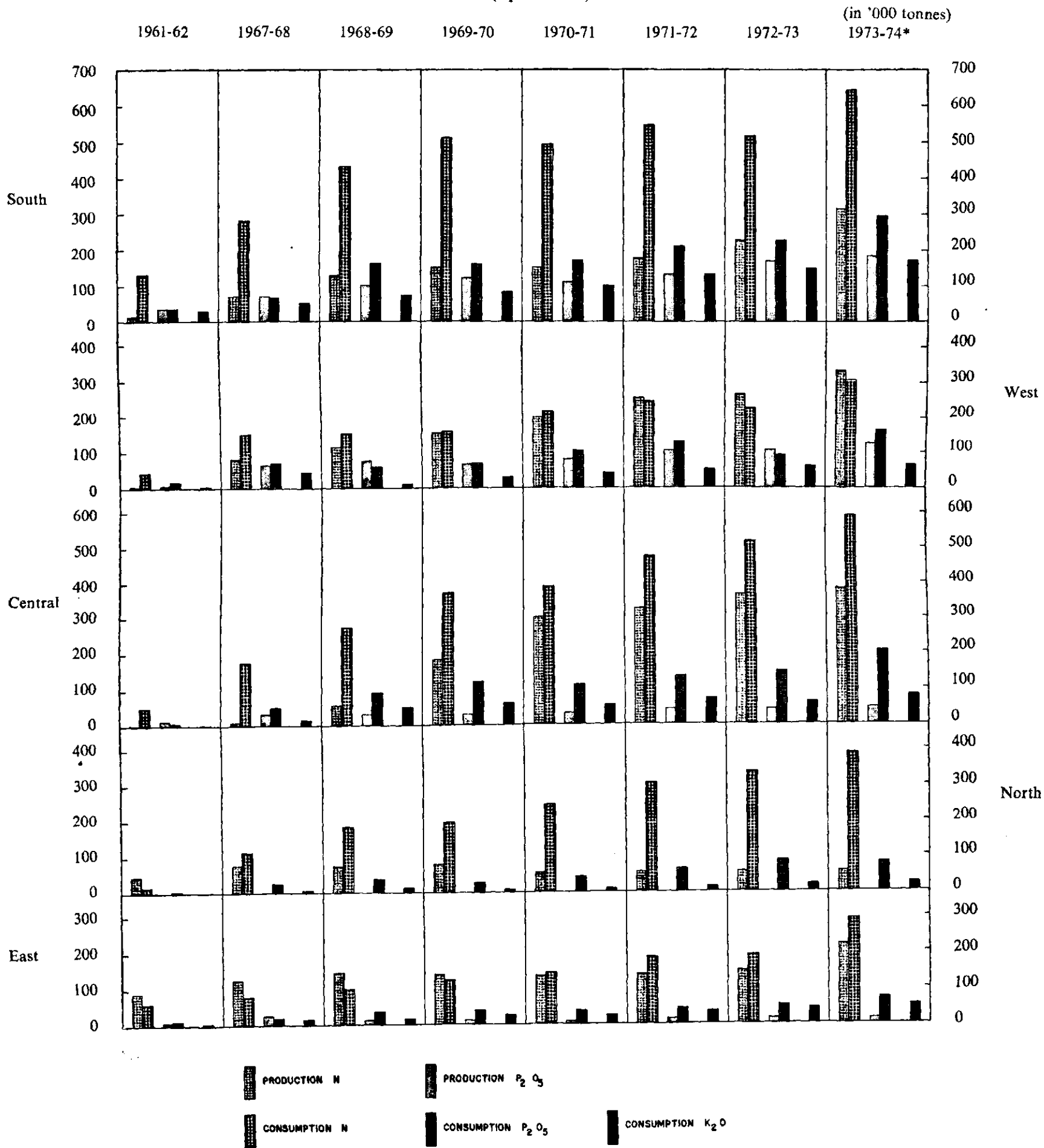
**PRODUCTION AND CONSUMPTION OF N, P<sub>2</sub>O<sub>5</sub> AND K<sub>2</sub>O IN INDIA  
DURING 1961-62 AND 1967-68 TO 1973-74\*  
(April-March)**



Note : Potassic fertilisers are not produced in the country.  
\*Estimated.

**REGIONWISE PRODUCTION AND CONSUMPTION OF N, P<sub>2</sub>O<sub>5</sub> AND K<sub>2</sub>O  
DURING 1961-62 AND 1967-68 TO 1973-74\*  
(April-March)**

(in '000 tonnes)



Note: Potassic fertilisers are not produced in the country.  
\* Estimated.

**STATEWISE PLANT-FOOD CONSUMPTION PER HECTARE OF AGRICULTURAL LAND (in kgs)  
(1967-68 to 1972-73)**



**ALL-INDIA**

Year	N	P <sub>2</sub> O <sub>5</sub>	K <sub>2</sub> O	Total
1967-68	4.76	1.28	0.70	6.74
1968-69	6.39	2.20	0.87	9.46
1969-70	7.53	2.33	1.16	11.02
1970-71	8.40	2.61	1.29	12.30
1971-72	9.73	3.13	1.67	14.53
1972-73	9.85	3.25	1.84	14.94

- Notes : 1. Upto 1969-70 agricultural and consumption data refer to the same year, thereafter latest agricultural data for 1969-70 is the divisor for 1970-71, 1971-72 and 1972-73 consumption figures.
2. In the case of Union Territories, H.P. and J. & K., distribution figures have been used to work out kg/ha for 1967-68 and 1968-69.

**DETAILS OF PRODUCTION  
AND  
CONSUMPTION**

CHAPTER I  
**PRODUCTION OF FERTILISERS**

India produces only nitrogenous, phosphatic and NPK complex fertilisers. In the absence of any commercial sources for manufacturing potassic fertilisers, the entire requirement of potassic fertilisers is imported.

The total installed capacity of units in production in the country on 1.4.1973 was 1.471 million tonnes of nitrogen and 0.503 million tonnes of  $P_2O_5$ . Production during the same period was 1.051 million tonnes of N and 0.330 million tonnes of  $P_2O_5$ , thus recording an overall capacity utilisation of 71 per cent in nitrogen production and 66 per cent in  $P_2O_5$  production.

Although production figures for nitrogen in other countries are not available for 1972-73, the following figures of production of nitrogen in countries producing more than India for 1971-72 will be of interest:

USA	:	7.80	million	tonnes	N
USSR	:	5.63	"	"	"
Japan	:	2.13	"	"	"
China (Mainland)	:	1.65	"	"	"
France	:	1.40	"	"	"
West Germany	:	1.32	"	"	"
Poland	:	1.08	"	"	"
India (1972-73)	:	1.05	"	"	"
<hr/>					
World	:	34.16	"	"	"

During 1973-74, the production in India may reach 1.3 million tonnes, which will improve further the country's position amongst the nitrogenous fertiliser producing countries in the world.

The position with regard to the phosphatic fertilisers is not at all satisfactory. Many countries produce much more phosphatic fertilisers than India does.

**(A) Forms in which Fertilisers are Produced**

A panoramic view of the development of fertiliser industry in India is presented in Appendix I (a). A variety of nitrogenous, phosphatic and complex fertilisers are produced. These include ammonium sulphate, urea, ammonium sulphate nitrate, calcium ammonium nitrate (25% N), ammonium chloride, single superphosphate (mostly 16%  $P_2O_5$ , but a small quantity of 18%  $P_2O_5$ ), triple superphosphate (45%  $P_2O_5$ ), ammonium phosphate sulphate (16-20-0), diammonium phosphate (18-46-0), urea ammonium phosphate (28-28-0, 20-20-0, 22-22-11, 14-35-14), nitrophosphate (20-20-2, 15-15-15 and 18-18-9), and NPK complex fertilisers (17-17-17 and 14-28-14). Of these, NPK complex fertilisers, 17-17-17, 14-35-14 and 14-28-14, were manufactured for the first time during 1971-72.

*Nitrogenous Fertilisers*

Production of straight nitrogenous fertilisers based on synthetic ammonia was started for the first time in India by Mysore Chemicals & Fertilisers Ltd., Belagula, Mysore during 1943 using electrolysis of water for production of hydrogen. Small quantities of byproduct ammonium sulphate from cokeoven gas were already being produced in the steel plants in West Bengal and Bihar before 1943. However, it was only in 1947 that medium scale production of ammonium sulphate was started by The Fertilisers and Chemicals, Travancore, Ltd., at Alwaye, using wood charcoal as raw material for the production of ammonia. The production of ammonium sulphate on a large scale commenced in 1951 at Sindri.

During 1951-61, four new straight nitrogenous fertilisers were introduced—ammonium sulphate nitrate and urea at Sindri, and ammonium chloride at New Central Jute Mills, Varanasi in 1959; and calcium ammonium nitrate at Nangal in February 1961. Incidentally, in January 1961, The Fertilizer Corporation of India was established by the Government of India to take over the management of Sindri and Nangal factories. This Corporation has grown into a large size organisation, managing a substantial fertiliser capacity in the public sector.

During 1961-71, there was considerable growth of fertiliser industry in the country. Phases II and III of FACT were completed during the decade. FCI-Trombay, FCI-Gorakhpur, FCI-Namrup, Neyveli Lignite Corporation, Hindustan Steel-Rourkela, E.I.D.-Parry-Ennore, Gujarat State Fertilizers Co.-Baroda, Coromandel-Vizag, IEL-Kanpur, and Shriram Chemical Industries-Kota went into production. By 1.4.73 the total capacity of N had risen to 1.471 million tonnes.

Production of nitrogenous fertilisers during the last five years is shown in Table 4. It may be seen that there has been a substantial increase in domestic production of fertiliser during this period—nitrogenous up by 100 per cent and phosphatic by 55 per cent.

During 1972-73, no new plant went into operation, although final trials were carried out in Cochin, Goa and Durgapur plants, which will go into production during 1973-74. Though the capacity remained unchanged, there has been an overall improvement of 11 per cent in production in the straight nitrogenous fertilisers during 1972-73 compared to the previous year. The improvement is commendable though there is scope and need for further increase in capacity utilisation.

Total production of nitrogenous fertilisers during 1972-73 was 1.051 million tonnes of nitrogen, of which 62 per cent was contributed by 10 units producing urea (Table 4). Such a high proportion is not surprising, as the trend in the fertiliser industry is to produce fertilisers of higher nutrient content, because of the resultant saving in cost of packing, storage and distribution. Though the capacity remained unchanged, there has been an increase of about 14 per cent in the production of urea over the previous year, as a result of better performance of the existing units. Capacity utilisation in most of the urea plants was high, the average for the year being about 79 per cent.

Next to urea came ammonium sulphate but contributed only 11 per cent of the total nitrogen production. Ammonium sulphate was produced in five large units and a small quantity was produced as byproduct in six cokeoven plants (Table 2). The overall working of the plants have been about 55 per cent capacity due to a variety of reasons, chief among them being non-availability of good quality raw materials and the obsolescence of some plants.

Calcium ammonium nitrate was produced by two plants and its share to the total nitrogen production was about 10 per cent. Overall capacity utilisation has been about 52 per cent, the reasons for such low utilisation being non-availability of power for one of the plants and insufficient supply of gas for the other.

Ammonium sulphate nitrate and ammonium chloride were produced in small quantities and their combined share in the total nitrogen production was only about 2 per cent.

#### *Phosphatic Fertilisers*

The entire supply of phosphatic fertilisers in the country was through superphosphate upto December 1960, when the first ammonium phosphate



sulphate factory went into production at Alwaye (FACT). It was during the next decade—1961-71—that complex fertilisers were produced in the country. In addition to FACT, EID-Parry also commenced production of ammonium phosphate sulphate during 1963. Production of various grades of nitrophosphates commenced at FCI-Trombay in 1965, of diammonium phosphate at GSFC in 1967 and urea ammonium phosphate at Coromandel Fertilisers in 1968. Various NPK complex fertilisers are being produced by Madras Fertilizers Ltd. since 1971. The total licensed capacity as on 1.4.1973 was 0.503 million tonnes of  $P_2O_5$ .

The production of phosphatic fertilisers during the last five years is shown in Table 4. Though, there has been an increase in production during the period, growth has been very slow. It is of interest to notice that though  $P_2O_5$  through superphosphates played a dominant role during 1968-69 contributing about 49 per cent in the total production, its share during 1972-73 has come down to about 38 per cent, the rest being contributed by complex fertilisers. Contribution of superphosphate in terms of  $P_2O_5$  is likely to continue to diminish.

The two straight phosphatic fertilisers being currently produced are single superphosphate and triple superphosphate. Single superphosphate is produced by 30 units (Table 2) in the country and production during the year registered a marginal improvement of 2 per cent over the previous year. Out of the production of 330,000 tonnes of  $P_2O_5$  during 1972-73, the share of single superphosphate was about 38 per cent. Most of the plants improved their capacity utilisation; some of them even exceeded their licensed capacity. Overall performance for the year was about 63 per cent compared to 62 per cent in the previous year, which was a sharp improvement compared to the previous year's 49 per cent. The improvement was primarily due to Government's efforts at encouraging optimum domestic production of phosphatic fertilisers to reduce imports. Liberalisation of Government's policy during the year to allow units to produce upto 200 per cent of the licensed capacity has also helped in improving production.

There is only one triple superphosphate plant in the country whose production is more or less stationary and its contribution to the total production of  $P_2O_5$  was less than 1 per cent.

#### *Complex Fertilisers*

A variety of complex fertilisers are being produced in the country, namely, ammonium phosphate sulphate, nitrophosphate, diammonium phosphate, urea ammonium phosphate and several NPK complex fertilisers.

Their share in the production of  $P_2O_5$  during 1972-73 is 61 per cent compared to 56 per cent in the previous year.

Ammonium phosphate sulphate was produced by two units and its production has declined by 6 per cent over the previous year, and the overall capacity utilisation has been about 40 per cent. Its share in the total nitrogen production is less than 2 per cent, while in  $P_2O_5$  production it is about 6 per cent.

Only one grade of nitrophosphate, namely, 15-15-15 was produced by one unit in the country, and its production improved by about 20 per cent over the previous year. The overall utilisation of capacity during the year, at over 133 per cent compared to about 110 per cent in the previous year, has shown a remarkable improvement through technological improvements and better management of the plant. While its share in the nitrogen production is only about 3 per cent, its share in the  $P_2O_5$  production is about 11 per cent.

Diammonium phosphate is produced by one manufacturing unit and its production has gone up by 38 per cent compared to the previous year. Its share in nitrogen and  $P_2O_5$  production is 1 and 10 per cent, respectively.

Urea ammonium phosphate grades of 28-28-0, 20-20-0 and 14-35-14 were produced by one manufacturing unit. The production has declined during the year by 4 per cent over the previous year due primarily to power cuts and disturbances and the overall capacity utilisation has been about 85 per cent. While its contribution to the total production of nitrogen was only 5 per cent, its share in the  $P_2O_5$  production was over 16 per cent. With the introduction of a new grade 14-35-14 in 1971-72, urea ammonium phosphate of grade 22-22-11 was discontinued from that year.

Madras Fertilizers Ltd. went into commercial production in October 1971 and produced NPK complex fertilisers, 17-17-17 and 14-28-14, during the year under review. The production was stabilised during the year and it rose from 68,000 tonnes in 1971-72 to 286,000 tonnes in 1972-73. Its share in nitrogen production was less than 5 per cent, but its share in  $P_2O_5$  production was 19 per cent.

It may be seen from the data presented in Table 4 that the role of complex fertilisers in the nitrogenous and phosphatic fertiliser production has been improving and their share in the total production of N and  $P_2O_5$  was 16 and 61 per cent respectively during the year under review compared to 15 and 56 per cent respectively during 1971-72. It is expected that complex fertilisers will form major fertilisers in the coming years.

**(B) Statewise Production**

The productwise licensed capacity of various fertilisers, factorywise, as on 1st April 1973 is given in Appendix I (b). The Statewise and materialwise production figures for five years ending 1972-73 are given in Appendices II, III and IV, and the corresponding nutrients for nitrogenous and phosphatic fertilisers are given in Table 5.

*Nitrogenous Fertilisers*

It may be seen from Table 5 that out of a production of 1.051 million tonnes of nitrogen during 1972-73, a third of it was produced in Central Zone and a fourth in the West Zone, as in the previous year. In the Central Zone, maximum production is from Uttar Pradesh where two large nitrogenous fertiliser plants, namely, IEL-Kanpur & FCI-Gorakhpur, and a small one, namely, New Central Jute Mills-Varanasi are located. The factory of Shriram Chemical Industries at Kota is another large-sized unit in the Central Zone. In the West Zone, the production is from the units located in Maharashtra and Gujarat, one plant in each State. There was no production of nitrogenous fertilisers in Goa during 1972-73 but Zurai's unit located at Goa will be in commercial production during 1973-74. In the South Zone, Coromandel Fertilisers in Andhra Pradesh, FACT-Alwaye in Kerala, Neyveli Lignite Corporation, EID-Parry and Madras Fertilizers in Tamil Nadu have contributed to the production during 1972-73. The FACT and the Neyveli plants are working to a low capacity due to a variety of reasons—the main problem in Neyveli is the shortage of lignite. The Madras Fertilizers went into commercial production in October 1971 and its performance has been satisfactory, after stabilising its production. Cochin plant of FACT is likely to be commissioned during 1973-74. There is no nitrogenous fertiliser unit in Mysore State, but the Mangalore Chemicals and Fertilisers plant is under erection and is expected to go into production during 1974-75. In the East Zone, the FCI-Namrup in Assam, FCI-Sindri in Bihar, HSL-Rourkela in Orissa and a few cokeoven plants in West Bengal have contributed to the production of nitrogenous fertilisers in the region. Many of these units have been working to low capacity for a variety of reasons. FCI plant at Durgapur when commissioned during 1973-74 will add considerably to the capacity in the Zone. The only plant in the North Zone is FCI-Nangal where capacity utilisation is directly linked to the availability of power from the Bhakra Station.

Productwise (Appendix II), 50 per cent of ammonium sulphate is produced in East Zone, most of it from FCI-Sindri, and the rest in Western and Southern Zones. Only a small quantity is produced by a unit in Madhya Pradesh. Ammonium sulphate nitrate is produced only by Sindri. Urea is manufactured by ten units spread all over India except

North Zone; over 50 per cent is produced in the Central Zone, and 35 per cent in the West Zone. There is no unit producing urea in the Northern Region, consisting of Punjab, Haryana, Himachal Pradesh and Jammu & Kashmir. Calcium ammonium nitrate is produced by FCI-Nangal in the North Zone and HSL-Rourkela in the East Zone. Only one unit of New Central Jute Mills Co. Ltd. Varanasi (U.P.) in the Central Zone manufactures ammonium chloride.

#### *Phosphatic and Complex Fertilisers*

The installed capacity of phosphatic and complex fertilisers product-wise and statewise is presented in Appendices I (b), III and IV and the production in terms of nutrients during the five years, zonewise and State-wise, is presented in Table 5. The overall production of phosphatic fertilisers during 1972-73 is 14 per cent higher than in the previous year. About 51 per cent of the production of phosphates is in the South Zone where, besides four complex fertiliser units, a large number of single superphosphate units are located. Although there is no nitrogen production in Mysore State, two single superphosphate plants exist in the State but their contribution is negligible. In the West Zone, the complex and superphosphate units existing in Gujarat and Maharashtra, have performed satisfactorily. Although there is no production of phosphatic fertilisers in Goa at present, the Zuari Agro Chemicals Ltd. is expected to go into production during 1973-74, which will also produce phosphates. In the Central Zone, the contribution is only by the superphosphate industry as there is no complex fertiliser manufacturing unit in the zone. In the Northern Zone, there is no superphosphate or complex fertiliser plant or production of phosphatic fertilisers. This serious imbalance needs to be set right quickly. In the East Zone also, phosphatic fertiliser production is only as single superphosphate which has been operating at a low capacity. In Orissa, neither a superphosphate nor a complex fertiliser unit existed during the year under review.

The production of superphosphates in the five zones is presented in Appendix III. As mentioned earlier, most of the single superphosphate units are located in South, West and Central Zones, a few in the East Zone, and none in the North Zone.

Amongst the complex fertilisers (Appendix IV), ammonium phosphate sulphate is produced by two units, one each in Kerala and Tamil Nadu. Nitrophosphates are produced by FCI-Trombay in Maharashtra in the West Zone, the grade produced during 1972-73 being 15-15-15, although many other grades can be produced. The complex unit at Trombay has done exceedingly well during the year. GSFC-Baroda produced DAP.

18-46-0. A small quantity of SNPK of grade 18-27-3 was introduced on an experimental basis in 1971-72. Urea ammonium phosphate of grades 28-28-0, 20-20-0 and 14-35-14, were produced at Coromandel's plant in Andhra Pradesh in Southern Zone and the plant has performed well during the year. Madras Fertilizers Ltd. started its production during October 1971 producing NPK complex fertilisers (17-17-17 and 14-28-14), in Tamil Nadu in Southern Zone, and has stabilised its production during the year under review.

**(C) Production of Fertilisers During 1973-74**

The anticipated consumption of N, P<sub>2</sub>O<sub>5</sub> and K<sub>2</sub>O during 1973-74 has been estimated at 2.2, 0.8 and 0.4 million tonnes respectively (Tables 7 (a), 8 (a) and 9 (a)). Against this requirement, the capacity of the plants existing in the country as on 1.4.73 is for 1.471 million tonnes of N and 0.503 million tonnes of P<sub>2</sub>O<sub>5</sub>. No new large sized plant has gone into production during 1972-73. Superphosphate plants of Anish Chemicals at Ahmedabad, with a capacity of 1,440 tonnes of P<sub>2</sub>O<sub>5</sub> per year, and of Maharashtra Agro Industries Development Corporation at Panvel with a capacity of 7,200 tonnes of P<sub>2</sub>O<sub>5</sub> commenced production during November and December 1972. These small plants have not added any significant quantity of fertilisers during 1972-73, but may produce upto about 50 per cent of their capacity during 1973-74.

Three large plants, namely, FACT-Cochin, FCI-Durgapur and Zuari-Goa, were expected to go into commercial production during 1972-73. However, due to a number of problems faced by them, their commissioning has been delayed. They are expected to be in commercial production during 1973-74. Besides these, one medium-sized phosphatic fertiliser plant, namely, Orissa Fertilisers and Chemicals at Rourkela, with a capacity of 7,600 tonnes of P<sub>2</sub>O<sub>5</sub> per year, is expected to go into production during 1973-74. The incremental production of fertilisers from these new units during 1973-74 is expected to be from the following :

Unit	Capacity (tonnes)		Likely date of commissioning
	N	P <sub>2</sub> O <sub>5</sub>	
1. FACT, Cochin	152,000	—	May 1973
2. Orissa Fertilisers & Chemicals Ltd., Rourkela	—	7,600	June 1973
3. FCI, Durgapur	152,000	—	June 1973
4. Zuari, Goa	175,000	42,000	July 1973
<b>Total</b>	<b>479,000</b>	<b>49,600</b>	

Thus by the end of 1973-74, the total capacity of nitrogenous fertilisers is expected to be 1.950 million tonnes of nitrogen, and that of phosphatic fertilisers, 0.561 million tonnes of P<sub>2</sub>O<sub>5</sub>. It is estimated that the

production during 1973-74 will be 1.30 million tonnes of N and 0.37 million tonnes of  $P_2O_5$  (Table 5). This leaves a gap of 0.9 million tonnes of N and 0.43 million tonnes of  $P_2O_5$  to be filled by imports, besides importing 0.4 million tonnes of  $K_2O$  during 1973-74.

While estimating the production during 1973-74, improved performance in the modern plants has been taken into account. Besides, a capacity utilisation of only 50 per cent has been assumed for the current year—the first year of their production—for the new plants which go into production during 1973-74.

## CHAPTER II

### CONSUMPTION OF FERTILISERS

#### (A) Forms in which Fertilisers are Used

Various forms of fertilisers that had been used in India during the period under review are listed in Table 6.

The world-wide tendency of a shift to higher analysis straight and complex fertilisers was very much in evidence in India also during the period under review.

#### *Nitrogen*

Different types of fertilisers were used. Main contribution, however, came from the three straight nitrogenous fertilisers, viz., urea, calcium ammonium nitrate (CAN) and ammonium sulphate and various complex fertilisers including NPK mixtures.

The contribution of ammonium sulphate (20.6 per cent N) to total N consumption dropped from 27 per cent in 1968-69 to 9 per cent in 1972-73. There was also a drop in its absolute consumption from 1.67 to 0.77 million tonnes. Even though ammonium sulphate is very popular with farmers, its share will continue to drop further due to reduced availability in the international market. Nor is any additional indigenous production capacity expected for this grade because of its low analysis except for a small quantity as a co-product in GSFC's Caprolactum plant and F.C.I. Sindri's expansion plant.

CAN is an important source of N in certain areas but its share of total N reduced from 12 to 10 per cent. The low analysis 20.5 per cent CAN has been supplanted by 25 and 26 per cent CAN.

Urea has become the most popular and the main source of N because of its advantages arising from its high analysis. Its consumption registered a large increase during the last four years and its contribution as a source of N went up from 47 per cent in 1968-69 to 64 per cent in 1972-73. This trend will continue. With many more plants under construction, which will produce urea, its popularity will increase further.

