

FERTILISER STATISTICS

1979-80



THE FERTILISER ASSOCIATION OF INDIA
Near Jawaharlal Nehru University
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November 1980

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Objects of F.A.I.

- To bring together all concerned with the production, marketing and use of fertilisers with a view to promote a solution of industry problems and the formulation of policies and practices beneficial to the national economy;**
- To promote consideration and discussion of all questions that contribute to sound agricultural practices and to the economic development of the fertiliser and agricultural industries;**
- To institute, prosecute, develop and carry on scientific and economic research regarding preparation of fertilisers, increasing soil fertility and crop production;**
- To improve practices within the country in the production and distribution of fertilisers;**
- To make the cultivators aware of the benefits of fertiliser use;**
- To encourage the use of more and balanced plant foods;**
- To seek to obtain more efficient use of fertilisers of all types.**

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by

C. Sahai
A. N. Kulkarni
T. K. Chanda

P R E F A C E

Fertiliser Statistics has been published regularly every year since 1956. The current issue relating to the year 1979-80 is the 25th edition which coincides with the Silver Jubilee of the FAI being celebrated this year.

The object of the publication is to keep those engaged in fertiliser industry and others dealing with or interested in fertilisers informed of relevant data pertaining to India in particular and the world in general.

Present volume brings up-to-date the statistical information furnished in the previous edition and contains fresh data for the latest year, viz. 1979-80. It provides basic information on production, imports, despatches and consumption (seasonwise, statewise and districtwise) of fertilisers which, we hope, will be useful to planners, research institutes, existing and potential manufacturers and suppliers of agricultural inputs.

The data presented in this publication have been drawn from different sources and, therefore, do not necessarily conform to the same standard of accuracy. This aspect has to be borne in mind when using the data.

The publication of *Fertiliser Statistics* has been made possible by the cooperation of multifarious organisations, official and non-official, like Central Ministries of Agriculture and Rural Reconstruction, and Petroleum, Chemicals & Fertilisers; The Directorate General of Technical Development; Planning Commission; Rural Electrification Corporation; National Cooperative Development Corporation; State Departments of Agriculture and Cooperation; Minerals and Metals Trading Corporation of India Ltd.; Rajasthan State Mines and Minerals Ltd.; M. P. State Mining Corporation Ltd.; fertiliser manufacturers, importers, marketers and many others. The assistance rendered by them is gratefully acknowledged.

Members of the Association and those interested in the future development of Indian agriculture will, I am sure, continue to find this publication useful.

Suggestions received from our readers have enabled us to make many improvements in the past to increase the utility of this publication. Further suggestions for making future editions more comprehensive and useful to the readers would be welcome.

New Delhi,
November 17, 1980

SATYA NAND,
Executive Director,
The Fertiliser Association of India.

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5.07(a). STATEWISE DISTRIBUTION OF FERTILISERS—MATERIALWISE AND NUTRIENTWISE

1977-78 1976-77

(tonnes)

Zone/State	Ammonium sulphate 20.6% N	Ammonium sulphate nitrate 26% N	Urea 46% N	Calcium ammon. nitrate		Ammonium chloride 25% N	Ammonium phosphate sulphate			Nitrophosphate		Ammonium nitrate phosphate 20-20-0	APSN* 20-20-0	Urea ammon. phosphate		Diammonium phosphate 18-46-0	NPK complex fertilisers						Single super-phosphate 16% P ₂ O ₅	Triple super-phosphate 46% P ₂ O ₅	Pelophos 18% P ₂ O ₅	Muriate of potash 60% K ₂ O	Sulphate of potash 50% K ₂ O	Total					
				25% N	26% N		16-20-0	20-20-0	18-9-0	15-15-15	20-20-0			28-28-0	14-35-14		10-26-26	12-32-16	14-28-14	17-17-17	19-19-19	24-24-0						Material	Nutrient				
																													N	P ₂ O ₅	K ₂ O		
Central	38,733	438	1371,778	121,735	23,656	12,927	4,647	—	1,974	987	54,642	1,461	5,786	2,647	25,003	10,272	160,491	4,897	113,498	344	511	—	2,336	188,764	171	—	28,542	2	2196,222	747,522	164,510	22,720	
Madhya Pradesh	10,337	72	146,798	27,360	—	154	—	—	—	509	1,888	—	—	1,686	23,640	9,277	14,819	—	21,109	241	511	—	2,205	111,543	33	—	3,649	—	375,831	91,042	42,703	2,189	
Rajasthan	1,400	376	135,130	—	992	27	—	—	—	287	—	1,481	—	399	—	—	14,817	—	15,975	—	—	—	—	30,947	100	—	3,999	—	205,901	67,820	17,353	2,399	
Uttar Pradesh	26,993	—	1087,093	113,560	21,906	12,720	4,647	—	1,974	191	52,754	—	5,766	562	1,363	995	130,088	4,897	76,390	103	—	—	—	131	46,012	38	—	20,764	—	1608,548	586,843	104,652	18,053
Delhi	3	—	2,757	815	758	26	—	—	—	—	—	—	—	—	—	—	767	—	24	—	—	—	—	262	—	—	130	2	5,542	1,817	402	79	
East	217,956	216	306,057	125,803	—	1,696	2,878	70	—	—	44,289	25,010	—	6,936	47,711	3,535	4,844	—	—	—	295	—	2,053	86,897	69	1,467	61,850	24	938,656	246,392	45,189	37,113	
Arunachal Pradesh	—	—	31	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	31	6	—	—	—	
Assam	—	—	4,006	—	—	—	—	23	—	—	1,469	—	—	—	—	—	228	—	—	—	—	—	—	5,525	—	—	16,825	—	28,076	2,169	1,214	10,095	
Bihar	76,444	192	162,653	23,656	—	376	—	—	—	—	15,151	8,293	—	554	1,693	1,283	4,520	—	—	—	—	—	—	27,057	—	24	8,864	—	329,760	102,136	11,378	5,318	
Manipur	—	—	3,336	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1,500	—	—	96	—	4,932	1,536	240	58	
Meghalaya	3,649	—	1,975	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2,501	—	—	—	—	8,125	1,661	400	—	
Nagaland	—	—	112	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	90	—	—	—	202	52	15	—		
Orissa	27,526	24	8,165	70,621	—	9	—	—	—	—	—	—	—	2,012	25,393	805	—	—	—	—	295	—	2,053	5,263	20	1,395	5,771	—	149,372	35,268	9,439	3,463	
Tripura	—	—	780	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	269	—	—	96	—	1,145	359	43	58	
West Bengal	60,872	—	91,280	31,526	—	1,311	2,878	47	—	—	27,669	16,717	—	4,370	20,625	1,447	96	—	—	—	—	—	—	—	40,963	49	48	30,180	24	330,102	77,571	21,864	18,110
Andaman Nicobar	—	—	136	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	18	—	154	63	—	11	
Assam Tea	36,360	—	23,695	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2,172	—	—	—	62,227	18,391	348	—	—	
West Bengal Tea	12,678	—	9,660	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1,557	—	—	—	23,895	7,056	249	—	—	
Tripura Tea	427	—	208	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	634	184	—	—	—	—	
North	1,844	—	544,695	264,96	7,131	108	5,810	—	—	418	255	1,997	298	7,270	—	—	71,508	—	129,263	570	—	—	4,744	98,349	49	—	10,130	24	1149,426	351,626	94,511	6,135	
Haryana	531	—	157,312	80,329	2,902	9	—	—	—	154	65	1,997	—	1,451	—	—	8,436	—	22,194	—	—	—	1,573	14,669	16	—	2,448	—	294,093	98,602	14,445	1,484	
Himachal Pradesh	202	—	527	14,662	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2,219	—	—	1,254	—	18,864	3,950	355	752	
Jammu & Kashmir	—	—	19,476	—	—	—	—	—	—	—	—	—	—	—	—	—	1,310	—	—	—	—	—	—	—	—	—	—	20,786	9,195	603	—	—	
Punjab	1,111	—	367,080	168,945	4,229	99	5,810	—	—	264	190	—	—	5,819	—	—	61,762	—	107,069	570	—	—	3,171	81,461	33	—	6,428	24	814,356	239,484	79,108	3,899	
Chandigarh	—	—	300	1,027	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1,327	395	—	—	—	

(Continued)

5.07(a). STATEWISE DISTRIBUTION OF FERTILISERS—MATERIALWISE AND NUTRIENTWISE (Concluded)
1977-78

(tonnes)

Zone/State	Ammonium sulphate 20-6-0 N	Ammonium sulphate nitrate 26-0 N	Urea 46% N	Calcium ammon. nitrate		Ammonium chloride 25% N	Ammonium phosphate sulphate			Ammonium sulphate phosphate 19.5-19.5-0	Nitrophosphate		Ammonium nitrate phosphate 20-20-0	APSN* 20-20-0	Urea ammon. phosphate		Diammonium phosphate 18-46-0	NPK complex fertilisers						Single super-phosphate 16% P ₂ O ₅	Triple super-phosphate 46% P ₂ O ₅	Peltophos 18% P ₂ O ₅	Muriate of potash 90% K ₂ O	Sulphate of potash 50% K ₂ O	Total				
				25% N	26% N		16-20-0	20-20-0	18-9-0		15-15-15	20-20-0			28-28-0	14-35-14		10-26-26	12-32-16	14-28-14	17-17-17	19-19-19	24-24-0						Material	Nutrient			
																														N	P ₂ O ₅	K ₂ O	
South	201,342	1,247	946,522	130,794	14,830	2,891	75,810	32,442	16,707	856	45,062	3,680	--	6,138	165,583	24,542	6,249	19,951	6,150	1,682	263,359	24,107	6,875	216,684	182	--	137,910	8,549	2360,160	649,916	183,252	87,697	
Andhra Pradesh	97,354	746	358,005	120,001	13,493	775	3,668	28,429	--	856	1,445	1,015	--	6,138	158,472	23,254	768	--	4,365	277	57,983	10,568	6,837	109,598	115	--	11,453	6,609	1022,260	288,592	93,667	10,177	
Karnataka	29,223	311	204,695	10,793	--	78	23,398	2,910	8,770	--	38,122	1,908	--	--	5,264	945	366	7,415	1,729	666	63,370	10,543	38	40,147	20	--	25,745	1,895	478,351	130,482	36,019	17,055	
Kerala	33,300	--	42,149	--	--	167	28,491	230	341	--	1,473	288	--	--	--	--	--	--	--	285	23,353	--	--	13,087	--	--	42,194	8	185,366	35,244	12,197	25,321	
Tamil Nadu	40,941	190	331,081	--	--	1,871	20,253	873	7,596	--	2,328	469	--	--	1,692	343	4,448	12,536	56	454	117,254	16	--	52,901	27	--	58,518	10	653,857	189,056	39,819	35,16	
Pondicherry	--	--	5,379	--	--	--	--	--	--	--	--	--	--	--	--	--	219	--	--	--	1,399	--	--	951	20	--	--	--	7,968	2,752	500	--	
Laccadives	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	27	--	--	13	
Cardamom Board	--	--	1,420	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1,420	653	--	--	
Coffee Board	321	--	3,517	--	1,387	--	--	--	--	--	1,694	--	--	--	78	--	448	--	--	--	--	--	--	--	--	--	--	--	--	10,425	2,967	1,048	15
Rubber Board	179	--	123	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	302	93	--	--	--	
Tea Board (South)	24	--	153	--	--	--	--	--	--	--	--	--	--	--	7	--	--	--	--	--	--	--	--	--	--	--	--	184	77	2	--	--	
West	152,012	48	557,722	1,072	1,339	1,290	6,655	3,564	1,317	10,359	92,117	33,590	--	10,536	9,719	1,163	87,539	29,902	32,929	--	12,401	20,995	178	226,053	1,566	816	69,372	1,819	1367,073	347,337	131,709	42,983	
Gujarat	107,471	48	211,373	--	1,339	--	4,043	--	--	5,227	7,367	5,838	--	1,063	201	--	62,475	6,078	31,115	--	--	96	--	103,950	159	--	12,394	368	560,605	141,458	61,368	7,635	
Maharashtra	45,505	--	342,880	1,072	--	1,290	2,612	3,564	1,317	5,132	84,750	27,752	--	9,473	8,027	1,163	24,229	23,824	1,814	--	12,401	19,702	178	121,727	1,398	816	56,226	1,451	798,303	205,481	69,247	34,897	
Goa	36	--	3,170	--	--	--	--	--	--	--	--	--	--	--	1,491	--	788	--	--	--	--	1,197	--	376	9	--	752	--	7,819	252	1,072	451	
Dadra & Nagar Haveli	--	--	299	--	--	--	--	--	--	--	--	--	--	--	--	--	47	--	--	--	--	--	--	--	--	--	--	346	146	22	--	--	
Others	24	--	4,901	--	--	1,396	6	46	--	--	--	--	--	--	--	--	35,189	--	--	--	--	--	--	50,856	--	--	301,093	--	39,351	8,953	24,324	180,656	
All India	611,911	1,949	3739,241	664,367	47,006	20,306	95,806	36,124	16,998	12,620	236,565	65,738	6,064	33,527	248,016	39,512	365,820	54,750	281,840	2,596	275,566	45,102	16,176	867,603	2,037	2,283	608,897	10,418	8412,638	2351,746	643,495	377,312	

*APSN = Ammonium phosphate sulphate nitrate (20-20-0) (indigenous).

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INTRODUCTION

With the growth in fertiliser consciousness, it is inevitable that *Fertiliser Statistics* should be expected, in each successive issue, to provide more relevant data to cover different related aspects of the fertiliser industry. It is, therefore, becoming difficult for us in each successive year to reconcile the conflicting demands of additional information and yet retaining the compactness of this book. Updating of data has, therefore, had to be combined with modification of contents and layout.

The publication of data has been made possible by the cooperation of the Government and the Industry. Primary statistics of various types are to be found in the records of the Government, the Industry and the research institutions. Often, these are unpublished. Even the published information is scattered over a large number of publications and is not generally available in a form that it can be put to ready use. A lot of collection, tabulation and collection becomes necessary to meet each individual's need. Quite a frustrating task. And fertiliser and its related fields are no exception. This book is, therefore, brought out every year in order to bring together all suitable data regarding fertilisers, both published and unpublished, with a view to presenting a comprehensive picture of the fertiliser situation. We hope that it will continue to meet the needs of all those who are interested in economic development through intensive agriculture in which fertiliser plays a key role.

As usual, the book has been presented in four parts. First part deals with Indian fertiliser statistics; part two with Indian agricultural and allied statistics; and part three with world fertiliser and agricultural statistics. Part four contains a brief write-up about our Active Member firms and a list of other Members.

In part I, chapters have been updated to cover itemwise data in respect of production, capacity, raw materials used, actual quantum of production, despatches, imports and consumption and prices. Each aspect covers separately all the three primary nutrients, i.e. N, P_2O_5 and K_2O . Fertiliser projects under various stages of implementation have been incorporated to present all-India capacity of N and P_2O_5 .

Data on plant nutrients removed, soil-testing laboratories and railway freight rates for fertilisers have been included to facilitate a more comprehensive consideration of fertiliser use.

The production and despatch statistics of indigenous phosphate rock located at Udaipur (Rajasthan), Jhabua (M.P.) and Mussoorie (U.P.) have considerably been elaborated in the issue.

While making use of the distribution figures, following aspects should be kept in view:

- (i) Distribution data comprises despatches made to different states by the Central Fertiliser Pool, Indian Potash Ltd. and the domestic manufacturers.
- (ii) Pool distributes imported nitrogenous and complex fertilisers and manufacturers market the indigenous material. Movement of indigenous material is controlled under the Essential Commodities Act.

- (iii) The statewise consumption figures for the 3-year period 1977-78 to 1979-80 are derived from the deliberations of the Zonal Conferences held twice a year by the Ministry of Agriculture and Rural Reconstruction, Department of Agriculture, New Delhi. The districtwise/seasonwise consumption figures have been taken from the respective states' Departments of Agriculture.

Part II dealing with Indian agricultural and allied statistics complements Part I. Besides land utilisation statistics, it contains production of crops, areas covered under special agricultural programmes like High Yielding Varieties, Multiple Cropping, Small Farmers Development Agency, etc. Basic statistics on population and agricultural economy will, we hope, make the section comprehensive.

Part III contains fertiliser and agricultural statistics on production and consumption in other countries to enable a comparable study with our Indian situation, e.g. fertiliser consumption per hectare, consumption ratio, prices, etc.

Presentation

Data are presented for the latest available year and are mostly on April-March basis except in a few cases where statistics on July-June have also been provided. Consumption figures are on February-January basis as these are recorded from the Zonal Conferences. Owing to rounding off, the total of columns may not, in every case, tally with the sum of the constituent items.

For the purpose of this edition of *Fertiliser Statistics*, the country has been divided into the following five zones:

1. **CENTRAL** : Madhya Pradesh, Rajasthan, Uttar Pradesh and Delhi.
2. **EAST** : Assam, Bihar, Meghalaya, Mizoram, Nagaland, Orissa, West Bengal, Manipur, Tripura, Arunachal Pradesh and Andamans.
3. **NORTH** : Haryana, Himachal Pradesh, Jammu & Kashmir, Punjab and Chandigarh.
4. **SOUTH** : Andhra Pradesh, Karnataka, Kerala, Tamil Nadu, Pondicherry and Leccadive Islands.
5. **WEST** : Gujarat, Maharashtra, Goa, Daman & Diu and Dadra & Nagar Haveli.

The sources from which the data have been derived are indicated at the bottom of each Table. Where no source is given for a particular Table, the data may be assumed to have been collected and tabulated by the FAI.

PART I

FERTILISER STATISTICS

1.00. CAPACITY FOR FERTILISER PRODUCTION

1.01. LICENSED CAPACITY AND PRODUCTION OF NITROGENOUS AND COMPLEX FERTILISERS FACTORYWISE AND PRODUCTWISE (As on September 1, 1980)

('000 tonnes)

Name of factory	Sector	Date of commissioning	End product			Capacity (production)		
			Product	Capacity	Production 1979-80 (April-March)	N	P ₂ O ₅	
I. IN PRODUCTION								
1. CFL, Vizag (A.P.)	Pvt.	December 1967	Urea	—	—	84.0	104.0	
		UAP/NPK Feb. 1968	NP/NPKs			(80.6)	(72.3)	
		Exp. UAP/NPK April 1976	28-28-0	251.0	188.4			
			14-35-14	96.5	50.4			
2. EID Parry (India) Ennore (T.N.)	Pvt.	March 1963	18-48-0	N.A.	4.3			
			APS			16.0	10.3	
			16-20-0	51.5	48.0	(6.9)	(8.6)	
3. FACT-Alwaye (Kerala)	Pub.	January 1968	AS	38.8	—			
		June 1947	AS	198.0	130.5	62.0	36.2	
							(50.3)	(24.6)
		1st stage December 1960	APS					
		2nd stage November 1962	20-20-0	49.0	40.6			
4. FACT-Ambalamedu (Cochin-Phase I) (Kerala)	Pub.	July 1973	3rd stage November 1967					
			4th stage September 1971	16-20-0	132.0	82.2		
				A/ci	24.8	8.7		
				Urea	330.0	212.0	152.0	—
					(97.5)	(—)		

5. FACT-Ambalamedu (Cochin-Phase II) (Kerala)	Pub.	December 1976	NP/NPKs 17-17-17 28-28-0 18-46-0	485.0	27.5 71.9	40.0 (20.6)	114.0 (40.8)
6. FCI:	Pub.						
a) Gorakhpur (UP)		January 1969 Exp. December 1975	Urea	264.9	111.0	131.0 (51.0)	— (—)
b) Sindri (Bihar)		November 1951	AS	320.0	8.4	219.0 (23.1)	— (—)
		Modernisation October 1979	Urea	390.0	46.4		
c) Ramagundam (A.P.)		September 1979/ August 1980	Urea	495.0	—	228.0 (—)	— (—)
d) Talcher (Orissa)		September 1979/ August 1980	Urea	495.0	—	228.0 (—)	— (—)
7. GSFC, Baroda (Gujarat)	Pvt.	Phase I, 1967	Tech grade urea	3.3	N.A.	236.0 (175.6)	50.0 (36.8)
		Phase II June 1969	Urea	364.0	264.1		
		Phase III August 1974	AS DAP 18-46-0	184.0 106.9	192.8 80.0		
8. HFCL:	Pub.						
a) Barauni (Bihar)		November 1976	Urea	390.0	101.0	152.0 (46.5)	— (—)
b) Durgapur (W.B.)		October 1974	Urea	330.0	116.3	152.0 (53.5)	— (—)
c) Namrup (Assam)		January 1969 Exp. April 1976	Urea AS	385.0 100.0	148.0 49.0	197.0 (78.1)	— (—)
9. IEL-Kanpur (U.P.)	Pvt.	December 1967	Urea	450.0	334.0	207.0 (153.6)	— (—)
10. IFFCO	Coop.						
a) Kandla/Kalol (Gujarat)		January 1975 November 1974	Urea NP/NPKs 10-26-26 12-32-16 14-36-12	392.00 92.8 92.8 189.9	263.7 56.8 453.3 —	215.0 (181.3)	127.0 (159.8)
b) Phulpur (U.P.)		August '79/August '80	Urea	495.0	—	228.0 (—)	— (—)

**1.01. LICENSED CAPACITY AND PRODUCTION OF NITROGENOUS AND COMPLEX FERTILISERS
FACTORYWISE AND PRODUCTWISE
(As on September 1, 1980) (Continued)**

('000 tonnes)

Name of the factory	Sector	Date of commissioning	End product			Capacity (production)	
			Product	Capacity	Production 1979-80 (April-March)	N	P ₂ O ₅
11. Kothari (Madras) Ennore (T.N.)	Pvt.	May '79	A/cf	20.0	1.7	5.0 (0.4)	— (—)
12. MFL, Manali (T.N.)	Pvt.	October 1971 III stream October 1976	Urea	210.0	125.8	176.0 (140.2)	112.0 (88.9)
			NP/NPKs				
			17-17-17	90.6	412.5		
			14-28-14	72.5	36.8		
			28-28-0	54.5	—		
			18-36-0	54.4	—		
			11-22-22	36.3	—		
			24-24-0	N.A.	25.7		
			18-46-0	N.A.	5.0		
13. MCFL, Mangalore (Karnataka)	Pvt.	March 1976	Urea	340.0	231.0	156.0 (102.2)	— (—)
14. NFL:	Pub.						
a) Bhatinda (Punjab)		October '79	Urea	511.5	115.6	235.0 (53.2)	— (—)
b) Nangal (Punjab)		April 1961 Exp. April 1978	CAN 25% N Urea	320.0 330.0	254.8 145.2	232.0 (130.5)	— (—)
c) Panipat (Haryana)		October '79	Urea	511.5	140.2	235.0 (84.5)	— (—)
15. NCJM Varanasi (U.P.)	Pvt.	November 1959	A/Cf	40.0	2.3	10.0 (0.6)	— (—)
16. NLC, Neyveli (T.N.)	Pub.	March 1966	Urea	154.0	103.5	70.0 (47.6)	— (—)

Switch over to
fuel oil August 1979

17. RCFL, Trombay (Maharashtra)	Pub.	October 1965	Urea	99.0	103.9	165.0 (126.1)	120.0 (78.3)
		November 1965	Nitrophosphate	555.0	199.8	255.5	
		Debottie—	15-15-15				
		July 1976	Ammonium				
		IV stage	nitrophosphate				
Exp. July 1978	20-20-0						
Switch over to	A.P.S.N						
natural gas 1979	20-20-0						
18. SAIL:	Pub.						
a) Bhilai (M.P.)		1955	AS	32.6	33.0	6.7	—
		1st Expn. Dec. 1972				(6.7)	(—)
b) Bokaro (Bihar)		October 1972	AS	36.3	24.1	7.5	—
		1st expn. Nov. 1973				(5.0)	(—)
		2nd expn. March 1977					
c) Durgapur (W.B.)		April 1960	AS	21.2	8.8	4.4 (1.8)	— (—)
d) IISCO Burnpur-Kutti (W.B.)		1947	AS	23.0	5.6	4.7 (1.2)	— (—)
e) Rourkela (Orissa)		March 1947	AS	28.2	14.3	5.8 (2.9)	— (—)
f) Rourkela (Orissa) (fertiliser plant)		December 1962	CAN (25% N)	480.0	210.5	120.0	—
Exp. 1969		(52.0)				(—)	
II Naphtha reformer 1978-79							
19. SFC, Kota (Rajasthan)	Pvt.	February 1969	Urea	330.0	252.2	152.0 (116.0)	— (—)
20. SPIC, Tuticorin (T.N.)	Pvt.	June 1975	Urea	512.0	441.1	258.0 (221.3)	51.0 (47.0)
		November 1976	NP/NPKs				
			18-46-0	28.0	102.2		
			10-26-26	128.0	—		
			15-15-15	32.0	—		
	28-28-0	N.A.	—				

**1.01. LICENSED CAPACITY AND PRODUCTION OF NITROGENOUS AND COMPLEX FERTILISERS
FACTORYWISE AND PRODUCTWISE
(As on September 1, 1980) (Continued)**

('000 tonnes)

Name of the factory	Sector	Date of commissioning	End product			Capacity (production)	
			Product	Capacity	Production 1979-80 (April-March)	N	P ₂ O ₅
21. TISCO, Jamshedpur (Bihar)	Pvt.	1933	AS	23.1	13.5	4.8 (2.8)	— (—)
22. ZACL-San-Coale (Goa)	Pvt.	May 1973	Urea	340.0	270.7	171.0 (151.1)	42.0 (27.5)
		March 1975	NP/NPKs				
			28-28-0	} 150.0	43.6		
			19-19-19		68.8		
			18-46-0		—		
			14-35-34		4.8		
Straight Phosphatic Fertilisers (vide table 1.02)			SSP/TSP/Pelafos			—	566.8 (178.0)
			Sectorwise capacity				
			Public			2,843.1	690.4*
			Private			1,269.8	515.9*
			Coop.			443.0	127.0
			I. Total capacity				
			Production			4,585.9	1,333.3
			Capacity			2,224.3	763.1
			Utilisation (per cent)			61	65
II. UNDER IMPLEMENTATION							
1. GNVFC, Bharuch (Gujarat)	Pvt.	September 1981	Urea	594.0		273.6	—
2. HFCL, Haldia (W.B.)	Pub.	March/April 1981	Urea	167.4		152.0	75.0
			Nitro-Phos. 20-20-0	375.0			—

3. IEL, Kanpur (U.P.)	Pvt.	Expn. July 1981	Urea	225.0	100.0	--
4. IFFCO, Kandla (Gujarat)	Coop.	Expansion July 1981	NP/NPKs	500.00	50.0	125.0
5. KRIBHCO, Hazira (Gujarat) (2 plants)	Coop.	1st plant January 1985 2nd plant July 1985	Urea	495.0 x 2	345.0 x 2	--
6. RCFL:	Pub.					
a) Thal Vaishet (Maharashtra) (2 plants)		1st plant October 1984 2nd plant April 1985	Urea	495.0 x 2	345.0 x 2	--
b) Trombay V (Mah.)		Expansion July 1981	Urea	330.0	152.0	--
Straight Phosphatic Fertilisers (vide table 1.02)					--	59.1
			Sectorwise Capacity		Public	75.0
					Private	59.1
					Cooperative	125.0
			II. Total capacity		2,107.0	259.1

III. APPROVED IN PRINCIPLE

1. Bihar Caustic & Chemicals Palamau (Bihar)	Pvt.	1982-83	A/CI	26.0	6.5	--
2. Deepak Fertiliser Products Talaja (Maharashtra)	Pvt.	July 1982			66.0	--
3. FCI, Korba (M.P.)	Pub.	April 1986	Urea	495.0	228.0	--
4. HFCL, Namrup (Assam)	Pub.	Expansion Nov. 1983	Urea	330.0	152.0	--
5. MPAMF, Jhalua (M.P.)	Pvt.	1985-86	Ammonium phosp.	94.0	10.3	50.0
6. NFCL, Kakinanda (A.P.)	Pvt.	Phase I 1984-85 Phase II 1986-87	Urea NPKs	437.0 450.0	228.0	80.0
7. Paradeep Project Paradeep (Orissa)	Pub.	Phase I, Jan. 1984 Phase II, Jan. 1986	NPKs 18-46-0 19-19-19 14-28-14		120.0	300.0

**1.01. LICENSED CAPACITY AND PRODUCTION OF NITROGENOUS AND COMPLEX FERTILISERS
FACTORYWISE AND PRODUCTWISE
(As on September 1, 1990) (Concluded)**

('000 tonnes)

Name of the factory	Sector	Date of commissioning	End product			Capacity (production)	
			Product	Capacity	Production 1979-80 (April-March)	N	P ₂ O ₅
8. Polymer Corporation (Gujarat)	Pvt.		AS	10.0		2.1	—
Straight Phosphatic Fertilisers (vide table 1.02)							106.6
			Sectorwise Capacity	Public		500.0	321.1*
				Private		312.0	215.5*
				Coop.		—	—
			III. Total Capacity			812.9	536.6
			Sectorwise Capacity	Public		4,337.1	1,086.5*
				Private		1,995.7	790.5*
			(I+II+III)	Coop.		1,183.0	252.0*
			Grand Total (I+II+III)	Capacity		7,595.8	2,129.0
IV. UNDER CONSIDERATION							
1. Projects based on Bombay High							
a) V Plant		1985-86				345.0	—
b) VI Plant		1986-87				345.0	—
c) VII Plant		1987-88				345.0	—
d) VIII Plant		1988-89				345.0	—
e) IX Plant		1988-89				345.0	—
f) X Plant		1989-90				345.0	—
2. West Coast NP/NPK Project		1984-85	NP/NPKs			50.0	125.0
3. FACT, Ambalamedu (Cochin II) (Kerala)	Pub.	Expansion 1984-85	NP/NPKs				64.0
4. IFFCO, Kandla (Gujarat)	Coop.	1983-84	H ₂ PO ₄				127.0
5. MCFL, Mangalore (Karnataka)	Pvt.	Phase II 1984-85	NP/NPKs				64.0

6. SPIC, Tuticorin (T.N.)	Pvt.	Expansion 1983-84	NP/NPKs		70.8
7. ZACL, San-Coale (Goa)	Pvt.	Expansion 1983-84	NP/NPKs	150.0	42.0
Straight Phosphatic Fertilisers (vide table 1.02)	Pub.				225.3
			Sectorwise Capacity	Public	269.3
				Private	176.0
				Cooperative	127.0
			IV Total Capacity		2,120.0
			Sectorwise Capacity	Public	4,337.1
				Private	1,985.7
			(I+II+III+IV)	Cooperative	1,183.0
			Grand Total	Capacity	379.0
			(I+II+III+IV)		9,625.7ϕ
					2,846.3ϕ

Abbreviations:

CFL	—	Coromandal Fertilisers Ltd.	MPAMF	—	M.P. Agro Morarji Fertilisers Ltd.
DMCC	—	Dharamsi Morarji Chemical Co. Ltd.	NFCL	—	Nagarjuna Fertilisers & Chemicals Ltd.
FACT	—	Fertilisers and Chemicals Travancore Ltd.	NCJM	—	New Central Jute Mills Co. Ltd.
FCI	—	Fertilizer Corporation of India Ltd.	NFL	—	National Fertilizers Ltd.
GNVFC	—	Gujarat Narmada Valley Fertilizers Co. Ltd.	NLC	—	Neyveli Lignite Corporation
HCL	—	Hindustan Copper Ltd.	RCFL	—	Rashtriya Chemicals & Fertilizers Ltd.
HFCL	—	Hindustan Fertilizer Corporation Ltd.	SAIL	—	Steel Authority of India Ltd.
GSFC	—	Gujarat State Fertilizers Co. Ltd.	SFC	—	Shriram Fertilisers & Chemicals
HZL	—	Hindustan Zinc Ltd.	SPIC	—	Southern Petrochemical Industries Corpn. Ltd.
IEL	—	Indian Explosives Ltd.	TISCO	—	Tata Iron & Steel Co. Ltd.
IFFCO	—	Indian Farmers Fertiliser Cooperative Ltd.	ZACL	—	Zuari Agro Chemicals Ltd.
IISCO	—	Indian Iron and Steel Co. Ltd.	Pub.	—	Public
KRIBHCO	—	Krishak Bharatiya Cooperation Ltd.	Pvt.	—	Private
MCFL	—	Mangalore Chemicals & Fertilizers Ltd.	Coop.	—	Cooperative
MFL	—	Madras Fertilizers Ltd.			

() — Production during 1979-80. ϕ Includes Projects listed in Category IV.

* Includes contribution from straight phosphatic fertilisers (details Vide Table 1.02).

Note: Production of N excludes nitrogen meant for non-fertiliser purposes.

**1.02. LICENSED CAPACITY AND PRODUCTION OF PHOSPHATIC FERTILISERS
FACTORYWISE AND PRODUCTWISE
(As on September 1, 1980)**

('000 tonnes)

Name of the factory/location	Sector	Date of commissioning	End product		P ₂ O ₅	
			Capacity	Production 1979-80 (April-March)	Capacity	Production 1979-80 (April-March)

I. IN PRODUCTION

(A) Single Superphosphate

1. Adarah Chemicals & Fertilisers, Udhna (Guj.)	Pvt.	October 1962	70.0	52.6	11.2	8.4
2. Andhra Fertilisers, Tadepalle (A.P.)	Pvt.	November 1960	40.0	30.8	6.4	4.9
3. Andhra Sugars, Tanuku (A.P.)	Pvt.	Merch 1961	33.5	20.2	5.4	3.2
4. Anil Starch Products, Bhavnagar (Guj.)	Pvt.	1947, shifted site April 1964	33.5	17.7	5.4	2.8
5. Anish Chemicals, Ahmedabad (Guj.)	Pvt.	November 1972, shifted site February 1977	9.0	3.7	1.4	0.6
6. Bharat Alums & Chemicals, Alwar (Raj.)	Pvt.	March 1960	66.0	3.1	10.6	0.5
7. Bharat Fertiliser Industries, Majiwada (Mah.)	Pvt.	April 1968	22.5	27.1	3.6	4.3
8. Bihar State Superphosphate Factory, Sindri Institute (Bihar)	Pub.	May 1958	23.5	5.5	3.8	0.9
9. Chamundi Chemicals, Munirabad (Karnataka)	Pvt.	November 1963	40.6	—	6.5	—
10. Chemical Unit of Associated Industries (Assam), Chandrapur (Assam)	Pub.	August 1963, recommissioned March 1975	33.5	2.7	5.4	0.4
11. Coimbatore Pioneer Fertilisers, Coimbatore (T.N.)	Pvt.	February 1966	40.6	19.0	6.5	3.0
12. DCM Chemical Works, Delhi	Pvt.	1946, exp. April 1968	144.0	120.4	23.0	19.3
13. Dharamal Morarji Chemical Co., Ambernath (Mah.)	Pvt.	October 1924, exp. May 1973	146.3	158.6	23.4	25.4
14. Dharamal Morarji Chemical Co., Kumharl (M.P.)	Pvt.	October 1961, exp. May 1973	95.0	88.0	15.2	14.1
15. EID-Parry (India), Ranipet (T.N.)	Pvt.	1966	40.0	45.1	6.4	7.2

16.	Fertilisers & Chems, Travancore, Alwaye (Kerala)	Pub.	April 1948	44.7	24.4	7.2	3.9
17.	Gammon Fer-Chems, Belagula (Karnataka)	Pvt.	July 1976	33.0	38.4	9.8	6.1
18.	Girraj Ferts & Chems, Shikohabad (U.P.)	Pvt.	July 1979	9.0	2.8	1.4	0.4
19.	Hindustan Chemicals, Bhilwara (Raj.)	Pvt.	July 1980	5.0	—	0.8	—
20.	Hindustan Copper Ltd., Khetri (Raj.) (also see TSP)	Pub.	October 1976	—	22.5	—	3.8
21.	Hindustan Fertiliser Indus., Madri (Raj.)	Pvt.	October 1977	8.3	3.5	1.3	0.6
22.	Hindustan Zinc, Debari (Raj.)	Pub.	October 1967	75.0	24.0	12.0	3.8
23.	Hyderabad Chems & Ferts, Maula Ali (A.P.)	Pub.	1946, shifted site 1968	41.9	12.6	6.7	2.0
24.	Jayshree Chems & Ferts, Kherdah (W.B.)	Pvt.	December 1961, expn. March 1973	57.4	45.7	9.2	7.5
25.	J. K. Chemical Works, Pandesara (Guj.)	Pvt.	October 1979	3.6	0.1	0.8	0.02
26.	Khicha Industries, Udaipur (Raj.)	Pvt.	June 1980	3.6	—	0.6	—
27.	Kothari (Madras), Ennore (T.N.)	Pvt.	July 1962	44.7	28.4	7.2	4.5
28.	Krishna Industrial Corpn., Nidadavole (A.P.)	Pvt.	April 1964	50.8	14.3	8.1	2.8
29.	Liberty Pesticides & Fertilisers, Madri (Raj.)	Pvt.	February 1977, expn. October 1976	16.5	2.3	2.6	0.4
30.	Liberty Pesticides & Ferts, Visakhapatnam (A.P.)	Pvt.	September 1979	12.5	0.4	2.0	0.1
31.	Madhuvan Chems & Ferts, Dabok (Raj.)	Pvt.	January 1977	28.4	4.2	4.2	0.7
32.	Maharana Khanij Udyog, Madri (Raj.)	Pvt.	May 1979	5.0	0.7	0.8	0.1
33.	Maharashtra Agro Industries Dev. Corpn., Panvel (Mah.)	Pub.	March 1974	45.0	20.6	7.2	3.3
34.	Noble Chemicals, Ghatkopar (Mah.)	Pvt.	April 1980	8.0	—	0.5	—
35.	Paushak Ltd., Baroda (Guj.)	Pvt.	1951	33.5	25.2	5.4	4.0
36.	Phosphate Co., Rishra (W.B.)	Pvt.	1950, expn. December 1967	61.0	37.0	9.8	5.9
37.	Premier Fertilisers, Cuddalore (T.N.)	Pvt.	February 1963	40.6	—	6.5	—
38.	Rallis India, Magarwara (U.P.)	Pvt.	September 1962	61.0	50.1	9.8	8.0
39.	Rama Krishi Rasayan, Loni-kalbhor (Mah.) (formerly West India Chemicals)	Pvt.	1950, shifted site and recommissioned in June 1967	33.5	32.0	5.4	5.1
40.	Shaw Wallace & Co., Avadi (T.N.)	Pvt.	April 1967	75.5	60.5	12.2	9.7
41.	Viraj Chemicals, Nandesari (Guj.)	Pvt.	October 1974	2.2	2.3	0.3	0.4

**1.02. LICENSED CAPACITY AND PRODUCTION OF PHOSPHATIC FERTILISERS
FACTORYWISE AND PRODUCTWISE
(As on September 1, 1980) (Continued)**

('000 tonnes)

Name of the factory/location	Sector	Date of commissioning	End product		P ₂ O ₅	
			Capacity	Production 1978-80 (April-March)	Capacity	Production 1979-80 (April-March)
42. Western Chemical Industries, Bombay (Mah.)	Pvt.	July 1948	3.4	1.9	0.5	0.3
		(A) Total SSP	1,624.1	1,048.4	261.5	167.7
(B) Triple Superphosphate						
1. Dharamsi Morarji Chemical Co., Ambernath (Mah.)	Pvt.	January 1968	27.0	0.5	12.2	0.2
2. Hindustan Copper, Khetri (Raj.)	Pub.	October 1976	200.0	2.1	90.0	1.0
3. Fertiliser Corpn. of India, Sindri (Rationalization), (Bihar)	Pub.	April 1979	340.0	19.7	150.0	9.1
		(B) Total TSP	567.0	22.4	252.2	10.3
(C) Pelofos						
1. Orissa Ferts & Chemicals, Rourkela (Orissa)	Pvt.	June 1973	45.0	—	7.6	—
		(C) Total Pelofos	45.0	—	7.6	—
(D) Phosphoric Acid						
1. Hindustan Lever, Haldia (W.B.)	Pvt.	October 1979			19.5	
2. Hindustan Zinc, Debari (Raj.)	Pub.	February 1979			26.0	
		(D) Total H₃PO₄			45.5	
		Total I			566.8	178.0

II. UNDER IMPLEMENTATION

(A) Single Superphosphate

1. Adarsh Chemicals & Fertilisers, Udhna (Guj.)	Pvt.	December 1980	66.0	10.6
2. Dharamsi Morarji Chemicals Co., Kumhari (M.P.)	Pvt.	Expn. December 1980	66.0	10.6
3. Dharuhera Chemicals, Dharuhera (Haryana)	Pvt.	March 1981	66.0	10.6
4. Madhuvan Chemicals & Ferts., Dabok (Raj.)	Pvt.	Expn. December 1981	39.6	6.3
5. Rallis India, Magarwara (U.P.)	Pvt.	Expn. December 1981	66.0	10.6
6. Shivalik Fertilisers, Hoshiarpur	Pvt.	December 1980	66.0	10.6
		Total II	369.6	59.1

III. APPROVED IN PRINCIPLE

(A) Single Superphosphate

1. Agricultural Sales Corpn., Patiala (Punjab)	Pvt.	1981-82	66.0	10.6
2. Dalmia Dairies, Mohindergarh (Haryana)	Pvt.	1981-82	66.0	10.6
3. DCM Chemicals Works, Bhatinda (Punjab)	Pvt.	1982-83	72.0	11.5
4. Haryana Industrial Dev. Corpn. Panipat (Haryana)	Pub.	1981-82	66.0	10.6
5. Industrial Supplies & Services, Udaipur (Raj.)	Pvt.	1981-82	66.0	10.6
6. Jayshree Chemicals & Fertilisers, Khardah (W.B.)	Pvt.	Expn. 1981-82	66.0	10.6
7. Modi Spinning & Weaving Mills, Bareilly (U.P.)	Pvt.	1981-82	66.0	10.6
8. Prem Chand Arya, Bulandshahr (U.P.)	Pvt.	1981-82	66.0	10.6
9. Punjab State Industrial Development Corpn., Hoshiarpur (Punjab)	Pub.	1981-82	66.0	10.6
10. Varinder Agro Chemicals, Ludhiana (Punjab)	Pvt.	1981-82	66.0	10.6
		Total III	666.0	106.6

**1.02. LICENSED CAPACITY AND PRODUCTION OF PHOSPHATIC FERTILISERS
FACTORYWISE AND PRODUCTWISE
(As on September 1, 1980) (Concluded)**

('000 tonnes)

Name of the factory/location	Sector	Date of commissioning	End product		P ₂ O ₅	
			Capacity	Production 1979-80 (April- March)	Capacity	Production 1979-80 (April- March)

IV. UNDER CONSIDERATION

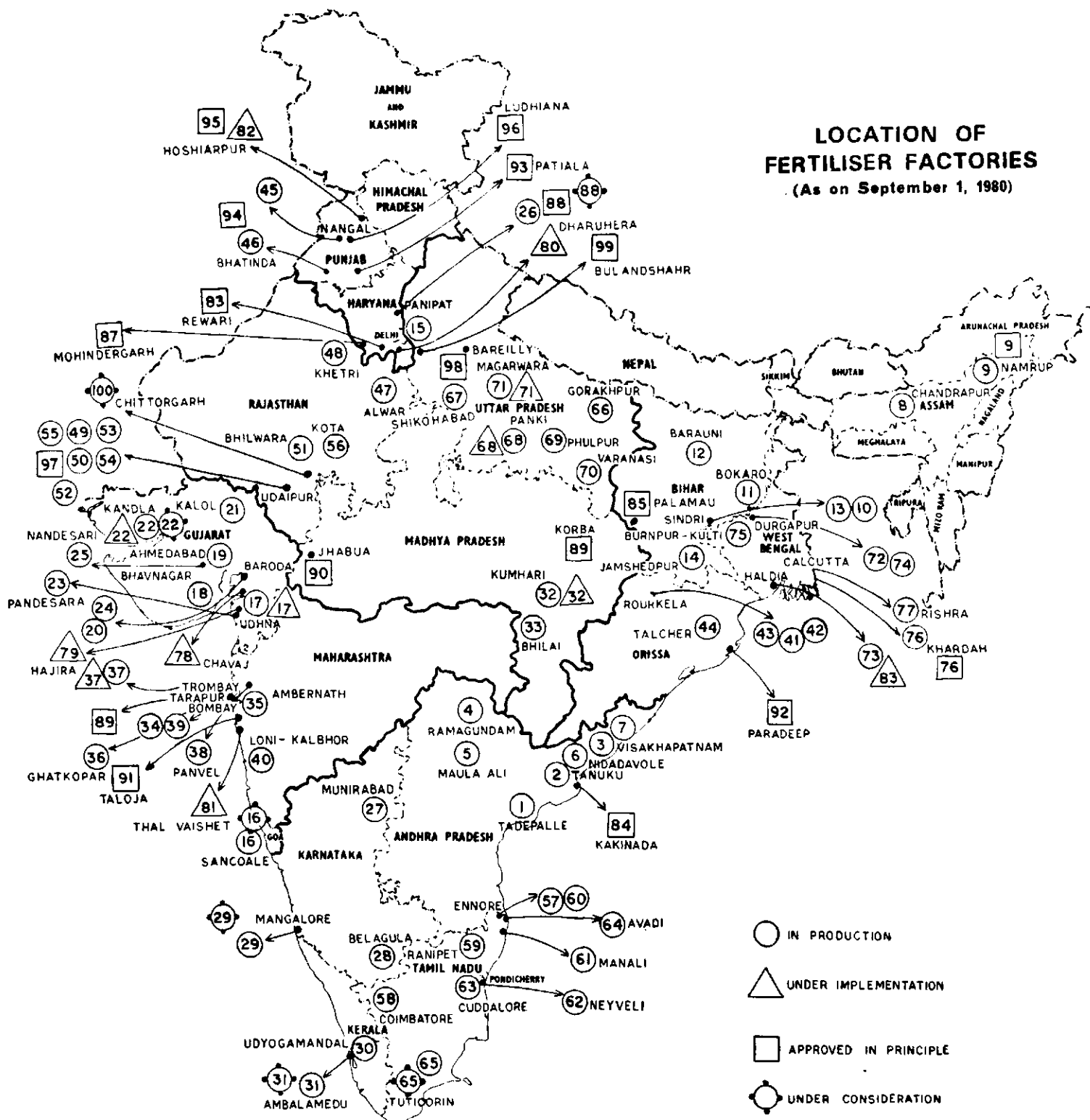
(A) Triple Superphosphate

1. Haryana State Industrial Dev. Corpn. Panipat (Haryana)	Pub.	1984-85	55.0	25.3
2. Rajasthan Project, Udaipur/Chittorgarh (Ra.)	Pub.	1986-87	435.0	200.0
		Total IV	490.0	225.3
		Grand Total (I + II + III + IV)		957.8

Note: IFFCO, Kandla is planning to have its own phosphoric acid plant utilising rock and sulphur.

LOCATION OF FERTILISER FACTORIES

(As on September 1, 1980)



○ IN PRODUCTION

△ UNDER IMPLEMENTATION

□ APPROVED IN PRINCIPLE

⊙ UNDER CONSIDERATION

Sl. No.	State/Name of the factory and location	End product
I. IN PRODUCTION		
Andhra Pradesh		
1.	Andhra Fertilisers, Tadepalle	*SSP
2.	Andhra Sugars, Tanuku	*SSP
3.	Coromandel Fertilisers, Visakhapatnam	*Urea, UAP
4.	F.C.I., Ramagundam	*Urea
5.	Hyderabad Chemicals & Fertilisers, Maula Ali	*SSP
6.	Krishna Industrial Corporation, Nidadavole	*SSP
7.	Liberty Pesticides & Fertilisers, Visakhapatnam	*SSP
Assam		
8.	Chemical Unit of AIA, Chandrapur	*SSP
9.	HFCL, Namrup	*AS, Urea ***Urea
Bihar		
10.	Bihar State Superphos Factory, Sindri Institute	*SSP
11.	SAIL, Bokaro	*AS
12.	HFCL, Barauni	*Urea
13.	FCI, Sindri	*AS, Urea TSP
14.	TISCO, Jamshedpur	*AS
Delhi		
15.	DCM, Delhi	*SSP
Goa		
16.	Zuari Agro Chemicals, San Coale	*Urea, NPK UAP, DAP φ NP/NPK
Gujarat		
17.	Adarsh Chemicals & Fertilisers, Udhna	*SSP ***SSP
18.	Anil Starch Products, Bhavnagar	*SSP
19.	Anish Chemicals, Ahmedabad	*SSP
20.	GSFC, Baroda	*AS, Urea DAP
21.	IFFCO, Kalot	*Urea
22.	IFFCO, Kandla	*NPK **NPK φ H ₃ PO ₄
23.	J. K. Chemical Works, Pandesara	*SSP
24.	Paushak, Baroda	*SSP
25.	Virej Chemicals, Nandesari	*SSP
Haryana		
26.	National Fertilisers, Panipat	*Urea
Karnataka		
27.	Chamundi Chemicals, Munirabad	*SSP
28.	Gammon Fer-Chems, Belagula	*SSP
29.	Mangalore Chemicals & Ferts., Mangalore	*Urea φ NP/NPK
Kerala		
30.	FACT, Udyogamandal	*AS, ACI, APS, SSP
31.	FACT, Ambalamedu	*Urea, NPK DAP, φ NP/ NPK
Madhya Pradesh		
32.	Dharamsi Morarji Chemicals Co., Kumhari	*SSP **SSP *AS
33.	SAIL, Bhilai	
Maharashtra		
34.	Bharat Fertiliser Industries, Bombay	*SSP
35.	Dharamsi Morarji Chemical Co., Ambernath	*SSP
36.	Noble Chemicals, Ghatkopar	*SSP
37.	RCFL, Trombay	*Urea, Nitro- phosphate, Ammonium nitrophos- phate. **Urea
38.	Maharashtra Agro Industries Development Corporation, Panvel	*SSP
39.	Western Chemical Industries, Bombay	*SSP
40.	Rama Krishi Rasayan (formerly West India Chemicals), Luni-Kalbhori	*SSP
Orissa		
41.	Orissa Fertilisers & Chemicals, Rourkela	*Pelofos
42.	SAIL (Fert. Plant), Rourkela	*CAN
43.	SAIL, Rourkela	*AS
44.	FCI, Talcher	*Urea
Punjab		
45.	National Fertilisers, Nangal	*CAN, Urea
46.	National Fertilisers, Bhatinda	*Urea
Rajasthan		
47.	Bharat Alums & Chemicals, Alwar	*SSP
48.	Hindustan Copper, Khetri	*SSP, TSP
49.	Hindustan Fertiliser Industries, Udaipur	*SSP
50.	Hindustan Zinc, Udaipur	*SSP, H ₃ PO ₄
51.	Hindustan Chemicals, Bhitwara	*SSP
52.	Khicha Industries, Udaipur	*SSP

Sl. No.	State/Name of the factory and location	End product
53.	Liberty Pesticides & Fertilisers, Udaipur	*SSP
54.	Madhuvan Chemicals & Fertilisers, Udaipur	*SSP **SSP
55.	Maharana Khanij Udyog, Udaipur	*SSP
56.	Shriram Fertilisers & Chemicals, Kota	*Urea
Tamil Nadu		
57.	Kothari (Madras), Ennore	*SSP, ACI
58.	Coimbatore Pioneer, Coimbatore	*SSP
59.	EID-Parry (India), Ranipet	*SSP
60.	EID-Parry (India), Ennore	*AS, APS
61.	Madras Fertilisers, Manali	*Urea, DAP NPK
62.	Neyveli Lignite Corporation, Neyveli	*Urea
63.	Premier Fertilisers, Cuddalore	*SSP
64.	Shaw Wallace, Avadi	*SSP
65.	SPIC, Tuticorin	*Urea, DAP NPK φ NP/NPK
Uttar Pradesh		
66.	FCI, Gorakhpur	*Urea
67.	Girraj Fertiliser & Chemicals, Shikohabad	**SSP
68.	Indian Explosives Ltd., Panki	*Urea **Urea
69.	IFFCO, Phulpur	*Urea
70.	New Central Jute Mills, Varanasi	*ACI
71.	Rallis India, Magarwara	*SSP **SSP
West Bengal		
72.	HFCL, Durgapur	*Urea
73.	Hindustan Lever, Haldia	*H ₃ PO ₄
74.	SAIL, Durgapur	*AS
75.	IISCO, Burnpur-Kulti	*AS
76.	Jayashree Chemicals & Fertilisers, Khardah	*SSP ***SSP
77.	Phosphate Co., Rishra	**SSP
II. UNDER IMPLEMENTATION		
Gujarat		
78.	Gujarat Narmada Valley Fertilisers, Bharuch	Urea
79.	KRIBHCO, Hazira	Urea
Haryana		
80.	Dharuhera Chemicals, Dharuhera	SSP
Maharashtra		
81.	RCFL, Thal Vaishet	Urea
Punjab		
82.	Shivalik Fertilisers, Hoshiarpur	SSP
West Bengal		
83.	HFCL, Haldia	Urea Nitro-Phos.
III. APPROVED IN PRINCIPLE		
Andhra Pradesh		
84.	Nagarjuna Fertilisers & Chemicals, Kakinada	Urea, NPK
Bihar		
85.	Bihar Caustic & Chemicals, Palamau	A, CI
Gujarat		
86.	Polymer Corporation	AS
Haryana		
87.	Dalmia Dairies, Mohindergarh	SSP
88.	HSIDC, Panipat	SSP φ TSP
Madhya Pradesh		
89.	FCI, Korba	Urea
90.	M. P. Agro Morarji Fertiliser, Jhabua	Mono. Amm. Phos.
Maharashtra		
91.	Deepak Fertiliser Products, Talola	
Orissa		
92.	Paradeep Project, Paradeep	NP/NPK
Punjab		
93.	Agricultural Sales Corporation, Patiala	SSP
94.	DCM Chemical Works, Bhatinda	SSP
95.	PSIDC, Hoshiarpur	SSP
96.	Varinder Agro Chemicals, Ludhiana	SSP
Rajasthan		
97.	Industrial Supplies & Services, Udaipur	SSP
Uttar Pradesh		
98.	Modi Spinning & Weaving Mills, Bareilly	SSP
99.	P.C. Arya, Bulandshahr	SSP
IV. UNDER CONSIDERATION		
Rajasthan		
100.	Rajasthan Project, Udaipur/Chittorgarh	TSP

1.03. LICENSED CAPACITY OF FERTILISERS - STATEWISE AND PRODUCTWISE
(As on September 1, 1980)

('000 tonnes material)

Material	Madhya Pradesh	Rajasthan	Uttar Pradesh	Delhi	Total Central Zone	Assam	Bihar	Orissa	West Bengal	Total East Zone	Punjab	Haryana	Total North Zone	Andhra Pradesh	Karnataka	Kerala	Tamil Nadu	Total South Zone	Gujarat	Maha-rashtra	Goa	Total West Zone	Grand Total All-India	
I. IN PRODUCTION																								
1. Ammonium sulphate	32.6	—	—	—	32.6	100.0	379.4	28.2	44.2	551.8	—	—	—	—	—	198.0	51.5	249.5	148.0	—	—	148.0	981.9	
2. Calcium ammonium nitrate	—	—	—	—	—	—	—	480.0	—	480.0	320.0	—	320.0	—	—	—	—	—	—	—	—	—	800.0	
3. Urea	—	33.0	1229.9	—	1559.9	385.0	660.0	495.0	330.0	1870.0	841.5	511.5	1353.0	495.0	340.0	330.0	876.0	2041.0	756.0	99.0	340.0	1195.0	8018.9	
4. Ammonium chloride	—	—	40.0	—	40.0	—	—	—	—	—	—	—	—	—	—	24.8	20.0	44.8	—	—	—	—	84.8	
5. Ammonium phosphate sulphate	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	132.0	38.6	170.6	—	—	—	—	170.6	
6. Di-ammonium phosphate	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	28.0	28.0	108.0	—	—	108.0	136.0	
7. Nitrophosphate or APSN	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	555.0	—	555.0	555.0	
8. NP/NPKs	—	—	—	—	—	—	—	—	—	—	—	—	—	347.5	—	534.0	488.4	1349.9	375.5	—	150.0	525.5	1875.4	
9. Single superphosphate	95.0	205.8	70.0	144.0	514.8	33.5	23.5	—	118.4	175.4	—	—	—	178.7	73.6	44.7	241.4	538.4	151.8	253.7	—	405.5	1834.1	
10. Triple superphosphate	—	200.0	—	—	200.0	—	340.0	—	—	340.0	—	—	—	—	—	—	—	—	—	27.0	—	27.0	567.0	
11. Pellets	—	—	—	—	—	—	—	45.0	—	45.0	—	—	—	—	—	—	—	—	—	—	—	—	45.0	
12. Phosphoric (as P ₂ O ₅) acid	—	26.0	—	—	26.0	—	—	—	19.5	19.5	—	—	—	—	—	—	—	—	—	—	—	—	45.5	
I. Total N	6.7	152.0	576.1	—	734.8	197.0	383.2	353.8	161.0	1095.0	467.0	235.0	702.0	312.0	156.0	274.0	525.0	1267.0	451.0	165.0	171.0	787.0	4585.9	
I. Total P₂O₅	15.2	148.7	11.2	23.4	198.5	5.4	153.6	7.6	38.4	205.0	—	—	—	132.5	11.8	157.4	211.7	513.4	201.2	172.7	42.0	415.9	1332.9	
II. UNDER IMPLEMENTATION																								
1. Urea	—	—	225.0	—	225.0	—	—	—	167.4	167.4	—	—	—	—	—	—	—	—	2079.0	1815.0	—	—	3894.0	4286.4
2. Nitrophosphate	—	—	—	—	—	—	—	—	375.0	375.0	—	—	—	—	—	—	—	—	—	—	—	—	—	375.0
3. NP/NPKs	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	500.0	—	—	—	500.0	500.0
4. Single superphosphate	66.0	39.6	66.0	—	171.6	—	—	—	—	—	66.0	66.0	132.0	—	—	—	—	—	66.0	—	—	—	66.0	369.6
II. Total N	—	—	100.0	—	100.0	—	—	—	152.0	152.0	—	—	—	—	—	—	—	—	1013.0	842.0	—	—	1855.0	2107.0
II. Total P₂O₅	10.6	6.3	10.6	—	27.5	—	—	—	75.0	75.0	10.6	10.6	21.2	—	—	—	—	—	135.6	—	—	—	135.6	259.3
III. APPROVED IN PRINCIPLE																								
1. Ammonium sulphate	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	10.0	—	—	—	10.0	10.0
2. Ammonium chloride	—	—	—	—	—	—	26.0	—	—	26.0	—	—	—	—	—	—	—	—	—	—	—	—	—	26.0
3. Urea	495.0	—	—	—	495.0	330.0	—	—	—	330.0	—	—	—	437.0	—	—	—	437.0	—	—	—	—	—	1262.0
4. NPKs	94.0	—	—	—	94.0	—	—	—	—	—	—	—	—	450.0	—	—	—	450.0	—	—	—	—	—	544.0
5. Single superphosphate	—	66.0	132.0	—	198.0	—	—	—	66.0	66.0	270.0	132.0	402.0	—	—	—	—	—	—	—	—	—	—	666.0
III. Total N	238.3	—	—	—	238.3	152.0	6.5	120.0	—	278.5	—	—	—	228.0	—	—	—	228.0	2.1	66.0	—	—	68.1	812.9
III. Total P₂O₅	50.0	10.6	21.2	—	81.8	—	—	300.0	10.6	310.6	43.2	21.2	64.4	80.0	—	—	—	80.0	—	—	—	—	—	536.8
Grand Total (I+II+III)	245.0	152.0	676.1	—	1073.1	349.0	389.7	473.8	313.0	1525.5	467.0	235.0	702.0	540.0	156.0	274.0	525.0	1495.0	1466.1	1073.0	171.0	2710.1	7505.8	
Grand Total (I+II+III) P₂O₅	75.8	165.6	43.0	23.4	307.8	5.4	153.7	307.6	124.0	590.7	53.8	31.8	85.6	212.5	11.8	157.4	211.7	593.4	336.8	172.7	42.0	551.5	2129.0	
IV. UNDER CONSIDERATION	See Tables 1.01 & 1.02																							

1.04. FINANCIAL OUTLAY AND SHARE OF FERTILISER CAPACITY UNDER VARIOUS STAGES OF IMPLEMENTATION—NUTRIENTWISE AND SECTORWISE

(As on 1-9-1980)

Capacity: '000 tonnes of nutrient per annum
Financial outlay : Rs. million

Category	Public sector			Private sector			Cooperative sector			Total		
	Capacity		Financial outlay	Capacity		Financial outlay	Capacity		Financial outlay	Capacity		Financial outlay
	N	P ₂ O ₅		N	P ₂ O ₅		N	P ₂ O ₅		N	P ₂ O ₅	
I. Factories in production	2,843.1 (62.0)	690.4 (51.8)	21,596 (70.8)	1,299.8 (28.3)	515.9 (38.7)	6,246 (20.5)	443.0 (9.7)	127.0 (9.5)	2,676 (8.7)	4,565.9 (100.0)	1,333.3 (100.0)	30,518 (100.0)
II. Projects under implementation	994.0 (47.2)	75.0 (28.9)	10,800 (49.1)	373.0 (17.7)	59.1 (22.8)	3,750 (17.0)	740.0 (35.1)	125.0 (48.3)	7,460 (33.9)	2,107.0 (100.0)	259.1 (100.0)	22,010 (100.0)
III. Projects approved in principle	500.0 (62.3)	321.1 (69.8)	3,284 (41.8)	302.6 (37.7)	215.5 (40.2)	4,572 (58.2)	— (—)	— (—)	— (—)	802.6 (100.0)	536.6 (100.0)	7,856 (100.0)
VI. Projects under consideration	— (—)	289.3 (40.3)	3,000 (100.0)	— (—)	176.0 (24.5)	— (—)	— (—)	127.0 (17.7)	— (—)	2,120.0* (100.0)	552.3 (17.5) +125.0* (100.0)	3,000 (100.0)
Total	4,337.1 (45.1)	1,375.8 (48.3)	38,680 (61.0)	1,975.4 (20.5)	966.5 (34.0)	14,568 (23.0)	1,183.0 (12.3)	379.0 (13.3)	10,136 (16.0)	7,495.5 (22.1) +2,120.0* (100.0)	2,721.3 (4.4) +125.0* (100.0)	63,384 (100.0)

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Figures in brackets indicate the percentage contribution through a particular sector to the total (horizontal).

*Sectorwise distribution pattern and financial outlay of few projects are not yet determined.

1.05(a). CAPACITY OF NITROGEN (N) ACCORDING TO SOURCES OF FEEDSTOCK

(As on 1-9-1980)

('000 tonnes of nutrient N per annum)

Stage of production/feedstock	Naphtha	Natural gas	Electric power	Coke/ cokeoven gas	Ammonia (external supply)	Coal	Fuel oil	Total
I. Factories in production	2,370,000* (51.7)	594,000* (13.0)	80,000@ (1.7)	64,840* (1.4)	120,000* (2.7)	456,000 (9.9)	901,000* (19.6)	4,585,840 (100.0)
II. Projects under implementation	100,000 (4.7)	1,532,000 (72.7)	— (—)	— (—)	50,000 (2.4)	— (—)	425,000 (20.2)	2,107,000 (100.0)
III. Projects approved in principle	— (—)	218,000 (27.2)	— (—)	— (—)	128,600 (16.0)	228,000 (28.4)	228,000 (28.4)	802,600 (100.0)
IV. Projects under consideration	— (—)	2,120,000 (100.0)	— (—)	— (—)	— (—)	— (—)	— (—)	2,120,000 (100.0)
Total	2,470,000 (25.7)	4,464,000 (46.4)	80,000 (0.8)	64,840 (0.7)	298,600 (3.1)	684,000 (7.1)	1,554,000 (16.2)	9,615,440 (100.0)

Figures in brackets indicate the percentage contribution through a fertiliser feedstock to the total (horizontal)

- * In the case of (i) FCI, Sindri (219,000 tpy N) it is assumed : 209,000 tpy capacity in Fuel oil, 10,000 tpy capacity in Naphtha
- (ii) SAIL, Rourkela (120,000 tpy N) it is assumed: 99,000 tpy capacity in Naphtha, 21,000 tpy capacity in COG
- (iii) RCFL, Trombay (165,000 tpy N) it is assumed: 81,000 tpy capacity on Natural gas, 9,000 tpy capacity on Refinery gas, 75,000 tpy capacity on External supply of ammonia
- (iv) G JFC, Baroda (236,000 tpy N) it is assumed: 144,000 tpy capacity on Naphtha, 92,000 tpy capacity on Natural gas.

@Only a part of the capacity is based on electrolysis.

1.05(b). CAPACITY OF PHOSPHATE (P₂O₅) ACCORDING TO RAW MATERIALS
(As on 1.9.1980)

('000 tonnes of nutrient P₂O₅ per annum)

Type of fertilisers	Raw materials						Total
	Sulphur	Pyrites	Smelter gases	By-product/ waste sulphuric acid	Nitric acid	Phosphoric acid (external supply)	
I. Factories in production							
(i) SSP	222.1 +26.1@	—	12.0	27.4	—	—	287.5
(ii) TSP	12.2	150.0**	90.0	—	—	—	252.2
(iii) Pelofos	7.6	—	—	—	—	—	7.6
(iv) NP/NPK fertilisers	365.5	—	—	—	120.0	281.0*	765.5
(v) Others	19.5@	—	—	—	—	—	19.5
I. Total	952.9 (49.0)	150.0 (11.2)	102.0 (7.6)	27.4 (2.1)	120.0 (9.0)	281.0 (21.1)	1,333.3 (106.0)
II. Projects under Implementation							
(i) SSP	59.1	—	—	—	—	—	59.1
(ii) NP/NPK fertilisers	—	—	—	—	75.0	125.0	200.0
II. Total	59.1 (22.8)	— (—)	— (—)	— (—)	75.0 (28.9)	125.0 (48.3)	259.1 (100.0)
III. Projects approved in principle							
(i) SSP	106.6	—	—	—	—	—	106.6
(ii) NP/NPK fertilisers	380.0	—	—	—	—	—	380.0
(iii) Others	50.0@	—	—	—	—	—	50.0
III. Total	536.6 (100.0)	— (—)	— (—)	— (—)	— (—)	— (—)	536.6 (100.0)

1-19

(Continued)

1.05(b). CAPACITY OF PHOSPHATE (P₂O₅) ACCORDING TO RAW MATERIALS
(As on 1.9.1980) (Concluded)

('000 tonnes of nutrient P₂O₅ per annum)

Type of fertilisers	Raw materials						Total
	Sulphur	Pyrites	Smelter gases	By-product/waste sulphuric acid	Nitric acid	Phosphoric acid (external supply)	
IV. Projects under consideration							
(i) TSP	225.3	--	--	--	--	--	352.3
	+127.0@						
(ii) NP/NPK fertilisers	323.0	--	--	--	--	42.0	365.0
IV. Total	675.3	--	--	--	--	42.0	717.3
	(94.1)	(--)	(--)	(--)	(--)	(5.9)	(100.0)
Total I+II+III+IV							
(i) SSP	413.8	--	12.0	27.4	--	--	453.2
(ii) TSP	364.5	150.0	90.0	--	--	--	604.5
(iii) Pelofos	7.8	--	--	--	--	--	7.6
(iv) NP/NPK fertilisers	1,068.5	--	--	--	195.0	448.0	1,711.5
(v) Others	69.5	--	--	--	--	--	69.5
Grand Total (I+II+III+IV)	1,923.9	150.0	102.0	27.4	195.0	448.0	2,846.3
	(67.6)	(5.3)	(3.6)	(1.0)	(6.8)	(15.7)	(100.0)

*One of the factories uses imported mono ammonium phosphate occasionally. During the Sixth Plan period, it will have its own phosphatic acid plant.

**It would use both pyrites and sulphur.

@Part of the phosphoric acid is planned to be marketed.

Note: 1. Rockphosphate is the basic raw material which is processed with H₂SO₄, HNO₃ and H₂PO₄ to release P₂O₅ in the desired concentration. Factories based on imported H₂PO₄ do not require either rock or sulphur as such to manufacture phosphatic fertilisers.

2. Figures in brackets indicate the percentage contribution through a fertiliser feedstock to the total (horizontal).

1.06. SHARE OF FERTILISER CAPACITY UNDER VARIOUS STAGES OF IMPLEMENTATION—MATERIALWISE

(As on 1.9.1986)

('000 tonnes of nutrient per annum)

Fertiliser	Nutrient	In production (I)	Under implementation (II)	Approved in principle (III)	Under consideration (IV)	Total (I+II+III+IV)
1. Ammonium sulphate	N	199,620 (4.4)	— (—)	2,100 (0.3)	— (—)	201,720 (2.1)
2. Calcium ammonium nitrate	N	200,000 (4.4)	— (—)	— (—)	— (—)	200,000 (2.1)
3. Urea	N	3,679,340 (80.2)	1,982,000 (94.1)	647,000 (80.6)	— (—)	6,308,340 (65.6)
4. Ammonium chloride	N	21,190 (0.5)	— (—)	6,500 (0.8)	— (—)	27,690 (0.3)
5. Single superphosphate	P ₂ O ₅	261,500 (19.6)	59,140 (22.8)	106,560 (19.9)	— (—)	427,200 (15.0)
6. Triple superphosphate	P ₂ O ₅	252,150 +45,500@ (18.9) + (3.4)	— (—)	50,000@ (9.3)	225,300 +127,000@ (31.4) + (17.7)	477,450 +222,500@ (16.8) + (7.8)
7. Pelofos	P ₂ O ₅	7,600 (0.6)	— (—)	— (—)	— (—)	7,600 (0.3)
8. Ammonium phosphate sulphate	N	39,160 (0.9)	— (—)	— (—)	— (—)	39,160 (0.4)
	P ₂ O ₅	46,500 (3.5)	— (—)	— (—)	— (—)	46,500 (1.6)
9. Diammonium phosphate	N	24,480 (0.5)	— (—)	— (—)	— (—)	24,480 (0.3)
	P ₂ O ₅	62,560 (4.7)	— (—)	— (—)	— (—)	62,560 (2.2)
10. Nitrophosphate	N	120,000 (2.6)	75,000 (3.5)	— (—)	— (—)	195,000 (2.0)
	P ₂ O ₅	120,000 (9.0)	75,000 (28.9)	— (—)	— (—)	195,000 (6.9)
11. Urea ammonium phosphate	N	117,800 (2.0)	— (—)	— (—)	— (—)	117,800 (1.2)
	P ₂ O ₅	145,800 (10.9)	— (—)	— (—)	— (—)	145,800 (5.1)
12. NP/NPK fertilisers	N	184,250 (4.0)	50,000 (2.4)	147,000 (18.3)	50,000 (2.4)	431,250 (4.5)
	P ₂ O ₅	391,670 (29.4)	125,000 (48.3)	380,000 (70.8)	365,000 (50.9)	1,261,670 (44.3)
13. Urea & NP/NPK fertilisers*	N	— (—)	— (—)	— (—)	2,070,000 (97.6)	2,070,000 (21.5)
	P ₂ O ₅	— (—)	— (—)	— (—)	— (—)	— (—)
Total	N	4,585,840 (100.0)	2,107,000 (100.0)	862,600 (100.0)	2,120,000 (100.0)	9,615,440 (100.0)
	P₂O₅	1,333,280 (100.0)	259,140 (100.0)	536,560 (100.0)	717,300 (100.0)	2,846,280 (100.0)

*End-productwise capacity is not yet decided.

@ Phosphoric acid as P₂O₅.

Figures in brackets indicate the percentage share of the nutrient to the total nutrient (vertical).

1.07. LICENSED CAPACITY OF FERTILISERS—

As on	Nitrogen fertilisers					NP/NPK	
	AS 20.6% N	ASN 26% N	Urea 46% N	ACI 25% N	CAN 25% N 20.5% ¹ N	Nitro- phos- phate 20-20-0	18-46-0
1. December 31, 1950	81.0						
2. December 31, 1951	430.8						
3. December 31, 1952	430.8						
4. December 31, 1953	430.8						
5. December 31, 1954	430.8						
6. December 31, 1955	430.8						
7. December 31, 1956	430.8						
8. December 31, 1957	430.8						
9. December 31, 1958	430.8						
10. December 31, 1959	446.8	148.0	24.0	40.0	—	—	—
11. December 31, 1960	491.9	148.0	24.0	48.8	—	—	—
12. December 31, 1961	499.8	150.4	24.4	48.8	395.1 ¹	—	—
13. August 31, 1962	502.1	140.2	24.4	48.8	394.2 ¹	—	—
14. July 31, 1963	536.0	140.2	24.4	48.8	699.3 ¹	—	—
15. September 30, 1964	536.0	140.2	23.5	48.8	685.0 ¹	—	—
16. September 30, 1965	536.0	140.2	28.5	48.8	685.0 ¹	—	—
17. September 30, 1966	662.2	121.9	276.5	65.6	685.4 ¹	330.0	—
18. September 30, 1967	691.5	121.9	376.5	65.6	{ 320.0 290.4 ¹	330.0	108.0
19. September 30, 1968	978.1	121.9	627.3	65.6	{ 320.0 585.4 ¹	270.0	108.0
20. September 30, 1969	978.1	121.9	1,131.3	65.6	800.0	270.0	108.0
21. September 30, 1970	1,013.1	221.9	1,581.3	65.6	800.0	180.0	108.0
22. September 30, 1971	1,005.8	121.9	1,791.3	65.6	800.0	180.0	108.0
23. September 30, 1972	933.8	50.0	1,780.4	64.8	800.0	180.0	108.0
24. November 1, 1973	950.5	50.0	2,756.4	64.8	800.0	180.0	108.0
25. November 1, 1974	955.8	5.0	3,172.2	64.8	800.0	180.0	108.0
26. November 1, 1975	958.8	50.0	4,086.4	64.8	800.0	180.0	108.0
27. November 1, 1976	945.9	50.0	4,819.0	64.8	800.0	270.0	136.0
28. October 1, 1977	969.0	50.0	4,819.0	64.8	800.0	270.0	136.0
29. October 1, 1978	969.0	50.0	5,149.0	64.8	800.0	555.0	136.0
30. November 1, 1979	969.0	—	6,451.9	64.8	800.0	566.0	136.0
31. September 1, 1980*	969.0	—	7,998.6	64.8	800.0	555.0	136.0

← MATE

*For factorywise/projectwise details, see Tables 1.01. and 1.02.

MATERIALWISE AND NUTRIENTWISE 1950-1980

('000 tonnes)

fertilisera				Phosphatic fertilisers			Total	
16-20-0 & 20-20-0 ²	19-19-19 28-28-0 14-35-14 ³	17-17-17 & 14-28-14	10-26-26 12-32-18 14-36-12 15-15-15	Pelofos 18% P ₂ O ₅	SSP 16% P ₂ O ₅	TSP 46% P ₂ O ₅	N	P ₂ O ₅

RIAL →

					128.0		16.7	20.5
					173.0		88.7	27.7
					198.0		88.7	31.7
					216.0		88.7	31.7
					216.0		88.7	34.6
					270.0		88.7	43.2
					270.0		88.7	43.2
					310.0		88.7	49.6
					334.3		88.7	53.5
					504.7		148.6	80.8
16.5					577.1		162.2	95.6
16.8					649.4		246.3	107.2
16.8					649.4		246.3	107.2
85.0					809.7		326.7	146.5
88.5					983.6		324.0	175.1
88.5					1,061.2		324.0	187.5
187.8					1,131.3		524.9	263.6
451.8					1,131.3		682.4	316.4
186.5	260.0				1,327.8	27.0	904.5	431.2
186.5	260.0				1,327.8	27.0	1,136.4	431.2
232.5	260.0				1,337.9	27.0	1,349.3	433.5
232.5	260.0	360.0			1,378.8	27.0	1,514.7	532.0
{ 51.5 171.5 ²	260.0	360.0			1,249.8	27.0	1,471.2	502.6
{ 51.5 171.5 ²	260.0	360.0		45.0	1,399.8	27.0	1,933.5	534.2
{ 51.5 171.5 ²	260.0	360.0	375.5	45.0	1,431.2	27.0	2,162.1	666.2
{ 51.5 171.5 ²	410.0	360.0	375.5	45.0	1,420.6	27.0	2,625.1	737.6
{ 51.5 171.5 ²	{ 401.0 96.5 ²	445.0	{ 503.5 32.0	45.0	1,444.8	227.0	3,024.1	927.5
{ 51.5 181.0 ²	{ 401.0 96.5 ²	920.0	{ 503.5 32.0	45.0	1,451.4	567.0	3,068.8	1,192.6
{ 51.5 181.0 ²	{ 401.0 96.5 ²	920.0	{ 503.5 32.0	45.0	1,474.7	567.0	3,295.8	1,278.5
{ 51.5 181.0 ²	{ 401.0 96.5 ²	920.0	{ 503.5 32.0	45.0	1,539.4	567.0	3,901.8	1,309.5
{ 51.5 181.0 ²	{ 401.0 96.5 ²	920.0	{ 503.5 32.0	45.0	1,634.4	567.0	4,585.8	4,333.3

1.08. CAPACITY OF N & P₂O₅ ANTICIPATED DURING 1980-81—1989-90

('000 tonnes)

Year	Public		Private		Cooperative		Total	
	N	P ₂ O ₅	N	P ₂ O ₅	N	P ₂ O ₅	N	P ₂ O ₅
1980-81	456.0 (2,842.8)	— (664.3)	— (1,300.0)	49.1 (542.0)	228.0 (443.0)	— (127.0)	684.0 (4,585.8)	49.1 (1,933.3)
1981-82	304.0 (3,146.8)	96.2 (760.5)	378.0 (1,673.0)	91.1 (633.1)	50.0 (493.0)	125.0 (252.0)	727.0 (5,312.8)	312.3 (1,645.6)
1982-83	— (3,146.8)	— (760.5)	72.5 (1,745.5)	53.4 (686.5)	— (493.0)	— (252.0)	72.5 (5,385.3)	53.4 (1,699.0)
1983-84	212.0 (3,358.8)	150.0 (910.5)	— (1,745.5)	112.0 (798.5)	— (493.0)	127.0 (379.0)	212.0 (5,597.3)	389.0 (2,088.0)
1984-85	345.0 (3,703.8)	89.3 (999.8)	230.1 (1,975.6)	64.0 (862.5)	345.0 (838.0)	— (379.0)	920.1 (6,567.4)	153.3 (2,366.3)
							+50.0* =970.1	+125.0* =278.3
1985-86	405.0 (4,108.8)	150.0 (1,149.8)	— (1,975.6)	50.0 (912.5)	345.0 (1,183.0)	— (379.0)	750.0 (7,662.4)	200.0 (2,566.3)
							+345.0* =1,095.0	
1986-87	228.0 (4,336.8)	200.0 (1,349.8)	— (1,975.6)	80.0 (992.5)	— (1,183.0)	— (379.0)	228.0 (8,235.4)	280.0 (2,846.3)
							+345.0* =573.0	
1987-88	— (4,336.8)	— (1,349.8)	— (1,975.6)	— (992.5)	— (1,183.0)	— (379.0)	345.0* (8,580.4)	— (2,846.3)
1988-89	— (4,336.8)	— (1,349.8)	— (1,975.6)	— (992.5)	— (1,183.0)	— (379.0)	690.0* (9,270.4)	— (2,846.3)
1989-90	— (4,336.8)	— (1,349.8)	— (1,975.6)	— (992.5)	— (1,183.0)	— (379.0)	345.0* (9,615.4)	— (2,846.3)

() = Figures in brackets indicate the cumulative capacity anticipated at the end of each year viz., by 31st March.

* Sectorwise capacity is not yet determined.

Note: For details see Tables 1.01 & 1.02.