DAP is also very popular with farmers because it supplies phosphates in addition to N but its consumption is largely conditioned by its availability



There being only one domestic producer for DAP, its contribution will depend on the quantum of imports.

The rise in the contribution of N by nitrophosphate, urea ammonium phosphate and NPK complex fertilisers from 5.5 per cent during 1968-69 to 9.7 per cent in 1972-73 is indicative of the trend towards a preference for complex fertilisers because of ease of application and lower cost per tonne of nutrient. The increased availability during 1972-73 of NPK complex fertilisers was contributed by Madras Fertilisers Limited which commenced production in October 1971.

#### *Phosphates*

Here again the trend is towards complex fertilisers in conjunction with N instead of straight phosphates. There are 7 main sources of  $P_2O_5$  in the country of which superphosphate (16 per cent  $P_2O_5$ ) supplies only  $P_2O_5$ , whereas others like DAP, nitrophosphates, urea, ammonium phosphate and NPK complex fertilisers provide  $P_2O_5$  with N, and in some cases  $K_2O$  also. The share contributed by superphosphate rose from 32 per cent in 1968-69 to 47 per cent in 1969-70 largely due to a drop in total distribution of  $P_2O_5$  and reduced imports. Thereafter, it gradually dropped to 24 per cent during 1972-73. In addition, there has been no increase in absolute consumption of superphosphates.

It is likely that with reduced imports and better capacity utilisation in future the share of superphosphates may register a temporary rise.

The consumption of DAP is largely conditioned by its availability. Its contribution to  $P_2O_5$  consumption has been rising since 1969-70 and its share in 1972-73 was 37 per cent.

The contribution of urea ammonium phosphate to total  $P_2O_5$  was 15 per cent in 1971-72. The share, however, dropped to 10 per cent in 1972-73 primarily because of increased availability of NPK complex from MFL. With the commissioning of Zuari Plant at Goa, the share of urea ammonium phosphate is likely to rise again.

Nitrophosphate and NPK complex fertilisers which contributed 14 per cent in 1968-69 increased their share to 23.2 per cent in 1972-73. The commissioning of Madras Fertilisers Ltd., efforts by FCI to popularise the use of NP and seeding programme of IFFCO were the main contributory causes for the increase in their contribution to  $P_2O_5$  use.

The contribution of ammonium phosphate sulphate to the  $P_2O_5$  consumption in the country dropped from 10 per cent in 1968-69 to 4 per cent in 1972-73. Its contribution is not likely to increase.

*Potash*

Potash is used primarily in two forms: as muriate of potash (60 per cent  $K_2O$ ) and through NPK complex fertilisers. The contribution of direct application of muriate of potash (MOP) to total  $K_2O$  consumption decreased by nearly 11 per cent during 1972-73 over the previous year with a corresponding increase by NPK complex fertilisers. This was due to increased availability of NPK complex fertilisers through increased production.

Sulphate of potash is another source of potash which is consumed mainly by plantations in India. The total quantity involved was around 4,000 tonnes during 1972-73.

With the obvious advantages NPK complex fertilisers offer in balanced fertilisation, the share of MOP will further fall with the increased availability of the former.

**(B) Consumption of Fertilisers by States**

There was a steady growth in the consumption of fertilisers in the country during the five-year period under review, though the rate of growth varied from year to year. The rate of growth, however, sharply declined during 1972-73 to 2.6 per cent with the consumption (of N+P+K) rising from 2,628 thousand tonnes in 1971-72 to 2,697 thousand tonnes. The corresponding growth rates during the previous years were much higher.

The rate of growth in 1972-73 was, no doubt, not strictly comparable to the previous years' primarily because of the extremely limited availability of fertilisers during 1972-73. It nevertheless presented a discouraging picture. Severe drought conditions in several parts of the country aggravated matters. The position might perhaps have been worse without the *rabi* crash programme intended to retrieve the loss caused to the last *kharif* crops by severe drought.

The yearwise, regionwise, Statewise<sup>@</sup> and nutrientwise details of consumption are given in Tables 7(a), 8(a) and 9(a). Nutrientwise and yearwise all-India position is briefly as follows:

Fertilisers	1968-69	1969-70	1970-71	1971-72	1972-73	1973-74*
N						
—Quantity ('000 tonnes)	1,131	1,360	1,487	1,760	1,778	2,219
—% ± over previous year	41.5	20.2	9.3	18.4	1.0	24.8
P <sub>2</sub> O <sub>5</sub>						
—Quantity ('000 tonnes)	389	419	461	564	587	814
—% ± over previous year	64.8	7.7	10.0	22.3	4.1	38.7
K <sub>2</sub> O						
—Quantity ('000 tonnes)	154	209	228	304	332	390
—% ± over previous year	19.4	35.7	9.0	33.3	9.2	17.5
N : P <sub>2</sub> O <sub>5</sub> + K <sub>2</sub> O						
—Quantity ('000 tonnes)	1,674	1,988	2,176	2,628	2,697	3,423
—% ± over previous year	43.8	18.8	9.5	20.8	2.6	26.9

\*Estimated.

@For districtwise presentation see *Fertiliser News*, September 1972, May 1973 and June 1973.

### NITROGEN

The rate of growth in consumption of 1 per cent during 1972-73 was the lowest during the five-year period under review. The sharp decline in growth rate along with the deletion from the Review period of the low base year of 1967-68 have depressed the overall growth to 57 per cent during the five-year period from 120 per cent for the comparable period, last year.

The large-scale adoption of high yielding varieties of seeds resulted in a rapid growth rate in 1968-69 of 42 per cent over the previous year, the highest growth rate during the review period. The next two years registered growths of 20 and 9 per cent indicating a period of adjustment. The consumption in 1971-72 was 18 per cent higher than the preceding year showing a welcome upswing in the growth rate. The position in 1972-73 was, however, very discouraging with an increase only of 1 per cent. The main reasons for this sharp decline in the growth rate during 1972-73 were as follows:

- (a) Extremely limited availability due to
  - (i) delay in start-up of plants like Cochin, Durgapur and Goa;
  - (ii) low capacity utilisation of some of the plants due to a variety of reasons, viz., power failure, technical problems, labour troubles, inadequate availability of raw materials, etc.; and
  - (iii) limited availability of fertilisers, high prices and high freight rates in the world market.
- (b) Severe drought conditions in Maharashtra, Gujarat, Rajasthan and parts of Tamil Nadu, Mysore, Andhra Pradesh, Uttar Pradesh, West Bengal, Punjab and Haryana.

Subject to availability of stocks, the growth rate is expected to pick up in 1973-74 to reach a level of 25 per cent. The consumption during 1973-74 is thus expected to be 2.2 million tonnes.

#### *Zonewise Consumption*

Due primarily to drought conditions in the South, Central Zone overtook South Zone to become the largest consumer of N during 1972-73. East Zone continued to be the lowest consumer.

The steady growth rate of consumption was maintained during the review period in Central, North and East zones. The rate of growth, however, varied from zone to zone and within each zone from year to

year. On the other hand, consumption in South and West zones dropped during 1972-73 due to reasons given above.

*Percentage increase in consumption of N*

Region	± Over previous year					
	1969-70	1970-71	1971-72	1972-73	1972-73 over 1969-70	1973-74*
South	18.00	(-) 2.2	9.7	(-)5.5	1.4	25.1
West	3.9	38.0	12.8	(-)7.3	44.9	34.9
Central	40.2	3.2	23.4	7.7	38.1	14.9
North	7.6	22.7	25.9	8.2	67.2	17.5
East	24.8	16.7	27.2	1.6	50.8	51.5
<b>All-India</b>	<b>20.2</b>	<b>9.3</b>	<b>18.0</b>	<b>1.0</b>	<b>30.7</b>	<b>24.8</b>

\*Estimated.

*South Zone*

Overall increase during the review period was 20 per cent. The consumption increased during 1969-70 and 1971-72 with a setback during 1970-71 and again in 1972-73. The position during 1973-74 is expected to be encouraging with an estimated growth rate of 25 per cent.

*West Zone*

Beginning with 4 per cent growth rate in 1969-70, it reached the highest level of 38 per cent during 1970-71. The growth rate dropped to 28 per cent during 1971-72 and the year 1972-73 witnessed for the first time a drop in consumption below the previous year's level by 7.3 per cent. This resulted in the increase over the review period dropping to 51 per cent as against the corresponding figure of 63 per cent recorded in the last year's review. The demand, however, remains buoyant and the growth rate during 1973-74 is expected to increase to 35 per cent.

*Central Zone*

The highest increase in growth rate of 40 per cent was recorded during 1969-70. It dropped in 1970-71 to only 3 per cent, picked up in 1971-72 to a level of 23 per cent and was only 7.7 per cent during 1972-73 resulting in an overall increase of 94 per cent during the review period—the highest growth rate among zones. The growth is likely to pick up again in 1973-74 with a growth rate of 15 per cent.

*North Zone*

The consumption continued to rise over the entire period but the growth rate after showing an increasing trend upto 1971-72 dropped to 8 per cent during 1972-73. It is likely to rise to 18 per cent during 1973-74. The overall increase in consumption during the review period was 80 per cent.

*East Zone*

The growth rate after a steady increase by 25, 17 and 27 per cent during the years 1969-70 to 1971-72 respectively, declined sharply to 2 per cent during 1972-73. This depressed the overall increase in consumption during the review period to 88 per cent as against 137 per cent recorded in the last year's review.

The zonewise consumption of N as a percentage share of the all-India consumption underwent several changes during the review period. Major shift was in respect of South and Central zones. Share of South Zone dropped from 38 per cent in 1968-69 to 29 per cent in 1972-73 and that of Central Zone increased from 23 per cent in 1968-69 to 29 per cent in 1972-73. West maintained its share at 13 per cent, North increased by 3 per cent to 19 per cent and East improved from 9 to 11 per cent.

**Statewise Consumption***South Zone*

*Andhra Pradesh* : The growth rate in 1968-69 at 100 per cent over the previous year was most encouraging. It, however, dropped to 9 per cent in the following year. The position since then has been very discouraging with the consumption declining annually by 14 per cent, 6 per cent and 9 per cent respectively during the subsequent three years. The consumption of 179 thousand tonnes in 1972-73 was the lowest during the review period.

Apart from reasons given earlier in the review, unstable political situation in the State during most part of the year contributed to the unsatisfactory consumption in 1972-73.

*Kerala* : Except for the temporary setback in 1970-71 when the consumption dropped by 13 per cent over the previous year, growth rate had been steady. Overall increase in consumption during the review period was 18 per cent and the increase during 1972-73 over the previous year was 7 per cent.

*Mysore* : There was a steady growth in consumption during the review period. The growth rate of 26 per cent in 1968-69 was followed by 7, 5 and 9 per cent respectively during the subsequent years.

Compared to the overall drop in consumption by 6 per cent in the South Zone during 1972-73, Mysore's performance was not unsatisfactory. Adequate availability of supplies would have improved the position still further.

*Tamil Nadu* : This State had the poorest performance in the zone with a decline in consumption by 13 per cent during 1972-73 over the previous year. With the steady increase in consumption during 1968-69 to 1971-72, the year 1972-73 also would have witnessed a sizeable growth rate if availability of fertiliser was adequate. Prospects for growth in consumption during 1973-74 are, however, bright.

#### *West Zone*

*Gujarat* : The highest growth rate of 63 per cent was recorded during 1970-71. This was preceded during 1969-70 by a drop in consumption by 3 per cent and was succeeded during 1971-72 by an increase in consumption by 8 per cent. The growth was suddenly arrested during 1972-73 on account primarily of drought conditions during both *kharif* and *rabi* seasons and also because of inadequate availability of fertilisers. The consumption is expected to pick up again during 1973-74.

*Maharashtra* : After registering a steady growth rate of 8, 21 and 17 per cent during 1969-70, 1970-71 and 1971-72 respectively, over the previous years, there was a drop in consumption during 1972-73 by 12 per cent. Intensive cotton and oil seeds development programmes helped to stimulate demand in 1971-72 but this could not be sustained during 1972-73 due to severe drought conditions and inadequate availability of fertilisers. The potential being high, consumption is likely to show sizeable growth provided there are favourable climatic conditions and fertiliser availability is adequate.

#### *Central Zone*

*Madhya Pradesh* : The overall rate of growth of 338 per cent during the review period was the maximum registered by any State in India. The

starting base of 21 thousand tonnes in 1968-69 was no doubt low but the overall achievement has been remarkable. Maintaining a steady growth rate in consumption, the State overtook Rajasthan in 1969-70 and in 1972-73 the consumption was twice as much as that of Rajasthan. The growth rate of 16 per cent for 1972-73 over the previous year was the maximum achieved in the year by any State in India.

Active and extensive promotional work undertaken by the Government and the industry helped promote the growth. Additional factors were increase in area under HYV, multiple cropping, foliar spray of urea and special crops schemes.

*Rajasthan* : Maintaining a steady growth rate of 20 to 30 per cent the consumption increased by 117 per cent during the period 1968-69 to 1971-72. The trend, however, reversed in 1972-73 registering a drop in consumption by 4 per cent over 1971-72.

Limited availability of fertilisers and severe drought conditions in the State contributed to the reversal in the consumption trend during 1972-73.

*Uttar Pradesh* : The State continued to be the largest nitrogen consuming State in the country accounting for about 21 per cent of the all-India consumption. Except for a temporary setback in 1970-71, a steady growth rate was maintained during the review period. The growth rate during 1972-73 was 8 per cent and that over the entire review period was 70 per cent. Crash *rabi* programme involving additional land under cultivation, increased area under HYV crops, foliar spray of urea and comparatively better fertiliser availability helped the State to continue to show growth in consumption.

#### *North Zone*

*Haryana* : The consumption recorded consistent growth during the review period. After achieving the highest growth rate of 36 per cent in 1970-71 over the previous year, the annual increase in consumption reduced to 19 per cent and 13 per cent respectively during 1971-72 and 1972-73. The increase by 13 per cent during 1972-73 despite overall shortage of preferred fertilisers was encouraging. The overall increase during the review period was 107 per cent. The consumption is expected to continue to grow in the coming years.

Increased acreage under HYV paddy and cotton, better irrigation facilities, State Government's active interest in fertiliser distribution/



introduction of crop loan system and incentive schemes continued to help the State to maintain a steady rate of growth.

*Punjab* : A slight slowing down in the rate of growth during 1969-70 was followed by an upsurge during 1971-72 when consumption rose by 29 per cent. This was due to quick adoption of HYV in 1967-68 of paddy in addition to wheat. Similar growth rate in fertiliser consumption was expected to continue during the subsequent years but on account of shortages in fertiliser availability, it dropped to 4.4 per cent during 1972-73 compared to the previous year.

There has been no significant development in other States in the Zone, i.e., Himachal Pradesh and J. & K.

#### *East Zone*

*Assam* : The consumption dropped by 25 per cent during 1969-70, picked up again by 66 per cent during 1970-71 and remained stationary through 1971-72. It increased again during 1972-73 to record a growth of 40 per cent due mainly to extension of area under HYV crops by about 85 per cent over the previous year. The rising trend is now expected to continue.

The consumption in absolute terms is low partly because of good fertility status of soils due to silt deposition by floods and transport bottlenecks. Aggressive extension and promotional measures can, however, boost consumption.

*Bihar* : There was a consistent increase in consumption during the review period resulting in an overall growth of 82 per cent. Increase in areas under HYV wheat, improvements in the marketing and credit arrangements and introduction of crop loans were some of the factors which helped consistent growth in consumption. The growth rate, however, declined to one per cent during 1972-73—the lowest during the five-year period—because of serious shortages of fertilisers.

*Orissa* : The growth in consumption was continuous, though the rate of growth was uneven. After registering a gradual growth rate of 20 and 11 per cent during 1969-70 and 1970-71, respectively, the consumption received a big fillip during 1971-72 to record a rise of 85 per cent. The limited availability of fertilisers, however, brought down the growth rate to 8 per cent. The overall growth during the five-year period was 167 per cent.

*West Bengal* : The consumption showed a continuous growth upto 1971-72 but the year 1972-73 recorded a drop of 7 per cent due to very

limited availability of fertilisers. The consistent growth in the past was due to extension of area under HYV wheat and rice.

The overall increase during the five-year review period was 62 per cent.

#### PHOSPHATES

The growth rate of  $P_2O_5$  consumption followed nearly the same pattern as that of N. The growth rate of 65 per cent during 1968-69 was the highest during the review period. It dropped to 8 and 10 per cent, respectively, during the two subsequent years, but rose to 22 per cent during 1971-72. The year 1972-73 witnessed a sharp decline in the growth rate to 4.1 per cent—the lowest recorded during the review period for the same reasons as for N, i.e., drought in many parts of the country and poor availability. With better product availability during 1973-74, the consumption of  $P_2O_5$  is expected to rise by 39 per cent.

#### Percentage increase in consumption of $P_2O_5$

Region	± Over previous year					
	1969-70	1970-71	1971-72	1972-73	1972-73 over 1969-70	1973-74*
South	(—) 0.6	5.1	22.9	9.3	41.1	32.2
West	14.8	50.0	22.9	(—)28.7	31.4	81.5
Central	31.5	(—) 8.3	13.5	14.3	19.0	42.4
North	(—)34.1	51.8	53.6	28.6	200.0	(—) 3.7
East	22.2	13.6	18.4	14.3	9.0	43.8
<b>All-India</b>	<b>7.9</b>	<b>10.0</b>	<b>22.8</b>	<b>4.1</b>	<b>39.8</b>	<b>38.7</b>

\* Estimated.

#### South Zone

South Zone continued to be the largest consumer of  $P_2O_5$  with its share during the review period ranging from 41 to 36 per cent of all-India consumption. The share in 1972-73 was 38 per cent. The next in line,

Central Zone, had a share of 25 per cent in 1972-73. This long lead of South is largely historical because of the sustained promotional efforts of the superphosphate industry which was first established in this zone.

The pattern of growth was, however, very uneven with wide fluctuations from year to year. The increase of 121 per cent during 1968-69 was followed by a marginal drop during the following year. This was by a growth rate of 5 and 23 per cent during 1970-71 and 1971-72 respectively. The 1972-73 was another lean year when the growth rate dropped to 9 per cent. This depressed the overall increase during the five-year review period from 185 per cent reported in the last year's review to 40 per cent. The future prospects are, however, indicated to be encouraging and the growth rate during 1973-74 is expected to be 32 per cent.

#### *West Zone*

West Zone on the other hand started with a drop in consumption by 14 per cent during 1968-69. The trend reversed in the three subsequent years and consumption rose by 15, 50 and 23 per cent, respectively. Severe drought conditions prevailing in Maharashtra and Gujarat during 1972-73 resulted in a drop of consumption by 29 per cent. The pattern of variation in consumption during the review period was in line with that of N.

West was the third largest consuming zone upto 1970-71 but it overtook Central Zone during 1971-72 to become the second largest. The position changed in 1972-73 and it reverted to its third position. The setback during 1972-73 is expected to be temporary with an estimated growth rate of 81 per cent during 1973-74.

#### *Central Zone*

Central Zone had a different consumption pattern. A very large increase of 96 per cent during 1968-69 was followed by another reasonable increase of 32 per cent during 1969-70. This was followed by a drop of 8 per cent during 1970-71 and an increase of 13 and 14 per cent during 1971-72 and 1972-73 respectively. The overall increase during the review period was 56 per cent.

After leading West Zone upto 1970-71, Central Zone slipped to third position during 1971-72. It regained its second position during 1972-73 leading the West Zone by 52,000 tonnes. Consumption is likely to rise by another 42 per cent during 1973-74.

#### *North Zone*

North Zone began well with 58 per cent increase during 1968-69, but this trend was short-lived and the year 1969-70 witnessed a drop in

consumption by 34 per cent. Consumption picked up during the following two years by 52 and 54 per cent respectively. The growth rate at 29 per cent during 1972-73 was more modest.

North Zone continued to be a small consumer of  $P_2O_5$ , despite being a large consumer of N. There is, therefore, a considerable imbalance in the consumption of various nutrients. The highest growth rate of 98 per cent recorded during the review period is, therefore, welcome and understandable because of the growing realisation of the need to restore  $P_2O_5$  to the soil which was being depleted rapidly due to the intensive cultivation of HYV crops. Every effort is being made both at Governmental and industry levels to correct the wide imbalance in fertiliser use.

#### *East Zone*

Except for a drop in consumption of 11 per cent during 1970-71, a steady growth was witnessed during the review period. It was, however, the lowest consumer of  $P_2O_5$ . The consumption is likely to grow rapidly in future. The rate of growth during 1973-74 is expected to be 44 per cent.

### **Statewise Consumption**

#### *South Zone*

*Andhra Pradesh* : The highest growth rate during the review period of 276 per cent was recorded in 1968-69. This rate of consumption could not be sustained and during the following two years consumption dropped by 20 and 7 per cent respectively. The trend changed in 1971-72 with a rise in consumption of 25 per cent followed by a marginal drop in 1972-73. The performance during 1971-72 and 1972-73 was commendable particularly when there was a drop in N consumption by 6 and 9 per cent during the two years respectively. This was achieved through aggressive marketing and extension work to popularise N P K complex fertilisers. The upward trend in consumption is likely to continue.

*Kerala* : The pattern of consumption was uneven. Beginning with 120 per cent increase during 1968-69, the growth rate dropped to 20 per cent in the following year. Consumption slumped by 66 per cent during 1970-71 and registered only a marginal increase in 1971-72 to reach the 1967-68 consumption level. The increase picked up faster during 1972-73 and a growth of 37 per cent. The reasons for sharper increase in consumption were the same as mentioned under Andhra Pradesh.

*Mysore:* There was a steady growth in consumption during the review period. The consumption rose by 20 and 25 per cent during 1969-70 and 1970-71, respectively. The growth rate dropped to 14 per cent during 1971-72 and rose again to 33 per cent during 1972-73. The year 1973-74 is likely to be a year of adjustment and the growth rate is not likely to be more than 8 to 10 per cent. The overall increase during the review period was 124 per cent. The growth could be much higher if farmers were fully convinced of the benefits of fertiliser and used recommended doses. Their hesitation stemmed from rain-fed conditions prevailing in over 75 per cent of the State's area.

*Tamil Nadu:* The growth rate of 255 per cent during the review period was the highest recorded among the South Zone States. After consuming 20,000 tonnes each during 1968-69 and 1969-70, the consumption rose sharply during 1970-71 recording an increase of 170 per cent. The growth during 1971-72 was 31 per cent and the consumption remained stationary at 71,000 tonnes during the following year, 1972-73.

The increase in consumption was due to intensive promotional work done by manufacturers in the zone for balanced fertilisation for intensive cultivation including triple cropping in areas of assured irrigation. Farmers are now convinced of the benefits of using standard mixtures and complex fertilisers.

#### *West Zone*

*Gujarat:* There was a steady growth in consumption upto 1971-72 registering an annual increase of 56, 37 and 15 per cent respectively during 1969-70 to 1971-72. This was followed during 1972-73 by a drop in consumption of 11 per cent due to drought. The overall increase upto 1971-72 was 144 per cent but with a drop in 1972-73, the overall position slumped to 116 per cent.

*Maharashtra:* The highest rate of growth of 70 per cent was registered during 1970-71 and the highest consumption level at 67,000 tonnes was achieved during 1971-72. The achievement during 1971-72 was the result of promotional efforts of manufacturers to popularise balanced fertilisation, larger coverage under improved local varieties of maize and an assured and timely availability of  $P_2O_5$  in various forms.

The consumption at 37,000 tonnes during 1972-73 fell back nearly to the consumption level of 1968-69 due to severe drought conditions prevailing in the State.

#### Central Zone

*Madhya Pradesh:* Following pattern of consumption of N, there was a steady growth in consumption of  $P_2O_5$  also over the review period of 388 per cent. The review period began with a high growth rate of 75 and 79 per cent during 1969-70 and 1970-71 respectively primarily because of a very low consumption of 8,000 tonnes during the base year. The growth rate slowed down to 36 and 15 per cent during 1971-72 and 1972-73 respectively.

The growth was mainly due to very active promotional work by the State extension agencies and domestic manufacturers and other factors enumerated under Nitrogen.

*Rajasthan:* The consumption level was low. The growth rate, however, gradually rose from 33 per cent in 1969-70 to 45 per cent during 1971-72 due to extensive promotional efforts by the State Government and domestic manufacturers in an endeavour to find an outlet for their indigenous production.

The consumption during 1972-73 dropped by 45 per cent on account of unfavourable climatic conditions. The position is, however, likely to revive during 1973-74 to record a sizeable growth.

*Uttar Pradesh:* As in the case of N, the consumption of  $P_2O_5$  in U.P. was the highest of all States in the country and contrary to conditions prevailing in several other States, the consumption of  $P_2O_5$  rose by 25 per cent during 1972-73. Active extension and promotional work appears to be picking up in the State.

#### North Zone

*Haryana:* The 1972-73 consumption of  $P_2O_5$  at 8,000 tonnes, which was the highest during the review period was low compared to N consumption of 83,000 tonnes during the same year. The overall growth of 60 per cent during the five-year period was also out of line with N growth of 107 per cent during the same period. Non-availability of DAP as a source of  $P_2O_5$  was considered to be one of the reasons for slower pick up in demand. Intensive promotional measures to popularise the use of superphosphate and complex fertilisers as additional source of  $P_2O_5$  will be necessary.

*Punjab:* Except for a temporary setback during 1969-70, when the consumption dropped by 34 per cent, there was an encouraging growth in consumption. The growth rate during 1970-71 to 1972-73 was 48, 71 and 30 per cent respectively. Compared to only 4 per cent rise in N

consumption during 1972-73, the rate of growth of  $P_2O_5$  is commendable. There is, however, still need for promotional efforts to further popularise consumption of  $P_2O_5$  as it is low by comparison with N.

*Himachal Pradesh* : The consumption of  $P_2O_5$  was constant during the years 1968-69 and 1969-70 at 1,000 tonnes. This was followed by a 100 per cent increase during 1970-71 primarily because of Indo-German Agricultural Development programme, IADP and other promotional measures adopted by the State Government. Consumption, however, remained stationary at 2,000 tonnes during 1971-72 and 1972-73.

*Jammu & Kashmir* : The consumption of  $P_2O_5$  during 1968-69 was 3,000 tonnes. It dropped by 66 per cent during 1969-70 and remained stationary at 1,000 tonnes during the next two years. The growth rate during 1972-73 was 100 per cent and is still lower than 1968-69.

#### *East Zone*

*Assam* : The offtake of  $P_2O_5$  was very low largely because of only a small area under cultivation for HYV crops, lack of local availability and the indifferent attitude of domestic manufacturers in other States to market  $P_2O_5$  in these areas because of high transport cost.

*Bihar* : The pattern of consumption was erratic. Whereas the growth of N consumption was very consistent, the consumption of  $P_2O_5$  increased by 93 per cent during 1969-70 and dropped by 35 and 22 per cent respectively during the two subsequent years. The overall increase in consumption during the review period was 34 per cent. The poor rate of growth in the past was primarily due to lack of effective extension and promotional efforts in the State. The position, however, appears to have changed with an increase in consumption by 36 per cent during 1972-73.

*Orissa* : The pattern of consumption was steadier than in Bihar. Except for a temporary setback during 1969-70, when there was a drop in consumption by 20 per cent, there was a consistent rise in consumption during the subsequent years resulting in an overall increase of 100 per cent. The level of consumption is low because of lack of awareness of benefits of balanced fertilisation due to poor promotional efforts.

*West Bengal* : Except for a temporary setback during 1969-70, when the consumption dropped by 21 per cent, there was an increase in consumption by 9 and 50 per cent respectively during the two subsequent years. There was again a drop in consumption by 11 per cent during 1972-73. Limited availability of N during 1972-73 had an impact on  $P_2O_5$  consumption. In addition, Aman paddy which covered 80 per cent of the cultivated areas, was not considered responsive to phosphate application.

**POTASH**

All-India consumption of  $K_2O$  during the five years review period went up from 156,000 tonnes to 332,000 tonnes recording an overall increase of 113 per cent. This growth rate was nearly twice as much as that of N or  $P_2O_5$  indicating a positive trend towards correction of imbalance in  $K_2O$  use. This trend is likely to continue during the following years.

There was a continuing growth in  $K_2O$  consumption during the review period in line with N and  $P_2O_5$ . The rate of growth during 1972-73 at 9 per cent was no doubt the lowest during the review period but it was far higher than that recorded by N or  $P_2O_5$  as availability was not as much of a constraint as for N & P.

All-India growth represented a pattern of peak and trough in alternate years. The peak represented 36 and 33 per cent during 1969-70 and 1971-72 respectively and the trough represented 9 per cent during each of the remaining two years, 1970-71 and 1972-73.

*Zonewise Consumption*

Zonewise share of consumption underwent several changes during the review period. Whereas South Zone continued to maintain its lead at 45 per cent, shares of West and East zones rose from 6 and 11 per cent in 1968-69 to 18 and 13 per cent in 1972-73, with drop in Central Zone from 30 to 18 and in North from 9 to 7 per cent.

*Percentage increase in consumption of  $K_2O$* 

Region	± Over previous year					
	1969-70	1970-71	1971-72	1972-73	1972-73 over 1969-70	1973-74*
South	18.9	22.0	34.0	9.6	80.5	14.9
West	210.0	35.0	21.4	15.7	90.3	5.0
Central	33.3 (-)	15.0	31.4	10.5	—	33.3
North	(-) 42.9	25.0	60.0	37.5	175.0	18.2
East	66.1 (-)	10.7	40.0	20.0	50.0	23.8
<b>All-India</b>	<b>35.7</b>	<b>9.1</b>	<b>32.9</b>	<b>9.2</b>	<b>58.9</b>	<b>17.5</b>

\* Estimated.



*South Zone*

South Zone was the largest consumer with 45 per cent of all-India consumption during 1972-73. This is largely because of the traditionally more intensive promotional work carried out by Indian Potash Limited in the area in the past.

Except for a setback during 1972-73 with a growth rate of only 10 per cent, there was a consistent trend of high growth rate of increasing from 19 per cent during 1969-70 to 34 per cent during 1971-72. This resulted in an overall increase in consumption of 111 per cent.

*West Zone*

There was a consistent growth in consumption resulting in an overall increase during the review period of 490 per cent. This figure looks very impressive because of the very low base of 1968-69 when the consumption suddenly dropped by 77 per cent to 10,000 tonnes. The unusually high rate of growth of 210 per cent during 1969-70 has also to be viewed in the same context for a proper appreciation of the situation.

The fairly rapid growth brought the consumption during 1972-73 nearly at par with Central Zone which began the review period with four times the consumption of West Zone.

*Central Zone*

With a phenomenal increase of 225 per cent in consumption during 1968-69, the Central Zone overtook West Zone to become the second largest consumer. It has maintained its position ever since. The rate of growth has, however, been erratic resulting in an overall increase of only 33 per cent which is the lowest among the zones.

The growth rate during 1973-74 is expected to rise again to 33 per cent, the levels achieved during 1969-70 and 1971-72.

*North Zone*

The K<sub>2</sub>O consumption compared to that of N is very small indicating a serious imbalance in fertiliser use. The position has rather worsened over the review period with its all-India share dropping by 2 per cent. The share of N, on the other hand, has increased by 2 per cent. There appear to be no prospects of a sharp increase in consumption in the near future.

Statistically, there was a consistent growth in consumption except for a temporary setback during 1969-70 with the resultant overall increase during the review period of 57 per cent.

*East Zone*

There were violent fluctuations in consumption during the review period. An increase of 65 per cent during 1969-70 was followed next year by a drop of 11 per cent. The trend changed during 1971-72 with 40 per cent increase which was followed during 1972-73 with 50 per cent drop in the rate of growth to 20 per cent. The overall increase in consumption was 147 per cent.

East Zone improved its all-India share by 2 per cent in line with a similar increase in the share of N consumption.

**Statewise Consumption***South Zone*

*Andhra Pradesh* : The pattern of consumption was uneven. Recording an increase of 533 per cent during 1968-69, the consumption dropped by 33 per cent during the following year. The trend changed from next year with an increase of 33 per cent and 53 per cent during the years 1970-71 and 1971-72 respectively. The year 1972-73 again witnessed a setback with a drop in consumption by 11 per cent, due to drought and political instability in the State.

The overall increase in consumption during the review period at only 26 per cent was very unsatisfactory.

*Kerala* : The review period began with 31 per cent increase in consumption during 1969-70, which reverted next year to the 1968-69 tonnage of 16,000. The rate of growth during 1971-72 and 1972-73 was 12 and 5 per cent, respectively. The overall increase in consumption was 19 per cent indicating a poor performance. The position was no different in the case of N.

*Mysore* : With the consistent growth in consumption, the overall increase registered during the review period was 254 per cent—a performance far better than that of the South Zone as a whole.

*Tamil Nadu* : Here again, the growth was consistent resulting in an overall increase in consumption of 166 per cent. Contrary to N, there was an increase in consumption even during 1972-73. Tamil Nadu continued to be the highest consuming State in the country.

*West Zone*

*Gujarat* : Remaining stationary at 4,000 tonnes during 1968-69 and 1969-70 the consumption increased by 50, 17 and 55 per cent respectively

during the years 1970-71 to 1972-73. The overall increase in consumption was 175 per cent.

The consumption of  $K_2O$  was exceedingly low when compared to N and  $P_2O_5$ . Further promotional efforts will be necessary to remove the general belief in the area that the soil needs no potash.

*Maharashtra* : The consumption increased rapidly resulting in an overall growth of 700 per cent. Despite severe drought conditions and limited availability of N,  $K_2O$  consumption showed an increase of 9 per cent even during 1972-73.

Acceptance by farmers of the benefits of balanced fertilisation accounts for this growth in consumption.

#### *Central Zone*

*Madhya Pradesh* : The consistent increase in consumption resulted in an overall growth of 300 per cent during the review period, but the absolute consumption continued to be very low. The promotional works by State government and domestic manufacturers account for the satisfactory growth in consumption. The growth rate during 1972-73 was 33 per cent.

*Uttar Pradesh* : The pattern alternated each year with high and low consumption. The increase of 31 per cent during 1969-70 was followed next year by a drop in consumption of 18 per cent. There was again an increase of 25 per cent during 1971-72 followed by a drop of 13 per cent during 1972-73. The overall increase was barely 17 per cent. The trend of consumption during 1972-73 was discouraging especially when N showed an increase of 8 per cent during the year.

U.P. continued to be the second highest consumer of  $K_2O$  in the country.

In Rajasthan, the consumption of potash did not show any spectacular rise during the period under review.

#### *North Zone*

*Punjab* : It was the only State in the zone with an worthwhile consumption of  $K_2O$ . Even here, the pattern of consumption was erratic with a drop during 1969-70 of 45 per cent and increases during 1970-71 to 1972-73 of 17, 71 and 50 per cent, respectively. The overall increase during the review period was 64 per cent. This increase was gratifying in the face of the earlier belief that the soils in the area needed no potash. The increase is largely due to the gradual realisation that potash deficiency was in fact adversely affecting certain crops.

In Haryana, Himachal Pradesh and Jammu & Kashmir, the consumption was too small to call for any comments.

*East Zone*

*Bihar:* The consumption pattern was uneven with 225 per cent increase during 1969-70, 46 per cent drop during 1970-71, no change during 1971-72 and an increase again during 1972-73 of 55 per cent. The overall increase during the review period was 175 per cent, but in absolute terms the consumption remained very low. Lack of realisation of the benefits of  $K_2O$  fertilisation was the cause for low consumption.

*West Bengal:* The consistent increase in consumption resulted in an overall growth of 228 per cent. The high rate of growth would not look that impressive when viewed in the light of low base figure of 7,000 tonnes during 1968-69. The consistent increase, however, indicated a healthy trend. The steady increase in consumption was due to the use of  $K_2O$  in cash crops like potato and HYV paddy.

**(c) Consumption Comparison with other Countries**

India is the seventh largest fertiliser consuming country in the world. The position nutrientwise, however, is not uniform. Whereas it ranks fourth in the world in respect of N consumption, the position drops to 10th and 9th for  $P_2O_5$  and  $K_2O$  respectively.

India consumed 3.7 per cent of the total world consumption during 1971-72. Corresponding figures for 1969-70 and 1970-71 were 3.2 and 3.3 respectively.

*Countrywise ranking in fertiliser consumption (1971-72)*

Ranking	N	$P_2O_5$	$K_2O$	Total
				(N+ $P_2O_5$ + $K_2O$ )
1.	U.S.A. (7,358.3)	U.S.A. (4,327.9)	U.S.A. (3,917.6)	U.S.A. (15,603.8)
2.	U.S.S.R. (5,182.0)	U.S.S.R. (3,376.0)	U.S.S.R. (2,804.0)	U.S.S.R. (11,362.0)
3.	China Mainland (3,176.0)	France (1,960.5)	France (1,503.1)	France (4,938.7)
4.	India (1,760.3)	Germany West (934.9)	Poland (1,262.6)	China Mainland (4,121.1)
5.		China Mainland (871.0)	Germany West (1,233.5)	Germany West (3,299.5)
6.		Australia (776.3)	Germany East (638.8)	Poland (2,888.3)
7.		Poland (1,718.6)	Japan (577.0)	India (2,629.1)
8.		Japan (661.4)	U.K. (520.3)	
9.		Italy (574.7)	India (304.1)	
10.		India (564.7)		
<b>World</b>	<b>33,504.7</b>	<b>22,214.9</b>	<b>17,469.2</b>	<b>73,188.8</b>

Figures in brackets denote consumption in '000 tonnes.

The rate of growth of fertiliser consumption in India during the years 1969-70 to 1971-72 was higher than the world average. It was also ahead of the average for the developing as well as developed countries. Compared to individual countries both in the Western and in the Eastern hemisphere, the rate of growth in India was quite encouraging. Philippines was the only country in the East which showed a higher growth rate during 1969-70. The following comparison will be of interest:

*Countrywise annual growth rate of fertiliser consumption*  
(N + P<sub>2</sub>O<sub>5</sub> + K<sub>2</sub>O) (1969-70 to 1971-72)

Country	(Percentage)		
	1969-70	1970-71	1971-72
India	18.8	9.4	20.8
Egypt	6.1	(-)0.5	15.4
Philippines	36.8	11.4	(-)8.5
Japan	(-)1.6	(-)5.0	(-)10.0
Korea Republic of	11.7	5.4	11.5
The Netherlands	8.4	5.7	(-)7.7
U.S.S.R.	8.9	17.0	20.9
U.S.A.	2.9	5.8	1.9
Canada	0.8	6.6	10.0
China Mainland	12.0	19.6	15.4
Australia	5.8	11.5	0.7
France	4.0	10.2	6.6
West Germany	10.1	5.6	2.1
Italy	6.2	8.7	8.4
Developing countries	14.9	11.8	14.7
Developed countries	4.7	7.5	7.1
<b>World</b>	<b>11.1</b>	<b>8.5</b>	<b>7.7</b>

### CHAPTER III

## PLANT NUTRIENTS CONSUMPTION PER UNIT AREA AND RATIO OF CONSUMPTION

### (A) Plant Nutrients Consumption

Data on consumption of plant nutrients (N + P<sub>2</sub>O<sub>5</sub> + K<sub>2</sub>O) per hectare of agricultural land in the country for a period of six years (1967-68 to 1972-73) and estimates for 1973-74 are presented in Table 11.

The consumption of plant nutrients per hectare has increased progressively and has more than doubled in the last six years, from 6.7 to 14.9 kg/ha. However, the growth rate had been very erratic, not following any definite trend. Nor has it kept pace with the estimates. As against the estimated consumption of 17.6 kg/ha of N + P<sub>2</sub>O<sub>5</sub> + K<sub>2</sub>O in 1972-73, the actual consumption is much lower (14.9 kg/ha) and is only 0.4 kg/ha more than the preceding year. This has happened primarily due to the acute shortfall in availability both from domestic sources and from imports during the year under review. The monsoon also played the truant in many parts of the country resulting in a severe drought in States like Rajasthan, Gujarat, Maharashtra and Andhra Pradesh. This depressed considerably the consumption of fertilisers in the country.

In general, there has been considerable increase in per hectare consumption of plant nutrients over the consumption rate since the mid-sixties. The agricultural development programmes launched during the early and mid sixties (IADP, IAAP, HYVP, etc.) appear to have been the main contributory factors for this increase. This is very apparent in IADP districts and in the States having large areas under HYVs. A massive promotional programme undertaken by the Government agencies and the fertiliser manufacturers, and the easier availability of fertilisers in almost every corner of the country through the domestic sources and Pool distribution are the primary contributing factors for the increase in consumption of plant nutrients per unit area.

It is estimated that the consumption of plant nutrients will increase by 28 per cent in 1973-74 over the year under review.

Despite this increase, India ranks perhaps the lowest in consumption of plant nutrients per unit area, as compared to the agriculturally developed countries of the world, (Ref. Table 17) and so is our productivity per

unit of area of land. To meet our growing agricultural needs, we have to raise our agricultural productivity involving greater use of plant nutrients. The rate of consumption in other countries is a measure of the leeway that we have yet to make.

There is considerable disparity in consumption of plant nutrients per hectare of agricultural land between different Zones and States of the country (Table 12 and Illustration III).

#### *North Zone*

North Zone comprising the States of Punjab, Haryana, Himachal Pradesh and Jammu and Kashmir ranks first amongst all the zones in the country. Consumption of NPK in this zone is twice the all-India average in both the years (1971-72 and 1972-73). Comparatively large areas under assured irrigation (52 per cent of total cultivated area) and coverage of larger areas under high yielding varieties and multiple cropping are the main contributing factors for the increase in consumption of plant nutrients per hectare in this zone. Other contributory factors are the increasing cultivation of HYV rice in *kharif* season in Haryana and Punjab and HYV wheat in *rabi* season in Jammu and Kashmir and the general fertiliser consciousness among farmers as a result of excellent extension and promotional activities by the agricultural universities in the region, particularly in Punjab and Haryana. However, the disproportionately increased use of nitrogen resulting in considerable imbalanced fertilisation in this Zone is very striking.

#### *South Zone*

Consumption of N, P<sub>2</sub>O<sub>5</sub> and K<sub>2</sub>O appears to be well balanced in the South Zone, which ranks second amongst the zones in consumption of plant nutrients per hectare. This Zone leads in respect of phosphate and potash consumption. Widespread deficiencies of phosphate and potash, cultivation of commercial and plantation crops, high consumption of complex fertilisers, promotional efforts of the industry in making balanced fertilisers popular account mainly for the increased use of phosphate and potash in this region. Plant nutrients consumption in all the States of the region except Tamil Nadu and Andhra Pradesh increased in 1972-73 over 1971-72. The Union Territory of Pondicherry recorded the highest consumption (eight times the all-India average) not only in the region but also in the country. Cultivation of HYV paddy on a growing scale in all the seasons of the year and intensive fertilisation of plantation crops like arecanut, coconut, etc. would explain this increase.



*West Zone*

Plant nutrients consumption per unit area has decreased in all the States of the West Zone during the year under review over the preceding year. This drop is mainly due to the severe drought conditions which prevailed during the year under review in the region. The zone grows predominantly *kharif* crops and stands third in plant nutrients consumption per hectare despite the fact that only 9 per cent of the total area is irrigated in this zone, the rest being totally dependent on south-west monsoon. Consumption of NPK in this Zone is lower than the all-India average; however the level of consumption achieved is much better than that obtained in the eastern and central regions.

*Central Zone*

The Central Zone ranks fourth in plant nutrients consumption and the total consumption is lower than the all-India average. There has been an increase in consumption level by 8 per cent over the preceding year. Consumption rate varies widely amongst the States, Delhi and Uttar Pradesh being above ( $1\frac{1}{2}$  times) all-India level in 1972-73. This is mainly due to higher percentage of area under irrigation in these areas. Application of nitrogen predominates fertiliser use resulting in considerable imbalance in the use of plant nutrients. Vegetable cultivation in Delhi territory and predominant use of nitrogen for HYVs in Delhi and U.P. mainly account for this imbalance. The States of Madhya Pradesh and Rajasthan have a very low level of plant nutrients consumption. Due to severe drought conditions last year, there has been a drop in consumption in Rajasthan in 1972-73 over 1971-72 and only a marginal increase in Madhya Pradesh. The comparatively low level of consumption in Rajasthan may be due to averaging the consumption figures for the whole State in which considerable areas are arid lands growing fodder crops which are rarely fertilised. However, the situation in M.P. is very anomalous. More than one-third area of the State receives assured rainfall from the south-west monsoons and about 8 per cent is irrigated and yet the consumption is less. This may be ascribed mainly to lack of promotional efforts, difficulties in distribution of fertilisers, problems of transport, etc.

*East Zone*

The East Zone comprising three Union territories and four States has a very low level of plant nutrient consumption per hectare of agricultural land. The consumption in the region as a whole has increased only marginally by 3 per cent in 1972-73 over 1971-72 and the level of consumption is slightly more than 50 per cent of the all-India average. Such a low level of consumption is anomalous in a region with nearly 24 per cent of

irrigated area and good to heavy rainfall. There is also an imbalance in consumption of nutrients, phosphate and potash consumption being very low in all the States of this region. Floods, droughts and cyclonic storms in Orissa, floods in West Bengal and Assam, poor promotional activities, problems of fertiliser movement and slow growth of HYVP are some of the reasons for the very low level of consumption of plant nutrients in this region. There has been considerable increase in consumption level in West Bengal and Tripura and a marginal increase in all the other States except Manipur where a considerable decrease is noticed. It is estimated that cultivation of summer paddy under multiple cropping programme and cultivation of HYV wheat, a practice which is becoming popular in irrigated areas of the eastern region, particularly in West Bengal, may improve the situation further.

**(B) Ratio of Plant Nutrient Consumption**

Data on ratio of plant nutrient consumption in the country for the last six years (1967-68 to 1972-73) and estimates for 1973-74 are given in Table 13. A perusal of the data reveals that there has not been any significant change in the ratios of NPK consumption in the country despite the increase in consumption of fertilisers and progress made in various developmental programmes such as IADP, IAAP, HYVP, MCP, etc. There is considerable lack of balance between consumption of nitrogen, phosphate and potash in the country as a whole. It was envisaged that the ratio of NPK at the end of the Fourth Plan period would be 4 : 2 : 1, but unfortunately the present ratio is 5.4:1.8:1. However, with the recent growing consciousness of balanced use of fertilisers the situation is expected to improve in the future.

The greater availability of nitrogenous fertilisers, quick visible effects of its use on the high yielding as well as local varieties of crops, the faulty distribution system which paid inadequate attention to making balanced fertilisers readily available and above all the lack of promotional efforts, have favoured preponderant use of nitrogenous fertilisers by farmers in the past. Even in agricultural research and development programmes, use of phosphate and potash to increase crop yields and maintain soil fertility received very little consideration. Such lop-sided fertiliser use and scant attention to balanced fertilisation have already reflected in widespread phosphate and potash deficiencies in Indian soils. This is bound to inhibit optimum productivity from the soil as is evident from the crop response data of thousands of experiments and trials on farmers' fields. This situation is likely to aggravate further with continuous intensive cropping with high yielding varieties endangering soil fertility and thus impairing soil productivity seriously. In some States like Punjab, lack of adequate phosphate in the soil has already started limiting yields. Experiments have shown that an increase in phosphate-nitrogen ratio of consumption in one year resulted in an incremental yield of wheat of 4 q/ha over the previous year. Experience in Punjab firmly establishes the need for balanced fertilisation to sustain high yields and to get the optimum benefits from the use of a given quantity of nutrients. This is even more important in the present context of limited availability of fertilisers in the country.

Besides the imbalance in the use of NPK, micronutrient deficiencies have also been noticed in areas where HYVs of wheat and paddy are grown. These are also inhibiting yields. Zinc deficiency is seen widely in Punjab, Haryana, Rajasthan, Uttar Pradesh, Maharashtra, Andhra Pradesh, Himachal Pradesh and Delhi. Similarly, deficiencies of boron,

manganese, sulphur and copper have also been noticed. Vigorous efforts are urgently called for to promote balanced use of plant nutrients, along with micronutrients wherever necessary, to arrest depletion of soil fertility, increase yields on a sustained level to optimise production per unit area and to maximise return on investment in inputs.

Within the country, the ratios of NPK consumption vary very widely from State to State and region to region. This is highlighted in the data presented in Table 14.

Among the regions, the southern region has a much better NPK consumption ratio followed by Western, Central, Eastern and Northern regions. The ratios in Southern and Western regions are fairly balanced and above the all-India average during the year under review. In the other three regions, the ratios are even below the all-India average which in itself is far below the envisaged ratio of 4 : 2 : 1. The States of Kerala, Mysore, Pondicherry, Gujarat and Goa are the only States to have achieved this ratio primarily due to the fertility status of soils in these States. The consumption ratio of nutrients is far below the all-India average in Haryana (32 : 3 : 1), Rajasthan (14 : 2 : 1), Manipur (16 : 3.5 : 1), Delhi (16 : 4 : 1), Jammu & Kashmir (12.4:2.6:1), Uttar Pradesh (8:2:1), Bihar (8:2:1), Punjab (13:4:1) and Orissa (7:2:1) States.

In general, about 50 per cent soils of the country are deficient in phosphorus and 20 per cent in potash. Soil test data have revealed widespread deficiencies of potash in Kerala, Tamil Nadu, coastal parts of Mysore, Maharashtra, Andhra Pradesh, Orissa and Uttar Pradesh. Phosphate deficient soils are found practically in all the States. This points out the urgent need to boost consumption of balanced fertilisers (including secondary and micronutrients) on the basis of soil test values to increase crop yields and to maintain soil fertility which is essential for the long-term agricultural development of the country.