1.09. MANUFACTURERS AND LICENSED CAPACITY OF SULPHURIC ACID

(As on April 1, 1980)

(tonnes)

Name of the factory	Capacity
I. IN PRODUCTION	
SOUTH	1,513,650
Andhra Pradesh	446,250
*1. Andhra Fertilisers Pvt. Ltd., Tadepalle	16,500
*2. Andhra Sugars Ltd., Tanuku	24,750
*3. Coromandel Fertilisers Ltd., Visakhapatnam	306,000
*4. Hyderabad Chemicals & Fertilisers, Maula Ali	16,500
*5. Hindustan Zinc Ltd., Visakhapatnam	66,000
*6. Krishna Industrial Corpn., Nidadavole	16,500
Karnataka	41,510
*7. Chamundi Chemicals, Munirabad	16,760
*8. Gammon Fer-Chems, Belagula	24,750
Kerala	640,490
9. Comminco Binani Zinc Ltd., Binanipuram	38,000
*10. Fertilisers & Chemicals Travancore Ltd., Alwaye & Ambalamedu	576,200
11. Travancore Rayon Ltd., Rayonpuram	18,290
12. Travancore Titanium Products Ltd., Trivandrum	10,000
Tamil Nadu	385,400
*13. Coimbatore Pioneer Fertilisers Ltd., Coimbatore	48,000
*14. EID-Parry (India) Ltd., Ennore	49,500
*15. EID-Parry (India) Ltd., Ranipet	20,400
*16. Kothari (Madras) Ltd., Madras	15,000
17. Nagpal Petro Chemicals, Manali	16,500
*18. Premier Fertilisers Ltd., Cuddalore@	20,400
*19. Shaw Wallace & Co. Ltd., Avadi	32,000
20. South India Viscose Ltd., Coimbatore	33,600
*21. Southern Petro Chemicals Ltd., Tuticorin	150,000
WEST	752,715
Gujarat	204,135
*22. Adarsh Chemicals & Fertilisers Ltd., Udhna	23,100
23. Anil Starch Products Ltd., Ahmedabad	12,600
*24. Anil Starch Products Ltd., Bhavnagar	18,000
25. Atul Products Ltd., Atul, Surat	13,200
26. Baroda Rayon Corporation, Baroda	13,200
*27. Gujarat State Fertilisers Co. Ltd., Baroda	155,100
28. Indian Rayon Corporation Ltd., Veraval	10,310
29. Navin Fluorine Industries, Udhna	20,625
*30. Paushek Ltd., Baroda	18,000

(Continued)

1.09. MANUFACTURERS AND LICENSED CAPACITY OF SULPHURIC ACID
(As on April 1, 1980) (Continued)

		(tonnes)
Name of the factory		Capacity
Maharashtra		468,580
31. Albright Morarji & Pandit, Roha		45,000
32. Century Spinning & Weaving Mills, Bombay		23,100
*33. Dharamsi Morarji Chemical Co. Ltd., Ambarnath		161,700
34. Excel Industries Ltd., Jogeshwar, Bombay		N.A.
35. Hindustan Organic Chemicals Ltd., Rasayani		25,080
36. Indian Dyestuff Industries Ltd., Bombay		16,500
37. National Rayon Corporation Ltd., Thana, Bombay		58,000
*38. Rashtriya Chemicals & Fertilisers, Trombay		99,000
39. Solar Chemicals, Chandrapur		16,500
40. Sonawala Industries Pvt. Ltd., Bombay		3,300
*41. Western Chemical Industries Ltd. Goregaon, Bombay		3,900
*42. West India Chemicals Ltd., Lonikalbhori		16,500
CENTRAL		576,755
Madhya Pradesh		129,000
*43. Dharamsi Morarji Chemical Co. Ltd., Kumhari		46,200
44. Gwalior Rayon Silk Manufacturing (Wvg.) Co. Ltd., Nagda		87,800
45. Steel Authority of India Ltd., Bhilai		45,000
Rajasthan		306,125
*46. Hindustan Copper Ltd., Khetri		182,000
*47. Hindustan Zinc Ltd., Udaipur		87,000
48. Shriram Vinyl & Chemical Industries, Kota		16,500
*49. Bharat Alums & Chemicals Ltd., Alwar		20,625
Uttar Pradesh		41,630
50. Cawnpore Chemical Work (P) Ltd., Anwarganj		9,000
51. J. K. Cotton Spg. (Wvg.) Mills Co. Ltd., Kanpur		8,250
*52. Rallis India Ltd., Magarwara		24,380
Delhi		100,000
*53. DCM Chemical Works, Delhi		100,000
NORTH		74,000
Haryana		41,000
54. Dharuhera Chemical Co., Dharuhera		30,000
55. Indian Sulphuric Acids Industries Ltd., Shahabad, Distt. Kurukshetra		5,500
56. Shambu Nath & Sons Ltd., Shahabad-Markanda		5,500
Punjab		33,000
57. Bhatinda Heavy Allied Chemicals Ltd., Bhatinda		16,500
58. Punjab Sulphur Products, Hoshiarpur		16,500

(Continued)

1.09. MANUFACTURERS AND LICENSED CAPACITY OF SULPHURIC ACID

(As on April 1, 1980) (Concluded)

(tonnes)

Name of the factory	Capacity
EAST	637,820
Assam	197,800
*59. Chemical Unit of Associated Industries (Assam) Ltd., Chandrapur	18,000
60. Assam Oil Co. Digboi	7,300
*61. Hindustan Fertilisers Corpn. Ltd., Namrup	82,500
Bihar	289,830
*62. Bihar State Superphosphate Factory, Sindri@	8,380
63. Bokaro Steel Ltd., Bokaro	42,000
¶64. Hindustan Copper Corporation, Ghatsila	46,200
65. Uranium Corporation of India Ltd., Jaduguda, Distt. Singhbhum	16,500
66. Indian Explosives Ltd., Gomia, Distt. Hazaribagh	3,350
67. Indian Steel & Wire Products Ltd., Jamshedpur	3,600
*68. Fertilizer Corporation of India Ltd., Sindri	132,000
69. Rohtas Industries Ltd., Dalmianagar	3,000
70. Tata Iron & Steel Co. Ltd. Jamshedpur	31,500
71. Tinplate Co. of India (P) Ltd., Golmuri, Dist. Singhbhum	3,300
Orissa	18,000
72. Steel Authority of India Ltd., Rourkela	18,000
West Bengal	222,190
73. Bengal Chemical & Pharmaceutical Works Ltd., Panihati, Calcutta	28,050
74. Hindustan Heavy Chemicals Ltd., Khardah, Calcutta	8,250
75. Hindustan Lever Ltd., Haldia	54,000
76. Steel Authority of India Ltd., Durgapur	20,120
77. Indian Iron & Steel Co. Ltd., Asansol	31,020
*78. Jayshree Chemicals & Fertilisers, Khardah	19,250
79. Kesoram Industries & Cotton Mills Ltd., Tribeni, Hooghly	16,500
*80. Phosphate Co. Ltd., Rishra	33,000
81. C. D. Thakkar & Co., Rupnarayanpur	12,000
Total	1. Acid available with fertiliser industry
	—direct
	2,312,895
	(65.1%)
	—by-product from smelters¶
	381,200
	(10.7%)
	2. Others
	860,845
	(24.2%)
Grand Total: Capacity	3,554,940
	(100%)

*Fertiliser manufacturer.

¶Part of by-product sulphuric acid from the smelter is available to fertiliser industry.

@These factories has been transferred to the respective State Directorates of Industries

1.10. MANUFACTURERS AND LICENSED CAPACITY OF PHOSPHORIC ACID
(As on September 1, 1980)

Name of the factory	Sector	Date of commissioning	Capacity of acid as P ₂ O ₅	
			Per annum ('000 tonnes)	Per day (tonnes)
I. IN PRODUCTION				
1. Coromandal Fertilisers Vizag, (A.P.)	Private	February 1968 Expn.-April 1976	104.0	325
2. EID-Parry (India) Ennore (T.N.)	Private	March 1963	10.8	82
3. Fertilisers & Chemicals, Travancore, Alwaye (Kerala)	Public	Dec. 1960 Expn.-March 1972	36.2	100
4. Fertilisers & Chemicals Travancore, Ambalamedu (Cochin Phase II) (Kerala)	Public	Dec. 1976	114.0	360
5. Gujarat State Fertilisers Co., Baroda (Gujarat)	Private	May 1967	50.0	165
6. Rashtriya Chemicals & Fertilisers, Trombay (Maharashtra)	Public	November 1965 Acid Plant-June 1975	120.0	200
7. Southern Petrochemical Industries Corpn. Tuticorin (T.N.)	Private	November 1976	51.0	165
8. Albright, Morarji & Pandit Ambarnath, (Maha.)	Private	January 1968	14.5	
9. Fertilizer Corpn. of India Sindri (Bihar)	Public	April 1979	150.0	360
10. Hindustan Copper, Khetri (Rajasthan)	Public	Oct. 1976	90.0	210
11. Hindustan Zinc, Debari (Rajasthan)	Public	Feb. 1979	26.0	87
12. Hindustan Lever, Haldia (West Bengal)	Private	Oct. 1979	19.5	
	Sector-wise	} Public } Private } Cooperative	536.2	1,317
	Total :		249.3	687
			—	—
I. Total Capacity :			785.5	2,004

(Continued)

1.10. MANUFACTURERS AND LICENSED CAPACITY OF PHOSPHORIC ACID
(As on September 1, 1980) (Concluded)

Name of the factory	Sector	Date of commissioning	Capacity of acid as P ₂ O ₅	
			Per annum ('000 tonnes)	Per day (tonnes)
II. UNDER IMPLEMENTATION				
1. Hindustan Fertilizer Corpn., Haldia (West Bengal)	Public	April 1981	75.0	100
	II. Total Capacity (Public)		75.0	100
III. APPROVED IN PRINCIPLE				
1. M.P. Agro Morarji Fertilisers Jhabua, (M.P.)	Private	1985-86	50.0	165
	III. Total Capacity: (Private)		50.0	165
	Sector-wise Total: (I+II+III)	Public	611.2	1,417
		Private	299.3	852
		Cooperative	—	—
	Grand Total (I+II+III)		910.5	2,269
IV. UNDER CONSIDERATION				
1. Indian Farmers Fertiliser Coop., Kandla (Gujarat)	Coop.	1983-84	127.0	
	IV. Total Capacity: (Cooperative)		127.0	
	Sector-wise Total: (I+II+III+IV)	Public	611.2	1,417
		Private	299.3	852
		Cooperative	127.0	
	Grand Total (I+II+III+IV)		1,037.5	2,269

1.11. MANUFACTURERS & INSTALLED CAPACITY OF GRANULATED FERTILISER MIXTURES

(As on April 1, 1980)

(tonnes/annum)

Name of factory	Installed capacity
I. IN PRODUCTION	
South	293,000
1. Associated Cement Co., Ltd. (Kistna Fertiliser Granulation Plant) Kistna Cement Works, P.O. Guntur	50,000
2. Jaylaxmi Fertiliser, Venkatarayapuram (A.P.)	33,000
*3. Raichur Agricultural Produce Cooperative Marketing Society Ltd., Raichur (Karnataka)	45,000
*4. Chikodi Taluka Agricultural Produce Cooperative Marketing Society Ltd., Nipani (Karnataka)	45,000
5. M. J. Fertilisers Ltd., Belgaum (Karnataka)	40,000
6. Pamani Fertiliser Ltd., Pamani, Thanjavur (Tamil Nadu)	35,000
*7. Tamil Nadu Cooperative Marketing Federation Ltd., Madras (Tamil Nadu)	45,000
West	754,000
1. Adarsh Chemicals & Fertiliser Ltd., Udhna (Gujarat)	25,000
2. Granulated Fertiliser & Feeds Pvt. Ltd., Bhavnagar (Gujarat)	30,000
3. Deccan Sales Corpn. Ltd., Bombay (Maharashtra)	44,000
*4. Godavari Pravara Canal Cooperative Purchase & Sales Union, Kopargaon (Maharashtra)	30,000
*5. Karad Cooperative Purchase & Sale Society, Karad, (Maharashtra)	45,000
*6. Poona Distt. Cooperative Purchase & Sale Union Ltd., Poona (Maharashtra)	45,000
*7. Vidharbha Cooperative Marketing Society Ltd., Amravati (Maharashtra)	50,000
*8. Vasundhara Fertilisers Pvt. Ltd., (Nasik District Cooperative Purchase & Sale Union), Nasik (Maharashtra)	40,000
*9. Kolhapur Distt. Gr. nulated Fertiliser Coop. Ltd., Laxmipuri (Maharashtra)	50,000
*10. Maharashtra State Cooperative Marketing Federation Ltd., Chikalthana (Maharashtra)	45,000
11. Maharashtra Agro Industries Development Corpn. Ltd., Rasayani, Panvel (Maharashtra)	165,000
12. Krishi Organic Chemical Industries Pvt. Ltd., Miraj (Maharashtra)	50,000
*13. Shetkari Sahakari Sangh Ltd., Rukdi (Maharashtra)	30,000
*14. Kissan Coop. Granulated Fertilisers & Chemicals Ltd., Ghansoli (Maharashtra)	30,000
*15. Sahyadri Coop. Fertilisers & Chemicals Ltd., Majiwada Thana (Maharashtra)	30,000
16. Goa Agro Chemicals Ltd., Margao (Goa)	45,000

(Continued)

1.11. MANUFACTURERS & INSTALLED CAPACITY OF GRANULATED FERTILISER MIXTURES

(As on April 1, 1980) (Continued)

(tonnes/annum)

Name of factory	Installed capacity
Central	462,000
1. Dewas Chemicals & Fertiliser Manufacturing Co., Dewas, (MP)	45,000
2. M.P. Agro Morarji Fertiliser Ltd., Raisalpur (M.P.)	60,000
3. Madhuvan Chemicals & Fertilisers Pvt. Ltd., Udaipur (Rajasthan)	50,000
4. Jeevan Fertiliser & Chemicals Co. Pvt. Ltd., Kota (Rajasthan)	40,000
5. Sriganganagar Fertiliser Corpn., Sriganganagar (Rajasthan)	50,000
6. D.C.M. Chemical Works (Delhi)	48,000
7. Chemicals & Fertilisers India, Rampur (U.P.)	6,000
8. Agarwal Pesticides & Chemical Industries, Muzaffarnagar (U.P.)	12,000
9. D.R. Chemicals & Fertilisers, Gorakhpur (U.P.)	30,000
10. Fertilizer Corpn. of India, Gorakhpur, (U.P.)	36,000
11. Shri Madan Fertilizer Co., Feteahgarh (U.P.)	12,000
12. Ravi Fertilisers, Ballia (U.P.)	21,000
13. Railis India Ltd., Magarwara (U.P.)	N.A.
14. U.P. Pesticides & Fertiliser, Muzaffarnagar, (U.P.)	10,000
15. U.P. Pesticides Products, Azamgarh (U.P.)	6,000
*16. U.P. Cooperative Federation, Barabanki (U.P.)	36,000
North	301,000
1. Haryana Agro Fertilizers & Chemicals, Shahabad Markanda (Haryana)	30,000
2. Haryana State Coop. & Supply Marketing Federation, Taraori (Haryana)	30,000
*3. Haryana State Coop. & Supply Marketing Federation, Shahabad (Haryana)	30,000
4. Hind Fertilizer & Chemicals Industries, Barara (Haryana)	40,000
5. Himalaya Fertiliser Ltd., Nalagarh (H.P.)	36,000
*6. Punjab State Coop. Supply & Marketing Federation, Dhanderikalam	45,000
*7. Punjab State Coop. Supply & Marketing Federation, Dhruvi (Punjab)	45,000
*8. Punjab State Coop. Supply & Marketing Federation, Anandpur Sahib (Punjab)	45,000
9. India Agro Chemical Industries, Chabol, Amritsar (Punjab)	N.A.
10. Varinder Agro Chemicals, Ludhiana (Punjab)	N.A.
East	325,000
*1. Bihar State Coop. Marketing Union Ltd., Tilrath, Begusarai (Bihar)	45,000
2. Bihar State Superphosphate Factory (NPK Granulation Plant) Sindri, Diatt. (Bihar)	36,000
3. Shakti Chemical & Fertiliser (Pvt.) Ltd., P.O. Lokai, Kodarma (Bihar)	20,000
4. Bihar Agro Industries, Forbesganj (Bihar)	6,000
5. Chem. Fert. (India) Pvt. Ltd., Gola Road, Samastipur (Bihar)	18,000
6. Kosi Chemicals, College Road, Katihar, (Bihar)	18,000
7. Himalaya Agro Chemicals, Purnea (Bihar)	12,000

(Continued)

**I.11. MANUFACTURERS AND INSTALLED CAPACITY OF GRANULATED
FERTILISER MIXTURES**

(As on April 1, 1980) (Concluded)

(tonnes/annum)

Name of factory	Installed capacity
*8. Orissa State Coop. Marketing Federation Ltd., Bargarh (Orissa)	30,000
9. Phosphate Co. Ltd., Rishra (West Bengal)	48,000
10. Ferti-chem Ltd., Narangi, Gauhati (Assam)	60,000
11. Jayshree Chemicals & Fertilisers, Khardah (West Bengal)	24,000
Total I	2,135,800
II. PLANNED AND YET TO GO INTO PRODUCTION	
South	
1. Fertilizers and Chemicals Travancore Ltd., Alwaye (Kerala)	N.A.
West	
1. Trimurti Agro Chemicals Ltd., Nangrol (Gujarat)	50,000
Central	
*1. M. P. State Cooperative Marketing Federation Ltd., Bhopal (M.P.)	45,000
2. Kraya Vikraya & Prakriyatmak Sahakari Samiti, Varanasi (U.P.)	N.A.
North	
1. Hind Fertilizer & Chemicals Ltd., Barara	N.A.
Total II	95,000
Grand Total (I+II)	2,230,800

N.A. Not Available

*In Cooperative Sector

Source: State Departments of Agriculture.

2.00. RAW MATERIALS

2.01(a). PRODUCTION OF ROCKPHOSPHATE
1969-70—1979-80 (April-March)

('000 tonnes)

Year	Rockphosphate			
	PPCL ¹ ^a	Rajasthan ² ^b	M.P. ³ ^c	Total
1969-70	—	96.9	—	96.9
1970-71	—	195.1	—	195.1
1971-72	0.7	232.2	—	232.9
1972-73	7.3	191.6	—	198.9
1973-74	9.9	123.4	—	133.8
1974-75	16.9	402.3	9.7	428.9
1975-76	7.9	350.7	28.0	386.6
1976-77	21.4	500.2	41.0	562.6
1977-78	29.0	506.3	47.6	582.9
1978-79	43.2	535.8	67.6	646.6
1979-80	59.0	404.0	82.2	545.2

^a Production of Rockphosphate at Mussoorie (U.P.) commenced from April 1971—meant for direct application.

^b Production of Rockphosphate at Udaipur (Rajasthan) commenced from April 1969.

^c Production of Rockphosphate at Jhabua (M.P.) commenced from May 1974.

NA=Not available.

Note: 1. A small quantity of sulphur is available from oil refineries (recovered sulphur) and pyrites.

2. For information on other raw materials, feedstocks, intermediates, etc. see Chapter 10.

Source: ¹ Pyrites, Phosphates and Chemicals Ltd., Dehra Dun.

² Rajasthan State Mines and Minerals Ltd., Rajasthan Government, Jaipur.

³ Madhya Pradesh State Mining Corporation Ltd., Bhopal (M.P.).



Sources of Raw Material

**2.01(b). DISTRIBUTION OF INDIGENOUS ROCKPHOSPHATE
1969-70-1979-80 (April-March)**

Year	P.P.C.L. ¹			Udaipur (Rajasthan) ²			Jhabua (M.P.) ³			Total		
	Ferti- lisers	Other†	Total	Ferti- lisers	Others*	Total	Ferti- lisers	Others*	Total	Ferti- lisers	Others*	Total
1969-70	—	—	—	—	—	7.0	—	—	—	—	—	7.0
1970-71	—	—	—	121.4	69.9	191.3	—	—	—	121.4	69.9	191.3
1971-72	—	0.7	0.7	213.8	9.2	222.9	—	—	—	213.1	9.2	222.3
1972-73	—	4.7	4.7	181.4	14.5	195.9	—	—	—	181.4	14.5	195.9
1973-74	—	10.1	10.1	97.5	25.2	122.7	—	—	—	97.5	25.2	122.7
1974-75	—	9.9	9.9	126.9	34.0	160.9	Neg	2.9	2.9	126.9	35.9	163.8
1975-76	—	8.2	8.2	233.6	54.2	287.8	9.0	16.3	25.3	242.6	70.5	313.0
1976-77	—	20.1	20.1	497.4	91.6	589.0	5.7	27.1	32.8	503.1	188.3	641.9
1977-78	—	33.0	33.0	489.8	60.6	550.4	21.8	37.6	59.4	511.6	131.2	642.8
1978-79	—	45.3	45.3	458.6	42.1	500.7	14.9	56.6	71.5	473.5	144.0	617.5
1979-80	—	58.2	58.2	355.9	61.3	417.2	25.6	43.8	69.4	381.5	163.3	544.8

*Constitutes supplies to mixtures and non-fertilisers.

†For direct application.

Neg=Negligible.

Source: ¹ Pyrites, Phosphates & Chemicals Ltd., Dehra Dun.

² Rajasthan State Mines & Minerals Ltd., Udaipur.

³ M.P. State Mining Corporation Ltd., Bhopal, (M.P.).

2.02. IMPORT OF ROCKPHOSPHATE AND SULPHUR

1968-69 — 1979-80

(000 tonnes)

Country	1968-69	1969-70	1970-71	1971-72	1972-73	1973-74	1974-75	1975-76	1976-77	1977-78	1978-79	1979-80
ROCKPHOSPHATE												
1. Jordan	432	297	47	349	391	356	469	113	152	393	463	661
2. Morocco	20	14	183	87	79	199	234	127	168	331	387	395
3. Senegal	10	—	27	—	25	12	—	47	53	105	104	145
4. Tunisia	47	—	18	46	—	—	—	—	—	—	—	—
5. Florida	250	288	451	320	380	310	228	226	212	248	229	247
6. Japan	4	—	—	—	—	—	—	—	—	—	—	—
7. Spanish (Sahara)	—	—	—	—	—	—	11	—	—	—	—	—
8. Egypt	74	47	30	—	—	—	—	—	—	—	—	—
9. Kenya	8	—	—	—	—	—	—	—	—	—	—	—
10. Australia	—	—	—	—	—	—	—	—	—	7	—	—
11. Syria	—	—	—	—	—	—	—	—	—	—	11	—
12. Others	—	—	—	—	—	—	—	—	—	—	—	32
Total	845	646	756	842	875	879	942	513	585	1,084	1,196	1,480
	(128.5)	(87.2)	(123.2)	(112.0)	(137.0)	(300.9)	(330.4)	(247.5)	(221.17)	(312.1)	()	()

SULPHUR

1. Canada	214	208	292	193	131	149	83	79	225	163	128	170
2. Iran	—	25	84	220	146	247	288	157	147	225	151	32
3. Poland	20	—	153	205	289	41	107	79	78	109	88	51
4. Iraq	—	—	—	—	3	115	124	178	140	205	306	381
5. Kuwait	—	—	—	3	10	16	13	17	66	51	96	33
6. U.S.S.R.	—	—	10	—	—	21	33	26	43	34	21	31
7. France	8	21	7	—	—	—	—	—	—	—	—	—
8. U.S.A.	73	6	—	—	—	—	11	—	—	—	—	—
9. Poland (Iraq)	—	58	—	—	—	—	29	—	47	75	—	—
10. Germany, Fed. Rep. of	0.6	0.2	—	—	—	—	—	—	—	—	—	—
11. Mexico	17	—	—	—	—	—	—	—	40	—	17	—
12. U.K	1.2	0.1	—	—	—	—	—	—	—	—	—	—
13. Bolivia	5	—	—	—	—	—	—	—	—	—	—	—
14. Bahrain	—	—	—	—	—	—	—	26	—	—	—	66
15. D.P.R.K.	—	—	—	—	—	—	—	—	9	10	—	11
16. Netherlands	Neg.	Neg.	—	—	—	—	—	—	—	—	—	—
17. Qatar	—	5	—	—	—	—	—	—	—	—	—	—
18. Others*	—	—	—	—	—	—	—	—	—	—	—	817
Total	338	324	547	621	589	589	688	562	795	873	802	1,092
	(177.3)	(197.0)	(94.4)	(106.0)	(97.0)	(176.6)	(351.0)	(277.4)	(311.3)	(343.6)	()	()

*Spot purchase

Figures in brackets indicate the value in Rs. million.

Source: 1. Monthly Statistics of the Foreign Trade of India.

2. Minerals & Metals Trading Corporation of India Ltd., New Delhi.

2.03. ANALYSIS OF ROCKPHOSPHATE (INDIGENOUS)

Component	Jhamar kotra (RSMM, Udaipur)	Maton (HZL, Udaipur)	Mussoorie (PPCL)	Jhabua (MPSMC)	Purulia (WBMDTC)
BPL Grade	73/77	69/76	44/52	68/82	77
Moisture	3.0	0.30-1.00	—	—	—
Analysis of material on moisture-free basis					
1. P ₂ O ₅	35.47-35.52	31.70-35.50	23.32-24.57	31.55-37.61	35.30
2. CO ₂	0.71-2.30	0.50-0.90	10.35-16.22	0.39-0.91	—
3. SiO ₂	8.02-10.05	7.50-16.50	9.62	8.88-17.71	0.91
4. CaO	47.83-48.84	48.00-49.00	41.00-41.23	40.68-48.54	42.33
5. SO ₂	Traces 0.06	0.20-0.45	0.42-1.22	0.08-0.20	—
6. Fe ₂ O ₃	0.80-1.30	1.70-2.50	4.0-6.14	0.57-1.42	17.84
7. Al ₂ O ₃	0.48-0.64	0.80-1.50	0.35-0.65	0.47-2.63	2.24
8. MgO	0.50-0.76	0.16-0.40	4.30-4.59	Nil	0.90
9. Na ₂ O	0.89	—	0.09-0.22	0.12-0.26	—
10. K ₂ O	Nil	—	0.10-0.36	0.11-0.19	—
11. F	3.29-4.06	1.60-3.80	1.20-1.38	1.93-3.28	3.04
12. Cl	Nil.0.0015	Traces-0.008	0.10	0.005-0.01	—
13. Org. matter & combined water	Nil-0.27	0.60-1.30	—	0.40-2.54	—
14. LOI	0.87	1.50-1.80	—	—	3.58

2.04. ANALYSIS OF ROCKPHOSPHATE (IMPORTED)

Component	Florida	Jordan	Jordan	Morocco	Morocco	Senegal
BPL Grade	72/75	70/72	73/75	72/73	75/77	79/81
Molsture	0.07-1.51	1.00-2.60	0.80-2.50	0.64-1.03	0.77-1.17	3.00-11.90
Analysis of material on molstue-free basis						
1. P_2O_5	33.13-34.70	31.94-33.00	33.90-35.70	32.00-34.00	33.70-34.76	36.11-36.72
2. CO_2	2.93-6.05	3.60-4.58	2.18-4.53	2.00-4.81	3.60-4.46	1.63-2.66
3. SiO_2	2.36-4.46	3.40-5.50	1.22-3.00	2.00-4.00	1.27-2.15	2.81-3.59
4. CaO	47.26-48.76	47.20-51.00	15.15-53.33	50.00-52.00	50.88-53.10	50.68-51.79
5. SO_2	0.77-0.94	1.00-1.50	0.75-1.40	1.00-2.00	1.68-1.95	0.34
6. Fe_2O_3	1.15-1.86	0.10-0.50	0.10-0.20	0.10-0.60	0.18-0.39	0.77-1.10
7. Al_2O_3	0.81-1.41	0.20-0.87	0.20-0.51	0.20-0.51	0.82-1.25	0.85-1.18
8. MgO	0.67-1.30	0.30-0.69	0.22-0.70	0.12-0.80	0.15-1.26	0.10
9. Na_2O	0.05	0.19-1.30	0.25-0.70	0.50-1.00	0.17-0.75	0.08-0.20
10. K_2O	—	0.02-0.20	0.05-0.10	<0.10	0.06	—
11. F	2.79-4.06	1.13-4.00	2.16-4.30	3.00-5.00	3.01-4.31	2.77-3.70
12. Cl	0.0012-0.0057	0.02-0.20	0.007-0.07	<0.02	0.001-0.03	0.004
13. Org. matter & combined water	—	0.34-1.50	0.27-2.37	1.00-2.05	0.20-2.05	—
14. LOI	—	4.90-6.70	4.50-6.40	~8.00	5.00	2.54

3.00 PRODUCTION OF FERTILISERS

3.01 CHRONOLOGY OF MANUFACTURE OF FERTILISER MATERIALS

Approx. year of first manufacture	Fertiliser material manufactured	Factory which first manufactured	Total No. of units licensed to manufacture (as on 1.9.80)
(i) 1906	Single superphosphate	E.I.D.-Pary (India) Ltd., Ranipet	41
(ii) 1906	Fertiliser mixtures		551
(iii)	Ammonium sulphate		11
1933	(a) As a by-product of steel industry	(a) Tata Iron & Steel Co. Ltd., Jamshedpur	6
1941	(b) Using sulphuric acid	(b) Mysore Chemicals & Fertilisers Ltd., Belagula	1*
1947	(c) Using gypsum as a raw material	(c) FACT, Alwaye	5
(iv) 1959	Ammonium sulphate nitrate	FCI Ltd., Sindri	1†
	Urea	FCI Ltd., Sindri	22
	Ammonium chloride (Agriculture)	New Central Jute Mills Co. Ltd., Varanasi	3
(v) 1960	Ammonium phosphate	FACT, Alwaye	2
(vi) 1961	Calcium ammonium nitrate	NFL Nangal	2
(vii) 1965	Nitrophosphate	RCFL, Trombay	1
(viii) 1967	Diammonium phosphate	Gujarat State Fertilizers Co. Ltd., Baroda	3
(ix) 1968	Triple superphosphate	Dharamsi Morarji Chemical Co. Ltd., Ambernath	3
	Urea ammonium phosphate	Coromandel Fertilisers Ltd., Vizag	4
	NPK complex fertilisers	RCFL, Trombay	4
(x) 1973	Pelofos	Orissa Fertilisers and Chemicals, Rourkela	1

*Closed in 1965.

†Now not manufactured.

**3.02. PRODUCTION OF NITROGENOUS FERTILIZERS
1952-53 to 1979-80 (April-March)**

('000 tonnes)

Year	Ammonium sulphate (20.6% N)	Ammonium sulphate nitrate (26% N)	Urea (46% N)	Calcium ammonium nitrate (25% N)	Ammonium chloride ^a (25% N)	Total nutrient N (straight)
1952-53	257.9	—	—	—	—	58.1
1953-54	256.8	—	—	—	—	52.9
1954-55	332.4	—	—	—	—	68.5
1955-56	373.1	—	—	—	—	78.9
1956-57	382.5	—	—	—	—	78.8
1957-58	393.9	—	—	—	—	81.1
1958-59	392.1	—	—	—	—	80.8
1959-60	367.0	21.3	3.8	—	3.4	83.7
1960-61	399.0	40.0	11.8	51.3 ^b	10.3	110.9
1961-62	402.3	53.2	13.5	228.1 ^b	11.2	152.2
1962-63	422.2	62.2	18.7	326.1 ^b	10.6	181.3
1963-64	440.6	47.2	19.1	498.1 ^b	14.3	125.8
1964-65	433.6	47.8	17.9	555.6 ^b	11.9	226.9
1965-66	419.3	52.3	27.5	503.1 ^b	16.4	220.7
1966-67	446.2	60.0	141.0	540.9 ^b	14.5	286.9
1967-68	417.2	60.9	208.3	337.8 ^b , 194.3	15.4	319.3
1968-69	575.3	49.2	404.3	180.0 ^b , 358.9	17.2	448.2
1969-70	581.8	42.8	772.7	3.0 ^b , 437.3	12.9	599.6
1970-71	637.1	41.8	1,096.2	317.2	22.1	730.7
1971-72	599.1	30.4	1,236.1	411.5	18.4	807.4
1972-73	554.5	57.5	1,415.1	419.3	13.9	888.5
1973-74	574.6	48.7	1,406.8	431.3	13.7	889.4
1974-75	589.4	26.7	1,734.3	406.5	10.2	1,030.3
1975-76	611.1	21.3	2,196.7	617.5	15.5	1,300.1
1976-77	586.5	2.0	2,875.3	638.2	17.6	1,608.5
1977-78	557.3	—	3,071.8	509.3	16.7	1,659.3
1978-79	508.6	—	3,306.9	558.8	17.9	1,769.7
1979-80	479.3	—	3,513.5	465.3	12.7	1,834.5

^a For agricultural purposes only.^b This figure is for 20.5% N grade.

Note: For All-India production of N, see "Summary" Table.

3.63. PRODUCTION OF PHOSPHATE
1952-53 to 1979-80 (April-March)

('000 tonnes)

Year	Single superphosphate and pelofos material of grade			Triple superphosphate material of grade		Total nutrient P ₂ O ₅ (straight)
	16% W. S. P ₂ O ₅	Superphosphate other grades	Nutrient W. S. P ₂ O ₅	46% W. S. P ₂ O ₅	Nutrient W. S. P ₂ O ₅	
1952-53*	46.5	—	7.4	—	—	7.4
1953-54*	86.4	—	13.8	—	—	13.8
1954-55*	89.7	—	14.3	—	—	14.3
1955-56*	77.3	—	12.4	—	—	12.4
1956-57*	109.9	—	17.6	—	—	17.6
1957-58*	161.2	—	25.8	—	—	25.8
1958-59*	193.7	—	31.0	—	—	31.0
1959-60*	323.3	—	51.4	—	—	51.4
1960-61*	327.4	—	52.4	—	—	52.4
1961-62*	382.0	—	62.7	—	—	62.7
1962-63	486.7	—	77.9	—	—	77.9
1963-64	609.9	6.1	98.7	—	—	98.7
1964-65	723.9	10.6	117.1	—	—	117.7
1965-66	652.8	—	104.4	—	—	104.4
1966-67	695.4	24.2	112.7	—	—	112.7
1967-68	874.1	31.3	145.5	0.6	0.2	145.7
1968-69	658.9	14.7	108.0	4.1	1.8	109.8
1969-70	615.7	12.4	100.8	7.5	3.4	104.2
1970-71	613.0	7.9	99.5	5.8	2.6	102.1
1971-72	773.0	2.6	124.2	7.7	3.5	127.6
1972-73	781.6	—	126.6	4.9	2.2	127.3
1973-74	773.3 (10.0)	0.4	125.5	3.0	1.4	126.9
1974-75	822.8 (12.3)	—	133.8	2.5	1.2	135.0
1975-76	481.3 (1.6)	1.6	74.0	2.1	1.0	75.0
1976-77	779.3 (1.8)	7.0	126.2	1.8	0.8	127.0
1977-78	987.6	—	158.0	7.2	3.3	161.3
1978-79	1,111.5	—	177.8	19.6	9.0	186.8
1979-80	1,048.4	—	167.7	22.4	10.3	178.0

*July-June basis.

() = Pelofos

Note: For All-India production of P₂O₅, see "Summary" Table.

3.04. PRODUCTION OF NP/NPK FERTILISERS -- 1960-61 to 1979-80 (April-March)

('000 tonnes)

Year	NPs						NPKs						Total nutrients from NPs & NPKs		
	28-28-0	24-24-0	20-20-0	20-20-0**	18-46-0	16-20-0	19-19-19	17-17-17	15-15-15**	14-35-14	14-28-14	12-32-16	10-26-26	N	P ₂ O ₅
1960-61*	—	—	—	—	—	6.7	—	—	—	—	—	—	—	1.1	1.3
1961-62*	—	—	—	—	—	13.2	—	—	—	—	—	—	—	2.1	2.6
1962-63	—	—	—	—	—	9.2	—	—	—	—	—	—	—	1.5	1.8
1963-64	—	—	—	—	—	28.4	—	—	—	—	—	—	—	4.5	4.7
1964-65	—	—	—	—	—	49.2	—	—	—	—	—	—	—	7.9	9.8
1965-66	—	—	—	16.4 ^a	—	52.1	—	—	—	—	—	—	—	11.0	12.6
1966-67	—	—	—	70.6 ^a	—	77.5	—	—	—	—	—	—	—	28.7	24.7
1967-68	—	—	—	70.5	27.7 ^a	92.4	—	—	—	—	—	—	—	28.6	49.4
				22.4 ^a											
				3.7 ^b											
1968-69	132.2	—	3.4	94.1	55.2 ^a	98.3	—	—	—	—	—	—	—	83.1	102.5
1969-70	207.4	—	27.2	22.2	44.7	87.1	—	—	—	—	—	50.9 ⁱ	—	105.3	120.5
				87.7 ^b											
1970-71	159.7	—	60.2	4.1	55.5	88.1	—	—	59.4	—	—	—	8.6 ⁱ	108.9	125.9
				20.2 ^c					56.1 ^b						
1971-72	195.1	—	35.8	25.0 ^a	49.7	102.8	—	54.9	133.7	3.1	12.7	—	—	141.8	162.7
									44.9 ^d		4.7 ^h				
1972-73	174.8	—	20.1	—	69.1	94.4	—	242.1	240.1	18.1	—	—	—	167.8	203.0
1973-74	171.8	—	19.6	—	80.2	104.8	—	208.9	213.4	36.9	—	—	—	180.5	197.6
1974-75	136.9	—	23.8	—	67.5	119.7	—	226.4	213.5	28.2	—	16.0	14.4	156.5	198.3
1975-76	181.1	95.4	30.2	12.7	52.9	113.1	15.3	282.1	180.1	12.2	—	72.3	3.1	208.0	244.7
			16.3 ^d	22.3 ^e	20.1 ^f								8.7 ⁱ		
1976-77	244.1	5.0	33.0	50.9	87.0	101.7	61.4	261.9	182.4	44.9	5.0	247.5	54.9	253.6	351.3
			9.7 ^h	29.9 ^g	0.1 ^f										
1977-78	807.6	38.3	40.1 ^h	15.8	195.1	124.9	87.7	414.8	213.6	19.8	20.0	392.2	108.9	340.5	508.6
				15.8											
1978-79	338.2	28.0	42.7 ^h	128.4 [†]	229.0	119.9	66.5	472.2	265.6	18.0	42.1	484.4	78.6	403.2	591.2
1979-80	261.5	25.7	40.6	199.8	263.4	125.2	68.8	412.5	255.5	55.2	36.6	453.3	56.8	369.8	585.1

* July-June base

** Nitrophosphate

a Grade 19-13-0

b Other grades

c Grade 18-18-9

d Grade 18-9-0

e Grade 20-48-0

f Grade 19.5-19.5-0

g APSN 20-20-0

h Grade 20-20-0

† Ammonium Nitro Phosphate

i Grade 22-22-11

Note : For All-India productions of N and P₂O₅, see "Summary" Table.

3.05. STATEWISE PRODUCTION OF FERTILISERS—
1979-80

Zone/State	Ammonium Sulphate (20.6%N)	Urea (46% N)	CAN (25% N)	Ammonium Chloride (25% N)	16-20-0 ¹ 19-19-19 ¹	20-20-20 ² 20-20-20 ⁴
Central	32.6	697.2	—	2.3	—	—
Madhya Pradesh	32.6	—	—	—	—	—
Rajasthan	—	252.2	—	—	—	—
Uttar Pradesh	—	445.0	—	2.3	—	—
Delhi	—	—	—	—	—	—
East	123.3	411.7	210.5	—	—	—
Assam	48.6	148.0	—	—	—	—
Bihar	46.0	147.4	—	—	—	—
Orissa	14.8	—	210.5	—	—	—
West Bengal	14.4	116.3	—	—	—	—
North	—	401.2	254.8	—	—	—
Haryana	—	140.2	—	—	—	—
Punjab	—	261.0	254.8	—	—	—
South	130.6	1113.4	—	10.4	125.2¹	40.6²
Andhra Pradesh	—	—	—	—	—	—
Karnataka	—	231.0	—	—	—	—
Kerala	130.6	212.0	—	8.7	82.2 ¹	40.6 ²
Tamil Nadu	—	670.4	—	1.7	43.0 ¹	—
West	192.8	890.0	—	—	68.8²	199.8⁴
Gujarat	192.8	515.4	—	—	—	—
Maharashtra	—	103.9	—	—	—	199.8 ⁴
Goa	—	270.7	—	—	68.2 ²	—
All-India	479.3	3513.5	465.3	12.7	125.2¹ 68.8²	40.6² 199.8⁴

Note: There was no production of pelofos during 1979-80.

MATERIALWISE AND NUTRIENTWISE

	24-24-0 ^a 17-17-17 ^a	15-15-15 ^b 28-28-0 ^a 14-28-14 ^b	14-35-14	10-26-26	12-32-16	18-46-0	Single Super- phosphate 16% P ₂ O ₅		Triple Super- phosphate (46% P ₂ O ₅)		Total	
							321.8	2.2	329.0	52.5	N	P ₂ O ₅
—	—	—	—	—	—	—	60.3	2.2	116.0	10.6	—	—
—	—	—	—	—	—	—	52.9	—	205.3	8.5	—	—
—	—	—	—	—	—	—	120.4	—	—	19.5	—	—
—	—	—	—	—	—	—	90.9	19.7	267.5	23.5	—	—
—	—	—	—	—	—	—	2.7	—	78.1	0.4	—	—
—	—	—	—	—	—	—	5.5	19.7	77.3	9.9	—	—
—	—	—	—	—	—	—	—	—	55.6	—	—	—
—	—	—	—	—	—	—	82.7	—	56.5	13.2	—	—
—	—	—	—	—	—	—	—	—	248.2	—	—	—
—	—	—	—	—	—	—	—	—	64.5	—	—	—
—	—	—	—	—	—	—	—	—	183.7	—	—	—
25.7 ^a	215.9 ^a	50.4	—	—	—	183.4	294.1	—	751.9	329.2	—	—
412.5 ^a	36.8 ^b	—	—	—	—	—	—	—	—	—	—	—
—	188.4 ^b	50.4	—	—	—	4.8	78.3	—	60.6	84.9	—	—
—	—	—	—	—	—	—	38.4	—	106.4	6.1	—	—
—	27.5 ^b	—	—	—	—	71.9	24.4	—	169.5	69.2	—	—
25.7 ^a	36.8 ^b	—	—	—	—	107.2	153.0	—	416.4	189.0	—	—
412.5 ^a	—	—	—	—	—	—	—	—	—	—	—	—
—	255.5 ^b	4.8	—	—	—	80.0	341.8	0.5	628.4	357.9	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—
—	45.6 ^b	—	—	—	—	—	101.6	—	351.3	213.4	—	—
—	255.5 ^b	—	—	—	—	—	240.2	0.5	126.1	117.0	—	—
—	—	4.8	—	—	—	—	—	—	151.0	27.5	—	—
—	45.6 ^b	—	—	—	—	—	—	—	—	—	—	—
25.7 ^a	255.5 ^b	55.2	—	—	—	263.4	1048.4	22.4	2224.3	763.1	—	—
412.5 ^a	281.5 ^b	—	—	—	—	—	—	—	—	—	—	—
—	36.8 ^b	—	—	—	—	—	—	—	—	—	—	—

(‘000 tonnes)

**3.06. STATEWISE FERTILISER MIXING UNITS—GRANULATED AND
PHYSICAL MIXTURES**

Zone/State	No. of mixing units						Grand Total
	Granulated@			Physical			
	Coop.	Others*	Total	Coop.	Others*	Total	
Central	9	7	16	—	8	8	24
Madhya Pradesh	—	2	2	—	6	6	8
Rajasthan	—	3	3	—	—	—	3
Uttar Pradesh	9	1	10	—	2	2	12
Delhi	—	1	1	—	—	—	1
East	1	9	10	1	53	54	64
Assam	—	1	1	—	14	14	15
Bihar	1	6	7	—	5	5	12
Orissa	—	—	—	—	1	1	1
West Bengal	—	2	2	1	33	34	36
North	5	3	8	—	—	—	8
Haryana	2	—	2	—	—	—	2
Himachal Pradesh	—	1	1	—	—	—	1
Punjab	3	2	5	—	—	—	5
South	3	3	6	19	152	171	177
Andhra Pradesh	—	2	2	—	12	12	14
Karnataka	2	1	3	4	25	29	32
Kerala	—	—	—	1	13	14	14
Tamil Nadu	1	—	1	14	93	107	108
Pondicherry	—	—	—	—	9	9	9
West	9	5	14	109	155	264	278
Gujarat	—	1	1	25	70	95	96
Maharashtra	9	3	12	82	71	153	165
Goa	—	1	1	2	14	16	17
Total	27	27	54	129	368	497	551

* Constitutes fertiliser mixing unit with public and private sector.

@For capacity see Table 1.11.

3.07. PRODUCTION AND DISTRIBUTION OF GRANULATED FERTILISER MIXTURES
1977-78 to 1979-80

(tonnes)

Grade	Production			Distribution		
	1977-78	1978-79	1979-80	1977-78	1978-79	1979-80
20-20-10	—	—	795	—	—	680
20-20-5	158	1,846	102	179	1,799	153
20-20-0	3,075	2,360	606	2,964	2,114	612
20-10-10	575	2,363	2,058	444	2,206	2,248
18-18-10	48,209	49,826	17,122	48,905	46,515	16,504
18-18-9	332	1,307	687	497	1,282	691
18-18-6	22,385	27,895	15,843	22,385	27,720	16,608
18-9-0	—	—	749	—	—	676
17-17-17	36,320	30,072	—	35,702	28,184	26
16-8-16	210	393	456	145	455	459
16-0-16	—	—	210	—	—	—
15-15-15	25,548	22,694	6,289	23,011	24,318	7,596
15-15-7.5	17,059	17,449	12,854	22,241	17,904	12,685
15-7.5-15	142	—	—	125	21	—
15-6-21	—	—	—	—	—	500
15-5-5	104,625	95,322	77,178	105,501	97,576	74,165
14-28-14	—	—	—	26	—	—
14-14-7	180	185	300	180	185	300
14-6-4	1,001	231	108	908	351	143
12-32-6	—	2,252	6,318	—	4,242	6,791
12-32-16	—	9,206	12,147	—	4,152	16,188
12-6-6	2,976	1,603	1,009	2,632	1,857	999
10-30-10	—	4,390	10,910	—	4,371	9,150
10-20-10	—	27	—	91	27	—
10-10-10	—	678	69	8	678	69
10-5-10	—	—	167	—	—	167
10-5-5	—	99	308	—	99	295
9-20-20	435	—	—	439	—	—
9-9-5	—	—	66	952	62	66
8-32-8	—	388	—	—	338	—
8-8-8	12,208	7,752	6,964	13,836	6,766	7,287
6-18-12	509	723	594	606	723	512
6-15-20	—	—	1,119	—	—	1,118
6-12-15	—	1,390	—	—	1,390	—
5-15-15	1,368	679	264	1,363	679	239
5-10-5	216	299	—	210	300	—
4-15-15	198	—	—	189	—	—
Total	277,724	281,379	175,292	283,537	276,334	176,907

Note: Data for 1977-78, 1978-79 & 1979-80 are based on returns from 38, and 21 granulated mixture manufacturers out of a total of 54.

4.00. IMPORT OF FERTILISERS

4.01. IMPORT OF NITROGENOUS FERTILISERS
1978-79 & 1979-80

('000 tonnes)

Material and origin of import	April-March	
	1978-79	1979-80
Ammonium sulphate (21% N)		
Holland	78.4	54.5
Italy	89.7	—
Japan	45.0	—
U.S.A.	27.5	34.7
U.S.S.R.	34.5	32.7
West Germany	67.8	80.8
Total	342.9 (261.4)	202.7 (148.5)
Urea (46% N)		
Austria	37.1	36.4
Belgium	34.5	25.5
Bulgaria	65.9	92.9
Finland	14.9	15.3
France	50.9	38.8
Ger. Dem. Rep.	—	11.0
Ger. Fed. Rep.	98.7	35.2
Holland	409.1	540.2
Indonesia	86.1	88.1
Iraq	—	146.0
Italy	115.3	180.6
Japan	52.6	—
Kuwait	134.1	100.0
Norway	51.1	59.1
Poland	132.1	45.3
Qatar	96.3	259.3
Romania	277.5	299.7
Saudi Arabia	55.1	50.1
U.S.A.	334.3	281.3
U.S.S.R.	174.6	96.9
Total	2,218.3 (2,849.3)	2,399.7 (3,592.0)
Calcium ammonia nitrate (26% N)		
Belgium	14.8	—
Finland	—	29.6
Ger. Fed. Rep.	34.7	54.0
Holland	115.7	81.6
Romania	10.4	50.7
Total	175.6 (115.7)	216.0 (228.9)

Figures in brackets indicate value in Rs. million.

Source: Ministry of Agriculture & Reconstruction, New Delhi.

4.02. IMPORT OF COMPLEX FERTILISERS
1978-79 & 1979-80

('000 tonnes)

Material and origin of import	April-March	
	1978-79	1979-80
NPs		
18-46-0		
U.S.A.	529.3	515.4
Total	529.3 (717.0)	515.4 (891.1)

Figures in brackets indicate value in Rs. million.

Source: Ministry of Agriculture & Reconstruction, New Delhi.

4.03. IMPORT OF POTASSIC FERTILISERS
1978-79 & 1979-80

('000 tonnes)

Material & origin of import	April-March	
	1978-79	1979-80
Muriate of potash (60% K₂O)		
Canada	378.3	277.5
Ger. Dem. Rep.	286.4	306.3
Ger. Fed. Rep.	194.7	197.9
Total	853.4 (803.4)	781.6 (672.4)
Sulphate of potash (50% K₂O)		
Germany Fed. Rep.	10.7 (13.4)	8.4 (12.1)

Figures in brackets indicate value in Rs. million.

Source: Ministry of Agriculture & Reconstruction, New Delhi.

4.04. IMPORT OF FERTILISER MATERIALS - 1967-68 to 1979-80

(April-March)

Q = Quantity in '000 tonnes
V = Value in Rs. million

Year	Nitrogenous					NP/NPKs					Potassic		Total			Value	
	Ammonium sulphate	Ammonium sulphate nitrate	Urea	Calcium ammonium nitrate	Ammonium chloride	Ammonium nitro-phosphate 20-20-0 24-24-0 23-23-0	Ammonium phosphate 20-20-0	Diammonium phosphate 18-46-0	NPKs (various grades)	Mono-ammonium phosphate 15-55-0	Phosphatic tripple super phosphate	Muriate of potash	Sulphate of potash	N	P ₂ O ₅		K ₂ O
1967-68 Q	1,053.2	16.1	918.4	125.0	50.7	—	256.4	614.7	90.0	—	—	439.0	5.0	866.7	348.7	270.2	1,933.1
V	468.9	7.0	598.8	49.7	18.9	—	174.5	382.4	58.0	—	—	171.6	2.5	—	—	—	
1968-69 Q	1,255.8	10.5	1,028.6	90.0	46.6	27.0	50.2	216.2	113.0	—	—	326.0	4.0	844.1	137.6	213.2	1,629.2
V	440.2	4.6	703.1	37.9	16.0	17.0	33.4	168.3	78.1	—	—	126.9	1.8	—	—	—	
1969-70 Q	790.1	—	938.1	82.9	—	6.9	—	125.1	184.0	—	—	152.0	4.0	667.2	94.1	120.4	1,167.7
V	262.8	—	620.7	35.5	—	3.3	—	65.2	124.7	—	—	52.4	2.1	—	—	—	
1970-71 Q	83.3	24.6	779.8	279.8	—	17.4	—	12.0	121.0	—	—	157.0	24.0	477.3	32.4	119.8	767.9
V	27.5	10.3	458.9	108.8	—	9.7	—	7.1	65.9	—	—	60.7	18.9	—	—	—	
1971-72 Q	186.6	32.0	549.6	317.2	—	—	—	352.8	269.0	—	—	362.0	—	481.3	247.8	268.2	899.7
V	31.2	11.4	249.4	113.7	—	—	—	200.0	183.6	—	—	110.4	—	—	—	—	
1972-73 Q	128.2	—	1,008.4	317.7	—	56.4	—	347.8	119.0	12.0	—	504.0	6.1	665.4	204.7	325.3	1,212.6
V	27.5	—	507.9	121.9	—	31.8	—	273.8	76.6	9.6	—	160.2	3.2	—	—	—	
1973-74 Q	75.9	2.0	1,033.9	183.4	—	239.8	—	340.2	55.0	—	—	607.0	5.0	658.8	212.7	370.4	1,767.5
V	39.0	1.8	737.1	105.6	—	202.0	—	359.8	44.2	—	—	275.0	3.0	—	—	—	
1974-75 Q	235.1	13.6	1,244.1	359.6	30.0	182.7	—	435.9	285.0	—	5.0	649.9	10.0	883.8	285.9	437.3	5,991.3
V	261.5	17.2	2,711.7	559.6	48.8	323.9	—	982.1	593.4	—	14.8	467.4	11.6	—	—	—	
1975-76 Q	96.0	10.0	1,545.0	178.0	30.0	—	—	536.0	618.0	—	—	390.0	—	996.0	361.0	278.0	7,227.7
V	143.7	17.6	3,668.8	274.0	47.5	—	—	1,477.6	1,271.5	—	—	327.4	—	—	—	—	
1976-77 Q	—	—	1,596.9	4.5	—	34.6	—	30.1	13.4	—	—	441.0	10.5	750.1	22.8	277.8	2,202.2
V	—	—	1,772.7	4.9	—	40.2	—	43.4	22.8	—	—	305.8	12.3	—	—	—	
1977-78 Q	3.8	—	1,498.9	14.3	—	—	—	356.3	—	—	—	986.0	14.6	758.1	163.9	598.9	3,064.4
V	2.8	—	1,845.0	12.4	—	—	—	532.7	—	—	—	654.8	16.7	—	—	—	
1978-79 Q	342.8	—	2,218.3	175.6	—	—	—	529.3	—	—	—	853.4	10.7	1,233.1	243.5	517.4	4,600.2
V	261.4	—	2,849.3	155.7	—	—	—	717.0	—	—	—	603.4	13.4	—	—	—	
1979-80 Q	202.7	—	2,999.7	216.0	—	—	—	515.4	—	—	—	781.6	8.4	1,295.3	237.1	478.2	5,545.0
V	148.5	—	3,592.0	228.9	—	—	—	891.1	—	—	—	672.4	12.1	—	—	—	

5.00. DISTRIBUTION OF FERTILISERS

5.01. DISTRIBUTION OF INDIGENOUS NITROGENOUS FERTILISER
1979-80 - QUARTERWISE

('000 tonnes)

Zone/State	April/ June 1979	July/ Sept. 1979	Oct./ Dec. 1979	Jan./ March 1980	Total	April/ June 1980
					April '79/ March '80	
(A) Ammonium Sulphate (20.6% N)						
Central	11.9	10.1	9.5	8.5	40.0	3.3
Madhya Pradesh	2.2	4.9	0.8	1.4	9.3	0.4
Rajasthan	0.2	0.1	Neg.	Neg.	0.3	Neg.
Utter Pradesh	9.5	5.1	8.7	7.1	30.4	2.9
East	24.1	23.5	24.7	30.3	102.6	25.9
Assam	3.5	0.2	0.7	0.4	4.8	0.1
Bihar	5.6	7.5	9.3	13.8	36.2	8.0
Meghalaya	1.5	3.7	1.1	0.9	7.2	0.7
Orissa	1.3	2.7	2.3	1.5	7.8	0.9
West Bengal	5.9	6.9	3.3	5.3	21.4	3.4
West Bengal Tea	2.0	0.6	1.8	1.7	6.1	} 12.8
Assam Tea	4.3	1.4	6.2	6.6	18.5	
Tripura Tea	Neg.	—	—	—	Neg.	
Tripura	—	—	—	0.1	0.1	—
Sikkim	—	Neg.	—	—	Neg.	—
NE Tea	—	—	—	—	—	12.8
North	2.8	5.0	3.7	1.1	12.6	1.9
Haryana	0.5	3.1	0.2	—	3.8	0.7
Himachal Pradesh	—	—	0.1	0.2	0.3	—
Punjab	2.3	1.9	3.4	0.9	8.5	1.2
South	27.3	40.6	45.5	45.4	158.8	32.4
Andhra Pradesh	8.2	17.0	16.9	21.2	63.3	14.4
Karnataka	2.8	6.3	7.1	5.9	22.1	4.0
Kerala	11.3	10.5	11.2	9.2	42.2	9.0
Tamil Nadu	5.0	6.8	10.3	9.1	31.2	5.0
West	35.6	47.3	40.8	34.8	158.5	35.4
Gujarat	22.7	30.8	33.8	22.5	109.8	25.5
Maharashtra	1.9	16.5	7.0	12.3	48.7	9.9
Dadra Nagar & Haveli	—	—	—	—	—	0.05
Industrial Users	0.5	0.4	0.4	0.4	1.7	0.3
All India	102.2	126.9	124.6	120.5	474.2	99.2

5.01. DISTRIBUTION OF INDIGENOUS FERTILISERS
1979-80—QUARTERWISE (Continued)

('000 tonnes)

Zone/State	April/ June 1979	July/ Sept. 1979	Oct./ Dec. 1979	Jan./ March 1980	Total	April/ June 1980
					April '79/ March '80	
(B) Urea (46% N)						
Central	199.5	235.1	204.1	220.6	859.3	129.3
Madhya Pradesh	35.4	37.6	27.7	19.7	120.4	19.0
Rajasthan	37.8	33.6	44.0	47.2	162.6	32.2
Uttar Pradesh	125.8	162.5	130.6	151.3	570.2	77.3
Delhi	0.5	1.4	1.8	2.4	6.1	0.8
East	86.1	96.4	122.9	88.9	394.3	25.2
Arunachal Pradesh	—	—	—	—	—	Neg.
Assam	1.7	3.1	4.1	2.6	11.5	0.4
Bihar	45.3	54.8	63.7	29.8	193.6	1.6
Manipur	0.8	0.1	0.8	0.6	2.3	5.4
Meghalaya	2.2	0.4	—	0.1	2.7	0.2
Nagaland	0.1	—	—	—	0.1	0.04
Orissa	4.0	3.4	5.9	4.7	18.0	2.1
Sikkim	—	—	—	0.3	0.3	—
Tripura	0.8	0.5	1.7	—	3.0	0.2
West Bengal	23.8	31.4	39.7	36.3	130.9	11.9
Mizoram	—	—	Neg.	Neg.	0.1	—
Andamans	Neg.	—	—	—	Neg.	—
Tea (W.B.)	3.4	0.4	1.9	3.1	8.8	} 3.4
Tea (Assam)	4.0	2.3	5.1	11.4	22.8	
Tea (N.E.)	—	—	—	—	—	
Tea Tripura	Neg.	—	Neg.	Neg.	0.1	
North	115.4	125.8	173.5	221.6	636.3	116.5
Haryana	31.4	59.6	56.1	79.7	226.8	40.6
Himachal Pradesh	7.5	0.5	0.2	0.2	8.4	1.2
Jammu & Kashmir	2.0	—	2.1	—	4.1	2.1
Punjab	74.5	65.7	115.0	141.7	396.9	72.6
Chandigarh	—	0.05	0.09	0.03	0.2	Neg.
South	222.2	362.0	305.1	308.1	1,197.4	195.4
Andhra Pradesh	47.8	121.0	91.8	88.9	349.5	42.0
Karnataka	53.9	92.5	40.9	56.6	243.9	41.8
Kerala	13.0	19.4	12.9	17.2	62.5	15.2
Tamil Nadu	105.5	127.4	155.9	141.9	530.7	93.4
Pondicherry	0.8	0.7	1.8	1.1	4.4	1.5
Cardamom Board	—	0.7	0.2	—	0.9	0.1
Coffee Board	1.2	—	0.2	2.1	3.5	1.3
Tea Board	—	0.3	1.4	0.3	2.0	0.01
West	116.4	132.4	92.1	108.1	449.0	126.0
Gujarat	47.6	58.8	43.7	45.1	195.2	58.8
Maharashtra	68.2	72.6	48.4	62.4	251.6	66.2
Goa	0.6	1.0	Neg.	0.5	2.1	0.9
Dadra & Nagar Haveli	—	—	—	—	—	0.1
Others	8.0	2.9	2.1	1.1	14.1	5.1
All India	747.6	954.7	899.8	948.3	3,550.4	597.5

(Continued)

**5.01. DISTRIBUTION OF INDIGENOUS FERTILISERS
1979-80—QUARTERWISE (Concluded)**

('000 tonnes)

Zone/State	April/ June 1979	July/ Sept. 1979	Oct./ Dec. 1979	Jan./ March 1980	Total	April/ June 1980
					April '79/ March '80	
(C) Calcium Ammonium Nitrate (25% N)						
Central	37.4	24.55	37.0	13.2	112.1	43.0
Madhya Pradesh	0.2	0.05	0.02	0.02	0.3	—
Rajasthan	6.8	5.4	4.9	2.5	19.6	1.5
Uttar Pradesh	33.0	18.5	31.7	9.9	90.1	2.5
Delhi	0.4	0.5	0.4	0.8	2.1	0.3
East	16.7	39.0	42.8	30.3	128.8	56.0
Bihar	—	7.5	12.8	8.5	28.8	0.8
Orissa	11.7	25.9	17.8	14.9	69.8	4.4
West Bengal	5.0	5.6	12.7	6.9	30.2	0.6
North	36.9	54.1	50.3	49.3	190.6	31.8
Haryana	14.6	11.9	12.8	5.1	44.4	7.0
Himachal Pradesh	5.0	7.6	3.8	14.5	30.9	9.2
Punjab	17.2	34.4	33.5	29.6	114.7	15.5
Chandigarh	0.1	0.2	0.2	0.1	0.6	0.1
South	6.3	15.9	14.8	15.5	52.5	4.8
Andhra Pradesh	4.8	14.6	14.8	15.5	49.7	4.8
Karnataka	1.5	—	—	—	1.5	—
Kerala	—	—	—	—	—	—
Tamil Nadu	—	0.5	—	—	0.5	—
Tea Board	—	0.8	—	—	0.8	—
West	—	—	—	—	—	—
All India	97.3	133.5	144.9	108.3	484.0	135.6
(D) Ammonium Chloride (25% N)						
			←-----tonnes-----→			
Central	21.6	573.1	117.0	82.6	794.3	78.3
Madhya Pradesh	8.1	1.8	3.6	1.8	15.3	6.3
Rajasthan	—	2	9	1.0	2.1	—
Uttar Pradesh	13.5	571.1	112.5	79.8	776.9	72.0
East	67.0	100.2	71.7	70.0	308.9	60.1
Bihar	2.0	24.6	8.7	3.0	38.3	2.0
West Bengal	65.0	75.6	63.0	67.0	270.6	58.1
North	4.7	11.5	14.4	13.7	44.3	14.6
Haryana	—	1.9	—	—	1.9	9
Punjab	4.7	9.6	14.4	13.7	42.4	13.7
South	71.9	87.4	94.0	100.8	354.1	101.4
Andhra Pradesh	36.5	40.5	33.2	32.4	142.6	35.4
Karnataka	—	2	1.7	—	1.9	—
Kerala	7.6	10.7	6.4	12.5	37.2	6.2
Tamil Nadu	27.8	36.0	52.7	55.9	172.4	59.8
West	31.9	42.3	44.3	61.3	179.8	67.1
Gujarat	13.0	14.1	19.9	21.3	68.3	28.6
Maharashtra	18.9	28.2	24.4	40.0	111.5	38.6
All India	197.1	814.5	341.4	328.4	1,681.4	321.5

**5.02. DISTRIBUTION OF POOL NITROGENOUS FERTILISERS
1979-80—QUARTERWISE**

('000 tonnes)

Zone/State	April/ June 1979	July/ Sept. 1979	Oct./ Dec. 1979	Jan./ March 1980	Total	April/ June 1980
					April '79/ March '80	
(A) Ammonium Sulphate (20.6%N)						
Central	0.4	2.8	1.1	0.9	5.2	0.3
Madhya Pradesh	0.4	2.7	0.4	0.02	3.5	—
Uttar Pradesh	0.02	0.1	0.7	0.9	1.7	0.3
East	3.1	5.8	2.8	10.9	22.6	2.3
Assam	0.1	—	—	—	0.1	—
Bihar	2.0	0.8	0.1	3.1	6.0	—
Orissa	0.5	1.2	1.2	0.2	3.1	0.3
West Bengal	0.5	3.1	1.5	7.6	12.7	2.0
Tea Board (N. E. India)	—	0.7	—	—	0.7	0.05
North	1.8	3.7	14.5	0.4	17.4	—
Haryana	1.3	0.7	14.5	—	16.5	—
Punjab	0.5	0.02	—	0.4	0.9	—
South	26.8	33.4	45.9	31.5	137.6	3.6
Andhra Pradesh	0.3	2.8	23.8	11.1	38.0	0.4
Karnataka	15.2	1.5	2.3	2.0	21.0	1.1
Kerala	—	0.6	0.04	0.7	1.3	0.04
Tamil Nadu	11.3	27.1	19.7	17.4	75.5	1.2
Coffee Board	—	—	0.1	0.3	0.4	0.9
Tea Board (South)	—	1.4	—	—	1.4	0.01
West	26.5	12.1	10.2	1.5	50.3	2.0
Gujarat	16.7	4.6	9.4	0.8	31.5	0.1
Maharashtra	9.8	7.5	0.8	0.7	18.8	1.9
Others	—	2.0	0.8	0.1	2.9	—
All India	58.6	56.8	75.3	45.3	236.0	8.2

(Continued)

5.02. DISTRIBUTION OF POOL NITROGENOUS FERTILISERS
1979-80—QUARTERWISE (Continued)

('000 tonnes)

Zone/State	April/ June 1979	July/ Sept. 1979	Oct./ Dec. 1979	Jan./ March 1980	Total	April/ June 1980
					April '79/ March '80	
(B) Urea (46% N)	35.3	218.1	208.4	246.0	707.8	100.0
Madhya Pradesh	3.9	20.7	9.1	14.5	48.2	7.9
Rajasthan	1.6	10.4	40.7	13.4	66.1	0.6
Uttar Pradesh	29.8	187.0	157.8	216.9	591.5	92.4
Delhi	—	—	0.8	1.2	2.0	—
East	37.2	30.5	62.2	48.1	178.0	48.6
Assam	—	—	—	—	—	3.0
Bihar	17.4	5.0	41.1	26.0	89.5	17.5
Orissa	1.6	5.8	1.0	2.1	10.5	4.0
West Bengal	18.1	19.7	20.0	20.0	77.8	22.9
Andaman & Nicobar Inland	0.1	—	—	—	0.1	—
Tea Board (N.E. India)	—	—	0.1	—	0.1	—
Manipur	—	—	—	—	—	1.2
North	142.8	171.2	128.3	89.7	532.0	125.6
Haryana	24.1	37.2	13.2	24.6	99.1	10.0
Himachal Pradesh	—	0.3	—	—	0.3	—
Jammu & Kashmir	9.8	5.8	2.4	—	18.0	12.7
Punjab	108.9	127.9	112.7	65.1	414.6	102.9
South	31.6	77.1	136.6	129.7	375.0	76.2
Andhra Pradesh	7.7	38.2	79.8	73.7	199.4	47.7
Karnataka	1.2	2.3	3.8	14.6	21.9	6.1
Kerala	0.1	0.1	1.8	1.3	3.3	0.1
Tamil Nadu	22.6	36.4	50.9	40.1	150.0	22.0
Tea Board (South)	—	0.1	0.3	—	0.4	0.2
Coffee Board	—	—	—	—	—	0.1
West	51.5	103.8	105.1	81.7	342.1	49.8
Gujarat	21.3	47.5	75.5	34.3	178.6	19.1
Maharashtra	30.2	56.3	29.6	47.4	163.5	30.7
Others*	—	74.0	22.1	4.6	100.7	14.1
All India	298.4	674.7	682.7	599.8	2235.6	415.2

* Includes despatches to indigenous fertiliser manufacturers.