## **TABLES**

**(on April-March basis)**

T-1

**Table 1**

Percentage increase in production, distribution and consumption of  
N, P<sub>2</sub>O<sub>5</sub>, K<sub>2</sub>O  
(1968-69 to 1973-74\*)

Nutrient	Percentage increase over previous year				
	1969-70	1970-71	1971-72	1972-73	1973-74*
<b>Production</b>					
Nitrogen	32.3	18.9	12.9	11.1	23.2
Phosphate	5.1	1.3	27.2	13.8	12.1
(N + P <sub>2</sub> O <sub>5</sub> )	24.9	14.6	5.6	11.7	20.6
<b>Distribution</b>					
Nitrogen	(—) 17.0	26.0	15.9	4.4	3.0
Phosphate	(—) 26.7	(—) 27.8	49.2	11.5	8.1
Potash	(—) 23.8	49.2	29.4	19.1	21.3
(N + P <sub>2</sub> O <sub>5</sub> + K <sub>2</sub> O)	(—) 19.6	28.7	22.2	7.4	6.2
<b>Consumption**</b>					
Nitrogen	20.2	9.3	18.4	1.0	24.8
Phosphate	7.7	10.0	22.3	4.1	38.7
Potash	35.7	9.0	33.3	9.2	17.5
(N + P <sub>2</sub> O <sub>5</sub> + K <sub>2</sub> O)	18.8	9.5	20.8	2.6	26.9

Note : Requirements of phosphate do not include bonemeal or rock phosphate used directly.

\* Year under estimation.

\*\* For regionwise and seasonwise details, see Tables 7 (a), 8 (a), 9 (a), & 10.

Table 2

*Chronology of fertiliser manufacture*

Approx. year of first manufacture	Fertiliser material manufactured	Factory which first manufactured	Total no. of units operating (as on 1-4-1973)
(i) 1906	Single superphosphate	E.I.D.-Parry Ltd. Ranipet	30
(ii) 1906	Fertiliser mixtures		661
(iii) 1933	Ammonium sulphate (a) As a by-product of steel industry	(a) Tata Iron & Steel Co. Ltd., Jamshedpur	12
1941	(b) Using sulphuric acid	(b) Mysore Chemicals & Fertilisers Ltd., Belagula	7
1950	(c) Using gypsum as a raw material	(c) FCI Ltd., Sindri	2 4*
(iv) 1959	Ammonium sulphate nitrate	FCI Ltd., Sindri	1
	Urea	FCI Ltd., Sindri	10
	Ammonium chloride (Agricultural)	New Central Jute Mills Co. Ltd., Varanasi	1
(v) 1960	Ammonium phosphate	FACT, Alwaye	2
(vi) 1961	Calcium ammonium nitrate	FCI Ltd., Nangal	2
(vii) 1965	Nitrophosphate	FCI Ltd., Trombay	1
(viii) 1967	Diammonium phosphate	Gujarat State Fertilisers Co. Ltd., Baroda	1
(ix) 1968	Triple superphosphate	Dharamsi Morarji Chemical Co. Ltd., Ambernath	1
	Urea ammonium phosphate	Coromandel Fertilisers Ltd., Vizag	1
	NPK complex fertilisers	FCI Ltd., Trombay	3

Note : 1. Granulation of superphosphate and manufacture of granulated fertiliser mixtures were started by M/s. Phosphate Co. Ltd., Rishra and M/s. Bharat Fertiliser Industries Ltd., Bombay, respectively.

2. Units manufacturing more than one end-product are correspondingly accounted for more than once in the last column given above [see also Appendix 1 (b)]

\* One factory is using both sulphuric acid and gypsum for the manufacture of ammonium sulphate.





Table 4

## Forms in which fertilisers are produced

Kind of fertiliser	Production ('000 tonnes)						Percentage $\mp$ increase over previous year						
	1968-69	1969-70	1970-71	1971-72	1972-73	1973-74	1969-70	1970-71	1971-72	1972-73	1973-74	1968-69 to 1972-73	
Ammonium sulphate (20.6% N)	575 (22.1)	582 (17.0)	638 (15.6)	582 (12.7)	550 (10.8)	615 (9.8)	1.2	11.0	(-) 8.9	(-) 5.5	11.8	(-) 4.4	
Ammonium sulphate nitrate (26% N)	49 (2.4)	43 (1.6)	42 (1.3)	30 (0.8)	58 (1.4)	50 (1.0)	(-)12.2	(-) 2.3	(-)28.6	93.3	(-)13.8	18.3	
Urea (46% N)	404 (34.8)	773 (50.5)	1,096 (60.1)	1,237 (60.1)	1,411 (61.8)	1,854 (65.8)	91.3	41.8	12.9	14.0	31.4	249.3	
Calcium ammonium nitrate (20.5% N)	180 (6.9)	3 (0.1)	—	—	—	—	(-)98.3	—	—	—	—	—	
(25% N)	359 (16.9)	437 (15.5)	315 (9.4)	412 (10.9)	412 (9.8)	425 (8.2)	21.7	(-)27.9	30.8	—	3.1	14.8	
Ammonium chloride (25% N)	17 (0.8)	13 (0.4)	22 (0.7)	18 (0.5)	14 (0.4)	15 (0.3)	(-)23.5	69.2	(-)18.2	22.2	7.1	(-)17.7	
Ammonium phosphate sulphate (16-20-0) (20-20-0)	98 — (3.0)	87 4 (2.0)	88 — (1.7)	103 — (1.7)	94 3 (1.5)	100 15 (1.5)	(-) 7.1	(-) 3.4	17.0	(-) 5.9	18.5	(-) 1.1	
Nitrophosphate <sup>1</sup>	106 (4.6)	110 (2.6)	139 (3.0)	200 (4.2)	240 (3.4)	250 (2.9)	3.8	26.4	43.9	20.0	4.2	126.4	
Diammonium phosphate (18-46-0)	55 $\phi$ (2.1)	45 (1.1)	55 (1.2)	50 (1.0)	63 (1.1)	70 (1.0)	(-)18.2	22.2	(-) 9.1	38.0	1.4	25.4	
Urea ammonium phosphate (28-28-0) (20-20-0)	132 — (6.9)	207 24 (8.9)	160 60 (6.8)	195 36 (6.6)	175 17 (4.9)	230 20 (5.2)	75.0	(-) 4.8	5.0	(-) 4.4	30.2	45.5	
NPK complex fertilisers													
17-17-17	—	—	—	55	242	250	—	—	—	340.0	3.3	—	
18-27-3	—	—	—	5	—	—	—	—	—	—	—	—	
14-28-14	3 <sup>2</sup>	—	—	13	44	50	—	—	—	228.0	13.6	—	
14-35-14	— (0.1)	9 $\phi\phi$ (0.3)	7 $\phi\phi$ (0.2)	3,7 $\phi\phi$ (1.5)	28 (4.9)	35 (4.3)	—	—	—	833.0	25.0	—	
<b>Total N</b>	<b>533</b> (100.0)	<b>705</b> (100.0)	<b>838</b> (100.0)	<b>946</b> (100.0)	<b>1,051</b> (100.0)	<b>1,295</b> (100.0)	<b>32.3</b>	<b>18.9</b>	<b>12.9</b>	<b>11.1</b>	<b>23.2</b>	<b>97.2</b>	

(Continued)

Table 4

## Forms in which fertilisers are produced (Concluded)

Kinds of fertiliser	Production ('000 tonnes)						Percentage $\mp$ increase over previous year					
	1968-69	1969-70	1970-71	1971-72	1972-73	1973-74*	1969-70	1970-71	1971-72	1972-73	1973-74	1968-69 to 1972-73
Superphosphate (16% P <sub>2</sub> O <sub>5</sub> )	658 (49.1)	616 (44.0)	613 (43.0)	773 (42.7)	789@ (38.1)	865 (37.4)	(-)-24.4	(-)-0.5	26.1	2.0	9.6	31.4
Higher grades of superphosphate	14 (1.3)	12 (1.0)	8 (0.6)	3 (0.2)	— (0.6)	— (0.5)	(-)-14.3	(-)-33.3	(-)-62.5	—	—	—
Triple superphosphate (45% P <sub>2</sub> O <sub>5</sub> )	4 (0.9)	7 (1.4)	6 (1.2)	8 (0.6)	5 (0.5)	5 (0.3)	75	(-)-14.3	33.3	(-)-37.5	—	25.0
Ammonium phosphate sulphate (16-20-0) (20-20-0)	98 — (9.3)	87 4 (8.0)	88 — (7.9)	103 — (7.2)	94 3 (5.8)	100 15 (6.2)	(-)-7.1	(-)-3.4	17.0	(-)-5.9	18.5	(-)-1.1
Nitrophosphate <sup>1</sup>	106 (9.8)	110 (6.9)	139 (10.5)	200 (13.7)	240 (10.9)	250 (10.3)	3.8	26.4	43.9	20.0	4.2	126.4
Diammonium phosphate (18-46-0)	55 $\phi$ (12.1)	45 (9.8)	55 (11.1)	50 (7.8)	69 (9.7)	70 (8.6)	(-)-18.2	22.2	(-)-9.1	38.0	1.4	25.4
Urea ammonium phosphate (28-28-0) (20-20-0)	132 — (17.3)	207 24 (28.0)	160 60 (25.0)	195 36 (21.3)	175 17 (15.8)	230 20 (18.4)	75.0	(-)-4.8	5.0	(-)-4.4	30.2	45.5
NPK complex fertilisers (17-17-17) (18-27-3) (14-28-14) (14-35-14)	— — 3 <sup>2</sup> — (0.2)	— — — 9 $\phi\phi$ (0.9)	— — — 7 $\phi\phi$ (0.7)	55 5 13 3,7 $\phi\phi$ (5.9)	242 — 44 28 (19.1)	250 — 50 35 (18.6)	—	—	—	340.0	3.3	—
									228.0	833.0	13.6	25.0
<b>Total P<sub>2</sub>O<sub>5</sub></b>	<b>214</b> <b>(100.0)</b>	<b>225</b> <b>(100.0)</b>	<b>228</b> <b>(100.0)</b>	<b>290</b> <b>(100.0)</b>	<b>330</b> <b>(100.0)</b>	<b>370</b> <b>(100.0)</b>	<b>5.1</b>	<b>1.3</b>	<b>27.2</b>	<b>13.8</b>	<b>12.1</b>	<b>54.2</b>

Notes : \*Estimated.

<sup>1</sup> Of different grades, break-up of which is given in Appendix IV.<sup>2</sup> Of grade (14-14-14). $\phi$  It is assumed that total tonnage is composed of 42,965 tonnes of grade (20-48-0) and 12,253 tonnes of (18-46-0). From 26th January 1969, GSFC has switched over to the production of (18-46-0) grade diammonium phosphate from grade (20-48-0). $\phi\phi$  Of grade (22-22-11).

@ The production figures for Anish Chemicals and Maharashtra Agro Industries Corporation are not included.

Table 5

## Production of fertilisers in States (nitrogen &amp; phosphates)

('000 tonnes)

Zone/State	Nitrogen (N)						Phosphates (P <sub>2</sub> O <sub>5</sub> )					
	1968-69	1969-70	1970-71	1971-72	1972-73	1973-74*	1968-69	1969-70	1970-71	1971-72	1972-73	1973-74*
<b>South</b>	<b>132</b>	<b>150</b>	<b>146</b>	<b>174</b>	<b>224</b>	<b>312</b>	<b>98</b>	<b>119</b>	<b>111</b>	<b>134</b>	<b>170</b>	<b>183</b>
Andhra Pradesh	48	68	75	65	59		50	73	67	74	71	
Kerala	34	29	30	36	29		17	15	16	15	14	
Mysore	—	—	—	—	—		4	b	b	1	1	
Tamil Nadu	50	53	41	73	136		27	31	28	44	84	
<b>West</b>	<b>122</b>	<b>155</b>	<b>201</b>	<b>253</b>	<b>264</b>	<b>333</b>	<b>77</b>	<b>66</b>	<b>80</b>	<b>104</b>	<b>104</b>	<b>128</b>
Gujarat	70	111	147	184	203		37	28	34	39	42	
Maharashtra	52	44	54	69	61		40	38	46	65	62	
Goa	—	—	—	—	—		—	—	—	—	—	
<b>Central</b>	<b>58</b>	<b>180</b>	<b>300</b>	<b>321</b>	<b>363</b>	<b>380</b>	<b>27</b>	<b>28</b>	<b>27</b>	<b>40</b>	<b>39</b>	<b>42</b>
Madhya Pradesh	5	6	6	5	6		6	8	9	14	11	
Rajasthan	53	82	114	107	127		8	7	8	8	8	
Uttar Pradesh	—	93	180	209	230		7	4	2	5	5	
Delhi	—	—	—	—	—		6	9	8	13	15	
<b>North</b>	<b>77</b>	<b>80</b>	<b>55</b>	<b>57</b>	<b>54</b>	<b>56</b>	—	—	—	—	—	—
Punjab	77	80	55	57	54		—	—	—	—	—	—
<b>East</b>	<b>144</b>	<b>139</b>	<b>136</b>	<b>141</b>	<b>146</b>	<b>214</b>	<b>12</b>	<b>12</b>	<b>10</b>	<b>12</b>	<b>17</b>	<b>17</b>
Assam	6	26	28	30	34		2	44	2	1	—	
Bihar	79	74	77	56	57		1	2	1	2	2	
Orissa	53	32	25	50	51		—	—	—	—	—	
West Bengal	6	7	6	5	4		9	6	7	9	15	
<b>All-India</b>	<b>533</b>	<b>705</b>	<b>838</b>	<b>946</b>	<b>1,051</b>	<b>1,295</b>	<b>214</b>	<b>225</b>	<b>228</b>	<b>290</b>	<b>330</b>	<b>370</b>

\* Estimated.

b Less than 500 tonnes.

Table 6

## Forms in which fertilisers are consumed (April-March)

Kind of fertiliser	Consumption ('000 tonnes)						Percentage $\pm$ over previous year					
	1968-69	1969-70	1970-71	1971-72	1972-73	1973-74*	1969-70	1970-71	1971-72	1972-73	1973-74	1968-69 to 1972-73
Ammonium sulphate 20.6% N	1,669 (27.5)	969 (19.2)	1,044 (16.5)	877 (10.9)	774 (9.3)	650 (7.5)	(-41.9	7.8	(-16.0	11.7	(-16.1	(-53.6
Calcium ammonium nitrate												
20.5% N	165	1	—	—	—	—	(-13.4	10.0	31.3	(-2.9	(-19.5	14.8
25% N	346	447	319	412	417	425						
26% N	111 (11.8)	65 (12.4)	241 (10.9)	323 (11.9)	297 (10.4)	150 (8.1)						
Urea 46% N	1,273 (47.4)	1,308 (57.9)	1,701 (59.7)	2,234 (61.8)	2,424 (64.2)	2,600 (66.8)	1.4	30.0	31.3	8.5	7.3	90.4
Ammonium sulphate nitrate 26% N	42 (0.9)	41 (1.0)	70 (1.4)	44 (0.7)	56 (0.8)	56 (0.7)	(-2.4	70.1	(-37.2	27.3	(-10.8	33.3
Ammonium chloride (25% N)	63 (1.3)	10 (0.2)	27 (0.5)	20 (0.3)	14 (0.2)	15 (0.2)	(-84.0	170.0	(-26.0	(-30.0	7.1	(-77.8
Ammonium phosphate sulphate												
(16-20-0)	99	94	86	99	99	100	(-35.7	(-12.9	55.7	(-26.3	13.9	(-35.7
(20-20-0)	58 (2.1)	7 (1.4)	2 (1.0)	36 (1.4)	2 (0.9)	15 (1.1)						
Diammonium phosphate (18-46-0)	244 (3.5)	88 (1.6)	156 (2.3)	344 (3.7)	429 (4.4)	450 (4.5)	(-64.0	77.3	120.5	24.7	4.9	75.8
Nitrophosphate	163 (2.6)	77 (1.2)	168 (2.3)	206 (2.4)	211,36 <sup>+</sup> (2.3)	250 (2.1)	(-52.8	118.2	22.6	19.9	1.2	51.5
Mono-ammonium phosphate (11-55-0)	—	—	—	—	12	—	—	—	—	—	—	—
Urea ammonium phosphate												
(28-28-0)	118	133	142	226	175	230	27.1	(-2.0	84.8	(-27.3	28.2	65.2
(20-20-0)	— (1.9)	17 (4.0)	5 (3.7)	42 (4.3)	20 (3.1)	20 (3.8)						
NPK complex fertilisers												
15-15-15@	785	62	162	296	178	250						
17-17-17	—	—	—	45	238	250						
18-27-3	—	—	—	3	—	2	(-21.2	201.5	79.2	34.3	20.8	471.8
14-28-14	—	—	—	12	44	50						
14-35-14	— (1.0)	5@@ (1.1)	40@@ (1.7)	6@@ (3.3)	26 (4.3)	35 (5.2)						
<b>Total N</b>	<b>1,253</b> <b>(100.0)</b>	<b>1,040</b> <b>(100.0)</b>	<b>1,310</b> <b>(100.0)</b>	<b>1,665</b> <b>(100.0)</b>	<b>1,739</b> <b>(100.0)</b>	<b>1,792</b> <b>(100.0)</b>	<b>(-17.0</b>	<b>26.0</b>	<b>27.1</b>	<b>4.4</b>	<b>3.1</b>	<b>38.8</b>

(Continued)

Forms in which fertilisers are consumed (April-March) (Concluded)

Kind of fertiliser	Consumption ('000 tonnes)						Percentage $\pm$ over previous year					
	1968-69	1969-70	1970-71	1971-72	1972-73	1973-74*	1969-70	1970-71	1971-72	1972-73	1973-74	1968-69 to 1972-73
Superphosphate (16% w.s. P <sub>2</sub> O <sub>5</sub> )	647	675	684	750	794	825	4.3	1.3	9.6	5.9	3.9	22.7
Superphosphate (higher grades)	2	3	—	—	—	—	50.0	—	—	—	—	—
Triple superphosphate (45% w.s. P <sub>2</sub> O <sub>5</sub> )	3	5	8	7	4	5	66.7	60.0	(-)12.5	(-)42.9	25.0	33.3
Ammonium phosphate sulphate 16-20-0	99	94	86	101	99	100	(-)35.7	12.9	55.7	(-)26.3	13.9	(-)35.7
20-20-0	58	7	2	36	2	15	(9.6)	(8.5)	(5.7)	(5.7)	(3.7)	(4.0)
Diammonium phosphate 18-46-0	244	88	156	344	429	450	(-)64.0	77.3	120.5	24.7	4.9	75.8
Nitrophosphate	163	77	168	206	211, 36+	250	(-)52.8	118.2	22.6	19.9	(-)0.5	51.5
Mono-ammonium phosphate (11-55-0)	—	—	—	—	12	—	—	—	—	—	—	—
Urea ammonium phosphate 28-28-0	118	133	142	226	175	230	27.1	(-)2.0	84.8	(-)27.3	28.2	65.2
20-20-0	—	17	5	42	20	20	(10.0)	(17.0)	(13.2)	(15.0)	(9.9)	(11.9)
NPK complex fertilisers 15-15-15@	85	62	162	296	178	250	(-)21.2	201.5	79.2	34.3	20.8	471.8
17-17-17	—	—	—	45	238	250						
18-27-3	—	—	—	3	—	2						
14-28-14	—	—	—	12	44	50						
14-35-14	—	5@@	40@@	6@@	26	35						
Total P <sub>2</sub> O <sub>5</sub>	327	238	310	479	534	577	27.2	30.2	54.5	11.5	9.6	16.3
Muriate of potash (60% K <sub>2</sub> O) (50% K <sub>2</sub> O)	256	193	256	325	331	405	22.4	32.6	26.9	1.8	22.4	25.4
Sulphate of potash (50% K <sub>2</sub> O)	8	—	—	—	—	—	—	—	76.9	33.3	—	(-)71.4
NPK complex fertilisers 15-15-15 (Imported)	14	—	13	3	4	4	(4.5)	—	—	—	—	—
NPK complex fertilisers of various grades (Indigenous)	85	62	162	296	178	250	(-)27.1	161.3	82.7	(-)39.9	40.4	109.4
NPK complex fertilisers (All grades indigenous and imported)	—	55	90	60	494	552	—	63.6	33.3	723.3	111.7	—
Total K <sub>2</sub> O	178	132	197	256	305	370	(-)25.9	49.2	29.9	19.1	21.3	71.3

Notes: \* Estimated.  
 @ Break-up of imported NPK complex fertilisers is not available, therefore it is assumed to be of grade (15-15-15).  
 @@ Of 22-22-11.  
 + Ammonium nitrate phosphate (20-20-0).

**Table 7 (a)**  
Consumption of nitrogen (N) by States  
(<sup>φ</sup>'000 tonnes)

Zone/State	1968-69	1969-70	1970-71	1971-72	1972-73 <sup>φ</sup>	1973-74*
<b>South</b>	<b>428</b>	<b>505</b>	<b>494</b>	<b>542</b>	<b>512</b>	<b>641</b>
Andhra Pradesh	218	237	207	196	179	
Kerala	28	30	26	31	33	
Mysore	69	87	93	98	107	
Tamil Nadu	113	148	165	214	190	
Pondicherry	N.A.	3	3	3	3	
<b>West</b>	<b>152</b>	<b>158</b>	<b>218</b>	<b>247</b>	<b>229</b>	<b>309</b>
Gujarat	67	65	106	115	114	
Maharashtra	85	92	111	130	114	
Goa	N.A.	1	1	2	1	
<b>Central</b>	<b>266</b>	<b>373</b>	<b>385</b>	<b>478</b>	<b>515</b>	<b>592</b>
Madhya Pradesh	21	34	51	79	92	
Rajasthan	23	31	41	50	48	
Uttar Pradesh	220	306	291	346	373	
Delhi	2	2	2	3	2	
<b>North</b>	<b>184</b>	<b>198</b>	<b>243</b>	<b>306</b>	<b>331</b>	<b>389</b>
Haryana	40	45	61	73	83	
Himachal Pradesh	4	3	3	4	5	
Jammu & Kashmir	5	3	4	4	8	
Punjab	135	147	175	225	235	
<b>East</b>	<b>101</b>	<b>126</b>	<b>147</b>	<b>187</b>	<b>190</b>	<b>288</b>
Assam	4	3	5	5	7	
Bihar	49	70	75	88	89	
Orissa	15	18	20	37	40	
West Bengal	32	34	47	56	52	
Manipur	1	1	+	1	1	
Tripura	—	—	—	+	1	
Nagaland	—	+	+	—	N.A.	
<b>All-India</b>	<b>1,131</b>	<b>1,360</b>	<b>1,487</b>	<b>1,760</b>	<b>1,778</b>	<b>2,219</b>

\* Estimated + Less than 500 tonnes. N.A.—Not available.  
Note : For seasonwise/zonewise details, see Table 10.  
<sup>φ</sup> For the 12 months Feb. 1972/Jan. 1973.

**Table 7 (b)**  
Distribution of nitrogen (N) by States  
(<sup>φ</sup>'000 tonnes)

Zone/State	1968-69	1969-70	1970-71	1971-72	1972-73	1973-74*
<b>South</b>	<b>412</b>	<b>365</b>	<b>375</b>	<b>439</b>	<b>472</b>	<b>510</b>
Andhra Pradesh	121	209	102	129	170	
Kerala	27	53	9	17	28	
Mysore	116	29	32	74	82	
Tamil Nadu	129	59	75	111	174	
Pondicherry	1	b	b	1	3	
U.P.A.S.I.	9	6	8	5	8	
Coffee Board	8	6	5	8	8	
Rubber Board	1	2	2	—	—	
Cardamom Board	b	—	b	—	b	
<b>West</b>	<b>195</b>	<b>156</b>	<b>166</b>	<b>259</b>	<b>228</b>	<b>250</b>
Gujarat	57	71	110	148	116	
Maharashtra	137	84	56	44	111	
Goa	b	1	b	—	b	
Dadra Nagar Haveli	b	b	b	—	b	
<b>Central</b>	<b>334</b>	<b>198</b>	<b>269</b>	<b>390</b>	<b>468</b>	<b>475</b>
Madhya Pradesh	25	47	50	66	85	
Rajasthan	24	21	33	43	51	
Uttar Pradesh	283	127	183	276	329	
Delhi	2	3	3	5	3	
<b>North</b>	<b>170</b>	<b>182</b>	<b>198</b>	<b>273</b>	<b>319</b>	<b>325</b>
Haryana	34	43	50	70	81	
Himachal Pradesh	4	3	4	4	3	
Jammu & Kashmir	7	1	—	4	15	
Punjab	125	135	144	196	220	
Chandigarh	—	—	—	—	b	
<b>East</b>	<b>114</b>	<b>113</b>	<b>149</b>	<b>187</b>	<b>196</b>	<b>210</b>
Assam	4	15	15	17	18	
Bihar	50	32	59	50	74	
Orissa	7	18	19	25	41	
West Bengal	39	44	38	35	54	
Manipur	1	b	b	—	1	
Tripura	b	b	b	—	1	
Nagaland	b	1	b	—	—	
Mizoram	—	—	—	—	b	
Andamans	—	b	b	—	—	
Tea N.E. India	13	3	b	3	6	
Dandakaranya	—	—	—	—	—	
Meghalaya	—	—	—	—	1	
<b>Total</b>	<b>1,225</b>	<b>1,015</b>	<b>1,257</b>	<b>1,548</b>	<b>1,648</b>	<b>1,770</b>
Others	28	25	53	120	54	22
<b>All-India</b>	<b>1,253</b>	<b>1,040</b>	<b>1,310</b>	<b>1,668</b>	<b>1,738</b>	<b>1,792</b>

\* Estimated. b Less than 500 tonnes.