(Continued)

5.02. DISTRIBUTION OF POOL NITROGENOUS FERTILISERS
1979-80 - QUARTERWISE (Concluded)

Zone/State	April/ June 1979	July/ Sept 1979	Oct./ Dec. 1979	Jan./ March 1980	('000 tonnes)	
					Total	April '79/ March '80
(C) Calcium Ammonium (Nitrate (26% N))						
Central	—	0.7	3.6	3.2	7.5	5.1
Rajasthan	—	0.2	1.2	0.2	1.6	—
Uttar Pradesh	—	0.5	2.3	3.0	5.8	5.1
Delhi	—	—	0.1	—	0.1	—
East	2.0	1.3	3.2	2.5	9.0	1.0
Bihar	1.2	—	2.6	2.0	5.8	—
Manipur	—	—	—	0.05	0.05	—
Orissa	—	—	—	—	—	—
West Bengal	0.8	1.0	0.5	—	—	neg
Tea Board (N.E. India)	—	0.3	0.1	0.4	2.7	1.0
					0.4	—
North	1.8	3.1	1.9	1.1	7.9	2.8
Haryana	1.8	2.9	1.2	0.1	6.0	0.1
Punjab	—	0.2	0.7	1.0	1.9	2.7
South	10.6	17.1	22.7	23.8	74.2	26.9
Andhra Pradesh	3.6	5.5	3.6	2.4	15.1	11.0
Karnataka	0.1	0.5	5.5	15.8	21.9	11.8
Kerala	—	—	—	0.1	0.1	—
Tamil Nadu	6.9	11.1	12.7	5.1	35.8	3.6
Coffee Board	—	—	—	—	—	0.5
Tea Board (South)	—	—	0.9	0.4	1.3	—
West	0.1	0.3	1.9	—	2.3	0.3
Gujarat	—	0.2	1.8	—	2.0	—
Maharashtra	0.1	0.1	0.1	—	0.3	0.3
Others	—	0.1	—	—	0.1	—
All India	14.5	22.6	33.3	30.6	101.0	36.1
(D) Ammonium Chloride (25% N)						
North	—	0.1	—	—	0.1	—
Haryana	—	0.1	—	—	0.1	—
West	0.1	—	—	—	0.1	—
Maharashtra	0.1	—	—	—	0.1	—
All India	0.1	0.1	—	—	0.2	—

**5.03. DISTRIBUTION OF INDIGENOUS PHOSPHATIC FERTILISERS
1979-80—QUARTERWISE**

('000 tonnes)

Zone/State	April/ June 1979	July/ Sept. 1979	Oct./ Dec. 1979	Jan./ March 1980	Total	April/ June 1980
					April '79 March '80	
(A) Single Superphosphate (16% P₂O₅)						
Central	89.6	68.1	46.4	45.2	249.3	58.2
Madhya Pradesh	47.6	30.8	18.1	22.7	119.2	36.3
Rajasthan	15.0	8.8	11.3	9.5	44.6	7.3
Uttar Pradesh	27.0	28.4	16.8	12.4	84.6	14.6
Delhi	0.01	0.1	0.2	0.6	0.9	0.04
East	19.8	24.7	34.1	19.9	98.5	26.4
Arunachal Pradesh	0.3	0.01	0.1	0.02	0.4	—
Assam	0.6	0.7	1.4	0.8	3.5	3.4
Bihar	5.9	5.2	13.6	5.0	29.7	4.7
Meghalaya	0.8	2.0	0.7	1.2	4.7	0.7
Orissa	2.7	1.8	4.5	2.1	11.1	4.8
Tripura	0.3	0.7	0.1	1.1	2.2	—
West Bengal	8.5	14.2	13.4	8.9	45.0	11.7
Tea Board (NE India)	0.7	0.1	0.3	0.8	1.9	1.1
Andaman & Nicobar Islands	—	—	—	Neg.	Neg.	—
North	24.5	23.5	20.7	26.7	103.4	38.9
Haryana	4.0	3.7	5.8	2.7	16.2	4.3
Himachal Pradesh	0.9	0.4	1.3	0.6	3.2	0.2
Jammu & Kashmir	—	—	—	—	—	—
Punjab	19.8	19.4	21.8	23.4	84.0	34.4
South	96.7	81.5	72.8	50.4	301.4	71.4
Andhra Pradesh	42.9	25.1	25.1	15.6	108.7	30.7
Karnataka	23.6	19.0	15.0	11.8	69.4	17.4
Kerala	5.4	4.1	4.3	2.5	16.3	2.1
Tamil Nadu	24.5	32.8	28.0	20.2	105.5	21.0
Pondicherry	0.3	0.5	0.4	0.3	1.5	0.2
West	78.6	68.2	77.8	66.2	290.8	73.6
Gujarat	41.6	23.5	42.9	28.8	136.8	32.9
Maharashtra	37.0	44.7	34.9	37.4	154.0	40.7
Dadra & Nagar Haveli	—	—	—	—	—	—
Bhutan	0.03	0.3	—	—	0.3	—
Used in mixture	5.8	4.5	4.3	6.0	20.8	6.5
All India	315.0	270.8	264.1	214.5	1,064.5	275.0

(Continued)

**5.03. DISTRIBUTION OF INDIGENOUS PHOSPHATIC FERTILISERS
1979-80—QUARTERWISE (Concluded)**

('000 tonnes)

Zone/State	April/ June 1979	July/ Sept. 1979	Oct./ Dec. 1979	Jan./ March 1980	Total	April/ June 1980
					April '79- March '80	

(B) Triple Superphosphate (46% P₂O₅)

Central	7.1	2.8	1.6	0.5	12.0	1.9
Madhya Pradesh	4.3	—	—	—	4.3	—
Rajasthan	0.4	0.2	0.1	—	0.7	—
Uttar Pradesh	2.4	2.6	1.5	0.5	7.0	1.9
East	1.4	0.8	3.7	0.2	6.1	1.8
Bihar	1.4	0.8	3.7	0.2	6.1	1.8
Orissa	—	—	0.02	—	0.02	—
West Bengal	—	—	Neg.	—	Neg.	—
North	1.3	1.2	0.5	0.3	3.0	—
Haryana	0.4	0.1	0.2	0.3	0.7	—
Jammu & Kashmir	—	—	0.1	0.01	0.1	—
Punjab	0.9	1.1	0.2	—	2.2	—
South	0.01	—	0.01	—	0.01	—
Karnataka	0.01	—	0.01	—	0.01	—
Tamil Nadu	—	—	0.01	—	0.01	—
West	0.03	0.10	0.21	0.10	0.44	—
Gujarat	—	0.01	0.04	—	0.05	—
Maharashtra	0.03	0.09	0.17	0.10	0.39	—
All India	9.8	4.9	6.0	1.1	21.6	3.7

**5.04. DISTRIBUTION OF INDIGENOUS COMPLEX FERTILISERS
1979-80—QUARTERWISE**

('000 tonnes)

Zone/State	April/ June 1979	July/ Sept. 1979	Oct./ Dec. 1979	Jan./ March 1980	Total	April/ June 1980
					April '79/ March '80	
(A) Ammonium Phosphate Sulphate (16-20-0)						
Central	0.1	Neg.	—	—	0.1	—
Uttar Product	0.1	Neg.	—	—	0.1	—
East	0.2	—	—	—	0.2	—
West Bengal	0.2	—	—	—	0.2	—
South	28.6	34.5	35.5	30.3	128.9	15.3
Andhra Pradesh	0.8	0.5	0.1	1.4	2.8	—
Karnataka	11.1	14.2	8.6	11.9	45.8	7.5
Kerala	10.0	8.5	12.9	6.5	37.9	4.2
Tamil Nadu	6.7	11.3	13.9	10.5	42.4	3.6
Pondicherry	Neg.	Neg.	—	—	Neg.	Neg.
All India	28.9	34.5	35.5	30.3	129.2	15.3
(B) Ammonium Phosphate Sulphate (20-20-0)						
South	5.4	10.7	10.0	10.7	36.8	5.3
Andhra Pradesh	2.5	5.2	5.0	5.8	18.5	3.7
Karnataka	1.8	4.3	0.8	2.7	9.6	1.5
Tamil Nadu	1.1	1.2	4.2	2.2	8.7	0.1
West	3.1	1.0	—	—	4.1	—
Maharashtra	3.1	1.0	—	—	4.1	—
All India	6.5	11.7	10.0	10.7	40.9	6.3
(C) Diammonium Phosphate (18-46-0)						
Central	9.4	15.7	17.5	9.8	52.4	6.1
Madhya Pradesh	3.9	3.1	0.2	5.9	13.1	2.0
Rajasthan	3.3	8.3	9.7	2.3	23.6	0.8
Uttar Pradesh	2.2	4.3	7.6	1.6	15.7	3.2
Delhi	—	—	—	—	—	0.1
East	1.9	0.6	0.1	1.4	4.0	—
Orissa	1.0	—	—	0.3	1.3	—
West Bengal	0.9	0.6	0.1	1.1	2.7	—

(Continued)

**5.04. DISTRIBUTION OF INDIGENOUS COMPLEX FERTILISERS
1979-80—QUARTERWISE (Concluded)**

('000 tonnes)

Zone/State	April/ June 1979	July/ Sept. 1979	Oct./ Dec. 1979	Jan./ March 1980	Total	April/ June 1980
					April '79/ March '80	
(C) Diammonium Phosphate (18-46-0) (Concluded)						
North	3.0	2.7	2.5	0.8	9.0	1.0
Haryana	1.6	1.0	—	—	2.6	—
Punjab	1.4	1.7	2.5	0.8	6.4	1.0
South	30.2	32.7	24.6	21.2	109.9	23.5
Andhra Pradesh	0.7	5.1	—	0.9	6.7	1.0
Karnataka	7.1	3.4	2.5	4.7	17.7	7.8
Kerala	0.4	0.7	—	—	1.1	1.0
Tamil Nadu	22.0	23.5	22.1	15.6	83.2	13.7
West	21.4	22.8	17.1	23.9	85.2	28.1
Gujarat	15.3	18.8	12.6	18.5	65.2	25.0
Maharashtra	6.1	4.0	4.1	5.4	19.6	3.0
Dadra & Nagar Haveli	—	—	0.4	—	0.4	0.1
All India	65.9	74.5	61.8	57.1	259.3	58.7
(D) NP Fertilisers (28-28-0)						
Central	4.0	8.3	4.7	1.2	18.2	1.2
Madhya Pradesh	4.0	7.2	4.7	1.2	17.1	1.2
Uttar Pradesh	—	1.1	—	—	1.1	—
East	6.4	4.8	8.6	7.7	27.5	2.9
Bihar	—	0.5	—	—	0.5	—
Orissa	2.5	3.9	5.6	4.6	16.6	2.6
West Bengal	3.9	0.4	3.0	3.1	10.4	0.3
South	68.0	60.6	59.5	41.6	229.7	38.3
Andhra Pradesh	66.8	58.5	58.9	41.1	225.3	37.1
Karnataka	1.2	2.1	0.6	0.5	4.4	1.2
Pondicherry	Neg.	—	—	—	Neg.	—
Coffee Board	—	Neg.	—	—	Neg.	Neg.
West	0.9	1.7	1.9	0.7	5.2	1.6
Gujarat	—	0.3	—	—	0.3	—
Maharashtra	0.5	0.7	1.0	0.5	2.7	0.4
Goa	0.4	0.7	0.9	0.2	2.2	0.6
Others	—	—	0.8	—	0.8	—
All India	79.3	75.4	75.5	51.2	281.4	43.4

(Continued)

**5.04. DISTRIBUTION OF INDIGENOUS COMPLEX FERTILISERS
1979-80 - QUARTERWISE (Continued)**

('000 tonnes)

Zone/State	April/ June 1979	July/ Sept. 1979	Oct./ Dec. 1979	Jan./ March 1980	Total	April/ June 1980
					April '79- March 80	
(E) NP Fertilisers (24-24-0)						
Central	0.3	—	0.7	0.6	1.6	0.3
Madhya Pradesh	0.3	—	0.7	0.6	1.6	0.3
East	—	—	—	—	—	0.6
Orissa	—	—	—	—	—	0.6
North	0.7	—	4.3	0.6	5.6	0.4
Haryana	—	—	1.1	Neg.	1.1	0.4
Punjab	0.7	—	3.2	0.6	4.5	—
South	1.8	0.6	4.6	5.8	12.8	2.5
Andhra Pradesh	1.8	0.6	4.6	5.8	12.8	2.5
All India	2.8	0.6	9.6	7.0	20.0	3.8
(F) NPK (14-28-14)						
Central	2.8	—	1.2	0.8	4.6	2.3
Madhya Pradesh	2.5	—	—	0.8	3.3	2.1
Uttar Pradesh	0.1	—	1.2	—	1.3	0.2
South	10.8	1.2	10.6	8.1	30.7	11.7
Andhra Pradesh	2.8	0.4	6.2	3.3	12.7	2.8
Karnataka	4.8	0.4	2.3	2.3	9.8	5.3
Kerala	2.0	0.2	0.3	1.5	4.0	2.0
Tamil Nadu	1.2	0.2	1.8	1.0	4.2	1.6
West	0.7	—	—	Neg.	0.7	—
Maharashtra	0.7	—	—	Neg.	0.7	—
All India	14.1	1.2	11.8	8.9	36.0	14.0
(G) NPK (14-35-14)						
Central	0.7	4.3	0.2	0.8	6.0	2.7
Madhya Pradesh	0.7	4.3	0.2	0.8	6.0	2.7

(Continued)

**5.04. DISTRIBUTION OF INDIGENOUS COMPLEX FERTILISERS
1979-80—QUARTERWISE (Continued)**

('000 tonnes)

Zone/State	April/ June 1979	July/ Sept. 1979	Oct./ Dec. 1979	Jan./ March 1980	Total	April/ June 1980
					April '79- March '80	
(G) NPK (14-35-14) (Concluded)						
East	0.1	0.4	5.2	1.3	7.0	1.5
Orissa	Neg.	0.1	1.6	0.8	2.5	0.4
West Bengal	0.1	0.3	3.6	0.5	4.5	1.1
South	4.9	10.4	14.0	8.6	37.9	25.2
Andhra Pradesh	3.7	10.4	14.0	8.6	36.7	22.7
Karnataka	1.2	—	—	—	1.2	2.0
Coffee Board	—	—	—	—	—	0.5
West	2.6	—	—	—	2.6	2.6
Maharashtra	2.5	—	—	—	2.5	2.3
Goa	0.1	—	—	—	0.1	0.3
All India	8.3	15.1	19.4	10.7	53.5	32.0
(H) Nitrophosphate (15-15-15)						
Central	2.7	6.6	0.8	0.6	10.7	0.4
Madhya Pradesh	1.3	2.1	—	0.3	3.7	0.3
Rajasthan	0.5	0.2	0.6	—	1.3	—
Uttar Pradesh	6.9	4.3	0.2	0.3	11.7	0.1
East	14.6	15.5	6.2	6.6	42.9	7.4
Bihar	8.0	7.4	3.6	2.6	21.6	2.0
West Bengal	6.6	8.1	2.6	4.0	21.3	5.4
North	0.5	0.2	2.0	2.5	5.2	0.3
Himachal Pradesh	0.5	0.2	2.0	2.5	5.2	0.3
South	12.4	11.3	17.8	30.7	72.2	10.9
Andhra Pradesh	—	0.7	2.1	4.1	6.9	0.1
Karnataka	6.9	8.8	12.8	16.0	44.0	5.5
Kerala	2.1	1.5	1.2	1.3	6.1	—
Tamil Nadu	2.4	—	1.7	3.8	7.9	1.7
Coffee Board	1.0	0.2	—	4.6	5.8	2.4
Rubber Board	—	0.6	—	0.9	1.5	1.2

(Continued)

**5.04. DISTRIBUTION OF INDIGENOUS COMPLEX FERTILISERS
1979-80 - QUARTERWISE (Continued)**

('000 tonnes)

Zone/State	April/ June 1979	July/ Sept. 1979	Oct./ Dec. 1979	Jan./ March 1980	Total	April/ June 1980
						April '79- March '80
(H) Nitrophosphate (15-15-15) (Concluded)						
West	35.1	23.8	42.6	31.9	133.4	34.0
Gujarat	2.0	0.6	1.8	3.8	8.2	2.3
Maharashtra	33.1	23.2	40.8	28.1	125.2	31.7
All India	71.3	57.4	69.4	72.3	270.4	53.0
(I) Ammonium Nitrate Phosphate (20-20-0)						
Central	8.4	10.7	7.3	8.4	34.8	3.7
Madhya Pradesh	1.3	1.3	0.7	2.9	6.2	0.9
Rajasthan	1.8	0.7	1.9	—	4.4	—
Uttar Pradesh	5.3	8.7	4.7	5.5	24.2	2.8
East	9.4	14.9	14.4	1.0	39.7	10.4
Bihar	5.7	8.9	7.1	0.4	22.1	5.2
Orissa	0.5	—	—	—	0.5	—
West Bengal	3.2	6.0	7.3	0.6	17.1	5.2
South	5.4	9.1	15.4	13.6	43.5	7.1
Andhra Pradesh	4.3	5.1	10.6	8.9	28.9	3.6
Karnataka	0.2	2.5	1.5	2.6	6.8	2.4
Kerala	0.2	1.3	0.1	—	1.6	—
Tamil Nadu	0.5	—	3.2	1.4	5.1	—
Coffee Board	0.2	—	—	0.7	0.9	1.1
Rubber Board	—	0.2	—	—	0.2	—
West	17.6	19.6	17.7	10.7	65.6	23.5
Gujarat	3.3	0.9	3.8	—	8.0	7.3
Maharashtra	14.3	17.9	13.9	10.7	56.8	16.2
Goa	—	0.8	—	—	0.8	—
Others	—	0.2	—	—	0.2	—
All India	40.8	54.5	54.8	33.7	183.8	44.7

(Continued)

**5.04. DISTRIBUTION OF INDIGENOUS COMPLEX FERTILISERS
1979-80—QUARTERWISE (Continued)**

('000 tonnes)

Zone/State	April/ June 1979	July/ Sept. 1979	Oct./ Dec. 1979	Jan./ March 1980	Total	April/ June 1980
						April '79- March '80
(J) NPK (10-26-26)						
East	6.5	—	10.5	9.8	26.8	1.5
Orissa	3.3	—	1.8	1.6	6.5	—
West Bengal	3.2	—	8.9	8.2	20.3	1.5
South	4.9	1.7	1.5	2.4	10.5	7.1
Karnataka	4.9	1.7	1.5	2.4	10.5	7.1
West	5.2	6.3	2.9	6.2	20.6	12.8
Gujarat	2.6	—	—	—	2.6	—
Maharashtra	2.6	6.3	2.9	6.2	18.0	12.8
All India	16.6	8.0	14.9	18.4	57.9	21.4
(K) NPK (12-32-16)						
Central	28.5	32.8	47.3	26.9	135.5	27.8
Madhya Pradesh	6.1	9.8	0.3	5.9	22.1	13.7
Rajasthan	2.9	5.3	7.4	6.4	22.0	4.1
Uttar Pradesh	19.5	17.7	39.6	14.6	91.4	10.0
Delhi	—	—	Neg.	—	Neg.	—
East	4.9	—	1.6	5.9	12.4	—
Bihar	4.9	—	1.6	5.9	12.4	—
North	24.9	26.8	51.9	31.7	135.3	18.2
Haryana	10.6	7.0	7.7	6.7	32.0	3.7
Himachal Pradesh	—	—	1.7	0.5	2.2	—
Jammu & Kashmir	—	—	—	—	—	1.8
Punjab	14.3	19.8	42.5	24.5	101.1	12.7
South	3.2	0.7	10.1	6.2	20.2	3.5
Andhra Pradesh	1.6	—	—	—	1.6	1.4
Karnataka	1.6	0.7	8.5	2.1	12.9	0.4
Kerala	—	—	—	0.3	0.3	—
Tamil Nadu	—	—	1.6	3.8	5.4	1.7

(Continued)

**5.04. DISTRIBUTION OF INDIGENOUS COMPLEX FERTILISERS
1979-80—QUARTERWISE (Concluded)**

('000 tonnes)

Zone/State	April/ June 1979	July/ Sept. 1979	Oct./ Dec. 1979	Jan./ March 1980	Total	April/ June 1980
					April '79- March '80	
(K) NPK (12-32-16) (Concluded)						
West	71.8	28.8	10.8	43.7	155.2	81.5
Gujarat	71.3	28.8	9.0	43.6	152.7	80.2
Maharashtra	0.5	Neg.	1.9	0.1	2.5	1.3
All India	133.3	89.1	121.8	114.4	458.6	131.0
(L) NPK (17-17-17)						
Central	8.2	3.6	2.8	—	14.6	—
Madhya Pradesh	8.2	3.6	2.8	—	14.6	—
East	0.1	—	0.5	—	0.6	—
Oriasa	0.1	—	0.5	—	0.6	—
South	104.2	85.6	93.9	127.2	410.9	112.0
Andhra Pradesh	19.4	24.0	23.4	34.5	101.3	19.8
Karnataka	41.9	21.8	20.3	34.6	118.6	30.2
Kerala	7.9	14.1	6.2	9.8	38.0	19.0
Tamil Nadu	34.2	25.2	42.6	46.8	148.8	43.0
Pondicherry	0.8	0.5	1.4	1.5	4.2	—
West	8.2	3.6	2.8	1.4	16.0	7.0
Maharashtra	8.2	3.6	2.8	1.4	16.0	7.0
All India	120.7	92.8	100.0	128.6	442.1	119.0
(M) NPK (19-19-19)						
South	13.4	9.7	5.7	11.4	40.2	7.4
Andhra Pradesh	3.9	3.3	1.9	2.5	11.6	0.7
Karnataka	8.2	5.8	3.6	5.9	23.5	4.4
Coffee Board	1.3	0.6	0.2	3.0	5.1	2.2
Cardamom Board	—	—	—	—	—	0.1
West	12.6	4.2	3.3	8.8	28.9	5.1
Maharashtra	10.9	3.6	2.9	8.4	25.8	4.6
Goa	1.7	0.6	0.4	0.4	3.1	0.5
All India	26.0	13.9	9.0	20.2	59.1	12.5

**5.05. DISTRIBUTION OF POOL COMPLEX FERTILISERS
1979-80—QUARTERWISE**

('000 tonnes)

Zone/State	April/ June 1979	July/ Sept. 1979	Oct./ Dec. 1979	Jan./ March 1980	Total	April/ June 1980
					April '79- March '80	
(A) Diammonium Phosphate (18-46-0)						
Central	9.7	11.5	123.0	12.8	157.0	4.5
Madhya Pradesh	0.6	2.1	3.0	—	5.7	—
Rajasthan	0.2	2.0	4.2	0.1	6.5	0.4
Uttar Pradesh	8.9	7.4	115.8	12.3	144.4	4.2
Delhi	—	—	—	0.4	0.4	—
East	1.0	10.7	18.0	3.3	33.0	2.6
Assam	0.3	—	1.1	0.2	1.6	1.4
Bihar	—	—	1.7	0.3	2.0	—
Manipur	—	—	0.2	0.002	0.2	0.4
Nagaland	—	—	—	0.02	0.02	—
Orissa	—	—	—	—	—	0.1
Sikkim	0.04	—	0.08	—	0.12	0.2
West Bengal	0.7	10.7	15.0	2.7	29.1	0.5
Andaman & Nicobar Island	—	—	—	0.1	0.1	—
North	8.6	22.5	166.5	0.5	198.1	18.9
Haryana	0.4	5.3	18.9	0.4	25.0	3.4
Himachal Pradesh	1.8	0.8	1.6	—	4.2	0.9
Jammu & Kashmir	0.3	3.1	0.7	—	4.1	3.0
Punjab	6.1	13.3	145.3	0.1	164.8	11.6
South	5.1	8.8	23.5	15.8	53.2	6.6
Andhra Pradesh	3.9	6.9	13.3	7.0	31.1	3.2
Karnataka	0.1	—	2.1	6.8	9.1	3.3
Tamil Nadu	1.1	1.9	8.1	2.0	13.1	—
Tea Board (South)	—	—	0.03	—	0.03	—
Coffee Board	—	—	—	—	—	0.05
West	7.4	2.5	11.6	3.5	25.0	7.8
Gujarat	4.3	1.3	11.5	1.0	18.1	5.6
Maharashtra	3.0	1.2	0.62	2.3	6.5	2.2
Goa	—	—	0.05	0.05	0.1	—
Dadra Nagar Haveli	0.1	0.03	0.04	0.14	0.3	—
Others	—	0.03	18.5	7.2	25.7	0.1
			(39.6)		(39.6)	
All India	31.8	56.0	361.2	43.1	492.0	40.6
			(39.6)		(39.6)	

() Of Grade 15-15-15.

**5.06. DISTRIBUTION OF POTASSIC FERTILISERS
1979-80—QUARTERWISE**

('000 tonnes)

Zone/State	April/ June 1979	July/ Sept. 1979	Oct./ Dec. 1979	Jan./ March 1980	Total	April/ June 1980
					April '79- March '88	
(A) Muriate of Potash (60% K₂O)						
Central	11.6	33.3	26.2	7.3	78.4	10.0
Madhya Pradesh	4.4	3.2	2.1	0.5	10.3	4.3
Rajasthan	0.7	0.6	0.9	0.6	2.9	0.2
Uttar Pradesh	6.4	29.4	23.0	6.2	65.0	5.3
Delhi	0.07	0.09	0.15	0.02	0.3	0.2
East	20.4	20.7	21.0	10.7	72.9	32.0
Assam	7.3	3.1	1.5	2.4	14.3	10.0
Bihar	3.6	5.0	3.7	2.1	14.4	5.6
Manipur & Tripura	0.2	0.5	—	—	0.7	0.5
Orissa	1.6	1.3	1.9	1.9	6.7	1.5
West Bengal	7.7	10.8	13.8	4.3	36.6	14.4
Andaman & Nicobar Islands	—	—	0.06	—	0.06	—
North	7.9	5.2	4.9	1.1	19.2	3.2
Haryana	2.4	1.7	1.9	0.8	6.8	1.1
Himachal Pradesh	0.6	0.1	1.1	0.2	2.0	0.3
Jammu & Kashmir	1.2	—	—	—	1.2	—
Punjab	3.7	3.4	1.9	0.1	9.2	1.8
South	52.7	81.1	66.9	57.4	258.2	85.1
Andhra Pradesh	3.7	7.6	9.3	6.3	26.9	11.3
Karnataka	9.2	16.9	7.7	11.7	45.5	12.5
Kerala	14.9	18.5	20.4	8.9	62.7	31.7
Tamil Nadu	24.2	37.5	28.8	29.4	120.0	28.9
Pondicherry	0.7	0.6	0.7	1.1	3.1	0.7
West	21.9	20.9	21.8	20.5	85.1	21.0
Gujarat	5.1	5.9	7.5	2.9	21.4	6.0
Maharashtra	16.5	14.7	14.1	17.3	62.6	14.7
Goa	0.3	0.3	0.2	0.3	1.1	0.3
Others*	72.6	92.9	100.7	121.7	387.8	120.7
All India	187.1	254.1	241.5	210.8	901.5	272.0

*Complex fertiliser manufacturers.

(Continued)

**5.06. DISTRIBUTION OF POTASSIC FERTILISERS
1979-80—QUARTERWISE (Concluded)**

('000 tonnes)

Zone/State	April/ June 1979	July/ Sept. 1979	Oct./ Dec. 1979	Jan./ March 1980	Total	April/ June 1980
					April '79- March '80	
(B) Sulphate of Potash (50% K₂O)						
South	0.86	6.29	0.03	—	7.20	5.33
Andhra Pradesh	0.20	6.28	0.01	—	6.49	1.60
Karnataka	0.64	—	—	—	0.64	3.62
Kerala	—	0.003	0.02	—	0.03	—
Tamil Nadu	0.02	0.01	—	—	0.04	0.11
West	—	1.67	0.37	—	2.04	0.14
Gujarat	—	0.53	0.03	—	0.56	—
Maharashtra	—	1.14	0.32	—	1.46	0.14
Goa	—	—	0.02	—	0.02	—
All India	0.86	7.96	0.40	—	9.24	5.47

LISERS—MATERIALWISE AND NUTRIENTWISE—1979-80
March) (Concluded)

States/Zon	DAP 18-46-0	NPK/PKs				
		24-24-0	17-17-17	19-19-19	14-28-14	10-26 26
South	161,891	12,849	404,030	37,845	30,452	10,522
Andhra Pra	37,774	12,849	94,219	9,125	12,650	—
Karnataka	26,619	—	118,643	23,565	9,746	10,562
Kerala	1,018	—	37,989	—	3,955	—
Tamil Nadu	96,448	—	148,917	—	4,101	—
Pondicherr	—	—	4,262	—	—	—
Laccadives	—	—	—	—	—	—
Cardamom	—	—	—	—	—	—
Coffee Board	—	—	—	5,155	—	—
Rubber Boa	—	—	—	—	—	—
Tea Board	32	—	—	—	—	—
West	110,109	—	15,938	28,750	707	20,530
Gujarat	83,374	—	—	—	—	2,596
Maharashtr.	26,156	—	15,938	25,745	707	17,934
Goa	50	—	—	3,005	—	—
Dadra & Na	529	—	—	—	—	—
Others	25,718	—	—	—	—	—
All India	751,286	23,702	420,525	67,595	35,737	57,929

* SSP used

† Distribute

**5.96. DISTRIBUTION OF POTASSIC FERTILISERS
1979-80—QUARTERWISE (Concluded)**

('000 tonnes)

Zone/State	April/ June 1979	July/ Sept. 1979	Oct./ Dec. 1979	Jan./ March 1980	Total	April/ June 1980
					April '79- March '80	
(B) Sulphate of Potash (50% K₂O)						
South	0.86	6.29	0.03	—	7.20	5.33
Andhra Pradesh	0.20	6.28	0.01	—	6.49	1.60
Karnataka	0.64	—	—	—	0.64	3.82
Kerala	—	0.003	0.02	—	0.03	—
Tamil Nadu	0.02	0.01	—	—	0.04	0.11
West	—	1.67	0.37	—	2.04	0.14
Gujarat	—	0.53	0.03	—	0.56	—
Maharashtra	—	1.14	0.32	—	1.46	0.14
Goa	—	—	0.02	—	0.02	—
All India	0.86	7.96	0.40	—	9.24	5.47

5.07. STATEWISE DISTRIBUTION OF FERTILISERS-MATERIALWISE AND NUTRIENTWISE—1979-80
(April-March)

(tonnes)

States/Zones	Ammonium sulphate 20.6% N	Urea 46% N	CAN 25% N	CAN 26% N	Ammonium chloride 25% N	Nitrophosphate		Nitrophosphate		Urea ammo. phos.		DAP 18-46-0	NP/NPKs				10-26-26	12-32-16	Single super phosph. 16% P ₂ O ₅	Triple super phosph. 46% P ₂ O ₅	Muriate of potash 60% K ₂ O	Sulphu. of potash 50% K ₂ O	Material	Total (Nutrient)			
						16-20-0	20-20-0	15-15-15	20-20-0	28-28-0	14-35-14		24-24-0	17-17-17	19-19-19	14-28-14								N	P ₂ O ₅	K ₂ O	
						Central	45,125	1566,807	112,237	7,398	7,943		95	—	16,350	34,868								17,140	6,041	209,418	1,583
Madhya Pradesh	12,700	168,405	247	—	153	—	—	3,464	6,228	17,140	6,041	18,760	1,583	—	—	3,317	—	22,130	119,201	4,300	10,285	—	393,954	94,469	46,749	11,542	
Rajasthan	318	228,578	19,697	1,567	21	—	—	1,282	4,374	—	—	30,143	—	—	—	—	—	22,023	44,674	700	2,805	—	356,182	119,684	29,450	5,399	
Uttar Pradesh	32,107	1161,714	90,149	5,753	7,769	95	—	11,604	24,266	—	—	180,115	—	—	—	1,261	—	91,449	84,581	7,000	64,963	—	1742,826	613,558	126,635	55,527	
Delhi	—	8,110	2,144	78	—	—	—	—	—	—	—	400	—	—	—	—	—	48	939	—	330	—	12,049	4,365	350	206	
East	125,709	572,516	133,935	8,859	3,089	241	—	45,228	397,00	26,912	7,155	37,067	3,696	557	—	—	—	26,837	12,388	98,658	6,120	72,639	—	1221,306	360,933	72,387	60,424
Arunachal Pradesh	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	431	—	—	—	431	—	68	—	
Assam	5,059	11,462	—	—	—	—	—	2,468	—	—	—	1,514	—	—	—	—	—	—	3,458	—	14,342	—	38,323	8,060	1,623	8,978	
Bihar	42,197	283,059	34,002	5,813	383	—	—	21,540	22,085	—	—	2,044	—	—	—	—	—	12,388	29,637	6,100	14,365	—	473,613	158,510	20,100	13,833	
Manipur	—	2,294	—	48	—	—	—	—	—	—	—	230	—	—	—	—	—	—	—	—	—	—	2,572	1,109	106	—	
Meghalaya	7,228	2,680	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	4,806	—	—	—	14,714	2,722	769	—	
Nagaland	—	68	—	—	—	—	—	—	—	—	—	24	—	—	—	—	—	—	—	—	—	—	92	36	11	—	
Orissa	11,039	28,515	69,820	—	—	—	—	—	493	16,523	2,625	1,285	3,696	557	—	—	—	6,535	—	11,155	20	6,612	—	1588,875	39,805	10,710	6,128
Sikkim	36	278	—	—	—	—	—	—	—	—	—	125	—	—	—	—	—	—	—	—	—	—	439	158	58	—	
Tripura	—	3,042	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2,171	—	798	—	5,921	1,899	347	425	
West Bengal	34,168	209,066	30,113	2,601	2,706	241	—	21,200	17,122	10,389	4,530	31,725	—	—	—	—	—	20,302	—	45,119	Neg.	36,552	—	465,834	130,017	28,238	31,024
Mizoram	—	85	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	10	—	—	—	95	39	2	—	
Andaman & Nicobar	—	95	—	—	—	—	—	—	—	—	—	120	—	—	—	—	—	—	—	—	60	—	275	65	55	36	
Tea Board (N.E. India)	25,982	31,872	—	397	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1,871	—	—	—	60,122	20,113	29	—	
North	30,187	1168,005	190,546	7,868	543	—	—	2,994	—	—	—	207,083	5,574	—	—	—	—	—	135,226	103,402	3,000	19,231	—	1873,659	6,8,698	158,242	33,624
Haryana	20,393	325,820	44,378	5,939	119	—	—	—	—	—	—	27,570	1,097	—	—	—	—	—	32,042	16,189	760	6,777	—	481,024	175,817	26,211	9,193
Himachal Pradesh	376	8,594	30,828	—	—	—	—	2,994	—	—	—	4,135	—	—	—	—	—	—	2,239	3,165	—	2,049	—	54,380	13,200	3,574	2,037
Jammu & Kashmir	—	22,061	—	—	—	—	—	—	—	—	—	4,086	—	—	—	—	—	—	—	—	100	1,200	—	27,447	10,884	1,926	720
Punjab	9,418	811,358	114,758	1,929	424	—	—	—	—	—	—	171,292	4,477	—	—	—	—	—	100,945	84,048	2,200	9,205	—	1310,054	448,482	126,631	21,674
Chandigarh	—	172	582	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	745	225	—	—	

(Continued)

States/Zones	Ammonium sulphate 20.6% N	Urea 46% N	CAN 25% N	CAN 26% N
South	296,648	1572,086	52,714	74,678
Andhra Pradesh	101,193	548,810	49,748	15,107
Karnataka	43,181	265,792	1,516	21,919
Kerala	43,526	65,700	—	90
Tamil Nadu	106,710	680,523	468	35,729
Pondicherry	—	4,498	—	—
Laccadives	—	—	—	—
Cardamom Board	—	898	—	—
Coffee Board	430	3,547	—	408
Rubber Board	—	—	—	—
Tea Board (South)	1,608	2,318	984	1,425
West	208,756	791,101	—	2,104
Gujarat	141,249	373,768	—	1,974
Maharashtra	67,507	415,189	—	130
Goa	—	2,144	—	—
Dadra & Nagar Haveli	—	—	—	—
Others	3,821	115,485	202	60
All India	710,246	5786,000	489,634	100,967

* SSP used in Mixtures.

† Distributed to complex fertiliser manufacturers.

5.07. STATEWISE DISTRIBUTION OF FERTILISERS—MATERIALWISE AND NUTRIENTWISE—1979-80
(April-March) (Concluded)

Ammonium chloride 25% N	Ammonium Phosphate		Nitrophosphate		Urea Ammonium Phosphate		DAP 18-46-0	NPK/PKs						Single super phos. 16% P ₂ O ₅	Triple super phos. 46% P ₂ O ₅	Muriate of potash 60% K ₂ O	Sulphur of potash 50% K ₂ O	Material	Total (Nutrient)		
	16-20-0	20-20-0	15-15-15	20-20-0	28-28-0	14-35-14		24-24-0	17-17-17	19-19-19	14-28-14	10-26-26	12-32-16						N	P ₂ O ₅	K ₂ O
3,541	128,968	36,838	72,361	43,612	230,192	37,818	161,891	12,849	404,030	37,845	30,452	10,522	20,231	301,356	20	258,287	7,196	3786,967	1050,923	348,829	260,840
1,426	2,810	18,490	6,858	28,956	225,324	36,574	37,774	12,849	94,219	9,125	12,850	—	1,612	108,762	—	26,946	6,489	1339,231	398,795	146,643	45,341
19	45,830	9,593	44,053	6,794	4,862	1,242	26,619	—	118,643	23,565	9,746	10,562	12,959	69,442	10	45,446	644	761,798	189,410	78,477	65,203
372	37,921	—	6,174	1,632	—	—	1,018	—	37,989	—	3,955	—	310	16,285	—	62,766	27	277,739	53,857	19,576	45,661
1,724	42,357	8,755	7,951	5,179	—	—	98,448	—	148,917	—	4,101	—	5,350	105,466	10	119,999	36	1369,677	399,510	101,872	99,956
—	50	—	—	—	—	—	—	—	4,262	—	—	—	—	1,401	—	8,130	—	13,341	2,802	958	2,602
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	898	413	—	—
—	—	—	5,825	891	6	—	—	—	—	5,155	—	—	—	—	—	—	—	16,262	3,859	2,033	1,853
—	—	—	1,495	160	—	—	—	—	—	—	—	—	—	—	—	—	—	1,655	256	256	224
—	—	—	—	—	—	—	32	—	—	—	—	—	—	—	—	—	—	637	2,020	14	—
1,898	—	4,137	133,528	79,140	5,262	2,567	110,109	—	15,938	28,750	707	20,530	155,353	290,889	440	85,222	2,052	1936,431	495,236	199,872	111,008
663	—	—	8,321	18,822	287	—	83,374	—	—	—	—	2,596	152,812	136,796	50	21,445	560	942,177	240,412	114,930	39,520
1,215	—	4,137	125,207	59,562	2,747	2,499	26,156	—	15,938	25,745	707	17,934	2,541	154,083	390	62,645	1,462	984,342	252,377	83,306	70,218
—	—	—	—	756	2,228	68	50	—	—	3,005	—	—	—	—	—	1,132	20	9,383	2,351	1,393	1,270
—	—	—	—	—	—	—	529	—	—	—	—	—	—	—	—	—	—	529	95	243	—
—	—	—	—	175	798	—	25,718	—	—	—	—	—	—	20,731*	—	387,762†	—	556,426	56,440	14,416	690
17,014	129,304	40,975	270,461	197,495	280,304	53,579	751,286	23,702	420,525	67,595	35,737	57,929	458,848	1064,431	21,580	901,524	9,238	1187,980	3451,615	998,930	545,470

5.08. DISTRIBUTION OF TOTAL FERTILISER MATERIALS
(1966-67 to 1979-80)

('000 tonnes)

Fertiliser Materials	1966-67	1967-68	1968-69	1969-70	1970-71	1971-72	1972-73	1973-74	1974-75	1975-76	1976-77	1977-78	1978-79	1979-80
A. NITROGENOUS														
Ammonium sulphate (20 % N)	1583.8	1227.3	1669.5	969.1	1044.6	860.8	774.5	628.7	756.8	691.9	611.9	553.0	581.4	710.2
Urea (46 % N)	596.9	1003.3	1290.0	1308.3	1701.1	2225.9	2430.4	2279.9	2684.1	2917.1	3739.2	4729.8	4835.8	5786.4
Ammonium sulphate nitrate (26 % N)	86.8	88.6	41.7	41.1	69.7	44.0	56.6	49.7	41.4	27.6	1.9	0.6	0.7	—
Calcium ammonium nitrate (25% N)	507.3 ¹	528.4 ³	511.3 ¹	448.0 ⁵	318.9	411.8	419.1	419.3	413.1	598.5	664.4	496.6	554.1	484.0
Calcium ammonium nitrate (26 % N)	97.9 ²	80.7	111.5	64.9	241.4	241.4	298.1	177.9	290.0	125.5	47.0	8.2	84.7	101.0
Ammonium chloride (25 % N)	34.8	51.0	63.3	10.3	27.1	20.2	14.1	13.6	30.2	12.3	20.3	18.7	23.2	17.0
B. NPs and NPKs														
16-20-0	76.0	88.8	99.3	96.9	87.2	101.3	98.9	102.8	116.8	104.6	95.8	132.6	121.6	129.6
20-20-0 ⁺	194.6	207.2	58.0	4.2	0.6	36.0	2.1	21.4	23.8	26.2	36.1	40.6	42.4	40.9
18-9-0	—	—	—	—	—	—	—	—	—	2.4	20.0	—	—	—
19.5-19.5-0	—	—	—	—	—	—	—	—	—	19.9	12.6	—	—	—
28-28-0	—	—	86.2	149.5 ⁶	181.5 ⁷	267.8 ⁸	194.7 ⁹	173.7	133.7	158.8	248.0	314.0	325.1	281.4
24-24-0	—	—	—	—	—	—	—	—	—	92.2	16.2	27.3	30.0	20.0
22-22-11	—	—	—	4.8	5.0	6.2	—	—	—	2.1	—	—	—	—
14-35-14	—	—	—	—	—	—	25.7	39.4	30.1	12.8	39.5	24.6	16.8	53.5
20-20-0/20-20-2	—	87.2	153.2	21.4	74.4	72.8	—	—	—	7.4 [*]	99.2 [*]	41.9 [*]	128.7 [*]	183.8
20-10-0 (20-10-0)	—	—	—	—	0.2	—	—	—	—	—	—	—	(0.1)	—
19-19-19	—	—	—	—	—	—	—	—	—	2.1	45.1	102.0	78.1	59.1
18-18-9	—	0.6	4.2	11.2	24.5	25.0	—	—	—	—	—	—	—	—
15-15-15	—	—	5.8	80.9	65.4	168.6	211.0	213.4	183.8	191.6	191.5	207.8	247.7	270.4
15-15-15 (Imported)	—	78.2	64.7	6.3	162.1	296.1	179.4	21.6	196.1	94.6	44.9	20.8	8.5	—
17-17-17	—	—	—	—	—	44.6	238.3	221.5	211.0	281.7	276.6	480.3	491.3	442.1
10-26-26	—	—	—	—	—	—	—	—	4.7	11.7	54.8	104.3	77.6	57.9
12-32-16	—	—	—	—	—	—	—	—	13.4	40.1	281.8	373.6	482.2	458.6

(Continued)

5.08. DISTRIBUTION OF TOTAL FERTILISER MATERIALS
(1966-67 to 1979-80) (Concluded)

('000 tonnes)

Fertiliser Materials	1966-67	1967-68	1968-69	1969-70	1970-71	1971-72	1972-73	1973-74	1974-75	1975-76	1976-77	1977-78	1978-79	1979-80	
18-46-0	161.9	463.3 ¹⁰	251.9 ¹¹	88.5 ¹²	156.4	348.9	428.9	411.8	363.0	174.7	365.8	407.8	620.2	751.3	
11-55-0	—	—	—	—	—	—	12.3	8.7	—	—	—	—	—	—	
14-28-14	—	—	—	—	—	12.1	44.3	58.9	33.6	Neg	2.6	26.3	42.4	36.0	
20-20-0**	—	—	—	—	—	—	36.1	190.6	122.3	26.3	6.1	12.7	5.8	—	
Other grades of NP/NPKs (Now not imported)	61.2	35.7	15.7	18.8	3.0	3.1	1.7	—	—	8.7	—	2.6	4.4	—	
C. PHOSPHATIC															
Single Superphosphate (18% P ₂ O ₅)	676.6 (6.3)	772.3 (5.7)	651.3 (—)	677.9 (—)	683.5 (0.4)	750.3 (0.3)	794.4	836.8	753.5	467.7	887.6	985.6	1067.8	1064.5	
Pelophos (18% P ₂ O ₅)	—	—	—	—	—	—	—	8.6	9.8	2.8	2.3	—	—	—	
Triple superphosphate (46% P ₂ O ₅)	—	—	2.5	4.8	8.0	7.2	4.3	4.6	7.0	1.0	2.0	7.4	15.7	21.6	
D. POTASSIC															
Muriate of Potash (80% K ₂ O)	117.2	325.0	209.9	205.4	277.8	350.5	472.2	672.9	474.8	348.1	608.9	798.0	918.3	901.6	
Sulphate of Potash (48-50 K ₂ O)	N.A.	N.A.	14.0 (24.7)	—	13.4	3.4	3.8	7.9	6.3	3.5	10.4	9.9	14.3	9.2	
Total	N	838.7	1051.8	1253.9	1040.2	1310.0	1652.7	1742.1	1615.1	1845.2	1908.7	2351.8	2813.3	2986.2	3444.2
	P₂O₅	248.6	422.1	318.4	334.9	805.1	473.5	534.3	546.4	497.4	373.6	643.5	773.1	950.6	997.0
	K₂O	115.7	265.6	177.6	131.9	199.0	256.3	312.1	360.9	317.5	227.0	377.8	482.7	560.1	545.1
Total Material		4201.4	4993.3	5284.7	4157.0	5146.2	6246.3	6740.9	6513.2	6879.2	6454.6	8412.6	9836.4	10,816.2	11,979.8

¹ This is of grade 20.5% N. ² Includes 22.7 thousand tonnes of grade 22% N. ³ Includes 336.4 thousand tonnes of grade 20.5% N.

⁴ Includes 164.8 thousand tonnes of grade 20.5% N. ⁵ Includes 1.1 thousand tonnes of grade 20.5% N.

⁶ Includes 16.7 thousand tonnes of grade 20-20-0. ⁷ Includes 39.5 thousand tonnes of grade 20-20-0.

⁸ Includes 42.1 thousand tonnes of grade 20-20-0. ⁹ Includes 19.8 thousand tonnes of grade 20-20-0.

¹⁰ Includes 22.0 thousand tonnes of grade 20-48-0. ¹¹ Includes 50.1 thousand tonnes of grade 20-48-0. () Other grades

* This consists of APSN as well ammonium nitro phosphate.

** Imported Nitrophosphate.

5.09. NUMBER OF SALE POINTS

(As on 31-5-79 and 31-5-80)

Zone/State	As on 31-5-1979			As on 31-5-1980		
	Coop. & other Instit. agencies	Private	Total	Coop. & other Instit. agencies	Private	Total
Central	14,374	11,198	25,572	17,387	9,791	27,178
Madhya Pradesh	2,899	2,788	5,687	2,922	1,632	4,554
Rajasthan	3,195	1,370	4,565	5,295	1,106	6,401
Uttar Pradesh	8,245	6,986	15,231	9,151	7,000	16,151
Delhi	35	54	89	19	53	72
East	4,995	22,979	27,974	5,135	22,536	27,671
Arunachal Pradesh	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
Assam	167	982	1,149	167	1,078	1,245
Bihar	411	3,957	4,368	536	3,987	4,523
Manipur	162	—	162	N.A.	N.A.	N.A.
Meghalaya	28	450	478	24	502	526
Nagaland	11	—	11	11	—	11
Orissa	2,588	2,581	5,169	2,740	1,943	4,683
Sikkim	70	—	70	78	—	78
Tripura	253	43	296	253	30	283
West Bengal	1,246	14,966	16,212	1,246	14,996	16,242
Mizoram	24	—	24	80	—	80
Andaman & Nicobar Islands	35	—	35	N.A.	N.A.	N.A.
North	4,216	4,396	8,612	4,728	4,230	8,958
Haryana	713	1,116	1,829	946	1,178	2,124
Himachal Pradesh	1,555	368	1,923	1,496	337	1,833
Jammu & Kashmir	1,472	—	1,472	1,472	—	1,472
Punjab	475	2,908	3,383	813	2,710	3,523
Chandigarh	1	4	5	1	5	6
South	15,498	23,599	39,097	13,760	24,730	38,490
Andhra Pradesh	1,526	6,784	8,310	1,204	6,493	7,697
Karnataka	3,187	3,845	7,032	3,266	3,909	7,175
Kerala	3,275	3,840	6,115	1,878	3,007	4,885
Tamil Nadu	4,170	8,373	12,543	4,105	9,559	13,664
Pondicherry	55	99	154	55	105	160
Coffee Board	34	15	49	N.A.	N.A.	N.A.
Rubber Board	3,251	1,643	4,894	3,252	1,657	4,909
West	7,303	6,959	14,262	10,550	3,575	14,125
Gujarat	4,973	1,937	6,910	5,120	1,560	6,680
Maharashtra	2,278	4,918	7,196	5,376	1,893	7,269
Goa	52	104	156	54	122	176
All India	46,224	69,131	115,517	51,560	64,862	116,422

6.00. CONSUMPTION OF FERTILISERS

6.01. SEASONWISE CONSUMPTION OF NITROGEN (N) BY STATES AND THEIR PERCENTAGE INCREASE— 1977-78 to 1979-80 (Feb.—Jan.)

Zone/State	Consumption of N ('000 tonnes)									± % over the previous year		
	1977-78			1978-79			1979-80 ^(a)			1979-80 ^(a)		
	Kharif	Rabi	Total	Kharif	Rabi	Total	Kharif	Rabi	Total	Kharif	Rabi	Total
Central	256.5	583.6	840.1	314.9	688.0	1002.9	341.5	631.5	973.0	8.4	-8.3	-3.0
Machya Pradesh	29.1	70.6	99.7	33.7	87.5	121.2	39.1	57.8	96.9	16.0	-33.9	-20.1
Rajasthan	27.9	62.3	90.2	32.5	73.0	105.5	35.2	80.2	115.4	8.3	9.9	9.4
Uttar Pradesh	199.1	448.5	647.6	247.9	524.2	772.1	266.3	490.0	756.3	7.4	-6.5	-2.1
Delhi	0.4	2.2	2.6	0.8	3.3	4.1	0.9	3.5	4.4	12.5	6.1	7.3
East	96.3	209.8	306.1	124.0	238.9	362.9	116.8	230.8	347.6	-5.8	-3.4	-4.2
Arunachal Pradesh	0.03	0.03	0.06	0.020	0.007	0.03	0.04	0.020	0.06	100.0	185.7	100.0
Assam	2.3	2.5	4.8	3.5	3.2	6.7	2.5	3.1	5.6	-28.6	-3.1	-16.4
Bihar	31.7	106.0	137.7	36.4	118.7	155.1	35.4	109.6	145.0	-2.7	-7.7	-6.5
Manipur	1.3	3.6	4.9	1.0	1.3	2.3	0.87	1.41	2.28	-13.0	-8.5	-0.9
Meghalaya	0.9	0.4	1.3	0.5	0.8	1.3	0.45	0.7	1.15	-10.0	-12.5	-11.5
Nagaland	00.7	0.04	0.11	10.9	0.05	0.14	0.05	0.01	0.06	-44.4	-80.0	-57.1
Orissa	21.4	24.4	45.8	21.9	27.9	49.8	19.4	27.5	46.4	-11.4	-1.4	-5.2
Sikkim	0.03	0.03	0.06	0.07	0.16	0.23	0.19	0.06	0.05	171.4	-62.5	8.7
Tripura	0.3	0.1	0.4	0.4	0.5	0.9	0.60	0.79	1.39	50.0	58.0	54.4
West Bengal	38.2	75.7	113.9	60.1	86.3	146.4	57.3	87.6	144.9	-4.7	1.5	-1.0
Mizoram	0.02	0.01	0.03	0.02	0.01	0.03	0.020	0.007	0.027	—	-30.0	-10.0

North	158.7	327.9	486.6	209.5	386.9	596.4	200.2	418.3	677.5	23.7	8.1	13.6
Haryana	49.1	101.1	150.2	50.0	111.0	161.9	61.6	112.9	174.5	23.2	0.9	7.8
Himachal Pradesh	4.0	2.8	6.8	4.9	3.6	8.5	6.2	3.6	9.8	26.5	—	15.3
Jammu & Kashmir	7.8	1.9	9.7	10.0	3.9	13.9	11.2	5.3	16.5	12.0	35.9	13.7
Punjab	97.8	222.1	319.9	143.9	268.4	410.3	179.4	294.7	474.1	24.7	10.6	15.5
Chandigarh	N.A.	N.A.	N.A.	0.7	1.1	1.8	0.61	1.60	2.61	15.7	63.6	45.0
South	341.2	478.6	819.9	394.7	580.3	975.0	379.4	571.2	950.6	-3.9	-1.6	-2.5
Andhra Pradesh	145.8	205.8	351.6	153.0	261.1	414.1	131.1	236.6	369.7	-14.3	-8.6	-10.7
Karnataka	83.2	77.6	160.9	96.5	107.9	204.4	106.3	97.7	204.0	10.2	-9.5	-0.2
Kerala	17.3	19.7	37.0	23.3	22.4	45.7	22.7	23.7	46.4	-2.6	-5.8	1.5
Tamil Nadu	92.7	173.0	265.7	119.6	166.3	305.9	116.5	208.1	324.6	-2.6	11.7	6.1
Pondicherry	2.2	2.5	4.7	2.3	2.6	4.9	2.8	3.1	5.9	21.7	19.2	20.4
West	179.4	226.8	406.0	205.1	215.1	420.2	228.4	255.4	483.8	11.4	18.7	15.1
Gujarat	67.8	107.8	175.6	81.5	110.4	191.9	91.9	132.2	224.1	12.8	19.7	16.8
Maharashtra	110.9	118.0	228.0	122.0	104.0	226.0	135.0	122.3	257.3	10.7	17.6	13.8
Goa	1.6	0.7	2.3	1.5	0.7	2.2	1.4	0.9	2.3	-6.7	28.6	4.5
Dadra & Nagar Haveli	0.04	0.03	0.07	0.06	0.02	0.08	0.09	0.03	0.12	50.0	50.0	50.0
Others†	19.3	31.5	54.4	36.4	25.6	62.1	34.0	32.5	66.5	-6.6	27.0	7.1
All India	1051.4	1961.7	2913.1	1284.7	2134.8	3419.5	1359.3	2139.7	3499.0	5.8	0.2	2.3

† Includes plantations.

@Provisional.

Source: Ministry of Agriculture and Reconstruction, New Delhi.

6.02. SEASONWISE CONSUMPTION OF PHOSPHATE (P₂O₅) BY STATES AND THEIR PERCENTAGE INCREASE—
1977-78 to 1979-80 (Feb. — Jan.)

Zone/State	Consumption of P ₂ O ₅ ('000 tonnes)									± % Increase over previous year		
	1977-78			1978-79			1979-80@			1979-80@		
	Kharif	Rabi	Total	Kharif	Rabi	Total	Kharif	Rabi	Total	Kharif	Rabi	Total
Central	45.2	162.5	207.7	64.0	224.3	288.3	67.2	191.1	258.3	5.0	-14.8	-10.4
Madhya Pradesh	15.9	33.6	49.5	18.6	39.2	57.8	23.9	26.1	50.0	28.5	-33.4	-13.5
Rajasthan	5.5	12.4	17.9	6.9	15.6	22.5	7.3	18.8	26.1	5.8	20.5	16.0
Uttar Pradesh	23.8	115.6	139.4	38.4	166.4	204.8	35.9	145.4	181.3	-6.5	-13.7	-12.3
Delhi	0.03	0.86	0.89	0.10	1.08	1.18	0.11	0.84	0.95	10.0	-22.2	-19.5
East	21.6	43.6	65.2	25.8	68.7	94.5	27.6	77.1	104.7	7.0	12.2	10.8
Arunachal Pradesh	0.01	—	0.01	0.007	0.003	0.010	0.006	0.003	0.009	-14.3	—	-10.0
Assam	0.2	0.1	0.3	0.2	0.2	0.4	0.2	0.5	0.7	—	150.0	75.0
Bihar	5.6	17.3	22.9	6.2	19.6	25.8	6.0	20.1	26.1	-3.2	2.6	1.2
Manipur	0.3	0.1	0.4	0.3	0.1	0.4	0.35	0.21	0.56	16.7	110.0	40.0
Meghalaya	0.8	0.2	0.5	0.2	0.3	0.5	0.2	0.4	0.5	83.3	-96.7	-83.3
Nagaland	0.02	0.02	0.04	0.03	0.03	0.06	0.01	0.001	0.011	—	-66.7	-66.3
Orissa	6.4	5.6	12.0	6.8	7.0	13.8	6.2	7.1	13.3	-8.8	1.4	-8.6
Sikkim	0.01	0.02	0.03	0.04	0.10	0.14	0.14	0.04	0.18	250.0	-50.0	50.0
Tripura	—	0.02	0.02	0.06	0.09	0.15	0.13	0.22	0.35	116.7	144.4	138.8
West Bengal	8.8	20.0	29.0	11.9	41.2	53.1	14.4	46.5	62.9	21.0	17.7	18.5
Mizoram	0.06	—	0.06	0.07	0.06	0.13	0.005	0.02	0.025	-92.9	-66.7	-80.8

North	27.1	109.6	136.8	34.9	156.9	191.9	44.2	170.9	215.1	26.6	8.6	12.1
Haryana	4.7	23.9	28.6	4.3	27.5	31.8	6.3	23.9	30.2	46.5	-31.1	-5.0
Himachal Pradesh	0.6	1.1	1.7	0.7	1.2	1.9	1.1	1.2	2.3	57.1	—	21.1
Jammu & Kashmir	1.4	0.9	2.3	1.7	1.6	3.3	2.1	2.5	4.6	23.5	56.8	39.4
Punjab	20.5	83.7	104.2	28.2	126.6	154.8	34.7	143.3	178.0	23.0	13.2	15.0
Chandigarh	N.A.	N.A.	N.A.	0.03	0.03	0.06	0.04	0.03	0.07	23.3	—	16.7
South	128.1	152.0	230.1	152.7	188.3	339.0	154.3	184.4	338.7	1.0	-1.0	-1.0
Andhra Pradesh	83.8	69.4	133.2	57.6	89.6	147.4	44.0	82.0	126.0	-23.6	-8.7	-14.6
Karnataka	31.0	25.6	56.6	46.6	35.0	81.6	55.4	31.1	86.5	18.9	-11.1	6.0
Kerala	6.9	9.2	16.1	12.8	10.6	23.4	13.6	11.8	25.4	6.3	11.1	8.5
Tamil Nadu	25.9	47.1	73.0	35.2	50.2	85.4	40.7	58.8	99.5	15.6	17.1	16.5
Pondicherry	0.5	0.7	1.2	0.5	0.7	1.2	0.6	0.7	1.3	20.0	—	8.3
West	83.1	73.3	156.3	99.1	77.1	176.2	115.5	90.9	206.4	16.5	17.9	17.1
Gujarat	42.3	41.9	84.1	53.4	39.7	93.1	66.1	47.8	114.4	24.7	20.4	22.9
Maharashtra	40.0	31.0	71.0	45.0	37.0	82.0	48.0	42.6	90.6	6.7	15.1	10.5
Goa	0.8	0.4	1.2	0.7	0.4	1.1	0.8	0.5	1.3	14.3	28.0	18.2
Dadra, Nagar & Haveli	0.02	0.01	0.03	0.03	0.02	0.05	0.06	0.02	0.08	100.0	—	60.0
Other†	10.6	9.9	20.5	14.0	2.1	16.1	15.0	12.1	27.1	7.1	476.2	68.3
All India	315.7	550.8	866.6	390.6	715.4	1,106.0	423.8	726.5	1,150.3	8.5	1.6	4.0

@ Provisional. † includes Plantations.

Source: Ministry of Agriculture & Reconstruction, New Delhi.

**6.03. SEASONWISE CONSUMPTION OF POTASH (K₂O) BY STATES AND THEIR PERCENTAGE INCREASE—
1977-78 to 1979-80 (Feb.—Jan.)**

Zone/State	Consumption of K ₂ O ('000 tonnes)									* % increase over previous year		
	1977-78			1978-79			1979-80@			1979-80@		
	Kharif	Rabi	Total	Kharif	Rabi	Total	Kharif	Rabi	Total	Kharif	Rabi	Total
Central	16.3	71.6	87.9	22.9	75.6	98.5	23.7	66.4	90.1	3.5	-12.2	-8.5
Madhya Pradesh	3.2	6.7	9.9	4.2	9.2	13.4	5.7	7.1	12.8	35.7	-22.8	-4.5
Rajasthan	1.3	3.6	4.9	1.5	4.2	5.7	1.6	4.0	5.6	6.7	-4.8	-1.8
Uttar Pradesh	11.8	61.1	72.8	17.2	62.2	79.4	16.4	55.0	71.4	-4.7	-11.6	-10.1
Delhi	0.03	0.23	0.26	0.03	0.04	0.07	0.04	0.30	0.34	33.3	650.0	385.7
East	15.9	33.6	49.5	22.8	44.7	67.5	22.0	32.6	54.6	-3.5	-27.1	-19.1
Arunachal Pradesh	0.01	—	0.01	0.020	0.003	0.023	0.01	0.007	0.017	-50.0	133.3	-26.1
Assam	0.5	0.3	0.8	0.4	0.3	0.7	0.2	0.3	0.5	-50.0	-26.1	-28.6
Bihar	2.9	9.7	12.6	3.4	10.4	13.8	2.7	10.5	13.2	-20.6	1.0	-4.3
Manipur	0.17	0.03	0.20	0.16	0.06	0.22	0.096	0.08	0.18	-40.0	33.3	-18.2
Meghalaya	0.17	0.02	0.19	0.11	0.04	0.15	0.06	0.03	0.09	-45.5	-25.0	-40.0
Nagaland	0.03	0.02	0.05	0.03	0.02	0.05	0.02	0.001	0.021	-33.3	-95.0	-58.0
Orissa	3.6	2.6	6.2	4.2	4.0	8.2	3.5	3.7	7.2	-16.7	-7.5	-12.2
Sikkim	—	0.01	0.01	0.04	0.06	0.10	0.11	0.02	0.13	175.0	-66.7	30.0
Tripura	—	0.01	0.01	0.08	0.09	0.17	0.14	0.25	0.39	75.0	177.8	129.4
West Bengal	8.5	20.7	29.2	14.3	29.7	44.0	15.2	17.7	32.9	6.8	-40.4	-25.2
Mizoram	N.A.	N.A.	N.A.	0.007	0.018	0.025	0.008	0.01	0.018	14.8	-44.4	-28.0

North	6.1	34.6	40.7	8.1	32.8	40.9	13.1	31.0	44.1	61.7	-5.5	-7.8
Haryana	1.6	8.3	9.9	1.6	8.7	10.3	2.8	8.1	10.7	62.5	-6.9	3.9
Himachal Pradesh	0.4	1.1	1.5	0.5	1.1	1.8	0.8	1.0	1.9	60.0	—	18.8
Jammu & Kashmir	0.2	0.2	0.4	0.2	0.2	0.4	0.6	0.9	1.5	200.0	350.0	275.0
Punjab	3.9	25.0	28.9	5.8	22.8	28.6	9.1	20.9	30.0	56.0	-8.3	4.9
Chandigarh	N.A.	N.A.	N.A.	0.005	0.008	0.013	0.005	0.005	0.010	90.0	-37.5	-23.1
South	81.9	121.8	203.7	118.8	132.9	251.7	129.9	135.8	265.0	9.2	2.2	5.3
Andhra Pradesh	11.2	25.8	37.0	13.7	28.8	42.5	12.3	26.7	39.1	-10.2	-7.3	-8.0
Karnataka	25.9	25.5	51.4	41.3	33.8	75.1	46.2	29.6	75.8	11.9	-12.4	0.9
Kerala	12.3	13.0	25.3	15.8	14.9	30.7	18.3	17.6	33.9	3.2	18.1	10.4
Tamil Nadu	31.5	56.4	87.9	47.1	54.5	101.6	53.1	60.7	113.8	12.7	11.4	12.0
Pondicherry	1.0	1.1	2.1	0.9	1.8	1.3	1.2	1.2	2.5	44.4	33.3	38.9
West	51.2	40.9	92.1	65.8	42.5	108.3	68.2	45.0	113.2	3.6	5.9	4.5
Gujarat	15.8	14.6	36.4	22.4	13.2	35.6	24.5	14.6	39.1	9.4	10.6	9.8
Maharashtra	35.0	26.0	61.0	43.0	29.0	72.0	43.0	30.1	73.1	—	3.8	1.5
Goa	0.4	0.3	0.7	0.4	0.3	0.7	0.7	0.3	1.0	75.0	—	42.9
Dadra & Nagar Haveli	—	0.01	0.01	0.007	0.001	0.008	0.01	0.010	0.020	42.9	900.0	150.0
Other†	13.7	18.7	32.4	17.6	8.8	24.4	18.4	20.1	39.5	16.2	195.6	61.9
All India	185.1	321.2	506.2	256.0	335.5	591.5	275.6	339.9	606.5	7.7	-1.4	2.5

@Provisional

†Includes plantations

Source: Ministry of Agriculture & Reconstruction, New Delhi

**6.04. SEASONWISE CONSUMPTION OF N+P₂O₅+K₂O BY STATES AND THEIR PERCENTAGE INCREASE—
1977-78 to 1979-80 (Feb. Jan.)**

Zone/State	Consumption of N+P ₂ O ₅ +K ₂ O ('000 tonnes)									% increase over previous year		
	1977-78			1978-79			1979-80@			1979-80@		
	Kharif	Rabi	Total	Kharif	Rabi	Total	Kharif	Rabi	Total	Kharif	Rabi	Total
Central	318.1	817.6	1135.7	401.9	987.7	1389.6	432.4	889.2	1321.6	7.6	-10.0	-4.9
Madhya Pradesh	48.2	110.9	159.1	58.5	135.8	192.3	68.7	91.0	159.7	21.6	-33.0	-17.0
Rajasthan	34.7	78.3	113.0	40.9	92.7	133.6	44.1	103.1	147.1	7.8	11.2	10.1
Uttar Pradesh	234.7	625.1	859.8	303.8	754.8	1058.4	318.6	690.5	1009.1	4.9	-8.5	-4.7
Delhi	0.5	3.3	3.8	0.9	4.4	5.3	1.02	4.64	5.66	13.3	5.5	6.8
East	133.9	286.8	420.7	172.6	352.3	524.9	166.3	340.7	507.0	-3.7	-3.3	-3.4
Arunachal Pradesh	0.05	0.03	0.08	0.06	0.01	0.07	0.05	0.03	0.086	-16.7	200.0	22.9
Assam	3.0	2.9	5.9	4.1	3.8	7.9	2.9	3.9	6.8	-29.3	2.6	-13.9
Bihar	40.2	133.0	173.2	46.0	148.7	194.7	44.1	140.3	184.3	-4.1	-5.6	-5.3
Manipur	1.89	0.73	2.53	1.50	1.40	2.90	1.31	1.70	3.01	-12.7	21.4	3.8
Meghalaya	1.40	0.66	2.06	0.85	1.12	1.97	0.67	1.17	1.84	-21.2	4.5	-6.6
Nagaland	0.12	0.08	0.20	0.15	0.11	0.26	0.07	0.02	0.09	-53.3	-81.8	65.4
Orissa	31.4	32.5	63.9	32.9	36.9	71.8	29.1	38.3	67.4	-11.6	-1.5	-6.1
Sikkim	0.94	0.06	1.00	0.18	0.32	0.48	0.44	0.12	0.56	175.0	-62.5	16.7
Tripura	0.33	0.13	0.46	0.51	0.71	1.22	0.87	1.26	2.13	70.6	77.5	74.6
West Bengal	55.5	116.7	172.2	86.3	157.1	243.4	86.8	153.9	240.7	0.6	-2.0	-1.0
Mizoram	0.08	0.01	0.09	0.09	0.10	0.19	0.03	0.037	0.070	-66.7	-63.0	-63.2

North	192.0	472.1	664.9	252.5	576.6	829.1	316.6	620.0	936.7	25.4	7.6	13.0
Haryana	55.4	133.3	188.7	55.9	148.1	204.1	70.5	145.0	215.5	26.1	-2.1	5.6
Himachal Pradesh	5.0	5.0	10.0	6.1	5.9	11.9	8.1	5.9	14.0	32.8	—	17.6
Jammu & Kashmir	9.4	3.0	12.4	11.9	5.7	17.6	13.9	8.6	22.5	16.6	50.9	27.6
Punjab	122.2	330.8	453.0	177.9	415.8	593.7	223.2	458.9	682.1	25.5	10.4	14.9
Chandigarh	N.A.	N.A.	N.A.	0.7	1.1	1.8	0.85	1.83	2.62	21.4	66.4	45.6
South	551.2	752.7	1303.9	666.3	896.8	1566.1	663.1	891.2	1554.3	-0.5	-1.0	-0.8
Andhra Pradesh	220.8	301.0	521.8	224.3	379.7	604.0	187.5	347.2	534.8	-16.4	-8.6	-11.5
Karnataka	140.1	128.9	268.9	184.4	176.8	369.2	208.0	158.4	366.3	12.8	-10.4	1.4
Kerala	36.5	42.0	78.5	51.9	48.0	89.9	52.6	53.0	105.6	1.3	10.4	5.7
Tamil Nadu	150.1	276.6	426.7	201.9	291.1	493.0	210.3	327.6	587.9	4.2	12.5	9.1
Pondicherry	3.7	4.3	8.0	3.8	4.2	8.0	4.7	5.0	9.7	23.7	19.0	21.3
West	313.7	340.7	654.4	370.0	334.7	794.7	412.0	391.5	803.4	11.4	17.0	14.0
Gujarat	125.9	164.2	290.0	157.3	163.4	320.7	182.9	194.6	377.5	16.3	19.1	17.7
Maharashtra	185.0	175.0	360.0	210.0	170.0	380.0	226.0	195.1	421.1	7.6	14.8	10.8
Goa	2.8	1.4	4.2	2.6	1.3	3.9	2.9	1.7	4.6	11.5	30.8	17.9
Dadra & Nagar Haveli	0.06	0.05	0.11	0.10	0.04	0.14	0.16	0.06	0.22	60.0	-25.0	22.2
Others†	43.6	63.6	107.2	68.0	34.6	102.6	68.3	64.5	132.8	0.4	86.4	29.4
All India	1552.2	2733.6	4285.8	1931.3	3185.7	5116.9	2058.7	3197.1	5255.8	6.6	0.4	2.7

@ Provisional.

† Includes plantations.

Source: Ministry of Agriculture & Reconstruction, New Delhi.

**6.05. ALL INDIA CONSUMPTION RATIO OF N & P₂O₅ IN RELATION TO K₂O AND
N IN RELATION TO P₂O₅—1951-52 to 1979-80**

Year	N/K ₂ O	P ₂ O ₅ /K ₂ O	N/P ₂ O ₅
1951-52	7.6	0.9	8.5
1952-53	17.5	1.4	12.6
1953-54	11.9	1.1	10.8
1954-55	8.5	1.4	6.3
1955-56	10.4	1.3	8.3
1956-57	8.3	1.1	7.7
1957-58	11.6	1.7	6.8
1958-59	7.7	1.3	5.8
1959-60	10.8	2.5	4.3
1960-61	7.3	1.8	4.0
1961-62	8.9	2.2	4.1
1962-63	9.1	2.3	4.0
1963-64	7.4	2.3	3.2
1964-65	8.0	2.1	3.7
1965-66	7.4	1.7	4.3
1966-67	6.5	2.2	3.0
1967-68	5.5	2.0	3.1
1968-69	7.1	2.2	3.2
1969-70	6.5	2.0	3.3
1970-71	6.3	2.3	2.7
1971-72	6.0	1.9	3.2
1972-73	5.3	1.7	3.2
1973-74	5.1	1.8	2.8
1974-75	5.3	1.4	3.7
1975-76	7.7	1.7	4.6
1976-77	7.7	2.0	3.9
1977-78	5.8	1.7	3.4
1978-79	5.8	1.9	3.1
1979-80	5.8	1.9	3.0
(Provisional)			

**6.06. CONSUMPTION RATIO OF N & P₂O₅ IN RELATION TO K₂O AND N IN
RELATION TO P₂O₅—1978-79 to 1979-80**

Zone/State	1978-79			1979-80@		
	N/K ₂ O	P ₂ O ₅ /K ₂ O	N/P ₂ O ₅	N/K ₂ O	P ₂ O ₅ /K ₂ O	N/P ₂ O ₅
Central	10.2	2.9	3.5	10.8	2.9	3.8
Madhya Pradesh	9.0	4.3	2.1	7.6	3.9	1.9
Rajasthan	18.5	3.9	4.7	20.6	4.7	4.4
Uttar Pradesh	9.7	2.6	3.7	10.6	2.5	4.2
Delhi	68.3	16.9	3.5	12.9	2.8	4.6
East	5.4	1.4	3.8	6.4	1.9	3.3
Assam	9.5	0.6	16.8	11.2	1.4	8.0
Bihar	11.2	1.9	6.0	11.0	2.0	5.6
Manipur	10.5	1.8	5.8	12.7	3.1	4.1
Meghalaya	8.7	3.3	2.6	12.8	6.2	2.3
Nagaland	2.8	1.2	2.3	3.0	0.05	5.5
Orissa	6.1	1.7	3.6	6.5	1.9	3.5
Tripura	5.3	0.9	6.0	3.6	0.9	4.0
West Bengal	3.3	1.2	2.8	4.4	1.9	2.3
North	14.6	4.7	3.1	15.4	4.9	3.2
Haryana	15.7	3.1	5.1	16.3	2.8	5.8
Himachal Pradesh	5.3	1.2	4.5	5.2	1.2	4.3
Jammu & Kashmir	34.8	8.3	4.2	11.0	3.1	3.6
Punjab	14.3	5.4	2.7	15.8	5.9	2.7
South	3.9	1.3	2.9	3.6	1.3	2.8
Andhra Pradesh	9.7	3.5	2.8	9.5	3.2	2.9
Karnataka	2.7	1.1	2.5	2.7	1.2	2.4
Kerala	1.5	0.8	1.9	1.4	0.8	1.8
Tamil Nadu	3.0	0.8	3.6	2.9	0.9	3.3
Pondicherry	2.7	0.7	4.1	2.4	0.5	4.5
West	3.9	1.6	2.4	4.3	1.8	2.3
Gujarat	5.3	2.6	2.1	5.7	2.9	2.0
Maharashtra	3.1	1.1	2.8	3.5	1.2	2.8
Goa, Daman & Diu	3.1	1.6	2.0	2.3	1.3	1.8
All-India	5.8	1.9	3.1	5.8	1.9	3.0

@ Provisional.

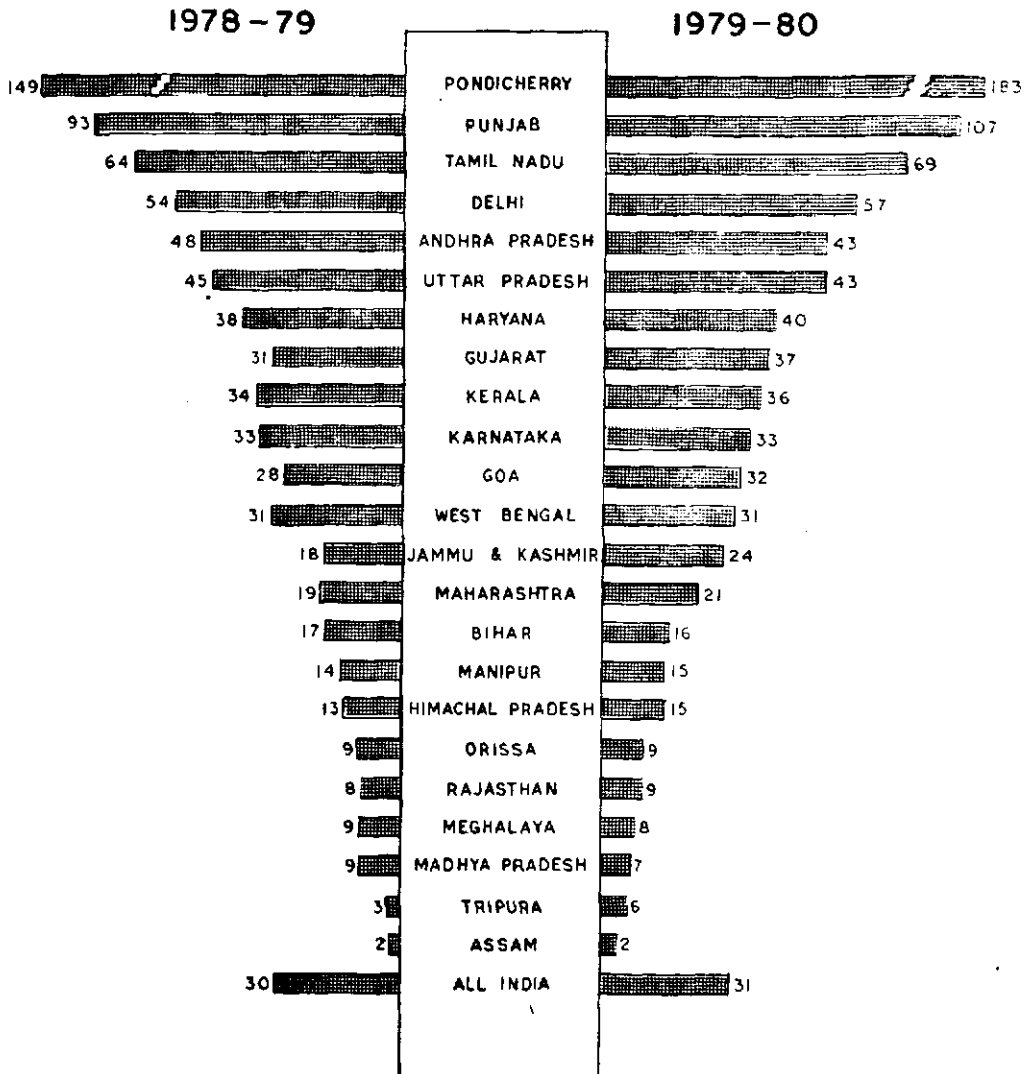
**6.07. ALL-INDIA CONSUMPTION OF PLANT NUTRIENTS PER UNIT OF GROSS
CROPPED AREA (1951-52 to 1979-80)**

Year	Gross cropped area ('000 ha)	Consumption per hectare (kg)			
		N	P ₂ O ₅	K ₂ O	Total
1951-52	133,234	0.44	0.05	0.06	0.55
1952-53	137,675	0.42	0.03	0.02	0.47
1953-54	142,480	0.63	0.06	0.05	0.74
1954-55	144,087	0.66	0.10	0.08	0.84
1955-56	147,311	0.73	0.09	0.07	0.89
1956-57	149,492	0.82	0.11	0.10	1.03
1957-58	145,832	1.02	0.15	0.09	1.26
1958-59	151,629	1.13	0.19	0.15	1.47
1959-60	152,824	1.50	0.35	0.14	1.99
1960-61	151,772	1.39	0.35	0.19	1.93
1961-62	156,209	1.60	0.39	0.18	2.17
1962-63	156,760	2.12	0.53	0.23	2.88
1963-64	156,963	2.40	0.74	0.32	3.46
1964-65	159,229	3.49	0.93	0.44	4.86
1965-66	155,276	3.70	0.85	0.50	5.05
1966-67	157,355	4.69	1.58	0.73	7.00
1967-68	163,736	6.32	2.04	1.04	9.40
1968-69	159,529	7.58	2.40	1.07	11.05
1969-70	162,265	8.36	2.56	1.29	12.21
1970-71	165,791	8.92	3.26	1.43	13.61
1971-72	165,194	10.88	3.38	1.88	16.14
1972-73	162,150	11.34	3.58	2.14	17.06
1973-74	169,871	10.77	3.82	2.12	16.71
1974-75	164,190	10.75	2.87	2.05	15.67
1975-76	170,994	12.57	2.73	1.63	16.93
1976-77	167,280	14.69	3.80	1.90	20.39
1977-78	172,310	16.91	5.03	2.94	24.88
1978-79	*	19.85	6.42	3.43	29.70
(Provisional)					
1979-80	*	20.31	6.68	3.52	35.51
(Provisional)					

Note: Calculated on the basis of consumption figures given in chapter "Summary Tables" (Part I) and gross cropped area under "Classification of area" (Part II).

*Figures of consumption and gross cropped area refer to the same year, except last two years, where gross cropped area is for the year 1977-78.

CONSUMPTION OF PLANT NUTRIENTS (KG.)^{*}



^{*} PER HECTARE OF GROSS CROPPED AREA

**6.08. STATEWISE CONSUMPTION OF PLANT NUTRIENTS PER UNIT OF
GROSS CROPPED AREA
1978-79 & 1979-80**

(kg/ha)

Zone/State	1978-79				1979-80			
	N	P ₂ O ₅	K ₂ O	Total	N	P ₂ O ₅	K ₂ O	Total
Central	16.2	4.7	1.6	22.5	15.7	4.2	1.5	21.4
Madhya Pradesh	5.6	2.7	0.6	8.9	4.5	2.3	0.6	7.4
Rajasthan	6.2	1.3	0.3	7.8	6.8	1.5	0.3	8.6
Uttar Pradesh	33.1	8.9	3.4	45.4	32.4	7.8	3.1	43.3
Delhi	41.0	11.8	0.7	53.5	44.0	9.5	3.4	56.9
East	11.3	3.0	2.1	16.4	10.9	3.3	1.7	15.9
Arunachal Pradesh	0.20	0.08	0.18	0.46	0.5	0.07	0.13	0.70
Assam	2.00	0.12	0.21	2.33	1.7	0.21	0.15	2.06
Bihar	13.4	2.2	1.2	16.8	12.5	2.3	1.1	15.9
Manipur	11.1	1.9	1.1	14.1	11.0	2.7	0.9	14.6
Meghalaya	8.2	2.4	0.7	9.3	5.5	2.4	0.4	8.3
Nagaland	0.8	0.3	0.3	1.4	0.3	0.1	0.1	0.5
Orissa	6.3	1.7	1.0	9.0	5.9	1.7	0.9	8.5
Sikkim	3.5	2.2	1.5	7.2	3.9	2.8	2.0	8.7
Tripura	2.3	0.4	0.4	3.1	3.6	0.9	1.0	5.5
West Bengal	18.6	6.7	5.6	30.9	18.4	8.0	4.2	30.6
Mizoram	0.3	1.2	0.2	1.7	0.3	0.2	0.2	0.7
North	43.5	14.0	3.0	60.5	49.4	15.7	3.2	68.3
Haryana	29.8	5.9	1.9	37.6	32.1	5.6	2.0	39.7
Himachal Pradesh	9.1	2.0	1.7	12.8	10.5	2.5	2.0	15.0
Jammu & Kashmir	14.4	3.4	0.4	18.2	17.1	4.8	1.6	23.5
Punjab	64.2	24.2	4.5	92.9	74.2	27.9	4.7	106.8
South	28.4	9.9	7.3	45.6	27.7	9.9	7.7	45.3
Andhra Pradesh	33.0	11.8	3.4	48.2	29.5	10.1	3.1	42.7
Karnataka	18.5	7.4	6.8	32.7	18.5	7.8	6.9	33.2
Kerala	15.6	8.0	10.5	34.1	15.9	8.7	11.6	36.2
Tamil Nadu	39.4	11.0	13.1	63.5	41.8	12.8	14.7	69.3
Pondicherry	92.5	22.6	34.0	149.1	111.3	24.5	47.2	183.0
West	13.8	5.8	3.6	23.2	15.9	6.8	3.7	26.4
Gujarat	18.5	9.0	3.4	30.9	21.7	11.1	3.8	36.6
Maharashtra	11.4	4.1	3.6	19.1	13.0	4.6	3.7	21.3
Goa	15.4	7.7	4.9	28.0	16.1	9.1	7.0	32.2
Dadra & Nagar Haveli	3.8	2.4	0.4	6.6	5.7	3.8	0.9	10.4
All India	19.9	6.4	3.4	29.7	20.3	6.7	3.5	30.5

Note: Calculated on the basis of consumption figures furnished at the Zonal Conferences of the Ministry of Agriculture & Reconstruction, New Delhi, vide Table 6.01, 6.02, 6.03 & 6.04 of Part-I and data on gross cropped area for the year 1977-78, vide Table 1.02 of Part-II.

**6.09. SHARE OF GROSS CROPPED AREA AND FERTILISER CONSUMPTION TO ALL INDIA TOTAL
STATEWISE - 1979-80**

Zone/State	Gross ¹ cropped area (¹ 000 ha)	Share of gross cropped area to All-India total (%)	Share of nutrient consumption to all India total*				Consumption ² of N+P ₂ O ₅ + K ₂ O per hectare of gross cropped area (kg)
			N (%)	P ₂ O ₅ (%)	K ₂ O (%)	Total (%)	
Central	61,881	35.9	27.8	22.5	14.9	25.1	21.4
Madhya Pradesh	21,508	12.5	2.8	4.3	2.1	3.0	7.4
Rajasthan	16,924	9.8	3.3	2.3	0.9	2.8	8.6
Uttar Pradesh	23,349	13.6	21.6	15.8	11.8	19.2	49.3
Delhi	100	0.06	0.1	0.08	0.06	0.1	56.9
East	32,002	18.6	9.9	9.1	9.0	9.6	15.9
Assam	3,311	1.9	0.2	0.06	0.08	0.1	2.08
Bihar	11,585	6.7	4.1	2.3	2.2	3.5	15.9
Orissa	7,931	4.6	1.3	1.2	1.2	1.3	8.5
West Bengal	7,878	4.6	4.1	5.5	5.4	4.6	30.6
North	13,726	8.0	19.4	18.7	7.3	17.8	68.3
Haryana	5,435	3.2	5.0	2.8	1.8	4.1	39.7
Himachal Pradesh	935	0.5	0.3	0.2	0.3	0.3	15.0
Jammu & Kashmir	966	0.6	0.5	0.4	0.2	0.4	28.5
Punjab	6,390	3.7	13.5	15.5	4.9	13.0	106.8
South	34,320	19.9	27.2	29.4	43.7	29.6	45.3
Andhra Pradesh	12,536	7.3	10.6	11.0	6.4	10.2	42.7
Karnataka	11,036	6.4	5.8	7.5	12.5	7.0	33.2
Kerala	2,924	1.7	1.3	2.2	5.6	2.0	36.2
Tamil Nadu	7,768	4.5	9.3	8.6	18.8	10.2	69.3
Pondicherry	53	0.03	0.2	0.1	0.4	0.2	183.0
West	30,377	17.6	13.8	17.9	18.7	15.3	26.4
Gujarat	10,353	6.0	6.4	9.9	6.4	7.2	36.6
Maharashtra	19,860	11.5	7.4	7.9	12.1	8.0	21.3
Goa	143	0.08	0.07	0.1	0.2	0.09	32.2
All India	172,306	100.0	100.0	100.0	100.0	100.0	30.5

Note: Percentages do not add upto 100 due to omission of small States, Union Territories & plantations.

* Consumption figures in Tables 6.01, 6.02, 6.03 & 6.04 have been used here to work out the share.

¹ Vide Table 1.02 Part II.

² Vide Table 6.08 Part I.

6.10(a). SEASONWISE CONSUMPTION OF N, P₂O₅ & K₂O—BY DISTRICTS

1978-79

(metric tonnes)

Districts	Kharif				Rabi				Total			
	N	P ₂ O ₅	K ₂ O	Total	N	P ₂ O ₅	K ₂ O	Total	N	P ₂ O ₅	K ₂ O	Total
Madhya Pradesh												
1. Durg	1,202	627	149	1,978	2,938	469	189	3,596	4,140	1,096	338	5,574
2. Rajnandgaon	501	527	178	1,206	1,571	316	90	1,977	2,072	843	268	3,183
3. Bastar	159	125	20	304	340	86	19	447	499	213	39	751
4. Raipur	5,882	2,961	670	9,513	6,237	1,658	311	8,206	12,119	4,639	981	17,739
5. Bilaspur	1,687	1,291	116	3,094	4,364	1,119	145	5,628	6,051	2,410	261	8,722
6. Surguja	189	208	48	445	496	408	79	983	658	616	127	1,428
7. Raigarh	789	1,008	99	1,896	2,175	324	80	2,579	2,964	1,332	179	4,475
8. Jabalpur	276	200	30	506	2,219	1,841	209	4,269	2,495	2,041	239	4,775
9. Balaghat	786	502	78	1,366	661	265	91	1,017	1,447	767	169	2,383
10. Chindwara	819	326	103	1,248	761	258	113	1,132	1,580	584	216	2,380
11. Seoni	160	58	15	233	243	106	29	378	403	184	44	611
12. Mandla	160	35	4	199	212	34	8	254	372	69	12	453
13. Narsinghpur	308	90	24	422	1,060	666	110	1,836	1,368	756	134	2,258
14. Sagar	25	38	2	65	1,046	933	181	2,160	1,071	971	183	2,225
15. Damoh	10	3	1	14	596	459	74	1,129	606	462	75	1,143
16. Panna	20	11	1	32	545	472	28	1,045	565	483	29	1,077
17. Tikamgarh	60	60	6	138	3,579	2,358	402	6,339	3,659	2,408	410	6,477
18. Chhatarpur	39	27	2	68	1,495	947	158	2,600	1,584	974	160	2,668
19. Rewa	74	26	3	103	2,218	1,766	146	4,130	2,292	1,792	148	4,233
20. Sidhi	9	1	—	10	321	196	12	529	330	197	12	539

21. Satna	84	23	3	110	1,578	1,215	78	2,871	1,612	1,238	81	2,981
22. Shahdol	47	27	5	79	295	302	23	620	342	329	28	699
23. Indore	900	567	117	1,584	2,082	2,280	534	4,846	2,982	2,797	651	6,430
24. Dhar	2,750	1,018	356	4,124	2,119	932	379	3,430	4,869	1,950	735	7,554
25. Jabua	583	169	46	798	521	114	56	691	1,104	283	102	1,489
26. Kargone	3,405	1,413	583	5,401	3,614	1,376	777	5,767	7,019	2,789	1,360	11,168
27. Khandwa	1,572	577	402	2,551	1,862	542	615	3,019	3,484	1,119	1,017	5,570
28. Ujjain	1,520	1,025	189	2,734	3,544	1,774	528	5,846	5,064	2,799	717	8,580
29. Mandseur	2,892	2,525	372	5,789	4,829	2,360	1,270	8,459	7,721	4,885	1,642	14,248
30. Ratlam	1,855	894	204	2,753	3,068	1,336	441	4,845	4,723	2,230	645	7,598
31. Dewas	756	490	91	1,337	2,229	1,035	253	3,517	2,985	1,525	344	4,854
32. Shajapur	329	354	50	733	1,114	650	103	1,867	1,443	1,004	153	2,600
33. Morena	657	88	21	766	7,804	1,735	210	9,749	8,461	1,823	231	10,515
34. Bhind	428	21	8	457	4,591	1,286	365	6,242	5,019	1,307	373	6,699
35. Gwalior	765	190	41	996	3,122	1,129	165	4,416	3,887	1,319	206	5,412
36. Shivpuri	189	229	12	430	1,583	736	70	2,389	1,772	965	82	2,819
37. Guna	77	13	1	91	541	259	21	821	618	272	22	912
38. Datia	96	26	8	130	1,429	648	90	2,167	1,525	674	98	2,297
39. Bhopal	105	44	10	159	995	630	114	1,739	1,100	674	124	1,898
40. Sehore	587	161	22	720	800	449	70	1,319	1,337	610	92	2,039
41. Raisen	75	64	6	145	1,769	1,199	171	3,139	1,844	1,263	177	3,284
42. Vidisha	71	28	3	102	833	962	53	1,848	904	990	56	1,950
43. Betul	549	175	35	759	787	230	63	1,080	1,336	405	98	1,836
44. Rajgarh	124	95	13	232	629	294	59	982	753	389	72	1,214
45. Hoshangabad	418	275	51	744	1,923	1,153	183	3,259	2,341	1,428	234	4,003
Total	33,759	18,625	4,200	56,825	88,738	39,259	9,165	135,162	120,497	57,884	13,365	191,746

6.10(a). SEASONWISE CONSUMPTION OF N, P₂O₅ & K₂O—BY DISTRICTS
1978-79 (Continued)

(metric tonnes)

District	Kharif				Rabi				Total			
	N	P ₂ O ₅	K ₂ O	Total	N	P ₂ O ₅	K ₂ O	Total	N	P ₂ O ₅	K ₂ O	Total
Rajasthan												
1. Ajmer	495	37	12	544	1,126	172	33	1,331	1,621	209	45	1,875
2. Alwar	834	67	117	1,018	3,870	309	152	4,331	4,704	376	269	5,349
3. Banswara	731	50	8	789	1,133	292	23	1,448	1,864	342	31	2,237
4. Barmer	18	—	—	18	327	4	—	331	345	4	—	349
5. Bharatpur	501	54	12	567	2,156	228	98	2,48	2,657	282	110	3,049
6. Bhilwara	1,717	339	100	2,156	2,081	569	148	2,798	3,798	908	248	4,954
7. Bikaner	388	21	8	415	683	81	37	801	1,069	102	45	1,216
8. Bundi	2,180	752	258	3,118	3,341	1,490	472	5,303	5,449	2,242	730	8,421
9. Chittorgarh	2,692	1,301	213	4,206	3,610	1,415	355	5,380	6,302	2,716	568	9,586
10. Churu	8	5	—	13	16	—	—	16	24	5	—	29
11. Dungarpur	266	35	3	304	373	91	3	467	639	126	6	771
12. Ganganagar	7,360	865	255	8,480	11,665	1,597	373	13,635	19,025	2,462	628	22,115
13. Hanumangarh	6,565	189	56	6,810	7,975	1,508	395	9,878	14,540	1,697	451	16,688
14. Anupgarh	1,789	79	27	1,895	2,493	269	112	2,874	4,292	348	139	4,789
15. Jaipur	628	107	22	757	2,811	832	102	3,245	3,439	439	124	4,002
16. Dausa	285	910	12	1,207	2,827	608	111	3,546	3,112	1,518	123	4,753
17. Jalore	201	25	10	236	1,953	76	12	2,041	2,15	101	22	2,277
18. Jhalawar	350	299	27	676	691	375	82	1,148	1,014	674	109	1,824
19. Jhunjhunu	120	1	—	121	1,809	101	46	1,956	2,176	106	47	2,329
—Sikar	247	4	—1	252								
20. Jodhpur	200	63	21	284	1,320	92	39	1,451	1,520	155	60	1,735
—Jaisalmer	—	—	—	—								
21. Kota	1,740	820	182	2,742	7,567	3,095	1,085	11,747	9,307	3,915	1,267	14,489
22. Baran	262	148	40	450	1,398	619	204	2,221	1,660	767	244	2,671
23. Nagaur	139	8	1	148	771	42	22	835	910	50	23	983
24. Pali	560	91	32	683	3,671	734	49	4,454	4,231	825	81	5,137
25. S. Mehsana	811	284	13	1,108	3,413	715	106	4,234	4,224	999	119	5,342

26. Sirohi	260	32	4	296	1,007	141	42	1,190	1,267	173	46	1,486
27. Tonk	288	81	2	371	929	121	27	1,077	1,217	202	29	1,448
28. Udalpur	525	172	9	706	1,075	272	23	1,370	1,600	444	32	2,076
29. Kankroli	413	104	9	526	865	207	26	1,098	1,278	311	35	1,624
Total	32,499	8,943	1,454	40,896	72,956	15,555	4,177	92,698	105,455	22,498	5,831	133,584

Uttar Pradesh

1. Saharanpur	12,747	1,155	536	14,438	16,026	4,529	1,313	21,868	28,773	5,684	1,849	36,306
2. Muzaffarnagar	13,202	782	285	14,269	14,287	4,273	1,324	19,884	27,489	5,055	1,609	34,153
3. Meerut	14,340	1,107	317	15,764	18,043	5,398	1,449	24,890	32,383	6,505	1,766	40,654
4. Ghaziabad	7,741	688	321	8,750	10,202	3,047	1,044	14,293	17,943	3,735	1,365	23,043
5. Bulandshahr	10,121	921	480	11,522	16,395	5,644	1,898	23,937	26,518	6,565	2,378	35,459
6. Bijnor	9,759	868	361	10,988	9,183	2,385	1,311	12,859	18,922	3,253	2,672	23,847
7. Aligarh	3,128	488	107	3,723	14,017	7,132	1,409	22,558	17,145	7,620	1,516	26,281
8. Mathura	1,054	146	55	1,265	8,916	3,620	807	13,343	9,970	3,766	872	14,608
9. Agra	1,213	202	90	1,505	11,550	4,863	1,130	17,543	12,783	5,065	1,220	19,048
10. Mainpuri	2,672	169	89	2,930	11,835	4,723	850	17,408	14,507	4,892	939	20,338
11. Etah	1,272	151	26	1,449	9,797	4,391	1,012	15,200	11,069	4,542	1,038	16,649
12. Bareilly	4,888	903	429	6,220	11,026	3,015	1,267	15,308	15,914	3,918	1,696	21,528
13. Badaun	4,464	780	443	5,687	12,039	3,903	1,050	16,992	16,503	4,683	1,493	22,679
14. Moradabad	11,798	826	494	13,118	13,200	3,571	1,709	18,480	24,998	4,897	2,203	31,598
15. Shahjahanpur	6,594	1,011	502	8,107	11,051	3,558	1,474	16,083	17,645	4,569	1,976	24,190
16. Pilibhit	5,019	1,021	437	6,477	6,320	2,676	935	9,931	11,339	3,679	1,372	16,408
17. Rampur	6,035	768	370	7,173	7,100	3,384	1,169	11,803	13,135	4,102	1,539	18,776
18. Farrukhabad	5,154	1,055	410	6,619	13,950	4,842	2,569	21,361	19,104	5,897	2,978	27,980
19. Etawah	2,710	254	83	3,047	9,782	3,096	1,080	13,952	12,492	3,360	1,163	17,015
20. Kanpur	2,732	464	197	3,393	11,468	3,575	1,010	16,053	14,200	4,039	1,207	19,446
21. Fatehpur	1,223	238	106	1,567	5,662	1,237	625	7,524	8,885	1,475	731	9,091
22. Allahabad	4,420	891	310	5,621	16,138	3,750	1,689	21,577	20,558	4,641	1,999	27,198
23. Lalitpur	83	99	12	194	1,428	1,335	138	2,901	1,511	1,434	150	3,095
24. Jhansi	119	79	13	211	2,882	1,841	405	5,128	3,001	1,920	418	5,339
25. Jalaun	459	93	21	573	5,185	2,500	509	8,194	5,644	2,593	530	8,767

(Continued)

6.10(a). SEASONWISE CONSUMPTION OF N, P₂O₅ & K₂O—BY DISTRICTS
1978-79 (Continued)

(metric tonnes)

Districts	Kharif				Rabi				Total			
	N	P ₂ O ₅	K ₂ O	Total	N	P ₂ O ₅	K ₂ O	Total	N	P ₂ O ₅	K ₂ O	Total
26. Hamirpur	72	42	5	119	1,531	1,029	91	2,651	1,603	1,071	96	2,770
27. Banda	403	105	23	531	2,067	1,080	126	3,273	2,470	1,185	149	3,804
28. Varanasi	5,901	1,610	777	8,288	20,581	4,787	2,865	28,233	26,482	6,397	3,642	36,521
29. Mirzapur	4,060	1,266	577	5,903	8,126	2,177	1,019	11,322	12,183	3,443	1,596	17,225
30. Jaunpur	6,293	1,558	773	8,624	15,404	4,732	1,940	22,076	21,697	6,290	2,713	30,700
31. Gazipur	5,227	1,116	461	6,804	13,680	3,759	2,052	19,491	18,907	4,875	2,513	26,295
32. Ballia	3,635	1,182	526	5,323	9,209	2,145	1,464	12,818	12,844	3,307	1,990	18,141
33. Gorakhpur	11,043	1,463	494	13,000	15,681	5,646	1,809	23,336	26,924	7,149	2,303	36,336
34. Deoria	10,628	1,776	878	13,282	16,558	5,815	2,474	24,847	27,186	7,591	3,352	38,129
35. Basti	7,046	744	298	8,088	14,633	4,273	1,421	20,327	21,679	5,017	1,719	28,415
36. Azamgarh	4,824	945	420	6,189	13,428	5,003	2,116	20,547	18,252	5,948	2,536	26,736
37. Lucknow	2,103	348	202	2,653	7,341	1,731	974	10,046	9,444	2,079	1,176	12,699
38. Unnao	1,258	122	69	1,449	7,532	1,976	859	10,367	8,790	2,098	928	11,816
39. Rae Bareilly	1,713	320	91	2,124	8,290	2,670	1,109	12,069	10,003	2,990	1,200	14,193
40. Sitapur	2,927	171	89	3,187	7,639	2,415	1,206	11,260	10,566	2,586	1,295	14,447
41. Hardoi	2,102	272	133	2,507	9,977	2,481	979	13,437	12,079	2,753	1,112	15,944
42. Kheri	5,359	819	332	6,510	8,221	3,983	1,707	13,911	13,580	4,802	2,039	30,421
43. Faizabad	8,155	1,892	1,037	11,084	16,068	3,210	1,483	20,766	24,223	5,102	2,525	31,850
44. Gonda	5,316	1,153	425	6,894	10,900	3,191	1,171	15,262	16,216	4,344	1,596	22,159
45. Bahraich	4,654	1,474	679	5,807	7,100	2,794	976	10,870	10,754	4,268	1,655	16,677
46. Sultanpur	3,252	836	418	4,506	10,100	2,430	1,346	13,876	13,352	3,266	1,764	18,382
47. Pratapgarh	3,678	861	434	4,973	7,332	2,307	1,051	10,690	11,010	3,168	1,485	15,663
48. Barabanki	5,778	688	393	6,859	14,500	2,267	1,005	17,772	20,278	2,955	1,398	24,631
49. Nainital	9,569	2,250	1,026	12,845	9,445	3,800	1,505	14,750	19,014	6,050	2,531	27,595
50. Almora	150	52	58	270	241	99	88	428	391	161	146	698

51. Pithoragarh	45	19	12	76	62	33	5	100	107	52	17	176
52. Dehradun	510	63	34	607	634	203	78	915	1,144	266	112	1,522
53. Tehri Garhwal	61	36	20	117	58	32	11	101	119	68	31	218
54. Uttar Kashi	35	35	12	82	44	42	9	95	79	77	21	177
55. Garhwal	110	43	26	179	155	62	27	244	265	105	53	423
56. Chamaoli	50	30	18	98	32	23	7	62	82	58	25	166
Total	247,904	38,440	17,244	303,588	524,231	168,433	62,154	754,818	772,135	206,873	79,398	1058,406

Assam

1. Golpara	197	18	38	250	296	25	48	369	490	43	86	619
2. Kamrup	747	27	39	813	556	30	17	603	1,303	57	56	1,416
3. Darrang	409	15	31	455	581	12	45	638	990	27	76	1,098
4. Nowgong	359	17	20	396	218	13	14	245	577	30	34	641
5. Sibsagar	605	41	107	753	418	23	83	524	1,023	64	190	1,277
6. Dibrugarh	587	20	61	668	436	16	38	490	1,023	36	99	1,158
7. Lakhimpur	105	7	17	129	153	4	2	159	258	11	19	288
8. Cachar	480	32	121	633	518	59	56	533	996	91	177	1,266
9. Karbi Anglong	24	4	7	35	73	6	10	89	97	10	17	124
10. N. C. Hills												
Total	3,510	181	441	4,132	3,249	188	313	3,750	8,759	369	754	7,882

Bihar

1. Patna	1,682	117	61	1,860	7,074	602	326	8,002	8,758	719	387	9,862
2. Nalanda	1,855	102	52	2,009	6,978	768	450	7,296	7,933	870	502	9,305
3. Gaya	3,982	298	181	4,461	8,588	590	368	9,546	12,570	888	549	14,007
4. Aurangabad	669	128	70	867	2,461	305	191	3,180	3,353	433	261	4,047
5. Nawadah	548	89	51	688	2,468	340	170	2,978	3,016	429	221	3,666
6. Bhojpur	2,339	295	131	2,765	12,716	1,395	567	14,678	15,055	1,690	698	17,443
7. Rohtas	2,807	629	289	3,725	13,881	1,557	643	16,081	16,688	2,186	932	19,806
8. Saran	1,474	197	144	1,815	5,947	990	599	7,536	7,421	1,187	743	9,351
9. Siwan	1,039	94	55	1,188	3,556	853	366	4,775	4,595	947	421	5,963

(Continued)

8.10(a). SEASONWISE CONSUMPTION OF N, P₂O₅ & K₂O - BY DISTRICTS
1978-79 (Continued)

(metric tonnes)

Districts	Kharif				Rabi				Total			
	N	P ₂ O ₅	K ₂ O	Total	N	P ₂ O ₅	K ₂ O	Total	N	P ₂ O ₅	K ₂ O	Total
10. Gopalganj	1,599	390	131	2,120	4,014	1,107	435	5,556	5,813	1,497	568	7,876
11. E. Champaran	1,717	289	204	2,210	6,176	938	478	7,592	7,893	1,227	682	9,802
12. W. Champaran	1,413	279	194	1,904	2,739	704	395	3,838	4,152	1,001	589	5,743
13. Muzaffarpur	2,540	611	416	3,567	6,801	1,104	726	8,631	9,341	1,715	1,142	12,198
14. Valshali	722	253	117	1,092	2,324	399	143	2,866	3,046	652	260	3,958
15. Sitamarhi	731	88	46	865	2,829	900	365	4,094	3,560	988	411	4,959
16. Darbhanga	248	25	15	288	1,385	295	160	1,840	1,633	320	175	2,128
17. Madhubani	217	26	17	260	1,365	337	164	1,866	1,582	363	181	2,126
18. Samstipur	1,311	304	94	1,709	3,700	1,070	541	5,311	5,011	1,374	635	7,020
19. Begusarai	1,278	108	78	1,464	2,911	692	499	4,102	4,189	800	577	5,566
20. Monghyr	1,513	308	138	1,959	4,298	845	691	5,834	5,811	1,158	829	7,793
21. Bhagalpur	2,111	341	252	2,704	4,915	904	511	6,330	7,026	1,245	763	9,034
22. Santhal Parganas	1,165	120	57	1,342	2,306	433	190	2,929	3,671	553	247	4,271
23. Saharsa	355	55	54	464	1,917	598	347	2,862	2,272	653	401	3,326
24. Purnea	686	168	105	959	3,046	689	365	4,100	3,732	857	470	5,059
25. Katihar	281	44	32	357	509	189	85	783	790	233	117	1,140
26. Hazaribagh	255	44	21	320	686	136	45	867	941	180	66	1,187
27. Giridih	235	42	32	309	425	85	70	580	660	127	102	889
28. Dhanbad	47	7	6	60	135	28	35	198	182	34	41	257
29. Ranchi	1,090	523	250	1,863	2,001	492	373	2,866	3,091	10,115	623	4,729
30. Palamau	265	38	25	328	742	164	64	970	1,007	202	89	1,298
31. Singhbhum	225	166	47	438	429	122	65	616	656	298	112	1,054
Total	36,398	6,196	3,365	45,860	118,645	19,631	10,427	148,703	155,044	24,827	13,782	194,663

Orissa

1. Balasore	1,925	459	375	2,759	2,147	891	678	3,516	4,072	1,150	1,053	6,275
2. Bolangir	1,517	557	260	2,334	1,801	1,194	438	3,433	3,318	1,751	698	5,767
3. Cuttack	5,315	1,550	1,659	8,524	5,131	836	790	6,757	10,448	2,386	2,449	15,281
4. Dhenkanal	693	249	141	1,083	1,271	266	166	1,703	1,694	515	307	2,786
5. Ganjam	3,144	334	164	3,642	7,469	320	193	7,982	10,613	654	357	11,624
6. Kalahandi	138	45	44	227	84	38	23	145	222	83	67	372
7. Keonjhar	251	169	58	478	240	87	47	374	491	256	165	852
8. Koraput	616	212	118	946	851	176	177	1,204	1,467	388	295	2,150
9. Mayurbhanj	426	442	120	988	607	267	106	980	1,033	709	226	1,968
10. Phulbani	171	59	43	273	443	214	119	776	614	273	162	1,049
11. Puri	3,182	579	587	4,348	2,633	289	274	3,196	5,815	868	861	7,544
12. Sambalpur	4,051	1,805	472	6,328	4,874	2,437	802	8,113	8,925	4,242	1,274	14,441
13. Sundargarh	513	312	119	944	386	212	140	736	899	524	259	1,682
Total	21,942	6,772	4,160	32,874	27,937	7,024	3,953	38,917	49,879	13,799	8,113	71,791

West Bengal

1. 24 Parganas	7,673	1,000	1,215	9,888	8,212	4,025	2,542	14,779	15,885	5,025	3,757	24,667
2. Nadia	5,516	995	1,012	7,523	8,437	4,030	2,695	15,162	13,953	5,025	3,707	22,685
3. Murshidabad	4,900	951	1,174	7,025	6,524	3,583	2,802	12,909	11,424	4,534	3,976	19,934
4. Burdwan	7,952	1,048	1,482	10,482	13,997	6,340	3,459	23,796	21,949	7,388	4,941	34,278
5. Birbhum	5,883	775	1,080	1,738	6,362	2,125	2,001	10,488	12,245	2,900	3,081	18,226
6. Bankura	4,856	779	920	6,555	5,775	2,061	2,467	10,323	10,631	2,640	3,407	16,878
7. Midnapore	5,122	981	1,451	7,554	10,631	5,591	4,318	20,540	15,753	6,572	5,769	28,094
8. Hooghly	7,740	1,038	1,467	10,245	10,306	6,074	4,656	21,036	18,046	7,112	6,123	31,281
9. Howrah	3,551	702	669	4,922	3,451	1,270	1,573	6,294	7,002	1,972	2,242	11,216
10. Jalpalguri	436	467	538	1,491	685	899	271	1,855	1,121	1,366	859	3,346
11. Darjeeling	353	403	259	1,015	733	410	97	1,240	1,086	813	356	2,255
12. Malda	2,643	761	1,164	4,568	4,021	1,100	1,215	6,336	6,664	1,861	2,379	10,904
13. W. Dinajpur	2,002	792	789	3,583	4,971	1,487	795	7,253	6,973	2,279	1,584	10,836
14. Cooch Behar	995	562	616	2,173	1,102	1,007	308	9,417	2,097	1,569	924	4,590
15. Purulia	509	533	403	1,445	1,048	1,186	453	2,687	1,557	1,719	856	4,132
Total	60,131	11,787	14,289	86,207	86,255	41,188	29,672	157,115	146,366	52,975	43,961	243,322

**6.10(a). TOTAL CONSUMPTION OF N, P₂O₅ & K₂O—BY DISTRICTS
1978-79 (Continued)**

(metric tonnes)				
Districts	N	P ₂ O ₅	K ₂ O	Total
Meghalaya				
1. Khasi Hills	1,100	408	86	1,594
2. Jaintia Hills	17	20	12	49
3. Garo Hills	35	22	66	123
Total	1,152	450	164	1,766
Tripura				
1. Tripura West	601	105	112	818
2. Tripura South	237	49	54	370
3. Tripura North	148	30	44	222
Total	1,016	184	210	1,410

(Continued)

6.10(a). SEASONWISE CONSUMPTION OF N, P₂O₅ & K₂O - BY DISTRICTS
1978-79 (Continued)

(metric tonnes)

Districts	Kharif				Rabi				Total			
	N	P ₂ O ₅	K ₂ O	Total	N	P ₂ O ₅	K ₂ O	Total	N	P ₂ O ₅	K ₂ O	Total
Haryana												
1. Ambala	6,909	885	305	8,099	10,476	2,885	1,103	14,464	17,385	3,770	1,408	22,563
2. Bhiwani	473	16	—	489	1,518	149	23	1,690	1,991	165	23	2,179
3. Gurgaon	1,136	37	16	1,189	7,793	2,081	866	10,240	8,929	2,118	382	11,429
4. Hisar	4,750	194	70	5,014	13,287	2,872	867	17,026	18,037	3,088	937	22,040
5. Jind	2,802	103	57	2,962	7,611	1,290	291	9,192	10,413	1,393	348	12,154
6. Karnal	10,047	1,522	505	12,074	21,894	6,207	2,047	30,148	31,941	7,729	2,552	42,222
7. Kurukshetra	12,293	1,237	654	14,084	21,221	5,128	2,163	28,512	33,514	6,368	2,717	42,598
8. Mahendergarh	424	8	—	432	4,308	492	126	4,926	4,732	500	128	5,358
9. Rohtak	1,859	17	5	1,881	5,125	769	270	6,164	6,984	788	275	8,045
10. Sirsa	7,366	243	69	7,680	12,245	3,455	973	16,673	19,613	3,698	1,042	24,353
11. Sonapat	1,965	50	20	2,035	6,429	2,193	471	9,093	8,394	2,243	491	11,128
Total	50,026	4,312	1,601	55,939	111,907	27,521	8,700	148,128	161,933	31,833	10,301	204,607
Himachal Pradesh												
1. Bilaspur	420	7	7	434	470	54	54	578	890	61	61	1,012
2. Chamba	163	28	28	219	116	28	28	167	279	56	51	386
3. Hamirpur	508	14	18	535	461	65	65	591	969	79	78	1,126
4. Kangra	1,411	127	117	1,655	945	339	327	1,611	2,356	466	444	3,266
5. Kinnaur	20	7	4	31	43	18	14	75	63	25	18	106
6. Kulu	156	31	31	218	141	49	55	245	297	80	86	463
7. Lahul Spiti	8	2	2	12	98	124	59	581	106	126	61	293
8. Mandi	647	115	112	874	457	212	216	885	1,104	327	328	1,759
9. Simla	429	261	127	817	214	144	143	501	643	405	270	1,318
10. Sirmur	511	46	27	583	267	60	40	367	768	105	67	940
11. Solan	298	26	26	350	194	44	44	282	492	70	70	632
12. Una	298	17	17	332	564	125	107	796	862	142	124	1,128
Total	4,869	680	511	6,060	3,960	1,262	1,147	6,369	8,829	1,942	2,258	12,429

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(Continued)

6.10(a). SEASONWISE CONSUMPTION OF N, P₂O₅ & K₂O—BY DISTRICTS
1978-79 (Continued)

(metric tonnes)

Districts	Kharif				Rabi				Total			
	N	P ₂ O ₅	K ₂ O	Total	N	P ₂ O ₅	K ₂ O	Total	N	P ₂ O ₅	K ₂ O	Total
Punjab												
1. Amritsar	18,905	2,668	863	22,436	31,467	13,139	2,182	46,788	50,372	15,807	3,045	69,224
2. Bhatinda	13,085	1,094	138	14,317	21,271	9,720	1,424	32,415	34,356	10,184	1,562	46,732
3. Faridkot	18,855	3,003	845	22,503	31,823	15,677	1,336	48,836	50,678	18,680	1,981	71,339
4. Ferozepur	15,751	4,363	406	20,520	29,044	10,626	1,259	40,929	44,795	14,989	1,665	61,449
5. Gurdaspur	16,568	1,769	507	18,844	16,170	6,881	1,433	24,494	32,738	8,650	1,950	43,338
6. Hoshiarpur	3,519	638	208	4,365	13,072	5,986	2,171	21,229	16,591	6,624	2,379	25,594
7. Jullundur	12,771	3,059	804	16,634	24,833	11,604	4,814	41,251	37,604	14,683	5,618	57,885
8. Kapurthala	3,910	1,816	247	5,973	12,182	7,154	812	20,148	16,092	8,970	1,059	26,121
9. Ludhiana	12,611	4,247	1,114	17,972	25,992	17,438	3,205	46,635	38,603	21,885	4,329	64,607
10. Patiala	15,692	3,596	535	19,823	29,106	12,636	2,482	44,224	44,798	16,232	3,017	64,047
11. Ropar	3,091	456	81	3,628	4,343	2,795	476	7,614	7,434	3,251	557	11,242
12. Sangrur	9,183	1,509	213	10,905	26,699	12,910	1,232	41,141	36,182	14,149	1,445	52,046
Total	143,941	28,218	5,761	177,920	266,302	128,566	22,836	315,802	410,243	154,784	28,597	593,624
Andhra Pradesh												
1. Srikakulam	3,072	547	29	3,648	7,834	1,023	45	8,092	10,096	1,570	74	12,550
2. Visakhapatnam	2,129	425	54	2,608	8,482	1,375	109	9,966	10,611	1,800	163	12,574
3. East Godavari	16,599	2,441	1,260	20,300	25,901	6,815	2,066	34,782	42,500	9,256	3,326	55,082
4. West Godavari	18,968	6,547	815	26,330	21,849	8,468	1,648	31,965	40,817	15,015	2,463	58,295
5. Krishna	6,908	2,177	852	9,937	19,454	5,739	2,095	27,288	26,382	7,916	2,947	37,225
6. Guntur	16,906	6,828	2,458	26,193	34,954	11,929	5,479	52,362	51,860	18,758	7,937	78,555
7. Prakasam	1,142	605	54	1,801	6,281	1,101	459	7,841	7,423	1,706	513	9,642
8. Nellore	3,945	878	434	5,257	9,553	1,786	1,321	12,660	13,498	2,664	1,785	17,917
9. Kurnool	12,156	4,129	877	17,162	14,608	7,009	2,787	24,404	26,764	11,188	3,664	41,586
10. Anantpur	2,860	1,660	1,344	5,864	6,631	2,101	1,699	10,431	9,491	3,761	3,043	16,295
11. Cuddapah	2,664	1,107	175	3,946	9,186	3,166	561	12,913	11,850	4,273	736	16,859
12. Chittoor	5,052	2,205	698	7,955	6,884	1,789	1,682	10,455	12,036	3,994	2,360	18,410
13. Hyderabad	2,261	725	162	3,148	3,229	1,034	256	4,519	5,490	1,759	418	7,667
14. Nizamabad	20,606	9,800	1,925	32,331	19,492	11,592	2,514	33,596	40,098	21,392	4,439	65,929
15. Medak	4,340	1,481	238	6,059	4,988	1,202	329	6,519	9,328	2,683	567	12,578
16. Mehboobnagar	4,499	2,834	485	7,818	9,497	3,811	1,443	14,751	18,996	6,645	1,928	22,569
17. Nalgonda	8,079	3,651	452	12,182	10,572	4,873	1,312	16,757	16,651	8,524	1,764	28,939

18. Warangal	7,588	3,465	517	11,570	14,891	3,987	1,177	20,055	22,479	7,452	1,694	31,825
19. Khammam	4,333	3,241	242	7,516	9,261	4,441	739	14,441	13,294	7,682	981	21,957
20. Karimnagar	8,575	2,603	594	11,772	16,222	4,475	1,281	21,978	24,797	7,078	1,875	33,750
21. Adilabad	603	290	8	901	1,174	85	82	1,321	1,777	375	70	2,222
Total	152,985	57,640	13,673	224,238	261,043	87,801	29,084	377,908	414,028	145,441	42,737	602,206

Karnataka

1. Bangalore	5,272	2,080	3,139	10,491	6,198	1,686	4,482	12,366	11,470	3,766	7,621	22,857
2. Belgaum	11,484	3,252	2,622	17,328	10,937	2,207	2,975	16,119	22,391	5,459	5,597	33,447
3. Bellary	8,103	3,634	3,720	15,457	10,232	3,197	3,715	17,144	18,355	6,831	7,435	32,601
4. Bidar	1,434	354	206	1,994	633	138	82	853	2,067	492	288	2,847
5. Bijapur	3,504	1,081	650	5,235	5,100	1,234	536	6,870	8,604	2,315	1,186	12,105
6. Chikmagalur	2,555	1,501	1,181	5,237	1,862	936	573	3,371	4,417	2,437	1,754	8,608
7. Chitradurga	6,849	4,100	2,115	13,064	6,843	3,113	1,134	11,090	13,692	7,213	3,249	24,154
8. Dakshina Kannada	3,344	1,856	5,934	11,194	3,257	1,744	4,344	9,345	6,601	3,600	10,278	20,479
9. Dharwar	5,808	5,105	3,673	15,381	4,170	2,052	1,803	8,025	10,773	7,157	5,476	23,406
10. Gulbarga	518	335	116	969	734	437	100	1,271	1,252	772	216	2,240
11. Hassan	5,421	3,323	2,445	11,189	4,322	2,550	1,077	8,449	9,743	5,873	4,022	19,638
12. Kodagu	2,274	1,532	1,392	5,198	1,399	844	599	2,782	3,613	2,376	1,931	7,920
13. Kolar	4,007	1,521	1,131	6,659	4,560	1,399	1,125	7,984	6,567	2,920	2,258	13,743
14. Mandya	7,202	2,859	1,914	12,002	14,385	3,641	2,892	20,891	21,560	6,500	4,833	32,893
15. Mysore	5,993	3,449	2,857	12,299	6,108	1,612	978	8,698	12,101	5,061	3,835	20,997
16. Raichur	9,570	3,927	3,124	16,621	16,397	4,116	3,647	24,160	25,967	8,043	6,771	40,781
17. Shimoga	7,776	4,273	3,605	15,654	5,997	2,359	2,106	10,462	13,773	6,632	5,711	26,116
18. Tumkur	3,912	2,011	1,242	7,165	4,510	1,628	1,081	7,199	8,422	3,639	2,303	14,364
19. Uttara Kannada	700	397	294	1,391	385	115	83	583	1,085	512	377	1,974
Total	96,491	46,590	41,327	184,408	107,942	35,008	33,812	176,762	204,433	81,598	74,139	361,170

Kerala

1. Alleppey	2,310	1,147	1,643	5,100	2,999	1,754	2,214	6,967	5,309	2,901	3,857	12,067
2. Cannanore	1,841	1,199	1,557	4,597	1,461	806	1,684	3,951	3,102	2,005	3,241	8,348
3. Ernakulam	2,054	1,191	1,426	4,671	1,194	920	4,266	4,100	3,968	2,111	2,692	8,771
4. Iduki	850	1,079	1,119	3,042	656	715	699	2,010	1,508	1,794	1,752	5,052
5. Kottayam	3,025	1,728	2,094	6,847	3,356	1,541	2,120	7,071	6,381	3,269	4,241	13,864
6. Kozhikode	2,202	1,749	1,823	5,774	1,647	925	1,396	3,968	3,849	2,674	3,219	9,742
7. Malappuram	1,493	734	917	3,144	1,414	665	614	2,993	2,907	1,399	1,831	6,137
8. Palghat	4,328	1,172	1,409	6,909	4,354	950	1,264	6,568	6,682	2,122	2,673	13,477
9. Quilon	1,826	1,074	1,377	4,277	1,309	740	994	3,043	3,195	1,814	2,371	7,320
10. Trichur	2,004	879	1,569	4,452	1,927	963	1,681	4,571	3,931	1,842	3,250	9,023
11. Trivandrum	1,543	808	901	3,252	1,377	643	746	2,784	2,920	1,451	1,665	6,036
Total	23,276	12,760	15,829	51,665	22,414	10,622	14,936	48,972	45,690	23,392	30,765	99,837

(Continued)

6.10(a). SEASONWISE CONSUMPTION OF N, P₂O₅ & K₂O—BY DISTRICTS
1978-79 (Continued)

(metric tonnes)

Districts	Kharif				Rabi				Total			
	N	P ₂ O ₅	K ₂ O	Total	N	P ₂ O ₅	K ₂ O	Total	N	P ₂ O ₅	K ₂ O	Total
Tamil Nadu												
1. Chingleput	13,862	3,211	2,577	19,650	20,170	5,013	3,021	28,204	34,032	8,224	5,598	47,854
2. Coimbatore	19,933	5,607	10,600	36,140	27,235	8,478	13,745	49,458	47,168	14,083	24,345	85,596
3. Dharmapuri	1,818	525	409	2,552	1,971	486	322	2,779	3,589	1,011	731	5,331
4. Kanyakumari	1,099	607	398	2,102	1,923	387	341	2,651	3,022	994	737	4,753
5. Madurai	10,810	2,976	5,183	18,969	16,884	4,478	5,231	26,593	27,694	7,454	10,414	45,562
6. North Arcot	14,908	4,286	4,628	23,822	16,424	4,871	4,302	25,597	31,332	9,157	8,930	49,419
7. Pudukkottai	1,152	391	207	1,750	5,414	1,189	733	7,336	6,566	1,580	940	9,086
8. Ramanathapuram	2,845	397	401	3,643	8,426	968	708	10,102	11,271	1,365	1,109	13,745
9. Salem	7,379	1,917	3,078	12,374	8,731	2,160	2,802	13,693	16,110	4,077	5,880	26,067
10. South Arcot	15,846	3,932	5,324	24,902	15,937	4,717	6,094	26,748	31,583	8,649	11,418	51,650
11. Thanjavur	13,453	6,462	6,347	26,262	28,417	8,927	5,929	43,273	41,870	15,389	12,276	69,535
12. The Nilgiris	647	55	414	1,116	1,581	861	739	3,181	2,228	916	1,153	4,297
13. Tiruchirappalli	9,693	3,326	5,278	18,297	21,205	5,690	7,942	34,837	30,698	9,016	13,220	53,134
14. Tirunelveli	6,517	1,481	2,284	10,282	11,994	1,991	2,636	16,621	18,511	3,472	4,920	26,903
Total	119,562	35,173	47,126	201,861	186,312	50,214	54,545	291,071	305,874	85,387	101,671	492,932

Pondicherry

1. Pondicherry	2,143	572	939	3,594	2,586	691	917	4,194	4,729	1,203	1,856	7,788
2. Karaikal	110	28	27	165	402	145	108	655	512	713	135	820
3. Mahe		←----- Negligible ----->										
4. Yaman		←----- Negligible ----->										
Total	2,253	540	966	3,759	2,988	836	1,025	4,849	5,241	1,376	1,991	8,608

Gujarat

1. Ahmedabad	3,582	768	487	4,837	5,757	1,213	699	7,669	9,339	1,981	1,186	12,506
2. Banaskantha	1,738	254	50	2,042	5,861	1,093	438	7,392	7,599	1,347	488	9,434
3. Baroda	7,775	1,752	2,073	11,600	10,434	1,284	1,251	12,969	18,209	3,036	3,324	24,569
4. Broach	2,704	813	434	3,951	2,804	372	252	3,428	5,508	1,185	686	7,379
5. Bulsar	3,066	1,206	1,063	5,335	2,151	648	393	3,192	5,217	1,854	1,456	8,527
6. Dang	18	5	—	23	10	4	—	14	28	9	—	37
7. Gandhinagar	505	811	45	661	1,081	243	78	1,402	1,586	354	123	2,063
8. Kaira	10,199	950	447	11,596	20,506	1,523	381	22,410	33,705	2,473	828	34,006
9. Mehsana	6,458	839	246	7,543	11,311	5,045	529	13,885	17,769	2,884	775	21,428
10. Panchmahals	2,253	754	280	3,287	3,445	986	179	4,610	5,698	1,740	459	7,897
11. Sabarkantha	8,606	5,714	3,150	17,470	9,705	4,628	3,117	17,450	18,311	10,342	6,267	34,920
12. Surat	8,292	3,505	3,347	15,144	5,465	1,936	975	8,376	18,757	5,441	4,322	23,320
13. Amreli	4,263	6,905	1,993	13,161	3,736	3,065	538	7,339	7,999	9,970	2,531	20,500
14. Bhavnagar	4,966	5,619	1,186	11,771	3,759	3,177	363	7,299	8,725	8,796	1,549	19,070
15. Junagarh	4,470	6,166	1,572	12,208	7,807	6,209	1,243	15,259	12,277	12,375	2,815	27,467
16. Kutch	986	380	532	1,898	1,553	292	151	1,996	2,539	672	683	3,894
17. Jamnagar	2,527	5,355	1,776	9,658	4,438	3,575	1,034	9,047	6,965	8,930	2,810	18,705
18. Rajkot	7,668	11,031	3,519	22,218	9,039	6,697	1,583	17,319	16,707	17,728	5,102	39,537
19. Surendranagar	1,450	1,247	175	2,872	1,577	714	44	2,335	3,027	1,961	219	5,207
Total	81,526	53,374	22,375	157,278	110,439	39,704	13,248	163,391	191,965	93,078	35,623	320,660

Maharashtra

1. Thane	1,610	410	380	2,400	2,363	543	203	3,109	3,973	953	583	5,509
2. Kolaba	4,313	1,151	950	6,414	1,591	228	174	1,993	5,904	1,379	1,124	3,407
3. Ratnagiri	1,240	390	340	1,970	2,044	361	269	2,674	3,284	751	609	4,644
4. Nasik	4,900	1,750	1,650	8,300	9,093	1,500	1,358	11,949	13,993	3,250	3,006	20,249
5. Dhule	9,500	4,060	3,800	17,300	5,508	2,014	1,470	8,992	15,008	6,014	5,270	26,292
6. Jalgaon	14,450	6,800	4,500	25,750	8,535	4,014	3,335	15,884	22,985	10,814	7,835	41,634
7. Ahmednagar	10,800	4,500	4,500	19,800	7,035	2,500	2,085	11,620	17,835	7,000	6,585	31,420
8. Pune	2,400	1,450	1,550	5,400	4,483	1,577	1,150	7,210	6,883	3,027	2,700	12,610
9. Solapur	3,350	1,470	1,080	5,900	4,799	1,519	1,253	7,571	8,149	2,989	2,333	13,471
10. Satara	9,000	1,900	1,870	12,773	4,057	1,380	1,119	6,556	13,057	3,280	2,969	19,326
11. Sangli	5,480	1,110	1,140	7,730	6,124	1,256	1,958	9,338	11,604	2,366	3,098	17,068
12. Kolhapur	14,600	4,400	6,300	25,300	8,332	5,875	3,930	18,137	22,532	10,275	10,230	43,437
13. Aurangabad	3,840	1,660	1,150	6,650	6,811	2,309	1,465	10,585	10,651	3,969	2,615	17,235
14. Parbhani	2,040	414	360	2,814	3,065	1,123	834	5,022	5,105	1,537	1,194	7,836
15. Bhir	1,010	610	560	2,180	1,036	622	524	2,182	2,046	1,232	1,084	4,362
16. Nanded	2,800	870	780	4,450	2,338	1,078	834	4,250	5,138	1,948	1,614	8,700
17. Osmanabad	2,200	1,110	1,080	4,390	2,997	557	375	3,929	5,197	1,667	1,455	8,319
18. Buldhana	3,700	1,750	1,710	7,160	4,911	2,019	1,955	8,885	8,611	3,769	3,665	16,045
19. Akola	4,900	1,610	1,560	8,070	1,650	794	372	2,816	6,550	2,414	1,932	10,886
20. Amravati	4,000	1,350	1,660	7,010	3,811	1,569	1,381	6,761	7,811	2,919	3,041	13,771
21. Yeotmal	4,500	1,680	1,630	7,810	2,827	883	553	4,263	7,327	2,563	2,183	12,073
22. Wardha	2,900	1,170	1,110	5,180	2,047	917	727	3,691	4,947	2,087	1,837	8,871
23. Nagpur	3,300	1,490	1,570	6,360	6,003	1,219	1,006	8,226	9,303	2,709	2,576	14,588
24. Bhandara	2,324	1,050	590	3,964	1,378	553	408	2,339	3,702	1,603	998	6,303
25. Chandrapur	3,200	980	810	4,940	1,160	390	294	1,844	4,360	1,320	1,104	6,784
Total	122,357	45,025	43,630	210,012	103,998	36,800	29,030	169,828	226,355	81,825	71,660	379,840

Note: Districtwise data in respect of Jammu & Kashmir, Sikkim, Goa, Dadra and Nagar Haveli, Delhi, Arunachal Pradesh, Manipur, Nagaland, Mizoram and Andaman & Nicobar Islands are not available. For statewise details see tables in Chapter 6 of Part I.

**6.10(b). SEASONWISE CONSUMPTION OF N, P₂O₅ & K₂O—BY DISTRICTS
1979-80**

(metric tonnes)

Districts	Kharif				Rabi				Total			
	N	P ₂ O ₅	K ₂ O	Total	N	P ₂ O ₅	K ₂ O	Total	N	P ₂ O ₅	K ₂ O	Total
Madhya Pradesh												
1. Durg	1,579	1,140	330	3,049	1,557	270	103	1,390	3,136	1,410	433	4,979
2. Rajnandgaon	798	783	205	1,786	898	198	41	1,128	1,696	972	246	2,914
3. Bastar	189	118	27	334	191	75	19	285	380	193	46	619
4. Raipur	6,278	3,834	874	10,986	3,246	694	187	4,127	9,524	4,528	1,061	15,113
5. Bilaspur	1,419	935	135	2,489	1,777	687	174	2,638	3,196	1,622	309	5,127
6. Surguja	229	270	49	548	265	217	7	489	494	487	56	1,037
7. Raigarh	1,059	1,290	169	2,518	962	354	89	1,405	2,021	1,644	258	3,923
8. Jabalpur	251	203	42	496	588	415	45	1,418	839	618	87	1,914
9. Belaghat	537	438	74	1,049	476	129	31	636	1,013	567	105	1,685
10. Chindwara	1,055	404	152	1,611	960	337	31	1,328	2,015	741	283	3,039
11. Seoni	191	106	23	320	129	51	8	188	320	157	31	508
12. Mandla	160	85	11	206	73	10	—	83	233	45	11	289
13. Narsingpur	330	107	30	467	975	550	102	1,627	1,305	657	132	2,094
14. Sagar	68	59	6	133	706	643	89	1,438	774	702	95	1,571
15. Damoh	19	24	5	48	299	293	43	635	318	317	48	683
16. Panna	53	46	3	102	290	310	12	612	343	356	15	714
17. Tikamgarh	85	50	10	145	1,823	1,101	175	3,099	1,908	1,151	185	3,244
18. Chattarpur	72	40	4	116	757	366	99	1,222	829	406	103	1,338
19. Rewa	173	63	5	241	1,756	1,471	131	3,358	1,929	1,534	136	3,599
20. Sidhi	41	12	—	53	190	153	13	356	281	165	13	409

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(Continued)

6.10(b). SEASONWISE CONSUMPTION OF N, P₂O₅ & K₂O—BY DISTRICTS
1979-80 (Continued)

(metric tonnes)

Districts	Kharif				Rabi				Total			
	N	P ₂ O ₅	K ₂ O	Total	N	P ₂ O ₅	K ₂ O	Total	N	P ₂ O ₅	K ₂ O	Total
Madhya Pradesh (Concluded)												
21. Satna	147	68	13	228	606	586	42	1,234	753	654	55	1,462
22. Shahdol	58	44	7	109	353	300	21	674	411	344	28	783
23. Indore	1,106	852	192	2,150	2,913	2,090	518	5,521	4,019	2,942	710	7,671
24. Dhar	2,515	1,030	336	3,881	3,185	1,254	451	4,890	5,700	2,284	787	8,771
25. Jabua	444	194	33	671	482	117	55	654	926	311	88	1,325
26. Khargone	3,459	1,549	351	5,395	4,530	1,612	1,110	7,252	7,989	3,161	1,461	12,611
27. Khandawa	1,372	516	406	2,294	1,797	530	645	2,972	3,169	1,046	1,051	5,266
28. Ujjain	1,871	1,504	300	3,675	1,829	1,173	281	3,283	3,700	2,677	581	6,958
29. Mandasaur	3,244	3,259	565	7,068	2,275	1,078	342	3,695	5,519	4,337	907	10,763
30. Ratlam	2,997	1,390	410	4,797	1,160	587	244	1,991	4,157	1,977	654	6,788
31. Dewas	1,039	826	273	2,138	1,437	1,280	328	3,045	2,476	2,106	601	5,183
32. Shajapur	346	465	68	879	886	578	135	1,599	1,232	1,043	203	2,478
33. Morena	620	99	12	731	6,390	1,412	288	8,090	7,010	1,511	300	8,821
34. Bhind	343	49	10	402	2,655	656	251	3,562	2,998	705	261	3,964
35. Gwalior	1,980	248	47	1,370	1,135	382	65	1,582	2,215	625	112	2,952
36. Shivpuri	174	358	12	544	750	291	62	1,103	924	649	74	1,647
37. Guna	86	46	3	136	237	122	17	376	323	168	20	511
38. Datia	158	39	11	208	757	217	77	1,051	915	256	88	1,259
39. Bhopal	150	91	11	252	716	463	67	1,246	866	554	78	1,498
40. Sehore	500	213	24	737	621	422	66	1,109	1,121	634	90	1,845
41. Raisen	169	192	22	383	460	416	49	925	629	608	71	1,308
42. Vidisha	83	69	4	156	1,012	462	70	1,544	1,095	531	74	1,790
43. Betul	720	217	90	1,027	1,009	350	100	1,459	1,729	567	190	2,486
44. Rajgarh	169	204	17	390	374	123	31	528	543	327	48	918
45. Hoshangabad	420	320	60	800	2,081	181	258	2,500	2,481	501	318	3,300
Total	39,132	23,879	5,674	68,685	57,848	28,058	7,051	90,957	96,980	49,937	12,725	159,642

Rajasthan

1. Ajmer	451	68	22	541	1,508	213	56	1,777	1,959	281	78	2,318
2. Alwar	1,161	63	29	1,253	4,689	307	146	5,142	5,850	370	175	6,395
3. Banewara	593	130	11	734	830	245	18	1,093	1,423	375	29	1,827
4. Barmer	17	—	—	17	337	2	1	340	354	2	1	356
5. Bharatpur	402	21	6	423	2,561	257	78	2,896	2,963	278	84	3,325
6. Bhilwara	1,785	594	180	2,559	2,535	908	170	3,613	3,920	1,502	350	5,772
7. Bikaner	600	20	10	630	1,068	110	41	1,219	1,668	130	51	1,849
8. Bundi	2,464	763	284	3,511	3,474	1,661	352	5,487	5,938	2,424	636	8,998
9. Chittorgarh	2,705	1,405	285	4,395	3,815	1,465	285	5,565	6,520	2,870	570	6,960
10. Churu	—	—	—	—	8	—	—	8	8	—	—	8
11. Dungarpur	203	59	7	269	340	95	3	438	543	154	10	707
12. Ganganagar	9,497	776	211	10,456	12,054	2,980	454	15,438	21,551	3,706	665	25,894
13. Hanumangarh	6,764	181	34	6,979	7,861	1,577	435	9,873	14,625	1,758	469	16,852
14. Anupgarh	2,382	103	32	2,517	2,726	865	109	3,200	5,107	468	141	5,716
15. Jaipur	262	104	29	395	2,898	399	159	3,456	3,160	503	188	3,851
16. Dausa	353	314	16	683	3,270	517	126	3,913	3,623	831	142	4,596
17. Jalore	186	37	5	228	2,721	181	20	2,922	2,907	218	25	3,150
18. Jhalawar	370	377	46	793	676	261	61	928	1,046	686	107	1,791
19. Jhunjhunu-Sikar	326	12	5	343	2,313	93	46	2,452	2,639	105	51	2,795
20. Jodhpur	197	64	25	286	1,507	127	76	1,710	1,704	191	101	1,996
21. Kota	2,553	955	288	3,796	7,170	3,236	819	11,225	9,723	4,191	1,107	15,021
22. Baran	390	267	39	696	1,133	543	117	1,793	1,523	750	156	2,429
23. Nagaur	142	8	—	150	1,195	80	45	1,320	1,337	88	45	1,470
24. Pali	427	57	10	494	5,218	1,408	202	6,828	5,645	1,465	212	7,322
25. Sawai Madhopur	723	368	12	1,123	4,041	963	95	5,099	4,764	1,351	107	6,222
26. Sikrohi	230	35	11	276	1,331	245	65	1,641	1,561	280	76	1,917
27. Tonk	312	133	1	446	1,131	154	27	1,312	1,443	287	28	1,766
28. Udaipur	429	236	25	690	852	206	17	1,075	1,261	442	42	1,765
29. Kankrali	609	199	8	816	983	291	13	1,287	1,592	490	21	2,103
Total	35,228	7,266	1,631	44,125	80,245	18,839	4,036	103,120	115,482	26,105	5,667	147,254

6.10(b). SEASONWISE CONSUMPTION OF N, P₂O₅ & K₂O - BY DISTRICTS
1979-80 (Continued)

(metric tonnes)

Districts	Kharif				Rabi				Total			
	N	P ₂ O ₅	K ₂ O	Total	N	P ₂ O ₅	K ₂ O	Total	N	P ₂ O ₅	K ₂ O	Total
Uttar Pradesh												
1. Saharanpur	12,896	1,115	402	14,503	14,401	5,484	1,441	21,326	27,387	6,599	1,843	35,829
2. Muzaffarnagar	12,628	909	277	13,814	14,718	4,077	1,585	20,380	27,346	4,986	1,862	34,194
3. Meerut	17,032	1,268	546	18,846	17,055	5,976	1,796	24,827	34,087	7,244	2,342	43,673
4. Bulandshahr	9,780	758	354	10,892	8,358	2,500	886	11,744	18,135	3,258	1,240	22,636
5. Ghaziabad	7,509	738	382	8,629	16,867	4,997	2,046	23,910	24,376	5,735	2,428	32,539
6. Bijnor	10,385	887	484	11,756	7,713	2,569	1,228	11,510	18,098	3,456	1,712	23,266
7. Aligarh	3,250	280	74	3,604	14,709	6,578	1,183	22,450	17,959	6,858	1,237	26,054
8. Mathura	813	102	30	945	7,347	2,867	698	10,912	8,160	2,969	728	11,857
9. Agra	1,352	101	49	1,502	10,254	4,236	1,119	15,609	11,606	4,337	1,168	17,111
10. Mainpuri	3,159	176	58	3,393	5,945	3,118	943	10,006	9,104	3,294	1,001	13,399
11. Etah	2,087	173	44	2,254	7,978	3,087	865	11,930	10,015	3,260	909	14,184
12. Bareilly	5,331	697	397	6,425	10,583	2,574	1,033	14,190	15,914	3,271	1,430	20,615
13. Badaun	3,092	335	111	3,538	11,999	3,677	818	16,494	15,091	4,012	929	20,032
14. Moradabad	11,858	990	590	13,438	13,518	4,453	1,505	19,476	25,376	5,443	2,095	32,914
15. Shahjahanpur	8,162	1,262	561	9,985	11,587	2,991	1,220	15,798	19,749	4,253	1,781	25,783
16. Pilibhit	7,134	1,238	524	8,896	6,208	2,307	942	9,457	13,342	3,545	1,466	18,353
17. Rampur	7,441	1,031	470	8,942	7,249	2,969	1,123	11,341	14,690	4,000	1,593	20,283
18. Farrukhabad	5,498	775	344	6,617	14,416	3,087	1,707	19,270	19,914	3,862	2,111	25,887
19. Etawah	4,107	324	134	4,565	9,325	2,317	772	12,414	13,432	2,641	906	16,979
20. Kanpur	4,731	430	159	5,320	12,385	2,390	739	15,514	17,116	2,820	898	20,834
21. Fatehpur	1,686	242	111	2,039	5,884	942	373	7,199	7,570	1,184	484	9,238
22. Allahabad	6,383	1,035	354	7,772	13,275	2,245	990	16,510	19,658	3,280	1,344	24,282
23. Lalitpur	93	58	14	165	741	814	20	1,575	834	872	34	1,740
24. Jhansi	105	42	6	153	1,780	1,290	79	3,149	1,885	1,832	85	3,302
25. Jalaun	385	39	15	439	3,296	1,227	309	4,832	3,681	1,266	324	5,271
26. Hamirpur	105	42	9	156	1,173	1,090	25	2,288	1,278	1,132	34	2,444
27. Banda	587	148	25	760	2,126	963	42	3,131	2,713	1,111	67	3,891
28. Varanasi	4,470	1,042	734	6,246	13,680	3,119	2,218	19,017	18,150	4,161	2,952	25,263
29. Mirzapur	2,659	817	405	3,881	4,790	1,691	753	7,234	7,449	2,508	1,158	11,115

30.	Jaunpur	6,147	1,022	661	7,830	14,734	4,719	2,040	21,493	20,881	5,741	2,701	29,323
31.	Gazipur	5,511	1,174	608	7,293	13,751	3,683	1,996	19,430	19,262	4,857	2,604	26,723
32.	Ballia	3,801	1,167	407	5,375	11,232	2,695	1,712	15,639	15,033	3,862	2,119	21,014
33.	Gorakhpur	9,388	1,023	423	10,834	15,915	4,891	1,692	22,498	25,303	5,914	2,115	33,332
34.	Deoria	12,577	1,761	832	15,170	19,559	4,995	2,407	26,961	32,136	6,756	3,239	42,131
35.	Basti	7,742	845	312	8,899	11,747	3,551	1,247	16,545	19,489	4,398	1,559	25,444
36.	Azamgarh	4,622	1,152	501	6,275	13,113	3,844	1,608	18,585	17,735	4,996	2,109	24,840
37.	Lucknow	2,264	373	201	2,838	7,353	1,244	1,098	9,695	9,617	1,617	1,299	12,533
38.	Unnao	1,313	230	98	1,639	8,597	1,611	813	12,012	9,910	1,841	909	13,660
39.	Rae Bareilly	1,988	328	124	2,440	9,021	2,299	922	12,242	11,809	2,627	1,046	14,882
40.	Sitapur	4,413	376	139	4,928	6,139	1,600	603	8,342	10,552	1,976	742	13,270
41.	Hardoi	2,192	327	182	2,701	9,352	1,736	868	11,956	11,544	2,063	1,050	14,657
42.	Kheri	6,868	1,016	274	8,158	10,250	3,581	1,144	14,975	17,118	4,597	1,418	23,133
43.	Faizabad	7,311	1,341	812	9,464	12,344	2,556	1,025	15,925	19,655	3,897	1,837	25,389
44.	Gonda	5,601	990	236	6,827	10,635	2,776	1,116	14,527	16,236	3,766	1,352	21,354
45.	Bahraich	3,881	1,219	670	5,770	7,698	2,546	835	11,079	11,579	3,785	1,505	16,849
46.	Sultanpur	4,257	604	366	5,227	9,138	2,292	1,050	12,480	13,395	2,896	1,416	17,707
47.	Pratapgarh	3,360	762	388	4,510	6,831	2,406	1,188	10,425	10,191	3,168	1,576	14,935
48.	Barabanki	5,242	418	315	5,975	11,399	2,075	1,125	14,599	16,641	2,493	1,440	20,574
49.	Nainital	12,022	2,357	1,090	15,469	10,548	4,043	1,853	16,444	22,570	6,400	2,943	31,913
50.	Almora	199	72	35	306	276	140	81	497	475	212	116	803
51.	Pithoragarh	63	26	7	96	89	50	4	143	152	76	11	239
52.	Dehradun	517	78	21	616	665	258	90	1,013	1,182	336	111	1,629
53.	Tehri Garwal	42	32	10	84	85	43	13	121	107	75	23	205
54.	Uttar Kashi	64	75	6	145	64	72	7	143	128	147	13	288
55.	Garhwal	65	29	7	101	125	45	11	181	190	74	18	282
56.	Chamoli	70	59	9	138	50	30	3	83	120	89	12	221
	Total	266,278	35,910	16,395	318,583	490,039	145,446	55,049	690,534	756,317	181,356	71,444	1,009,117

6.10(b). SEASONWISE CONSUMPTION OF N, P₂O₅ & K₂O—BY DISTRICTS
1979-80 (Continued)

(metric tonnes)

Districts	Kharif				Rabi				Total			
	N	P ₂ O ₅	K ₂ O	Total	N	P ₂ O ₅	K ₂ O	Total	N	P ₂ O ₅	K ₂ O	Total
Assam												
1. Goalpara	165	14	8	187	307	47	26	380	472	61	34	567
2. Kamrup	411	47	21	479	675	181	53	909	1,088	228	74	1,388
3. Darrang	272	16	15	303	339	101	29	469	611	117	44	772
4. Nowgong	435	11	17	463	280	32	33	345	715	43	49	807
5. Sibsagar	287	23	43	353	445	78	48	572	733	101	91	925
6. Dibrugarh	218	26	4	248	395	27	60	482	613	53	64	730
7. Lakhimpur	82	9	17	108	123	19	13	155	205	28	30	263
8. Cachar	596	41	50	687	432	53	26	511	1,028	94	76	1,198
9. Karbi Anglong	} 24	2	4	30	73	4	4	81	97	6	8	111
10. N. C. Hills												
Total	2,490	189	178	2,239	3,070	542	292	3,904	5,560	731	470	6,761
Bihar												
1. Patna	2,108	75	47	2,230	7,210	509	179	7,898	9,318	584	226	10,128
2. Nalanda	1,857	95	66	2,018	6,177	492	291	6,960	8,034	587	357	8,978
3. Gaya	3,961	307	186	4,454	9,395	755	435	10,585	13,356	1,062	621	15,039
4. Nawadah	543	211	60	814	2,371	359	114	2,844	2,914	570	174	3,658
5. Aurangabad	450	75	45	570	2,374	276	140	2,790	2,824	851	185	3,360
6. Bhojpur	2,339	265	105	2,709	9,997	1,414	579	11,990	12,336	1,679	684	14,699
7. Rohtas	3,054	615	173	3,842	10,536	1,692	662	12,890	13,590	2,307	835	16,732

8. Saran	1,597	207	90	1,894	4,536	1,254	664	6,454	6,193	1,461	754	8,348
9. Siwan	1,178	113	66	1,357	3,528	990	459	4,975	4,704	1,103	525	6,332
10. Gopalganj	1,632	412	171	2,215	4,258	1,367	681	6,306	5,890	1,779	852	8,521
11. East Champaran	1,585	251	155	1,991	6,255	1,042	550	7,847	7,840	1,293	705	9,838
12. West Champaran	1,112	152	103	1,367	2,488	720	314	3,522	3,600	872	417	4,889
13. Muzaffarpur	1,634	454	274	2,362	6,928	1,433	1,052	9,413	8,562	1,887	1,326	11,775
14. Vaishali	644	185	74	903	1,866	292	148	2,306	2,510	477	222	3,209
15. Sitamarhi	661	52	32	745	2,944	318	255	3,517	3,605	370	287	4,262
16. Darbhanga	199	26	11	236	1,567	346	252	2,165	1,766	372	263	2,401
17. Madhubani	342	36	29	407	1,601	350	230	2,181	1,943	386	259	2,588
18. Samastipur	1,258	307	144	1,709	3,683	846	623	5,152	4,941	1,153	767	6,861
19. Begusarai	952	74	50	1,076	2,904	593	448	3,945	3,856	667	498	5,021
20. Monghyr	1,472	241	83	1,796	4,283	749	312	5,349	5,760	990	395	7,145
21. Bhagalpur	1,898	234	201	2,333	3,525	855	525	4,905	5,428	1,089	726	7,238
22. Santhal Pargana	860	72	33	965	2,292	406	158	2,856	3,152	478	191	3,821
23. Saharsa	352	54	61	467	2,008	745	460	3,213	2,360	799	521	3,680
24. Purnea	1,018	236	136	1,390	2,414	774	425	3,613	3,432	1,010	561	5,003
25. Katihar	295	55	22	372	619	207	121	947	914	262	143	1,319
26. Hazaribagh	378	89	24	491	476	84	34	594	854	173	58	1,085
27. Giridih	199	62	30	291	308	68	41	417	507	130	71	708
28. Dhanbad	59	13	6	78	117	26	9	152	176	39	15	230
29. Ranchi	1,249	777	174	2,200	2,085	872	275	3,232	3,334	1,649	449	5,432
30. Palamou	267	89	30	366	453	82	34	569	720	171	64	955
31. Singhbhum	225	185	60	470	447	155	68	670	672	340	128	1,140
Total	35,378	6,019	2,741	44,138	109,648	20,071	10,538	140,257	145,026	26,090	13,279	184,395

**6.10(b). SEASONWISE CONSUMPTION OF N, P₂O₅ & K₂O—BY DISTRICTS
1979-80 (Continued)**

(metric tonnes)

Districts	Kharif				Rabi				Total			
	N	P ₂ O ₅	K ₂ O	Total	N	P ₂ O ₅	K ₂ O	Total	N	P ₂ O ₅	K ₂ O	Total
Orissa												
1. Balaasore	1,312	418	291	2,016	2,171	606	502	3,279	3,483	1,019	793	5,295
2. Bolangir	1,288	542	243	2,073	1,596	927	293	2,816	2,864	1,469	536	4,889
3. Cuttuck	4,386	1,307	1,043	6,736	5,593	1,133	782	7,508	9,979	2,440	1,825	14,244
4. Dhenkanal	559	114	117	790	715	158	115	988	1,274	272	232	1,778
5. Ganjam	3,734	588	439	4,761	7,654	364	227	8,245	1,388	952	666	13,006
6. Kalahandi	114	45	34	193	137	50	54	241	251	95	88	434
7. Keonjhar	266	203	47	516	258	137	53	448	524	340	100	964
8. Koraput	1,068	379	240	1,687	933	255	151	1,339	2,001	634	391	3,026
9. Mayurbhanj	358	344	90	792	581	318	132	1,031	939	662	222	1,823
10. Phulbani	203	79	44	326	276	118	59	453	479	197	103	779
11. Puri	2,118	252	245	2,615	2,632	308	299	3,239	4,750	560	544	5,854
12. Sambalpur	3,472	1,568	536	5,576	4,684	2,604	1,007	8,295	8,156	4,172	1,543	13,871
13. Sundargarh	510	336	183	979	249	119	66	434	759	455	199	1,413
Total	19,388	6,176	3,502	29,066	27,479	7,097	3,740	38,316	48,867	13,267	7,242	67,376

West Bengal

1. 24-Parganas	8,374	1,388	1,314	8,776	9,334	5,028	1,431	15,793	15,408	6,416	2,745	24,569
2. Nadia	5,405	1,044	1,049	7,498	8,562	5,030	1,000	14,592	13,967	6,074	2,049	22,090
3. Murshidabad	5,860	962	1,197	8,019	6,699	4,483	1,307	12,489	12,559	5,445	2,504	20,508
4. Burdwan	7,807	1,527	1,793	11,127	14,171	7,342	2,184	23,697	21,978	8,869	3,977	34,824
5. Birbhum	5,282	896	1,090	7,268	8,402	2,625	1,201	10,228	11,684	3,521	2,291	17,496
6. Bankura	2,297	867	931	4,095	3,795	2,262	1,587	7,644	6,092	3,129	2,518	11,739
7. Midnapore	5,111	1,453	1,562	8,126	10,661	5,789	3,731	20,181	15,772	7,242	5,293	28,307
8. Hooghly	8,617	1,838	1,866	12,121	11,432	7,072	1,607	20,111	20,649	8,910	3,273	32,232
9. Howrah	3,474	714	680	4,868	3,529	2,267	1,293	7,089	7,003	2,981	1,973	11,957
10. Jalpaiguri	433	470	590	1,493	784	950	200	1,934	1,217	1,420	790	3,427
11. Darjeeling	352	405	260	1,017	804	459	87	1,330	1,156	864	327	2,847
12. Malda	2,030	778	1,186	3,994	4,117	1,300	900	6,317	6,147	2,078	2,086	10,311
13. W. Dinajpur	2,475	805	797	4,077	4,975	1,527	708	7,207	7,460	2,332	1,502	11,284
14. Cooch-Behar	989	567	623	2,179	1,303	1,116	281	2,700	2,292	1,683	904	4,879
15. Purulia	1,104	645	412	2,161	1,058	1,287	240	2,585	2,162	1,932	652	4,746
Total	57,310	14,359	15,150	86,819	87,626	48,537	17,734	1,53,897	1,44,936	62,896	32,884	2,40,716

**6.10(b) . TOTAL CONSUMPTION OF N, P₂O₅ & K₂O—BY DISTRICTS
1979-80 (Continued)**

(metric tonnes)

Districts	N	P ₂ O ₅	K ₂ O	Total
Arunachal Pradesh				
1. East Kameng (Seppa)	—	0.12	0.54	0.66
2. West Kameng (Bomdila and Tawang)	8.45	1.25	0.60	10.30
3. East Siang (Pasighat)	3.40	0.98	1.85	6.23
4. West Siang (Along)	—	—	—	—
5. Lohit (Tezu)	0.50	0.40	0.40	1.30
6. Dilang Vally (Anini)	1.25	0.65	1.50	3.40
7. Lower Subansiri (Ziro)	3.65	2.15	3.13	8.93
8. Upper Subansiri (Daporijo)	1.65	1.65	1.65	4.95
9. Tirap (Khonsaad Miao)	13.70	5.00	5.00	23.70
Total	32.60	12.20	14.67	59.47
Meghalaya				
1. East Khasi Hills	703.00	366.00	34.00	1,103.00
2. West Khasi Hills	469.00	243.00	23.00	735.00
3. Jaintia Hills	15.00	22.00	5.00	42.00
4. East Garo Hills	14.00	24.00	11.00	49.00
5. West Garo Hills	33.00	24.00	14.00	71.00
Total	1,234.00	679.00	87.00	2,000.00
Mizoram				
1. Aizawl 'W'	6.00	25.00	10.00	41.00
2. Aizawl 'E'	9.00	17.00	7.00	33.00
3. Lunglei	2.00	3.00	3.00	8.00
4. Chhimituipuri	1.00	3.00	0.30	4.00
Total	18.00	48.00	20.00	86.00
Tripura				
1. Tripura West	815.00	204.00	231.00	1,250.00
2. Tripura South	423.00	86.00	85.00	594.00
3. Tripura North	152.00	62.00	71.00	285.00
Total	1,390.00	352.00	386.00	2,128.00

(Continued)

6.10(b). SEASONWISE CONSUMPTION OF N, P₂O₅ & K₂O - BY DISTRICTS
1979-80 (Continued)

(metric tonnes)

Districts	Kharif				Rabi				Total			
	N	P ₂ O ₅	K ₂ O	Total	N	P ₂ O ₅	K ₂ O	Total	N	P ₂ O ₅	K ₂ O	Total
Haryana												
1. Ambala	8,753	1,117	348	10,218	9,401	2,190	1,010	11,601	17,154	3,307	1,359	21,820
2. Bhiwani	534	9	—	543	1,890	146	27	2,063	2,424	155	27	2,606
3. Gurgaon	1,219	39	5	1,263	3,443	603	119	4,165	4,662	642	124	5,428
4. Hissar	5,151	227	72	5,450	12,273	2,814	895	15,982	17,424	3,041	967	21,432
5. Jind	4,114	112	52	4,278	6,672	967	322	7,961	10,786	1,079	374	12,239
6. Karnal	14,374	2,724	965	18,063	25,088	4,994	1,451	31,533	39,462	7,718	2,416	49,596
7. Kurukshetra	15,579	704	894	17,277	23,154	4,624	2,184	29,962	38,733	5,318	3,178	47,229
8. Mahendergarh	733	10	1	744	4,261	447	82	4,790	4,994	457	83	5,534
9. Rohtak	1,876	10	3	1,889	4,804	581	132	5,517	6,680	591	135	7,406
10. Sirsa	7,477	271	101	7,849	9,919	3,693	1,162	14,774	17,396	3,964	1,263	22,623
11. Sonapat	1,781	87	32	1,900	6,669	1,767	404	8,840	8,450	1,854	436	10,740
12. Faridabad					5,374	1,108	295	6,775	5,374	1,106	295	6,775
Total	61,591	6,318	2,573	70,474	112,948	23,932	8,084	144,964	174,539	30,242	10,657	215,438
Himachal Pradesh												
1. Bilaspur	663	60	37	760	138	47	34	219	801	107	71	979
2. Chamba	138	29	28	195	92	16	15	123	230	45	43	318
3. Hamirpur	707	34	33	774	154	39	39	232	861	73	72	1,006
4. Kangra	1,127	97	73	1,297	1,123	279	249	1,651	2,250	376	322	2,948
5. Kinnaur	28	9	9	46	19	9	9	37	47	18	18	83
6. Kulu	203	66	79	348	171	33	49	253	374	99	128	601
7. Lahul Spiti	2	1	1	4	56	72	36	164	58	73	37	168
8. Mandi	941	118	90	1,149	607	282	260	1,149	1,548	400	350	2,298
9. Simla	600	351	159	1,110	390	232	225	847	990	583	384	1,957
10. Sirmur	261	32	32	325	191	32	32	255	452	64	64	580
11. Solan	585	38	61	684	280	55	57	392	865	93	118	1,076
12. Una	937	284	252	1,473	346	73	54	473	1,283	357	306	1,946
Total	6,192	1,119	844	8,155	3,567	1,169	1,059	3,795	9,759	2,288	1,903	13,950

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(Continued)

**6.10(b). SEASONWISE CONSUMPTION OF N, P₂O₅ & K₂O—BY DISTRICTS
1979-80 (Continued)**

(metric tonnes)

Districts	Kharif				Rabi				Total			
	N	P ₂ O ₅	K ₂ O	Total	N	P ₂ O ₅	K ₂ O	Total	N	P ₂ O ₅	K ₂ O	Total
Punjab												
1. Amritsar	20,527	3,184	976	24,687	33,122	15,783	2,077	50,982	53,649	18,947	3,053	75,649
2. Bhalinda	12,279	645	156	13,080	20,939	10,515	882	32,336	33,218	11,160	1,038	45,416
3. Faridkot	23,140	4,549	619	28,308	38,305	20,176	1,666	60,147	61,445	24,725	2,285	88,455
4. Ferozepur	22,509	5,934	1,333	29,776	32,987	14,075	1,411	48,473	65,496	20,009	2,744	88,249
5. Gurdaspur	13,719	1,893	353	15,965	19,063	7,612	1,715	28,390	32,782	9,505	2,068	44,355
6. Hoshiarpur	6,074	857	306	7,237	13,307	5,409	1,626	20,346	19,381	6,266	1,932	27,579
7. Jullundur	12,863	3,355	913	17,131	24,870	11,510	3,580	39,960	37,733	14,865	4,493	57,091
8. Kapurthala	10,981	2,139	649	13,769	10,460	6,091	1,509	18,060	21,441	8,230	2,158	31,829
9. Ludhiana	19,521	5,957	2,225	27,703	31,600	20,183	2,828	54,611	51,120	26,140	50,553	82,313
10. Patiala	18,572	3,777	1,092	23,441	33,973	13,746	2,098	49,817	52,545	17,523	3,181	73,249
11. Ropar	4,844	644	99	5,587	5,859	2,665	302	8,828	10,703	3,309	401	14,413
12. Sangrur	10,407	1,784	412	12,600	30,210	15,496	1,240	46,946	44,617	17,280	1,652	63,549
Total	179,435	34,698	9,133	223,266	294,695	143,261	20,925	458,881	474,130	177,959	30,058	682,147
Andhra Pradesh												
1. Srikakulam	3,113	370	43	3,526	7,984	805	56	8,847	11,097	1,175	101	12,373
2. Visakhapatnam	1,745	141	19	1,905	4,076	723	56	4,855	5,821	864	75	6,760
3. Vijayanagram	500	102	4	606	3,083	634	18	3,735	3,583	736	22	4,341
4. East Godavari	10,313	1,856	599	12,768	23,267	5,966	1,327	30,560	33,580	7,822	1,926	43,328
5. West Godavari	9,316	3,880	999	14,195	35,286	14,073	5,135	54,494	44,602	17,953	6,134	68,689
6. Krishna	14,855	5,241	758	20,854	26,693	10,375	4,214	41,282	41,548	15,616	4,972	62,136
7. Guntur	11,005	3,630	1,692	16,327	33,977	9,856	3,024	46,857	44,982	13,486	4,716	63,184
8. Prakasam	2,850	2,537	464	5,851	3,332	1,083	493	4,908	6,182	3,620	957	10,759
9. Nellore	3,951	710	548	5,209	7,224	1,299	554	9,077	11,175	2,009	1,102	14,286
10. Kurnool	6,480	2,753	844	10,077	12,897	6,585	2,435	21,917	19,377	9,338	3,279	31,994
11. Anantapur	2,271	1,126	453	3,850	3,845	1,606	1,064	6,515	6,116	2,732	1,517	10,365

12. Cuddapah	3,511	983	223	4,717	7,328	3,351	969	11,648	10,837	4,334	1,192	16,365
13. Chittoor	4,823	1,073	1,568	7,464	7,531	2,109	914	10,554	12,354	3,182	2,482	18,018
14. Hyderabad	3,397	1,052	231	4,680	1,604	868	194	2,576	5,001	1,920	335	7,266
15. Nizamabad	19,023	8,057	1,460	28,540	9,569	3,327	584	13,480	28,592	11,384	2,044	42,020
16. Medak	3,100	893	157	4,150	4,266	1,155	207	5,828	7,366	2,048	364	9,778
17. Mehbubnagar	6,768	2,828	647	10,243	9,188	5,317	1,262	15,765	15,954	8,145	1,909	26,008
18. Nalgonda	5,290	1,839	512	7,641	8,880	3,638	1,204	13,222	13,670	5,477	1,716	20,863
19. Warangal	8,295	2,034	449	10,778	11,301	3,460	1,437	16,193	19,596	5,494	1,889	26,979
20. Khammam	1,624	1,110	115	2,849	5,106	1,585	293	6,984	6,730	2,695	408	9,833
21. Karimnagar	6,841	1,673	516	9,030	11,227	3,966	1,294	16,487	18,068	5,639	1,810	25,517
22. Adilabad	2,055	136	2	2,193	1,448	304	14	1,766	3,503	440	16	3,959
Total	13,126	44,024	12,303	167,453	238,610	82,985	26,660	347,355	369,736	126,199	38,963	534,808

Karnataka

1. Bangalore	5,976	2,216	4,068	12,260	7,157	1,349	3,438	11,944	13,183	3,565	7,506	24,204
2. Belgaum	10,107	3,022	2,046	15,175	9,215	1,860	868	11,943	19,322	4,882	2,914	27,118
3. Bellary	8,631	4,431	4,118	17,180	8,966	2,719	3,234	14,919	17,597	7,150	7,351	32,099
4. Bidar	2,333	576	309	3,218	1,000	241	83	1,324	3,333	817	392	4,542
5. Bijapur	3,699	1,433	988	6,120	4,272	963	295	5,530	7,971	2,396	1,283	11,650
6. Chickamagalur	3,385	2,267	1,763	7,415	1,990	1,066	730	3,726	5,375	3,273	2,493	11,141
7. Chitradurga	7,714	4,362	2,021	14,097	6,870	2,835	768	10,473	14,584	7,197	2,789	24,570
8. Dakshina Kannada	2,932	1,697	5,826	10,555	3,074	1,449	7,686	12,209	6,006	3,146	13,612	22,764
9. Dharwar	7,220	5,600	3,961	16,981	4,325	1,996	1,518	7,839	11,545	7,798	5,479	24,820
10. Gulbarga	792	634	232	1,658	1,068	420	87	1,575	1,860	1,064	319	3,233
11. Hassan	6,897	4,641	2,967	14,505	3,954	1,998	1,198	7,150	10,851	6,639	4,165	21,655
12. Kodagu	3,457	2,291	1,930	7,678	1,720	916	485	3,121	5,177	3,207	2,415	10,799
13. Kolar	4,780	2,185	1,460	8,425	4,509	1,204	738	6,451	9,289	3,389	2,198	14,876
14. Mandya	7,343	3,075	1,998	12,416	11,718	3,000	2,070	16,788	19,061	6,075	4,098	29,204
15. Mysore	6,834	4,165	2,495	13,494	4,881	1,695	974	7,550	11,715	5,860	3,469	21,044
16. Raichur	12,141	5,436	4,495	22,072	13,205	4,047	2,869	20,121	25,346	9,483	7,364	42,193
17. Shimoga	7,698	4,707	3,823	16,228	5,413	2,034	1,879	9,326	13,111	6,741	5,702	25,554
18. Tunkur	3,646	2,171	1,313	7,130	3,818	1,245	590	5,653	7,464	3,416	1,903	12,783
19. Uttara Kannada	734	330	298	1,362	529	151	123	803	1,263	481	421	2,165
Total	106,319	55,439	46,211	207,969	97,684	31,128	29,633	158,445	204,003	86,567	75,844	366,414

(Continued)

6.10(b). SEASONWISE CONSUMPTION OF N, P₂O₅ & K₂O—BY DISTRICTS
1979-80 (Continued)

(metric tonnes)

Districts	Kharif				Rabi				Total			
	N	P ₂ O ₅	K ₂ O	Total	N	P ₂ O ₅	K ₂ O	Total	N	P ₂ O ₅	K ₂ O	Total
Kerala												
1. Alleppey	2,403	1,175	1,903	5,481	3,576	1,848	2,637	8,061	5,879	3,023	4,540	13,452
2. Cannanore	1,502	1,194	1,519	4,215	1,704	1,080	1,985	4,769	3,206	2,274	3,504	8,984
3. Ernakulam	1,592	1,122	1,241	3,955	2,032	1,078	1,671	4,781	3,624	2,200	2,912	8,736
4. Idukki	1,398	1,603	1,445	4,446	581	551	677	1,809	1,979	2,154	2,122	6,255
5. Kottayam	2,584	1,659	2,023	6,266	3,012	1,857	2,584	7,453	5,596	3,516	4,607	13,719
6. Kozikode	2,267	1,832	1,987	6,086	1,463	973	1,405	3,841	3,730	2,805	3,392	9,927
7. Malappuram	1,362	775	972	3,109	1,589	736	1,168	3,493	2,951	1,511	2,140	6,602
8. Palghat	4,558	1,354	1,529	7,441	4,868	1,119	1,560	7,547	9,428	2,473	3,089	14,988
9. Quilon	1,703	1,185	1,367	4,255	1,324	789	1,181	3,294	3,027	1,974	2,548	7,549
10. Trichur	1,830	818	1,381	4,029	2,118	1,056	1,840	5,014	3,946	1,876	3,221	9,043
11. Trivandrum	1,466	896	940	3,302	1,410	700	857	2,967	2,876	1,596	1,797	6,269
Total	22,665	13,613	16,307	52,585	23,675	11,789	17,565	53,029	46,340	25,402	33,872	105,614
Tamil Nadu												
1. Chingleput	15,794	8,350	3,326	27,470	24,327	5,599	2,931	32,857	40,121	13,949	6,257	60,327
2. Coimbatore	18,064	5,854	11,027	34,745	26,699	8,402	11,659	46,760	44,763	14,056	22,686	81,505
3. Dharmapuri	1,779	551	712	3,042	2,875	1,118	788	4,781	4,854	1,669	1,500	7,823
4. Kanyakumari	1,270	343	548	2,161	1,699	500	400	2,599	2,969	843	948	4,760
5. Madurai	11,003	3,237	6,070	20,310	18,865	5,993	5,874	30,732	29,868	9,230	11,844	51,042
6. North Arcot	13,850	3,695	4,364	21,909	16,178	5,478	4,543	26,199	30,028	9,175	8,907	48,108
7. Periyar*	←----- Not formed ----->				5,007	708	1,808	7,523	5,007	708	1,808	7,523
8. Pudukkottai	1,618	552	487	2,602	8,162	2,281	1,257	11,700	9,775	2,833	1,694	14,302
9. Ramanathapuram	3,235	436	703	4,374	12,803	1,428	1,008	15,239	16,038	1,864	1,711	19,613
10. Salem	4,908	1,652	2,781	9,341	10,422	3,066	4,426	17,914	15,330	4,718	7,207	27,255

11. South Arcot	14,518	3,318	5,445	23,281	21,976	6,456	6,111	34,543	36,494	9,774	11,556	57,824
12. Thanjavur	11,951	6,038	8,393	26,382	22,540	8,491	7,390	38,421	34,491	14,529	15,783	64,803
13. The Nilgiris	1,040	638	553	2,231	1,066	348	177	1,591	2,108	986	730	3,822
14. Tiruchirapalli	10,398	4,739	6,045	21,182	21,006	5,460	9,021	35,487	31,404	10,199	15,068	56,669
15. Tirunelveli	7,110	1,473	2,706	11,289	14,464	3,478	3,339	21,275	21,574	4,951	6,039	32,564
Total	116,533	40,676	53,110	210,319	208,089	58,806	60,726	327,621	324,622	99,482	113,836	537,940

Gujarat												
1. Ahmedabad	3,979	1,165	559	5,703	6,630	1,170	442	8,242	10,609	2,335	1,001	13,945
2. Banakantha	1,449	393	79	1,921	6,094	1,136	553	7,785	7,543	1,531	632	9,706
3. Baroda	8,395	2,283	1,560	12,238	12,202	1,318	1,405	14,925	20,597	3,601	2,965	27,163
4. Broach	3,518	1,422	648	5,588	2,734	186	308	3,223	6,252	1,608	951	8,811
5. Bulsar	4,084	1,627	684	6,395	2,081	696	588	3,315	6,105	2,328	1,222	9,710
6. Dangs	37	30	—	67	11	—	—	11	48	30	—	78
7. Gandhinagar	505	261	59	825	1,118	232	67	1,447	1,653	495	126	2,272
8. Kaira	12,773	1,299	421	14,483	21,908	1,082	273	23,263	34,681	2,371	694	37,746
9. Mehsana	5,524	1,371	347	7,242	11,782	2,059	524	14,365	17,306	3,430	871	21,607
10. Panchmahal	2,511	906	238	3,655	2,341	663	103	3,107	4,852	1,569	341	6,762
11. Sabarkantha	8,766	6,461	4,226	19,453	9,795	2,890	1,631	14,316	18,561	9,351	5,857	33,766
12. Surat	9,948	3,604	2,805	16,357	6,340	2,344	1,258	9,937	16,288	5,948	4,058	26,294
13. Amreli	4,262	7,510	2,177	13,949	6,539	5,143	1,349	13,031	18,801	12,653	3,526	26,980
14. Bhavnagar	4,937	4,304	483	9,724	7,493	5,745	436	13,674	12,430	10,049	919	23,398
15. Junagarh	6,142	9,330	2,267	17,739	9,451	6,249	1,706	17,406	15,593	15,579	3,973	35,145
16. Kutch	760	369	160	1,280	2,145	354	164	2,663	2,905	714	324	3,943
17. Jamnagar	3,705	8,506	3,074	15,285	6,764	5,516	1,049	13,329	10,469	14,022	4,123	28,614
18. Rajkot	8,605	14,166	4,525	27,296	14,760	10,300	2,717	27,777	23,365	24,466	7,242	55,073
19. Surendranagar	1,961	1,616	147	3,724	1,982	760	60	2,802	3,943	2,376	207	6,526
Total	81,861	66,604	24,459	182,824	132,260	47,845	14,573	194,256	224,061	114,449	39,032	377,542

Maharashtra												
1. Thane	2215	391	363	2,969	2,463	593	218	3,264	4,678	974	581	6,233
2. Kolaba	4,095	1,049	837	5,981	1,841	258	181	2,080	5,736	1,307	1,018	8,061
3. Ratnagiri	1,852	410	282	2,544	2,144	410	277	2,831	3,996	820	559	5,375

*District newly formed with Sathyanagalam, Bhawani, Gobichettipalyam, Perudurai, Erode and Dharepuram Taluks which were formerly in Coimbatore district.