**Table 8 (a)**  
Consumption of phosphates ( $P_2O_5$ ) by States  
('000 tonnes)

Zone/State	1968-69	1969-70	1970-71	1971-72	1972-73 $\phi$	1973-74*
<b>South</b>	<b>159</b>	<b>158</b>	<b>166</b>	<b>204</b>	<b>223</b>	<b>295</b>
Andhra Pradesh	79	63	59	74	72	
Kerala	35	42	14	16	22	
Mysore	25	31	37	42	56	
Tamil Nadu	20	20	54	71	71	
Pondicherry	N.A.	2	2	2	2	
<b>West</b>	<b>61</b>	<b>70</b>	<b>105</b>	<b>129</b>	<b>92</b>	<b>167</b>
Gujarat	25	39	53	61	54	
Maharashtra	36	30	52	67	37	
Goa	N.A.	1	+	1	1	
<b>Central</b>	<b>92</b>	<b>121</b>	<b>111</b>	<b>126</b>	<b>144</b>	<b>205</b>
Madhya Pradesh	8	14	25	34	39	
Rajasthan	6	8	11	16	7	
Uttar Pradesh	77	98	75	76	97	
Delhi	+	+	+	N.A.	1	
<b>North</b>	<b>41</b>	<b>27</b>	<b>41</b>	<b>63</b>	<b>81</b>	<b>78</b>
Haryana	5	4	7	7	8	
Himachal Pradesh	1	1	2	2	2	
Jammu & Kashmir	3	1	1	1	2	
Punjab	32	21	31	53	69	
<b>East</b>	<b>36</b>	<b>44</b>	<b>39</b>	<b>42</b>	<b>48</b>	<b>69</b>
Assam	3	2	2	2	2	
Bihar	14	27	18	14	19	
Orissa	5	4	6	8	10	
West Bengal	14	11	12	18	16	
Manipur	+	+	+	+	+	
Tripura	-	+	+	+	+	
Nagaland	-	+	+	-	N.A.	
<b>All-India</b>	<b>389</b>	<b>420</b>	<b>462</b>	<b>564</b>	<b>587</b>	<b>814</b>

\* Estimated.

+ Less than 500 tonnes.

Note : For seasonwise/zonewise details, see Table 10.

 $\phi$  For the 12 months Feb., 1972/Jan., 1973

**Table 8 (b)**  
Distribution of phosphates ( $P_2O_5$ ) by States  
('000 tonnes)

Zone/State	1968-69	1969-70	1970-71	1971-72	1972-73	1973-74*
<b>South</b>	<b>102</b>	<b>102</b>	<b>73</b>	<b>117</b>	<b>183</b>	<b>209</b>
Andhra Pradesh	35	56	21	44	72	
Kerala	10	8	6	7	12	
Mysore	29	18	17	20	42	
Tamil Nadu	28	20	20	18	56	
U.P.A.S.I.	b	-	-	-	-	
Pondicherry	b	b	b	b	1	
Coffee Board	b	-	-	-	-	
<b>West</b>	<b>78</b>	<b>56</b>	<b>74</b>	<b>123</b>	<b>86</b>	<b>117</b>
Gujarat	35	31	48	63	49	
Maharashtra	45	25	26	16	37	
Goa	b	b	b	-	b	
Dadra Nagar Haveli	-	-	b	-	b	
<b>Central</b>	<b>72</b>	<b>35</b>	<b>43</b>	<b>83</b>	<b>102</b>	<b>120</b>
Madhya Pradesh	10	14	21	31	30	
Rajasthan	3	6	12	10	15	
Uttar Pradesh	59	15	10	41	57	
Delhi	b	b	b	b	b	
<b>North</b>	<b>21</b>	<b>16</b>	<b>13</b>	<b>60</b>	<b>53</b>	<b>59</b>
Haryana	2	b	b	9	5	
Himachal Pradesh	b	1	b	b	b	
Jammu & Kashmir	b	-	-	-	1	
Punjab	19	15	13	51	47	
Chandigarh	-	-	-	-	b	
<b>East</b>	<b>15</b>	<b>14</b>	<b>15</b>	<b>34</b>	<b>36</b>	<b>42</b>
Assam	1	2	1	1	2	
Bihar	3	2	3	15	9	
Orissa	b	1	2	10	6	
West Bengal	11	9	9	8	18	
Meghalaya	-	-	-	-	1	
Manipur	b	b	-	b	b	
Tripura	b	b	b	b	b	
Nagaland	b	-	b	b	-	
Andamans	-	b	-	-	b	
Tea N.E. India	-	b	-	-	-	
<b>Total</b>	<b>288</b>	<b>224</b>	<b>247</b>	<b>417</b>	<b>460</b>	<b>547</b>
Others	23	11	58	65	7	
Used in mixtures	7	-	-	-	67	30
<b>All-India</b>	<b>318</b>	<b>235</b>	<b>305</b>	<b>482</b>	<b>534</b>	<b>577</b>

\* Estimated.

b Less than 500 tonnes.

Table 9 (a)

Consumption of potash (K<sub>2</sub>O) by States

('000 tonnes)

Zone/State	1968-69	1969-70	1970-71	1971-72	1972-73 <sup>φ</sup>	1973-74*
<b>South</b>	<b>70</b>	<b>82</b>	<b>100</b>	<b>135</b>	<b>148</b>	<b>170</b>
Andhra Pradesh	19	13	17	27	24	
Kerala	16	21	16	18	19	
Mysore	11	14	26	28	39	
Tamil Nadu	24	33	40	61	64	
Pondicherry	N.A.	1	1	1	1	
<b>West</b>	<b>10</b>	<b>31</b>	<b>42</b>	<b>51</b>	<b>59</b>	<b>62</b>
Gujarat	4	4	6	7	11	
Maharashtra	6	27	36	44	48	
Goa	N.A.	+	+	+	+	
<b>Central</b>	<b>45</b>	<b>60</b>	<b>51</b>	<b>67</b>	<b>60</b>	<b>80</b>
Madhya Pradesh	2	3	4	6	8	
Rajasthan	1	2	2	5	3	
Uttar Pradesh	42	55	45	56	49	
Delhi	+	+	+	N.A.	+	
<b>North</b>	<b>14</b>	<b>8</b>	<b>10</b>	<b>16</b>	<b>22</b>	<b>26</b>
Haryana	1	2	1	2	2	
Himachal Pradesh	+	+	1	1	1	
Jammu & Kashmir	2	+	1	+	1	
Punjab	11	6	7	12	18	
<b>East</b>	<b>17</b>	<b>28</b>	<b>25</b>	<b>35</b>	<b>42</b>	<b>52</b>
Assam	3	1	2	2	2	
Bihar	4	13	7	7	11	
Orissa	3	3	2	4	6	
West Bengal	7	11	14	22	23	
Manipur	+	+	+	+	+	
Tripura	-	+	+	+	+	
Nagaland	-	+	+	-	-	
<b>All-India</b>	<b>156</b>	<b>209</b>	<b>228</b>	<b>304</b>	<b>332</b>	<b>390</b>

## Notes :

For seasonwise/zonewise details, see Table 10.

\* Estimated.

+ Less than 500 tonnes.

φ For the 12 months Feb. 1972/Jan. 1973.

Table 9 (b)

Distribution of potash (K<sub>2</sub>O) by States

('000 tonnes)

Zone/State	1968-69	1969-70	1970-71	1971-72	1972-73	1973-74*
<b>South</b>	<b>77</b>	<b>56</b>	<b>89</b>	<b>110</b>	<b>131</b>	<b>167</b>
Andhra Pradesh	5	7	15	11	16	
Kerala	22	19	22	22	18	
Mysore	18	8	16	14	16	
Tamil Nadu	32	21	26	50	81	
Pondicherry	b	-	b	b	b	
<b>West</b>	<b>26</b>	<b>33</b>	<b>41</b>	<b>71</b>	<b>69</b>	<b>76</b>
Gujarat	4	3	8	7	10	
Maharashtra	21	30	33	41	59	
Goa	1	b	b	b	b	
<b>Central</b>	<b>43</b>	<b>16</b>	<b>32</b>	<b>35</b>	<b>32</b>	<b>43</b>
Madhya Pradesh	6	1	6	7	4	
Rajasthan	b	2	6	1	b	
Uttar Pradesh	37	13	19	27	27	
Delhi	-	b	1	-	b	
<b>North</b>	<b>14</b>	<b>12</b>	<b>5</b>	<b>8</b>	<b>10</b>	<b>16</b>
Haryana	3	b	b	1	1	
Himachal Pradesh	-	-	b	b	b	
Jammu & Kashmir	8	-	-	b	b	
Punjab	3	12	5	7	9	
<b>East</b>	<b>14</b>	<b>14</b>	<b>26</b>	<b>30</b>	<b>46</b>	<b>53</b>
Assam	1	1	4	4	12	
Bihar	3	1	6	7	9	
Orissa	1	1	3	2	5	
West Bengal	9	10	13	17	20	
Manipur	-	b	b	-	b	
Tripura	-	b	b	-	b	
Nagaland	-	-	b	-	b	
Andamans	-	b	-	-	b	
Tea N.E. India	-	b	-	-	-	
Dandakaranya	b	-	-	-	-	
<b>Total</b>	<b>174</b>	<b>131</b>	<b>193</b>	<b>254</b>	<b>288</b>	<b>355</b>
Others	4	1	4	1	17	15
<b>All-India</b>	<b>178</b>	<b>132</b>	<b>197</b>	<b>255</b>	<b>305</b>	<b>370</b>

## Notes :

\* Estimated.

b Less than 500 tonnes.



Table 10

Seasonwise/regionwise consumption of N, P<sub>2</sub>O<sub>5</sub> and K<sub>2</sub>O 1969-70 to 1973-74\* (April-March)

('000 tonnes)

Region/Season	1969-70			1970-71			1971-72			1972-73 <sup>φ</sup>			1973-74*		
	Kharif	Rabi	Total	Kharif	Rabi	Total	Kharif	Rabi	Total	Kharif	Rabi	Total	Kharif	Rabi	Total
<b>South</b>															
N	262	243	505	230	264	494	256	286	542	227	285	512	280	361	641
P <sub>2</sub> O <sub>5</sub>	89	69	158	90	76	166	111	93	204	109	114	223	135	160	295
K <sub>2</sub> O	34	48	82	48	42	100	64	71	135	79	69	148	85	85	170
<b>West</b>															
N	87	71	158	108	110	218	115	132	247	124	105	229	140	170	310
P <sub>2</sub> O <sub>5</sub>	40	30	70	59	46	105	63	66	129	61	31	92	90	77	167
K <sub>2</sub> O	12	19	31	19	23	43	29	22	51	35	24	59	37	25	62
<b>Central</b>															
N	146	227	373	148	237	385	184	294	478	159	356	515	200	392	592
P <sub>2</sub> O <sub>5</sub>	37	84	121	36	75	111	40	86	126	32	111	144	50	155	205
K <sub>2</sub> O	17	43	60	14	37	51	14	53	67	12	48	60	15	65	80
<b>North</b>															
N	57	141	198	76	167	243	97	209	306	111	220	331	125	264	389
P <sub>2</sub> O <sub>5</sub>	5	22	27	6	35	41	10	53	63	15	66	81	25	53	78
K <sub>2</sub> O	1	7	8	2	8	10	4	12	16	4	18	22	5	21	26
<b>East</b>															
N	67	59	126	64	83	147	83	104	187	60	130	190	90	198	288
P <sub>2</sub> O <sub>5</sub>	18	26	44	13	26	39	14	28	42	15	33	48	25	45	70
K <sub>2</sub> O	11	17	28	10	15	25	10	25	35	16	26	42	20	32	52
<b>All-India</b>															
N	619	741	1,360	626	861	1,487	735	1,025	1,760	682	1,096	1,778	835	1,385	2,220
P <sub>2</sub> O <sub>5</sub>	189	231	420	204	258	462	238	326	564	231	356	587	325	490	815
K <sub>2</sub> O	75	134	209	93	135	228	121	183	304	146	186	332	162	228	390

## Notes:

Actuals for 1968-69 to 1972-73 are as per figures of zonal conferences on fertilisers.

\* FAI Estimate.

φ For the 12 months Feb. 1972/Jan. 1973.

**Table 11**

*All-India consumption of plant foods (N + P<sub>2</sub>O<sub>5</sub> + K<sub>2</sub>O)  
per hectare of agricultural land (kg.)  
(1967-68 to 1973-74)*

Year	Consumption
1967-68	6.7
1968-69	9.6
1969-70	11.4
1970-71	12.3
1971-72	14.5
1972-73	14.9
1973-74	19.0 (Est.)

Table 12

Plant food consumption in kilogram per hectare  
of agricultural land (1971-72 and 1972-73)

Zone/State	Consumption in kg per hectare of agricultural land							
	1971-72				1972-73			
	N	P <sub>2</sub> O <sub>5</sub>	K <sub>2</sub> O	Total	N	P <sub>2</sub> O <sub>5</sub>	K <sub>2</sub> O	Total
<b>South</b>	<b>14.19</b>	<b>5.37</b>	<b>3.51</b>	<b>23.07</b>	<b>13.41</b>	<b>5.83</b>	<b>3.87</b>	<b>23.11</b>
Andhra Pradesh	13.39	5.05	1.84	20.28	12.23	4.90	1.66	18.79
Kerala	10.05	5.19	5.84	21.08	10.84	7.31	6.27	24.42
Mysore	7.60	3.30	2.12	13.02	8.39	4.38	3.08	15.85
Tamil Nadu	27.83	9.23	7.93	44.99	24.66	9.18	8.33	42.17
Pondicherry	55.55	37.04	18.52	111.11	64.58	37.50	21.61	123.69
<b>West</b>	<b>7.60</b>	<b>3.99</b>	<b>1.58</b>	<b>13.17</b>	<b>7.08</b>	<b>2.85</b>	<b>1.83</b>	<b>11.76</b>
Gujarat	10.15	5.43	0.62	16.20	10.14	4.80	0.95	15.89
Maharashtra	6.19	3.19	2.10	11.48	5.44	1.79	2.30	9.53
Goa	14.18	7.09	3.54	24.81	8.60	6.11	2.60	17.31
<b>Central</b>	<b>7.47</b>	<b>1.98</b>	<b>1.05</b>	<b>10.50</b>	<b>8.08</b>	<b>2.26</b>	<b>0.95</b>	<b>11.29</b>
Madhya Pradesh	3.33	1.43	0.25	5.01	3.90	1.65	0.35	5.90
Uttar Pradesh	14.56	3.20	2.36	20.12	15.68	4.11	2.06	21.85
Rajasthan	3.10	1.00	0.31	4.41	2.97	0.41	0.21	3.59
Delhi	N.A.	N.A.	N.A.	N.A.	18.39	4.78	1.15	24.32
<b>North</b>	<b>12.25</b>	<b>4.58</b>	<b>1.09</b>	<b>27.92</b>	<b>24.09</b>	<b>5.88</b>	<b>1.65</b>	<b>31.62</b>
Haryana	14.59	1.40	0.40	16.39	16.62	1.64	0.52	18.78
Himachal Pradesh	1.88	0.94	0.47	3.29	2.28	0.84	0.52	3.64
Jammu & Kashmir	3.59	0.90	0.45	4.94	7.30	1.54	0.59	9.43
Punjab	40.84	9.62	2.18	52.64	42.71	12.57	3.33	58.61
<b>East</b>	<b>5.91</b>	<b>1.33</b>	<b>1.08</b>	<b>8.32</b>	<b>5.85</b>	<b>1.46</b>	<b>1.29</b>	<b>8.60</b>
Assam	1.54	0.62	0.31	2.47	2.06	0.53	0.59	3.18
Bihar	7.70	1.23	0.61	9.54	7.80	1.65	0.95	10.40
Orissa	3.88	0.84	0.42	5.14	4.25	1.05	0.61	5.91
West Bengal	7.71	2.48	3.03	13.22	9.71	2.23	3.16	15.10
Manipur	4.72	2.36	2.36	9.44	5.44	1.17	0.33	6.94
Tripura	1.06	—	—	1.06	2.22	1.09	0.32	3.63
Nagaland	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
<b>All-India</b>	<b>9.73</b>	<b>3.13</b>	<b>1.67</b>	<b>14.53</b>	<b>9.85</b>	<b>3.25</b>	<b>1.84</b>	<b>14.94</b>

Note : These figures are based on consumption data given in Tables 7(a), 8(a) and 9(a).

N.A. : Not available

**Table 13**

*All-India ratio of plant nutrients consumed  
(1967-68 to 1973-74)*

Year	N	P <sub>2</sub> O <sub>5</sub>	K <sub>2</sub> O
1967-68	6.2	1.8	1
1968-69	7.3	2.5	1
1969-70	6.5	2.0	1
1970-71	6.5	2.0	1
1971-72	5.8	1.9	1
1972-73	5.4	1.8	1
1973-74 (Est.)	5.7	2.1	1

Table 14

Ratio of N, P<sub>2</sub>O<sub>5</sub> & K<sub>2</sub>O consumption (1971-72 & 1972-73)

Zone/State	1971-72			1972-73		
	N	P <sub>2</sub> O <sub>5</sub>	K <sub>2</sub> O	N	P <sub>2</sub> O <sub>5</sub>	K <sub>2</sub> O
<b>South</b>	<b>4.04</b>	<b>1.53</b>	<b>1</b>	<b>3.46</b>	<b>1.50</b>	<b>1</b>
Andhra Pradesh	7.26	2.74	1	7.38	2.96	1
Kerala	1.72	0.89	1	1.73	1.17	1
Mysore	3.63	1.56	1	2.72	1.42	1
Tamil Nadu	3.51	1.16	1	2.96	1.10	1
Pondicherry	3.00	2.00	1	2.99	1.73	1
<b>West</b>	<b>4.82</b>	<b>2.53</b>	<b>1</b>	<b>3.87</b>	<b>1.56</b>	<b>1</b>
Gujarat	16.29	8.71	1	10.71	5.07	1
Maharashtra	2.95	1.52	1	2.37	0.78	1
Goa	4.00	2.00	1	3.31	2.36	1
<b>Central</b>	<b>7.09</b>	<b>1.88</b>	<b>1</b>	<b>8.50</b>	<b>2.38</b>	<b>1</b>
Madhya Pradesh	13.47	5.67	1	11.22	4.75	1
Uttar Pradesh	6.18	1.36	1	7.63	2.00	1
Rajasthan	10.00	3.20	1	14.19	1.96	1
Delhi	N.A.	N.A.	N.A.	15.96	4.15	1
<b>North</b>	<b>19.13</b>	<b>3.94</b>	<b>1</b>	<b>14.56</b>	<b>3.55</b>	<b>1</b>
Haryana	36.50	3.50	1	31.82	3.13	1
Himachal Pradesh	4.00	2.00	1	4.38	1.61	1
Jammu & Kashmir	8.00	2.00	1	12.37	2.60	1
Punjab	18.75	4.42	1	12.80	3.77	1
<b>East</b>	<b>5.50</b>	<b>1.14</b>	<b>1</b>	<b>4.55</b>	<b>1.14</b>	<b>1</b>
Assam	5.00	2.00	1	3.50	0.89	1
Bihar	12.57	2.00	1	8.25	1.75	1
Orissa	9.25	2.00	1	6.92	1.70	1
West Bengal	2.55	0.82	1	2.26	0.71	1
Manipur	19.88	2.56	2	16.26	3.48	1
Tripura	7.05	1.73	1	6.98	3.44	1
Nagaland	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
<b>All-India</b>	<b>5.81</b>	<b>1.87</b>	<b>1</b>	<b>5.35</b>	<b>1.77</b>	<b>1</b>

Note : These figures are based on consumption data given in Tables 7(a), 8(a) and 9 (a).

N.A. Not available.

T-17

**Table-15**

*Fertiliser consumption per hectare  
of agricultural land in selected countries  
1970-71*

(kg.)

Sl. No.	Country	Consumption (N+P <sub>2</sub> O <sub>5</sub> +K <sub>2</sub> O)
1.	Japan	329.1
2.	Belgium	313.2
3.	Netherlands	296.3
4.	China Taiwan	295.3
5.	Germany East	244.6
6.	Korea Rep. of	241.6
7.	Germany West	237.9
8.	Denmark	250.8
9.	France	140.2
10.	Egypt	121.8
11.	Austria	105.6
12.	United Kingdom	96.9
13.	Italy	66.4
14.	Isreal	46.2
15.	U.S.A	35.2
16.	New Zealand	33.0
17.	Philippines	21.8
18.	U.S.S.R.	15.4
19.	<b>India</b>	<b>12.3</b>
20.	Canada	12.2
21.	Australia	2.0
	<b>World</b>	<b>11.4</b>

Source : *Annual Fertiliser Review* - 1971, FAO.

## **APPENDICES**

**(on April-March basis)**

## End-productwise capacity installed before and during plan periods 1906 to 1973-74 (April-March)

Fertiliser	Before First Plan 1906-1951	I Plan 1951-52 to 1955-56	II Plan 1956-57 to 1960-61	III Plan 1961-62 to 1965-66	Annual Plans			Fourth Plan upto 1973-74				
					1966-67	1967-68	1968-69	1969-70	1970-71	1971-72	1972-73	1973-74**
.....tonnes of material.....												
Ammonium sulphate (20.6% N)	254,730 (6)	355,000 (1)	53,800 (2)	—	28,000 (1)	186,610 (2)	100,000 (1)	—	—	35,000*	—	—
Cumulative total	254,730 (6)	609,730 (7)	663,530 (9)	662,930 <sup>1</sup> (8)	690,930 (9)	870,830 <sup>2</sup> (10)	970,830 (11)	970,830 (11)	970,830 (11)	933,830 <sup>φ</sup> (11)	933,830 (11)	933,830 (11)
Urea (46% N)	—	—	23,470 (1)	253,000 (2)	—	280,500 (2)	474,320 (3)	100,000 450,000 (1)	—	210,000 (1)	—	1,000,000 (3)
Cumulative total	—	—	23,470 (1)	276,470 (3)	276,470 (3)	556,970 (5)	1,031,290 (8)	1,581,290 (9)	1,581,290 (9)	1,780,420 <sup>φ</sup> (10)	1,780,420 (10)	2,780,420 (13)
Ammonium sulphate nitrate (26% N)	—	—	121,920 (1)	121,920 (1)	121,920 (1)	121,920 (1)	121,920 (1)	121,920 (1)	121,920 (1)	50,000 <sup>φ</sup> (1)	50,000 (1)	50,000 (1)
Calcium ammonium nitrate (25% N)	—	—	380,000 (1)	297,000 (1)	—	—	—	240,000*	—	—	—	—
Cumulative total	—	—	380,000 (1)	677,000 (2)	677,000 (2)	617,000 <sup>@</sup> (2)	560,000 <sup>@</sup> (2)	800,000 (2)	800,000 (2)	800,000 (2)	800,000 (2)	800,000 (2)
Ammonium chloride (25% N)	—	—	8,000 <sup>+</sup> (1)	17,000* 40,640	—	—	—	—	—	—	—	—
Cumulative total	—	—	8,000 <sup>+</sup> (1)	65,640 (2)	65,640 (2)	65,640 (2)	65,640 (2)	65,640 (2)	65,640 (2)	64,750 <sup>φ</sup> (2)	64,750 (2)	64,750 (2)
Single superphosphate (16% P <sub>2</sub> O <sub>5</sub> )	492,230 (11)	—	281,060 (6)	345,440 (8)	108,530 (2)	22,500 (1)	—	—	—	—	54,000 (2)	— (—)
Cumulative total	492,230 (11)	492,230 (11)	773,290 (17)	1,118,730 (25)	1,227,260 (27)	1,249,760 (28)	1,249,760 (28)	1,249,760 (28)	1,249,760 (28)	1,249,760 (28)	1,303,760 (30)	1,303,760 <sup>φφ</sup> (30)
Triple superphosphate (45% P <sub>2</sub> O <sub>5</sub> )	—	—	—	—	—	27,000 (1)	—	—	—	—	—	—
Cumulative total	—	—	—	—	—	27,000 (1)	27,000 (1)	27,000 (1)	27,000 (1)	27,000 (1)	27,000 (1)	27,000 (1)

(Continued)



## End-productwise capacity installed before and during plan periods 1906 to 1973-74 (April-March) (Concluded)

Fertiliser	Before First Plan (1906-1951)	I Plan 1951-52 to 1955-56	II Plan 1956-57 to 1960-61	III Plan 1961-62 to 1965-66	Annual Plans			Fourth Plan upto 1973-74				
					1966-67	1967-68	1968-69	1969-70	1970-71	1971-72	1972-73	1973-74**
.....tonnes of material.....												
Ammonium phosphate sulphate	—	—	16,500 (1)	118,500 51,480 (1)	—	—	—	—	—	46,000*	—	—
Cumulative total	—	—	16,500 (1)	186,480 (2)	186,480 (2)	186,480 (2)	186,480 (2)	186,480 (2)	186,480 (2)	222,980 $\phi$ (2)	222,980 (2)	222,980 (2)
Diammonium phosphate (18-46-0)	—	—	—	—	—	108,000 (1)	—	—	—	—	—	—
Cumulative total	—	—	—	—	—	108,000 (1)	108,000 (1)	108,000 (1)	108,000 (1)	108,000 (1)	108,000 (1)	108,000 (1)
Nitrophosphate	—	—	—	270,000 (1)	—	180,000@@	—	—	—	—	—	—
Cumulative total	—	—	—	270,000 (1)	270,000 (1)	180,000@@ (1)	180,000 (1)	180,000 (1)	180,000 (1)	180,000 (1)	180,000 (1)	180,000 (1)
Urea ammonium phosphate	—	—	—	—	—	260,000 (1)	—	—	—	—	—	150,000 (1)
Cumulative total	—	—	—	—	—	260,000 (1)	260,000 (1)	260,000 (1)	260,000 (1)	260,000 (1)	260,000 (1)	410,000 (2)
NPK complex fertilisers	—	—	—	—	—	—	—	—	—	360,000 <sup>s</sup> (1)	360,000 (1)	360,000 (1)

## Notes :

\* Expansion.