(Continued)

6.10(b). SEASONWISE CONSUMPTION OF N, P₂O₅ & K₂O—BY DISTRICTS
1979-80 (Concluded)

(metric tonnes)

Districts	Kharif				Rabi				Total			
	N	P ₂ O ₅	K ₂ O	Total	N	P ₂ O ₅	K ₂ O	Total	N	P ₂ O ₅	K ₂ O	Total
Maharashtra (Concluded)												
4. Nasik	4,708	1,790	1,578	8,076	11,093	1,900	1,536	14,529	15,801	3,690	3,114	22,605
5. Dhule	11,030	2,911	2,791	16,732	6,508	2,314	1,490	10,312	17,738	5,225	4,281	27,044
6. Jalgaon	16,970	6,489	6,111	29,570	10,535	4,714	3,555	18,804	27,505	11,203	9,666	48,374
7. Ahmednagar	7,630	3,893	3,589	15,112	8,535	3,100	2,265	13,900	16,165	6,993	5,854	29,012
8. Pune	8,870	1,507	1,309	11,686	5,383	2,127	1,280	8,790	14,253	3,634	2,589	20,476
9. Solapur	3,507	1,612	1,220	6,339	5,999	1,919	1,393	9,311	9,506	3,531	2,613	15,650
10. Satara	7,993	1,788	1,580	11,361	4,857	1,680	1,209	7,746	12,850	3,468	2,789	19,107
11. Sangli	5,191	1,409	1,315	7,915	6,724	1,506	1,543	9,773	11,951	2,915	2,858	17,688
12. Kolhapur	15,009	5,991	5,485	26,485	9,832	6,075	3,980	19,887	24,841	12,066	9,465	46,372
13. Aurangabad	5,888	2,492	2,193	10,573	8,211	2,809	1,605	12,625	14,099	5,301	3,798	23,198
14. Parbhani	2,312	558	423	3,293	3,665	1,373	884	5,922	5,977	1,931	1,307	9,215
15. Bhir	1,106	618	617	2,341	1,136	722	532	2,390	2,242	1,340	1,149	4,731
16. Nander	3,794	902	813	5,509	2,538	1,178	841	4,557	6,332	2,080	1,654	10,066
17. Osmanabad	2,487	1,268	1,085	4,830	3,297	657	382	4,336	5,784	1,915	1,467	9,166
18. Buldhana	4,013	2,292	1,905	8,210	5,211	2,119	1,963	9,293	9,224	4,411	3,868	17,503
19. Akola	4,789	1,753	1,509	8,051	2,459	1,044	385	3,879	7,239	2,797	1,894	11,930
20. Yeatmal	3,577	1,848	1,287	6,348	3,327	983	593	4,903	6,904	2,467	1,880	11,251
21. Amravati	5,611	2,597	2,309	10,517	4,211	1,619	1,396	7,226	9,822	4,216	3,705	17,743
22. Wardha	2,817	1,086	893	4,796	2,247	967	762	3,976	5,064	2,053	1,655	8,772
23. Nagpur	3,594	1,759	1,581	6,934	7,303	1,519	1,146	9,968	10,897	3,278	2,727	16,902
24. Bhandara	2,706	1,311	789	4,806	1,578	613	421	2,612	4,284	1,924	1,210	7,418
25. Chandrapur	3,282	1,037	691	5,010	1,460	440	306	2,206	4,742	1,477	997	7,216
Total	135,046	48,387	42,555	225,988	122,348	42,629	30,143	195,120	257,394	91,016	72,698	421,108

**6.11. CLASSIFICATION OF DISTRICTS ACCORDING TO THE RANGE OF
FERTILISER CONSUMPTION (N + P₂O₅ + K₂O) IN 1979-80**

Sl. No.	Consumption range (tonnes)	No. of district	Fertiliser consumption (tonnes)	Cumulative fertiliser consumption (tonnes)	% share of all-India consumption	% cumulative share of all-India consumption	Average consumption in the range (tonnes)
1979-80							
1.	90,000—85,001	2	176,704	176,704	3.4	3.5	88,352
2.	85,000—80,001	2	163,818	340,522	3.1	6.5	81,909
3.	80,000—75,001	1	75,649	416,171	1.4	7.9	75,649
4.	75,000—70,001	1	73,249	489,420	1.4	9.3	73,249
5.	70,000—65,001	1	68,689	558,109	1.3	10.6	68,689
6.	65,000—60,001	5	313,999	872,108	6.0	16.6	62,800
7.	60,000—55,001	4	226,657	1,098,765	4.3	20.9	56,664
8.	55,000—50,001	1	51,042	1,149,807	0.9	21.8	51,042
9.	50,000—45,001	6	285,095	1,434,902	5.4	27.2	47,516
10.	45,000—40,001	6	255,700	1,690,602	4.9	32.1	42,617
11.	40,000—35,001	3	108,720	1,799,322	2.1	34.2	36,240
12.	35,000—30,001	12	394,203	2,193,525	7.5	41.7	32,850
13.	30,000—25,001	24	614,388	2,807,913	12.3	54.0	26,850
14.	25,000—20,001	30	667,321	3,505,234	12.7	66.7	22,244
15.	20,000—15,001	20	339,821	3,845,055	6.5	73.2	16,991
16.	15,000—10,001	42	530,271	4,375,326	10.1	83.3	12,626
17.	10,000—5,001	62	455,795	4,831,124	8.7	92.0	7,352
18.	5,000—1	182*	424,676	5,255,800	8.0	100.0	2,821

*Besides districts in other states it also includes Delhi (5), Manipur (5), Tripura (3), Nagaland (7), Arunachal Pradesh (9), Andaman (4), Mizoram (4), Goa (3), Meghalaya (8) having very low consumption of N + P₂O₅ + K₂O during 1979-80.

(Continued)

**6.11. CLASSIFICATION OF DISTRICTS ACCORDING TO PERCENTAGE SHARE OF
TOTAL CONSUMPTION OF PLANT NUTRIENTS
(N + P₂O₅ + K₂O) IN 1979-80 (Continued)**

No. of districts in the group	Sl. No.	Name of the district	State	Consumption (tonnes)	Cumulative consumption (tonnes)	Cumulative percentage share
7	1.	Faridkot	Punjab	88,455		
	2.	Ferozepur	Punjab	88,249		
	3.	Ludhiana	Punjab	82,313		
	4.	Coimbatore	T.N.	81,505		
	5.	Amritsar	Punjab	75,649		
	6.	Patiala	Punjab	73,249		
	7.	South Arcot	T.N.	57,824		
				547,244	547,244	10
4	8	West Godawari	A.P.	68,689		
	9.	Thanjavur	T.N.	64,803		
	10.	Sangrur	Punjab	63,549		
	11.	Guntur	A.P.	63,814		
				260,855	808,099	15
3	12.	Krishna	A.P.	62,184		
	13.	Chingleput	T.N.	60,327		
	14.	South Arcot	T.N.	57,824		
	15.	Jullundur	Punjab	57,090		
	16.	Tiruchirapalli	T.N.	56,669		
					294,894	1102,193
5	17.	Rajkot	Gujarat	55,078		
	18.	Madurai	T.N.	51,042		
	19.	Karnal	Haryana	49,596		
	20.	Jaigaon	Maharashtra	48,374		
	21.	Kurukshetra	Haryana	47,229		
				251,314	1353,507	25
5	22.	Kolhapur	Maharashtra	46,372		
	23.	Bhatinda	Punjab	45,416		
	24.	Gurdaspur	Punjab	44,355		
	25.	Meerut	U.P.	43,673		
	26.	East Godawari	A.P.	43,328		
				223,144	1576,651	30
7	27.	Raichur	Karnataka	42,193		
	28.	Nizamabad	A.P.	42,020		
	29.	Deoria	U.P.	40,131		

(Continued)

**6.11. CLASSIFICATION OF DISTRICTS ACCORDING TO PERCENTAGE SHARE OF
TOTAL CONSUMPTION OF PLANT NUTRIENTS
(N + P₂O₅ + K₂O) IN 1979-80 (Continued)**

No. of districts in the group	Sl. No.	Name of the district	State	Consumption (tonnes)	Cumulative consumption (tonnes)	Cumulative percentage share
	30.	Kaira	Gujarat	37,746		
	31.	Saharanpur	U.P.	35,829		
	32.	Junagarh	Gujarat	35,145		
	33.	Burdwan	W.B.	34,824		
				269,288	1846,539	35
8	34.	Muzaffarnagar	U.P.	34,194		
	35.	Sabarkantha	Gujarat	33,769		
	36.	Gorakhpur	U.P.	33,332		
	37.	Moradabad	U.P.	32,914		
	38.	Nainital	U.P.	32,913		
	39.	Tirunelveli	T.N.	32,564		
	40.	Ghaziabad	U.P.	32,539		
	41.	Hoogli	W.B.	32,232		
				264,457	2110,996	40
9	42.	Bellary	Karnataka	32,099		
	43.	Kurnool	A.P.	31,994		
	44.	Kapurthala	Punjab	31,829		
	45.	Jaunpur	U.P.	29,323		
	46.	Mandya	Karnataka	29,204		
	47.	Ahmednagar	Maharashtra	29,012		
	48.	Jamnagar	Gujarat	28,614		
	49.	Midnapur	W.B.	28,307		
	50.	Hoshiarpur	Punjab	27,579		
				267,961	2378,957	45
10	51.	Salem	T.N.	27,255		
	52.	Baroda	Gujarat	27,163		
	53.	Belgaum	Karnataka	27,118		
	54.	Dhule	Maharashtra	27,044		
	55.	Amreli	Gujarat	26,980		
	56.	Warangal	A.P.	26,979		
	57.	Gazipur	U.P.	26,727		
	58.	Surat	Gujarat	26,294		
	59.	Aligarh	U.P.	26,054		
	60.	Mahbubnagar	A.P.	26,008		
				267,822	2646,579	50

(Continued)

**6.11. CLASSIFICATION OF DISTRICTS ACCORDING TO PERCENTAGE SHARE OF
TOTAL CONSUMPTION OF PLANT NUTRIENTS
(N+P₂O₅+K₂O) IN 1979-80 (Continued)**

No. of district in the group	Sl. No.	Name of the district	State	Con- sump- tion (tonnes)	Cumula- tive con- sumption (tonnes)	Cumu- lative per- centage share
11	61.	Ganganagar	Rajasthan	25,894		
	62.	Farukhabad	U.P.	25,887		
	63.	Shahjahanpur	U.P.	25,783		
	64.	Shimoga	Karnataka	25,554		
	65.	Khammam	A.P.	25,517		
	66.	Basti	U.P.	25,444		
	67.	Faizabad	U.P.	25,389		
	68.	Varanasi	U.P.	25,263		
	69.	Azamgarh	U.P.	24,860		
	70.	Dharwar	Karnataka	24,820		
	71.	Chitradurga	Karnataka	24,570		
				278,981	2925,560	55
11	72.	24 Parganas	W.B.	24,569		
	73.	Allahabad	U.P.	24,284		
	74.	Mangalore	Karnataka	24,204		
	75.	Bhavnagar	Gujarat	23,398		
	76.	Bljnor	U.P.	23,266		
	77.	Aurangabad	Maharashtra	23,198		
	78.	Kheri	U.P.	23,133		
	79.	Dakshin Kanada	Karnataka	22,767		
	80.	Bullandshahr	U.P.	22,636		
	81.	Sirsa	Haryana	22,623		
	82.	Nasik	Maharashtra	22,605		
				256,683	3182,243	60
12	83.	Nadia	W.B.	22,090		
	84.	Ambala	Haryana	21,820		
	85.	Hassan	Karnataka	21,655		
	86.	Mehsana	Gujarat	21,607		
	87.	Gonda	U.P.	21,534		
	88.	Hissar	Haryana	21,432		
	89.	Mysore	Karnataka	21,044		
	90.	Ballia	U.P.	21,014		
	91.	Nalgonda	A.P.	20,863		
	92.	Kanpur	U.P.	20,834		
	93.	Bareilly	U.P.	20,615		
	94.	Barabanki	U.P.	20,574		
				255,082	3487,325	65

(Continued)

**6.11. CLASSIFICATION OF DISTRICTS ACCORDING TO PERCENTAGE SHARE OF
TOTAL CONSUMPTION OF PLANT NUTRIENTS
(N + P₂O₅ + K₂O) IN 1979-80 (Continued)**

No. of districts in the group	Sl. No.	Name of the district	State	Consumption (tonnes)	Cumulative consumption (tonnes)	Cumulative percentage share
14	95.	Murshidabad	W.B.	20,508		
	96.	Pune	Maharashtra	20,476		
	97.	Rampur	U.P.	20,283		
	98.	Badaun	U.P.	20,032		
	99.	Ramanathapuram	T.N.	19,613		
	100.	Satara	Maharashtra	19,107		
	101.	Pilibhit	U.P.	18,353		
	102.	Chittoor	A.P.	18,018		
	103.	Amravati	Maharashtra	17,743		
	104.	Sangli	Maharashtra	17,688		
	105.	Buldhana	Maharashtra	17,503		
	106.	Birbhum	W.B.	17,496		
	107.	Agra	U.P.	17,111		
	108.	Rohtas	Bihar	16,732		
			260,663	3697,988	70	
17	109.	Etawah	U.P.	16,979		
	110.	Nagpur	Maharashtra	16,902		
	111.	Hanumangarh	Rajasthan	16,852		
	112.	Bahrich	U.P.	16,849		
	113.	Cuddaph	A.P.	16,365		
	114.	Sultanpur	U.P.	15,707		
	115.	Solapur	Maharashtra	15,650		
	116.	Raipur	M.P.	15,113		
	117.	Gaya	Bihar	15,039		
	118.	Kota	Rajasthan	15,021		
	119.	Palghat	Kerala	14,988		
	120.	Pratapgarh	U.P.	14,935		
	121.	Ropar	Punjab	14,913		
	122.	Kolar	Karnataka	14,876		
123.	Bhojpur	Bihar	14,699			
124.	Rai Bareli	U.P.	14,682			
125.	Hardoi	U.P.	14,667			
			264,239	3962,227	75	
20	126.	Pudukottai	T.N.	14,302		
	127.	Nellore	A.P.	14,286		
	128.	Cuttack	Orissa	14,244		
	129.	Etah	U.P.	14,184		
	130.	Ahmedabad	Gujarat	13,945		
	131.	Sambalpur	Orissa	13,741		

(Continued)

**6.11. CLASSIFICATION OF DISTRICTS ACCORDING TO PERCENTAGE SHARE OF
TOTAL CONSUMPTION OF PLANT NUTRIENTS
(N + P₂O₅ + K₂O) IN 1979-80 (Concluded)**

No. of districts in the group	Sl. No.	Name of the district	State	Consumption (tonnes)	Cumulative consumption (tonnes)	Cumulative percentage share
	132.	Kottayam	Kerala	13,719		
	133.	Alleppy	Kerala	13,542		
	134.	Mainpuri	U.P.	13,399		
	135.	Sitapur	U.P.	13,277		
	136.	Ganjam	Orissa	13,006		
	137.	Tumkur	Karnataka	12,788		
	138.	Unnao	U.P.	12,660		
	139.	Khargaon	M.P.	12,611		
	140.	Lucknow	U.P.	12,533		
	141.	Srikakulam	A.P.	12,378		
	142.	Jind	Haryana	12,239		
	143.	Howrah	W.B.	11,957		
	144.	Akola	Maharashtra	11,930		
	145.	Mathura	U.P.	11,857		
				262,588	4224,815	80
27	146.	Muzaffarpur	Bihar	11,775		
	147.	Bankura	W.B.	11,739		
	148.	Bider	Karnataka	11,650		
	149.	West Dinajpur	W.B.	11,284		
	150.	Yeotmal	Maharashtra	11,251		
	151.	Chikmagalur	Karnataka	11,141		
	152.	Mirzapur	U.P.	11,115		
	153.	Kodagu	Karnataka	10,799		
	154.	Mandasaur	M.P.	10,763		
	155.	Prakasham	A.P.	10,759		
	156.	Sonepat	Haryana	10,740		
	157.	Anantpur	A.P.	10,365		
	158.	Malda	W.B.	10,311		
	159.	Patna	Bihar	10,128		
	160.	Nanded	Maharashtra	10,066		
	161.	Kozikode	Kerala	9,927		
	162.	E. Champaran	Bihar	9,838		
	163.	Khamman	A.P.	9,833		
	164.	Medak	A.P.	9,778		
	165.	Bulsar	Gujarat	9,710		
	166.	Banskantha	Gujarat	9,706		
	167.	Firozabad	U.P.	9,238		
	168.	Parbhani	Maharashtra	9,215		
	169.	Osmanabad	Maharashtra	9,160		
	170.	Trichur	Kerala	9,043		
	171.	Bundi	Rajasthan	8,998		
	172.	Cannanore	Kerala	8,984		
				268,344	4493,159	85

**6.12. FERTILISER CONSUMPTION IN THE DISTRICTS SELECTED UNDER INTENSIVE
FERTILISER PROMOTION CAMPAIGN - SEASONWISE**

Zone/State/District	Gross cropped area ('000 hectare)	Pre-campaign season		Campaign season						
		Consumption of N+P+K (tonnes)		Consumption of N+P+K (tonnes)						
		Kharif 1975	Rabi 1975-76	Kharif 1976	Rabi 1976-77	Kharif 1977	Rabi 1977-78	Kharif 1978	Rabi 1978-79	Kharif 1979
CENTRAL										
Madhya Pradesh										
1. Balaghat	376	1,190*	369*	66	1,135	1,023	1,188	1,366	1,017	1,049
2. Tikamgarh	285	281*		466	4,749*	226	4,688	138	6,339	145
3. Chhatarpur	368	72*	1,387*	10	1,534*	39	1,589	68	2,600	
4. Gwalior	272	724*	2,574*	1,375	4,017	407	4,210	996	4,416	
5. Hoshangabad	446		1,912*		2,408	589*	3,097	744	3,259	
6. Morena	418				7,137*	748*	9,258	766	9,749	731
7. Raisen	408				2,113*	125*	2,556	145	3,139	383
8. Narsinghpur	286		1,810*		2,360					
9. Dhar	565							4,124*		3,881
Rajasthan										
1. Ajmer	369	239*	744*	474	1,070	454	1,247	544	1,331	541
2. Alwar	662	133*	2,086*	881	2,126	798	3,259	1,018	4,331	1,253
3. Bhilwara	356	641*	1,782*	973	3,199	1,718				
4. Pali	587	335*	2,529*	336	3,804	605				
5. Banswara	231			455*		449				
6. Bundi	245			2,731*		3,444				
7. Chittorgarh	418		3,469*	3,127*	4,389	3,972	4,040	4,206	5,380	4,395
8. Dungarpur	145			161*		273				
9. Bharatpur	661			585*	2,845*	260	2,131	567	2,482	
10. Ganganagar	1,498			11,368*	19,849*	8,113	12,282	8,480	13,635	10,455
11. Kota	611			2,979*	10,412*	1,623	9,840	2,742	11,747	
12. Jhalawar	331			427*		505				

**6.12. FERTILISER CONSUMPTION IN THE DISTRICTS SELECTED UNDER INTENSIVE
FERTILISER PROMOTION CAMPAIGN—SEASONWISE (Continued)**

Zone/State/District	Gross cropped area ('000 hectare)	Pre-campaign season		Campaign season						
		Consumption of N+P+K (tonnes)		Consumption of N+P+K (tonnes)						
		Kharif 1975	Rabi 1975-76	Kharif 1976	Rabi 1976-77	Kharif 1977	Rabi 1977-78	Kharif 1978	Rabi 1978-79	Kharif 1979
13. Sirohi	83	156*		108		228				
14. Sawai Madhopur	568			795*	3,470*	872	4,081	1,108	4,243	1,123
15. Udaipur	887			1,125*		1,018				
16. Tonk	397			376*	879*	237	990	371	1,077	446
17. Jaipur	872		2,420*	780*	4,412	974	2,338	757	3,245	
Uttar Pradesh										
1. Meerut	469	13,042*	22,827*	19,879	29,768	28,795	23,848	15,764	24,890	18,846
2. Gaziipur	381	1,111*	9,852*	3,274	13,743	4,400	17,290	6,804	19,401	7,293
3. Jaunpur	399	2,892*	8,511*	3,107	14,537	5,126	17,996	8,624	22,076	
4. Rae Bareilly	358	683*	4,371*	634	6,714	1,597	6,788	2,124	12,069	2,440
5. Azamgarh	377	2,398*	10,517*	3,018	15,944	4,731	19,009	6,189	20,547	6,275
6. Etawah	377	658*	4,747*	1,408	8,027	1,886	9,634	3,047	13,958	
7. Mainpuri	401	1,178*	7,719*	1,209	11,269	2,176	14,763	2,930	17,408	3,393
8. Etah	455	1,504*	6,817*	2,005	9,710	2,054	12,908	1,449	15,200	2,254
9. Mathura	410	485*	3,471*	538	6,964	900	11,241	1,265	13,343	945
10. Aligarh	600	1,376*	11,337*	2,210	16,408	3,149	18,911	3,723	22,558	3,604
11. Bulandshahr	527		14,801*	9,125*	20,243	9,514	21,348	11,522	23,937	10,892
12. Agra	454				12,682*	992*	14,645	1,505	17,543	1,502
13. Kanpur	599				8,543*	1,643*	11,862	3,393	16,053	
14. Allahabad	574				12,370*	2,861*	15,650	5,621	21,577	
15. Sitapur	510				4,440*	2,406*	7,167	3,187	11,260	4,628
16. Barabanki	416				13,333*	3,317*	16,670	6,859	17,772	5,975
17. Banda	574							531*		760
EAST										
Assam										
1. Goalpara	613	87*	181*	131	121	207	160	250	369	187
2. Nowgong	275			286*	71*	237	124	396	245	463

Bihar										
1. Aurangabad	249	560*	2,333*	1,277	2,831					
2. Bhojpur	483	1,852*	8,428*	2,027	13,035	1,856	13,266	2,765	14,678	2,709
3. Rohtas	601	2,588*	9,046*	2,396	13,798	2,359	13,931	3,726	16,081	3,842
4. Gaya	483	1,699*		945	5,797*	3,104	7,977	4,461	9,546	4,454
5. Bhagalpur	377	914*		1,217	4,940*	2,261	6,020	2,784	6,330	2,333
6. Palamau	315	349*		279						
7. Saran	293			1,495	5,583*	1,117	6,158	1,815	7,536	
8. East Champaran	444			1,325*	6,262*	1,489	6,541	2,210	7,592	1,991
9. Purnea	778		3,120*		3,912	673*	3,462	959	4,100	1,390
10. Saharsa	560		2,133*		2,236					
11. Muzaffarpur	355		5,737*		6,012					
12. Darbhanga	237		2,013*		1,566					

Orissa										
1. Balassore	507		1,613*		2,191	2,547*	3,044	2,759	3,516	2,816
2. Bolangir	449	1,784*	2,162*	1,571	1,796	1,787	1,887	2,334	3,433	2,073
3. Cuttack	1,060	4,192*		7,243	7,277*	9,394	7,021	8,524	6,757	6,786
4. Dhenkanal	443		1,102*		1,243					
5. Ganjam	671		6,514*		6,343					
6. Puri	669	2,048*	2,124*	3,956	3,014	3,549	2,387	4,348	3,196	2,615

West Bengal										
1. Burdwan	563	6,773*	9,945*	7,267	15,261	7,635	17,665	10,482	23,796	11,127
2. Birbhum	470	5,869*	7,750*	5,875	8,538	6,262	9,606	1,738	10,488	7,268
3. Nadia	609		7,188*		6,256	6,002*	12,132	7,523	15,162	7,496

NORTH

Haryana										
1. Jind	456	1,571*	3,384*	1,846	5,055	2,914	6,766	2,962	9,192	
2. Rohtak	471	1,340*	2,958*	2,187	3,099	2,307	4,453	1,881	6,164	1,889
3. Gurgaon	517	733*	4,210*	1,050	5,588	1,567	8,120	1,189	10,240	1,263

Himachal Pradesh										
1. Sirmur	34	280*	183*	294	347	278	312	583		
2. Solan	21						368*		282	684

(Continued)

**8.12. FERTILISER CONSUMPTION IN THE DISTRICTS SELECTED UNDER INTENSIVE
FERTILISER PROMOTION CAMPAIGN—SEASONWISE (Concluded)**

Zone/State/District	Gross cropped area ('000 hectare)	Pre-campaign season		Campaign season						
		Consumption of N+P+K (tonnes)		Consumption of N+P+K (tonnes)						
		Kharif 1975	Rabi 1975-76	Kharif 1976	Rabi 1976-77	Kharif 1977	Rabi 1977-78	Kharif 1978	Rabi 1978-79	Kharif 1979
Jammu & Kashmir										
1. Srinagar	52	1,175*		326		N.A.				
2. Anantnag	146	2,307*		1,482		N.A.				N.A.
3. Jammu	169		1,112*		N.A.	N.A.	N.A.	N.A.	N.A.	
Punjab										
1. Kapurthala	200	3,611*		4,367						
2. Gurdaspur	442			7,508*	20,532*	10,624	19,046	18,844	24,494	
3. Bhatinda	739				21,291*	2,522	27,974	14,317	32,415	
4. Faridkot	776				36,089*	22,331	43,342	22,503	48,836	28,308
5. Ropar	194		4,505*		5,496	3,214	7,439	3,628	7,614	5,587
SOUTH										
Andhra Pradesh										
1. Srikakulam	568	2,807*	7,261*	3,754	6,471	5,092	7,384	3,648	8,092	3,526
2. Visakhapatnam	622	2,105*	6,095*	3,345	6,748	7,024	7,267	2,608	9,966	1,905
3. Nellore	379	3,683*	9,448*	4,879	10,446	7,683	12,598	5,257	12,660	5,209
4. Nizamabad	350	9,099*	15,718*	14,761	14,594	13,281	12,993	32,331	33,598	
5. Anantpur	957	1,441*	4,820*	2,758	4,264	3,457	6,931	5,864	10,431	
6. Chittoor	556	4,368*		5,199						
7. Medak	464	2,841*		4,844						4,150
Karnataka										
1. Shimoga	269	6,644*	6,483	9,663	7,419	10,819	6,545	15,654	10,462	16,228
2. Bidar	398	1,389*			835*	2,831*	629	1,994	853	3,218
3. Bellary	389		11,124*		10,384*					
4. Tumkur	354							7,165*		7,130

Kerala										
1. Malappuram	277			1,881*	2,355*	2,781	2,497	3,144	2,993	3,109
Tamil Nadu										
1. Tirunelveli	573	6,386*	9,882*	6,566	11,700	9,108	17,838	10,282	16,621	11,289
2. South Arcot	739				19,168*	22,094*	31,240	24,902	26,748	23,281
WEST										
Gujarat										
1. Gandhinagar	51	884*	472*	418	695	499	959	661	1,402	825
2. Banaskantha	980	819*	3,118*	1,004	3,811	1,367	5,241	2,042	7,392	1,921
3. Mehsana	909	2,436*	5,346*	3,159	7,646	4,341	10,789	7,543	13,885	7,242
Maharashtra										
1. Solapur	1,200	4,216*		4,358	6,943*	4,968	7,725	5,900	7,571	6,339
2. Bhandara	508	4,592*	4,103*	3,871	3,834	3,686	3,594	3,964	2,339	4,806
3. Chandrapur	719	4,453*	4,199*	4,223	4,034		4,423		1,844	5,010
4. Aurangabad	1,384	3,897*		3,585	8,142*	5,906	9,898	6,650	10,585	10,573
5. Parbhani	1,105					1,174*	5,907*	2,814	5,012	
6. Kolaba	208					5,840*	1,543*	6,414	1,993	5,981
7. Jalgaon	922					19,437*	15,299*	25,750	15,884	29,570
8. Nasik	980		12,170*		14,814		4,425			

*Refers to consumption of N+P+K in pre-campaign season.

PRICES AND SUBSIDY

7.01. PRICES OF FERTILISERS IN TERMS OF NUTRIENT

(inclusive of excise duty)

(50 kg packing)

(Rs/kg)

Year	Maximum retail price of nutrient through					
	Ammonium sulphate (20.8% N)	Urea (46% N)	Calcium ammonium nitrate (25% N)	Diammonium phosphate (18-46-0)	Super-phosphate (16% w.s. P ₂ O ₅)	Muriate of potash (60% K ₂ O)
	(N)	(N)	(N)	(P ₂ O ₅)	(P ₂ O ₅)	(K ₂ O)
1972	2.72	2.08	2.26	1.89 ¹	3.17 ²	0.92 ¹
1973	2.96	2.28	2.46	2.01	3.27 ²	1.13
1974	4.54	4.35	4.38	4.83	6.53 ³	2.05
1975	4.54	4.02	4.38	4.52	6.78 ³	1.97
				4.08 ²	5.85 ³	1.83 ¹
1976	4.54	3.80	4.38	4.17	4.51	1.52
1977	4.54	3.59	4.38	3.40	3.57	1.34
1977	4.54	3.37	4.06	3.49	3.57	1.34
1979	4.54	3.37	4.06	3.49	3.61 ⁴	1.34
1979	4.37	3.15	4.00	3.55	3.65 ²	1.34
1980*	Decontrolled	4.35	Decontrolled	4.93	5.27 ²	1.83
1980*	7.28 ²	4.35	8.40	4.93	5.27 ²	1.83

e.f. March 17, 1972

e.f. April 1,

e.f. December 1, 1975.

e.f. November 1, 1978.

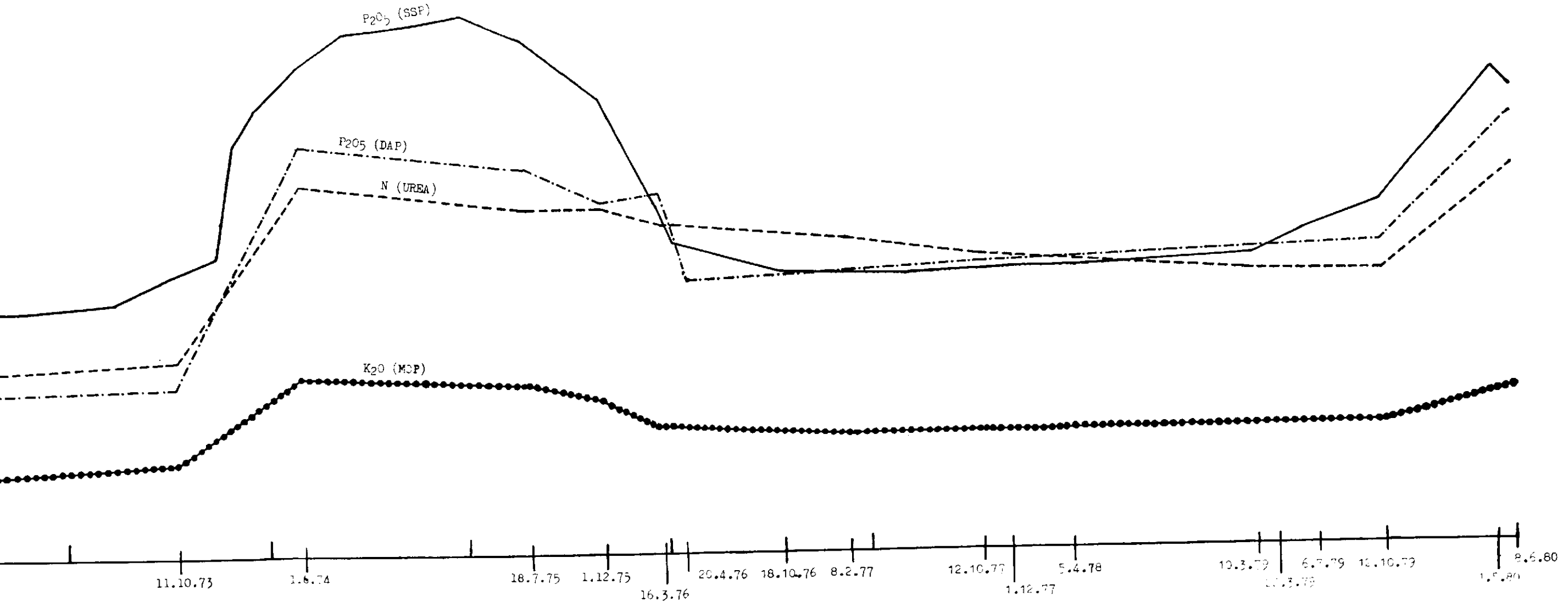
e.f. March 22, 1979.

e.f. June 7, 1980.

* Imported pool material.

From 8.8.1980 (and thereafter) excise duty as it is withdrawn with effect from 8.8.1980 on all fertilisers, except ammonium sulphate and calcium ammonium nitrate in which case it is 7.5 per cent *ad valorem*.

**RETAIL PRICES OF FERTILISERS IN Rs/Kg OF NUTRIENT (50 kg packing)
1972-73 to 1980-81**



←With effect from→

7.02. PRICES OF FERTILISERS
(A) CURRENT PRICES
 (Exclusive of Central and State sales tax and local taxes)

(Rs. per tonne net)

Fertiliser		Maximum retail price (50 kg packing)	Effective from
(A) STATUTORILY CONTROLLED			
1. Ammonium sulphate		Decontrolled	June 8, 1980
2. Urea 46% N grade		2,000	-do-
3. Calcium ammonium nitrate	26% N 25% N } }	Decontrolled	-do-
4. Triple superphosphate	Granular	2,200	-do-
	Powder	2,050	-do-
5. Urea ammonium phosphate	24-24-0	2,600	-do-
	28-28-0	3,050	-do-
	14-35-14	2,900	-do-
6. Ammonium phosphate sulphate	16-20-0	1,950	-do-
	20-20-0	2,200	-do-
7. Diammonium phosphate	18-46-0	3,050	-do-
8. Nitrophosphate	15-15-15	1,800	-do-
	20-20-0	2,050	-do-
9. NP/NPK fertilisers	17-17-17	2,200	-do-
	14-28-14	2,600	-do-
	19-19-19	2,500	-do-
	10-26-26	2,500	-do-
	12-32-16	2,750	-do-
(B) IMPORTED—POOL FERTILISERS			
10. Ammonium sulphate		1,500 (1,490)	July 2, 1980
11. Calcium ammonium nitrate (26% N)		1,614	-do-
13. Muriate of Potash (60% K ₂ O)		1,100 (1,090)	June 8, 1980
14. Sulphate of Potash (50% K ₂ O)		1,800	-do-

(Continued)

7.02. PRICES OF FERTILISERS (Continued)
(A) CURRENT PRICES (Concluded)
(Exclusive of Central and State sales tax and local taxes)

(Rs. per tonne net)

Fertiliser	Maximum retail price (50 kg. packing)	Effective from
(C) OTHER THAN STATUTORILY CONTROLLED*		
1. Ammonium sulphate	1,550-1,650 (1,540-1,640)	June 8, 1980
2. Ammonium chloride (25% N)	2,033-2,500	June 1, 1980
3. Calcium ammonium nitrate (25% N)	1,600	June 8, 1980
4. Single superphosphate (minimum 16% W.S. P ₂ O ₅)	616 ^b (604) ^b	May 1, 1980

Note: w.e.f. 7.6.1980, excise-duty is withdrawn on all fertilisers except ammonium sulphate and calcium ammonium nitrate in which case it is 7.5 per cent *ad valorem*.

* With effect from 16-3-1976, indigenously produced P₂O₅ is subsidised to the extent of Rs. 1,250.00 per tonne of P₂O₅. Prices of phosphates and NP/NPK fertilisers in force from 16-3-1976 and thereafter, are after deducting the incidence of subsidy.

^b Ex-factory 'port' price applicable within 161 kms of a port. It excludes the incidence of excise duty at 7.5% w.e.f. 1-12-1975 and another 5% as special duty on excise duty w.e.f. 1-3-1978. Excise duty was reduced to 3.75% w.e.f. 1-3-1979, special duty remaining unaltered. Excise duty has been withdrawn with effect from 7-6-1980.

() For material packed in 100 kg. capacity bags.

a. STATUTORILY CONTROLLED‡

1-2-1966	405	—	680	—	385	—	@	515
1-2-1967	465	—	680	—	385	—	@	515
					(1-4-1966)			
1-4-1967	492	—	840	—	437	510	@	577
						(20-8-1967)		
19-4-1968	502	—	860	—	437	510	@	577
17-4-1969 ¹	539	479	943	924	473	545	575	626
		(1-11-1969)		(9-4-1970)		(26-5-1969)	(1-3-1969)	
9-3-1971 ¹	529	429	923	904	473	545	575	626
	(5-8-1969)	(16-3-1970)						
30-3-1972 ¹	549	449	959	940	—	585	594 ¹	*
11-10-1973 ¹	600	—	1,050	1,030	—	615	645	*
1-6-1974	925	—	2,000	1,960	—	1,095	1,145	*
18-7-1975 ¹	—	—	1,850	1,810	—	—	—	*
16-3-1976 ¹	—	—	1,750	1,710	—	—	—	*
8-2-1977 ¹	—	—	1,650	1,610	—	—	—	*
12-10-1977 ¹	—	—	1,550	1,510	—	1,015	1,080	*
10-3-1979	890	—	1,450	1,410	—	1,000	1,040	*

(Continued)

7.02. PRICES OF FERTILISERS (Continued)
B. PREVIOUS PRICES (Continued)
 (Exclusive of sales tax and local taxes and inclusive of excise duty)

(Rs. per tonne)

Fertiliser		Maximum retail price (50% kg packing)					
a. STATUTORILY CONTROLLED‡ (Concluded)							
Effective from July 18, 1975							
1.	Calcium ammonium nitrate	28% N grade	1,140				
		27% N grade	1,100				
Effective from							
			<table border="1"> <thead> <tr> <th align="left">Feb. 2, '79</th> <th align="left">March 10, '79</th> </tr> </thead> <tbody> <tr> <td></td> <td></td> </tr> </tbody> </table>	Feb. 2, '79	March 10, '79		
Feb. 2, '79	March 10, '79						
2.	Triple superphosphate (granular)		1,640				
			1,600 [1,500]				
3.	Urea ammonium phosphate	24-24-0	1,950				
		28-28-0	2,340				
		14-35-14	2,230				
4.	Ammonium phosphate sulphate	18-20-0	1,700				
		20-20-0	1,845				
		18-9-0	1,320				
5.	Diammonium phosphate	18-46-0	2,210				
6.	Nitrophosphate	15-15-15	1,520				
		20-20-0	1,760				
7.	NP/NPK Fertilisers	17-17-17	1,810				
		14-28-14	1,950				
		19-19-19	2,020				
		10-26-26	1,890				
		12-32-16	2,090				

(Continued)

7.02. PRICES OF FERTILISERS (Continued)
B. PREVIOUS PRICES (Continued)
DUTIES ON FERTILISERS (Per cent)

With effect from	Excise duty	Auxiliary duty	Special duty
1-3-1969	10	—	—
17-3-1972	10 + 5 = 15	—	—
1-3-1973	15	5 (replaced regulatory duty at 2½% w.e.f. 16-12-1971)	—
1-3-1978	15	5	5
1-3-1979	7.5	5	5

‡ For statutory controlled and indigenous fertilisers.

— Special duty on excise duty, as indicated above.

* Outside "statutorily controlled fertilisers" with effect from 22-10-1971. See under "Imported Pool Fertilisers" and "Indigenous Fertilisers".

④ See under "Imported Pool Fertilisers".

() Effective from date.

[] Powder material.

† For 100 kg packing. Retail price is higher by Rs. 11 a tonne upto 10-10-1973 and Rs. 10 a tonne w.e.f. 11-10-1973 when supplied in 50 kg capacity packing.

Note:—1. With effect from 1st February 1966, prices of nitrogenous fertilisers distributed through the Pool have been fixed on all-India basis, thereby equalising 'cultivators' and 'plantation' price in each State.

2. Pool fertilisers are delivered per tonne gross, f. o. r. work/ports freight paid by Central Fertiliser Pool upto railhead destination by shortest and cheapest route.

3. All retail prices listed above are Rs. per tonne gross upto 30th April 1975 and on net basis with effect from 1st May, 1975.

(Continued)

7.02. PRICES OF FERTILISERS (Continued)

B. PREVIOUS PRICES (Continued)

(State sales tax and local tax extra)

(Rs. per tonne)

Fertiliser	Maximum price (50 kg packing)		Effective from
	Pool issue price	Retail	
b. IMPORTED—POOL FERTILISERS			
1. Ammonium sulphate nitrate (26% N)	715.00 ^d	775.00 ^d	May, 1974
	1,085.00 ^d	1,145.00 ^d	June, 1974
	1,000.00 ^d	1,060.00 ^d	July, 1975
2. Ammonium chloride (25% N)	430.00	455.00	April, 1965
	450.00	505.00	April, 1967
	484.00 ^a	539.00 ^b	March, 1969
	(489.50) ^a		
	1,040.00 ^d	1,095.00 ^d	June, 1974
	940.00 ^d	995.00 ^d	July, 1975
*3. Calcium ammonium nitrate (23% N)	430.00	485.00	May, 1968
4. Calcium ammonium nitrate (26% N)	425.00	485.00	August, 1966
	475.00	535.00	April, 1967
*5. Chilean natural nitrate of soda (non-Pool fertiliser) (16% N)		301.17	July, 1960
		294.28	April, 1961
		290.00	March, 1962
		283.00	May, 1963
6. Triple superphosphate	2,570.00	2,710.00	July, 1975
	1,735.00	1,875.00	December, 1975
	1,435.00	1,575.00	February, 1977
7. Ammonium phosphate (19-20-0)	2,340.00 ^d	2,470.00 ^d	July, 1975
	2,030.00 ^d	2,160.00 ^d	December, 1975
	1,900.00 ^d	2,030.00 ^d	February, 1977
8. Ammonium phosphate (20-20-0)	565.00	771.00 (in AP only)	August, 1963
		610.00 (in other States)	
	590.00	660.00	February, 1966
	738.00	818.00	April, 1967
	814.00 ^a	894.00 ^a	March, 1972
	(822.00) ^a		
	1,140.00 ^d	1,122.00 ^d	October, 1973
1,775.00 ^d	1,855.00 ^d	June, 1974	
1,870.00 ^d	1,780.00 ^d	July, 1975	

(Continued)

7.02. PRICES OF FERTILISERS (Continued)
B. PREVIOUS PRICES (Continued)
 (State sales tax and local tax extra)

(Rs. per tonne)

Fertiliser	Maximum price (50 kg packing)		Effective from
	Pool issue price	Retail	
b. IMPORTED—POOL FERTILISERS (Continued)			
8. Ammonium phosphate (20-20-0) (Continued)	1,550.00 ^d	1,660.00 ^a	December, 1975
	1,480.00 ^d	1,590.00 ^d	February, 1977
9. Monoammonium phosphate (11-55-0)	1,225.00 ^d	1,335.00 ^d	January, 1973
	3,040.00 ^d	3,140.00 ^d	June, 1974
	2,795.00 ^d	2,935.00 ^d	July, 1975
	2,985.00 ^d	2,985.00 ^d	December, 1975
10. Ammonium nitrophosphate (20-20-0)			February, 1977
	738.00	818.00	May, 1968
	800.00 ^a	880.00 ^a	March, 1969
	(808.00) ^a		
	829.00 ^d	909.00 ^d	March 17, 1972
	1,120.00 ^d	1,200.00 ^d	October, 1973
	1,775.00 ^d	1,855.00 ^d	June, 1974
	1,670.00 ^a	1,780.00 ^d	July, 1975
1,550.00	1,660.00	December, 1975	
1,480.00	1,590.00	February, 1977	
11. Ammonium nitrophosphate (23-23-0)	2,040.00 ^d	2,120.00 ^d	June, 1974
	1,920.00 ^d	2,035.00 ^d	July, 1975
	1,795.00 ^d	1,910.00 ^d	December, 1975
	1,645.00 ^d	1,760.00 ^d	February, 1977
12. Ammonium nitrophosphate (24-24-0)	2,940.00 ^d	3,080.00 ^a	July, 1975
	2,510.00 ^a	2,650.00 ^d	December, 1975
	2,155.00 ^a	2,295.00 ^d	March, 1976
	2,130.00	2,270.00	April, 1976
	1,905.00	2,045.00	February, 1977
13. Ammonium nitrophosphate (26-14-0)	1,200.00 ^d	1,280.00 ^d	May, 1974
	1,740.00 ^d	1,820.00 ^d	June, 1974
	1,635.00 ^d	1,745.00 ^d	July, 1975
	1,535.00	1,645.00	December, 1975
	1,445.00	1,555.00	February, 1977

(Continued)

7.02. PRICES OF FERTILISERS (Continued)

B. PREVIOUS PRICES (Continued)

(State sales tax and local tax extra)

(Rs. per tonne)

Fertiliser	Maximum price (50 kg packing)		Effective from
	Pool issue price	Retail	
b. IMPORTED - POOL FERTILISERS (Continued)			
14. Diammonium phosphate (18-46-0)	750.00	833.00	April, 1966
	1,000.00	1,095.00	April, 1969
	1,122.00 ^a	1,217.00 ^a	March, 1969
	(1,131.50) ^a		
	1,151.00 ^d	1,246.00 ^d	March 17, 1972
	1,240.00 ^d	1,335.00 ^d	October, 1973
		[1,435.00] ^d	
	2,910.00 ^d	3,005.00 ^d	June, 1974
	2,665.00 ^d	2,805.00 ^d	July, 1975
	2,460.00 ^d	2,600.00 ^d	December, 1975
	2,070.00 ^d	2,210.00 ^d	April, 1976
*15. Nitrophosphate (12.9-12.9-0)	375.00	410.00	August, 1963
16. NPK fertilisers (11-11-11)	1,190.00 ^d	1,620.00 ^d	June, 1974
	1,170.00 ^d	1,260.00 ^d	July, 1975
	1,130.00 ^d	1,220.00 ^d	December, 1975
	1,060.00 ^d	1,150.00 ^d	February, 1977
(13-13-13)	710.00 ^a	782.00 ^a	June, 1978
	(717.00) ^a		
	1,405.00 ^d	1,475.00 ^d	June, 1974
	1,380.00 ^d	1,475.00 ^d	July, 1975
	1,330.00 ^d	1,425.00 ^d	December, 1975
	1,245.00 ^d	1,340.00 ^d	February, 1977
(13-13-20)	2,010.00 ^d	2,130.00 ^d	July, 1975
	1,870.00 ^d	1,990.00 ^d	December, 1975
	1,785.00 ^d	1,905.00 ^d	February, 1977
(14-14-14)	700.00	775.00	April, 1967
	(755.00) ^a		
	783.50 ^a	830.00 ^a	March, 1969
	784.00 ^d	859.00 ^d	March 17, 197 ^{bc}
	1,515.00 ^d	1,590.00 ^a	June, 1974
	1,495.00 ^d	1,590.00 ^d	July, 1975
	1,445.00 ^d	1,540.00 ^d	December, 1975
	1,355.00 ^d	1,450.00 ^d	February, 1977
(12-24-12)	830.00	—	February, 1968
	830.00 ^a	915.00 ^a	March, 1969
	(838.50) ^a		
	1,270.00 ^a	1,345.00 ^d	October, 1973

(Continued)

7.02. PRICES OF FERTILISERS (Continued)
B. PREVIOUS PRICES (Continued)
 (State sales tax and local taxes extra)

(Rs. per tonne)

Fertiliser	Maximum price (50 kg packing)		Effective from
	Pool Issue price	Retail	
b. IMPORTED—POOL FERTILISERS (Continued)			
16. NPK Fertilisers (Continued)	1,860.00 ^d	1,945.00 ^d	June, 1974
(12-24-12)	1,830.00 ^d	1,945.00 ^d	July, 1975
	1,610.00 ^d	1,725.00 ^d	December, 1975
	1,455.00 ^d	1,570.00 ^d	February, 1977
(15-15-15)	760.00	840.00	February, 1968
	832.00 ^b	912.00 ^a	March, 1969
	(840.00) ^d		
	862.00 ^d	942.00 ^d	March 17, 1972
	1,295.00 ^d	1,375.00 ^d	October, 1973
	1,620.00 ^d	1,700.00 ^d	June, 1974
	1,595.00 ^d	1,700.00 ^d	July, 1975
	1,540.00 ^d	1,645.00 ^d	December, 1975
	1,465.00 ^d	1,570.00 ^d	April, 1976
	1,415.00 ^d	1,520.00 ^d	February, 1977
* (16-16-16)	920.00 ^d	1,000.00 ^d	November, 1972
(17-17-16)	2,430.00 ^d	2,265.00 ^d	July, 1975
	2,265.00 ^d	2,400.00 ^d	December, 1975
	1,955.00 ^d	2,090.00 ^d	February, 1977
(17-17-17)	2,455.00 ^d	2,590.00 ^d	July, 1975
	2,290.00 ^d	2,425.00 ^d	December, 1975
	1,990.00 ^d	2,125.00 ^d	March, 1976
	1,835.00 ^d	1,970.00 ^d	April, 1976
	1,675.00 ^d	1,810.00 ^d	February, 1977
(20-10-10)	2,050.00 ^d	2,170.00 ^d	July, 1975
	1,715.00 ^d	1,835.00 ^d	December, 1975
	1,650.00 ^d	1,770.00 ^d	February, 1977
* (17-8-9)	1,260.00 ^d	1,330.00 ^d	June, 1974
	1,240.00 ^d	1,330.30 ^d	July, 1975
	1,100.00 ^d	1,190.00 ^d	December, 1975
(14-28-14)	970.00 ^d	1,060.00 ^d	April, 1968
	1,047.00 ^d	1,137.00 ^d	March, 1969
	(1,056.00) ^d		
	1,030.00 ^d	1,170.00 ^d	March 17, 1972
	1,470.00 ^d	1,560.00 ^d	October, 1973

(Continued)

7.02. PRICES OF FERTILISERS (Continued)
B. PREVIOUS PRICES (Continued)
 (State sales tax and local taxes extra)

(Rs. per tonne)

Fertiliser	Maximum price (50 kg packing)		Effective from
	Pool issue price	Retail	
b. IMPORTED - POOL FERTILISERS (Continued)			
(14-28-14) (Continued)	2,170.00 ^d	2,260.00 ^d	June, 1974
	2,140.00 ^d	2,260.00 ^d	July, 1975
	2,082.00 ^d	2,202.00 ^d	December, 1975
	1,735.00 ^d	1,855.00 ^d	February, 1977
(10-25-26)	1,025.00	—	Sept. 26, 1970
	1,060.00	1,161.00 ^d	March 17, 1972
	2,145.00 ^d	2,245.00 ^d	June, 1974,
	2,124.00 ^d	2,245.00 ^d	July, 1975
	2,080.00 ^d	2,202.00 ^d	December, 1975
(12-32-16)	1,045.00 ^d	—	Sept. 26, 1970
	1,047.00 ^d	1,177.00 ^d	March 17, 1972
	2,315.00 ^d	2,415.00 ^d	June, 1974
	2,285.00 ^d	2,415.00 ^d	July, 1975
	2,220.00 ^d	2,350.00 ^d	December, 1975
*(14-36-12)	1,135.00	—	Sept. 26, 1970
	1,161.00 ^d	1,271.00 ^d	March 17, 1972
	2,505.00 ^d	2,605.00 ^d	June, 1974
	2,470.00 ^d	2,605.00 ^d	July, 1975
	2,400.00 ^d	2,535.00 ^d	December, 1975
*17. Basic slag (18% P ₂ O ₅)	260.00	—	September, 1966
	260.00	304.00	November, 1967
*18. Dicalcium phosphate (28% P ₂ O ₅)	455.00	510.00	April, 1968
19. Muriate of potash (60% K ₂ O.* (for 100 kg packing)	405.00	440.00	October, 1967
	445.00	480.00	April, 1968
	483.00 ^a	523.00 ^a	March, 1969
	(487.00) ^a		
	493.00 ^d	543.00 ^d	March 17, 1972
	620.00 ^d	670.00 ^d	October, 1973
		[705.00] ^d	
	1,170.00 ^d *	1,220.00 ^d c	June, 1974
1,090.00 ^d c	1,170.00 ^d c	July, 1975	

(Continued)

7.02. PRICES OF FERTILISERS (Continued)

B. PREVIOUS PRICES (Continued)

(State sales tax and local taxes extra)

(Rs. per tonne)

Fertiliser	Maximum price (50 kg packing)		Effective from
	Pool issue price	Retail	

b. IMPORTED - POOL FERTILISERS (Continued)

19. Muriate of potash (60% K₂O)*

(for 100 kg packing) (continued)

1,005.00^d ° 1,085.00^d ° December, 1975820.00^d ° 900.00^d ° March, 1976

705.00 795.00 February 8, 1977

20. Muriate of potash (40% K₂O)

(for 100 kg packing)

270.00 300.00 March, 1968

(273.00)

21. Muriate of potash* °

(for 100 kg packing)

60% K ₂ O		50% K ₂ O		
Ex-godown at port	Ex-jetty	Ex-godown at port	Ex-jetty	

328.73 — — — Jan./March, 1960

318.97 — — — April, 1960

313.96 — — — July, 1960

295.28 — — — May, 1961

285.28 2734.5 237.73 27.88 April, 1963

— — 230.78 220.88 September, 1963

299.00 290.00 244.00 235.00 February, 1965

314.00 305.00 259.00 250.00 April, 1966

392.00 389.00 324.00 315.00 April, 1967

412.00 403.00 339.00 330.00 December, 1967

439.50 433.50 367.00 358.00 May, 1968

478.00^a 469.00^a 398.00^a 389.00^a June, 1969— 483.00^a ^b — 403.00^a ^b December, 1969— 473.00^a ^b — 393.00^a ^b January, 1971*22. Kamex (38/42% K₂O)*

(for 100 kg packing)

210.00 (ex-godown at port) May, 1966

23. Sulphate of potash*

(48% K₂O)

(for 100 kg packing)

377.85^b — June, 1966563.84^b — April, 1967

(Continued)

7.02. PRICES OF FERTILISERS (Continued)
B. PREVIOUS PRICES (Continued)
 (State sales tax and local taxes extra)

(Rs. per tonne)

Fertiliser	Maximum price 50 kg packing)		Effective from
	Pool Issue price	Retail	
b. IMPORTED—POOL FERTILISERS (Concluded)			
24. Sulphate of potash (50% K ₂ O) (for 100 kg packing)	390.00	445.00	September, 1966
	585.00	655.00	May, 1967
	(592.00)		
	661.00 ^a	731.00 ^a	March 1, 1971
	(668.00)		
	730.00 ^d	800.00 ^d	March 17, 1972
	1,495.00 ^{c d}	1,565.00 ^{c d}	June, 1974
	1,415.00 ^{c d}	1,510.00 ^{c d}	July, 1975
1,295.00 ^{c d}	1,390.00 ^{c d}	December, 1975	
1,200.00 ^{c d}	1,295.00 ^{c d}	February 8, 1977	

() Pool prices for Food Corporation of India effective from December 22, 1969.

[] Pool issue price as intermediate for complex fertiliser and mixture manufacturers.

^a These prices include the incidence of excise duty (10%) on fertilisers brought into force from March 1, 1969.

^b F.O.R. despatching station/port of import, freight prepaid to destination station.

^c Distributed by M/s. Indian Potash Ltd., Madras.

^d These prices include, besides the incidence of excise duty at 15%, regulatory duty at 2½% brought into force from December 16, 1971. The latter is replaced by 5% auxiliary duty with effect from March 1, 1973.

^e For 50 kg packing, Rs. 10 a tonne extra w.e.f. October 11, 1973 as against Rs. 11 prescribed till October 10, 1973.

* Now not marketed.

Note : All prices listed above are Rs. per tonne gross till 30th April 1975 and on net basis with effect from 1st may 1975.

(Continued)

7.02. PRICES OF FERTILISERS (Continued)
B. PREVIOUS PRICES (Continued)
(Exclusive of sales tax and local taxes)

(Rs. per tonne)

Fertiliser	Retail price (50 kg packing)	Effective from	
c. INDIGENOUS FERTILISERS			
(Other than statutorily controlled)			
1. Ammonium sulphate nitrate (26% N)	650.00 ^a ^b	September 16, 1973	
	715.00 ^a ^b	October 14, 1972	
	1,085.00 ^a ^b	April 1, 1971	
2. Ammonium chloride (25% N) (75 kg. packing)	452.00	January 1962	
	445.00	May, 1966	
	540.00	July, 1967	
	545.00 ^a	} in U.P. & Bihar } in M.P., West Bengal, } Haryana, A.P. and Eastern } Rajasthan } Gujarat, Maharashtra, } Punjab & Western } Rajasthan	
	555.00 ^a		
	570.00 ^a		
	570.00 ^a		
	760.00 ^a		
	1,415.08	September 11, 1971	
	1,345.00	(Eastern U.P. and Bihar)	March 17, 1972
	1,385.00	(Central and Western U.P.)	October 16, 1973
	1,265.00	(Eastern U.P. and Bihar)	June 4, 1974
	1,305.00	(Central and Western U.P.)	July 22, 1975
	1,205.00	(Eastern U. P. & Bihar)	July 22, 1975
	1,245.00	(Central & Western U.P.)	March 25, 1976
		March 25, 1976	
		March 9, 1977	
		March 9, 1977	
3. Ammonium phosphate sulphate (16-20-0)	815.00	(ex-depot, inclusive of sales tax)	April 1967
	865.15 ^a	(F.O.R. destination, local taxes extra)	March 1969
	915.00 ^a	in Kerala	} September 28, 1971
	935.00 ^a	in Tamil Nadu, Karnataka and Andhra Pradesh	
	980.00 ^a		
	1,300.00 ^a		March 27, 1972
	2,100.00		October 19, 1973
	2,300.00		June 8, 1974
	2,300.00		August 3, 1974
	2,525.00		April, 1975
	2,430.00 ^a		July, 1975
	2,230.00 ^a		December, 1975
	1,930.00 ^a	} (two factories)	} March, 1976
	1,840 ^a		
	1,870.00		
@ 1,700.00 ^a		March 24, 1976	
		February 8, 1977	

(Continued)

7.02. PRICES OF FERTILISERS (Continued)
B. PREVIOUS PRICES (Continued)
 (Exclusive of sales tax and local taxes)

(Rs. per tonne)

Fertiliser	Retail price (50 kg packing)	Effective from
c. INDIGENOUS FERTILISERS (Continued)		
(Other than statutory controlled)		
(20-20-0)	1,035.00 ^a	April 7, 1972
	1,400.00 ^a	October 19, 1973
	2,300.00	June 6, 1974
	2,500.00	August 3, 1974
	2,750.00	April, 1975
	2,650.00 ^a	July, 1975
	2,450.00 ^a	December 1975
	2,150.00 ^a	March 1976
	2,000.00 ^a	March 24, 1976
	@1,845.00 ^a	February 8, 1977
* (19.5-19.5-0)	2,300.00 ^a	April 1975
	2,200.00 ^a	July 1975
	1,890.00 ^a	March 1976
	@1,820.00 ^a	February 8, 1977
*(18.9-0)	1,528.00 ^a	July 1975
	1,380.00 ^a	March 1976
	@1,320.00 ^a	February 8, 1977
*4. Diammonium phosphate (20-48-0)	1,250.00 ^a	March 1969
5. Diammonium phosphate (18-46-0)	1,354.00 ^a	May 13, 1971
	1,402.00 ^a	April 1, 1972
	1,402.00 ^a	April 1, 1973
	3,005.00 to 3,100.00 ^a	September 15, 1974
	2,805.00 to 2,900.00 ^a	July 1975
	@2,120.00 to 2,290.00 ^a	@March 16, 1976
*6. Nitrophosphate (18-13-0)	380.00 ^b	March 1966
	410.00 ^b	October 1966
	485.00 ^b	November 1966
	550.00 ^b	June 1967
	585.00 ^b	August 1967
	683.00	August 1967
7. Nitrophosphate (20-20-0)	900.00 ^a	March 1967
	972.00 ^a	April 1, 1972
	2,240.00 ^a	November 1975
	1,950.00 ^a	March 1976
	@1,780.00 ^a	February 8, 1977
8. Nitrophosphate (15-15-15)	870.00 ^a	March 1969
	942.00 ^a	April 1, 1972
	1,150.00 ^{a b}	October 14, 1973
	1,800.00 ^{a b}	September 16, 1974
	1,140.00 ^a	July 1975
	1,570.00 ^a	March 1976
	@1,520.00 ^a	February 8, 1977

(Continued)

7.02. PRICES OF FERTILISERS (Continued)

B. PREVIOUS PRICES (Continued)

(Exclusive of sales tax and local taxes)

(Rs. per tonne)

Fertiliser	Retail price (50 kg packing)	Effective from
c. INDIGENOUS FERTILISERS (Continued)		
(Other than statutorily controlled)		
9. Urea ammonium phosphate (28-28-0)	1,232.00 ^d	March, 1969
	1,252.00 ^d	September 1, 1971
	1,312.00 ^d	March 21, 1972
	1,493.00 ^d	September 1, 1973
	2,850.00 ^d	July 13, 1974
	2,935.00 ^d	January 8, 1975
	3,280.00 ^d	April, 1975
	3,500.00 ^a	March, 1975
	3,180.00 ^a	} (for two } factories)
	3,300.00 ^a	
	3,030.00 ^a	(common price) July, 1975
	2,800.00 ^d	(common price) December, 1975
	@2,340.00 ^a	(common price) March, 1975
		February 1977
* (20-20-0)	938.00 ^d	September 1, 1971
	983.00 ^d	March 21, 1972
	1,122.00 ^a	September 1, 1973
* (22-22-11)	1,126.00 ^d	September 1, 1971
	2,100.00 ^d	February 8, 1977
(14-35-14)	1,350.00 ^d	April 1, 1972
	1,493.00 ^d	September 1, 1973
	2,850.00 ^a	July 13, 1974
	2,935.00 ^d	January 8, 1975
	3,280.00 ^d	April, 1975
	3,180.00 ^d	July, 1975
	2,930.00 ^a	December, 1975
	2,355.00 ^d	March, 1975
	@2,230.00 ^d	February, 1977
10. NPK fertilisers:		
* (14-14-14)	1,100.00 ^d	March, 1969
(17-17-17)	1,260.00 ^a	June 1, 1972
	2,505.00 ^d	October 1, 1973
	2,775.00 ^a	October 1, 1974
	(two factories) 2,640.00 ^d ; 2,825.00 ^a	April 1, 1975
	(Sept. 75) (July 75)	
(two factories) 2,300.00 ^d		December, 1975
	1,970.00 ^d	March, 1976
	@ 1,810.00 ^d	February 8, 1977

(Continued)

7.02. PRICES OF FERTILISERS (Continued)

B. PREVIOUS PRICES (Continued)

(Exclusive of sales tax and local taxes)

(Rs. per tonne)

Fertiliser	Retail price (50 kg packing)	Effective from
c. INDIGENOUS FERTILISERS (Continued)		
(Other than statutorily controlled)		
(19-19-19)	3,100.00 ^d	March, 1975
	2,950.00 ^a	July, 1975
	2,750.00 ^d	December, 1975
	2,200.00 ^d	March, 1976
	@2,020.00 ^a	February, 1977
(14-28-14)	1,215.00 ^d	June 1, 1972
	1,430.00 ^a	October 1, 1973
	2,850.00 ^a	October 1, 1974
	3,400.00 ^a	April 1, 1975
	2,920.00 ^a	March, 1976
(10-26-26)	@1,950.00 ^a	February, 1977
	3,060.00 ^a	November, 1974
	2,700.00 ^a	December, 1975
	2,220.00 ^a	March, 1976
	1,990.00 ^a	February, 1977
(12-32-16)	@1,890.00 ^a	September 8, 1977
	3,175.00 ^a	November, 1974
	3,700.00 ^a	July, 1975
	3,000.00 ^a	December, 1975
	2,470.00 ^a	March, 1976
(24-24-0)	2,220.00 ^a	February, 1977
	@2,090.00 ^a	September 8, 1977
	3,150.00 ^a	April, 1975
	(two factories) 2,875.00 ^a ; 3,000.00 ^a	
	(Oct. 75) (July 75)	
(two factories) 2,270.00 ^a ; 2,330.00 ^a	March, 1976	
(two factories) 2,700.00 ^a ; 2,650.00 ^a	December, 1975	
(two factories) 2,100.00 ^a ; 2,080.00 ^a	March, 1976	
*(22-22-11)	@2,045.00 ^a	February 8, 1977
	3,125.00 ^a	April, 1975
	2,975.00 ^a	July, 1975
	2,650.00 ^a	December, 1975
	2,270.00 ^a	March, 1976
	2,100.00 ^a	February 8, 1977

(Continued)

7.02. PRICES OF FERTILISER (Continued)
B. PREVIOUS PRICES (Continued)
 (Exclusive of sales tax and local taxes)

(Rs. per tonne)

Fertiliser	Retail price (50 kg packing)	Effective from
c. INDIGENOUS FERTILISERS (Continued)		
(Other than statutorily controlled)		
11. Superphosphate ^a	177.16	March 12, 1960
(Minimum 16% w.s. P ₂ O ₅) ^d	182.40	May 11, 1961
(100 kg packing)	188.20	June 2, 1962
	193.50	June 27, 1962
	202.64	November 28, 1964
	210.88	June 26, 1965
	212.04	March, 15, 1966
	212.90	May 10, 1966
	260.88	August 16, 1966
	249.39	October 1, 1966
		(100 kg packing)

Year	Effective from			
	January 1	April 1	July 1	October 1
1967	272.95	300.95	294.54	311.70
1968	311.70	311.70	301.70	312.00
1969	299.78	299.78	299.78	281.67
1970	281.67	274.40	280.47	319.16
1971	319.46	301.79	291.18	291.18
1972	291.18	291.18	301.85	301.85
1973	302.00	302.00	316.00	353.00
	385.00			January 1, 1974
	570.00			February 1, 1974
	627.00			March 7, 1974
	690.00			June 1, 1974
	747.00			September 1, 1974
	769.00			January 1, 1975
	779.00			April 1, 1975
	735.00			July 15, 1975
	683.00			October 1, 1975
	483.00†			March 17, 1976
	432.00†			April 9, 1976
	332.00†			October 18, 1976
	349.00†			December 1, 1977
	371.00†			March 22, 1979
	418.00†			July 6, 1979
	475.00			October 12, 1979
	516.00			February 26, 1980

(Continued)

7.02. PRICES OF FERTILISERS (Concluded)
B. PREVIOUS PRICES (Concluded)
 (Exclusive of sales tax and local taxes)

		(Rs. per tonne)	
Fertiliser	Retail price (50 kg packing)	Effective from	
c. INDIGENOUS FERTILISERS (Concluded)			
(Other than statutorily controlled)			
12. Pelofos (18% total P ₂ O ₅)	540.00 ^b	February 5, 1974	
	636.00 ^b	June 19, 1974	
	825.00 ^b	August, 1974	
	419.25 [†]	December, 1977	
	397.75	October 1, 1978	
13. Superphosphate *(18% w.s. P ₂ O ₅)	207.50 ^a	August, 1963	
	312.01 ^a	August, 1966	
	326.71 ^c	January, 1967	
	(for 50 kg bags)		
14. Triple superphosphate* (42.5 w.s. P ₂ O ₅)	875.00	March, 1968	
	1,106.50 ^a	March, 1971	
	(for 50 kg bags)		
	1,152.25 ^a	April 1, 1972	
	1,271.90 ^a	July 23, 1973	
	2,600.15 ^a	September, 1974	
	2,875.00 ^a	April 7, 1975	
@1,640.00 ^a	November 8, 1977		

- Includes the incidence of excise duty (10%) brought into force from March 1, 1969 and another 5% from March 17, 1972. It also includes 5% auxiliary duty brought into force from 1.3.1973.
- Ex-factory price.
- Ex-works price for 'port' factories (within 161 km of a port). Excludes excise duty at 15% which has been reduced to 7.5% w.e.f. 1-12-1975 and 3.75% w.e.f. 1-3-1979. It also excludes special duty at 5% of excise duty brought into force from 1-3-1978.
- d Rs. 5.00 per tonne should be added which was allowed extra for packing superphosphate in 50 kg bags till 9th May 1966 and thereafter, Rs. 12.00 per tonne.
- F.O.R. Ambernath.
- Now not manufactured/ marketed.
- † After deducting the incidence of subsidy which is Rs. 1,250/-tonne of P₂O₅ in force from 16-3-1976.
- @ Maximum prices are statutorily controlled with effect from Feb. 2, 1979. See (a) statutorily controlled table 7.01.

7.03. PRICES OF FERTILISER RAW MATERIALS

(a) The basic ceiling selling prices for naphtha and furnace oil - ex-companies storage points etc.
(for fertiliser industry)

Product/effective from	Unit										(Rs.)
		Gauhati/ Barauni/ Digboi/ Haldia	Kandla	Okha	Koyali/ Bombay	Goa	Cochin	Madras	Vizag	Calcutta	Increase/ decrease in price
1. Naphtha											
Before	MT		90.40	90.05	89.65	87.45	88.46	105.82	95.97	104.70	
1.6.1970											
1.6.1970			114.90	114.55	114.15	111.95	112.96	130.32	120.47	129.20	+24.50
28.5.1971			144.88	144.53	144.13	141.93	142.94	160.30	150.45	159.18	+29.98
11.6.1973			193.00	192.65	192.25	190.05	191.06	208.42	198.57	207.30	+48.12
1.9.1973			253.00	252.65	252.25	250.05	251.06	268.42	258.57	267.30	+60.00
1.6.1974			487.05	486.70	486.31	484.10	485.11	502.48	429.63	501.36	+234.06
1.9.1975			650.92	658.83	596.31	654.57	595.11	612.48	602.63	653.58	+110.00
17.8.1979		611.36	650.92	658.83	596.31	654.57	595.11	612.48	602.63	653.58	Nil
8.6.1980		1,086.36	1,125.92	1,133.83	1,071.31	1,129.57	1,070.11	1,087.48	1,077.63	1,128.58	+475.00
2. Furnace oil (inclusive of duties)											
Ex-storage points											
28.5.1971	KL		433.73	233.40	232.78	231.19	232.06	247.50	239.11	246.53	
11.6.1973			249.65	249.32	248.71	247.98	247.98	263.43	255.04	262.46	+15.93
2.3.1974			605.07	604.73	604.12	602.52	603.39	618.84	610.45	617.87	+355.41
18.9.1974			655.07	654.73	654.12	652.52	653.39	668.84	660.45	667.87	+50.00
1.3.1975			684.02	683.68	683.07	681.47	682.34	697.79	689.40	696.82	+28.95
14.7.1975			805.17	817.88	763.07	800.38	762.34	777.79	769.40	801.13	+80.00
1.12.1975			925.17	937.88	883.07	920.38	882.34	897.79	889.40	921.13	+120.00
1.3.1978		902.81	931.16	943.87	889.06	926.37	888.33	903.78	895.39	927.12	+5.99
17.8.1979		842.81	871.18	883.87	829.06	866.37	828.33	843.78	835.39	867.12	-60.00
3. Ex-points											
(within free delivery zone)											
28.5.1971	KL		243.73	243.40	242.78	241.19	242.06	257.50	249.11	256.53	
11.6.1973			255.90	255.57	254.96	253.36	254.23	269.68	261.29	268.71	+12.18
2.3.1974			611.32	610.98	610.37	608.77	609.64	625.09	616.70	624.12	+355.41
18.9.1974			661.32	660.98	660.37	658.77	659.64	675.09	666.70	674.12	+50.00

Note: - 1. The price of naphtha is exclusive of basic customs/excise duties chargeable extra at applicable rates.

2. Excise duty on furnace oil, when used for fertiliser manufacture, was withdrawn with effect from September 25, 1972. Its incidence was Rs 113.00 per tonne.