@@ On account of change-over of grade from 16-13-0 to 20-20-0.

@ On account of change-over of grade of FCI, Nangal and HSL, Rourkela from 20.5% N to 25% N.

1 One by-product A/S factory was closed down during this period.

2 One synthetic A/S factory was closed down during this period.

3 Constitutes grade 17-17-17 and grade 14-28-14.

+ Not meant for agricultural purposes.

++ Due to merger of capacity at Mundhwa with Loni-Kalbhore—both of West India Chemicals Ltd.

\*\* Anticipated by 31.3.74.

() The figures in brackets indicate the number of manufacturing units.

 $\phi$  Due to ageing of plant, the capacities of some units have been revised. $\phi\phi$  End-product pattern of Orissa Fertilisers & Chemicals Ltd. Rourkela is not considered under SSP.

Factorywise, productwise licensed capacity of fertilisers existing as on April, 1, 1973

(tonnes)

Region/State/Factory	Ammonium sulphate (20.6% N)	Ammonium sulphate nitrate (26% N)	Calcium ammonium nitrate (25% N)	Urea (46% N)	Ammonium chloride (25% N)	Ammonium phosphate sulphate (16-20-0) & (20-20-0)	Diammonium phosphate (18-46-0)	Nitro-phosphate (20-20-0)	Urea ammonium phosphate (28-28-0) and NPK mixture (17-17-17) & (14-28-14)	Super-phosphate (16% P <sub>2</sub> O <sub>5</sub> )	Triple super-phosphate (45% P <sub>2</sub> O <sub>5</sub> )	Total	
												N	P <sub>2</sub> O <sub>5</sub>
<b>SOUTH</b>	273,610	—	—	710,500 (16,500)	25,000	222,980	—	—	(360,000)\$ 260,000*** (260,000)***	526,630 (166,230)	—	564,190 (80,000)	289,480 (99,590)
<b>Andhra Pradesh</b>	—	—	—	16,500	—	—	—	—	260,000	—	—	80,000	73,000
Coromandel Fertilisers Ltd., Visakhapatnam	—	—	—	—	—	—	—	—	—	41,900	—	—	6,700
Hyderabad Chemicals & Fertilisers Ltd., Maula Ali	—	—	—	—	—	—	—	—	—	40,000	—	—	6,400
Andhra Fertilisers Ltd., Tadepalli	—	—	—	—	—	—	—	—	—	33,530	—	—	5,360
Andhra Sugars Ltd., Tanuku	—	—	—	—	—	—	—	—	—	50,800	—	—	8,130
Krishna Industrial Corp., Nidadavole	—	—	—	—	—	—	—	—	—	(44,710)	—	(234,000)	(43,350)
<b>Kerala</b>	(198,000)	—	—	(330,000)	(25,000)	(171,500)	—	—	—	44,710	—	82,000	43,350
The Fertilisers & Chemicals Travancore Ltd., Alwaye*	198,000	—	—	330,000	25,000**	171,500 $\phi$	—	—	—	—	—	152,000	—
Cochin Fertiliser Project, Cochin	—	—	—	—	—	—	—	—	—	(74,170)	—	—	(11,860)
<b>Mysore</b>	—	—	—	—	—	—	—	—	—	33,530	—	—	5,360
Mysore Chemicals & Fertilisers Ltd., Belagula	—	—	—	—	—	—	—	—	—	40,640	—	—	6,500
Chamundi Chemicals & Fertilisers Ltd., Munirabad	—	—	—	(364,000)	—	(51,480)	—	—	(360,000)\$	(241,520)	—	(250,190)	(134,680)
<b>Tamil Nadu</b>	(38,610)	—	—	154,000	—	—	—	—	—	40,000	—	70,000	—
Neyveli Lignite Corporation Ltd., Neyveli	—	—	—	—	—	51,480+++	—	—	—	—	—	16,190	16,730
E.I.D.—Parry Ltd., Ennore & Ranipet	38,610	—	—	—	—	—	—	—	—	44,710	—	—	7,105
Blue Mountain Estates & Ind., Ltd., Ennore	—	—	—	—	—	—	—	—	—	40,640	—	—	6,500
Coimbatore Poiner Fertilisers Ltd., Coimbatore	—	—	—	—	—	—	—	—	—	40,640	—	—	6,500
Premier Fertilisers Ltd., Cuddalore	—	—	—	—	—	—	—	—	—	75,530	—	164,000	85,000
Shaw Wallace & Co. Ltd., Avadi	—	—	—	210,000	—	—	—	—	360,000\$	—	—	—	—
Madras Fertilisers Ltd., Manali+	—	—	—	—	—	—	108,000 (108,000)	180,000	—	228,660 (90,530)	27,000	297,000 (216,000)	134,570 (64,320)
<b>WEST</b>	148,000 (148,000)	—	—	463,000 (364,000)	—	—	—	—	—	—	—	216,000	50,000
<b>Gujarat</b>	—	—	—	364,000	—	—	108,000	—	—	—	—	—	5,360
Gujarat State Fertiliser Co. Ltd., Baroda	148,000	—	—	—	—	—	—	—	—	33,530	—	—	3,600
Adarsh Chemicals & Fertilisers Ltd., Udhna	—	—	—	—	—	—	—	—	—	23,470	—	—	5,360
Alembic Chemicals Works Co. Ltd., Baroda	—	—	—	—	—	—	—	—	—	33,530	—	—	—
Anil Starch Product Ltd., Bhavnagar	—	—	—	—	—	—	—	—	—	—	—	—	—

(Continued)

Factorywise, productwise licensed capacity of fertilisers existing as on April 1, 1973 (Continued)

(tonnes)

Region/State/Factory	Ammonium sulphate (20.6%N)	Ammonium sulphate nitrate (26%N)	Calcium ammonium nitrate (25%N)	Urea (46%N)	Ammonium chloride (25%N)	Ammonium phosphate sulphate (16-20-0) & (20-20-0)	Diammonium phosphate (18-46-0)	Nitro-phosphate (20-20-0)	Urea ammonium phosphate (28-28-0) and NPK mixture (17-17-17) & (14-28-14)	Super-phosphate (16%P <sub>2</sub> O <sub>5</sub> )	Triple super-phosphate (45%P <sub>2</sub> O <sub>5</sub> )	Total	
												N	P <sub>2</sub> O <sub>5</sub>
<b>Maharashtra</b>	—	—	—	(99,000)	—	—	—	(180,000)	—	(138,130)	(27,000)	(81,000)	(70,250)
The Fertilizer Corporation of India Ltd., Trombay	—	—	—	99,000	—	—	—	(180,000)	—	—	—	81,000	36,000
Bharat Fertilizer Ind. Ltd., Bombay	—	—	—	—	—	—	—	—	—	22,500	—	—	3,600
Dharamsi Morarji Chemical Co. Ltd., Ambernath	—	—	—	—	—	—	—	—	—	73,160	27,000	—	23,860
Eastern Chemical Co. Ltd., Bombay	—	—	—	—	—	—	—	—	—	5,590	—	—	890
Western Chemical Industries Ltd., Bombay	—	—	—	—	—	—	—	—	—	3,350	—	—	540
West India Chemicals Ltd., Loni-Kalbhore	—	—	—	—	—	—	—	—	—	33,530	—	—	5,360
<b>CENTRAL</b>	<b>32,600</b>	—	—	<b>854,320</b>	<b>40,640</b>	—	—	—	—	<b>267,960</b>	—	<b>406,880</b>	<b>54,870</b>
<b>Madhya Pradesh</b>	(32,600)	—	—	—	—	—	—	—	—	(75,000)	—	(6,720)	(12,000)
Hindustan Zinc Ltd., Bhilai	32,600	—	—	—	—	—	—	—	—	—	—	6,720	—
Dharamsi Morarji Chemical Co. Ltd., Kumhari	—	—	—	—	—	—	—	—	—	75,000	—	—	(12,000)
<b>Rajasthan</b>	—	—	—	(240,000)	—	—	—	—	—	(75,000)	—	(110,000)	(12,000)
Hindustan Steel Ltd., Debari	—	—	—	—	—	—	—	—	—	75,000	—	—	12,000
Shriram Chemical Industries, Kota	—	—	—	240,000	—	—	—	—	—	—	—	110,000	—
<b>Uttar Pradesh</b>	—	—	—	(614,320)	(40,640)	—	—	—	—	(60,960)	—	(290,160)	(9,750)
The Fertilizer Corp., of India Ltd., Gorakhpur	—	—	—	179,320	—	—	—	—	—	—	—	80,000	—
New Central Jute Mills Co. Ltd., Varanasi	—	—	—	—	40,640	—	—	—	—	—	—	10,160	—
Ralli Chemicals Ltd., Magarwara	—	—	—	—	—	—	—	—	—	60,960	—	—	9,750
Indian Explosive Ltd., Kanpur	—	—	—	435,000	—	—	—	—	—	—	—	200,000	—
<b>Delhi</b>	—	—	—	—	—	—	—	—	—	(132,000)	—	—	(21,120)
D.C.M. Chemical Works, Delhi	—	—	—	—	—	—	—	—	—	132,000	—	—	21,120
<b>NORTH</b>	—	—	<b>320,000</b>	—	—	—	—	—	—	—	—	<b>80,000</b>	—
<b>Punjab</b>	—	—	(320,000)	—	—	—	—	—	—	—	—	(80,000)	—
The Fertilizer Corporation of India Ltd., Nangal	—	—	320,000	—	—	—	—	—	—	—	—	80,000	—

(Continued)

## Factorywise, productwise licensed capacity of fertilisers existing as on April 1, 1973 (Concluded)

(tonnes)

Region/State/Factory	Ammonium sulphate (20.6% N)	Ammonium sulphate nitrate (26% N)	Calcium ammonium nitrate (25% N)	Urea (46% N)	Ammonium chloride (25% N)	Ammonium phosphate sulphate (16-20-0) & (20-20-0)	Diammonium phosphate (18-46-0)	Nitro-phosphate (20-20-0)	Urea ammonium phosphate (28-28-0) and NPK Mixture (17-17-17) (14-28-14)	Super-phosphate (16% P <sub>2</sub> O <sub>5</sub> )	Triple super-phosphate (45% P <sub>2</sub> O <sub>5</sub> )	Total	
												N	P <sub>2</sub> O <sub>5</sub>
<b>EAST</b>	<b>516,620</b>	<b>50,000</b>	<b>480,000</b>	<b>73,000</b>	—	—	—	—	—	<b>151,530</b>	—	<b>274,910</b>	<b>24,230</b>
<b>Assam</b>	(100,000)	—	—	(55,000)	—	—	—	—	—	(33,530)	—	(45,000)	(5,360)
The Fertilizer Corpn. of India Ltd., Namrup	100,000	—	—	55,000	—	—	—	—	—	—	—	45,000	5,360
Associated Ind. (Assam) Ltd., Chandrapur	—	—	—	—	—	—	—	—	—	33,550	—	—	5,360
<b>Bihar</b>	<b>(344,420)</b>	<b>(50,000)</b>	—	<b>(18,000)</b>	—	—	—	—	—	<b>(23,470)</b>	—	<b>(95,030)</b>	<b>(3,750)</b>
The Fertilizer Corpn. of India Ltd., Sindri	320,000	50,000	—	18,000	—	—	—	—	—	—	—	90,000	—
Burrakur Coal Co. Ltd., Bansjora	1,320	—	—	—	—	—	—	—	—	—	—	270	—
Tata Iron & Steel Co. Ltd., Jamshedpur	23,100	—	—	—	—	—	—	—	—	—	—	4,760	—
Bihar State Superphosphate Factory, Sindri	—	—	—	—	—	—	—	—	—	23,470	—	—	3,750
<b>Orissa</b>	<b>(28,000)</b>	—	<b>(480,000)</b>	—	—	—	—	—	—	—	—	<b>(125,770)</b>	—
Hindustan Steel Ltd., Rourkela	28,000	—	480,000	—	—	—	—	—	—	—	—	125,770	—
<b>West Bengal</b>	<b>(44,200)</b>	—	—	—	—	—	—	—	—	<b>94,530</b>	—	<b>(9,110)</b>	<b>(15,120)</b>
Hindustan Steel Ltd., Durgapur	21,200	—	—	—	—	—	—	—	—	—	—	4,370	—
Indian Iron & Steel Co. Ltd., Burnpur Kulti	23,000	—	—	—	—	—	—	—	—	—	—	4,740	—
Jayshree Chemical & Fertiliser Ltd., Khardah	—	—	—	—	—	—	—	—	—	33,530	—	—	5,360
Phosphate Co. Ltd., Rishra	—	—	—	—	—	—	—	—	—	61,000	—	—	9,760
<b>All-India</b>	<b>933,830</b>	<b>50,000</b>	<b>800,000</b>	<b>2,100,820</b>	<b>65,640</b>	<b>222,980</b>	<b>108,000</b>	<b>180,000</b>	<b>260,000***</b> <b>360,000§</b>	<b>1,249,780</b>	<b>27,000</b>	<b>1,471,180</b>	<b>503,510</b>

## Notes :

- \* Includes fourth stage expansion for 22,000 tonnes of N and 9,200 tonnes of P<sub>2</sub>O<sub>5</sub> commissioned during September 1971.
- \*\* This material is not used for agricultural purposes.
- \*\*\* This capacity is of Urea ammonium phosphate of M/s Coromandel Fertilisers Ltd., Vizag, A.P. They are producing UAP of three different grades, details of which are given in the Appendix pertaining to production.
- φ Of grade 20-20-0.
- + Went into production during October 1971.
- +++ Of grade 16-20-0.
- § Two types of NPK complex fertilisers (14-28-14) and (17-17-17) are presently produced.

## Appendix II

## Production of nitrogenous fertilisers

('000 tonnes)

Fertiliser	Zone/State	1968-69	1969-70	1970-71	1971-72	1972-73	1973-74*
Ammonium sulphate (20.6% N)	<b>South</b>	<b>126</b>	<b>119</b>	<b>120</b>	<b>151</b>	<b>117</b>	<b>140</b>
	Kerala	112	101	102	131	96	
	Tamil Nadu	14	18	18	20	21	
	<b>West</b>	<b>76</b>	<b>52</b>	<b>103</b>	<b>110</b>	<b>126</b>	<b>135</b>
	Gujarat	76	52	103	110	126	
	<b>Central</b>	<b>24</b>	<b>29</b>	<b>28</b>	<b>23</b>	<b>28</b>	<b>28</b>
	Madhya Pradesh	24	29	28	23	28	
	<b>North</b>	—	—	—	—	—	—
	<b>East</b>	<b>349</b>	<b>382</b>	<b>377</b>	<b>298</b>	<b>271</b>	<b>312</b>
	Assam	18	66	63	55	60	
	Bihar	286	273	289	209	188	
	Orissa	13	12	1	7	11	
	West Bengal	32	31	27	27	20	
		<b>All-India</b>	<b>575</b>	<b>582</b>	<b>638</b>	<b>582</b>	<b>550</b>
Ammonium sulphate nitrate (26% N)	<b>South</b>	—	—	—	—	—	—
	<b>West</b>	—	—	—	—	—	—
	<b>Central</b>	—	—	—	—	—	—
	<b>North</b>	—	—	—	—	—	—
	<b>East</b>	<b>49</b>	<b>43</b>	<b>42</b>	<b>30</b>	<b>58</b>	<b>50</b>
	Bihar	49	43	42	30	58	
	<b>All-India</b>	<b>49</b>	<b>43</b>	<b>42</b>	<b>30</b>	<b>58</b>	<b>50</b>
Urea (46% N)	<b>South</b>	<b>115</b>	<b>103</b>	<b>106</b>	<b>113</b>	<b>173</b>	<b>336</b>
	Andhra Pradesh	25	9	37	2	5	
	Kerala	—	—	—	—	—	
	Tamil Nadu	90	94	69	111	168	
	<b>West</b>	<b>163</b>	<b>257</b>	<b>317</b>	<b>393</b>	<b>411</b>	<b>524</b>
	Gujarat	94	199	253	332	357	
	Maharashtra	69	58	84	61	54	
	Goa	—	—	—	—	—	
	<b>Central</b>	<b>105</b>	<b>371</b>	<b>627</b>	<b>678</b>	<b>771</b>	<b>806</b>
	Uttar Pradesh	105	195	380	445	494	
	Rajasthan	—	176	247	238	277	
	<b>North</b>	—	—	—	—	—	—
	<b>East</b>	<b>21</b>	<b>42</b>	<b>46</b>	<b>52</b>	<b>56</b>	<b>188</b>
	Assam	6	26	15	40	46	
Bihar	15	16	31	12	10		
West Bengal	—	—	—	—	—		
	<b>All-India</b>	<b>404</b>	<b>773</b>	<b>1,096</b>	<b>1,237</b>	<b>1,411</b>	<b>1,854</b>

(Continued)

## Production of nitrogenous fertilisers (Concluded)

('000 tonnes)

Fertiliser	Zone/State	1968-69	1969-70	1970-71	1971-72	1972-73	1973-74*
Calcium ammonium nitrate (i) (20.5% N) (ii) (25.0% N)φφ	<b>South</b>	—	—	—	—	—	—
	<b>West</b>	—	—	—	—	—	—
	<b>Central</b>	—	—	—	—	—	—
	<b>North</b>	<b>180</b>	—	—	—	—	—
	1.	159	320	221	226	216	225
	2.	180	—	—	—	—	—
	<b>Punjab</b>	<b>180</b>	—	—	—	—	—
	1.	159	320	221	226	216	—
	2.	159	320	221	226	216	—
	<b>East</b>	<b>1.</b>	—	3	—	—	—
	2.	200	117	94	186	196	200
	<b>Orissa</b>	<b>1.</b>	—	3	—	—	—
	2.	200	117	94	186	196	—
		<b>All-India</b>	<b>180</b>	<b>3</b>	<b>—</b>	<b>—</b>	<b>—</b>
	1.	359	437	315	412	412	425
	2.	—	—	—	—	—	—
Ammonium chloride (25% Nφ)	<b>South</b>	—	—	—	—	—	—
	<b>West</b>	—	—	—	—	—	—
	<b>Central</b>	<b>17</b>	<b>13</b>	<b>22</b>	<b>18</b>	<b>14</b>	<b>15</b>
	Uttar Pradesh	17	13	22	18	14	
	<b>North</b>	—	—	—	—	—	—
	<b>East</b>	—	—	—	—	—	—
	<b>All-India</b>	<b>17</b>	<b>13</b>	<b>22</b>	<b>18</b>	<b>14</b>	<b>15</b>

## Notes :

\* Estimated.

φ The production at FACT, Alwaye is not meant for agricultural purposes.

φφ The production of 25 per cent N grade CAN started at FCI, Nangal (Punjab) from August 1967 and at Hindustan Steel Ltd., Rourkela from December 1969.

## Appendix III (a)

## Production of superphosphate

('000 tonnes)

Region/State	1968-69	1969-70	1970-71	1971-72	1972-73	1973-74*
<i>(i) Single superphosphate (16% W.S. P<sub>2</sub>O<sub>5</sub>)</i>						
<b>South</b>	<b>253</b>	<b>231</b>	<b>222</b>	<b>235</b>	<b>219</b>	<b>240</b>
Andhra Pradesh	76	55	53	60	54	
Kerala	28	30	30	16	20	
Mysore	27	1	—	8	8	
Tamil Nadu	122	145	139	151	137	
<b>West</b>	<b>171</b>	<b>152</b>	<b>171</b>	<b>218</b>	<b>224</b>	<b>260</b>
Gujarat	68	40	55	82	65	
Maharashtra	103	112	116	136	159	
<b>Central</b>	<b>168</b>	<b>176</b>	<b>168</b>	<b>250</b>	<b>243</b>	<b>260</b>
Madhya Pradesh	38	50	55	86	70	
Uttar Pradesh	42	26	12	34	33	
Rajasthan	49	43	51	47	47	
Delhi	39	57	50	83	93	
<b>North</b>	—	—	—	—	—	—
<b>East</b>	<b>66</b>	<b>57</b>	<b>52</b>	<b>70</b>	<b>103</b>	<b>105</b>
Assam	—	7	4	—	—	
Bihar	9	12	4	10	11	
West Bengal	57	38	44	60	92	
<b>All-India</b>	<b>658</b>	<b>616</b>	<b>613</b>	<b>773</b>	<b>789</b>	<b>865</b>

*(ii) Single superphosphate (18.5%, 21%+ W.S. P<sub>2</sub>O<sub>5</sub>)*

<b>South</b>	—	—	—	—		
Tamil Nadu	@++	—	—	—		
<b>West</b>	<b>1</b>	—	—	—		
Maharashtra	1	—	—	—		
<b>Central</b>	—	—	—	—		
Uttar Pradesh	—	—	—	—		
<b>North</b>	—	—	—	—		
<b>East</b>	<b>6</b>	<b>12</b>	<b>8</b>	<b>3</b>		
Assam	6	12	8	3		
West Bengal	—	—	—	—		
<b>All-India</b>	<b>7</b>	<b>12</b>	<b>8</b>	<b>3</b>		

@ less than 500 tonnes.

\* Estimated.

Notes : In 1968-69, 3000 tonnes of superphosphate of grade 17.5% P<sub>2</sub>O<sub>5</sub> and 4,000 tonnes of superphosphate of grade 18% P<sub>2</sub>O<sub>5</sub> was produced.

## Appendix III (b)

## Production of triple superphosphate

('000 tonnes)

Region/State	1968-69	1969-70	1970-71	1971-72	1972-73	1973-74*
<i>(45% P<sub>2</sub>O<sub>5</sub>)</i>						
<b>South</b>	—	—	—	—	—	—
<b>West</b>	<b>4</b>	<b>7</b>	<b>6</b>	<b>8</b>	<b>5</b>	<b>5</b>
Maharashtra	4	7	6	8	5	—
<b>Central</b>	—	—	—	—	—	—
<b>North</b>	—	—	—	—	—	—
<b>East</b>	—	—	—	—	—	—
<b>All-India</b>	<b>4</b>	<b>7</b>	<b>6</b>	<b>8</b>	<b>5</b>	<b>5</b>

\* Estimated.

## Production of complex fertilisers

('000 tonnes)

Fertiliser	Zone/State	1968-69	1969-70	1970-71	1971-72	1972-73	1973-74*
Ammonium phosphate sulphate (16-20-0)	South	98 3&	87 4@	88	103	94 3@	100 15@
	Kerala	65	50 4@	58	60	51 3@	
	Tamil Nadu	33 3&	37	30	43	43	
	West	—	—	—	—	—	—
	Central	—	—	—	—	—	—
	North	—	—	—	—	—	—
	East	—	—	—	—	—	—
<b>All-India</b>		<b>98 3&amp;</b>	<b>87 4@</b>	<b>88</b>	<b>103</b>	<b>94 3@</b>	<b>100 15@</b>
Nitrophosphate <sup>2</sup> (20-20-0)	South	—	—	—	—	—	—
	West	94	22	4	200 <sup>1</sup>	240 &&	250 &&
	Maharashtra	94	22	4	200 <sup>1</sup>	240 &&	
	Central	—	—	—	—	—	—
	North	—	—	—	—	—	—
	East	—	—	—	—	—	—
<b>All-India</b>		<b>94</b>	<b>22</b>	<b>4</b>	<b>200<sup>1</sup></b>	<b>240 &amp;&amp;</b>	<b>250 &amp;&amp;</b>
Urea ammonium phosphate (28-28-0)	South	132	207 24@	160 60@	195 36@	175 17@	180 20@
	Andhra Pradesh	132	207 24@	160 60@	195 36@	175 17@	—
	West	—	—	—	—	—	—
	Central	—	—	—	—	—	—
	North	—	—	—	—	—	—
	East	—	—	—	—	—	—
<b>All-India</b>		<b>132</b>	<b>207 24@</b>	<b>160 60@</b>	<b>195 36@</b>	<b>175 17@</b>	<b>180 20@</b>
Diammonium phosphate (18-46-0)φφ	South	—	—	—	—	—	—
	West	55φ	45	55	505**	69	70
	Gujarat	55	45	55	505**	69	
	Central	—	—	—	—	—	—
	North	—	—	—	—	—	—
	East	—	—	—	—	—	—
<b>All-India</b>		<b>55φ</b>	<b>45</b>	<b>55</b>	<b>505**</b>	<b>69</b>	<b>70</b>
NPK complex fertiliser (17-17-17)	South	—	—	—	55	242	250
	Tamil Nadu	—	—	—	55	242	—
	West	—	—	—	—	—	—
	Central	—	—	—	—	—	—
	North	—	—	—	—	—	—
	East	—	—	—	—	—	—
<b>All-India</b>		<b>—</b>	<b>—</b>	<b>—</b>	<b>55</b>	<b>242</b>	<b>250</b>

(Continued)

## Production of complex fertilisers (Concluded)

('000 tonnes)

Fertiliser	Zone/State	1968-69	1969-70	1970-71	1971-72	1972-73	1973-74*
NPK complex fertiliser (14-28-14)	South	3&	—	—	13	44	50
	Tamil Nadu	3&	—	—	13	44	—
	West	—	—	—	—	—	—
	Central	—	—	—	—	—	—
	North	—	—	—	—	—	—
	East	—	—	—	—	—	—
<b>All-India</b>		<b>3&amp;</b>	<b>—</b>	<b>—</b>	<b>13</b>	<b>44</b>	<b>50</b>
NPK complex fertiliser (22-22-11)	South	—	9	7	73@@28@@	35@@	
	Andhra Pradesh	—	9	7	73@@28@@	—	
	Central	—	—	—	—	—	—
	North	—	—	—	—	—	—
	East	—	—	—	—	—	—
	<b>All-India</b>		<b>—</b>	<b>9</b>	<b>7</b>	<b>73@@28@@</b>	<b>35@@</b>

## Notes:

• Estimates.