(Continued)

7.03. PRICES OF FERTILISER RAW MATERIALS (Continued)
(b) Rockphosphate and Sulphur

Raw material/effective during the period	Price (Rs/tonne)	
	C.I.F.	Ex-jetty ^{a b}
1. IMPORTED ROCKPHOSPHATE		
1. Florida (75/77% BPL)	(172) (151)	(224) (—)
January/March 73	—	—
April/June 73	236	—
July/December 73	—	—
2. Florida (70/72% BPL)	(139)	(200)
January/December 73	—	—
3. Jordan (70/72% BPL)	(155) (139)	(250) (200)
January/March 73	155	219
April/June 73	185	263
July/September 73	211	291
October/December 73	235	318
January/June 74*	225	309
July 74/March 75*	230	300
April/June 75*	200	285
July/September 75*	260	340
October/December 75*	270	345
January/March 76*	240	305
April/September 76*	440†	500†
October/December 76*	410†	463†
January/March 77*	378†	433†
April/December 77*	259†	315†
January/March 78*	255†	310†
April/June 78*	355†	410†
July/December 78*	345†	400†
January/June 79*	363†	425†
July/December 79*	460†	536†
Since January*	567†	651†
4. Jordan (73/75% BPL)		
January/June 74*	534	—
July/December 74*	639	—
January 75/March 76*	—	—
April/December 76*	420†	—
January/March 77*	405†	—
5. Jordan (75/77% BPL)	(—) (142)	(—) (—)
January/March 73	162	—
April/June 73	—	—
July/December 73	216	—

(Continued)

7.03. PRICES OF FERTILISER RAW MATERIALS (Continued)
(b) Rockphosphate and Sulphur (Continued)

Raw material/effective during the period	Price (Rs./tonne)	
	C.I.F.	Ex-jetty ^{a b}
1. IMPORTED ROCKPHOSPHATE (Concluded)		
6. Morocco rock (70/72% BPL)		
July/September 73	211	291
October/December 73	285	318
January/March 74	—	—
April/June 74	689	—
July/December 74	650	800
January/March 76	665	—
January/June 79	519†	—
July/December 79	616†	—
Since January 1980	672†	—
7. Morocco (75/77% BPL)		
	(172)	224
	(167)	(—)
January/March 73	202	—
April/June 73	280	—
July/September 73	309	—
October/December 73	325	426
April/June 74	686	—
July/September 74	705	—
October/December 74	905	—
January/March 75	881	—
April/September 75	796	—
October/December 75	810	—
January/March 76	783	—
April/September 76	524†	—
April/June 77	509†	—
8. Senegal (81/83% BPL)		
	(195)	(—)
	(204)	(—)
January/March 73	214	—
April/June 73	—	—
July/September 73	319	—
October/December 73	325	—
January/March 76	586	—

(Continued)

7.03. PRICES OF FERTILISER RAW MATERIALS (Continued)
b. Rockphosphate and Sulphur (Continued)

Effective from	Price (Rs./tonne) F.O.R. despatching station		Remarks
	-½" Chips	-60 Mesh	
II. INDIGENOUS ROCKPHOSPHATE			
<i>1. Udaipur Rockphosphate*</i>			
1-4-1969	120	132	
1-1-1971	150	162	
16-11-1973	180	192	
1-1-1974	180	195	
24-1-1974	300	320	
1-3-1974	400	420	
1-4-1974	550	570	
5-4-1975	525 ^a	—	Freight rebate Rs. 25.00/tonne for dis-
26-7-1975	450 ^a	—	tances beyond 1000 km.
2-12-1975	425 ^a	—	-do-
5-1-1976	400 ^a	—	Freight rebate Rs. 40.00/tonnes for dis-
			tances beyond 100 km.
1-4-1976	300 ^a	—	Freight rebate Rs. 15.00/tonne for dis-
			tances beyond 1500 km.
			Also, sea-freight concession Rs. 30.00/
			tonne.
6-1-1979	318 ^a	—	-do-
5-7-1979	415 ^a	500 ^a	-de-
3-1-1980	522 ^a	607 ^a	-de-

(Continued)

7.03. PRICES OF FERTILISER RAW MATERIALS (Continued)
b. Rockphosphate and Sulphur (Continued)

Effective from	Price (Rs./tonne) F.O.R. despatching station (- $\frac{1}{4}$ " chips)			Remarks
	Grade-I	Grade-II	Grade-III	

II. INDIGENOUS ROCKPHOSPHATE (Concluded)

2. Jhabua Rockphosphate^a

18-5-1975	435-400	390-325	Upto 250	Freight discount for grades I & II Rs. 0.00/tonne for distances beyond 1000 km.
19-1-1976	385-350	330-275	Upto 250	Freight discount for all grades Rs. 20.00/tonne for distances beyond 500 km.
20-4-1976	285-250	210-175	Upto 150	Freight discount for all grades Rs. 20.00/tonne for distances beyond 500 km. and Rs. 10.00/tonne for distances below 500 km.
1-8-1979	340-290	165-137.50	112.50-81.00	Road freight rebate :—
4-2-1980	425	320		{ <ol style="list-style-type: none"> 1. Upto 300 km. Nil 2. Beyond 300 to 500 km. Rs. 10/tonne 3. Beyond 500 to 700 km. Rs. 15/tonne 4. Beyond 700 to 1000 km. Rs. 25/tonne 5. Beyond 1000 km. Rs. 35/tonne

(Continued)

7.03. PRICES OF FERTILISER RAW MATERIALS (Continued)
b. Rockphosphate and Sulphur (Continued)

Effective during the period	Price Rs./tonne			Remarks
	Shipload	Ex-jetty ^a	Ex-godown ^a	
III. SULPHUR IMPORTED				
April/June 1970	275.40	325.00	—	If more than 1,000 tonnes
		340.00	—	If less than 1,000 tonnes
July/September 1970	280.00	340.00	—	
October 1970/March 1971	272.50	325.00	—	
April/September 1971	262.00	313.00	—	
October/December 1971	300.00	352.00	370.00	
January/March 1972	302.00	381.00	381.00	
April/December 1972	300.00	359.00	379.00	
January/March 1973	300.00	340.00	360.00	

Effective during the period	Price (Rs./tonne)		
	Shipload	Ex-jetty ^a	Ex-godown ^a
April/June 1973	320.00	380.00	400.00
July/December 1973	336.50	386.00	406.00
January/March 1974			
For Fert. Industry	514.00	572.00	592.00
For non-Fert. Industry	528.00	586.00	606.00
April/June 1974			
For Fert. Industry	676.00	742.00	782.00
For non-Fert. Industry	696.00	762.00	782.00
July/September 1974			
For Fert. Industry	789.00	864.00	884.00
For non-Fert. Industry	812.00	887.00	907.00
October 1974/March 1975			
For Fert. Industry	810.00	890.00	910.00
For non-Fert. Industry	840.00	915.00	936.00
April/September 1975			
For Fert. Industry	679.00	753.00	773.00
For non-Fert. Industry	699.00	773.00	793.00

(Continued)

7.03. PRICES OF FERTILISER RAW MATERIALS (Concluded)
b. Rockphosphate and Sulphur (Concluded)

Effective during the period	Price (Rs./tonne)		
	Shipload	Ex-jetty	Ex-godown
III. SULPHUR IMPORTED (Concluded)			
October/December 1975			
For Fert. Industry	679.00	753.00	773.00
For non-Fert. Industry	740.00	815.00	835.00
January/March 1976			
For Fert. Industry	610.00	680.00	700.00
For non-Fert. Industry	630.00	700.00	720.00
April 1976/June 1977			
For Fert. Industry	540.00	605.00	625.00
For non-Fert. Industry	555.00	620.00	640.00
July/December 1977			
For Fert. Industry	520.00	585.00	605.00
For non-Fert. Industry	535.00	600.00	620.00
January/June 1978			
Both for Fertiliser and non-Fertiliser Industry	520.00	585.00	605.00
July/December 1978	525.00	580.00	600.00
January/March 1979	655	745	765
April/June 1979	770	860	880
July/December 1979			
For Fertiliser Industry	910	1,015	1,035
For non-Fert. Industry	1,160	1,265	1,285
Since January 1980			
For Fert. Industry	1,240	1,390	1,410
For non-Fert. Industry	1,490	1,640	1,660

^a Includes regulatory duty (2½%) effective from 16-12-71. This was replaced by 5% auxiliary duty w.e.f. March 1, 1973. This has been withdrawn w.e.f. 16-3-1976.

^b Includes countervailing duty (only on ex-jetty prices of rockphosphate):

—at 10% from 1-3-69 to 16-3-72.

—at 15% from 17-3-72. This has been withdrawn w.e.f. 16-3-1976.

^c Excluding royalty which was Rs. 4.25/tonne upto 25-7-75 and Rs. 5.00/tonne, thereafter.

^d 25% of the price can be paid at the time of despatch and the balance within 60 days from the date of despatch.

†15% import duty as well as 5% auxiliary duty have been withdrawn with effect from 16-3-1976.

*For Fertiliser Industry.

7.04. ECONOMICS OF APPLICATION OF N, P₂O₅ & K₂O

Particulars	1971-72	1972-73	1973-74	1974-75	1975-76		1976-77	1977-78
					Prior to	Effective		
					December 1975			
A. FERTILISER AND FOOD								
Nutrient prices (Rs./Kg.)¹								
1. N — based on urea	2.01	2.08	2.28	4.35	4.02	4.02	3.80	3.59
2. P ₂ O ₅ - based on SSP	2.89	2.91	2.99	5.33	6.42	5.46	4.11	3.08
to	3.53	3.43	3.55	5.93	7.13	6.24	4.90	4.06
based on DAP	1.86	1.89	2.01	4.83	4.52	4.08	4.17	3.40
based on complex	2.46	2.61	3.05	5.60	6.28	6.42	5.15	4.77
to	2.97	3.47	4.68	9.92	9.54	7.93	6.31	5.72
3. K ₂ O — based on MOP	0.89	0.92	1.13	2.05	1.97	1.83	1.52	1.34
Output prices (Rs./Kg.)¹								
4. Procurement prices of paddy	0.53	0.55	0.70	0.74	0.74	0.74	0.74	0.74
5. Procurement prices of wheat	0.76	0.76	0.76	1.05	1.05	1.05	1.05	1.05
6. Procurement prices of gram								0.95
7. Procurement prices of sorghum								0.74
B. PHYSICAL								
Paddy								
8. Kg. of paddy required to buy 1 kg. N	3.79	3.78	3.26	5.88	4.53	5.43	5.14	4.85
9. Kg. of paddy required to buy 1 kg. P ₂ O ₅ — as SSP	5.45	5.29	4.27	7.20	8.68	7.31	5.55	4.16
to	6.66	6.24	5.07	8.01	9.64	8.43	6.62	5.49
— as DAP	3.51	3.44	2.87	6.53	6.11	5.51	5.64	4.59
— as Complex	4.64	4.75	4.36	6.57	8.49	8.68	6.96	6.45
to	5.60	6.31	6.69	13.41	12.89	10.72	8.53	7.73
10. Kg. of paddy required to buy 1 kg. K ₂ O	1.68	1.87	1.61	2.77	2.66	2.47	2.05	1.81
Wheat								
11. Kg. of wheat required to buy 1 kg. N	2.64	2.74	3.00	4.14	3.83	3.83	3.62	3.42
12. Kg. of wheat required to buy 1 kg. P ₂ O ₅ - as SSP	3.80	3.83	3.93	4.08	6.11	5.20	3.91	2.93
to	4.64	4.51	4.67	5.65	6.79	5.94	4.67	3.87
as DAP	2.45	2.49	2.64	4.60	4.30	3.89	3.97	3.24
— as Complex	3.24	3.43	4.01	5.33	5.98	6.11	4.90	4.54
to	3.91	4.57	6.16	9.45	9.09	7.55	6.01	5.45

ON PADDY, WHEAT, GRAM AND SORGHUM

14.4.77	12.10.77	11.4.78	29.9.78	28.1.79	10.3.79	11.4.79	21.9.79	12.10.79	18.3.80	1.5.80	8.6.80	6.10.80
GRAINS PRICES (Rs./Kg.)												
3.59	3.37	3.37	3.37	3.37	3.15	3.15	3.15	3.15	3.15	3.15	4.35	4.35
to	to	to	to	to	to	to	to	to	to	to	to	to
4.04	4.04	4.09	4.09	4.14	4.14	4.08	4.60	5.24	5.58	5.09	5.82	5.78
3.40	3.49	3.49	3.49	3.49	3.55	3.55	3.55	3.55	3.55	3.55	4.93	4.93
4.77	4.60	4.60	4.60	4.60	4.18	4.18	4.18	4.18	4.18	4.18	5.81	5.81
to	to	to	to	to	to	to	to	to	to	to	to	to
5.72	5.94	5.94	5.94	5.94	4.98	4.98	4.98	4.98	4.98	4.98	6.98	6.98
1.34	1.34	1.34	1.34	1.34	1.34	1.34	1.34	1.34	1.34	1.34	1.83	1.83
0.74	0.77	0.77	0.85	0.85	0.85	0.85	0.95	0.95	0.95	0.95	0.95	1.05
1.10	1.10	1.125	1.125	1.15	1.15	1.15	1.15	1.15	1.17	1.17	1.17	1.17
1.25	1.25	1.25	1.25	1.40	1.40	1.40	1.40	1.40	1.45	1.45	1.45	1.45
0.74	0.74	0.74	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
RETURNS												
4.85	4.33	4.38	3.96	3.96	3.71	3.71	3.32	3.32	3.32	3.32	4.58	4.14
4.19	4.03	4.04	3.66	3.61	3.61	3.78	3.73	4.11	4.43	5.14	4.97	4.41
to	to	to	to	to	to	to	to	to	to	to	to	to
5.46	5.25	5.31	4.81	4.87	4.87	4.80	4.84	5.52	5.82	6.31	6.13	5.50
4.59	4.53	4.53	4.11	4.11	4.18	4.18	3.74	3.74	3.74	3.74	5.19	4.70
6.45	5.97	5.97	5.41	5.41	4.92	4.92	4.40	4.40	4.40	4.40	6.12	5.53
to	to	to	to	to	to	to	to	to	to	to	to	to
7.73	7.71	7.71	6.99	6.99	5.86	5.86	5.24	5.24	5.24	5.24	7.35	6.65
1.81	1.74	1.74	1.58	1.58	1.58	1.58	1.41	1.41	1.41	1.41	1.93	1.74
3.26	3.06	3.00	3.00	3.06	2.80	2.74	2.74	2.74	2.69	2.69	3.72	3.72
2.82	2.82	2.76	2.73	2.76	2.73	2.97	3.08	3.39	3.60	4.17	4.03	3.96
to	to	to	to	to	to	to	to	to	to	to	to	to
3.67	3.87	3.64	3.64	3.68	3.68	3.55	4.00	4.56	4.73	5.12	4.97	4.94
3.09	3.17	3.16	3.10	3.10	3.16	3.09	3.09	3.09	3.03	3.03	4.21	4.21
4.34	4.18	4.09	4.09	4.09	3.72	3.63	3.63	3.63	3.57	3.57	4.97	4.97
to	to	to	to	to	to	to	to	to	to	to	to	to
5.20	5.40	5.28	5.28	5.28	4.41	4.33	4.33	4.33	4.26	4.26	5.97	5.97

(Continued)

7.04. ECONOMICS OF APPLICATION OF N, P₂O₅ & K₂O

Particulars	1971-72	1972-73	1973-74	1974-75	1975-76		16.3.76	8.2.77
					Prior to	Effective		
					December 1975			
13. Kg. of wheat required to buy 1 kg. K ₂ O	1.17	1.21	1.49	1.95	1.88	1.74	1.45	1.28
Gram								
14. Kg. of gram required to buy 1 kg. N							4.22	3.78
15. Kg. of gram required to buy 1 kg. P ₂ O ₅ —as SSP							4.57	3.24
							to	to
							5.44	4.27
— as DAP							4.63	3.58
— as Complex							5.72	5.02
							to	to
							7.01	6.02
16. Kg. of gram required to buy 1 kg. K ₂ O							1.69	1.41
Sorghum								
17. Kg. of sorghum required to buy 1 kg. N								4.85
18. Kg. of sorghum required to buy 1 kg. P ₂ O ₅ —as SSP								4.16
							to	to
								5.49
— as DAP								4.59
— as Complex								6.45
								to
								7.73
19. Kg. of sorghum required to buy 1 kg. K ₂ O								1.81
C. GROSS FINANCIAL RETURN ON EVERY								
Paddy								
20. Return from nutrient N	2.64	2.64	3.68	2.04	2.21	2.21	2.34	2.47
21. Return from nutrient P ₂ O ₅ — based on SSP	1.10	1.13	1.64	0.97	0.81	0.95	1.26	1.68
	to	to	to	to	to	to	to	to
	0.90	0.96	1.38	0.87	0.73	0.83	1.06	1.28
— based on DAP	1.71	1.75	2.44	1.07	1.15	1.27	1.24	1.52
— based on Complex	1.29	1.26	1.61	0.98	0.82	0.81	1.01	1.09
	to	to	to	to	to	to	to	to
	1.07	0.95	1.05	0.52	0.54	0.65	0.82	0.91
22. Return from nutrient K ₂ O	2.38	2.39	3.10	1.80	1.88	2.02	2.43	2.76

ON PADDY, WHEAT, GRAM AND SORGHUM (Continued)

14.4.77	12.10.77	14.4.78	29.9.78	23.1.79	10.3.79	11.4.79	21.9.79	12.10.79	13.3.80	1.5.80	8.6.80	6.10.80
1.22	1.22	1.19	1.19	1.19	1.19	1.17	1.17	1.17	1.15	1.15	1.56	1.56
2.87	2.70	2.70	2.70	2.41	2.25	2.25	2.25	2.25	2.17	2.17	3.00	3.00
2.48	2.48	2.49	2.49	2.19	2.19	2.29	2.53	2.79	2.90	3.37	3.26	3.19
to	to	to	to	to	to	to	to	to	to	to	to	to
3.23	3.23	3.27	3.27	2.96	2.96	2.91	3.29	3.74	3.81	4.13	4.01	3.99
2.72	2.79	2.79	2.79	2.49	2.54	2.54	2.54	2.54	2.45	2.45	3.40	3.40
3.82	3.68	3.68	3.68	3.29	2.99	2.99	2.99	2.99	2.88	2.88	4.01	4.01
to	to	to	to	to	to	to	to	to	to	to	to	to
4.58	4.75	4.75	4.75	4.24	3.56	3.56	3.56	3.56	3.43	3.43	4.81	4.81
1.07	1.07	1.07	1.07	0.96	0.96	0.96	0.96	0.92	0.92	0.92	1.26	1.26
4.85	4.55	4.55	3.96	3.96	3.71	3.71	3.71	3.71	3.71	3.71	5.12	5.12
4.19	4.19	4.20	4.86	3.61	3.61	0.78	4.16	4.59	4.95	5.74	5.55	5.45
to	to	to	to	to	to	to	to	to	to	to	to	to
5.46	5.46	5.53	4.81	4.87	4.87	4.80	5.41	6.16	6.51	7.05	6.85	6.80
4.59	4.72	4.72	4.11	4.11	4.18	4.18	4.18	4.18	4.18	4.18	5.80	5.80
6.45	6.22	6.22	5.41	5.41	4.92	4.92	4.92	4.92	4.92	4.92	6.84	6.84
to	to	to	to	to	to	to	to	to	to	to	to	to
7.73	8.03	8.03	6.99	6.99	5.86	5.86	5.86	5.86	5.86	5.86	8.21	8.21
1.81	1.81	1.81	1.58	1.58	1.58	1.58	1.58	1.58	1.58	1.58	2.15	2.15
RUPEE INVESTED IN FERTILISER (Rs.)												
2.47	2.74	2.74	3.03	3.03	3.24	3.24	3.62	3.62	3.62	3.62	2.62	2.90
1.67	1.74	1.73	1.91	1.94	1.94	1.85	1.88	1.71	1.58	1.36	1.41	1.59
to	to	to	to	to	to	to	to	to	to	to	to	to
1.28	1.33	1.32	1.45	1.44	1.44	1.46	1.45	1.27	1.20	1.11	1.14	1.27
1.52	1.54	1.54	1.70	1.70	1.68	1.68	1.87	1.87	1.87	1.87	1.35	1.49
1.09	1.17	1.17	1.29	1.29	1.42	1.42	1.59	1.59	1.59	1.59	1.14	1.27
to	to	to	to	to	to	to	to	to	to	to	to	to
0.91	0.91	0.91	1.00	1.00	1.19	1.19	1.34	1.34	1.34	1.34	0.95	1.05
2.76	2.87	2.87	3.17	3.17	3.17	3.17	3.54	3.54	3.54	3.54	2.60	2.87

(Continued)

7.04. ECONOMICS OF APPLICATION OF N, P₂O₅ & K₂O

Particulars	1971-72	1972-73	1973-74	1974-75	1975-76		1976-77	1977-78
					Prior to	Effective		
					December 1975			
Wheat								
23. Return from nutrient N	3.78	3.65	4.00	2.90	3.13	3.13	3.82	3.51
24. Return from nutrient P ₂ O ₅								
--based on SSP	1.58	1.57	1.78	1.38	1.14	1.35	1.79	2.39
to	1.29	1.33	1.50	1.24	1.03	1.18	1.50	1.81
--based on DAP	2.45	2.41	2.65	1.52	1.63	1.80	1.76	2.16
--based on Complex	1.85	1.75	1.74	1.31	1.77	1.14	1.43	1.54
to	1.84	1.31	1.14	0.74	0.77	0.93	1.16	1.28
25. Return from nutrient K ₂ O	3.42	3.30	3.36	2.56	2.66	2.87	3.45	3.92
Gram								
26. Return from nutrient N							1.89	2.12
27. Return from nutrient P ₂ O ₅							1.09	1.54
--based on SSP							to	to
to							0.92	1.17
--based on DAP							1.08	1.40
--based on Complex							0.87	1.00
to							to	to
to							0.71	0.83
28. Return from nutrient K ₂ O							6.81	8.15
Sorghum								
29. Return from nutrient N								1.15
30. Return from nutrient P ₂ O ₅								0.90
--based on SSP								to
to								0.73
--based on DAP								0.87
--based on Complex								0.62
to								to
to								0.52
31. Return from nutrient K ₂ O								6.35

For 1971-72 and 1972-73, incremental response ratios (kg of extra product per additional kg of nutrient) for paddy and wheat assumed for analysis are:

N=10 P₂O₅=6 K₂O=4

From 1973-74 onwards, incremental response ratios assumed are:

	Paddy & Wheat	Gram	Sorghum
N	12.0	8.0	5.6
P ₂ O ₅	7.0	5.0	4.0
K ₂ O	5.0	11.5	11.5

Note: Prices of fertilisers mentioned against years 1971-72 to 1975-76 are as on 1st April of each year under reference.

1 Vide Table 7.02 of Part I.

2 Vide Table 7.02 of Part II.

ON PADDY, WHEAT, GRAM AND SORGHUM (Concluded)

14.4.77	12.10.77	11.4.78	20.9.78	23.1.79	10.3.79	11.4.79	21.9.79	12.10.79	12.3.80	1.5.80	8.6.80	6.10.80
3.68	3.92	4.01	4.01	4.01	4.29	4.38	4.38	4.38	4.46	4.46	3.23	3.23
2.48	2.48	2.53	2.53	2.57	2.57	2.51	2.27	2.06	1.95	1.68	1.74	1.77
to	to	to	to	to	to	to	to	to	to	to	to	to
1.91	1.91	1.93	1.93	1.90	1.90	1.97	1.75	1.54	1.48	1.37	1.41	1.42
2.26	2.21	2.26	2.26	2.26	2.22	2.27	2.27	2.27	2.31	2.31	1.68	1.66
1.61	1.67	1.71	1.71	1.71	1.88	1.93	1.93	1.99	1.96	1.96	1.41	1.41
to	to	to	to	to	to	to	to	to	to	to	to	to
1.35	1.30	1.33	1.38	1.33	1.58	1.62	1.62	1.62	1.64	1.64	1.17	1.17
4.10	4.10	4.20	4.20	4.20	4.20	4.29	4.29	4.29	4.37	4.37	3.20	3.20
2.79	2.97	2.97	2.97	3.32	3.56	3.56	3.56	3.56	3.68	3.68	2.67	2.67
2.02	2.02	2.01	2.01	2.28	2.28	2.18	1.98	1.79	1.72	1.48	1.54	1.57
to	to	to	to	to	to	to	to	to	to	to	to	to
1.65	1.55	1.53	1.53	1.69	1.69	1.72	1.52	1.34	1.31	1.21	1.25	1.25
1.84	1.79	1.79	1.79	2.01	1.97	1.97	1.97	1.97	2.04	2.04	1.47	1.47
1.31	1.36	1.36	1.36	1.52	1.67	1.67	1.67	1.67	1.73	1.73	1.25	1.25
to	to	to	to	to	to	to	to	to	to	to	to	to
1.09	1.06	1.05	1.05	1.18	1.41	1.41	1.41	1.41	1.46	1.46	1.04	1.04
10.73	10.73	13.73	10.73	12.01	12.01	12.01	12.01	12.01	12.44	12.44	9.11	9.11
1.15	1.23	1.23	1.41	1.41	1.51	1.51	1.51	1.51	1.51	1.51	1.09	1.09
0.95	0.95	0.95	1.09	1.11	1.11	1.06	0.96	0.87	0.81	0.70	0.72	0.73
to	to	to	to	to	to	to	to	to	to	to	to	to
0.73	0.73	0.72	0.83	0.82	0.82	0.83	0.74	0.65	0.61	0.57	0.58	0.59
0.87	0.85	0.85	0.97	0.97	0.96	0.96	0.96	0.96	0.96	0.96	0.69	0.69
0.62	0.64	0.64	0.74	0.74	0.81	0.11	0.81	0.81	0.81	0.81	0.59	0.59
to	to	to	to	to	to	to	to	to	to	to	to	to
0.52	0.50	0.50	0.57	0.57	0.68	0.68	0.68	0.68	0.68	0.68	0.49	0.49
6.35	6.35	6.35	7.29	7.29	7.29	7.29	7.29	7.29	7.29	7.29	5.34	5.34

7.05. SALES TAX ON FERTILISERS

Zone/State ^{1, 2}	Rate
Central	
Madhya Pradesh	2% sales tax on all fertilisers plus surcharge at 1% on the final sale value.
Rajasthan*	5% sales tax plus 1% multipoint octroi on the value of fertilisers.
Uttar Pradesh	3% on all fertilisers plus turnover tax of 1% on sales exceeding Rs. 2 lakhs in a year plus 1% surcharge.
Delhi*	No sales tax on fertilisers is levied. However, octroi at the rate of Rs. 12 per tonne is charged by Delhi Administration.
East	
Bihar	5%
Orissa	7%
West Bengal	5%
South	
Andhra Pradesh	A Single point levy of 3% at the point of first sale. A turnover tax of 0.5 per cent is leviable on turnover exceeding Rs. 3 lakhs. This additional tax can be passed on to the buyer.
Karnataka	A single point levy of 3.3% at the point of first sale. 10% tax on sales tax is levied when the turnover exceeds Rs. 10 lakhs.
Kerala	General sales tax 2% plus additional sales tax of 10% on general sales tax.
Tamil Nadu	<p>I. Single-point levy of 3.5% at the point of first sale.</p> <p>II. Surcharge on Sales tax</p> <p>A 5% surcharge on Sales tax is levied in Madras City and a 32 km. belt around it as also in the towns of Coimbatore, Madurai, Tiruchirappalli and Salem. This surcharge was extended with effect from April 1, 1979 to cover all the special grade, selection grade and first grade Municipalities—Vide the list furnished below *—and a 16 km. belt skirting Coimbatore, Madurai, Tiruchirappalli and Salem.</p>

*List of Municipalities:

- | | |
|----------------|-----------------------|
| 1. Vallore | 11. Nagarcoti |
| 2. Dindigul | 12. Attur |
| 3. Erode | 13. Chidambaram |
| 4. Kumbakonam | 14. Coonoor |
| 5. Ootacamund | 15. Cuddalore |
| 6. Pollachi | 16. Gudiyattam |
| 7. Thanjavur | 17. Kancheepuram |
| 8. Tiruppur | 18. Gobichettipalayam |
| 9. Tirunelveli | 19. Karaikudi |
| 10. Tuticorin | 20. Karur |

(Continued)

7.05. SALES TAX ON FERTILISERS (Concluded)

Zone/State ¹ *	Rate
Tamil Nadu (Concluded)	
21. Mayuram	30. Tiruvannamalai
22. Mettupalayam	31. Tiruvottiyur
23. Nagapatinam	32. Tiruvarur
24. Palani	33. Udumalpet
25. Pudukkottai	34. Virudhunagar
26. Rajapalayam	35. Villupuram
27. Srirangam	36. Palayamkottai
28. Tambaram	37. Mannargudi
29. Tiruppathur	38. Sivakasi
III. Turnover Tax on Manufacturers not be passed on to the Consumer	
Rate of tax	Taxable turnover
0.4 per cent	Exceeding Rs. 3 lakhs but less than 5 lakhs
0.5 " "	Exceeding Rs. 5 lakhs but less than 7 lakhs
0.6 " "	Exceeding Rs. 7 lakhs but less than 10 lakhs
0.7 " "	Exceeding Rs. 10 lakhs.
Pondicherry	1 per cent (Single point) on all fertilisers at the point of 1st sale.
West	
Gujarat	3% on sales through cooperatives, 4% through private dealers, plus 6% surcharge on sales tax.

*Latest information not received.

1. Interstate movements of chemical fertilisers is liable to Central sales tax at 4% with effect from 1.7.75 when covered by 'C' and 'D' forms otherwise at 10%.
2. States where there is no sales tax have not been included.

7.06. SUBSIDY ON FERTILISERS AND SOIL CONDITIONERS

Zone/State	Fertilisers and Soil conditioners	Subsidy
East		
Arunachal Pradesh	Amm, Sulphate, Urea, SSP, MOP Nitrophosphate 15-15-15. DAP	5% subsidy in developed areas 75% subsidy in partially developed and border areas
Assam	Fertilisers	50% subsidy on total cost of fertilisers in 'Tribal Plan Scheme'. Transport subsidy @ Rs. 20 per tonne on fertiliser beyond 15 km. from District/Sub-divisional Head Quarter.
Manipur*	Soil conditioner Nitrogen Phosphatic Potassic	75% 10% 25% 20%
Meghalaya	SSP	Transport subsidy from Calcutta @ Rs. 125 per tonne
Mizoram	Urea, MOP, Nitrophos. Blackd Lime Lime Powder	50%
Nagaland	Fertilisers	33½%
West Bengal	Dolomite, Basic slag	50% to the farmers holding more than 3 hectares. 75% to the small and marginal farmers if they get the supply direct from the dealers of West Bengal, Agro Industries Corpn. 100% if the supply is effected through panchayats.
North		
Haryana*	Gypsum	50% to all farmers, 83.3% to small and marginal farmers.
Himachal Pradesh*	P ₂ O ₅ & K ₂ O	40% to marginal farmers 30% to small farmers & 20% to other farmers Besides 100% subsidy on transportation charges from the nearest railhead to the registered sale point.
Punjab*	Gypsum	75% to small and marginal farmers holding upto 3 hectares and 50% to other farmers.

(Continued)

7.06. SUBSIDY ON FERTILISERS AND SOIL CONDITIONERS (Concluded)

Zone/State	Fertilisers and Soil conditioners	Subsidy
South		
Andhra Pradesh	Zinc Sulphate	50% subsidy on cost in Guntur district
Karnataka	Gypsum	Full subsidy on transport and cost
	Lime	50%
	Gypsum	25% Gypsum for demonstration purpose free
Kerala	Soil conditioner	50%
Tamil Nadu	P ₂ O ₅ & K ₂ O	25% to small farmers Provided by SFDA 33½% to marginal farmers Provided by SFDA
Pondicherry	P ₂ O ₅ & K ₂ O	25% to small farmers Provided by SFDA 33.33% to marginal farmers Provided by SFDA

*Latest information not received.

Note: Government of India have announced a subsidy scheme beginning Rabi 1979-80 for the purchase of seeds, fertilisers and pesticides ranging from 25% in the case of small farmers, 33½% in the case of marginal farmers and 50% in the case of scheduled tribes.

8.00. SUMMARY TABLES

8.01. PRODUCTION, IMPORTS, DISTRIBUTION AND

Year	Nitrogenous (N)				Phosphatic (P ₂ O ₅) ^b			
	Produced ^a	Imported	Distributed	Consumed	Produced	Imported	Distributed	Consumed
1951-52	28.9	28.8	58.7	58.7	9.8	15.5	6.9	6.9
1952-53	53.1	44.0	57.8	57.8	7.4	—	4.6	4.6
1953-54	52.9	19.0	89.3	89.3	13.8	—	8.3	8.3
1954-55	68.5	20.0	94.8	94.8	14.3	—	15.0	15.0
1955-56	76.9	53.0	107.5	107.5	12.4	—	13.0	13.0
1956-57	78.8	57.0	123.1	123.1	17.6	—	15.9	15.9
1957-58	81.1	110.0	149.0	149.0	25.8	—	21.9	21.9
1958-59	80.8	97.0	172.6	172.0	31.0	—	29.5	29.5
1959-60	83.7	142.0	229.3	229.3	51.4	4	53.9	53.9
1960-61	112.0	399.0	211.7	211.7	53.7	—	53.1	53.1
1961-62	154.3	307.0	291.5	249.8	65.4	—	63.9	60.5
1962-63	194.2	244.0	360.0	333.0	88.3	10.0	81.4	82.8
1963-64	219.1	228.0	407.0	376.8	107.8	13.0	116.7	116.5
1964-65	243.2	232.0	434.5	555.2	131.0	12.0	147.7	148.7
1965-66	237.9	326.0	547.4	574.8	118.8	14.0	132.2	132.5
1966-67	309.0	632.0	838.7	737.8	145.7	148.0	248.6	248.6
1967-68	402.6	867.0	1,051.8	1,034.6	207.1	349.0	422.1	334.8
1968-69	563.0	844.0	1,254.9	1,208.6	213.2	138.0	318.8	382.1
1969-70	730.6	867.0	1,040.2	1,356.0	223.7	94.8	234.9	416.0
1970-71	832.5	477.0	1,310.0	1,479.0	228.1	32.0	305.1	541.0
1971-72	949.2	481.0	1,652.7	1,798.0	290.3	248.0	473.6	558.2
1972-73	1,054.5	665.0	1,742.1	1,839.0	330.3	204.0	534.3	581.3
1973-74	1,049.9	659.0	1,613.0	1,829.9	324.5	218.0	541.1	649.7
1974-75	1,186.6	884.0	1,845.2	1,765.7	331.2	286.0	497.4	471.5
1975-76	1,508.0	996.0	1,908.7	2,148.6	319.7	361.0	373.6	466.8
1976-77	1,862.4 + 47.1†	750.1	2,351.7	2,457.1	478.3	22.8	643.5	635.3
1977-78	1,989.8 + 37.5†	758.1	2,813.3	2,913.1	669.9	163.9	773.1	866.6
1978-79	2,173.0 + 46.9†	1,233.1	2,986.3	3,419.5	778.0	243.5	950.6	1,106.0
1979-80	2,224.3 + 32.1†	1,295.3	3,444.2	3,499.0@	763.1	237.1	997.9	1,150.3

^a Excludes nitrogen meant for non-agricultural purposes.

^b Excludes data in respect to bonemeal and rockphosphate.

† Meant for non-agricultural purposes.

@ Provisional.

CONSUMPTION OF FERTILISERS—1951-52 to 1979-80 (April/March)

('000 tonnes)

Potassic (K ₂ O)			Total (N+P ₂ O ₅ +K ₂ O)				Total value of import (Rs. million)	Year
Imported	Distributed	Consumed	Produced	Imported	Distributed	Consumed		
7.7	—	—	38.7	52.0	65.6	65.6		{ 1951-52
3.0	3.3	3.3	60.5	47.0	65.7	65.7	45.6	{ 1952-53
7.0	7.5	7.5	66.7	26.0	105.0	105.0	25.2	I Plan { 1953-54
11.0	11.1	11.1	82.8	31.0	120.9	120.9	30.2	{ 1954-55
10.0	10.3	10.3	89.2	63.0	130.8	130.8	73.3	{ 1955-56
15.0	14.8	14.8	96.4	72.0	153.7	153.7	77.7	{ 1956-57
13.0	12.8	12.8	106.6	123.0	183.7	183.7	158.8	{ 1957-58
22.0	22.4	22.4	111.8	119.0	223.8	223.8	113.1	II Plan { 1958-59
33.0	21.3	21.3	135.1	179.0	304.6	304.6	162.9	{ 1959-60
20.0	29.0	29.0	165.7	419.0	239.9	239.9	121.8	{ 1960-61
75.0	28.0	28.0	219.7	382.0	383.5	338.3	141.1	{ 1961-62
41.0	36.4	36.4	282.5	295.0	477.9	452.2	238.9	{ 1962-63
40.0	50.6	50.6	326.9	281.0	574.2	543.9	187.1	III Plan { 1963-64
57.0	70.4	69.3	374.3	301.0	652.6	773.2	220.8	{ 1964-65
73.0	77.7	77.3	356.7	413.0	757.3	784.6	411.9	{ 1965-66
118.0	115.7	114.2	454.7	398.0	1,203.0	1,100.6	1,288.2	1966-67
270.0	265.6	169.6	609.8	1,486.9	1,739.5	1,539.0	1,933.0	1967-68
213.0	177.6	170.0	776.2	1,195.0	1,751.3	1,760.7	1,620.2	1968-69
120.0	132.5	210.0	954.3	881.0	1,407.6	1,982.4	1,197.7	{ 1969-70
120.0	197.7	236.3	1,060.6	629.0	1,812.8	2,256.0	767.8	{ 1970-71
263.0	256.3	300.0	1,239.5	997.0	2,382.6	2,656.3	899.7	IV Plan { 1971-72
325.0	312.1	347.5	1,384.8	1,194.0	2,588.5	2,767.8	1,212.6	{ 1972-73
370.0	381.0	359.8	1,374.4	1,242.0	2,535.1	2,838.6	1,767.5	{ 1973-74
437.0	317.5	336.1	1,517.2	1,607.0	2,660.1	2,573.3	5,991.3	{ 1974-75
278.0	227.0	278.3	1,827.7	1,635.0	2,509.3	2,893.7	7,227.7	{ 1975-76
277.8	377.3	318.6	2,387.8	1,050.7	3,327.3	3,411.0	2,203.6	V Plan { 1976-77
598.9	482.7	508.2	2,706.9	1,520.9	4,069.1	4,285.8	3,064.4	{ 1977-78
517.4	560.1	591.5	2,997.9	1,994.0	4,497.0	5,116.9	4,600.3	{ 1978-79
473.2	545.5	606.5	3,019.5	2,005.6	4,987.6	5,255.8	5,545.0	1979-80

Note: 1. From 1952-53 to 1960-61, distribution figures are treated as consumption.

From 1961-62 on wards, consumption figures have been taken from *Indian Agriculture in Brief*, Ministry of Agriculture and Rural Reconstruction, New Delhi.

2. Imports and value have taken from the Ministry of Agriculture and Rural Reconstruction New Delhi.

8.02. PRODUCTION, IMPORTS & DISTRIBUTION OF FERTILISERS
1978-79 and 1979-80

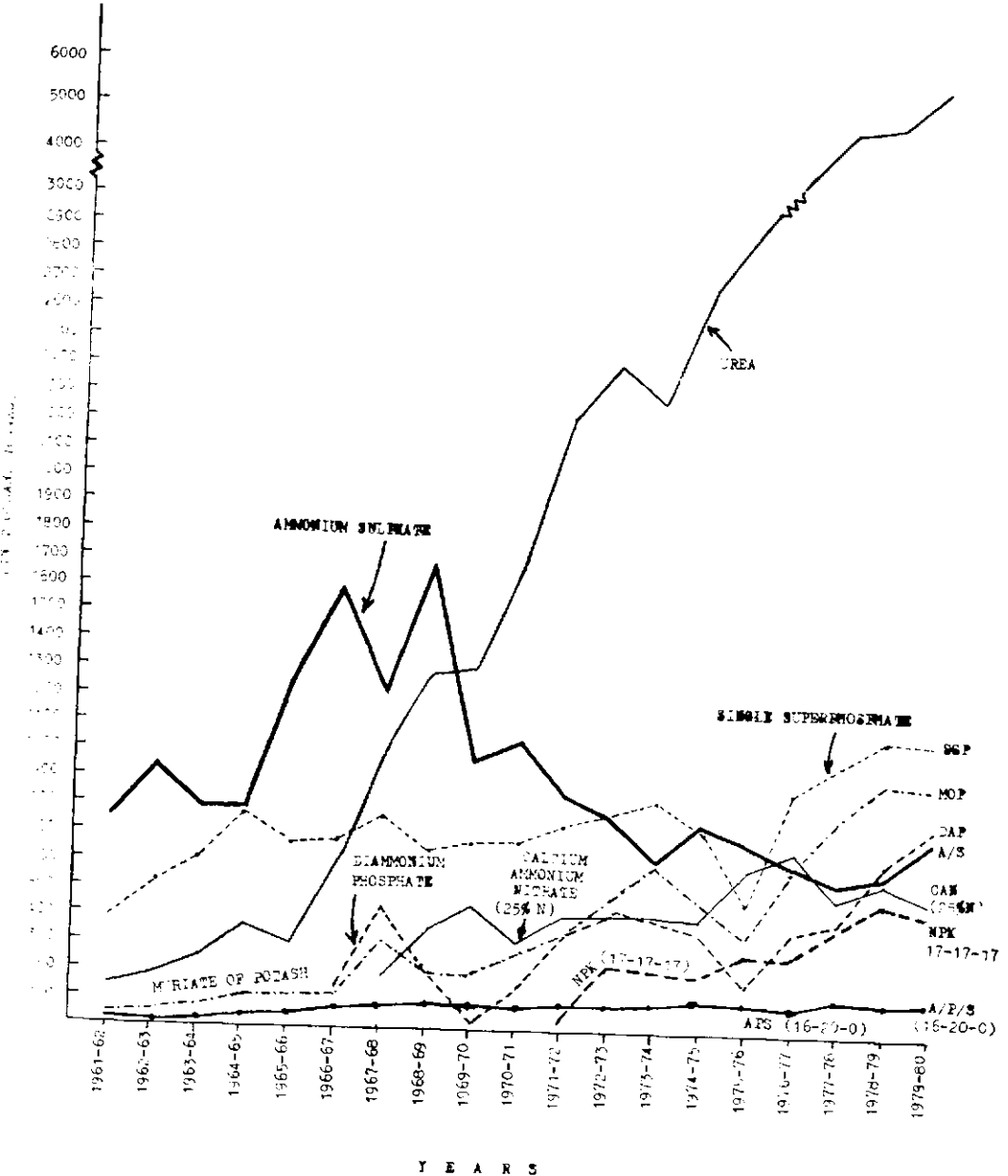
('000 tonnes)

Material	Grade	Production		Imports		Distribution	
		1978-79	1979-80	1978-79	1979-80	1978-79	1979-80
I. Straight Nitrogenous							
1. Ammonium sulphate	20.6% N	508.6	479.3	342.9	202.7	581.4	710.2
2. Urea	46% N	3306.0	3513.5	2218.2	2399.7	4835.8	5786.0
3. Cal. Amm. Nitrate	25% N	558.8	465.3	—	—	554.1	489.6
4. -do-	26% N	—	—	175.6	216.0	84.7	101.0
5. Amm. Chloride	25% N	17.9	12.7	—	28.2	23.2	17.0
Total Straight	N	1769.7	1834.5	1136.7	1202.5	2510.6	2962.4
		(81.8)	(82.5)	(92.3)	(92.8)	(84.1)	(86.0)
II. Straight Phosphatic							
1. Single Sup. phos.	16% P ₂ O ₅	1111.5	1048.4	—	—	1067.8	1064.5
2. Triple sup. phos.	46% P ₂ O ₅	19.6	22.4	—	—	15.7	21.5
Total Straight P₂O₅		186.8	178.0	—	—	178.1	180.3
		(24.0)	(23.3)	(—)	(—)	(18.7)	(18.1)
III. Straight Potassic							
1. Muriate of Potash	60% K ₂ O	—	—	853.4	781.6	918.8	901.5
2. Sulphate of Potash	50% K ₂ O	—	—	10.7	8.4	14.3	9.2
Total Straight K₂O		—	—	517.4	473.2	317.7	321.3
				(100.0)	(100.0)	(56.7)	(58.9)
IV. NP/NPK Fertilisers							
1. 16-20-0		119.9	125.2	—	—	121.6	129.2
2. 20-20-0		42.7	40.6	—	—	42.4	40.9
3. 20-20-0 (ANP)		128.4	199.8	—	—	126.7	183.8
4. 18-46-0		229.0	263.4	529.3	515.4	620.2	751.3
5. 15-15-15		265.6	255.5	—	—	247.7	270.4
6. 15-15-15 (IMP)		—	—	—	—	8.5	—
7. 20-20-0 (IMP)		—	—	—	—	5.8	—
8. 28-28-0		338.2	261.5	—	—	325.1	281.4
9. 17-17-17		472.2	412.5	—	—	491.3	420.5
10. 24-24-0		28.0	25.7	—	—	30.0	20.0
11. 10-26-26		78.6	56.8	—	—	77.6	57.9
12. 12-32-16		484.4	453.3	—	—	482.2	458.6
13. 19-19-19		66.5	68.8	—	—	78.1	59.1
14. 14-35-14		18.0	55.2	—	—	16.8	53.5
15. 14-28-14		42.1	36.8	—	—	42.4	38.0
Total (Through NP/NPK Fertilisers)	N	403.2	389.8	95.3	92.8	475.5	481.8
		(18.2)	(17.5)	(7.7)	(7.2)	(15.9)	(14.0)
	P₂O₅	691.2	585.1	243.5	237.1	772.8	817.6
		(76.0)	(76.7)	(100.0)	(100.0)	(81.3)	(81.9)
	K₂O	—	—	—	—	242.4	224.2
		(—)	(—)	(—)	(—)	(43.3)	(41.1)
Grand Total:	N	2173.0	2224.3	1233.1	1295.3	2986.3	3444.2
		+ 46.9*	+ 32.1*	(100.0)	(100.0)	(100.0)	(100.0)
	P₂O₅	778.0	763.1	243.5	237.1	950.6	997.9
		(100.0)	(100.0)	(100.0)	(100.0)	(100.0)	(100.0)
	K₂O	—	—	517.4	473.2	560.1	545.5
		(—)	(—)	(100.0)	(100.0)	(100.0)	(100.0)

+ K₂O derived from MOP/SOP distributed to the manufacture of NPK complex fertiliser has been excluded from this figure.

* Meant for non agricultural purpose.

DISTRIBUTION OF SOME IMPORTANT FERTILISER MATERIALS 1961-62 to 1979-80



8.03. MONTHWISE, MATERIALWISE AND NUTRIENTWISE
1978-79 and

Month	Amm. sulphate (20.6%)		Urea (46%)		Cal. amm. nitrate (25% N)		D.A.P. (18-46-0)	
	Production	Des-patches	Production	Des-patches	Production	Des-patches	Production	Des-patches
Opening stock as on 1-4-78	25		129		24		16	
April 1978	44	43	221	196	44	43	14	17
May	38	50	215	193	34	39	14	13
June	39	40	211	236	42	24	8	10
July	40	37	287	265	52	43	19	18
August	42	41	288	314	45	47	24	19
September	42	40	255	278	50	49	22	26
October	38	44	259	254	53	57	32	35
November	46	45	308	320	48	55	24	25
December	47	46	319	297	49	49	18	19
January 1979	49	45	354	351	54	63	24	19
February	44	34	284	226	44	45	16	16
March	40	32	304	269	44	40	13	11
Total (April-March) 1978-79	509	497	3306	3199	559	554	228	228
Opening stock as on 1-4-79	28		221		29		16	
April 1979	34	28	231	233	44	33	19	16
May	35	39	241	260	45	35	21	25
June	36	34	275	252	32	37	28	25
July	43	46	230	288	44	45	25	27
August	41	41	345	354	51	48	27	24
September	40	37	313	339	44	42	23	23
October	42	39	320	335	45	44	25	29
November	43	38	301	267	37	50	12	15
December	46	48	354	316	40	47	19	18
January 1980	40	49	305	365	35	46	27	27
February	36	34	280	290	22	35	15	15
March	43	39	299	291	26	29	22	15
Total (April-March) 1979-80	479	472	3514	3590	465	491	263	562

†Meant for non-agricultural purposes.

PRODUCTION AND FACTORY DESPATCHES

1979-80

('000 tonnes)

Other complex fertilisers		Single sup. phos. (16% P ₂ O ₅)		Triple sup. phos. (46% P ₂ O ₅)		Total			
						N		P ₂ O ₅	
Production	Despatches	Production	Despatches	Production	Despatches	Production	Despatches	Production	Despatches
98		75		6.4		101		46	
161	159	70	80	0.8	0.2	154	142	49	56
147	153	85	95	0.1	1.2	142	139	56	57
185	199	905	105	0.01	0.13	147	163	65	68
210	212	102	106	0.6	0.4	193	196	77	80
179	185	93	80	1.3	0.3	182	197	62	63
159	158	97	87	—	0.1	172	182	69	72
182	188	95	105	0.8	0.2	183	189	78	80
165	198	105	106	3.3	2.4	193	207	70	67
169	135	98	95	2.8	4.1	202	203	65	56
172	177	90	79	5.6	4.8	224	220	69	63
174	159	86	70	0.3	1.8	180	157	59	61
212	183	95	79	4.0	0.7	199	172	59	54
2095	2106	1111	1068	20	16	2173 +47†	2167	778	777
104		114		8		139		53	
171	209	85	102	2.0	1.5	148	161	62	76
175	183	91	109	1.5	2.5	166	168	69	75
151	158	77	104	1.7	2.4	175	161	62	64
177	162	100	95	0.4	2.9	167	188	69	65
144	155	95	88	3.5	1.6	219	214	53	59
160	158	79	90	2.1	1.8	195	204	60	61
186	191	81	77	1.6	4.8	203	213	67	72
142	138	89	90	1.9	2.0	183	171	56	55
206	201	94	90	0.1	1.2	220	206	72	69
182	201	89	74	3.0	0.5	193	226	67	69
149	154	90	74	2.4	0.2	173	179	51	51
181	187	78	72	2.2	0.6	188	179	66	58
2024	1876	1048	1065	23.4	22.0	2224 +32†	2276	763	778

**8.01. RATE OF GROWTH OF PRODUCTION AND CONSUMPTION OF
N, P₂O₅ AND K₂O
1961-62 to 1979-80**

('000 tonnes)

Year	N		P ₂ O ₅		K ₂ O	Total N+P ₂ O ₅ +K ₂ O	
	Production	Consumption	Production	Consumption	Consumption	Production	Consumption
1961-62	154	250	85	61	28	220	339
1962-63	194 (26.0)	333 (33.2)	88 (35.4)	83 (36.1)	36 (28.6)	283 (28.6)	452 (33.3)
1963-64	219 (12.9)	377 (13.2)	108 (22.7)	116 (39.8)	51 (41.7)	327 (15.5)	544 (20.4)
1964-65	243 (1.09)	555 (47.2)	131 (21.3)	149 (28.4)	69 (35.3)	374 (14.5)	773 (42.1)
1965-66	238 (-2.1)	575 (3.6)	119 (-9.2)	132 (-11.4)	77 (11.6)	357 (-4.7)	784 (1.4)
1966-67	309 (29.8)	738 (28.3)	146 (22.7)	249 (88.6)	114 (48.1)	455 (27.5)	1,101 (40.4)
1967-68	403 (30.4)	1,035 (40.2)	207 (41.8)	335 (34.5)	170 (49.1)	610 (34.1)	1,540 (39.9)
1968-69	563 (39.7)	1,208 (16.7)	213 (2.9)	382 (14.0)	170 (-)	776 (27.3)	1,760 (14.3)
1969-70	731 (29.8)	1,356 (12.3)	224 (5.2)	416 (8.9)	210 (23.5)	954 (22.9)	1,982 (12.6)
1970-71	833 (14.0)	1,479 (9.0)	228 (1.8)	541 (30.0)	206 (12.4)	1,061 (11.1)	2,256 (13.8)
1971-72	949 (13.9)	1,798 (21.8)	290 (27.2)	558 (3.1)	300 (27.1)	1,240 (16.9)	2,556 (17.7)
1972-73	1,054 (11.1)	1,840 (2.3)	330 (13.8)	581 (4.1)	348 (16.0)	1,385 (11.7)	2,769 (4.3)
1973-74	1,050 (-0.4)	1,829 (-0.6)	325 (-1.5)	650 (11.9)	360 (3.4)	1,374 (-0.8)	2,839 (2.5)
1974-75	1,186 (12.9)	1,766 (-3.5)	331 (1.8)	472 (-27.4)	336 (-6.7)	1,517 (10.4)	2,574 (-9.3)
1975-76	1,508 (27.2)	2,149 (21.7)	320 (-3.3)	467 (-1.1)	278 (-17.3)	1,828 (20.5)	2,894 (12.4)
1976-77	1,909 (26.5)	2,457 (14.3)	478 (49.4)	685 (36.9)	319 (14.7)	2,388 (30.6)	3,411 (17.9)
1977-78	2,837 (10.7)	2,913 (18.6)	670 (40.2)	867 (36.7)	506 (58.6)	2,707 (13.4)	4,286 (25.7)
1978-79	2,220 (9.0)	3,420 (17.4)	778 (16.1)	1,106 (27.6)	592 (17.0)	2,998 (10.8)	5,117 (19.3)
1979-80	2,224 (0.2)	3,499 [@] (2.3)	783 (-1.9)	1,150 [@] (4.0)	607 [@] (2.5)	2,987 (-0.4)	5,256 [@] (2.7)

[@]Provisional

Note: Figures in bracket indicate percentage increase over the previous year.

8.05. STATEWISE PRODUCTION AND CONSUMPTION OF N, P₂O₅ & K₂O
1979-80 (April-March)

('000 tonnes)

Zone/State	N			P ₂ O ₅			K ₂ O†	Total		
	Production	Consumption*	Surplus/deficit (±)	Production	Consumption*	Surplus/deficit (±)	Consumption*	Production	Consumption*	Surplus/deficit (±)
Central	328.0	973.0	-645.0	52.5	258.3	-205.8	90.1	380.5	1,321.6	-941.1
Madhya Pradesh	6.7	96.9	-90.2	14.1	50.0	-35.9	12.8	20.8	159.7	-138.9
Rajasthan	116.0	115.4	+0.6	10.6	26.1	-15.5	5.6	126.6	147.1	-20.5
Uttar Pradesh	205.8	756.3	-551.0	8.5	181.3	-172.8	71.4	213.8	1,009.1	-795.3
Delhi	—	4.4	-4.4	19.3	0.95	+18.4	0.34	19.3	5.66	+13.6
East	267.5	347.6	-81.1	23.5	104.7	-81.2	54.6	291.0	507.0	-216.0
Arunachal Pradesh	—	0.06	-0.06	—	0.009	-0.009	0.017	—	0.086	-0.086
Assam	78.1	5.6	+72.5	0.4	9.7	-0.3	0.5	78.5	6.8	+71.7
Bihar	77.3	145.0	-68.7	9.9	26.1	-16.2	13.2	87.2	184.3	-97.1
Manipur	—	2.28	-2.28	—	0.56	-0.56	0.18	—	3.01	-3.01
Meghalaya	—	1.15	-1.15	—	0.5	-0.5	0.09	—	1.84	-1.84
Nagaland	—	0.06	-0.06	—	0.011	-0.011	0.021	—	0.09	-0.09
Orissa	56.6	46.4	+9.2	—	13.3	-13.3	7.2	55.6	67.4	-11.8
Sikkim	—	0.05	-0.05	—	0.18	-0.18	0.13	—	0.56	-0.56
Tripura	—	1.39	-1.39	—	0.35	-0.35	0.39	—	2.13	-2.13
West Bengal	56.5	144.9	-88.4	13.2	62.9	-49.7	32.9	61.7	240.7	-171.0
Mizoram	—	0.027	-0.027	—	0.025	-0.025	0.018	—	0.07	-0.07
North	248.2	677.5	-430.3	—	215.1	-215.1	44.1	248.2	936.7	-688.5
Haryana	64.5	174.5	-110.0	—	30.2	-30.2	10.7	64.5	215.5	-151.0
Himachal Pradesh	—	9.8	-9.8	—	2.3	-2.3	1.9	—	14.0	-14.0

(Continued)

8.05. STATEWISE PRODUCTION AND CONSUMPTION OF N, P₂O₅ & K₂O
1979-80 (April-March) (Concluded)

('000 tonnes)

Zone/State	N			P ₂ O ₅			K ₂ O†		Total		
	Production	Consumption*	Surplus/deficit (±)	Production	Consumption*	Surplus/deficit (±)	Consumption*	Production	Consumption*	Surplus/deficit (±)	
Jammu & Kashmir	—	16.5	-16.5	—	4.6	-4.6	1.5	—	22.5	-22.5	
Punjab	183.7	474.1	-291.4	—	178.0	-178.0	30.0	183.7	682.1	-498.4	
Chandigarh	—	2.61	-2.61	—	0.07	-0.07	0.010	—	2.82	-2.82	
South	751.9	950.6	-198.7	329.2	338.7	-9.5	265.0	1,081.1	1,554.3	-473.2	
Andhra Pradesh	60.6	369.7	-309.1	84.9	126.0	-41.1	39.1	145.4	534.8	-389.4	
Karnataka	106.4	204.0	-97.6	6.1	86.5	-80.4	75.8	112.5	366.3	-253.8	
Kerala	168.5	46.4	+122.1	69.2	25.4	+43.8	33.9	237.7	105.6	+132.1	
Tamil Nadu	416.4	324.6	+91.8	169.0	99.5	+69.5	113.8	585.4	537.9	+47.5	
Pondicherry	—	5.9	-5.9	—	1.3	-1.3	2.5	—	9.7	-9.7	
West	628.4	483.8	+144.6	357.9	206.4	+151.5	113.2	986.3	803.4	+182.9	
Gujarat	351.3	224.1	+130.2	213.4	114.4	+99.0	39.1	564.7	377.5	+187.2	
Maharashtra	126.1	257.3	-131.2	117.0	90.6	+26.4	73.1	243.1	421.1	-178.0	
Goa	151.0	2.3	+148.7	27.5	1.3	+26.2	1.0	178.5	4.6	+173.9	
Dadra & Nagar Haveli	—	0.12	-0.12	—	0.08	-0.08	0.02	—	0.22	-0.22	
Others	—	66.5	-66.5	—	27.1	-27.1	39.5	—	132.8	-132.8	
All India	2,224.3	3,499.0	-1,274.7	763.1	1,150.3	-387.2	606.5	2,987.4	5,255.8	-2,268.4	

*Consumption data are provisional and based on February/January period.

†There is no production of K₂O and entire requirement is met through imports.

Source: Ministry of Agriculture & Rural Reconstruction, New Delhi.

9.00. SOIL TESTING, AGRICULTURAL INSTITUTIONS

9.01. LIST OF SOIL TESTING LABORATORIES
(Government and Private)

Sl. No.	Location	Address of soil testing laboratory	Capacity of laboratory per annum (No. of samples)
Andhra Pradesh			
1.	Adilabad	Soil Chemist, Soil Testing Laboratory Adilabad	6,000
2.	Amdalawalasa	Soil Chemist, Soil Testing Laboratory Amdalawalasa, Srikakulam	6,000
3.	Anantpur	Soil Chemist, Soil Testing Laboratory Anantpur	6,000
4.	Anakapalli	Soil Chemist, Soil Testing Laboratory Anakapalli, Visakhapatnam	6,000
5.	Bapatla	Soil Chemist, Regional Laboratory Soil Testing Service Bapatla, Guntur	10,000
6.	Bapatla	Soil Chemist, Mobile Soil Testing Laboratory Bapatla, Guntur	10,000
7.	Cuddapah	Soil Chemist, Soil Testing Laboratory Cuddapah	6,000
8.	Garkipudu	Soil Chemist, Soil Testing Laboratory Garkipudu, Krishna Dt.	6,000
9.	Guntur	Soil Chemist, Soil Testing Service, Right Canals (NSP), Guntur	6,000
10.	Hyderabad	Soil Chemist, Regional Laboratory Soil Testing Service Rajendranagar, Hyderabad	10,000
11.	Hyderabad	Soil Chemist, Mobile Soil Testing Laboratory Hyderabad	10,000
12.	Jadcheria	Soil Chemist, Soil Testing Laboratory Jadcheria, Dt. Mehbubnagar	6,000
13.	Karimnagar	Soil Chemist, Soil Testing Laboratory Karimnagar	6,000
14.	Khammam	Soil Testing Laboratory Khammam	6,000
15.	Miryalgudu	Soil Chemist, N P Left Canal Miryalgudu, Dt. Nalgonda	6,000
16.	Nizamabad	Analytical Chemist, Soil Testing Laboratory Nizamabad	6,000

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9.01. LIST OF SOIL TESTING LABORATORIES (Continued)
(Government and Private)

Sl. No.	Location	Address of soil testing laboratory	Capacity of laboratory per annum (No. of samples)
Andhra Pradesh (Concluded)			
17.	Nellore	Soil Chemist, Soil Testing Laboratory Nellore	6,000
18.	Rajendranagar	Soil Testing Laboratory Rajendranagar, Hyderabad	10,000
19.	Sangareddy	Soil Chemist, Soil Testing Laboratory Sangareddy, Medak	6,000
20.	Samalkot	Soil Chemist, Soil Testing Laboratory Samalkot (East Godavari)	6,000
21.	Tadepalligudam	Soil Chemist, Soil Testing Service IADP, Tadepalligudam (West Godavari)	30,000
22.	Tanuku	Jayalaxmi Fertilisers Venkatarayapuram	5,000
23.	Tirupati	Soil Chemist, Soil Testing Laboratory Tirupati (Dt. Chittoor)	6,000
24.	Tadepalli	Andhra Fertilisers Ltd., Fertiliser Factory Tadepalli, Guntur Dist.	N.A.
25.	Visakhapatnam	Soil Testing Laboratory, Coromandel Fertilisers Ltd. Post Box No. 125, Visakhapatnam-1	3,600
26.	(a) Vijayawada	Soil Testing Laboratory, Area Office RCF Ltd. 28-7-8/A Sheik Mohiuddin Street Near Vinoda Talkies Arundelpetha, Vijayawada	10,000
	(b) Vijayawada (Mobile)	-do-	10,000
27.	Warangal	Soil Chemist, Soil Testing Laboratory Warangal	6,000
28.	Yammiganur	Soil Chemist, Soil Testing Laboratory Yammiganur, Kurnool	6,000
Assam			
29.	(a) Gauhati	Soil Testing Laboratory, Ulubari Gauhati-7, Govt. of Assam	5,000
	(b) Gauhati (Mobile)	Soil Testing Laboratory Ulubari, Gauhati-7, Govt. of Assam	3,000
30.	Jorhat	Soil Testing Laboratory Jorhat-4, Govt. of Assam	5,000
31.	Namrup	Soil Testing Laboratory Hindustan Fertilizer Corpn. Ltd., FP & ARD Namrup Unit, Parbatpur, Dist. Dibrugarh	25,000

(Continued)

9.01. LIST OF SOIL TESTING LABORATORIES (Continued)
(Government and Private)

Sl. No.	Location	Address of soil testing laboratory	Capacity of laboratory per annum (No. of samples)
Assam (Concluded)			
32.	Namrup (Mobile)	Soil Testing Laboratory Hindustan Fertilizer Corpn. Ltd. (Mobile Soil Testing Laboratory) Namrup Unit, Parbatpur, Dist. Dibrugarh	24,000
33.	Silchar	Soil Testing Laboratory Silchar, Govt. of Assam	1,000
34.	Tezpur (Mobile)	Soil Testing Laboratory Tezpur	3,000
Bihar			
35.	Arrah	Soil Testing Laboratory IADP, Arrah	20,000
36.	(a) Barauni	Soil Testing Laboratory Hindustan Fertilizer Corpn. Ltd., FP & ARD Barauni, Dist. Begusarai, Bihar	25,000
	(b) Barauni (Mobile)	Soil Testing Laboratory Hindustan Fertilizer Corpn. Ltd., Urbaraknager Barauni, Dist. Begusarai	18,000
37.	Bettiah	Soil Testing Laboratory Department of Agriculture Bettiah	10,000
38.	Chakradharpur	Soil Testing Laboratory Chakradharpur, Distt. Singhbhum	1,000
39.	Chapra	Soil Testing Laboratory Department of Agriculture Chapra	10,000
40.	Dholi	Soil Testing Laboratory Agriculture Research Institution Dholi	10,000
41.	Gaya	Soil Testing Laboratory Department of Agriculture Gaya	10,000
42.	Hazaribagh	Soil Testing Laboratory D.V.C. Hazaribagh	10,000
43.	Kanke	Soil Testing Laboratory Agriculture Research Institution Kanke, Ranchi	10,000
44.	Monghyr	Soil Testing Laboratory Department of Agriculture Monghyr	10,000

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9.01. LIST OF SOIL TESTING LABORATORIES (Continued)
(Government and Private)

Sl. No.	Location	Address of soil testing laboratory	Capacity of laboratory per annum (No. of samples)
Bihar (Concluded)			
45.	Muzaffarpur	Soil Testing Laboratory Department of Agriculture Muzaffarpur	10,000
46.	Muzaffarpur	Mobile Soil Testing Laboratory Gandak Development Authorities Agency Muzaffarpur	10,000
47.	Patna	Soil Testing Laboratory, Agricultural Research Institute, Rajendra Agricultural University Patna	10,000
48.	Purnea	Soil Testing Laboratory IADP, Purnea	10,000
49.	Sabour	Soil Testing Laboratory Agricultural Research Institute Sabour, Bhag Ipur	5,000
50.	(a) Saharsa (Mobile)	Mobile Testing Laboratory, Iron Area Development Authority Saharsa	10,000
	(b) Saharsa	Soil Testing Laboratory IDAP, Saharsa	10,000
51.	(a) Sindri	Soil Testing Laboratory Hindustan Fertilizer Corpn. Ltd., FP & ARD Sindri Unit, P.O. Sindri, Dist. Dhanbad	25,000
	(b) Sindri (Mobile)	Soil Testing Laboratory Hindustan Fertilizer Corpn. Ltd., FP & ARD Sindri Unit, P.O. Sindri, Dist. Dhanbad	18,000
Gujarat			
52.	Amreli	Asst. Soil Chemist, Soil Testing Laboratory Amreli	N.A.
53.	Bardoli	Asst. Soil Chemist, Soil Testing Laboratory Bardoli, Dist. Surat	N.A.
54.	Baroda	Gujarat State Fertilizers Co. Ltd. Fertilizernagar, Baroda 391 750	10,000
55.	Bhuj	Agriculture Officer Soil & Water Testing Laboratory Bhuj, Dist. Kutch	N.A.
56.	Bhiloda	Asst. Soil Chemist, Soil Testing Laboratory Bhiloda, Dist. Sabarkantha	N.A.

(Continued)

9.01. LIST OF SOIL TESTING LABORATORIES (Continued)
(Government and Private)

Sl. No.	Location	Address of soil testing laboratory	Capacity of laboratory per annum (No. of samples)
Gujarat (Concluded)			
57. (a)	Chota Udaipur	Asst. Soil Chemist, Soil Testing Laboratory Chota Udaipur, Dist. Baroda	N.A.
(b)	Chota Udaipur (Mobile)	Asst. Soil Chemist, Soil Testing Laboratory Chota Udaipur, Dist. Baroda	N.A.
58.	Dahod	Asst. Soil Chemist, Soil Testing Laboratory Dahod, Dist. Panchmahal	N.A.
59.	Deesa	Asst. Soil Chemist, Soil Testing Laboratory Deesa, Dist. Banaskantha	10,000
60.	Gandhinagar	Asst. Soil Chemist, Soil Testing Laboratory Sector No. 15 Gandhinagar	N.A.
61.	Jamnagar (Mobile)	Mobile, Soil Testing Laboratory Jamnagar C/o Farmer Training Centre Aerodrome Road Jamnagar	N.A.
62.	Khed Bhrama	Asst. Soil Chemist Soil Testing Laboratory Khed Bhrama Dist. Sabarkantha	N.A.
63.(a)	Rajpipla	Asst. Soil Chemist, Soil Testing Laboratory Rajpipla, Distt. Broach	N.A.
(b)	Rajpipla (Mobile)	-do-	N.A.
64.	Paradi	Asst. Soil Chemist, Soil Testing Laboratory Paradi, Dist. Bulsar	N.A.
65.	Pilwai	Asst. Soil Chemist, Soil Testing Laboratory Pilwai, Dist. Mehsana	N.A.
66.	Rajkot	Asst. Soil Chemist, Soil Testing Laboratory Read Club, Rajkot	N.A.
67.	Talaja	Asst. Soil Chemist, Soil Testing Laboratory Talaja, Dist. Bhavnagar	N.A.
68.	Thasara	Asst. Soil Chemist, Soil Testing Laboratory Thasara, Dist. Kaira	N.A.
69.	Vansda	Asst. Soil Chemist, Soil Testing Laboratory Vanada, Dist. Surat	N.A.
70.	Vyara	Asst. Soil Chemist, Mobile Soil Testing Laboratory Vyara, Distt. Surat	N.A.

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9.01. LIST OF SOIL TESTING LABORATORIES (Continued)
(Government and Private)

Sl. No.	Location	Address of soil testing laboratory	Capacity of laboratory per annum (No. of samples)
Haryana			
71.	Ambala	Soil Testing Laboratory, Dept. of Agriculture Ambala	10,000
72.	Bhiwani	Soil Testing Laboratory, Dept. of Agriculture Bhiwani	10,000
73.	Ballabgarh	Soil Testing Laboratory, Dept. of Agriculture Ballabgarh	10,000
74.	Dadri	Soil Testing Laboratory, Dept. of Agriculture Dadri	10,000
75.	Fatehabad	Soil Testing Laboratory, Dept. of Agriculture Fatehabad	10,000
76.	Fatehpur Zhirka	Soil Testing Laboratory, Dept. of Agriculture Fatehpur Zhirka	10,000
77.	Gohana	Soil Testing Laboratory, Dept. of Agriculture Gohana	10,000
78.	Gurgaon	Soil Testing Laboratory, Dept. of Agriculture Gurgaon	10,000
79.	Hansi	Soil Testing Laboratory, Dept. of Agriculture Hansi	10,000
80.	Hissar	Soil Testing Laboratory, Haryana Agricultural University Hissar	10,000
81.	Jagadhri	Soil Testing Laboratory, Dept. of Agriculture Jagadhri	10,000
82.	Jhajjar	Soil Testing Laboratory, Dept. of Agriculture Jhajjar	10,000
83.	Jind	Soil Testing Laboratory, Dept. of Agriculture Jind	10,000
84.	Kaithal	Soil Testing Laboratory, Dept. of Agriculture Kaithal	10,000
85.	Karnal	Soil Testing Laboratory, Haryana Agriculture University Karnal	10,000
86.	Mahendergarh	Soil Testing Laboratory Department of Agriculture Mahendergarh	10,000
87.	Naraingarh	Soil Testing Laboratory Department of Agriculture Naraingarh	10,000

(Continued)

9.91. LIST OF SOIL TESTING LABORATORIES (Continued)
(Government and Private)

Sl. No.	Location	Address of soil testing laboratory	Capacity of laboratory per annum (No. of samples)
Haryana (Concluded)			
88.	Narnaul	Soil Testing Laboratory Department of Agriculture Narnaul	10,000
89.	Narwana	Soil Testing Laboratory Department of Agriculture Narwana	10,000
90.	Nuh	Soil Testing Laboratory Department of Agriculture Nuh	8,000
91.	Palwal	Soil Testing Laboratory Department of Agriculture Palwal	10,000
92.	Panipat	Soil Testing Laboratory Department of Agriculture Panipat	12,000
93.	Rewari	Soil Testing Laboratory Rewari	8,000
94.	Rohtak	Soil Testing Laboratory Haryana Agricultural University Rohtak	10,000
95.	Sonepat	Soil Testing Laboratory Department of Agriculture Sonepat	12,000
96.	Sirsa	Soil Testing Laboratory Department of Agriculture Sirsa	12,000
97.	Thanesar	Soil Testing Laboratory Department of Agriculture Thanesar, Dist. Kurukshetra	12,000
98.	Taraori	Haryana State Cooperative Supply & Marketing Federation Dist. Karnal	10,000
Himachal Pradesh			
99.	Bilaspur	Soil Testing Laboratory Government of Himachal Pradesh Dist. Dholara, Bilaspur	5,000

(Continued)

9.01. LIST OF SOIL TESTING LABORATORIES (Continued)
(Government and Private)

Sl. No.	Location	Address of soil testing laboratory	Capacity of laboratory per annum (No. of samples)
Himachal Pradesh (Concluded)			
100.	Chamba	Soil Testing Laboratory Chamba	5,000
101.	Dhaulta Kuan	Soil Testing Centre-cum-Soil Testing Laboratory Dhaulta Kuan, Dist. Sirmur	5,000
102.	(a) Hamirpur	Soil Testing Laboratory Government of Himachal Pradesh Hamirpur	N.A.
	(b) Hamirpur (Mobile)	-do-	10,000
103.	Keylong Peo	Soil Testing Laboratory Government of Himachal Pradesh Keylong Peo	5,000
104.	Kinnaur	Soil Testing Laboratory Kinnaur	N.A.
105.	Palampur	Soil Testing Laboratory Himachal Pradesh Agricultural University Palampur	10,000
106.	(a) Simla	Soil Testing Laboratory Government of Himachal Pradesh Howthorn Villa, Simla-4	10,000
	(b) Simla (Mobile)	Soil Testing Laboratory Government of Himachal Pradesh Simla-4	N.A.
107.	Sundernagar	Soil Testing Laboratory Sundernagar, Dist. Mandi	10,000
108.	Solan	Soil Testing Laboratory Government of Himachal Pradesh Solan	N.A.
Jammu & Kashmir			
109.	Doda	Soil Testing Laboratory Doda	6,000
110.	Jammu	Soil Testing Laboratory Raib-Tillo, Jammu	12,000
111.	Khudwani	Soil Testing Laboratory Khudwani, Anantnag	10,000
112.	Rajouri	Soil Testing Laboratory Rajouri	6,000

(Continued)

9.01. LIST OF SOIL TESTING LABORATORIES (Continued)
(Government and Private)

Sl. No.	Location	Address of soil testing laboratory	Capacity of laboratory per annum (No. of samples)
Jammu & Kashmir (Concluded)			
113.	Srinagar	Soil Testing Laboratory Lal Mandi, Srinagar	10,000
114.	Jammu (Mobile)	Soil Testing Laboratory Department of Agriculture Jammu	7,000
Karnataka			
115.	Bangalore	Agriculture Officer (S.T.), Soil Testing Laboratory Directorate of Agriculture Sheshadri Road Bangalore	30,000
116.	Bangalore	C. Gurusiddappa Sons Hosatharagupet Bangalore	N.A.
117.	Bangalore	Rallis India Ltd., Fertilisers & Pesticides Division Research & Development Laboratories 87, Richmond Road Bangalore 560 025	3,500
118.	Bangalore	Essen & Co. Ltd. 550, Eighth Main Road Bangalore	N.A.
119.	Bangalore	Agriculture Development Laboratory Zuari Agro Chemicals Ltd. 342, 1st floor, Sampige Road 11th Cross, Malleswaram, Bangalore 560 003	30,000
120.	Bellary	Agriculture Officer (S.T.) Soil Testing Laboratory Bellary	30,000
121.	Bhalki	Agriculture Officer (S.T.) Soil Testing Laboratory Bhalki, Dist. Bidar	20,000
122.	Chikmagalur	Agriculture Officer (S.T.) Soil Testing Laboratory Chikmagalur	20,000
123.	Davangere	Agriculture Officer (S.T.) Soil Testing Laboratory Davangere, Dist. Chitradurga	30,000

(Continued)

9.01. LIST OF SOIL TESTING LABORATORIES (Continued)
(Government and Private)

Sl. No.	Location	Address of soil testing laboratory	Capacity of laboratory per annum (No. of samples)
Karnataka (Continued)			
124.	Dhadesugur	Agriculture Officer (S.T.) Soil Testing Laboratory Dhadesugur, Dist. Raichur	30,000
125.	(a) Dharwar	Agriculture Officer (S.T.) Soil Testing Laboratory Dharwar	30,000
	(b) Dharwar (Mobile)	Agriculture Officer (S.T.) Soil Testing Laboratory Dharwar	12,000
126.	Gulbarga	Agriculture Officer (S.T.) Soil Testing Laboratory Gulbarga	30,000
127.	Gokak	Agriculture Officer (S.T.) Soil Testing Laboratory Gokak, Dist. Belgaum	30,000
128.	Hassan	Agriculture Officer (S.T.) Soil Testing Laboratory Hassan	30,000
129.	(a) Hassan	Soil Health Service Rashtriya Chemicals and Fertilisers Bangalore-Hassan Road Hassan	10,000
	(b) Hassan (Mobile)	Soil Health Service RCFL, B. H. Road Hassan	10,000
130.	Jamkhandi	Agriculture Officer (S.T.) Soil Testing Laboratory Jamkhandi, Dist. Bijapur	30,000
131.	Kolar	Agriculture Officer (S.T.) Soil Testing Laboratory Kolar	30,000
132.	Koodige (Coorg)	Agriculture Officer (S.T.) Soil Testing Laboratory Koodige (Coorg)	10,000
133.	Mandya	Agriculture Officer (S.T.) Soil Testing Laboratory Mandya	30,000

(Continued)

9.01. LIST OF SOIL TESTING LABORATORIES (Continued)
(Government and Private)

Sl. No.	Location	Address of soil testing laboratory	Capacity of laboratory per annum (No. of samples)
Karnataka (Concluded)			
134.	Mangalore	Agriculture Officer (S.T.) Soil Testing Laboratory Mangalore	30,000
135.	(a) Mysore	Agriculture Officer (S.T.) Soil Testing Laboratory Mysore	30,000
	(b) Mysore (Mobile)	Agriculture Officer (S.T.) Mobile Soil Testing Unit First Main Road, V. V. Mohala Mysore	12,000
136.	Shimoga	Agriculture Officer (S.T.) Soil Testing Laboratory Shimoga	30,000
137.	Sirsi	Soil Testing Laboratory Sirsi, Dist. North Canara	10,000
138.	Tumkur	Agriculture Officer (S.T.) Soil Testing Laboratory Tumkur	30,000
Kerala			
139.	(a) Alleppey	Soil Testing Laboratory Kalargode, Alleppey	19,000
	(b) Alleppey (Mobile)	Mobile Soil Testing Laboratory Alleppey	10,000
140.	Cannanore	Soil Testing Laboratory Cannanore	15,000
141.	Cochin	Kerala State Cooperative Rubber Marketing Federation 2nd Floor, Carmel Centre Banerjee Road, Cochin-18	1,800
142.	Eranakulam	Soil Testing Laboratory Eranakulam	12,000
143.	Malappuram	Soil Testing Laboratory Malappuram	14,000
144.	Meppadi	UPASI Tea Advisory Service Munnar P.O. 685, 613 Kerala State	2,000

(Continued)

9.01. LIST OF SOIL TESTING LABORATORIES (Continued)
(Government and Private)

Sl. No.	Location	Address of soil testing laboratory	Capacity of laboratory per annum (No. of samples)
Kerala (Concluded)			
145.	Munnar	UPASI Tea Advisory Service Munnar P.O. 685 612 Kerala State	3,000
146.	Myladumpara Kailasnadu Idduki Dist.	Soil Science Agronomy Division ICRI, Myladumpara Idduki Distt.	5,000
147.	Palghat (Mobile)	Mobile Soil Testing Laboratory FACT Ltd. 13/619, West Fort Road Post Box No. 38 Palghat (678001)	10,000
148.	(a) Pattambi	Soil Testing Laboratory Pattambi, Dist. Palghat	16,000
	(b) Pattambi (Mobile)	Soil Testing Laboratory Pattambi, Dist. Palghat	10,000
149.	Quilon	Soil Testing Laboratory Kureepuzha, Quilon	16,000
150.	Trichur	Soil Testing Laboratory Trichur	12,000
151.	Trivandrum	Soil Testing Laboratory Trivandrum	19,000
152.	Udyogamandal	Soil Testing Laboratory FACT, Udyogamandal Alwaye	30,000
153.	Vandiperiyar	UPASI Tea Research Sub-Station Vandiperiyar P.O., Kerala State	2,000
Madhya Pradesh			
154.	Balaghat	Soil Testing Laboratory Balaghat	N.A.
155.	Bilaspur	Soil Testing Laboratory Bilaspur	10,000
156.	Bhopal	Soil Testing Laboratory Bhopal	10,000

(Continued)

9.01. LIST OF SOIL TESTING LABORATORIES (Continued)
(Government and Private)

Sl. No.	Location	Address of soil testing laboratory	Capacity of laboratory per annum (No. of samples)
Madhya Pradesh (Concluded)			
157.	Bhopal	Soil Testing Laboratory Hindustan Fertilizer Corpn. Ltd. FP & ARD, Plot No. 12 Malviya Nagar, Bhopal-3	36,000
158.	Dhar	Soil Testing Laboratory Dhar	N.A.
159.	Gwalior	Soil Testing Laboratory College of Agriculture, Gwalior	10,000
160.	Indore	Soil Testing Laboratory College of Agriculture, Indore	10,000
161.	Jabalpur	Soil Testing Laboratory J. N. Krishi Vishwa Vidyalaya Jabalpur	7,500
162.	Kumhari	Dharamsi Morarji Chemical Co. Ltd. Kumhari, Raipur, Dist. Durg	5,000
163.	Morena	Soil Testing Laboratory Morena	10,000
164.	(a) Nowgaon	Soil Testing Laboratory Nowgaon, Dist. Chhatarpur	10,000
	(b) Nowgaon (Mobile)	-do-	10,000
165.	Pawarkheda	Soil Testing Laboratory Pawarkheda Dist. Hoshangabad	15,000
166.	Raipur	Soil Testing Laboratory Raipur	15,000
167.	Rewa	Soil Testing Laboratory Rewa	15,000
168.	Sagar	Soil Testing Laboratory Sagar	N.A.
169.	(a) Ujjain	Soil Testing Laboratory Ujjain	15,000
	(b) Ujjain (Mobile)	Soil Testing Laboratory Ujjain	10,000
Maharashtra			
170.	Ambernath	Dharamsi Morarji Chemical Co. Ltd. Ambernath	N.A.
171.	Amravati	Rashtriya Chemicals & Fertilisers Ltd. KASS Ltd. Rallis Plot, Amravati	10,000

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9.01. LIST OF SOIL TESTING LABORATORIES (Continued)
(Government and Private)

Sl. No.	Location	Address of soil testing laboratory	Capacity of laboratory per annum (No. of samples)
Maharashtra (Continued)			
172.	(a) Amravati	Asst. Soil Chemist Soil Testing Laboratory Amravati	11,500
	(b) Amravati (Mobile)	Mobile Soil Testing Laboratory Amravati	5,000
173.	(a) Bombay (Trombay)	Rashtriya Chemicals & Fertilisers Ltd. Trombay Unit Chembur, Bombay	25,000 25,000
	(b) Bombay (Mobile) (Two)	-do-	10,000 10,000
174.	Aurangabad	Asst. Soil Chemist Soil Testing Laboratory C/o Supdt. Agricultural Officer Aurangabad	N.A.
175.	Buldhana (Mobile)	Mobile Soil Testing Laboratory Buldhana	5,000
176.	Dapoli	Assistant Soil Chemist Soil Testing Laboratory A.G. High School Hostel Dapoli, Dist. Ratnagiri	11,500
177.	Dhulia	Assistant Soil Chemist Soil Testing Laboratory Budgajar Plot, Parle Road Dhulia	11,500
178.	Jalgaon	Asst. Soil Chemist Soil Testing Laboratory Postal Colony, Plot No. 79, Jalgaon	N.A.
179.	Kolhapur	Soil Testing Laboratory Rashtriya Chemicals & Fertilisers Ltd. Area Office Near C. S. T. Stand, Kolhapur	10,000
180.	Kolhapur	Assistant Soil Chemist Soil Testing Laboratory 58 E, Nagala Park Near Collector Office, Kolhapur	N.A.
181.	Nagpur	Assistant Soil Chemist Soil Testing Laboratory Agriculture College Compound Nagpur	15,000

(Continued)

9.01. LIST OF SOIL TESTING LABORATORIES (Continued)
(Government and Private)

Sl. No.	Location	Address of soil testing laboratory	Capacity of laboratory per annum (No. of samples)
Maharashtra (Concluded)			
182.	Nagpur	Essen & Co. Amrit Building, Variety Square Sitabuldi, Nagpur	N.A.
183.	(a) Parbhani	Assistant Soil Chemist Soil Testing Laboratory Bhale Rao Bungalow, Sivaji Nagar Parbhani	8,300
	(b) Parbhani (Mobile)	Mobile Soil Testing Laboratory Parbhani	5,000
184.	(a) Pune	Assistant Soil Chemist Soil Testing Laboratory Krishi Bhawan Agriculture College Compound Pune-5	10,000
	(b) Pune (Mobile)	-do-	5,000
185.	Pune	Jayant Industries Scientific Research Annapurna Bungalow Pune	N.A.
186.	Pune	Kam. henu Chemicals & Fertilisers Industries 50 A, Hadapsar Industrial Estate Pune	5,000
187.	Thane	Bharat Fertiliser Industries Majiwada, Thane	N.A.
Manipur			
188.	(a) Imphal	Soil Testing Laboratory Seed Multiplication Farm Mantripukhari, Imphal	10,000
	(b) Imphal (Mobile)	-do-	5,000
Meghalaya			
189.	Jowai	Local and Dist. Research Station & Laboratory Dept. of Agriculture Jowai	N.A.
190.	Shillong	Local and Dist. Research Station & Laboratory Dept. of Agriculture Shillong	N.A.
191.	Tura	Local and Dist. Research Station & Laboratory Dept. of Agriculture Tura	N.A.

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9.01. LIST OF SOIL TESTING LABORATORIES (Continued)
(Government and Private)

Sl. No.	Location	Address of soil testing laboratory	Capacity of laboratory per annum (No. of samples)
Nagaland			
192.	Ghaspani (Mobile) (Medziphema)	Soil Testing Laboratory (State Govt.) Ghaspani (Medziphema) Kohima	N.A.
Orissa			
193.	Balasore	Soil Testing Laboratory Dept. of Agriculture Balasore	10,000
194.	Berhampur	Soil Testing Laboratory Dept. of Agriculture Berhampur (Dist. Ganjam)	10,000
195.	Bhavanipatna	Soil Testing Laboratory Dept. of Agriculture Bhavanipatna (Dist. Kalahandi)	10,000
196.	Bhubaneswar	Soil Testing Laboratory Dept. of Agriculture Bhubaneswar, Dist. Puri	10,000
197.	Bhubaneswar (Mobile)	Regional Chief Agronomist Hindustan Fertilizer Corpn. Ltd., (FP&ARD) Station Road Bhubaneswar	56,000
198.	(a) Sambalpur	Soil Testing Laboratory Dept. of Agriculture Sambalpur	30,000
	(b) Sambalpur (Mobile)	Soil Testing Laboratory Dept. of Agriculture Sambalpur	10,000
199.	Similliguda	Soil Testing Laboratory Dept. of Agriculture Similliguda, Dist. Koraput	30,000
Punjab			
200.	Amritsar	Soil Testing Laboratory Govt. of Punjab Amritsar	10,000
201.	Bhatinda (Mobile)	Soil Testing Laboratory Govt. of Punjab Bhatinda	10,000

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9.01. LIST OF SOIL TESTING LABORATORIES (Continued)
(Government and Private)

Sl. No.	Location	Address of soil testing laboratory	Capacity of laboratory per annum (No. of samples)
Punjab (Continued)			
202.	Faridkot	Soil Testing Laboratory Govt. of Punjab Faridkot	10,000
203.	Ferozepur	Soil Testing Laboratory Govt. of Punjab Ferozepur	10,000
204.	(a) Gurdaspur	Soil Testing Laboratory Govt. of Punjab Gurdaspur	10,000
	(b) Gurdaspur	Soil Testing Laboratory Punjab Agriculture University Gurdaspur	20,000
205.	Hoshiarpur (Mobile)	Soil Testing Laboratory Govt. of Punjab Hoshiarpur	10,000
206.	Ludhiana	College of Agriculture Punjab Agricultural University Ludhiana	30,000
207.	Kapurthala (Mobile)	Soil Testing Laboratory Kapurthala	10,000
208.	Amritsar	50, Model Town Amritsar	10,000
209.	Anandpursahib (Now) Ropar	Public Hindu Hr. Secondary School (Ropar) Roop Nagar	10,000
210.	Bhatinda	D.W.S. Building Civil Lines Bhatinda	10,000
211.	Dhuri	C/o Markfed Fertilizers By pass road Dhuri	10,000
212.	Hoshiarpur	130, Civil Lines Near Mahilpur Bus stand Hoshiarpur	10,000
213.	Jullundur	Rupra Building Ghara Road Jullundur	10,000
214.	Kapurthala	Lower Mall Near DC's Residence Kapurthala	10,000

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9.01. LIST OF SOIL TESTING LABORATORIES (Continued)
(Government and Private)

Sl. No.	Location	Address of soil testing laboratory	Capacity of laboratory per annum (No. of samples)
Punjab (Concluded)			
215.	Malout	Bharat Cotton Factory Malout Punjab	10,000
216.	Nawanshahe	Soil Testing Laboratory Govt. of Punjab Nawanshahe	10,000
217.	Naya Nangal	National Fertilizers Ltd. Naya Nangal Sec 4 Distt. Rupar	30,000
218.	Nabha	Soil Testing Laboratory Govt. of Punjab Nabha	10,000
219.	Patiala	Soil Testing Laboratory Govt. of Punjab Patiala	10,000
220.	Sangrur (Mobile)	Soil Testing Laboratory Govt. of Punjab Sangrur	10,000
Rajasthan			
221.	(a) Jaipur	Soil Testing Laboratory Govt. Farm Durgapur Jaipur	20,000
	(b) Jaipur (Mobile)	- do -	10,000
222.	Jodhpur	Soil Testing Laboratory 24, Paota Jodhpur	20,000
223.	Kota	Soil Testing Laboratory Govt. of Rajasthan Kota	20,000
224.	Kota	Jeevan Fertiliser & Chemical Pvt. Ltd. 42, Large Scale Industrial Area Kota 324 003	2,000
225.	Sri Ganganagar	Soil Testing Laboratory Govt. Farm Sri Ganganagar	20,000

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9.01. LIST OF SOIL TESTING LABORATORIES (Continued)
(Government and Private)

Sl. No.	Location	Address of soil testing laboratory	Capacity of laboratory per annum (No. of samples)
Tamil Nadu			
226.	(a) Aduthurai (Mobile)	Assistant Soil Chemist Mobile Soil Testing Laboratory Aduthurai 612 101	18,000
	(b) Aduthurai	Assistant Soil Chemist Soil Testing Laboratory Regional Agriculture Research Station Aduthurai Thanjavur Distt. 621 201	84,000
227.	Cinchona	UPASI Tea Research Station Cinchona P.O. 642 116 Coimbatore	3,000
228.	Coimbatore	T. Stanes & Co. Ltd. 8/23-24 Race Course Road P.O. Box No. 3709 Coimbatore 641 012	3,500
229.	Coimbatore	Asst. Soil Chemist Soil Testing Laboratory Department of Agriculture Coimbatore 641 003	72,000
230.	Coonoor	UPASI Tea Advisory Service Greenview Poona 11 Coonoor 643 601 Nilgiris	2,000
231.	Cuddalore	Asst. Soil Chemist Soil Testing Laboratory Regional Agriculture Research Station Cuddalore (S.A.) (607 001)	54,000
232.	(a) Dharampuri	Asst. Soil Chemist Soil Testing Laboratory Department of Agriculture Dharampuri 636 701	30,000
	(b) Dharampuri (Mobile)	-do-	18,000
233.	Ennore	E.I.D.-Parry (India) Ltd. Fertilizer Factory Ennore Thermal Power Station P.O., Ennore, (600 057)	5,000

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9.01. LIST OF SOIL TESTING LABORATORIES (Continued)
(Government and Private)

Sl. No.	Location	Address of soil testing laboratory	Capacity of laboratory per annum (No. of samples)
Tamil Nadu (Continued)			
234.	Kanchipuram	Asst. Soil Chemist Soil Testing Laboratory Dept. of Agriculture Kanchipuram Chingleput	72,000
235.	(a) Kovilpatti	Asst. Soil Chemist Soil Testing Laboratory Kovilpatti Tirunelveli 627 701	54,000
	(b) Kovilpatti (Mobile)	-do-	18,000
236.	Madurai	Soil Testing Laboratory Dept. of Agriculture Madurai	72,000
237.	Manali	Soil Testing Laboratory Madras Fertilizers Ltd. Manali Madras 600 068	25,000
238.	Melalathur	Asst. Soil Chemist Soil Testing Laboratory Dept. of Agriculture Melalathur (North Arcot)	72,000
239.	Nagarcoil	Asst. Soil Chemist Soil Testing Laboratory Dept. of Agriculture Nagarcoil	12,000
240.	Nellikuppam	E.I.D.-Parry (India) Ltd. Sugar Factory Nellikuppam (S.A. Dist.)	5,000
241.	Ooty	Asst. Soil Chemist Soil Testing Laboratory Dept. of Agriculture Ooty 643 001 Nilgiris	30,000
242.	(a) Paramakudi	Asst. Soil Chemist Soil Testing Laboratory Paramakudi	30,000
	(b) Paramakudi (Mobile)	-do-	9,000

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9.01. LIST OF SOIL TESTING LABORATORIES (Continued)
(Government and Private)

Sl. No.	Location	Address of soil testing laboratory	Capacity of laboratory per annum (No. of samples)
Tamil Nadu (Concluded)			
243.	Ranipet	E.I.D.-Parry (India) Ltd. Fertilizer Factory Ranipet Dist. North Arcot	5,000
244.	Salem	Asst. Soil Chemist Soil Testing Laboratory Dept. of Agriculture Salem-636001	30,000
245.	Tiruchirappalli	Asst. Soil Chemist Soil Testing Laboratory Dept. of Agriculture Tiruchirappalli-620 011	30,000
246.	Trichy	Soil Testing Laboratory Fertilizers & Chemicals Travancore Ltd. Ariyamangalam Trichy-620 010 Tamil Nadu	30,000
247.	Tudiyalur	Tudiyalur Co-operative Agricultural Service Coimbatore	N.A.
248.	(a) Tuticorin	Soil Testing Laboratory SPIC Nagar, Tuticorin	36,000
	(b) Tuticorin (Mobile)	-do-	12,000
Tripura			
249.	Agartala	Soil Testing Laboratory Research-cum-Demonstration Farm Arundhati Nagar Agartala (West Tripura)	10,000
250.	Agartala (Mobile)	-do-	16,000
Uttar Pradesh			
251.	(a) Lucknow (Static)	Regional Soil Testing Laboratories	1,000
	(b) (Mobile)	-do-	8,000
252.	(a) Jhansi (Static)	-do-	2,000
	(b) (Mobile)	-do-	8,000
253.	(a) Meerut (Static)	-do-	2,000
	(b) (Mobile)	-do-	8,000

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9.01. LIST OF SOIL TESTING LABORATORIES (Continued)
(Government and Private)

Sl. No.	Location	Address of soil testing laboratory	Capacity of laboratory per annum (No. of samples)
Uttar Pradesh (Concluded)			
254.	(a) Agra (Static)	Regional Soil Testing Laboratories	2,000
	(b) (Mobile)		8,000
255.	(a) Allahabad (Static)	-do-	2,000
	(b) (Mobile)		8,000
256.	(a) Varanasi (Static)	-do-	2,000
	(b) (Mobile)		8,000
257.	(a) Gorakhpur (Static)	-do-	2,000
	(b) (Mobile)		8,000
258.	(a) Faizabad (Static)	-do-	2,000
	(b) (Mobile)		8,000
259.	(a) Bareilly (Static)	-do-	2,000
	(b) (Mobile)		8,000
260.	(a) Naini Tal (Static)	-do-	1,000
	(b) (Mobile)		8,000
261.	(a) Pauri (Static)	-do-	1,000
	(b) (Mobile)		8,000
262.	Muzaffarnagar	Sugarcane Research Stations	10,000
263.	Shahjahanpur	-do-	10,000
264.	Gorakhpur	-do-	N.A.
265.	(a) Gorakhpur	The Fertilizer Corpn. of India Gorakhpur, Post Office Fertilizer Factory Gorakhpur	15,000
	(b) Gorakhpur (Mobile) (2 units)	-do-	12,500 12,500
266.	Kanpur*	Indian Explosives Ltd. Panki, Kanpur	7,500

*The following districts of UP have Govt. Soil Testing Laboratories with a 2000 capacity of each:

1. Saharanpur, 2. Muzaffarnagar, 3. Bulandshahr, 4. Bijnor, 5. Aligarh, 6. Muradabad,
7. Badaun, 8. Kanpur, 9. Rae Bareilly, 10. Sitapur, 11. Hardoi, 12. Barabanki,
13. Gonda, 14. Bahraich, 15. Sultanpur, 16. Pratapgarh, 17. Jaunpur, 18. Ghazipur,
19. Balia, 20. Azamgarh, 21. Basti and 22. Deoria.

Whereas the following districts have Govt. Soil Testing Laboratories with capacity of 1000 each:

1. Ghaziabad, 2. Mathura, 3. Etah, 4. Mainpuri, 5. Etawah, 6. Fatehpur, 7. Farrukhabad,
8. Mirzapur, 9. Kheri, 10. Unnao, 11. Pilibhit, 12. Shahjahanpur, 13. Dehraun, 14. Jalaun,
15. Hamirpur, 16. Banda, 17. Almora, 18. Pithoragarh, 19. Chamoli, 20. Tehri, 21. Pauri,
22. Uttar Kashi, and 23. Lalitpur.

(Continued)

901. LIST OF SOIL TESTING LABORATORIES (Continued)
(Government and Private)

Sl. No.	Location	Address of soil testing laboratory	Capacity of laboratory per annum (No. of samples)
West Bengal			
267.	(a) Burdwan	Soil Testing Laboratory Dept. of Agriculture Burdwan	25,000
	(b) Burdwan (Mobile)	-do-	10,000
268.	(a) Durgapur	Hindustan Fertilizer Corpn. Ltd., FP & ARD Muchipara, Durgapur	25,000
	(b) Durgapur (Mobile)	-do-	18,000
269.	Kalimpong	Soil Testing Laboratory Dept. of Agriculture Kalimpong	10,000
270.	Midnapur	Soil Testing Laboratory Dept. of Agriculture Midnapur	10,000
271.	Rishra	Phosphate Co. Ltd., Hooghly	18,000
272.	(a) Siliguri	Soil Testing Laboratory Hindustan Fertilizer Corpn. Ltd., FP & ARD 5 Syed Mustafa Ali Road Hakimpara, Siliguri Distt. Darjeeling	25,000
	(b) Siliguri (Mobile)	-do-	18,000
273.	Tollygunge	Soil Testing Laboratory 230A, Netaji Subhas Chandra Road Tollygunge, Calcutta 700 040	12,000
Union Territories			
Pondicherry			
274.	Pondicherry	Asst. Soil Chemist Soil Testing Laboratory Botanical Garden Pondicherry	17,000
275.	Karaikal (Mobile)	Asst. Chemist Soil Testing Laboratory Thalatheru, Karaikal	8,000

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**9.01. LIST OF SOIL TESTING LABORATORIES (Concluded)
(Government and Private)**

Sl. No.	Location	Address of soil testing laboratory	Capacity of laboratory per annum (No. of samples)
Mizoram			
276. (a)	Aizawl	Soil Testing Laboratory Directorate of Agriculture Aizawl	10,000
	(b) Aizawl (Mobile)	-do-	2,000
Andaman and Nicobar Islands			
277.	Port Blair	Soil Testing Laboratory Department of Agriculture Goalghar Andaman, Port Blair	7,200
Arunachal Pradesh			
278.	Pasighat	Gramaevak Training Centre Pasighat	5,000
Delhi			
279.	New Delhi	Soil Testing Laboratory Delhi Administration	3,000
280.	New Delhi	Chemistry Division Indian Agricultural Research Institute Pusa, New Delhi	N.A.
Goa			
281.	Ela-Old Goa	Government Soil Testing Laboratory Ela-Old Goa Goa	10,000
282.	Ela-Old Goa	Mobile Soil Testing Laboratory Ela-Old Goa	N.A.
283.	Marmagao	Essen & Co. Station Road Post Box No. 237 Marmagao	N.A.

9.02. RESEARCH INSTITUTIONS AND AGRICULTURAL UNIVERSITIES**(a) I.C.A.R. Research Institutions**

1. Director
Indian Agricultural Research Institute
New Delhi-110012
2. Director
Indian Institute of Agriculture Statistics
Research
Library Avenue
New Delhi-110012
3. Director
Central Arid Zone Research Institute
Jodhpur-342001
Rajasthan
4. Director
Cotton Technological Research
Laboratory
Adenwala Road
Matunga Bombay-400019
Maharashtra
5. Director
Central Institute for Cotton Research
95, "Pushpa Kunj"
Canal Road, New Ramdaspet
Nagpur-440010
6. Director
Jute Agril. Research Institute
Nilganj
24-Parganas
P.O. Barrackpore-743101
West Bengal
7. Director
Jute Technological Research
Laboratories
12-Regent Park
Calcutta-700040
West Bengal
8. Director
Indian Lac Research Institute
P.O. Namkum
Ranchi-834010 (Bihar)
9. Director
Indian Grassland & Fodder
Research Institute
Gwalior-Jhansi Road
Jhansi-284001
Uttar Pradesh
10. Director
Indian Institute of Horticultural
Research
255, Upper Palace
Orchards, Bangalore-560006
11. Director
Central Potato Research Institute
Simla-171001 (H.P.)
12. Director
Central Rice Research Institute
Cutback-753006
13. Project Director
All-India Cordinated Rice
Improvement Project
Rajendranagar
Hydrabad-500030 (A.P)
14. Director
Central Plantation Crops
Research Institute
Post Kudlu, Cannanore Distt.
Kasargod-670124 (Kerala)
15. Director
Indian Institute of Sugarcane Research
P.O. Dilkusha
Lucknow-226002 (U.P.)
16. Director
Sugarcane Breeding Institute
Lawley Road
Coimbatore-641007
Tamil Nadu
17. Director
Central Tuber Crops Research Institute
Sreekarlyam
Trivandrum-695017 (Kerala)
18. Director
Central Tobacco Research Institute
Rajamundry- 533104 (A.P.)
19. Director
National Bureau of Plant
Genetic Resources
F.C.I. Building
CTO Complex, Pusa
New Delhi-110012

9.02. RESEARCH INSTITUTIONS AND AGRICULTURAL UNIVERSITIES (Continued)**(a) I.C.A.R. Research Institutes (Concluded)**

20. Director
ICAR Research Complex for
North Eastern Hill Region
"Cedar Lodge" Jawai Road
Shillong-793003
Meghalaya
21. Director
Vivekanand Parvatiya
Krishi Anusandhan Shala
Almora-263601
(U.P.)
22. Central Agril. Research Institute
for Andaman & Nicobar
Group of Islands
Port Blair-744101 (A&N)
23. Director
Central Instt. of Agril. Engineering
Shri Guru Tegh Bahadur Complex
Addl. 'A' Block, New Market
T.T. Nagar
Bhopal-462003 (M.P.)
24. Director
Central Soil Salinity
Research Institute
Karnal-132001 (Haryana)
25. Director
Central Soil & Water Conservation
Research Training Institute
218, Kaulgarh Road
Dehradun-248 195 (U.P.)
26. Director
National Bureau of Soil Survey and Land
Use Planning
Seminar Hills
Nagpur-440006
27. Director
Indian Veterinary Research Institute
Izatnagar-243122 (U.P.)
28. Director
National Dairy Research Institute
Karnal-132001 (Haryana)
29. Director
Central Inland Fisheries
Research Institute
Barrackpore-743101
24-Parganas (W.B.)
30. Director
Central Marine Fisheries Research Instt.
P.O. No. 1912
Cochin-682018 (Kerala)
31. Director
Central Institute of Fisheries Technology
P.O. Matsyapuri
Cochin-682029 (Kerala)
32. Director
Central Sheep & Wool Research Institute
P.O. Avikanagar-304501
Via Jaipur (Rajasthan)
33. Director
National Academy for Agril.
Research Management
Rajendranagar
Hyderabad-500030 (A.P.)
34. Central Institute of Fisheries Education
P.B. No. 7392, Kakori Camp
Jaiprakash Road
Bombay-400061 (Maharashtra)
35. National Goat Research Institute
Makhdoom, P.O. Farah-281 122
Dist. Mathura (U.P.)

9.02. RESEARCH INSTITUTIONS AND AGRICULTURAL UNIVERSITIES (Continued)
(b) I.C.A.R. Co-ordinated Projects

1. Project Director
Director of Oilseeds Research
'D' Block, College of Agri.
Rajendranagar
Hyderabad-500030 (A.P.)
2. Project Director (Rice)
All India Coordinated Rice
Improvement Project
Rajendranagar
Hyderabad (A.P.)
3. Project Director (Wheat)
Cereal Research Laboratory
Indian Agril. Research Institute
New Delhi-110012
4. Project Director
All India Coordinate Research
Project & Dryland Agriculture
2-2-58/60, Amberpet
Hyderabad-500013 (A.P.)
5. Project Coordinator (Barley)
Regional Station of I.A.R.I.
Karnal (Haryana)
6. Project Coordinator (Maize)
Cummings Lab.
Indian Agril. Research Institute
New Delhi-12
7. Project Coordinator (Sorghum) & Head
Regional Research Centre
IARI, Rajendranagar
Hyderabad (A.P.)
8. Project Coordinator (Millets)
All India Coordinated Millets
Improvement Project
College of Agriculture
Shivaji Nagar
Pune-411005 (Maharashtra)
9. Project Director (Pulses) & Head
Regional Station
IARI, Kanpur (U.P.)
10. Project Coordinator (Pulses)
Genetics Division, IARI
New Delhi-110012
11. Project Coordinator (Forage Crops)
ICAR, Krishi Bhavan
New Delhi-110001
12. Project Coordinator (Sugarcane)
Indian Institute of Sugarcane Research
Lucknow (U.P.)
13. Project Coordinator (Sugarbeet)
G.B. Pant University of Agril.
& Technology
Pant Nagar (U.P.)
14. Project Coordinator (Cotton) &
Head of the IARI Regional Centre
P.O. Lawley Road
Coimbatore (T.N.)
15. Project Coordinator (Jute & Allied Fibres)
J.A.R.I.
P.O. Barrackpore
24 Parganas (W.B.)
16. Project Coordinator (Oilseeds)
Directorate of Oilseeds Research
College of Agriculture, ICAR
D-Block, Rajendranagar
Hyderabad-500013 (A.P.)
17. Senior Research Officer (Soyabean)
G.B. Pant University of Agril. &
Technology
Pant Nagar (U.P.)
18. Project Coordinator (Tobacco)
Gujarat Agricultural University
Anand Complex
Anand, Gujarat
19. Project Coordinator (Species &
Cashewnut)
Central Plantation Crops Res. Insti.
Post Kudlu
Kasargod-671024 (Kerala)
20. Project Coordinator (Coconut & Arecanut)
Director
Central Plantation Crops
Research Institute
Post Kudlu
Kasargod-671024 (Kerala)

902. RESEARCH INSTITUTIONS AND AGRICULTURAL UNIVERSITIES (Continued)
(b) I.C.A.R. Co-ordinated Projects (Continued)

- | | |
|---|--|
| <p>21. Project Coordinator (Fruits) & Head Central Mango Research Station B-53, Section A, Mahanagar Lucknow (U.P.)</p> | <p>31. Project Coordinator (Microbial Decomposition & recycling of Farm & City Wastes) IARI, Regional Research Station H. P. Krishi Visva Vidyalyaya Palampur, H.P.-176062</p> |
| <p>22. Project Coordinator (Citrus) Indian Instt. of Horticultural Research 255 Upper Palace, Orchards Bangalore-500006 (Karnataka)</p> | <p>32. Project Coordinator (Integrated Project for Res. on Water Management & Soil Salinity) CSSRI Karnal, Haryana</p> |
| <p>23. Project Coordinator (Vegetables) Division of Vegetables (Crops) & Floriculture, IARI New Delhi-110012</p> | <p>33. A.D.G. (Extn. Edn.) National Demonstration ICAR, Krishi Bhavan New Delhi-110001</p> |
| <p>24. Director & Part Time Project Coordinator (Tuber Crops) Central Tuber Crops Research Instt. Trivandrum, Kerala</p> | <p>34. Senior Research Engg. (Res. & Dev. of Farm Machinery, Implements, Production of Prototypes) Teg Bahadur Complex T. T. Nagar, Bhopal (M.P.)</p> |
| <p>25. Project Coordinator (Medicinal & Aromatic Plants) C/o National Bureau of Plant Genetics Resources, IARI New Delhi-110012</p> | <p>35. Project Coordinator Optimisation of ground Water Utilisation through open wells and pumps) Water Technology Centre IARI, New Delhi-110012</p> |
| <p>26. Project Coordinator (Potato) Central Potato Research Instt. Simla (H.P.)</p> | <p>36. Project Director (AICRP for Dryland Agriculture) H. No. 2-2-58-60, Amberpet Hyderabad-560013 (A.P.)</p> |
| <p>27. Project Coordinator (Coord. Agronomic Experiments) University of Agril. Science Habbal, Bangalore-560024</p> | <p>37. Project Coordinator (Floriculture) IARI, New Delhi-110012</p> |
| <p>28. Project Coordinator (Coordinated Scheme for Investigation on Correlation of Soil Test with Crop responses) H. No. 2-2-58-60, Amberpet Hyderabad-500013 (A.P.)</p> | <p>38. Project Coordinator (Energy Requirements Scheme) Punjab Agril. University Ludhiana, Punjab</p> |
| <p>29. Project Coordinator (Micronutrients of Soils & Plants) Punjab Agricultural University Ludhiana (Punjab)</p> | <p>39. Project Coordinator (Post Harvest Technology) Teg Bahadur Complex T. T. Nagar, Bhopal</p> |
| <p>30. Project Coordinator (Coordinated Scheme for Improvement of Soil Physical condition to increase Agril. Production in Problematic Areas) & Head of Division of Agril. Physics IARI, New Delhi-110012</p> | <p>40. Project Coordinator (AB) IVRI Izatnagar (U.P.)</p> |

9.02. RESEARCH INSTITUTIONS AND AGRICULTURAL UNIVERSITIES (Continued)
(b) I.C.A.R. Co-ordinated Projects (Concluded)

- | | |
|---|--|
| <p>41. Project Coordinator
 (Agril. Byproducts & Industrial Waste
 Material for evolving Economic Rations
 for Livestock)
 Head, Division of Animal Nutrition
 IVRI, Izatnagar (U.P.)</p> | <p>47. Project Coordinator
 (Ecology & Fisheries of Fresh Water
 Reservoirs)
 Central Inland Fisheries Sub-station
 ICAR
 24, Panna Lal Road
 Allahabad (U.P.)</p> |
| <p>42. Project Coordinator
 (Poultry)
 IVRI, Izatnagar (U.P.)</p> | <p>48. Project Coordinator
 (Air Breathing Fishes)
 C/o CIFRI
 Barrackpore (W.B.)</p> |
| <p>43. Project Coordinator
 (Transportation of Fresh Fish &
 Utilisation of Trash Fish)
 Central Instt. of Fisheries Technology
 Willingdon Island
 Matsyapur, P.O. Cochin
 Kerala</p> | <p>49. Project Coordinator
 (Sheep)
 CS&WRI, Avikanagar
 Via Jaipur, Rajasthan</p> |
| <p>44. Project Coordinator
 (Coordinated Project for Epidemiological
 Study of Foot & Mouth Diseases)
 Madras Veterinary College
 Madras</p> | <p>50. Project Coordinator
 (Pigs)
 IVRI, Izatnagar (U.P.)</p> |
| <p>45. Project Coordinator
 (Buffaloes)
 National Dairy Research Instt.
 Karnal (Haryana)</p> | <p>51. Project Coordinator
 (Goat)
 National Goat Res. Centre
 P.O. Farah
 Distt. Mathura (U.P.)</p> |
| <p>46. Project Coordinator
 (Composite Culture of Indian & Exotic
 Species & Fish Seed Production Fresh
 Water Fish Culture Res. & Training
 Centre, Dhauli)
 424, Sehid Nagar
 Bhubaneswar, Orissa</p> | <p>52. Director & Project Coordinator
 Brackish Water Fish Farming
 Central Inland Fisheries Research Instt.
 Barrackpore, Via, Calcutta
 (W.B.)</p> |
| | <p>53. Project Coordinator
 Semi Arid Fruits
 Deptt. of Horticulture
 H.A.U. Hissar (Haryana)</p> |

9.02. RESEARCH INSTITUTIONS AND AGRICULTURAL UNIVERSITIES (Concluded)
(c) Agricultural Universities

- | | |
|--|--|
| 1. Andhra Pradesh Agricultural University
Hyderabad-500030
Andhra Pradesh | 12. Mahatma Phule Krishi Vidyapeeth
Rahuri-413722
Dist. Ahmednagar
Maharashtra |
| 2. Assam Agricultural University
Jorhat-785013
Assam | 13. Marathwada Krishi Vidyapeeth
Parbhani-431401
Maharashtra |
| 3. Bidhan Chandra Krishi Vishwa Vidyalaya
P.O. Mohanpur-741246
Dist. Nadia, West Bengal | 14. Narendra Dev University of Agriculture
& Technology
Faizabad
Uttar Pradesh |
| 4. Chandra Shekhar Azad University of
Agriculture & Technology
Kanpur-208002
Uttar Pradesh | 15. Orissa University of Agriculture
& Technology
Bhubaneswar-751003
Orissa |
| 5. G. B. Pant University of Agriculture
& Technology
Pantnagar-263145
Dist. Nainital, Uttar Pradesh | 16. Punjab Agricultural University
Ludhiana-141001
Punjab |
| 6. Gujarat Agricultural University
Ahmedabad-380004
Gujarat | 17. Punjabrao Krishi Vidyapeeth
Krishinagar, Akola-444001
Maharashtra |
| 7. Haryana Agricultural University
Hissar-123001
Haryana | 18. Rajendra Agricultural University
Veterinary College Campus
Patna-800014
Bihar |
| 8. Himachal Pradesh Krishi Vishwa Vidyalaya
Palampur
Distt. Kangra
Himachal Pradesh | 19. Tamil Nadu Agricultural University
Coimbatore-641003
Tamil Nadu |
| 9. Jawaharlal Nehru Krishi Vishwa Vidyalaya
Jabalpur-482004
Madhya Pradesh | 20. University of Agricultural Sciences
Hebbal, Bangalore-560024
Karnataka |
| 10. Kerala Agricultural University
Mannuthy-680651
Dist. Trichur, Kerala | 21. University of Udaipur
Udaipur-313001
Rajasthan |
| 11. Konkan Krishi Vidyapeeth
Dapoli-415712
Dist. Ratnagiri, Maharashtra | |

10.0. NUTRIENT CONTENT REMOVAL

10.01. PRIMARY NUTRIENTS REMOVED BY CROPS

Crop	Variety	Season	Yield in kg/ha	Nutrients removed in kg/ha		
				Nitrogen (As N)	Phosphate (As P ₂ O ₅)	Potash (As K ₂ O)
A. GRAIN CROPS						
(1) Paddy						
(a) Tall Indica						
(average)						
	Grain		2,802			
	Straw		5,604			
	Total		8,406	82	23	123
(b) High Yielding Varieties ¹						
	IR 8	Kharif	6,308	95	25	149
		Rabi	6,739	99	23	124
		Total	13,047	194	48	273
	Jaya	Kharif	6,138	84	25	147
		Rabi	6,635	105	23	129
		Total	12,771	189	48	276
	Padma	Kharif	4,954	87	22	140
		Rabi	5,435	95	21	115
		Total	10,389	182	43	255
	Bala	Kharif	4,262	59	19	108
		Rabi	5,713	102	20	103
		Total	9,975	161	39	211
	Krishna	Kharif	5,399	94	22	101
		Rabi	6,574	96	23	109
		Total	11,973	190	45	210
	Cauvery	Kharif	4,457	85	17	96
		Rabi	5,690	88	21	116
		Total	10,147	173	38	212
	Kanchi	Kharif	4,470	76	20	115
		Rabi	5,785	103	24	141
		Total	10,255	179	44	256
	Ptb. 10	Kharif	2,417	45	12	45
		Rabi	2,417	22	8	29
		Total	1,800	67	20	83
	Mtu. 15	Kharif	1,942	43	13	49
		Rabi	3,242	41	13	65
		Total	5,184	84	26	114

(Continued)

10.01. PRIMARY NUTRIENTS REMOVED BY CROPS (Continued)

Crop	Yield in kg/ha	Nutrients removed in kg/ha		
		Nitrogen (As N)	Phosphate (As P ₂ O ₅)	Potash (As K ₂ O)
GRAIN CROPS (Concluded)				
(2) Wheat				
(a) Tall Variety (average)	Grain	2,242		
	Straw	4,483		
	Total	6,725	59	29
(b) Dwarf High Yielding Varieties ^a	Grain	5,000	140-210	85-105
	Straw	7,500		
	Total	12,500		215-290
(3) Jowar	Grain	1,121		
	Straw	4,483		
	Total	5,604	52	18
(4) Bajra	Grain	897		
	Straw	3,587		
	Total	4,484	30	11
(5) Maize	Grain	2,690		
	Straw	10,760		
	Total	13,450	114	47
(6) Barley	Grain	2,466		
	Straw	4,932		
	Total	7,398	54	29
B. OILSEEDS				
(1) Groundnut seed		1,906	78	22
(2) Mustard ..		673	22	11
(3) Castor ..		1,506	45	18
(4) Lin ..		1,009	19	12
C. SUGARCANE-(CANE)				
in Bihar ^a		57,809	146	30
in Uttar Pradesh ^a		87,109	120	89
in Andhra Pradesh ^a		121,896	130	105
D. FIBRE CROPS				
(1) Cotton Lint (Rainfed)		104	26	20
(2) Jute (Fibre)		1,121		
	to 1,081		112-280	112-123
				168-224

(Continued)

10.01. PRIMARY NUTRIENTS REMOVED BY CROPS (Concluded)

Crop	Yield in kg/ha	Nutrients removed in kg/ha			
		Nitrogen (As N)	Phosphate (As P ₂ O ₅)	Potash (As K ₂ O)	
E. PLANTATION CROPS					
(1) Rubber	Latex	321	46	5.6	21.3
(2) Coffee	Cherries	628	13.8	5.0	16.9
(3) Tea	Made tea	1,009	45.4	5.0	20.0
(4) Coconut Palms (70)	40 nuts per tree		55.5	27.1	84.4
F. OTHER CROPS					
(1) Potato	Tubers	17,575	85	30	140
(2) Tobacco	Dried leaves	1,121 to 1,345	87	19	53

Source: 1. C.R.R.I., Cuttack—Yield of Grain.

2. B.C. Wright and R.B.L. Bharadwaj, *Indian Farming*, 18 (12), 15-20 (March 1969).

Other information obtained from various Indian sources.

(3) Average uptake by different varieties.

(4) Average uptake under applications of 135 kg N per hectare.

(5) From Ankapalli sugarcane research station.

10.02 MICRONUTRIENTS REMOVED BY CROPS

Crop rotation	(grams/hectare)					
	Boron	Copper	Zinc	Molybdenum	Iron	Manganese
Paddy 6.5 tonnes grain and 9.0 tonnes straw	56	76	191	3.5	640	645
Potato 13.0 tonnes tuber and 2.50 tonnes leaves and stem	31	13	14	1.0	350	18
Wheat (Kalyan Sona) 7.2 tonnes grain and 8.2 tonnes straw	218	236	383	13.0	3,650	580
Total	305	325	615	17.5	4,640	1,243

Source: Micronutrients: New Dimensions in Agriculture, J.S. Kanwar, *Indian Farming*, 18(10), 5-8 (Jan. 1969).

10.03. AVERAGE CHEMICAL COMPOSITION OF SOME ORGANIC MANURES

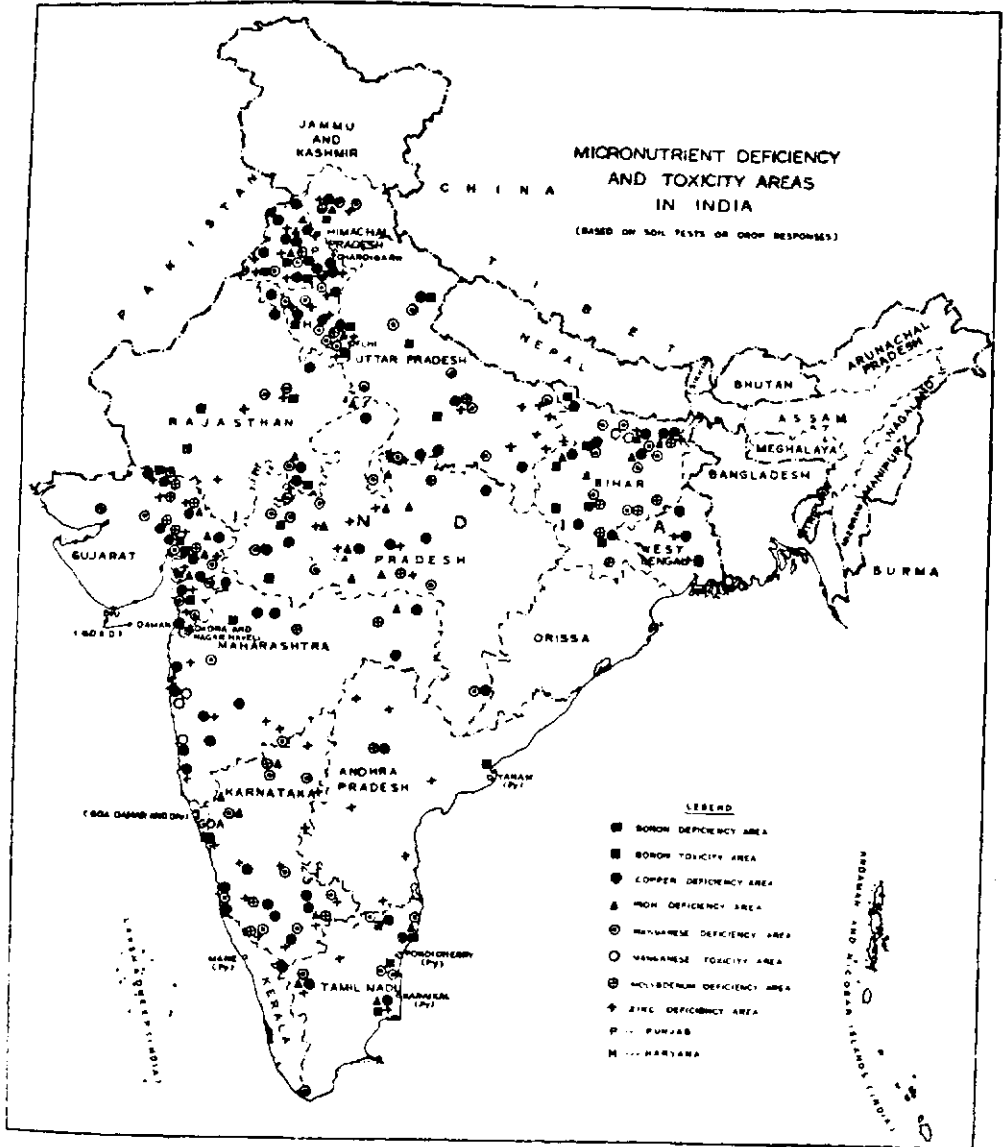
(Per cent)

Material	Nitrogen (As N)	Phosphate (As P ₂ O ₅)	Potash (As K ₂ O)
i. Bulky organic manures			
Farmyard manure	0.5-1.5	0.4-0.8	0.5-1.9
Compost (Urban)	1.0-2.0	1.0	1.5
Compost (Rural)	0.4-0.8	0.3-0.6	0.7-1.0
Green manures (various averages)	0.5-0.7	0.1-0.2	0.6-0.8
ii. Oil cake			
<i>(a) Non-edible cakes</i>			
Castor cake	5.5-5.8	1.8-1.9	1.0-1.1
Mahua cake	2.5-2.6	0.1-0.9	1.8-1.9
Karanj cake	3.9-4.0	0.9-1.0	1.3-1.4
Neem cake	5.2-5.3	1.0-1.1	1.4-1.5
Safflower cake (Undecorticated)	4.8-4.9	1.4-1.5	1.2-1.3
<i>(b) Edible cakes</i>			
Coconut	3.0-3.2	1.8-1.9	1.7-1.8
Cotton seed (Decorticated) cake	6.4-6.5	2.8-2.9	2.1-2.2
Cotton seed (Undecorticated) cake	3.9-4.0	1.1-1.9	1.6-1.7
Groundnut cake	7.0-7.2	1.5-1.6	1.3-1.4
Linseed	5.5-5.6	1.1-1.5	1.2-1.3
Niger	4.7-4.8	1.8-1.9	1.3-1.4
Rapeseed	5.1-5.2	1.8-1.9	1.1-1.3
Sesamum or <i>til</i> cake	6.2-6.3	2.0-2.1	1.2-1.3
iii. Manure of animal origin			
Dried blood	10.0-12.0	1.0-1.5	0.6-0.8
Fish manure	4.0-10.0	3.0-9.0	0.3-1.5
Bird guano	7.0-8.0	11.0-14.0	2.0-3.0
Bonemeal (Raw)	3-4	20-25	—
Bonemeal (Steamed)	1.0-2.0	25-30	—
Activated sludge (Dry)	5.0-6.5	3.0-3.5	0.5-0.7
Settled sludge (Dry)	2.0-2.5	1.0-1.2	0.4-0.5
Night soil	1.2-1.3	0.8-1.0	0.4-0.5
Human urine	1.0-1.2	0.1-0.2	0.2-0.3
Cattle dung and urine mixed	0.60	0.15	0.45
Horse dung and urine mixed	0.70	0.25	0.55
Sheep dung and urine mixed	0.95	0.35	1.00

Source: (1) C.N. Acharya (1957), Organic Manures, I.C.A.R. Review Series No. 2.

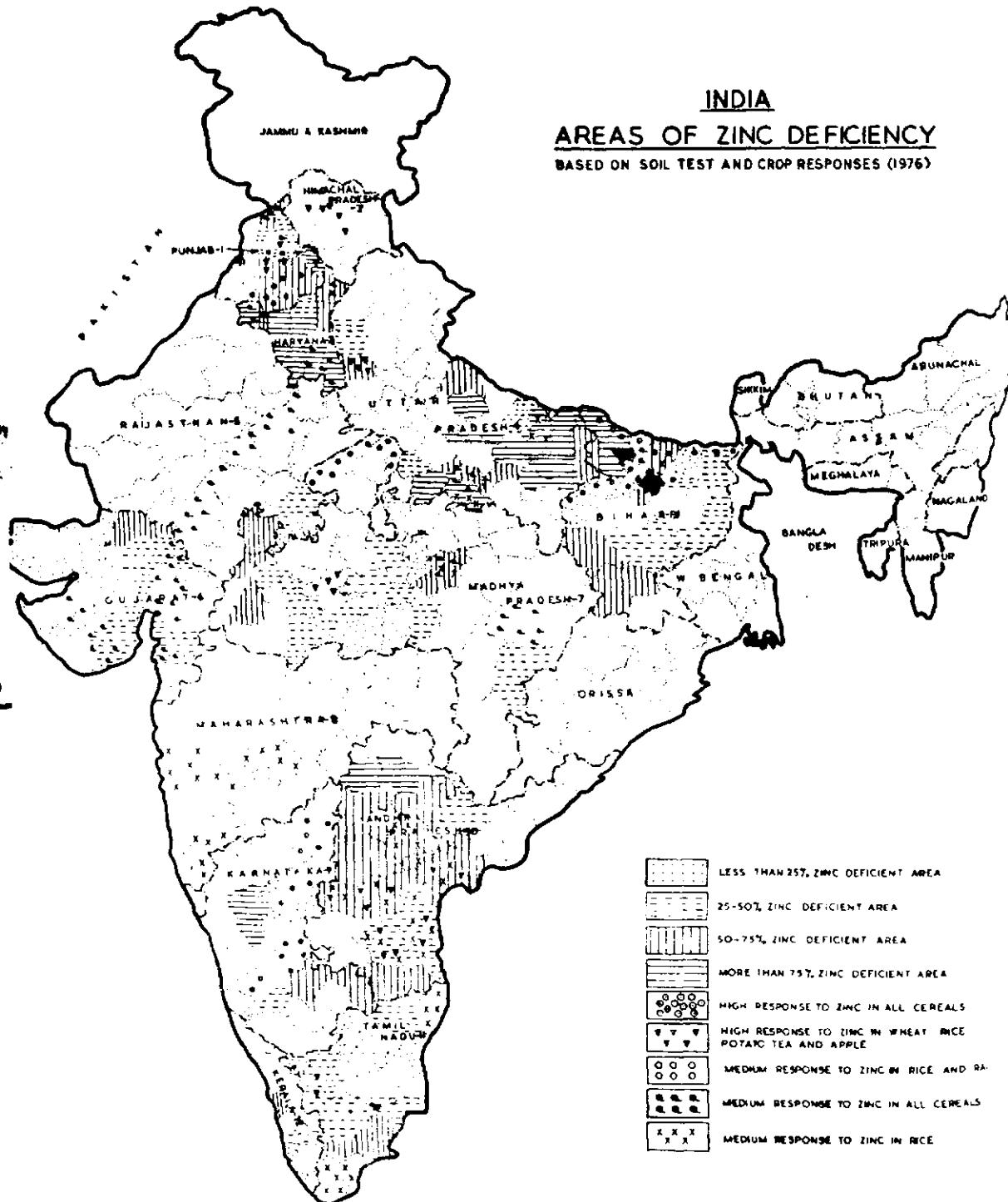
(2) J.A. Doji (1955), Manures & Manuring, I.C.A.R. Farm Bulletin No. 7.

(3) Van Slyke (1953), Fertiliser and Crop Production, published by Orange Judd Publishing Co., New York.



Source: Micronutrient Research in Soils and Plants in India, J. S. Kanwar and N. S. Randhawa, I.C.A.R., New Delhi, (Dec. 1974).

INDIA
AREAS OF ZINC DEFICIENCY
 BASED ON SOIL TEST AND CROP RESPONSES (1976)



Source: Micronutrients in Indian Agriculture, P. N. Thakkar and N. S. Randhawa, PAU, Ludhiana (Punjab), (*Fertiliser News*, August 78).

10.04. MICRONUTRIENT CONTENTS OF SOME IMPORTANT FERTILISERS AND MANURES

(parts per million)

Fertiliser	Copper	Zinc	Manganese	Boron	Molybdenum
NITROGENOUS FERTILISERS					
Ammonium sulphate	Tr-0.5	0.33	70	6.0	0.1
Urea	0-3.6	0.5	0.5	0.5	0.7-6.2
Calcium ammonium nitrate	Tr-18.0	8.35	10.50	Tr	—
PHOSPHATIC FERTILISERS					
Superphosphate	26.0	50-165	65-270	9.5	3.3
Triple superphosphate	2-12	53-100	175-245	529	9.1
Basic slag	9.2-56.4	4-59	68,900	33.4	10.0
	9.0-35.0	19-29	28,000	—	—
Rockphosphate	5.6-9.5	24-137	130,320	16	5.6
Bonemeal	270	660	500	715	—
POTASSIC FERTILISERS					
Potassium chloride	3.0	3.0	8.0	14.0	0.2
Potassium sulphate	5.6-10.4	2.0	2.2-13.0	4.0	0.2
Farmyard manure	10	43-247	201	17.4	0.13
Compost	300-600	9.40	1,240	5.8	0.10
COMPLEX FERTILISERS					
Ammonium phosphate	3-4	about 80	115-220	—	2.2

Source: Micronutrients: New Dimensions in Agriculture, J. S. Kanwar, *Indian Farming* 18(10), 5-8 (Jan. 1979).

Tr—Traces.

10.05 NUTRIENT CONTENTS

Sl. No.	Material	Total nitrogen	Ammoniacal nitrogen	Nitrate nitrogen	Amide nitrogen
NITROGENOUS MATERIALS					
1.	Ammonia anhydrous ^a	81.5	81.5	—	—
2.	Ammonium chloride ^b	25.0	25.0 ^a	—	—
3.	Ammonium nitrate	33.5	16.75	16.75	—
4.	Ammonium sulphate ^b	20.6 ^a	20.6 ^a	—	—
5.	Calcium ammonium nitrate ^b 25% N	25.0 ^a	12.50	12.50	—
6.	Calcium ammonium nitrate ^b 26% N	26.0 ^a	13.0	13.0	—
7.	Urea ^b uncoated	46.0 ^a	—	—	46.0
PHOSPHATIC MATERIALS					
8.	Single superphosphate ^b (grade I, 16% P ₂ O ₅)	— ^a	—	—	—
9.	Single superphosphate ^b (grade II, 14% P ₂ O ₅)	—	—	—	—
10.	Triple superphosphate ^b	—	—	—	—
11.	Pelophos	—	—	—	—
12.	(a) Rockphosphate (Imported)	—	—	—	—
	(b) Udaipur rockphosphate	—	—	—	—
	(c) Mussoorie rockphosphate	—	—	—	—
	(d) Jhabua rockphosphate	—	—	—	—
POTASSIC MATERIALS					
13.	Potassium chloride ^d (Muriate of potash)	—	—	—	—
14.	Potassium sulphate ^d	—	—	—	—
COMPLEXES					
15.	Diammonium phosphate (18-46-0) ^b	18.0 ^a	18.0 ^a	—	—
16.	Diammonium phosphate (20-48-0)	20.0 ^a	20.0 ^a	—	—
17.	Ammonium phosphate sulphate (18-9-0) ^b	18.0 ^a	18.0 ^a	—	—
18.	Ammonium phosphate sulphate (16-20-0) ^b	16.0	16.0 ^a	—	—
19.	Ammonium phosphate sulphate (19.5-19.5-0) ^b	19.5	19.5 ^a	—	—

OF FERTILISERS

(per cent)

Total phosphate (P ₂ O ₅)	Available phosphate (P ₂ O ₅)	Water soluble phosphate (P ₂ O ₅)	Potash (K ₂ O)	Total (lime) (CaO)	Total magnesia (MgO)	Equivalent acidity ^a	Equivalent basicity ^f
—	—	—	—	—	—	148	—
—	—	—	—	—	—	128-140	—
—	—	—	—	—	—	60	—
—	—	—	—	—	—	110	—
—	—	—	—	10-20	0-7.5	Neutral	—
—	—	—	—	—	—	Neutral	—
—	—	—	—	—	—	80	—
18.0-20.0	16.5-17.0	16.0 ^a	—	25.0-30.0	0.5	—	—
16.0-18.0	14.5-16.0	14.0 ^a	—	—	—	—	—
46.0	43.0	42.5 ^a	—	17.0-20.0	0.5	—	—
17.0 ^a	16.0 ^a	5.0	—	—	—	—	—
30.0-40.0 ^a	—	—	—	—	—	—	—
20.0-35.0	—	—	—	—	—	—	—
23.0-34.0	—	—	—	—	—	—	—
31.0-38.0	—	—	—	—	—	—	—
—	—	—	60.0 ^a	—	—	—	—
—	—	—	48.0 ^a	—	—	—	—
46.0 ^a	—	46.0	—	—	—	—	—
48.0 ^a	48.0	43.0 ^a	—	—	—	—	—
9.0 ^a	9.0	8.5 ^a	—	—	—	—	—
20.0 ^a	—	19.5 ^a	—	—	—	—	—
—	19.5 ^a	17.5 ^a	—	—	—	—	—

(Continued)

10.05. NUTRIENT CONTENTS

Sl. No.	Material	Total nitrogen	American acal nitrogen	Nitrate nitrogen	Amide nitrogen
20.	Ammonium phosphate sulphate (20-20-0) ^a	20.0	18.0 ^a	—	2.0 ^c
21.	Ammonium phosphate sulphate nitrate (20-20-0) ^b	20.0 ^a	17.0 ^a	3.0 ^a	—
22.	Urea ammonium phosphate (28-28-0) ^a	28.0 ^a	9.0 ^a	—	19.0
23.	Urea ammonium phosphate (24-24-0) ^b	24.0 ^a	7.5 ^a	—	16.5 ^a
24.	Urea ammonium phosphate (20-20-0)	20.0 ^a	6.40 ^a	—	—
25.	Nitrophosphate (20-20-0) ^b	20.0 ^a	10.6	9.4	—
NITROGEN-POTASSIUM MATERIALS					
26.	Potassium nitrate	13.0	—	13.0	—
COMPLEXES					
27.	Nitrophosphate with potash grade I (18-18-9)	18.0 ^a	—	—	—
28.	Nitrophosphate with potash grade II (15-15-15) ^b	15.0 ^a	—	—	—
29.	NPK (10-26-26) ^b	10.0 ^a	10.0	—	—
30.	NPK (12-32-16) ^b	12.2 ^a	12.0 ^a	—	—
31.	NPK (22-22-11) ^b	22.0 ^a	7.0 ^a	—	15.0 ^a
32.	NPK (14-35-14) ^b	14.0 ^a	14.0 ^a	—	—
33.	NPK (17-17-17) ^a	17.0 ^a	5.0 ^a	—	12.0 ^a
34.	NPK (14-28-14) ^b	14.4 ^a	8.0 ^a	—	6.0 ^a
35.	NPK Complex (19-19-19) ^b	19.0 ^a	5.6 ^a	—	13.4 ^a
OTHERS					
36.	Zinc sulphate	Zinc	(Zn)	Content	21.0

^a Specifications prescribed in the Fertiliser (Control) Order.

^b Fertilisers manufactured in India.

^c Fertilisers to be manufactured in India.

^d Fertilisers imported.

Source: (i) Fertiliser (Control) Order, 1957 as amended up to September 1977.

(ii) Efficient Use of Fertilisers—FAO Agricultural Studies, No. 43.

OF FERTILISERS (Concluded)

(Per cent)

Total phosphate (P ₂ O ₅)	Available phosphate (P ₂ O ₅)	Water soluble phosphate (P ₂ O ₅)	Water soluble potash (K ₂ O)	Total (lime) (CaO)	Total magnesia (MgO)	Equivalent acidity ^a	Equivalent basicity ^b
—	20.0 ^a	17.0 ^a	—	—	—	—	—
—	20.0 ^a	17.0 ^a	—	—	—	—	—
—	26.0 ^a	25.2 ^a	—	—	—	—	—
—	24.0 ^a	20.4 ^a	—	—	—	—	—
—	20.0 ^a	18.0 ^a	—	—	—	—	—
20.0	20.0 ^a	5.4 ^a	—	—	—	—	—
—	—	—	44.0	0.5	0.5	—	—
18.0 ^a	18.0 ^a	4.9 ^a	9.0 ^a	—	—	—	—
15.0	15.0 ^a	4.0 ^a	15.0 ^a	—	—	—	—
26.0	26.0 ^a	22.1 ^a	26.0 ^a	—	—	—	—
32.0	32.0 ^a	27.2 ^a	16.0 ^a	—	—	—	—
22.0	22.0 ^a	19.6 ^a	11.0 ^a	—	—	—	—
35.0	35.0 ^a	29.6 ^a	14.0 ^a	—	—	—	—
17.0	17.0 ^a	15.3 ^a	17.0 ^a	—	—	—	—
28.0	28.0 ^a	25.2 ^a	14.0 ^a	—	—	—	—
—	19.0 ^a	16.2 ^c	19.0 ^a	—	—	—	—
—	—	—	—	—	—	—	—

^a Equivalent acidity is the number of parts by weight of calcium carbonate (CaCO₃) required to neutralise the acidity resulting from the use of 100 parts of fertiliser material.

^b Equivalent basicity is the number of parts by weight of calcium carbonate (CaCO₃) that corresponds in acid neutralising power of 100 parts of fertiliser material.

10.06. APPROVED GRADES OF FERTILISER MIXTURES—STATEWISE

Zone/State	Grade			Crops for which recommended	
	N	P ₂ O ₅	K ₂ O		
Central					
Madhya Pradesh	20	20	5		
	15	10	10		
	10	30	6		
	20	20	10		
	18	18	9		
	15	15	7.5		
	8	32	8		
	12	32	6		
	10	20	10		
Rajasthan	5	15	5		
	18	18	10		
	20	10	0		
	10	30	0		
	15	15	15		
	15	15	7.5		
Uttar Pradesh	8	8	8		
	10	10	10		
	15	15	7.5		
	20	20	10		
East					
Assam	8	8	8	} For agriculture crop mainly HYV paddy, sugarcane, wheat and potato	
	16	8	8		
	12	6	8		
	10	2	4		} For tea
	10	5	10		
	10	5	15		
Bihar	20	10	10		
	8	8	8		
	6	12	6		
	15	15	15		
	18	18	6		
	13	13	20		

(Continued)

10.06. APPROVED GRADES OF FERTILISER MIXTURES—STATEWISE (Continued)

Zone/State	Grade			Crops for which recommended
	N	P ₂ O ₅	K ₂ O	
East (Concluded)				
Orissa	15	15	15	High yielding variety
	4	8	8	Groundnut
	15	20	15	Sugarcane
	20	20	0	For other crops depending on requirements
	8	8	8	} HYV paddy, wheat, maize, potato and vegetables
	12	12	12	
	13	13	13	
West Bengal	8	8	8	} These mixtures are recommended for all kinds of crops suiting the fertiliser recommendations in different parts of the State
	12	12	12	
	15	15	15	
	20	20	0	
	12	12	0	} Tea
	10	5	10	
North				
Haryana	15	15	15	} Wheat, paddy, maize and cotton
	10	30	10	
	8	8	8	
	15	15	7.5	
	18	27	3	
	20	20	5	} Wheat, paddy, maize, cotton & sugarcane
	25	25	0	
	12	32	16	
	12	32	0	
12	32	6		
Himachal Pradesh	15	15	7.5	
	10	20	10	
	15	7.5	15	
	13	13	13	
	18	18	10	
	15	22.5	7.5	
	15	22.5	0	
	18	10	5	
	15	15	15	
Punjab	15	15	7.5	
	25	25	0	
	20	20	10	

(Continued)

10.06. APPROVED GRADES OF FERTILISER MIXTURES—STATEWISE (Continued)

Zone/State	Grade			Crops for which recommended
	N	P ₂ O ₅	K ₂ O	
South				
Andhra Pradesh	14	7	0	Paddy mixture
	22	0	11	Paddy Top dressing
	14	6	4	Sugarcane mixture
	14	6	4	"
	12	6	6	Chillies & general
	4	12	8	FCV Mixture, Tobacco Mixture
	6	18	12 (S)	FVCV Tobacco
	18	18	2 (M)	Cotton, Hybrid Seed Production
	20	20	10 (M)	Sugarcane
	5	15	15 (S)+ 2 MgO	Tobacco in collaboration with M/s Indian Leaf Tobacco Dev. Co.
	7	10	5	Grape
	4	12	12	Groundnut
	20	10	10	Sugarcane Special
6	12	6 (S)	Natu Tobacco	
Karnataka	9	9 (9)	9	
	12	6 (6)	6	
	6	12 (12)	6	
	15	5 (5)	5	
	15	0 (0)	15	
	3	9 (9)	9 (S)	
	20	0 (0)	20	
	11	11 (0)	11	
	12	9 (0)	12	
7	10	5		
Kerala	9	9 (4.5)	9	Paddy and Tapioca
	12	12 (6.0)	6	Paddy and vegetables
	20	0 (0.0)	20	Paddy
	10	5 (2.5)	20	Coconut
	24	0 (0.0)	12	Sugarcane (Pandalam and Tiruvalla area)
	30	0 (0.0)	10	Sugarcane (Chittoor Area)
	8	8 (4.0)	16	Sugarcane
	10	4 (2.0)	14	Arecanut, pepper & cocoa
	12	6 (3.0)	12	Pineapple
	12	6 (3.0)	6	Cashew

(Continued)

10.06. APPROVED GRADES OF FERTILISER MIXTURES - STATEWISE (Continued)

Zone/State	Grade			Crops for which recommended
	N	P ₂ O ₅	K ₂ O	
South (Continued)				
Kerala	5	10 (5.0)	20	Groundnut
	7	10 (0.5)	5	Vegetables & pulses
	24	12 (12.0)	12	All crops
	18	18 (18.0)	18	All crops
Tamil Nadu	14	7 (7.0)	0	Millets
	12	6 (6.0)	6	Paddy, ragi, cotton, chillies, tobacco, vegetables
	12	6 (3.0)	6	Fruits
	8	8 (4.0)	16	Coconut tapioca, arcanut
	6	12 (12.0)	6	Potato, paddy
	6	12 (6.0)	6	Potato*
	9	9 (9.0)	9	Paddy, millets, vegetables
	15	0 (0.0)	15	Top dressing mixture
	4	8 (8.0)	12	Groundnut irrigated
	6	6 (6.0)	18	Banana
	10	0 (0.0)	30	Banana
	15	5 (2.5)	5	Sugarcane
	16	4 (2.0)	4	Sugarcane
	16	0 (0.0)	12	Top dressing mixture
	10	10 (10.0)	10	Jowar, bajra
	12	4 (2.0)	12	Coconut
	15	15 (7.5)	15	Paddy, millets, vegetables, basal dressing mixture
	20	0 (0.0)	10	Sugarcane
	30	30 (15.0)	50	Tea
	50	30 (15.0)	50	
60	39 (15.0)	40		
40	40 (20.0)	80		
60	45 (22.5)	45		
50	0 (0.0)	50		
60	0 (0.0)	40		

(Continued)

10.06. APPROVED GRADES OF FERTILISER MIXTURES—STATEWISE (Continued)

Zone/State	Grade			Crops for which recommended
	N	P ₂ O ₅	K ₂ O	
South (Concluded)				
Tamil Nadu	11	11 (5.5)	11	Tea nursery mixture
	17	17 (17)	17	
	4	4 (4)	18	
Pondicherry				
	14	7	0	Millets, Rainfed Cotton in Black Soils
	12	6	6	Paddy, Ragi, Cotton, Chillies Tobacco, Vegetables Fruits
	8	8	16	Coconut, Tapioca, Arecanut
	6	12	6	Potato, Paddy, Hybrid Millets as basal dressing mixtures
	9	9	9	Paddy, Millets, Vegetables as basal dressing mixtures
	15	0	15	Paddy, Millets for top dressing
	4	8	12	Groundnut
	7	14	21	Irrigated Groundnut
	8	6	18	Banana
	10	0	30	Banana
	15	5	5	Sugarcane
	16	4	4	Sugarcane
	16	0	12	Top dressing Mixture
	10	10	0	Cholam, Bajra
	12	4	12	Coconut in Sandy Loams
	15	15	15	Paddy, Millets, Vegetables as basal dressing mixture
	20	0	10	Sugarcane (N&K at higher levels)
	17	17	17	Paddy, Millets as basal dressing mixture

(Continued)

10.06. APPROVED GRADES OF FERTILISER MIXTURES—STATEWISE (Continued)

Zone/State	Grade			Crops for which recommended
	N	P ₂ O ₅	K ₂ O	
West				
Gujarat	10	5	0	
	10	10	10	
	15	15	10	
	5	10	10	
	5	10	5	
	15	5	5	
	10	15	15	
	10	5	5	
	10	10	0	
	5	15	15	
	15	10	10	
	20	10	10	
Maharashtra	9	9	0	
	10	5	5	
	5	10	10	
	6	12	6	
	20	20	10	
	5	20	20	
	12	6	0	
	15	5	5	
	15	15	7.5	

(Continued)

10.06 APPROVED GRADES OF FERTILISER MIXTURES—STATEWISE (Concluded)

Zone/State	Grade			Crops for which recommended	
	N	P ₂ O ₅	K ₂ O		
West (Concluded)					
Maharashtra	7	10	5		
	20	10	10		
	20	20	0		
	20	20	2		
	6	12	0		
	9	9	5		
	8	8	8		
	9	9	9		
	18	18	10		
	18	18	9		
	15	15	15		
	Goa	15	5	5	
		15	0	15	
20		0	20		
10		5	5		
5		10	5		
7		10	5		
9		9	9		
6		9	12		
5	10	10			

The figures within brackets denote water soluble P₂O₅.

(M) = Muriate of Potash.

(S) = Sulphate of Potash.

*Approved grade 6-12 (6.0)-6 recommended for potato in Tamil Nadu should contain 1 per cent organic nitrogen besides 5 per cent inorganic nitrogen.

Source: State Departments of Agriculture.

10.07. YARDSTICKS OF ADDITIONAL PRODUCTION FROM THE USE OF FERTILISERS ON HIGH YIELDING AND LOCALLY IMPROVED TALL VARIETIES

State	District covered	Variety	No. of experiments	Yardsticks of additional production in tonnes				
				Per tonne of N		Per tonne of P ₂ O ₅		Per tonne of K ₂ O
				at 60 kg N/ha	at 120 kg N/ha	at 30 kg P ₂ O ₅ /ha	at 60 kg P ₂ O ₅ /ha	at 60 kg K ₂ O/ha
A. RICE (unhusked)								
Kharif (Irrigated)								
Andhra Pradesh	Chittoor	IR-8	198	8.6	8.6	13.2	11.2	6.6
	Nizamabad	Locally Improved	198	8.9	7.4	10.0	8.8	3.3
	West Godavari							
Bihar	Shahabad	IR-8	117	14.8	12.4	12.8	8.0	7.0
		Locally Improved	143	13.6	11.6	10.1	7.0	6.9
Haryana	Karnal	IR-8	67	15.2	12.6	6.4	4.1	1.0
		Locally Improved	91	15.9	13.0	7.8	6.5	6.8
Karnataka	Shimoga	IR-8	75	8.2	7.9	21.8	14.0	6.7
	Raichur	Locally Improved	79	10.2	8.4	20.7	14.2	4.3
Madhya Pradesh	Raipur	IR-8	119	7.5	8.1	21.2	13.3	5.2
		Locally Improved	169	8.4	7.1	21.4	16.5	7.3
Tamil Nadu	Thanjavur	IR-8	257	15.3	12.8	20.4	21.3	6.2
	Coimbatore	Locally Improved	212	10.1	10.2	14.8	14.4	6.3
Uttar Pradesh	Varanasi	IR-8	79	10.6	9.2	3.7	3.9	3.3
West Bengal	Burdwan	IR-8	63	15.9	11.1	6.7	4.2	2.8
Average		IR-8	975	12.0	10.3	13.5	10.0	4.8
		Locally Improved	892	11.2	9.7	14.1	11.2	4.8

(Continued)

**10.07. YARDSTICKS OF ADDITIONAL PRODUCTION FROM THE USE OF FERTILISERS ON HIGH YIELDING AND
LOCALLY IMPROVED TALL VARIETIES (Continued)**

State	District covered	Variety	No. of experi- ments	Yardsticks of additional production in tonnes				
				Per tonne of N		Per tonne of P ₂ O ₅		Per tonne of K ₂ O
				at 60 kg N/ha	at 120 kg N/ha	at 30 kg P ₂ O ₅ /ha	at 50 kg P ₂ O ₅ /ha	at 60 kg K ₂ O/ha
Kharif (Unirrigated)								
Kerala	Alleppey	IR-8	188	8.3	6.6	7.2	5.5	3.5
	Palghat							
Maharashtra	Poona	IR-8	86	4.6	4.1	3.7	3.9	5.3
	Nasik	TN-1	102	5.9	5.3	5.4	5.4	3.2
	Poona	Locally Improved	229	2.6	4.5	7.2	5.1	3.4
	Nasik							
<i>Average</i>		IR-8	274	6.4	5.3	5.4	4.7	4.4
		Locally Improved	229	2.6	4.5	7.2	5.1	3.4
Rabi (Irrigated)								
Andhra Pradesh	Chittoor	IR-8	174	8.6	8.2	13.3	13.0	6.6
	West Godavari	Locally Improved	133	8.0	8.2	7.4	4.1	3.3
Karnataka	Shimoga	IR-8	102	18.5	16.5	27.7	20.7	8.9
	Raichur							
Madhya Pradesh	Raipur	Locally Improved	28	9.9	8.5	12.1	11.0	1.8
Orissa	Cuttack	Jaya*	152	14.2	13.0	15.3	14.2	6.4
	Sambalpur							
Tamil Nadu	Thanjavur	IR-8	98	12.7	12.0	11.6	10.0	6.1
		Locally Improved	176	11.4	11.0	12.8	11.2	7.1
		IR-8*	428	13.8	12.6	16.8	16.0	7.2
<i>Average</i>		Locally Improved	337	9.8	8.6	10.8	8.8	4.1
Rabi (Unirrigated)								
Kerala	Alleppey	IR-8	249	8.9	7.2	10.1	5.7	2.8
	Palghat							

	<i>Alleppey</i>	TN-1	89	6.7	5.5	6.2	6.0	4.9
	<i>Alleppey</i>	Locally Improved	178	4.6	3.8	6.7	5.2	4.0
	<i>Palghat</i>							
WHEAT (Irrigated)								
Bihar	Shahabad	S-308	158	16.6	13.0	7.5	7.4	4.1
	Monghyr	Locally Improved	305	11.6	9.2	10.8	9.6	3.8
Delhi	Delhi	S-227	74	16.0	14.7	19.1	16.1	3.8
Gujarat	Mehsana	S-227	234	5.5	4.9	14.6	8.6	2.4
	Bhavnagar	Locally Improved	322	3.9	3.8	6.9	9.3	2.6
Haryana	Karnal	S-227	124	16.0	13.6	9.1	5.9	5.7
		S-308	95	11.8	11.3	3.9	5.3	1.3
		Locally Improved	57	12.3	8.9	6.5	—	—
Madhya Pradesh	Hoshangabad	S-227	249	14.3	11.6	6.1	6.9	5.3
		Locally Improved	124	12.2	9.6	6.8	7.0	1.6
Maharashtra	Nasik	S-308	126	7.3	5.2	10.1	7.3	1.9
		Locally Improved	128	6.5	4.7	8.6	6.5	2.1
Punjab	Ludhiana	S-227	144	10.8	8.0	15.0	8.8	—
		S-308	116	12.0	8.7	15.1	10.8	1.4
		Locally Improved	59	6.8	5.3	11.3	—	—
Rajasthan	Pali	S-227	98	5.7	6.0	6.7	2.7	4.3
Uttar Pradesh	Varanasi	Locally Improved	89	6.7	5.8	5.0	2.8	3.0
	Aligarh, Kanpur	S-227	675	13.7	11.5	7.6	6.9	4.0
	Jhansi	Locally Improved	353	8.0	6.3	5.2	5.1	3.1
West Bengal	Burdwan	S-227	82	10.8	8.2	9.0	3.9	3.2
		S-308	61	13.5	10.3	5.6	8.8	5.0
<i>Average</i>		S-227	1,680	11.6	9.8	10.9	7.5	4.1
		S-308	555	12.2	9.7	8.4	7.9	2.7
		Locally Improved	1,437	8.5	6.6	7.8	6.7	2.7

*Includes 'Jaya' which belongs to the same group.

(Continued)

**10.07. YARDSTICKS OF ADDITIONAL PRODUCTION FROM THE USE OF FERTILISERS ON HIGH YIELDING AND
LOCALLY IMPROVED TALL VARIETIES (Continued)**

State	District covered	Variety	No. of experiments	Yardsticks of additional production in tonnes				
				Per tonne of N		Per tonne of P ₂ O ₅		Per tonne of K ₂ O
				at 60 kg N/ha	at 120 kg N/ha	at 30 kg P ₂ O ₅ /ha	at 60 kg P ₂ O ₅ /ha	at 60 kg K ₂ O/ha
C. JOWAR								
Kharif (Irrigated)								
Gujarat	Bhavnagar	CSH-1	61	1.8	2.4	9.0	4.0	3.2
		Locally Improved	55	1.6	1.6	5.6	3.2	0.9
Kharif (Unirrigated)								
Maharashtra	Parbhani	CSH-1	114	2.9	2.7	8.2	6.2	2.3
		Locally Improved	109	2.2	1.6	3.8	2.3	1.0
Uttar Pradesh	Jhansi	CSH-1	36	3.8	3.3	2.0	1.8	1.6
		Locally Improved	38	3.6	3.0	2.0	1.4	1.4
Rabi (Irrigated)								
Maharashtra	Parbhani	CSH-1	168	2.7	2.4	5.5	4.0	2.0
	Poona	Locally Improved	191	2.9	2.1	3.8	2.5	3.2
D. MAIZE								
Kharif (Irrigated)								
Punjab	Ludhiana	Vijay-1	108	9.3	8.0	8.5	8.1	1.6

Kharif (Unirrigated)

Bihar	Monghyr	Ganga Safed-2	88	15.7	14.0	12.3	13.5	5.9
		Jaunpur	86	12.6	10.0	11.3	10.8	5.4
Himachal Pradesh	Mandi	Ganga-3	30	5.9	4.9	7.2	10.6	5.0
		Him-128	41	6.8	4.6	6.6	4.7	4.9
Uttar Pradesh	Kanpur	Ganga-5	74	14.0	11.6	5.5	4.6	2.4

Rabi (Irrigated)

Andhra Pradesh	Nizamabad	Ganga-2	34	8.6	7.8	3.9	7.9	5.5
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E. BAJRA**Kharif (Irrigated)**

Gujarat	Mehsana	N-207	27	3.1	2.0	4.8	4.4	0.0
Delhi	Delhi	HB-1	38	5.8	5.9	6.7	6.9	2.7
Uttar Pradesh	Aligarh	HB-1	38	4.9	5.4	4.1	7.0	2.5
		Local	25	4.6	4.3	2.0	3.8	0.7

Kharif (Unirrigated)

Gujarat	Mehsana	Locally Improved	193	2.5	2.3	5.9	4.8	2.4
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Rabi (Irrigated)

Tamil Nadu	Coimbatore	HB-3	105	5.4	4.7	8.3	6.5	1.5
		X-3	103	4.5	3.7	8.0	5.4	1.3

(Continued)

10.07. YARDSTICKS OF ADDITIONAL PRODUCTION FROM THE USE OF FERTILISERS ON HIGH YIELDING AND LOCALLY IMPROVED TALL VARIETIES (Concluded)

- Note:*
1. An estimate of the average response per unit application of the development measure, such as fertiliser, is defined as "yardstick" of its contribution towards increased production of the crop.
 2. Data of those districts where the experiments were conducted atleast for two years and with more than 25 experiments per variety were used to determine the yardstick.
 3. The doses* at which the yardsticks of additional production were formulated are:
 - 60 and 120 kg/ha of N,
 - 30 and 60 kg/ha P_2O_5 ,
 - and 60 kg/ha of K_2O .

Responses to K_2O were measured over a basal application of 120 kg/ha of N and 60 kg/ha of P_2O_5 .

*One tonne of fertiliser nutrient can benefit an area of 33.33 hectares at 30 kg/ha of nutrient, at double this dose, the material can be applied over 16.66 hectares, and an area of 8.33 hectares can be covered at 120 kg/ha of the nutrient.

- Summary:**
1. In general, additional production of about 10 tonnes/tonne of nitrogen were obtained for rice in Kharif and wheat in Rabi under irrigated conditions to an application of 60 kg N/ha. On equal nutrient basis the yardstick of additional production from the use of phosphorus was about a tonne less for rice and three tonnes less for wheat per tonne of P_2O_5 . The yardsticks of additional production from the use of potassium at 60 kg K_2O /ha were about 40 per cent of yardsticks of additional production from the use of nitrogen for these two crops. The yardsticks of additional production from the use of fertiliser for other cereals were much lower compared to rice and wheat.
 2. The data available on jowar, maize and bajra were too meagre to see the trend of the hybrids. However, it was observed that higher yardsticks of additional production per unit of fertiliser application for Ganga Safed-2 variety in comparison with Jaunpur was a possibility.

Source: "Evaluation of yardsticks of additional production for the use of fertilisers on high yielding and locally improved tall varieties of cereals" - I.A.R.S. (I.C.A.R.), New Delhi, 1973.

**10.08. PRODUCTION OF RURAL AND URBAN COMPOST AND AREA GREEN MANURED
1978-79 and 1979-80**

Name of States	Urban compost production		Rural compost production		Area green manured	
	(Lakh tonnes)		(Lakh tonnes)		(Lakh Hectares)	
	1978-79	1979-80	1978-79	1979-80	1978-79	1979-80
1. Andhra Pradesh	2.50*	2.50*	445.00*	445.00*	24.00*	24.00*
2. Assam	0.10*	0.10*	4.50*	4.50*	0.15*	0.15*
3. Bihar	1.25*	1.30*	118.16	120.00	—	—
4. Gujarat	2.15	1.89	13.08	9.90	1.61	1.98
5. Haryana	1.72	1.75*	60.48	65.00	0.285	0.26*
6. Himachal Pradesh	—	—	20.65	25.00*	0.34	0.34*
7. Jammu & Kashmir	0.16	0.16	1.59	1.34	0.002	0.002
8. Karnataka	6.42	7.67	84.74	86.81	6.00	6.56
9. Kerala	0.20	0.25*	2.14	2.50*	0.18	0.10*
10. Madhya Pradesh	1.85	1.85*	69.29	70.00*	1.21	1.60*
11. Maharashtra	9.39	9.50*	12.90	14.00*	0.10	0.10*
12. Manipur	—	—	NA	NA	NA	NA
13. Meghalaya	0.02*	0.02*	NA	NA	NA	NA
14. Nagaland	—	—	—	—	—	—
15. Orissa	0.24	0.25*	93.62	100.00*	2.33	2.50*
16. Punjab	4.64	4.65*	201.00	209.00*	4.05	4.50*
17. Rajasthan	1.41	1.70	27.08	20.97	0.33	0.24
18. Sikkim	—	—	—	—	—	—
19. Tamil Nadu	13.00*	13.00*	86.54	84.00	15.00*	15.00*
20. Tripura	—	—	NA	NA	NA	NA
21. Uttar Pradesh	11.51*	13.77*	886.01	916.83	9.26	6.68
22. West Bengal	0.40*	0.40*	90.00*	90.00*	0.05*	0.05*
23. Andaman & Nicobar Islands	—	—	0.06	0.06*	0.02	0.02*
24. Arunachal Pradesh	—	—	—	—	—	—
25. Chandigarh	—	—	—	—	—	—
26. Dadra & Nagar Haveli	—	—	00.15*	0.08	0.003	0.003
27. Delhi	0.19	0.30*	—	—	—	—
28. Goa	—	—	1.12	0.98	0.100	0.102
29. Lakshadweep	—	—	0.001	0.002	0.001	0.001
30. Mizoram	—	—	0.02	0.02	—	—
31. Pondicherry	0.44	0.45	1.37	1.35	0.10	0.089
Miscellaneous	3.50	2.50	—	—	—	—
Total	61.09	64.01	2219.37	2267.27	65.005	64.28

* Anticipated Figures

NA=Not available

Source: Ministry of Agriculture & Rural Reconstruction, Govt. of India, New Delhi.