@ of grade 20-20-0.

@@ of grade 14-35-14.

&amp; of grade 14-14-14.

φφ of grade 15-15-15.

φ on the basis of φφ, it is assumed that it is composed of 42,965 tonnes of grade (20-48-0) &amp; 12,253 tonnes of (18-46-0).

φφ From 26th January, 1969, GSFC has switched over to the production of 18-46-0 grade diammonium phosphate from grade 20-48-0.

1 In the absence of gradewise break-up entire quantity is assumed to be of grade (20-20-0).

2 The production of nitrophosphate (16-13-0) was only upto 1967-68 and (20-20-0) started in August 1967. Besides nitrophosphate (20-20-0), other grades of complex fertilisers were produced during the years 1967-68 to 1972-73, the gradewise break-up of which is given below:

Grade	1968-69	1969-70	1970-71	1971-72	1972-73
21-10-0	—	a	—	—	—
20-10-0	—	—	—	—	—
19-19-0	—	—	—	—	—
18-18-9	8	12	20	25	—
17-17-0	—	—	—	—	—
15-15-15	4	59	59	134	240
15-15-7.5	—	4	—	—	—
15-7.5-10	—	a	—	—	—
14-10.5-14	—	12	—	—	—
20-20-0	—	—	56	45	—
<b>Total</b>	<b>12</b>	<b>81</b>	<b>135</b>	<b>204</b>	<b>240</b>

a. Less than 500 tonnes.

## Appendix V

Distribution of ammonium sulphate (20.6% N)  
(<sup>0</sup>000 tonnes)

Zone/State	1968-69	1969-70	1970-71	1971-72+	1972-73	1973-74*
<b>South</b>	<b>580</b>	<b>387</b>	<b>381</b>	<b>350</b>	<b>237</b>	<b>195</b>
Andhra Pradesh	196	216	125	150	78	
Kerala	43	16	16	30	36	
Mysore	166	52	71	45	36	
Tamil Nadu	124	61	66	97	77	
Pondicherry	1	b	b	1	b	
UPASI	34	26	27	10	7	
Coffee Board	8	8	13	9	3	
Rubber Board	6	8	8	—	—	
Cardamom	1	—	b	—	—	
<b>West</b>	<b>255</b>	<b>187</b>	<b>183</b>	<b>108</b>	<b>151</b>	<b>130</b>
Gujarat	60	48	68	68	76	
Maharashtra	194	137	28	40	75	
Goa	1	2	b	—	b	
Dadra & Nagar Haveli	—	—	—	—	b	
<b>Central</b>	<b>363</b>	<b>66</b>	<b>163</b>	<b>67</b>	<b>84</b>	<b>65</b>
Madhya Pradesh	44	36	21	23	51	
Rajasthan	3	1	1	1	9	
Uttar Pradesh	314	29	33	43	24	
Delhi	2	b	2	b	b	
<b>North</b>	<b>195</b>	<b>12</b>	<b>7</b>	<b>5</b>	<b>18</b>	<b>35</b>
Haryana	19	2	b	—	2	
Himachal Pradesh	3	b	6	b	b	
Jammu & Kashmir	18	5	—	4	—	
Punjab	155	5	1	1	16	
Chandigarh	—	—	—	—	b	
<b>East</b>	<b>276</b>	<b>265</b>	<b>304</b>	<b>292</b>	<b>276</b>	<b>225</b>
Assam	16	70	66	51	43	
Bihar	99	66	92	102	90	
Orissa	44	23	31	28	20	
West Bengal	94	89	88	98	91	
Andamans	—	b	b	—	b	
Nagaland	—	b	b	b	b	
Meghalaya	—	—	—	—	3	
Manipur	—	3	—	—	—	
Tripura	—	—	—	—	b	
Dandakaranya	—	—	—	—	—	
Tea (N.E. India)	63	14	b	13	29	
<b>Total</b>	<b>1,669</b>	<b>917</b>	<b>1,038</b>	<b>822</b>	<b>766</b>	<b>650</b>
Others	1	52	6	55	8	—
<b>All-India</b>	<b>1,670</b>	<b>969</b>	<b>1,044</b>	<b>877</b>	<b>774</b>	<b>650</b>

## Notes :

\* Estimated.

b Less than 500 tonnes.

1. The sum of State total may not totally with zonal total because of supplies by Pool to fertiliser manufacturers under seeding programme.

+ Despatches in respect of one unit have been distributed in proportion to previous year.



## Appendix VI

## Distribution of ammonium sulphate nitrate

('000 tonnes)

Zone/State	1968-69	1969-70	1970-71	1971-72	1972-73	1973-74*
<b>South</b>	<b>25</b>	<b>31</b>	<b>44</b>	<b>35</b>	<b>22</b>	<b>20</b>
Andhra Pradesh	16	31	34	32	19	
Kerala	—	—	—	—	—	
Mysore	b	b	1	b	1	
Tamil Nadu	1	—	2	3	2	
UPASI	1	—	—	—	—	
Coffee Board	5	—	—	—	—	
Rubber Board	—	—	b	b	—	
<b>West</b>	<b>5</b>	<b>4</b>	<b>11</b>	<b>—</b>	<b>3</b>	<b>2</b>
Gujarat	b	2	10	—	2	
Maharashtra	4	2	1	—	1	
<b>Central</b>	<b>9</b>	<b>2</b>	<b>8</b>	<b>6</b>	<b>3</b>	<b>3</b>
Madhya Pradesh	b	b	1	b	b	
Rajasthan	—	—	—	—	—	
Uttar Pradesh	8	2	6	6	3	
Delhi	b	—	b	—	—	
<b>North</b>	<b>b</b>	<b>—</b>	<b>1</b>	<b>—</b>	<b>—</b>	<b>—</b>
Haryana	—	—	b	—	—	
Punjab	b	—	b	—	—	
<b>East</b>	<b>3</b>	<b>2</b>	<b>6</b>	<b>2</b>	<b>28</b>	<b>25</b>
Bihar	b	1	1	1	15	
Orissa	—	1	5	1	3	
West Bengal	3	—	—	b	10	
Tea (N.E. India)	b	—	—	—	—	
<b>Total</b>	<b>42</b>	<b>39</b>	<b>70</b>	<b>44</b>	<b>56</b>	<b>50</b>
Others	b	2	—	b	—	—
<b>All-India</b>	<b>42</b>	<b>41</b>	<b>70</b>	<b>44</b>	<b>56</b>	<b>50</b>

## Notes :

\* Estimated.

b Less than 500 tonnes.

## Appendix VII

## Distribution of urea (46% N)

('000 tonnes)

Zone/State	1968-69	1969-70	1970-71	1971-72+	1972-73	1973-74*
<b>South</b>	<b>453</b>	<b>433</b>	<b>514</b>	<b>528</b>	<b>557</b>	<b>650</b>
Andhra Pradesh	90	226	110	81	171	
Kerala	30	96	5	5	19	
Mysore	143	22	20	49	88	
Tamil Nadu	183	84	118	164	256	
Pondichrery	1	1	1	1	5	
UPASI	3	1	b	2	10	
Coffee Board	3	3	2	1	8	
Rubber Board	b	b	b	b	—	
Cardamom Board	—	—	b	—	—	
<b>West</b>	<b>233</b>	<b>213</b>	<b>316</b>	<b>386</b>	<b>349</b>	<b>365</b>
Gujarat	77	112	167	234	188	
Maharashtra	155	100	78	76	161	
Goa	1	1	—	—	b	
Dadra & Nagar Haveli	b	b	—	b	b	
<b>Central</b>	<b>406</b>	<b>333</b>	<b>469</b>	<b>665</b>	<b>799</b>	<b>830</b>
Madhya Pradesh	34	80	93	124	139	
Rajasthan	32	35	56	66	88	
Uttar Pradesh	340	217	304	473	568	
Delhi	b	1	2	2	4	
<b>North</b>	<b>80</b>	<b>219</b>	<b>256</b>	<b>356</b>	<b>507</b>	<b>520</b>
Haryana	24	63	71	86	125	
Himachal Pradesh	b	—	3	—	1	
Jammu & Kashmir	2	—	—	7	31	
Punjab	54	156	174	263	350	
Chandigarh	—	—	—	—	b	
<b>East</b>	<b>101</b>	<b>91</b>	<b>145</b>	<b>190</b>	<b>182</b>	<b>235</b>
Assam	1	2	3	5	19	
Bihar	62	35	80	49	86	
Orissa	1	4	5	6	15	
W. Bengal	34	48	34	27	40	
Tripura	b	b	—	1	3	
Nagaland	b	—	b	—	—	
Manipur	2	—	1	—	—	
Mizoram	—	—	—	—	1	
Tea (N.E. India)	b	—	—	—	17	
Meghalaya	—	—	—	—	1	
<b>Total</b>	<b>1,273</b>	<b>1,289</b>	<b>1,700</b>	<b>2,127</b>	<b>2,394</b>	<b>2,600</b>
Others	b	19	1	107	30	—
<b>All-India</b>	<b>1,273</b>	<b>1,308</b>	<b>1,701</b>	<b>2,234</b>	<b>2,424</b>	<b>2,600</b>
Bangladesh	—	—	—	16	—	—

Notes: \* Estimated.

b Less than 500 tonnes.

+ Despatches in respect of one unit have been distributed in proportion to previous year.

1. The sum of state total may not tally with zonal total because of supplies to fertiliser manufacturers by pool under seeding programme.

Appendix VIII(a)

Distribution of calcium ammonium nitrate (20.5% N)

('000 tonnes)

Zone/State	1968-69	1969-70
<b>South</b>	<b>54</b>	<b>1</b>
Andhra Pradesh	43	—
Kerala	b	—
Mysore	1	b
Tamil Nadu	—	—
UPASI	b	—
Coffee Board	10	1
<b>West</b>	—	—
Maharashtra	—	—
<b>Central</b>	<b>99</b>	<b>b</b>
Rajasthan	16	—
Uttar Pradesh	83	b
Delhi	—	—
<b>North</b>	<b>3</b>	—
Haryana	—	—
Himachal Pradesh	—	—
Jammu & Kashmir	3	—
Punjab	b	—
<b>East</b>	<b>11</b>	<b>b</b>
Bihar	2	b
Orissa	4	—
W. Bengal	3	—
Tripura	1	—
Nagaland	1	—
<b>Total</b>	<b>165</b>	<b>1</b>
Others	b	—
<b>All-India</b>	<b>165</b>	<b>1</b>

Note: b Less than 500 tonnes.

Appendix VIII (b)

Distribution of calcium ammonium nitrate (25% N)

('000 tonnes)

Zone/State	1968-69	1969-70	1970-71	1971-72	1972-73	1973-74*
<b>South</b>	<b>5</b>	<b>51</b>	<b>36</b>	<b>71</b>	<b>39</b>	<b>40</b>
Andhra Pradesh	3	38	31	63	32	—
Kerala	—	b	—	—	—	—
Mysore	b	1	3	—	—	—
Tamil Nadu	—	1	—	—	—	—
UPASI	—	1	—	—	—	—
Coffee Board	2	10	2	8	7	—
<b>West</b>	<b>b</b>	<b>1</b>	<b>1</b>	—	—	—
Gujarat	—	b	b	—	—	—
Maharashtra	b	1	1	—	—	—
<b>Central</b>	<b>31</b>	<b>59</b>	<b>37</b>	<b>61</b>	<b>53</b>	<b>55</b>
Madhya Pradesh	—	1	1	2	8	—
Rajasthan	8	11	7	12	13	—
Uttar Pradesh	18	38	25	41	29	—
Delhi	5	9	4	6	3	—
<b>North</b>	<b>288</b>	<b>289</b>	<b>212</b>	<b>210</b>	<b>186</b>	<b>190</b>
Haryana	68	55	64	72	76	—
Himachal Pradesh	8	14	4	6	2	—
Jammu & Kashmir	2	—	—	—	—	—
Punjab	210	220	144	132	108	—
Chandigarh	—	—	—	—	b	—
<b>East</b>	<b>21</b>	<b>47</b>	<b>31</b>	<b>70</b>	<b>136</b>	<b>140</b>
Assam	—	—	b	—	—	—
Bihar	—	3	3	2	19	—
Orissa	—	42	27	63	96	—
W. Bengal	21	2	1	5	21	—
Tripura	—	b	—	—	—	—
Dandakarayana	—	b	—	—	—	—
<b>Total</b>	<b>346</b>	<b>447</b>	<b>317</b>	<b>412</b>	<b>414</b>	<b>425</b>
Others	b	b	2	b	3	—
<b>All-India</b>	<b>346</b>	<b>447</b>	<b>319</b>	<b>412</b>	<b>417</b>	<b>425</b>

Notes: \* Estimated.  
b less than 500 tonnes.

Appendix VIII (c)

Distribution of calcium ammonium nitrate (26% N)

('000 tonnes)

Zone/State	1968-69	1969-70	1970-71	1971-72	1972-73	1973-74*
<b>South</b>	<b>43</b>	<b>11</b>	<b>22</b>	<b>80</b>	<b>94</b>	<b>50</b>
Andhra Pradesh	25	7	8	29	44	—
Kerala	—	3	b	2	b	—
Mysore	7	—	—	20	22	—
Tamil Nadu	8	—	b	1	17	—
Pondicherry	—	—	—	—	b	—
Coffee Board	3	b	5	15	4	—
Rubber Board	—	1	b	—	—	—
UPASI	—	—	9	9	7	—
Cardamom Board	—	—	—	—	c	—
<b>West</b>	<b>6</b>	<b>3</b>	<b>26</b>	<b>b</b>	<b>5</b>	<b>5</b>
Gujarat	4	3	8	b	c	—
Maharashtra	2	—	—	—	5	—
Goa	—	b	—	—	c	—
<b>Central</b>	<b>25</b>	<b>23</b>	<b>85</b>	<b>78</b>	<b>108</b>	<b>55</b>
Madhya Pradesh	—	3	—	—	—	—
Rajasthan	12	2	—	10	—	—
Uttar Pradesh	12	15	84	65	108	—
Delhi	1	3	1	3	—	—
<b>North</b>	<b>37</b>	<b>20</b>	<b>95</b>	<b>130</b>	<b>75</b>	<b>30</b>
Haryana	5	—	2	36	12	—
Himachal Pradesh	3	—	—	3	6	—
Jammu & Kashmir	2	—	—	—	—	—
Punjab	27	20	93	92	57	—
FCI-Delhi	—	—	—	—	c	—
<b>East</b>	—	<b>8</b>	<b>13</b>	<b>22</b>	<b>15</b>	<b>10</b>
Bihar	—	4	8	14	1	—
Orissa	—	—	5	6	13	—
W. Bengal	—	3	b	1	b	—
Tripura	—	—	—	1	—	—
Nagaland	—	—	—	—	—	—
<b>Total</b>	<b>111</b>	<b>65</b>	<b>241</b>	<b>310</b>	<b>297</b>	<b>150</b>
Others	—	b	—	13	—	—
<b>All-India</b>	<b>111</b>	<b>65</b>	<b>241</b>	<b>323</b>	<b>297</b>	<b>150</b>

Notes: \* Estimated.  
b Less than 500 tonnes. c less than 250 tonnes.  
1. The sum of state total may not tally with zonal total because of supplies by pool to fertiliser manufacturers under seeding programme.

## Appendix IX

## Distribution of ammonium chloride (25% N)

('000 tonnes)

Zone/State	1968-69	1969-70	1970-71	1971-72	1972-73	1973-74*
<b>South</b>	<b>10</b>	<b>1</b>	<b>1</b>	<b>1</b>	<b>b</b>	<b>1</b>
Andhra Pradesh	4	1	1	1	b	
Kerala	—	—	—	—	—	
Mysore	6	b	b	—	—	
<b>West</b>	<b>10</b>	<b>2</b>	<b>6</b>	<b>1</b>	<b>b</b>	<b>1</b>
Gujarat	1	b	1	1	—	
Maharashtra	9	2	5	—	b	
Goa	—	—	—	—	—	
<b>Central</b>	<b>38</b>	<b>4</b>	<b>12</b>	<b>13</b>	<b>10</b>	<b>10</b>
Madhya Pradesh	b	1	2	1	b	
Rajasthan	—	—	b	b	—	
Uttar Pradesh	38	3	9	12	10	
Delhi	—	—	b	b	—	
<b>North</b>	<b>—</b>	<b>b</b>	<b>1</b>	<b>b</b>	<b>b</b>	<b>1</b>
Haryana	—	b	1	b	b	
Punjab	—	—	b	—	—	
<b>East</b>	<b>3</b>	<b>3</b>	<b>5</b>	<b>2</b>	<b>3</b>	<b>2</b>
Bihar	b	2	2	2	3	
Orissa	—	b	b	b	—	
West Bengal	3	1	3	b	b	
<b>Total</b>	<b>61</b>	<b>10</b>	<b>25</b>	<b>17</b>	<b>14</b>	<b>15</b>
Others	2	b	2	3	—	—
<b>All-India</b>	<b>63</b>	<b>10</b>	<b>27</b>	<b>20</b>	<b>14</b>	<b>15</b>

Notes : \* Estimated.  
b Less than 500 tonnes.

## Appendix X (a)

## Distribution of ammonium phosphate sulphate (16-20-0)

('000 tonnes)

Zone/State	1968-69	1969-70	1970-71	1971-72	1972-73	1973-74*
<b>South</b>	<b>99</b>	<b>94(3)</b>	<b>86(1)</b>	<b>101</b>	<b>97(2)</b>	<b>97(13)</b>
Andhra Pradesh	16	10(1)	12(1)	8	4(b)	
Kerala	23	18(b)	21	26	31	
Mysore	22	23(1)	18(b)	26	25(1)	
Tamil Nadu	38	41(1)	35(b)	41	37(1)	
Pondicherry	—	b	b	b	(b)	
<b>West</b>	<b>b</b>	<b>b</b>	<b>b</b>	<b>b</b>	<b>2</b>	<b>2 (2)</b>
Gujarat	—	b	—	—	—	
Maharashtra	b	b	b	b	2	
Goa	—	—	—	—	—	
<b>Central</b>	<b>—</b>	<b>—</b>	<b>b</b>	<b>b</b>	<b>b</b>	<b>1</b>
Uttar Pradesh	—	—	b	b	b	
<b>North</b>	<b>—</b>	<b>—</b>	<b>—</b>	<b>—</b>	<b>—</b>	<b>—</b>
Haryana	—	—	—	—	—	
<b>East</b>	<b>b</b>	<b>b</b>	<b>b</b>	<b>b</b>	<b>—</b>	<b>—</b>
Bihar	b	b	b	b	—	
West Bengal	b	b	b	b	—	
Nagaland	—	—	—	—	—	
<b>Total</b>	<b>99</b>	<b>94(3)</b>	<b>86(1)</b>	<b>101</b>	<b>99(2)</b>	<b>100(15)</b>
Others	—	—	—	—	—	—
<b>All-India</b>	<b>99</b>	<b>94(3)</b>	<b>86(1)</b>	<b>101</b>	<b>99(2)</b>	<b>100(15)</b>

Notes : b Less than 500 tonnes.

\* Estimated.

Bracketed figures are of grade (20-20-0) ammonium phosphate.

## Appendix X (b)

## Distribution of ammonium nitrate phosphate (20-20-0)

('000 tonnes)

Zone/State	1968-69 <sup>@</sup>	1969-70 <sup>@</sup>	1970-71	1971-72 <sup>@</sup>	1972-73	1973-74*
<b>South</b>	<b>38</b>	<b>b</b>	<b>1</b>	<b>22<sup>++</sup></b>	<b>—</b>	<b>—</b>
Andhra Pradesh	36	b	—	—	—	
Kerala	—	—	—	—	—	
Mysore	1	—	—	—	—	
Tamil Nadu	1	—	—	—	—	
Pondicherry	—	—	—	—	—	
Coffee Board	b	—	—	—	—	
<b>West</b>	<b>5</b>	<b>—</b>	<b>—</b>	<b>2<sup>++</sup></b>	<b>—</b>	<b>—</b>
Gujarat	—	—	—	—	—	
Maharashtra	5	—	—	—	—	
Goa	—	—	—	—	—	
<b>Central</b>	<b>8</b>	<b>b</b>	<b>1</b>	<b>6</b>	<b>11</b>	<b>—</b>
Madhya Pradesh	—	—	—	—	—	
Rajasthan	—	—	—	—	b	
Uttar Pradesh	8	b	1	6	11	
Delhi	—	—	—	—	—	
<b>North</b>	<b>1</b>	<b>—</b>	<b>—</b>	<b>—</b>	<b>12<sup>+</sup></b>	<b>—</b>
Haryana	—	—	—	—	—	
Himachal Pradesh	b	—	—	—	—	
Punjab	1	—	—	—	12 <sup>+</sup>	
<b>East</b>	<b>6</b>	<b>4</b>	<b>9</b>	<b>4<sup>++</sup></b>	<b>14</b>	<b>—</b>
Bihar	2	—	—	—	2	
West Bengal	4	4	9	—	11	
Orissa	—	—	—	—	1	
<b>Total</b>	<b>58</b>	<b>4</b>	<b>10</b>	<b>34</b>	<b>25; 12<sup>+</sup></b>	<b>—</b>
Others	—	—	—	2	11	
<b>All-India</b>	<b>58</b>	<b>4</b>	<b>10</b>	<b>36</b>	<b>36; 12<sup>+</sup></b>	<b>—</b>

Notes :

\* Estimated.

b less than 500 tonnes.

<sup>@</sup> Ammonium phosphate (20-20-0).

+ Mono-ammonium phosphate (11-55-0).

++ Statewise breakup is not available.

## Appendix XI

## (i) Distribution of nitrophosphate (20-20-0)

('000 tonnes)

Zone/State	1968-69	1969-70	1970-71	1971-72*
<b>South</b>	<b>57</b>	<b>9b<sup>1</sup></b>	<b>14b<sup>1</sup></b>	<b>61</b>
Andhra Pradesh	39	7b <sup>1</sup>	12	34
Kerala	b	—	b	—
Mysore	15	1	1b <sup>1</sup>	18
Tamil Nadu	2	b	b	9
<b>West</b>	<b>67</b>	<b>9</b>	<b>45</b>	<b>79</b>
Gujarat	b	b	15	79 <sup>++</sup>
Maharashtra	67	9	30	—
<b>Central</b>	<b>28</b>	<b>b</b>	<b>1</b>	<b>28</b>
Madhya Pradesh	—	—	1	—
Uttar Pradesh	28	b	b	28
Delhi	b	—	b	—
<b>North</b>	<b>—</b>	<b>—</b>	<b>—</b>	<b>7</b>
Punjab	—	—	—	7
<b>East</b>	<b>1</b>	<b>3</b>	<b>5</b>	<b>45<sup>+++</sup></b>
Assam	—	—	b	—
Bihar	b	b	b	—
Orissa	b	2	2	—
West Bengal	1	1	2	—
<b>Total</b>	<b>153</b>	<b>21b<sup>1</sup></b>	<b>65b<sup>1</sup></b>	<b>220</b>
Others	b	—	—	—
<b>All-India</b>	<b>153</b>	<b>21b<sup>1</sup></b>	<b>65b<sup>1</sup></b>	<b>220</b>

## Notes :

\* Estimated. b Less than 500 tonnes.

1. of grade 20-10-0.

+ In the absence of gradewise breakup, entire quantity is assumed to be of grade (20-20-0).

++ Gujarat and Maharashtra.

+++ Distributed by Eastern Marketing Zone, Calcutta.

Nitrophosphate of grade 16-13-0 was distributed upto year 1967-68.

(Continued)

## Appendix XI (Continued)

## (ii) Distribution of nitrophosphate 15-15-15

('000 tonnes)

Zone/State	1968-69	1969-70	1970-71	1971-72*	1972-73	1973-74*
<b>South</b>	<b>4</b>	<b>17</b>	<b>30</b>	<b>69</b>	<b>80</b>	
Andhra Pradesh	b	1	7	24		
Kerala	—	b	b	1		
Mysore	3	13	19	40		
Tamil Nadu	1	2	4	4		
<b>West</b>	<b>2</b>	<b>12</b>	<b>25</b>	<b>105</b>	<b>125</b>	
Gujarat	—	b	5	5		
Maharashtra	2	12	20	100		
<b>Central</b>	<b>—</b>	<b>b</b>	<b>2</b>	<b>22</b>	<b>25</b>	
Madhya Pradesh	—	b	1	8		
Uttar Pradesh	—	b	b	14		
Rajasthan	—	—	—	b		
Delhi	—	—	—	b		
<b>North</b>	<b>—</b>	<b>b</b>	<b>b</b>	<b>1</b>	<b>2</b>	
Punjab	—	b	b	1		
Haryana	—	—	—	b		
Himachal Pradesh	—	—	—	b		
<b>East</b>	<b>—</b>	<b>2</b>	<b>8</b>	<b>9</b>	<b>10</b>	
Assam	—	—	b	—		
Bihar	—	b	1	b		
Orissa	—	1	1	—		
W. Bengal	—	1	6	9		
<b>Total</b>	<b>6</b>	<b>31</b>	<b>65</b>	<b>206</b>	<b>242</b>	
Others	—	—	—	4	8	
<b>All-India</b>	<b>6</b>	<b>31</b>	<b>65</b>	<b>210</b>	<b>250</b>	

+ In the absence of gradewise breakup, entire quantity is assumed to be of grade (20-20-0). See Appendix XI (i).

\*Estimated.

(Continued)

## Appendix XI (Continued)

(iii) Distribution of nitrophosphate 18-18-9

('000 tonnes)

Zone/State	1968-69	1969-70	1970-71
<b>South</b>	<b>1</b>	<b>1</b>	<b>4</b>
Andhra Pradesh	1	b	3
Mysore	b	b	b
Tamil Nadu	b	—	b
<b>West</b>	<b>3</b>	<b>11</b>	<b>19</b>
Gujarat	b	—	2
Maharashtra	3	11	17
<b>Central</b>	<b>—</b>	<b>b</b>	<b>1</b>
Madhya Pradesh	—	—	1
Uttar Pradesh	—	b	b
<b>North</b>	<b>—</b>	<b>—</b>	<b>b</b>
Punjab	—	—	b
<b>East</b>	<b>—</b>	<b>—</b>	<b>b</b>
Assam	—	—	b
<b>Total</b>	<b>4</b>	<b>12</b>	<b>25</b>
Others	—	—	—
<b>All-India</b>	<b>4</b>	<b>12</b>	<b>25</b>

Note : b Less than 500 tonnes.

(Continued)

## Appendix XI (Concluded)

(iv) Distribution of nitrophosphate 14-10.5-14

('000 tonnes)

Zone/State	1969-70	1970-71
<b>South</b>	<b>9</b>	<b>3</b>
Andhra Pradesh	b	—
Kerala	1	—
Mysore	7	3
Tamil Nadu	1	—
<b>West</b>	<b>—</b>	<b>—</b>
<b>Central</b>	<b>—</b>	<b>—</b>
<b>North</b>	<b>—</b>	<b>—</b>
<b>East</b>	<b>—</b>	<b>—</b>
<b>Total</b>	<b>9</b>	<b>3</b>
Others	—	—
<b>All-India</b>	<b>9</b>	<b>3</b>

Note : b Less than 500 tonnes.

(v) Distribution of nitrophosphate 15-7.5-15

('000 tonnes)

Zone/State	1968-69	1969-70	1970-71
<b>South</b>	<b>—</b>	<b>3 b<sup>1</sup></b>	<b>b</b>
Andhra Pradesh	—	—	—
Kerala	—	b	—
Mysore	—	1 b <sup>1</sup>	b
Tamil Nadu	—	2	—
Pondicherry	—	b <sup>1</sup>	—
<b>West</b>	<b>—</b>	<b>—</b>	<b>—</b>
<b>Central</b>	<b>—</b>	<b>—</b>	<b>—</b>
<b>North</b>	<b>—</b>	<b>—</b>	<b>—</b>
<b>East</b>	<b>—</b>	<b>—</b>	<b>—</b>
<b>Total</b>	<b>—</b>	<b>3 b<sup>1</sup></b>	<b>b</b>
Others	—	—	—
<b>All-India</b>	<b>—</b>	<b>3 b<sup>1</sup></b>	<b>b</b>

Notes : 1 of grade 15-7.5-10.  
b Less than 500 tonnes.

## Appendix XII (a)

## Distribution of diammonium phosphate (18-46-0)

('000 tonnes)

Zone/State	1968-69	1969-70	1970-71	1971-72	1972-73	1973-74*
<b>South</b>	<b>34</b>	—	<b>1</b>	—	<b>32</b>	<b>40</b>
Andhra Pradesh	—	—	b	—	b	—
Kerala	6	—	—	—	—	—
Mysore	16	—	b	—	4	—
Tamil Nadu	12	—	b	—	26	—
Pondicherry	—	—	—	—	1	—
<b>West</b>	<b>36</b>	<b>b</b>	<b>96</b>	<b>111</b>	<b>87</b>	<b>110</b>
Gujarat	1	—	56	55	71	—
Maharashtra	35	b	b	5	16	—
Goa	b	—	b	—	b	—
Dadra & Nagar Haveli	—	—	—	—	b	—
<b>Central</b>	<b>93</b>	<b>19</b>	<b>39</b>	<b>92</b>	<b>128</b>	<b>150</b>
Madhya Pradesh	4	3	7	17	4	—
Rajasthan	1	b	5	7	27	—
Uttar Pradesh	88	16	19	68	97	—
Delhi	b	—	—	1	b	—
<b>North</b>	<b>35</b>	<b>6</b>	<b>18</b>	<b>110</b>	<b>72</b>	<b>90</b>
Haryana	3	—	—	16	5	—
Himachal Pradesh	—	—	—	—	b	—
Jammu & Kashmir	1	—	—	—	2	—
Punjab	31	6	17	94	65	—
<b>East</b>	<b>4</b>	<b>3</b>	<b>2</b>	<b>29</b>	<b>20</b>	<b>30</b>
Assam	—	—	—	—	b	—
Bihar	b	—	—	25	8	—
Orissa	—	—	—	—	—	—
W. Bengal	4	3	1	4	12	—
Manipur	—	—	—	—	b	—
Andamans	—	b	—	—	—	—
<b>Total</b>	<b>202</b>	<b>28</b>	<b>156</b>	<b>342</b>	<b>339</b>	<b>420</b>
Others	—	—	—	2	90	30
<b>All-India</b>	<b>202</b>	<b>28</b>	<b>156</b>	<b>344</b>	<b>429</b>	<b>450</b>

## Notes :

\* Estimated.

b Less than 500 tonnes.

1 The sum of State totals may not tally with zonal total because of supplies made by Pool to fertiliser manufacturers under seeding programme.

## Appendix XII (b)

## Distribution of diammonium phosphate (20-48-0)

('000 tonnes)

Zone/State	1968-69	1969-70
<b>South</b>	<b>1</b>	<b>b</b>
Andhra Pradesh	1	b
Kerala	b	—
Mysore	b	—
Tamil Nadu	b	—
<b>West</b>	<b>41</b>	<b>54</b>
Gujarat	—	41
Maharashtra	39	13
Goa	2	—
<b>Central</b>	<b>b</b>	<b>6</b>
Madhya Pradesh	b	1
Rajasthan	—	5
Uttar Pradesh	—	5
<b>North</b>	—	<b>b</b>
<b>East</b>	—	—
<b>Total</b>	<b>42</b>	<b>60</b>
Others	—	—
<b>All-India</b>	<b>42</b>	<b>60</b>

Notes : b Less than 500 tonnes.



## Appendix XIII (a)

## (i) Distribution of NPK complex fertiliser (17-17-17)

('000 tonnes)

Zone/State	1971-72	1972-73	1973-74*
<b>South</b>	<b>45</b>	<b>238</b>	<b>240</b>
Andhra Pradesh	6	62	
Kerala	1	14	
Mysore	11	60	
Tamil Nadu	27	98	
Pondicherry	b	2	
<b>West</b>	—	—	<b>10</b>
<b>Central</b>	—	—	—
<b>North</b>	—	—	—
<b>East</b>	—	—	—
<b>Total</b>	<b>45</b>	<b>238</b>	<b>250</b>
<b>All-India</b>	<b>45</b>	<b>328</b>	<b>250</b>

## (ii) Distribution of NPK complex fertiliser (14-28-14)

('000 tonnes)

Zone/State	1971-72	1972-73	1973-74*
<b>South</b>	<b>12</b>	<b>44</b>	<b>45</b>
Andhra Pradesh	1	21	
Kerala	b	1	
Mysore	1	7	
Tamil Nadu	10	15	
Pondicherry	b	b	
<b>West</b>	—	—	—
<b>Central</b>	—	—	<b>5</b>
<b>North</b>	—	—	—
<b>East</b>	—	—	—
<b>Total</b>	<b>12</b>	<b>44</b>	<b>50</b>
<b>All-India</b>	<b>12</b>	<b>44</b>	<b>50</b>

(Continued)

## Appendix XIII (a) (Concluded)

## (iii) Distribution of NPK complex fertiliser (18-27-3)

('000 tonnes)

Zone/State	1971-72	1972-73	1973-74*
<b>South</b>	—	—	—
<b>West</b>	—	<b>2</b>	<b>2</b>
Maharashtra	—	2	—
<b>Central</b>	—	—	—
<b>North</b>	<b>3</b>	—	—
Haryana	1	—	—
Punjab	2	—	—
<b>East</b>	—	—	—
<b>All-India</b>	<b>3</b>	<b>2</b>	<b>2</b>

\* Estimated.

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## Appendix XIII (b)

## Distribution of NPK complex fertiliser (imported)

('000 tonnes)

Zone/State	1968-69	1969-70	1970-71	1971-72+	1972-73	1973-74*
<b>South</b>	<b>68</b>	<b>21</b>	<b>78<sup>++</sup></b>	<b>91<sup>++</sup></b>	<b>55</b>	<b>100</b>
Andhra Pradesh	6	2	1	—	8	
Kerala	b	12	1	—	8	
Mysore	12	2	1	—	24	
Tamil Nadu	46	5	1	—	15	
Pondicherry	—	—	—	—	c	
UPASI	2	—	—	—	—	
Coffee Board	2	—	—	—	—	
<b>West</b>	—	<b>b</b>	<b>42<sup>++</sup></b>	<b>152<sup>++</sup></b>	<b>1</b>	<b>5</b>
Maharashtra	—	—	—	—	1	
Goa	—	b	—	—	b	
<b>Central</b>	<b>16</b>	<b>29</b>	<b>35</b>	<b>46</b>	<b>19</b>	<b>25</b>
Madhya Pradesh	—	6	5	5	7	
Uttar Pradesh	16	23	30	41	9	
Rajasthan	—	—	—	—	3	
<b>North</b>	—	<b>10</b>	<b>5</b>	—	<b>5</b>	<b>10</b>
Punjab	—	10	3	—	—	
Haryana	—	—	—	—	2	
Jammu & Kashmir	—	—	—	—	3	
<b>East</b>	<b>b</b>	<b>3</b>	<b>2</b>	<b>1</b>	<b>6</b>	<b>10</b>
Bihar	—	—	1	—	—	
Orissa	—	—	1	1	c	
West Bengal	b	1	—	b	6	
Tea Board	—	2	—	—	—	
Nagaland	—	—	b	—	—	
<b>Total</b>	<b>85</b>	<b>62</b>	<b>162</b>	<b>290</b>	<b>86</b>	<b>150</b>
Others	—	—	—	6	92@	100
<b>All-India</b>	<b>85</b>	<b>62</b>	<b>162</b>	<b>296</b>	<b>178</b>	<b>250</b>

## Notes :

- \* Estimated.
- b Less than 500 tonnes.
- c less than 100 tonnes.
- + The State totals may not tally with zonal totals because of supplies made by the Pool to fertiliser manufacturers under seeding programme.
- @ Distributed for seeding programme & others.
- ++ Statewise breakup is not available. In the absence of gradewise breakup entire quantity is assumed to be of grade 15-15-15.

## Appendix XIV

## Distribution of urea ammonium phosphate

Zone/State	1968-69	1969-70	1970-71	1971-72	1972-73	1973-74*
<b>South</b>						
28-28-0	118	117	57	56	114	120
20-20-0	—	14	5	18	18	18
22-22-11	—	5	28	6	—	—
14-35-14	—	—	—	—	20	28
<b>Andhra Pradesh</b>						
28-28-0	118	117	57	56	100	—
20-20-0	—	14	5	18	8	—
22-22-11	—	5	28	6	—	—
14-35-14	—	—	—	—	20	—
<b>Kerala</b>						
28-28-0	—	—	—	—	b	—
20-20-0	—	—	—	—	b	—
14-35-14	—	—	—	—	—	—
<b>Mysore</b>						
28-28-0	—	—	—	—	7	—
20-20-0	—	—	—	—	4	—
14-35-14	—	—	—	—	—	—
<b>Tamil Nadu</b>						
28-28-0	—	—	—	—	7	—
20-20-0	—	—	—	—	5	—
14-35-14	—	—	—	—	—	—
<b>West</b>						
28-28-0	—	—	—	—	5	40
20-20-0	—	—	—	—	2	2
<b>Gujarat</b>						
28-28-0	—	—	—	—	b	—
20-20-0	—	—	—	—	—	—
<b>Maharashtra</b>						
28-28-0	—	—	—	—	4	—
20-20-0	—	—	—	—	2	—
<b>Central</b>						
28-28-0	—	—	—	—	26	40
20-20-0	—	—	—	—	—	—
14-35-14	—	—	—	—	—	—
<b>Madhya Pradesh</b>						
28-28-0	—	—	—	—	20	—

(Continued)

## Appendix XIV (Concluded)

## Distribution of urea ammonium phosphate

Zone/State	1968-69	1969-70	1970-71	1971-72	1972-73	1973-74*
<b>Rajasthan</b>						
28-28-0	—	—	—	—	b	—
<b>Uttar Pradesh</b>						
28-28-0	—	—	—	—	5	—
<b>North</b>						
28-28-0	—	—	—	—	2	5
<b>Haryana</b>						
28-28-0	—	—	—	—	1	—
<b>Punjab</b>						
28-28-0	—	—	—	—	1	—
<b>East</b>						
28-28-0	—	—	—	—	23	25
14-35-14	—	—	—	—	6	7
<b>Bihar</b>						
28-28-0	—	—	—	—	3	—
14-35-14	—	—	—	—	—	—
<b>Orissa</b>						
28-28-0	—	—	—	—	11	—
14-35-14	—	—	—	—	6	—
<b>West Bengal</b>						
28-28-0	—	—	—	—	9	—
14-35-14	—	—	—	—	c	—
<b>Others (a)</b>						
28-28-0	—	15	84	169	—	—
20-20-0	—	2	—	24	—	—
22-22-11	—	—	11	—	—	—
14-35-14	—	—	—	—	—	—
<b>Total</b>						
28-28-0	118	133	142	226	170	230
20-20-0	—	17	5	42	20	20
22-22-11	—	5	40	6	—	—
14-35-14	—	—	—	—	26	35

Notes :

\* Estimated.

a Statewise breakup of these are not available.

b Below 500 tonnes.

c Below 100 tonnes.

## Appendix XV

(i) Distribution of superphosphate (16% w.s. P<sub>2</sub>O<sub>5</sub>)

('000 tonnes)

Zone/State	1968-69	1969-70	1970-71	1971-72	1972-73	1973-74*
<b>South</b>	<b>213</b>	<b>230</b>	<b>224</b>	<b>210</b>	<b>219</b>	<b>250</b>
Andhra Pradesh	91	94	90	85	85	
Kerala	17	13	9	8	9	
Mysore	61	60	62	58	64	
Tamil Nadu	44	62	63	58	60	
Pondicherry	a	1	b	1	1	
<b>West</b>	<b>160</b>	<b>139</b>	<b>186</b>	<b>203</b>	<b>170</b>	<b>195</b>
Gujarat	99	66	110	121	96	
Maharashtra	61	73	76	82	74	
Goa	b	b	—	—	—	
<b>Central</b>	<b>125</b>	<b>127</b>	<b>145</b>	<b>161</b>	<b>175</b>	<b>190</b>
Madhya Pradesh	50	73	104	136	128	
Rajasthan	20	25	33	10	16	
Uttar Pradesh	55	29	8	15	31	
Delhi	b	a	a	b	b	
<b>North</b>	<b>32</b>	<b>71</b>	<b>20</b>	<b>39</b>	<b>73</b>	<b>90</b>
Haryana	1	1	1	10	10	
Himachal Pradesh	2	5	1	1	b	
Jammu & Kashmir	1	—	—	—	—	
Punjab	28	65	18	28	63	
<b>East</b>	<b>73</b>	<b>67</b>	<b>61</b>	<b>70</b>	<b>93</b>	<b>100</b>
Assam	8	10	5	6	11	
Bihar	15	11	14	21	28	
Orissa	3	6	6	6	14	
West Bengal	47	40	35	37	37	
Tripura	a	b	1	b	b	
Nagaland	b	b	b	b	b	
Manipur	—	—	—	b	b	
Meghalaya	—	—	—	—	3	
<b>Total</b>	<b>603</b>	<b>634</b>	<b>636</b>	<b>683</b>	<b>730</b>	<b>825</b>
Used in mixture	44	40	47	67	64	—
<b>All-India</b>	<b>647</b>	<b>674</b>	<b>683</b>	<b>750</b>	<b>794</b>	<b>825</b>

## Notes :

- \* Estimated.  
a Less than 500 tonnes but more than 250 tonnes.  
b Less than 250 tonnes.

(Continued)

## Appendix XV (Concluded)

(ii) Distribution of superphosphate higher grades  
(18, % 18.5% w.s. P<sub>2</sub>O<sub>5</sub>)

('000 tonnes)

Zone/State	1968-69	1969-70	1970-71	1971-72	1972-73	1973-74*
<b>South</b>	<b>a</b>	<b>—</b>	<b>—</b>	<b>—</b>	<b>—</b>	<b>—</b>
Andhra Pradesh	—	—	—	—	—	—
Kerala	—	—	—	—	—	—
Mysore	—	—	—	—	—	—
Tamil Nadu	a	—	—	—	—	—
<b>West</b>	<b>2</b>	<b>2</b>	<b>—</b>	<b>—</b>	<b>—</b>	<b>—</b>
Maharashtra	2	2	—	—	—	—
<b>Central</b>	<b>—</b>	<b>—</b>	<b>—</b>	<b>—</b>	<b>—</b>	<b>—</b>
Uttar Pradesh	—	—	—	—	—	—
<b>North</b>	<b>—</b>	<b>—</b>	<b>—</b>	<b>—</b>	<b>—</b>	<b>—</b>
<b>East</b>	<b>b</b>	<b>—</b>	<b>—</b>	<b>—</b>	<b>—</b>	<b>—</b>
Assam	—	—	—	—	—	—
West Bengal	b	—	—	—	—	—
<b>Total</b>	<b>2</b>	<b>2</b>	<b>—</b>	<b>—</b>	<b>—</b>	<b>—</b>
Used in mixture	b	1	a	a	—	—
<b>All-India</b>	<b>2</b>	<b>3</b>	<b>a</b>	<b>a</b>	<b>—</b>	<b>—</b>

## Notes :

- \* Estimated.  
a Less than 500 tonnes but more than 250 tonnes.  
b Less than 250 tonnes.

## Appendix XVI

Distribution of triple superphosphate (45% w.s.  $P_2O_5$ )

('000 tonnes)

Zone/State	1968-69	1969-70	1970-71	1971-72	1972-73	1973-74*
<b>South</b>	<b>a</b>	<b>1</b>	<b>1</b>	<b>1</b>	<b>1</b>	<b>1</b>
Andhra Pradesh	b	a	b	b	a	
Kerala	b	b	b	—	b	
Mysore	b	b	b	b	a	
Tamil Nadu	b	b	b	a	a	
Pondicherry	—	—	—	b	b	
<b>West</b>	<b>1</b>	<b>2</b>	<b>2</b>	<b>2</b>	<b>3</b>	<b>3</b>
Gujarat	a	b	a	b	1	
Maharashtra	1	2	2	2	2	
<b>Central</b>	<b>b</b>	<b>b</b>	<b>b</b>	<b>2</b>	<b>a</b>	<b>a</b>
Madhya Pradesh	b	b	b	2	—	
Rajasthan	—	b	b	—	b	
Uttar Pradesh	b	b	b	b	b	
Delhi	b	b	—	b	a	
<b>North</b>	<b>b</b>	<b>2</b>	<b>4</b>	<b>2</b>	<b>—</b>	<b>1</b>
Haryana	b	—	—	—	—	
Himachal Pradesh	b	—	—	—	—	
Punjab	b	2	4	2	—	
<b>East</b>	<b>b</b>	<b>—</b>	<b>—</b>	<b>b</b>	<b>—</b>	<b>—</b>
Assam	—	—	—	b	—	
W. Bengal	b	—	—	b	—	
<b>Total</b>	<b>3</b>	<b>5</b>	<b>8</b>	<b>7</b>	<b>4</b>	<b>5</b>
Used in mixture	—	—	—	—	—	—
<b>All-India</b>	<b>3</b>	<b>5</b>	<b>8</b>	<b>7</b>	<b>4</b>	<b>5</b>

Notes : a Less than 500 tonnes but more than 250 tonnes.

b Less than 250 tonnes.

\* Estimated.

## Appendix XVII

## Distribution of muriate of potash

('000 tonnes)

Zone/State	1968-69	1969-70	1970-71	1971-72	1972-73	1973-74*
<b>South</b>	<b>107</b>	<b>88</b>	<b>112</b>	<b>160</b>	<b>202</b>	<b>250</b>
	(4)	(b)				
Andhra Pradesh	4	11	14	16	22	
	(3)	(b)				
Kerala	36	29	36	37	28	
	(a)					
Mysore	26	14	20	23	21	
	(a)					
Tamil Nadu	41	34	42	84	131	
	(a)					
Pondicherry	b	—	a	a	a	
<b>West</b>	<b>42</b>	<b>54</b>	<b>59</b>	<b>81</b>	<b>114</b>	<b>125</b>
Gujarat	6	5	12	12	16	
Maharashtra	35	49	47	69	98	
Goa	1	b	b	b	b	
<b>Central</b>	<b>56</b>	<b>20</b>	<b>42</b>	<b>46</b>	<b>54</b>	<b>65</b>
Madhya Pradesh	9	1	7	10	6	
Rajasthan	a	3	2	2	5	
Uttar Pradesh	47	16	32	34	43	
Delhi	—	b	1	b	b	
<b>North</b>	<b>23</b>	<b>17</b>	<b>8</b>	<b>14</b>	<b>16</b>	<b>25</b>
Haryana	5	b	a	1	1	
Himachal Pradesh	—	—	b	a	b	
Jammu & Kashmir	13	—	—	—	—	
Punjab	5	17	8	13	15	
<b>East</b>	<b>21</b>	<b>22</b>	<b>40</b>	<b>50</b>	<b>75</b>	<b>85</b>
	(4)					
Assam	3	2	6	6	20	
Bihar	5	2	10	11	16	
Orissa	1	2	4	4	8	
W. Bengal	12	14	20	29	31	
	(4)					
Tripura	—	b	b	b	a	
Nagaland	b	b	—	—	b	
Manipur	—	—	—	a	b	
<b>Total</b>	<b>249</b>	<b>202</b>	<b>261</b>	<b>351</b>	<b>461</b>	<b>550</b>
	(8)	(b)				
Others	7	3	—	—	a	—
<b>All-India</b>	<b>256</b>	<b>205</b>	<b>261</b>	<b>351</b>	<b>461</b>	<b>550</b>
	(8) 16@	(b)				

Notes : Bracketed figures are of grade 50% K<sub>2</sub>O.  
a Less than 500 tonnes but more than 250 tonnes.  
b Less than 250 tonnes.  
\* Estimated.  
@ Supplied by the pool.

## Appendix XVIII

## Distribution of sulphate of potash

('000 tonnes)

Zone/State	1970-71	1971-72	1972-73	1973-74*
<b>South</b>	<b>12</b>	<b>3</b>	<b>3</b>	<b>3</b>
Andhra Pradesh	11	2	2	
Kerala	b	b	b	
Mysore	1	a	a	
Tamil Nadu	b	b	b	
Pondicherry	b	b		
<b>West</b>	<b>2</b>	<b>a</b>	<b>1</b>	<b>1</b>
Gujarat	1	b	b	
Maharashtra	1	a	1	
<b>Central</b>	<b>—</b>	<b>b</b>	<b>b</b>	<b>b</b>
U.P.	—	—	—	—
Delhi	—	b	b	
<b>North</b>	<b>—</b>	<b>b</b>	<b>b</b>	<b>b</b>
Himachal Pradesh	—	b	—	
Punjab	—	—	b	
<b>East</b>	<b>—</b>	<b>b</b>	<b>b</b>	<b>b</b>
West Bengal	—	b	b	
<b>Total</b>	<b>14</b>	<b>3</b>	<b>4</b>	<b>4</b>
Others	—	—	—	—
<b>All-India</b>	<b>14</b>	<b>3</b>	<b>4</b>	<b>4</b>

Notes : a Less than 500 tonnes but more than 250 tonnes.

b Less than 250 tonnes.

\* Estimated.