11.00. RAILWAY TARIFF

11.01. RAILWAY FREIGHT STRUCTURE FOR FERTILISERS AND FERTILISER RAW MATERIALS SINCE 1-4-65

Chemical manures	Classification effective during								
	1-4-65 to 1-4-69	1-4-70	1-7-71	15-4-72	1-4-73	15-9-74	1-4-76	1-4-79	15-7-80
Division A	40A	45	47.5	50	52.5	52.5	52.5	52.5	52.5
Division B	35A	37.5	40	42.5	45	45	45	45	45

(Rate in Rs. per tonne)

Distance	As on 1.4.65	As on ¹ 1.4.66	As on ² 1.4.67	As on ³ 1.4.68	As on ⁴ 1.4.69	As on 1.4.70	As on 1.7.71	As on 1-4-72	As on 1.4.73	As on 1.4.74	As on ⁴ 15.9.74	As on 1-4-76 ⁵		As on ² 1.4.79
												Fertilisers & fertiliser raw materials	Sulphuric	
100	8.90	10.20	10.50	10.80	10.80	12.80	12.80	13.40	14.00	14.70	17.20	17.20	18.10	19.00
200	14.40	14.80	15.20	15.70	15.70	17.90	18.80	19.70	20.50	21.80	25.40	25.40	26.70	28.00
500	26.20	27.00	27.80	28.00	28.00	32.50	34.20	35.90	37.60	40.60	47.40	47.20	49.80	52.80
1000	41.00	42.00	44.20	45.30	45.30	53.80	56.70	59.00	62.50	65.20	83.20	83.20	81.50	100.70
2000	65.00	66.00	68.00	71.30	71.30	98.00	93.80	98.60	103.40	114.30	139.50	139.50	153.50	168.70

DIVISION A

100	8.90	10.20	10.50	10.80	10.80	12.80	12.80	13.40	14.00	14.70	17.20	17.20	18.10	19.00
200	14.40	14.80	15.20	15.70	15.70	17.90	18.80	19.70	20.50	21.80	25.40	25.40	26.70	28.00
500	26.20	27.00	27.80	28.00	28.00	32.50	34.20	35.90	37.60	40.60	47.40	47.20	49.80	52.80
1000	41.00	42.00	44.20	45.30	45.30	53.80	56.70	59.00	62.50	65.20	83.20	83.20	81.50	100.70
2000	65.00	66.00	68.00	71.30	71.30	98.00	93.80	98.60	103.40	114.30	139.50	139.50	153.50	168.70

DIVISION B

100	8.80	9.10	9.40	9.60	9.60	10.60	11.10	11.70	12.30	12.90	15.10	15.10	—	16.65
200	12.80	13.20	13.60	14.00	14.00	15.20	16.10	17.00	17.90	19.00	22.20	22.20	—	24.50
500	23.10	23.60	24.50	25.20	25.20	27.40	29.10	30.80	32.50	35.10	41.00	41.00	—	45.20
1000	36.50	37.60	38.70	39.40	39.60	45.20	48.10	51.00	53.80	58.90	71.90	71.90	—	87.00
2000	57.80	59.50	61.30	63.00	63.00	74.50	79.90	84.10	98.90	98.40	120.00	120.00	—	145.20

¹ Includes 3% supplementary charge with effect from 1-4-66;

² Includes another 3% supplementary charge with effect from 15-6-67;

³ Includes 9% supplementary charge over 1-4-65;

⁴ In the supplementary budget presented to the Lok Sabha on 21-8-74, a supplementary charge of 16% was imposed on all commodities (except foodgrains, pulses and edible oils) upto a distance of 500 km. and thereafter, at 22% of the existing rates;

⁵ Additional supplementary charge of 5% for distances upto and inclusive of 500 km. and 10% for distances beyond 500 km. was levied on all commodities (except foodgrains, fertilisers, rockphosphate, pulses and edible oils);

⁶ w.e.f. 1-4-79:

(i) Exemption originally given to fertilisers and fertiliser raw materials effective 1-4-75 from additional supplementary charge (vide⁶) is withdrawn;

(ii) Additional supplementary charge of 5% for distances upto and inclusive of 500 km. and 10% for distances beyond 500 km. is levied on all commodities (except salt).

⁷ w.e.f. 15-7-80:

Additional supplementary charge at 15% is levied on all commodities except salt for domestic use, foodgrains, pulses, sugar, kerosene oil, edible and hydrogenated oils, *chemical manures*, firewood and charcoal.

**11.02. CURRENT RAILWAY FREIGHT FOR FERTILISERS AND FERTILISER
RAW MATERIALS (effective from 15.9.1974)**

Articles	Effective from	Packing condition		General classification		
		Internal*	Outer*	Smalls	Wagon loads	
I. Chemical Manures—Division 'B'						
1. Ammonium chloride** - S/32	15.9.1974	IP/3(b)	P/7 or P/9	65 [†]	45 [†]	
2. Ammonium sulphate—S/33	15.9.1974					
3. Ammonium sulphate nitrate	15.9.1974					
4. Calcium ammonium nitrate	15.9.1974					
5. Ground phosphate†	15.9.1974					
6. Manure mixture	15.9.1974					
7. Mineral phosphate	15.9.1974					
8. Muriate of potash @ — S/33	15.9.1974					
9. Gypsum { powder	15.4.1976	—	P/7A	65	45	
{ broken moulds	15.4.1976	—	P/36	62.5	42.5	
10. Lime stone	15.9.1974	—	P/36	62.5	42.5	
11. Single superphosphate	15.11.1975	IP/3(b)	P/7 or P/9	65	45	
II. Chemical Manures—Division 'A' @						
12. Diammonium phos. - S/33 (DAP)	15.9.1974	IP/3(b)	P/12	75	52.5	
13. Monoammonium phosphate	15.9.1974	IP/3(b)	P/9	75	52.5	
14. Urea**—S/33	15.9.1974	—	P/53	75	52.5	
15. Urea sweepings	15.9.1974	—	P/53	75	52.5	
16. Ammonium phosphate	15.9.1974	IP/3(b)	P/7 or P/9	75	52.5	
17. Ammonium nitrophosphate	15.9.1974					
18. NPK complex fertilisers	15.9.1974					
19. SNPK complex fertilisers	15.9.1974					
20. Zinc sulphate	7.3.1974	—	P/7 or P/8	75	52.5	
21. Nitrophosphate	15.11.1975	IP/3(b)	P/7 or P/9	75	52.5	
22. Triple superphosphate	15.11.1975					
23. Sulphate of potash	15.11.1975					
III. Feedstocks/Raw materials/Acids						
1. Sulphur		—	cP/7 or cP/8 or cP/28	75	52.5	
2. Furnace oil		—	—	80	62.5	
3. Naphtha flashing point at or above 24.4 °C		—	—	80	62.5	
— flashing point below 24.4 °C		—	—	130	100.0C.C.	
4. Fuel oil		—	—	—	110.0C.C.	
5. (a) Coal/soft coke		—	P/36	—	37.5	
(b) Hard coke		—	P/36	—	42.5	
6. Sulphuric acid		—	—	120	100	
7. Phosphoric		—	—	130	110	
IV. Organic measures, Oilcake		—	P/7	45	32.5	

† w.e.f. 1.6.1978, powder rockphosphate is classified as 65 for smalls and 45 for wagon loads as against 67.5 and 47.5 respectively brought into force from 5.9.1977.

(Continued)

11.02. CURRENT RAILWAY FREIGHT FOR FERTILISERS AND FERTILISER RAW MATERIALS (effective from 15.9.1974) (Concluded)

* For details and "Special Conditions—S/32 and S/33" see I.R.C.A. Goods Tariff No. 33 Part I.

** For agricultural purposes only.

† While availing classifications for these fertilisers, a certificate has to be obtained from the officials of the State Deptt. of Agriculture that the consignment is meant for use as manure (in force from Sept. 1, 1965).

@ From 1.4.1969, DAP and Urea are classified under 'Chemical Manures—Division A'. From 11.10.1971, Ammonium nitrophosphate, Ammonium phosphate, NPK complex fertilisers, Urea sweepings and SNPK joined this Division. From 15.11.1975 Nitrophosphate and Sulphate of potash have also been included in Division 'A' (vide Railway Board notification No. TCR/10/15/75/44 dated 17th October 1975 and 6th December 1975).

@@ The compliance with the "Special Conditions—S/33" should not be demanded where the consignments are booked as fertilisers by the Regional Director (Food) or the Food Corporation of India or MMTC or Indian Potash Ltd.

Note:

A. (i) To all fertilisers listed under "Division A" and "Division B" the tariff rates apply to a minimum wagon load of quintals specified below:—

On Broad Gauge (BG)—220 quintals for bogie wagon except DAP and $ZnSO_4$ —150 quintals.

On Metre Gauge (MG)—145 quintals for bogie wagon except DAP and $ZnSO_4$ —110 quintals.

On Narrow Gauge (NG)—80 quintals for bogie wagon except DAP and $ZnSO_4$ —65 quintals.

(ii) For sulphur and gypsum, weight of charges is the carrying capacity of the wagon used.

(iii) Furnace oil, naphtha and sulphuric acid are moved in tank wagons and weight of charges is the carrying capacity (C.C.) of the wagon used.
If not in tank wagons:—

Article	BG	MG	NG
Sulphuric acid	110	90	65
Furnace oil	110	90	65
Naphtha	above 24.4 °C	110	90
	below 24.4 °C	110	80
Phosphoric acid	100	80	55
Organic manures, oil-cake	205†	130††	80

B. (i) Since publishing railway freight rates (pp. 1-442 and 1-447) in Fertiliser Statistics 1972-73 the tariffs were revised on 1.4.1974 keeping classifications unaltered.

(ii) The above rates were revised during 1974, 1976 and 1979 with effect from 15.9.1974, 1.4.1976 and 1.4.1979 by levying a supplementary charge on the total freight charge in respect of all goods traffic (except foodgrains, pulses and edible oil) on the following scale:—

With effect from

15.9.74	1.4.76 ¹	1.4.79 ²	15.7.80 ³
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For distances upto and inclusive of

500 km	16½%	5%	5%	5%
For distances beyond 500 km	22%	10%	10%	15%

† When floor area is less than 21.1 sq. metres.

†† When floor area is less than 12.5 sq. metres.

C.C. Carrying capacity.

¹ Excluding rockphosphate and fertilisers.

² Excluding only salt (and including foodgrains, pulses and edible oil).

³ Excluding chemical manures (including raw materials).

11.03. CURRENT RAILWAY FREIGHT RATES FOR FERTILISERS RAW MATERIALS (Wagonloads)

(Rate in Rs. per tonne)

Dis- tance (km)	Fertiliser ¹ (w.e.f. 1.4.79)			Feedstock/raw materials/acids (w.e.f. 15.7.80) ²								Organic manures (w.e.f. 15.7.80) 32.5
	42.5	45	52.5	37.5	42.5	45	52.5	62.5	100	105	110	
100	15.90	16.6	19.00	16.50	18.30	19.15	21.85	25.35	38.85	40.50	43.35	15.50
200	23.30	24.50	28.00	24.00	26.80	28.20	32.20	37.85	58.40	61.15	63.90	22.45
300	30.20	31.75	36.50	31.10	34.75	36.50	42.00	49.35	76.60	80.45	83.95	28.80
500	42.90	45.30	52.30	44.00	49.35	52.10	60.15	70.80	110.70	116.05	121.40	40.60
750	66.20	69.85	80.75	67.85	76.15	80.35	92.90	109.70	172.70	181.10	189.60	65.30
1000	82.40	87.00	100.70	84.30	94.80	100.05	115.80	137.00	216.15	226.75	237.15	80.85
1500	111.95	118.35	137.35	114.25	128.75	136.10	157.95	187.05	296.30	310.90	311.60	109.65
2000	137.50	145.20	168.70	140.20	158.15	167.00	194.00	230.05	365.20	383.25	401.25	134.35
2500	157.45	166.40	193.25	160.40	181.10	191.40	222.25	263.70	419.00	439.80	460.50	153.60

¹ w.e.f. 1.4.79 incidence due to the following has been included:

- (i) Exemption originally given to fertilisers and fertiliser raw materials effective 1.4.76 from additional supplementary charge is withdrawn;
- (ii) Additional supplementary charge of 5% for distances upto and inclusive of 500 km and 10% for distances beyond 500 km is levied on all commodities (except salt)

² w.e.f. 15.7.80 : Additional Supplementary charge at 15% is levied on all commodities except, chemical manures, salt for domestic use, foodgrains, pulses, sugar, kerosene oil, edible and hydrogenated oils, firewood and charcoal.

Note: 1. "Smalls" attract a uniform supplementary charge of 10% on all distance slabs w.e.f. 1.4.76.

2. w.e.f. 1.6.78 rockphosphate powder is classified as 45 for wagonloads.

12.00. AMMONIA/PHOSPHORIC ACID/PETROLEUM PRODUCTS/CONVERSION**12.01. IMPORT OF AMMONIA FOR FERTILISER INDUSTRY
(1973-74 to 1979-80)**

Year	Quantity imported (tonnes)
1973-74	5,193
1974-75	Nil
1975-76	27,110
1976-77	16,555
1977-78	43,470
1978-79	95,443
1979-80	134,000

**12.02. PRODUCTION OF PHOSPHORIC ACID AND ITS
CONSUMPTION IN THE FERTILISER INDUSTRY
(1977-78 to 1979-80)**

(tonnes of P ₂ O ₅)		
Year	Production	Consumption
1977-78	217,869	221,525
1978-79	262,514	260,140
1979-80	266,288	253,670

- Note:*
1. Phosphoric acid is expressed as 100 per cent P₂O₅.
 2. Data in respect of one factory is not available.

**12.03. IMPORT OF PHOSPHORIC ACID AND ITS
CONSUMPTION IN THE FERTILISER INDUSTRY
(1977-78 to 1979-80)**

(tonnes of P ₂ O ₅)		
Year	Import	Consumption
1977-78	232,045	246,064
1978-79	239,730	252,746
1979-80	225,144	232,890

- Note:*
1. Phosphoric acid is expressed as 100 per cent P₂O₅.
 2. Data in respect of one factory is not available.

**12.04. INDIGENOUS PRODUCTION OF NATURAL GAS,
CRUDE OIL AND PETROLEUM PRODUCTS
(1976-77 & 1979-80)**

Products	Unit	Production			
		1976-77	1977-78	1978-79	1979-80
I. Natural Gas	Million cubic metres	2,428	2,839	2,811	2,764
II. Crude Oil	Thousand tonnes	8,898	10,763	11,633	11,768
III. Refinery throughput	"	22,995	24,898	25,974	27,470
IV. Refinery production	"				
a) Light Distillates of which	"	3,819	4,051	4,295	4,460
L.P. Gas	"	363	383	403	406
Naphtha	"	1,986	2,120	2,262	2,415
Mogas	"	1,340	1,423	1,515	1,513
SBP Spirits/Hexane	"	53	49	43	56
b) Middle Distillates of which	"	11,233	12,079	12,476	13,080
Kerosene	"	2,581	2,450	2,514	2,536
M.T.O.	"	82	89	97	112
H.S.D.	"	6,399	7,129	7,350	7,975
L.D.O.	"	1,087	1,224	1,227	1,230
J.B.O.	"	83	79	75	80
c) Heavy Ends of which	"	6,388	7,088	7,422	8,286
Fuel oil	"	3,256	3,454	3,425	4,068
L.S.H.S.	"	1,279	1,770	2,131	2,252
H.S.H.S.	"	193	108	88	12
Total Fuel Oils	"	4,728	5,332	5,644	6,352
Lube Oils	"	368	413	490	487
Bitumen	"	945	992	962	1,103
Pet. Coke*	"	163	155	122	128
Wax	"	48	55	57	54
IV. Total Production	"	21,432	23,219	24,193	25,826

* Includes calcined Petroleum Coke.

Source: Indian Petroleum and Petro Chemical Statistics 1979-80, Ministry of Petroleum, Chemicals & Fertilisers, New Delhi.

12.05. IMPORTS OF CRUDE OIL AND PETROLEUM PRODUCTS**
(1976-77 to 1979-80)

quantity = 000 tonnes
value = Rs. crores

Item	1976-77		1977-78		1978-79		1979-80*	
	Q y.	Value	Qty.	Value	Qty.	Value	Qty.	Value
A. Crude Oil	14048	1175.9	14507	1246.2	14657	1251.2	16119	2186.9
B. Petroleum Products								
I. Light Distillates	227	289	290	33.5	319	37.3	168	45.3
1. Naphtha	191	22.2	260	27.6	301	33.6	131	29.3
2. Others	36	6.7	30	5.9	18	3.7	37	16.0
II. Middle Distillates	1340	145.9	9056	230.8	2593	317.2	3504	864.1
1. Kerosene Superior	700	81.8	1281	149.7	1449	181.3	1491	364.1
2. H.S.D.	640	64.1	775	81.1	1120	133.4	1936	478.6
3. L.D.O.	—	—	—	—	24	2.5	77	21.4
III. Heavy Ends	1057	73.4	533	41.0	968	75.5	806	115.7
1. Furnace Oil	1015	64.6	512	35.8	912	57.9	741	87.1
2. Lubes	42	8.8	19	5.0	44	12.5	52	20.0
3. Waxes	—	—	2	0.7	10	5.1	18	8.5
Total (B)	2624	248.2	2879	305.3	3878	430.0	4478	1025.0
Grand Total (A + B)	16672	1424.1	17386	1551.5	18535	1681.2	20597	3211.9

* Provisional

** Revised figures but still subject to firming up by the oil companies.

Source: Indian Petroleum & Petro-Chemicals Statistics 1979-80, Ministry of Petroleum, Chemicals & Fertilisers, New Delhi.

12.06. EXPORTS/RE-EXPORTS OF PETROLEUM PRODUCTS
(1976-77 to 1979-80)

quantity = '000 tonnes
value=f.o.b. Rs. crores

Product	1976-77		1977-78		1978-79		1979-80	
	Qty.	Value	Qty.	Value	Qty.	Value	Qty.	Value
Light Ends	—	—	—	—	36.2	3.30	88.3	24.0
Naphtha	—	—	—	—	36.2	3.30	88.3	24.0
Middle Distillates	—	—	—	—	—	—	Neg	0.02
Others	73.6	6.89	47.4	5.69	8.1	0.81	—	—
Fuel Oil	—	—	—	—	—	—	—	—
Base Oil	—	—	13.1	2.27	—	—	—	—
Asphalt/Bitumen	71.6	6.45	34.3	3.42	8.1	0.81	—	—
Wax	2.0	0.44	—	—	—	—	—	—
Total	73.6	6.89	47.4	5.69	44.3	4.11	88.3	24.0

Source: Indian Petroleum and Petro-Chemicals Statistics 1979-80, Ministry of Petroleum, Chemicals and Fertilisers, New Delhi.

**12.07(a). RAW MATERIALS AND INTERMEDIATES REQUIREMENTS IN THE
MANUFACTURE OF FERTILISER INTERMEDIATES**

(tonne per tonne)

Intermediate	Raw Materials/Intermediate	
1. Ammonia (NH ₃)	Natural gas	860 Nm ³ /te or
	Naphtha	0.9-1.02 or
	*Fuel Oil	0.91 or
	*Coal	3.62
2. Sulphuric Acid (H ₂ SO ₄)	Sulphur	0.345 or
	Pyrites	0.90
3. Phosphoric Acid (H ₃ PO ₄) as P ₂ O ₅	Rock (73-75% BPL)	3.3 and
	H ₂ SO ₄	2.85
4. Nitric Acid (HNO ₃)	NH ₃	0.292

*For feedstock only.

12.07(b). RAW MATERIALS AND INTERMEDIATE REQUIREMENTS IN THE MANUFACTURE OF FERTILISER MATERIALS

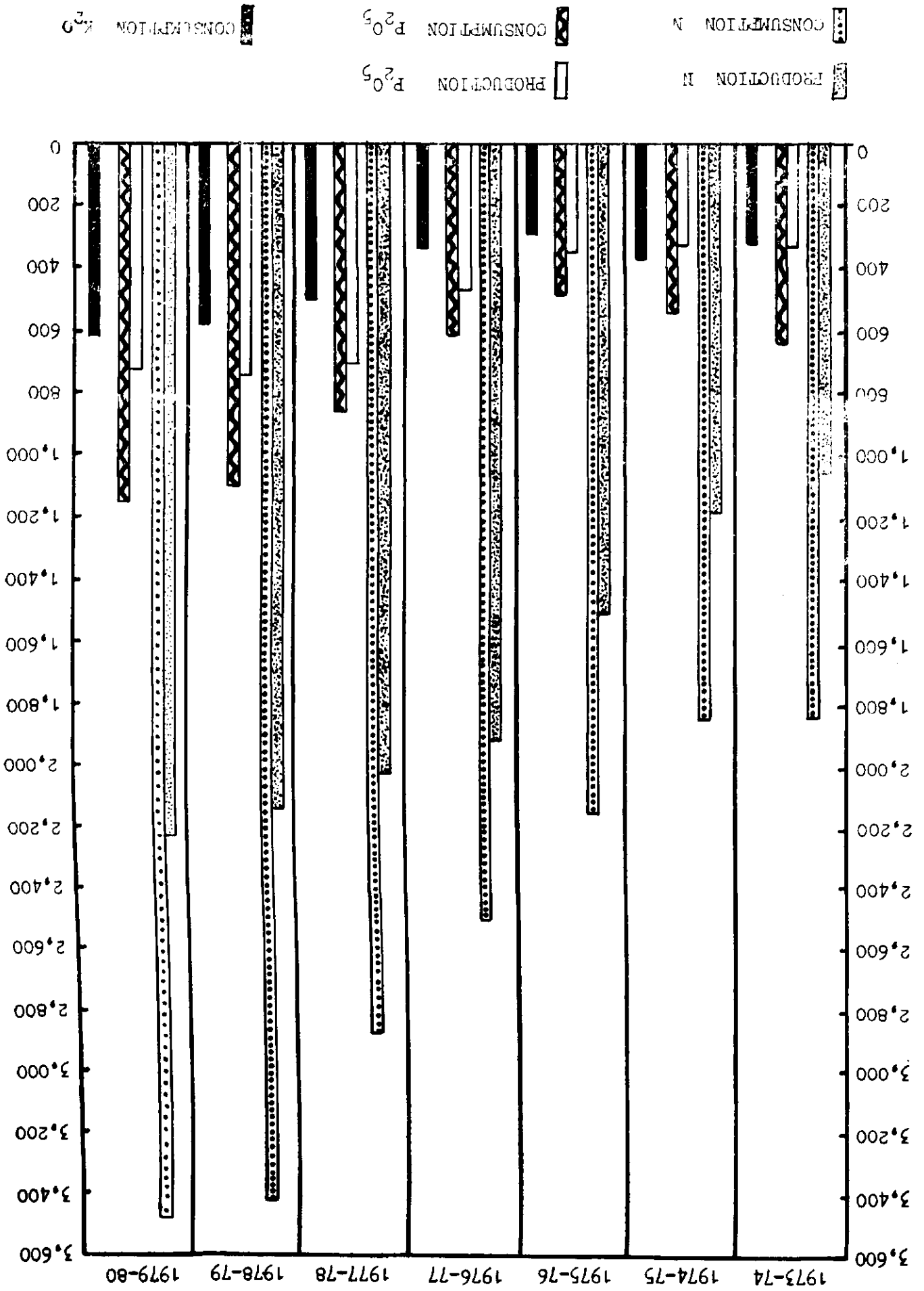
(tonne per tonne)

Raw material/intermediate fertiliser product	NH ₃	CO ₂	Phosphate rock	H ₂ SO ₄	H ₃ PO ₄ (as P ₂ O ₅)	HNO ₃	KCl (as 60% K ₂ O)	Gypsum	Remarks
1. a Ammonium sulphate	0.27	—	—	0.78	—	—	—	—	
b A.S. from gypsum route	0.27	0.38	—	—	—	—	—	—	
2. CAN (25% N)	0.16	—	—	—	—	0.59	—	—	
3. Urea	0.60	0.77	—	—	—	—	—	—	
4. SSP	—	—	0.60	0.36	—	—	—	—	
5. TSP	—	—	0.46	—	0.36	—	—	—	
6. UAP (28-28-0)*	0.37	—	—	—	0.29	—	—	—	*Total ammonia including the quantity required for producing urea which is incorporated in the end-product.
7. DAP (18-46-0)	0.24	—	—	—	0.46	—	—	—	} †Small quantities of urea are also added to make these formulations.
8. NPK (14-35-14)†	0.18	—	—	—	0.38	—	0.25	—	
9. NPK (17-17-17)†	0.22	—	—	—	0.18	—	0.30	—	
10. NPK (19-19-19)	0.24	—	—	—	0.20	—	0.33	—	
11. NPK (12-32-16)†	0.15	—	—	—	0.34	—	0.28	—	
12. Nitro Phosphate (15-15-15)	0.10	—	—	—	0.16	0.36	0.26	—	

Conversion Factors:

1 te N	=	1.215 te NH ₃
1 te NH ₃	=	0.823 te N
600 tpd NH ₃	=	152,000 tpa N
900 tpd NH ₃	=	228,000 tpa N
1350 tpd NH ₃	=	3,45,000 tpa N
% BPL	=	2.15 × % P ₂ O ₅
% P ₂ O ₅	=	0.46 × % BPL

**PRODUCTION AND CONSUMPTION OF N, P₂O₅ AND K₂O IN INDIA
1973-74 to 1979-80**

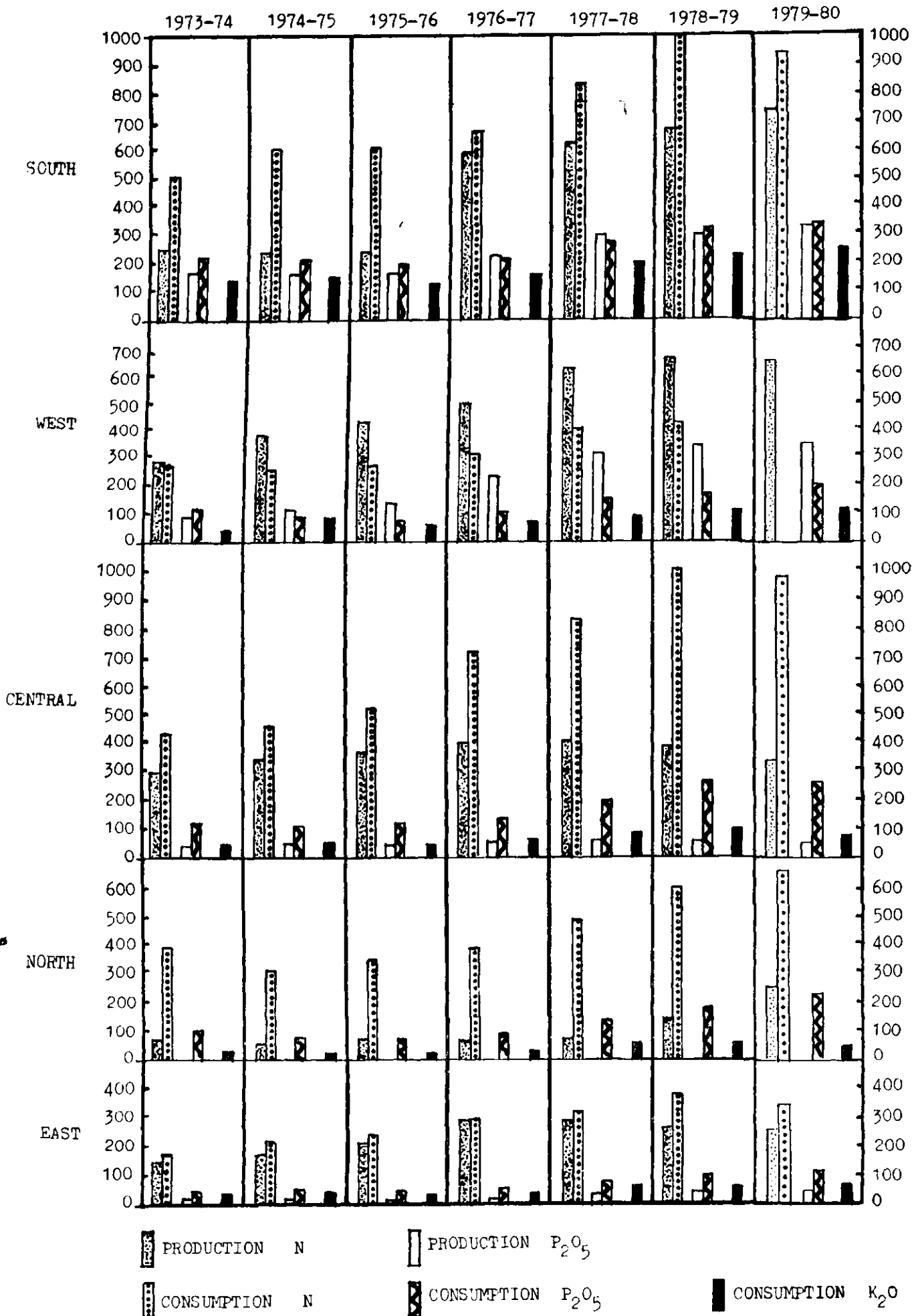


('000 TONNES)

Note: Potassic fertilisers are not produced in the country.

REGIONWISE PRODUCTION AND CONSUMPTION OF N, P₂O₅, AND K₂O IN INDIA—1973-74 to 1979-80

('000 TONNES)



Note: Potassic fertilisers are not produced in the country.

**13.01. CONSUMPTION, PRODUCTION AND IMPORTS OF NITROGENOUS, PHOSPHATIC AND POTASSIC
FERTILISERS TARGETS AND ACTUALS (1969-70 to 1978-79)**
(April-March)

('000 tonnes)

Year	N					P ₂ O ₅					K ₂ O		
	Consumption		Production		Imports actual	Consumption		Production		Import actual	Consumption		Imports actual
	Target	Actual	Target	Actual		Target	Actual	Target	Actual		Target	Actual	
Fourth Plan													
1969-70	1,700	1,356	1,400	731	667	650	416	700	224	94	450	210	120
1970-71	2,000	1,479	—	833	477	750	541	—	228	228	550	236	120
1971-72	2,400	1,798	—	949	481	930	558	—	290	248	700	300	268
1972-73	2,700	1,839	—	1,055	665	1,150	581	—	330	204	820	348	325
1973-74	3,200	1,829	2,500	1,050	659	1,400	650	900	325	213	900	360	870
Fifth Plan †													
1974-75	2,960	1,766	—	1,187	884	860	472	—	331	286	570	336	437
1975-76	3,400	2,149	—	1,508	996	1,035	467	—	320	361	650	278	278
1978-79	3,400	3,420	2,900 (4,700)	2,173	1,233	1,050	1,106	770	778	244	550	592	517

() Capacity target.

† "Fifth Five-Year Plan 1974-79", Planning Commission, New Delhi, September 1976.

Notes on "Fifth Plan"

- 1978-79 relates to the revised figures as per final documents.
- Figures under "Consumption Target" of N, P₂O₅ & K₂O and for the first two years of the Fifth Plan period relate to fertiliser requirement.
- The demand for plant nutrient (N+P+K) is anticipated to reach a level of 8 million tonnes by 1983-84.
- A total provision of Rs. 1,533 crore has been made in the Fifth Plan for fertiliser projects (Public+Coop.) as compared to Rs. 1,093 crore in the Draft Plan.

**13.02. ESTIMATES OF CAPACITY, PRODUCTION, CONSUMPTION AND GAP OF NITROGENOUS,
PHOSPHATIC AND POTASSIC FERTILISERS
(1980-81 to 1989-90)**

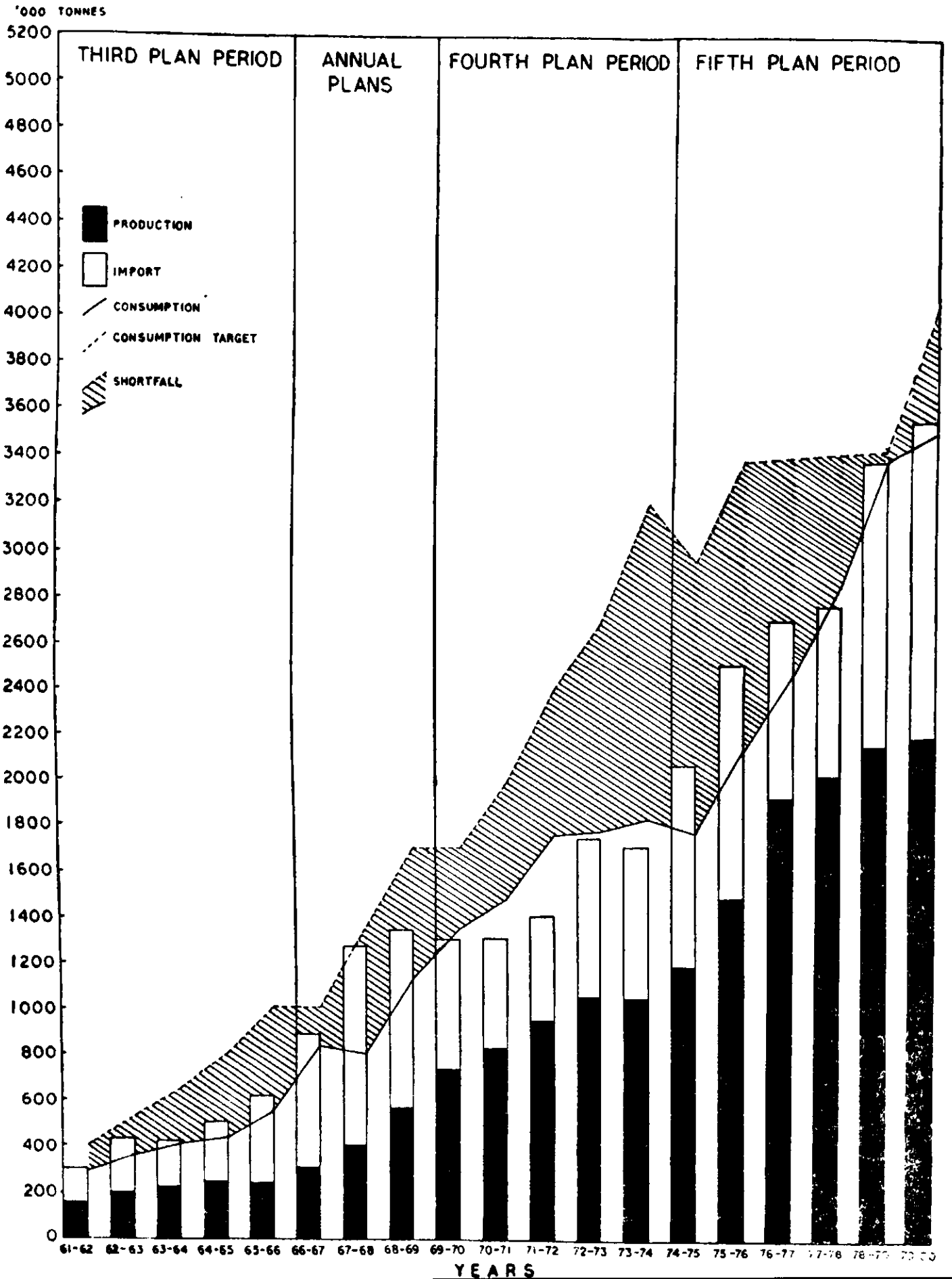
(Unit: thousand tonnes)

Year	Capacity†		Production		Consumption			Capacity		
	N	P ₂ O ₅	N	P ₂ O ₅	N	P ₂ O ₅	K ₂ O	N	P ₂ O ₅	K ₂ O
VI Plan										
1980-81	4,586	1,338	2,400	820	3,742	1,172	837	1,342	352	639
1981-82	5,313	1,646	2,456	1,055	4,734	1,356	754	1,278	301	754
1982-83	5,385	1,699	3,733	1,146	5,270	1,485	830	1,537	389	830
1983-84	5,597	2,088	3,941	1,360	5,837	1,620	910	1,896	260	910
1984-85	6,567	2,366	4,382	1,556	6,434	1,761	993	2,052	205	993
VII Plan										
1985-86	7,662	2,566	5,046	1,751	7,062	1,908	1,081	2,016	157	1,081
1986-87	8,235	2,846	5,639	1,944	7,725	2,062	1,172	2,086	118	1,172
1987-88	8,580	2,846	6,056	2,030	8,411	2,221	1,267	2,355	191	1,267
1988-89	9,270	2,846	6,467	2,072	9,132	2,367	1,366	2,645	315	1,366
1989-90	9,615	2,846	6,815	2,072	9,883	2,558	1,468	3,068	486	1,468

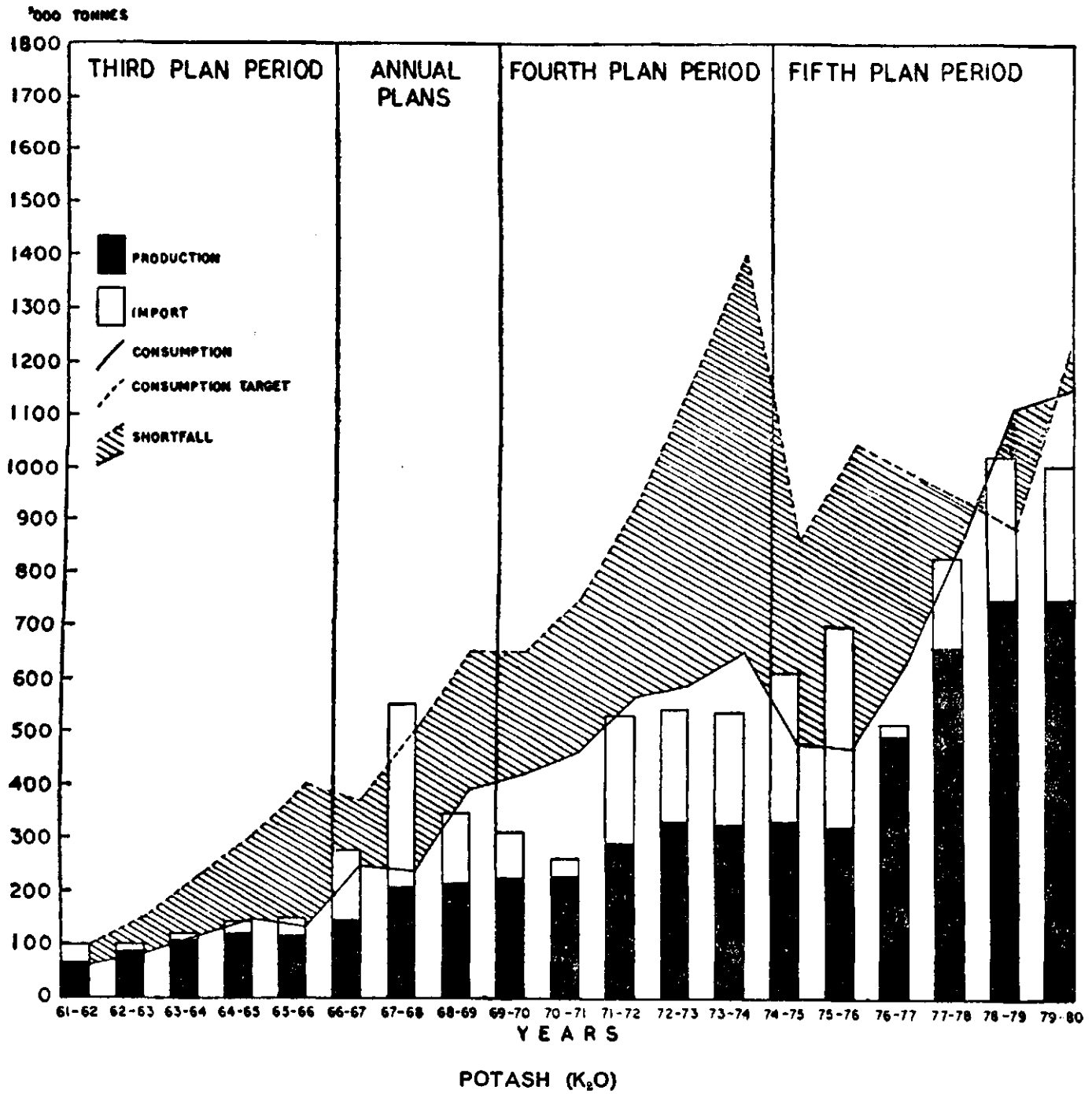
† For details, See Tables 1.01, 1.02 and 1.08.

Source: Prepared in the FAI, New Delhi.

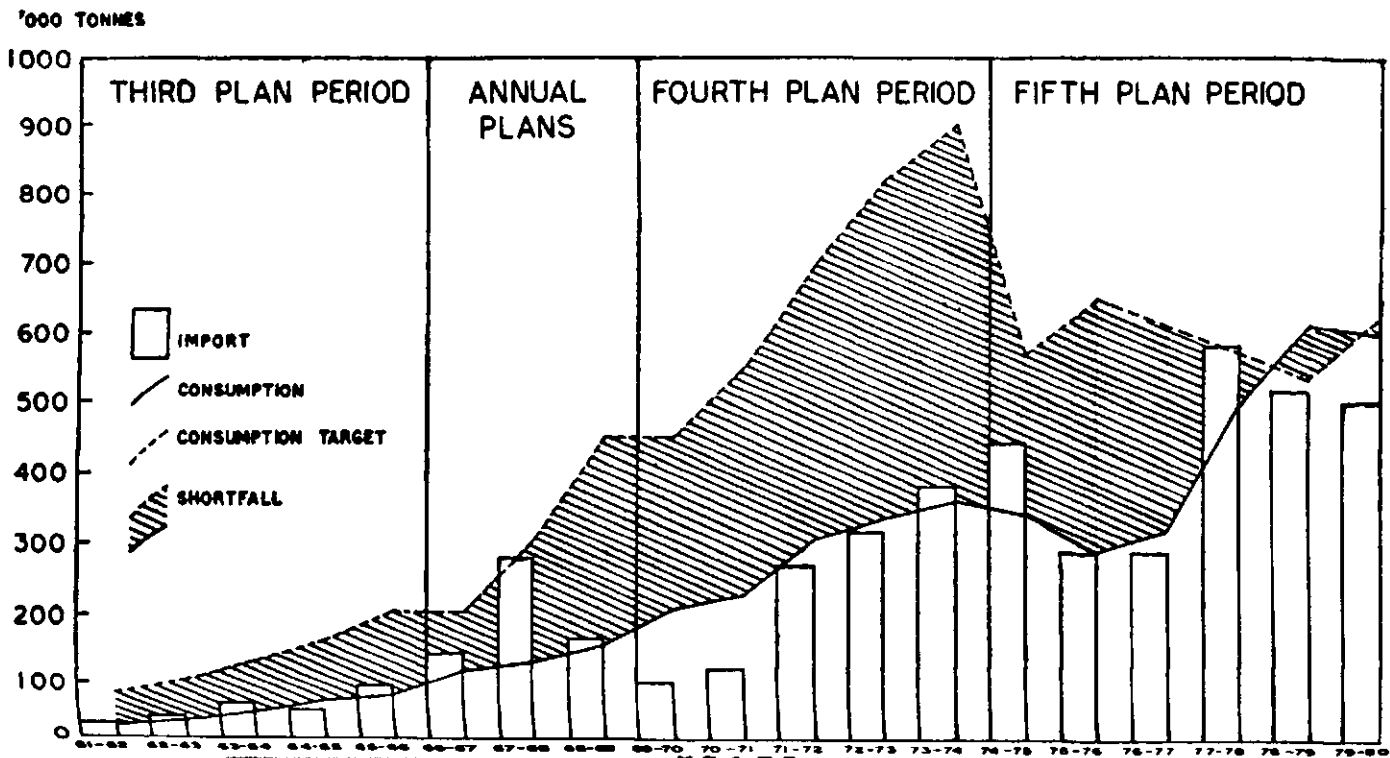
PRODUCTION, CONSUMPTION, TARGETS AND ACTUALS OF N NITROGEN



**PRODUCTION, CONSUMPTION, TARGETS AND ACTUALS OF P₂O₅ AND K₂O
PHOSPHATE (P₂O₅)**



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13.03. CAPACITY AND FINANCIAL OUTLAY OF FERTILISER INDUSTRY

(As on 1-11-1980)

Year/Period	Capacity during the* period ('000 tonne)		Financial outlay during the period (Rs./crores)		
	N	P ₂ O ₅	Public@ sector	Private sector	Total
I. In production					
Before 1947	5 (5)	63 (63)	0.8 (0.8)	2.5 (2.5)	3.3 (3.3)
At the end of 1947	5 (10)	5 (68)	5.5 (6.3)	0.4 (2.9)	5.9 (9.2)
At the end of 1950	— (10)	34 (102)	0.4 (6.7)	1.2 (4.1)	1.6 (10.8)
1951-56 (I Plan)	90 (100)	4 (106)	53.7 (60.4)	0.4 (4.5)	54.1 (64.9)
1956-61 (II Plan)	21 (121)	22 (128)	4.5 (64.9)	5.8 (9.8)	9.1 (74.7)
1961-66 (III Plan)	349 (470)	146 (274)	113.8 (178.7)	8.2 (18.0)	122.0 (186.7)
1966-69 (Annual Plans)	385 (855)	160 (484)	94.5 (273.2)	119.3 (137.3)	213.8 (410.5)
1969-74 (IV Plan)	1,002 (1,947)	147 (581)	193.1 (466.3)	179.5 (816.3)	372.5 (783.1)
1974-79 (V Plan)	1,327 (3,274)	536 (1,117)	736.8 (1,203.1)	237.0 (553.8)	973.8 (1,756.0)
1979-80	628 (3,902)	167 (1,284)	735.7 (1,938.3)	3.5 (567.3)	739.2 (2496.1)
1980-81 (First Year of VI Plan) (as on 1-11-1980)	684 (4,586)	49 (1,333)	552.5 (2,491.3)	17.5 (574.8)	570.0 (3,066.1)

(Continued)

13.03. CAPACITY AND FINANCIAL OUTLAY OF FERTILISER INDUSTRY (Concluded)
(As on 1-11-1980)

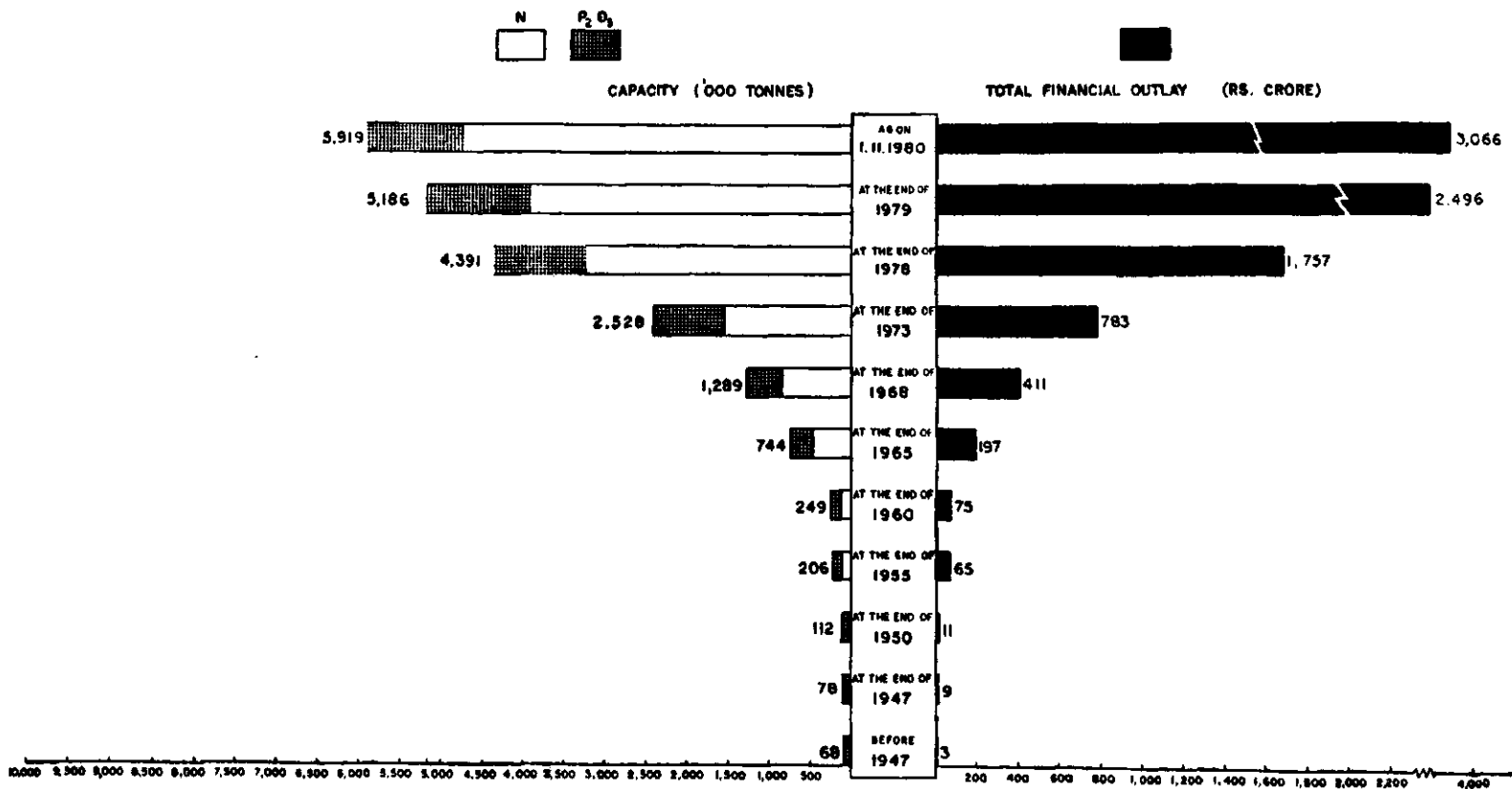
Year/Period	Capacity during the* period ('000 tonnes)		Financial outlay during the period (Rs./crores)		
	N	P ₂ O ₅	Public@ sector	Private sector	Total
II. Under Implementation:	2,107 (6,693)	259 (1,592)	1,803.0 (4,294.3)	378.0 (952.8)	2,181.0 (5,247.1)
III. Approved in principle:	802 (7,495)	537 (2,129)	329.0 (4,623.3)	459.2 (1,412.0)	788.2 (6,035.3)
IV. Under consideration:	2,120 (9,615)	717 (2,846)	N.A.	N.A.	N.A.

* For details see Tables 1.01, 1.02, and 1.08.

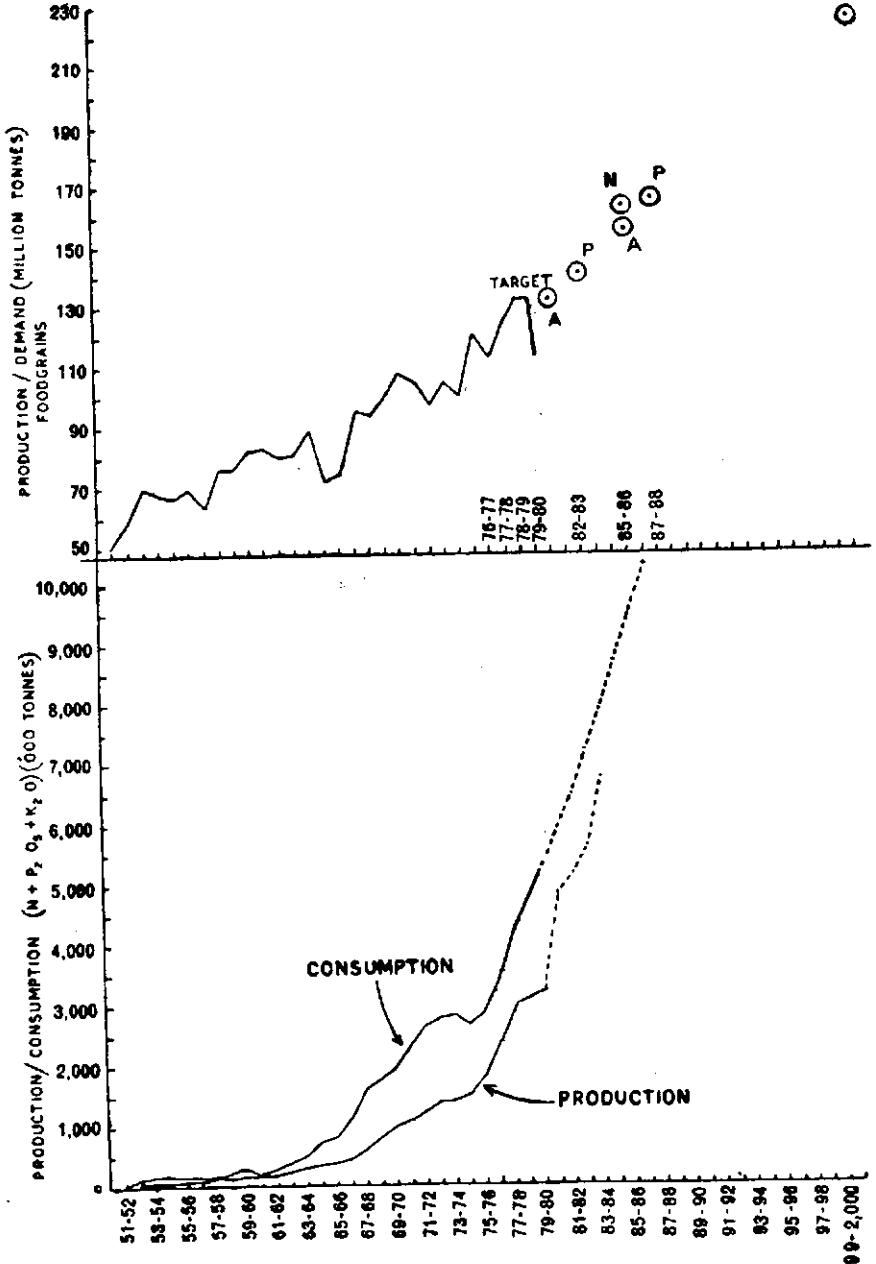
@ Includes cooperative sector.

- Note:**
1. Calendar year can be taken as to broadly conform to the financial year, say 1951, 1951-52 and so on.
 2. Figures in brackets represent cumulative totals.
 3. Proportionate cost of by-product ammonium sulphate capacities is not included here as this is not separately available.
 4. Rupee was devalued on 6-6-1966. Projects commissioned before that date are on cost related to pre-devaluation and thereafter, to the post-devaluation of rupee.

Capacity and Financial Outlay of Fertiliser Industry (as on 1-11-80)



Progress during the Plan Periods



N = National Commission on Agriculture New Delhi.
 P = Planning Commission, New Delhi.
 A = Ministry of Agriculture, New Delhi.

PART II

**AGRICULTURAL AND
ALLIED STATISTICS**

1.00. CLASSIFICATION OF AREA

1.01. ALL-INDIA CULTIVATED AND IRRIGATED AREA—GROSS AND NET (1951-52 to 1978-79)

Year	Area sown			Area irrigated			Gross area under HYV**	Share of gross irrigated to gross sown area	Increase(+)/decrease(-) over previous year	
	Gross	Net	More than once	Gross	Net	More than once			Gross sown area	Gross irrigated area
	←-----('000 hectares)-----→							←----- (per cent) -----→		
1951-52	133,234	119,400	13,834	23,180	21,049	2,131	—	17.4	1.0	2.7
1952-53	137,675	123,442	14,223	23,305	21,122	2,183	—	16.9	3.3	0.5
1953-54	142,480	126,806	15,674	24,363	21,869	2,494	—	17.1	3.4	4.5
1954-55	144,087	127,845	16,242	24,948	22,088	2,860	—	17.3	1.1	2.4
1955-56	147,311	129,156	18,155	25,642	22,758	2,884	—	17.4	2.2	2.8
1956-57	149,492	130,848	18,644	25,707	22,533	3,174	—	17.2	1.5	-0.3
1957-58	145,832	129,080	16,752	26,628	23,156	3,472	—	18.3	-2.4	3.5
1958-59	151,629	131,828	19,801	26,948	23,401	3,547	—	17.8	3.7	1.2
1959-60	152,824	132,939	19,885	27,454	24,037	3,417	—	18.0	0.7	1.8
1960-61	152,772	133,199	19,573	27,980	24,861	3,319	—	18.3	-0.1	1.9
1961-62	156,209	135,399	20,810	28,460	24,884	3,576	—	18.2	2.2	1.7
1962-63	156,760	136,341	20,419	29,453	25,665	3,788	—	18.8	0.3	3.5

1963-64	156,963	136,488	20,480	29,707	25,888	3,819	--	18.9	0.1	0.8
1964-65	159,229	138,120	21,109	30,705	26,600	4,105	--	19.3	1.4	3.3
1965-66	155,276	136,198	19,078	30,901	26,344	4,557	--	19.9	-2.5	0.6
1966-67	157,355	137,232	20,123	32,683	26,907	5,776	1,886	20.8	1.3	5.7
1967-68	163,736	139,876	23,860	33,207	27,193	6,014	6,054	20.3	4.0	1.6
1968-69	159,529	137,313	22,216	35,483	29,009	6,474	9,200	22.2	-2.6	6.8
1969-70	162,265	138,772	23,493	36,970	30,197	6,777	11,400	22.8	1.7	4.2
1970-71	165,791	140,784	25,007	38,194	31,103	7,091	15,380	23.0	2.2	3.3
1971-72	165,194	140,040	25,154	38,431	31,546	6,885	18,170	23.3	-0.4	0.6
1972-73	162,150	137,570	24,580	39,059	31,837	7,222	22,090	24.1	-1.9	1.6
1973-74	169,870	14,3060	26,810	40,280	32,550	7,730	26,040	23.7	4.8	3.1
1974-75	164,190	138,380	25,810	41,740	33,710	8,030	27,337	25.4	-3.3	3.6
1975-76	170,904	142,224	28,770	43,190	34,491	8,699	31,868	25.3	4.1	3.5
1976-77	167,070	140,230	26,840	43,116	34,799	8,317	33,600	25.8	-2.3	-0.2
1977-78*	172,306	142,606	29,706	45,910	36,665	9,245	38,000	26.6	3.1	6.5
1978-79*	173,300	143,800	29,500	48,480	39,090	9,390	41,100	28.0	0.6	5.6

* Provisional.

** Total area covered under HYVs of wheat, maize, bajra, jowar and paddy.

Note: HYV programme was launched in 1966-67.

Source: "Estimates of Area and Production of Principal Crops in India 1978-79", Directorate of Economics & Statistics, Ministry of Agriculture & Rural Reconstruction, New Delhi.

10.2. LAND UTILISATION PATTERN

Zone/State	Geographical area	Reporting area for land utilisation statistics	Forecasts	Not available for cultivation			Uncultivated Permanent pastures and other grazing lands
				Area put to non-agricultural use	Barren & uncultivable land	Total	
(1)	(2)	(3)	(4)	(5)	(6)	(5)+(6) =(7)	(8)
Central	108,096	108,486	21,427	5,867			
Madhya Pradesh	44,284	44,317	14,344	2,195	6,416	12,343	4,970
Rajasthan	34,222	34,227	1,968	1,461	2,298	4,493	2,869
Uttar Pradesh	29,441	29,795 ^a	5,113	2,179	3,007	4,468	1,825
Delhi	149	147	2	32	1,153	3,332	276
East	68,815	66,018	22,318	3,276			
Arunachal Pradesh	8,358	5,643	5,154	—	6,253	9,529	1,002
Assam	7,852	7,852	1,964	882	37	37	—
Bihar	17,388	17,330	2,780	1,646	1,533	2,415	185
Manipur	2,236	2,211	602	26	1,012	2,658	148
Meghalaya	2,249	2,249	813	83	1,419 [@]	1,445	—
Nagaland	1,653	1,653	288	N.A.	230	313	21
Orissa	15,578	15,540	6,655	546	627 ^a	627 ^a	N.A.
Sikkim	730	714	265	70	281	827	537
Tripura	1,048	1,048	578	—	209	279	103
West Bengal	8,785	8,856 ^b	1,188	—	120	120	—
Mizoram	2,109	2,102	1,303	10	583 [@]	583 [@]	—
Andaman & Nicobar	829	820	728	13	201	211	4
North	37,260	16,964	3,757	1,342			
Haryana	4,422	4,404	109	377	561	1,903	1,349
Himachal Pradesh	5,567	3,010	677	198	75	452	43
Jammu & Kashmir	22,224	4,517	2,762 ^d	339	154	352	1,178
Punjab	5,036	5,033	209	428	226	565	125
Chandigarh	11	—	—	—	106	534	3
South	63,803	63,439	12,196	5,075			
Andhra Pradesh	27,682	27,440	6,172	2,127	3,902	8,977	2,594
Karnataka	19,177	19,064	2,919	1,031	2,337	4,464	954
Kerala	3,886	3,886	1,082	257	872	1,903	1,452
Tamil Nadu	13,007	12,999	2,023	1,649	76	333	11
Pondicherry	48	47	—	11	617	2,268	177
Laccadives	3	3	—	—	—	11	—
West	50,804	49,968	7,409	2,076			
Gujarat	19,598	18,810	1,959	1,056	4,235	6,311	2,450
Maharashtra	30,776	30,758	5,324	998	2,494	3,550	852
Goa	381	371	105	21	1,725	2,723	1,592
Dadra & Nagar Haveli	49	49	21	1	16	37	1
All India	328,778	304,895	67,107	17,636	21,427	39,063	12,365

1977-78 (Provisional)

('000 hectares)

land excluding fallow land			Fallow land			Net area sown	Total cropped area	Area sown more than once
Land under misc. tree crops and groves not included in net area sown (9)	Cultivable waste land (10)	Total (8)+(9)+ (10)=(11)	Fallow other than current fallow (12)	Current fallow (13)	Total (12)+(13) =(14)			
934	9,894	15,798	3,737	3,725	7,462	51,456	61,881	10,425
145	1,912	4,926	940	816	1,756	18,798	21,508	2,710
10	6,604	8,439	2,193	1,991	4,184	15,168	16,924	1,756
778	1,377	2,431	590	908	1,498	17,421	23,349	5,928
1	1	2	14	10	24	69	100	31
1,817	1,603	4,422	2,594	2,684	5,278	24,471	32,002	7,531
19	149	168	118	51	169	115	130	15
249	130	564	122	108	230	2,679*	3,311*	632
217	489	834	897	1,582	2,479	8,579	11,565	2,986
24	'	24	—	'	'	140	208**	68@
146	456	623	266	56	322	178	209	31
3	42	45	426	85	571	182	182	—
489	268	1,294	139	628	767	5,997	7,931	1,934
4	1	108	1	'	1	61	65	4
98	2	100	2	2	4	246	385	139
538	'	538	362@	'	362@	6,185 ^u	7,878	1,693
3	74	81	252	171@	430	77*	105**	28@
27	12	43	2	1	3	32	33	1
166	364	1,879	19	316	335	9,090	13,726	4,636
'	36	79	—	119	119	3,645	5,435	1,790
53	35	1,366	4	51	55	560	935	375
109	143	377	8	91	99	714	966	252
4	50	57	7	55	62	4,171	6,390	2,219
856	1,940	5,390	2,271	4,939	7,210	29,666	34,320	4,654
265	908	2,127	1,075	2,684	3,759	10,918	12,536	1,618
329	556	2,337	677	1,010	1,687	10,218	11,036	818
68	118	197	27	46	73	2,201	2,924	723
192	357	726	491	1,196	1,689	6,295	7,768	1,473
2	1	3	1	1	2	31	53	22
—	—	—	—	—	—	3	3	'
203	3,119	5,772	1,217	1,356	2,573	27,923	30,377	2,454
4	2,004	2,860	374	543	917	9,524	10,353	829*
198	1,021	2,811	843	812	1,655	18,245	19,860	1,615
1	93	95	††	††	††	134	143	9
—	1	6	—	1	1	20	21	1
3,976	16,920	33,261	9,838	13,020	22,858	142,606	172,306	29,700

(Continued)

1.02. LAND UTILISATION PATTERN—1977-78 (Provisional)
(Continued)

- ª Below 500 hectares;
- º Excludes information of area under unlawful occupation of China and Pakistan.
- ¸ Includes forest area reported by States Chief Conservator of Forest.
- ¸ Included under the head 'Land under miscellaneous tree crops & groves etc.'
- ¸ Arrived at after deducting the area under forests and net area sown from Geographical area of the State.
- ¸ The figures of reporting area in the case of U.P. and W.B. are under verification.
- ¸ Included under the head 'Barren and unculturable land'.
- ¸ Included under the head 'Fallow land other than current fallows'.
- ª Relates to the year 1953-54.
- * Estimated in relation to total area under Forecast Crops.
- ** Relates to total area under Forecast Crops.
- @ Adjusted.
- † Area under forest for the year 1976-77 & 1977-78 have been shown as 6,37,000 & 677,000 hectares as per the existing village records. The forest area reported by the Chief Conservator of Forest for the year 1976-77 is 21,84,000 hectares. This discrepancy is under verification. Figs. for 1977-78 are not available.
- ‡‡ Not available separately, included under culturable waste.

DEFINITION OF LAND USE CLASSIFICATION

1. Geographical Area

The latest figure of geographical area for the State/Union Territory/District as furnished by the Central Statistical Organisation based on the Surveyor General of India's data should only be used.

2. Reporting Area for Land Utilisation Purposes

The reporting area stands for the area for which data on land use classification of area are available. In areas where land utilisation figures are based on land records, reporting area is the area according to village papers i.e., the papers prepared by the village accountants. In some cases the village papers are not prepared for forest areas but the magnitude of such areas is known; also there are tracts in many States for which no village papers exist but for which ad-hoc estimates of classification of area etc. are framed to complete the coverage. In such cases, reporting area should give the summation of the area for which village papers actually exist and the area for which ad-hoc estimates are available.

3. Forests

Area under forests includes all lands classified as forests under any legal enactment dealing with forests or administered as forests, whether State-owned or private, and whether wooded or maintained as potential forest land.

The area of crops raised in the forest and grazing lands or areas open for grazing within the forests should remain included under the forest area.

4. Area Not Available for Cultivation

Area under non-agricultural land uses

This stands for all lands occupied by buildings, roads and railways or under water e.g., rivers and canals and other lands put to uses other than agricultural.

Barren and uncultivable land

This covers all barren and uncultivable land like mountains, deserts, etc. Land which cannot be brought under cultivation unless at a high cost shall be classed as uncultivable, whether such land is in isolated blocks or within cultivated holdings.

**1.02. LAND UTILISATION PATTERN—1977-78 (Provisional)
(Concluded)**

**5. Other Uncultivated Land Including
Current Fallow**

**Permanent pastures and other grazing
lands**

These cover all grazing lands, whether they are permanent pastures and meadows or not. Village common grazing land shall be included under this head.

**Miscellaneous tree-crops and groves not
included in the net area sown**

Under this class is included all cultivable land which is not included under "net area sown" but is put to some agricultural use. Land under casurina trees, thatching grass, bamboo bushes and other groves for fuel etc., which are not included under orchard shall be classed under this category.

Culturable waste

These include all lands available for cultivation whether or not taken up for cultivation once, but not cultivated during the current year and last five years or more in succession. Such lands may be either fallow or covered with shrubs and jungles which are not put to any use. (They may be assessed or unassessed and may be in isolated blocks or within

cultivated holdings.) Land once cultivated for five years in succession shall also be included in this category at the end of the five years.

6. Fallow Lands

Fallow land other than current fallows

This implies all lands which were taken up for cultivation but are temporarily out of cultivation for a period of not less than one year and not more than five years. The reasons for keeping a land fallow may be one of the following: (1) poverty of cultivators, (2) inadequate supply of water, (3) material climate, (4) silting of canals and rivers, and (5) unremunerative nature of farming.

Current fallows

This class comprises cropped areas which are kept fallow during the current year. For example, if any seeding area is not cropped again in the same year it may be treated as current fallow.

7. Net Area Sown

This represents the area sown with crops and orchards counting area sown more than once in the same year only once.

Source : Directorate of Economics & Statistics, Ministry of Agriculture & Rural Reconstruction
New Delhi.

1.03. AREA UNDER DIFFERENT SOIL TYPES—ALL INDIA

(million hectares)

Sl. No.	Type of soils	Approximate area
1.	Alluvial Soils	101.2
2.	Alluvial Soils Highly Calcareous	8.9
3.	Coastal Alluvium	8.5
4.	Deltaic Alluvium (occasionally saline)	17.0
5.	Alluvial Soils Affected by Salinity and Alkalinity	6.9
6.	Desert Soils	14.6
7.	Deep Black Soils	6.9
8.	Medium Black Soils	18.6
9.	Shallow Black Soils	4.9
10.	Black Soils Affected by Salinity and Alkalinity	6.9
11.	Black Soils Undifferentiated	12.5
12.	Mixed Red and Black Soils	10.5
13.	Red Soils	30.4
14.	Red Gravelly Soils	1.6
15.	Red and Yellow Soils	17.8
16.	Laterite Soils	10.1
17.	Laterite and Lateritic Soils	2.0
18.	Brown Soils under Deciduous	1.6
19.	Grey and Brown Soils	3.6
20.	Hill Soils	2.4
21.	Podsolied Soils	3.6
22.	Forest Soils Laterised	6.5
23.	Foothill Tarai Hill Soils	5.7
24.	Mountain Meadow Soils	11.7
25.	Skeletal Soils	2.4
26.	Peat Muck, Very Humus Soils; Also Called Bog Soils, Organic Soils and Half Bog Soils	0.2
27.	Other Soils (viz. Mountain Soils Undifferentiated, Glaciers and Eternal Snow)	11.0
	Total	328.0

Note: Information on areas of occurrence of different types of soils given in Indian Crop Calendar, 1967.

Source: Report of the Committee on Natural Resources (Planning Commission) on a study on waste lands of India including saline and alkaline and water-logged lands and their reclamation measures.

**1.04. CULTIVATED AND IRRIGATED AREA IN THE STATES
1977-78 (Provisional)**

('000 hectares)

Zone/State	Total reporting area	Cultivated Area		Percentage of net cultivated area to total area	Irrigated Area		Percentage of net irrigated area to net cultivated area
		Net	Gross		Net	Gross	
Central	108,486	51,456	61,881	47.4	13,464	15,469	26.2
Madhya Pradesh	44,317	18,798	21,508	42.4	2,153	2,238	11.5
Rajasthan	34,227	15,168	16,924	44.3	2,765	3,167	18.2
Uttar Pradesh	29,795	17,421	13,349	58.5	8,493	10,009	48.8
Delhi	147	69	100	46.9	53	55	76.8
East	66,018	24,471	32,002	37.1	6,281	7,590	25.7
Arunachal Pradesh	5,643	115	130	2.0	23	24	20.0
Assam	7,852	2,679	3,311	34.1	572 ^m	572 ^m	21.4
Bihar	17,330	8,579	11,565	49.5	2,913	3,780	34.0
Manipur	2,211	140	208	6.3	65	75	46.4
Meghalaya	2,249	178	209	7.9	47	48	26.4
Nagaland	1,653	182	182	11.0	54	54	29.7
Orissa	15,540	5,997	7,931	38.6	1,071	1,449	17.9
Sikkim	714	61	65	8.5	10	10	16.4
Tripura	1,048	246	365	23.5	29	29	11.8
West Bengal	8,856	6,185	7,878	69.8	1,489 ^c	1,541 ^c	24.1
Mizoram	2,102	77	105	3.7	8	8	10.4
Andaman & Nicobar Island	820	32	33	3.9	—	—	—
North	16,964	9,090	13,726	53.6	5,555	8,523	61.1
Haryana	4,404	3,645	5,435	82.8	1,874	2,776	51.4
Himachal Pradesh	3,010	560	985	18.6	90	155	16.1
Jammu & Kashmir	4,517	714	966	15.8	305	397	42.7
Punjab	5,033	4,171	6,390	82.9	3,286	5,195	78.8
South	63,439	29,666	34,320	46.8	7,838	10,194	26.4
Andhra Pradesh	27,440	10,918	12,536	39.8	3,359	4,378	30.8
Karnataka	19,164	10,218	11,036	53.6	1,388	1,699	13.6
Kerala	3,886	2,201	2,924	56.6	228 ^o	354 ^o	10.4
Tamil Nadu	12,999	6,295	7,768	48.4	2,836	3,722	45.1
Pondicherry	47	31	53	66.0	27	41	87.1
Laccadives	3	3	3	100.0	—	—	—
West	49,968	27,923	30,377	55.9	3,527	4,134	12.6
Gujarat	18,810	9,524	10,353	50.6	1,617 ^b	1,814 ^b	17.0
Maharashtra	30,758	18,245	19,860	59.3	1,896	2,306	10.4
Goa	371	134	143	36.1	13	13	9.7
Dadra & Nagar Haveli	49	20	21	40.8	1	1	5.0
All India	304,895	142,606	172,306	46.8	36,665	45,910	25.8

* = Relates to the year 1967-68.

** = Relates to the year 1973-74.

* = Estimated on the basis of irrigated area reported under the forecasts crops.

* = Prior to 1975-76, Estimates of area relating to irrigation were prepared mainly on the basis of information received from Irrigation Dept. But the estimates for the queted year were prepared on the basis of data collected through TRS. The large variation noted here in and the estimates for the earlier years mainly due to the difference in the source of data.

Source: Directorate of Economics & Statistics, Ministry Agriculture and Rural Reconstruction, New Delhi.

1.05. NET AREA IRRIGATED BY SOURCE—STATEWISE—1976-77

Zone/State	('000 hectares)								
	Canals			Tanks	Wells		Other sources	Total net irrigated area	Gross irrigated area
	Government	Private	Total		Tuba-wells	Other sources			
Central	4,601	2	4,603	712	3,697	3,394	500	12,910	14,839
Madhya Pradesh	873	1	874	179	35	740	154	1,982	2,050
Rajasthan	867	—	867	238	64	1,422	17	2,608	2,967
Uttar Pradesh	2,846	1	2,847	295	3,560	1,227	325	8,260	9,741
Delhi	15	—	15	—	38	5	4	60	72
East	2,332	622	2,954	702	964	345	1,231	6,196	7,323
Arunachal Pradesh	6	—	6	—	—	—	17	23	24
Assam	71	291	362	—	—	—	210	572	572
Bihar	952	—	952	126	955	228	618	2,879	3,604
Manipur	—	—	—	—	—	—	65	65	75
Meghalaya	—	—	—	—	—	—	43	43	45
Nagaland	—	—	—	—	—	—	38	38	40
Orissa	674	—	674	271	9	95	—	1,049	1,383
Tripura	—	—	—	2	—	5	23	30	30
West Bengal	629	331	960	303	—	17	209	1,489	1,541
Mizoram	—	—	—	—	—	—	8	8	8
North	2,536	199	2,735	1	2,340	202	110	5,388	8,313
Haryana	1,056	—	1,056	(a)	705	29	8	1,798	2,698
Himachal Pradesh	—	—	—	(a)	3	(a)	87	90	155
Jammu & Kashmir	98	195	293	(a)	2	1	10	306	380
Punjab	1,382	4	1,386	1	1,630	172	5	3,194	5,080

(Continued)

1.05. NET AREA IRRIGATED BY SOURCE—STATEWISE—1976-77 (Concluded)

('000 hectares)

Zone/State	Canals			Tanks	Wells		Other sources	Total net irrigated area	Gross irrigated area
	Government	Private	Total		Tube-wells	Other sources			
South	2,895	2	2,897	2,201	241	1,592	295	7,226	9,035
Andhra Pradesh	1,604	—	1,604	1,069	119	505	117	3,434	4,156
Karnataka	512	(a)	512	256	(a)	327	120	1,215	1,467
Kerala	92	1	93	51	47**	++	30	221	373
Tamil Nadu	676	1	677	800	65	760	28	2,330	3,001
Pondichery	11	—	11	5	10	—	(a)	26	38
WEST	567	26	593	282	152	1,909	143	3,079	3,606
Gujarat	204	3	207	18	152	844	12	1,233	1,373
Maharashtra	363	23	386	264	—	1,064	119	1,833	2,220
Goa, Daman & Diu	—	—	—	—	—	—	12	12	12
Dadra & Nagar Haveli	—	—	—	—	—	1	(a)	1	1
All India	12,931	851	13,782	3,898	7,400	7,440	2,279	34,799	43,116

(a) Below 500 hectares

**Relates to minor and lift irrigation

+ Included under Government Canals

++ Included under Tanks

Source: Directorate of Economics and Statistics, Ministry of Agriculture & Rural Reconstruction, New Delhi.

**1.06. GROSS IRRIGATED AREA BY
1976-77**

Zone/State	Rice	Jowar	Bajra	Maize	Ragi	Wheat	Barley	Total Cereals & Millets
Central	1,770	9	31	241	3	7,422	1,115	10,633
Madhya Pradesh	730	(a)	(a)	1	—	821	57	1,609
Rajasthan	57	1	23	39	—	1,274	430	1,828
Uttar Pradesh	932	7	8	201	3	5,270	827	7,136
Delhi	1	1	(a)	(a)	—	57	1	60
East	4,964	(a)	—	162	3	1,471	27	6,632
Arunachal Pradesh	24	—	—	(a)	—	(a)	(a)	24
Assam (b)	532	—	—	—	—	—	—	532
Bihar	1,738	(a)	—	154	3	1,405	25	3,330
Manipur	75	—	—	—	—	—	—	75
Meghalaya	46	—	—	—	—	—	—	46
Nagaland	40	—	—	—	—	—	—	40
Orissa	1,127	—	—	2	—	34	—	1,163
Tripura	21	—	—	—	—	(a)	—	21
West Bengal	1,353	(a)	—	6	—	32	2	1,893
Mizoram	8	—	—	—	—	—	—	8
North	1,239	44	172	437	(a)	3,682	103	5,767
Haryana	305	42	80	26	(a)	1,204	57	1,716
✓Himachal Pradesh	52	(a)	(a)	16	(a)	56	6	134
Jammu & Kashmir	233	(a)	(a)	18	—	51	2	316
Punjab	649	2	92	377	(a)	2,381	38	3,541
South	6,253	272	160	173	340	92	—	7,325
Andhra Pradesh	3,341	28	62	52	118	15	—	3,624
Karnataka	543	136	44	106	97	77	—	1,013
Kerala	321	—	—	—	—	—	—	321
Tamil Nadu	2,018	108	54	15	123	(a)	—	2,835
Pondicherry	30	(a)	(a)	—	2	—	—	32
West	504	394	235	38	(a)	982	9	2,169
Gujarat	135	44	175	9(e)	—	381	7*	757
Maharashtra	359	350	60	29	(a)	601	2(e)	1,492
Goa, Daman & Diu	9	—	—	—	—	—	—	9
Dadra & Nagar Haveli	1	—	—	(a)	—	(a)	—	1
All India	14,730	719	598	1,051	346	13,659	1,254	32,466

Source: Directorate of Economics & Statistics, Ministry of Agriculture & Rural Reconstruction, New Delhi.

(a) Below 500 hectares.

(b) Relates to the year 1953-54.

(e) Ad hoc estimates.

* Estimated or adjusted.

CROPS—STATEWISE

('000 hectares)

Gram	Total pulses (including gram)	Total food grains	Ground-nut	Rape seed & Mustard	Sugarcane	Cotton	Tobacco	All crops gross irrigated area	Net irrigated area
760	1,194	11,627	4	253	1,217	280	19	14,839	12,910
118	186	1,745	(a)	31	74	24 ^{MP}	2	2,050	1,982
287	300	2,128	3	92	42	236 ^R	6	2,976	2,808
355	757	7,893	1	130	1,100	20 ^{VP}	11	9,741	8,260
(a)	1	61	(a)	(a)	1	(a)	(a)	72	60
11	69	6,701	9	14	79	1	6	7,323	6,196
—	(a)	24	—	—	(a)	—	—	24	23
—	6	538	—	—	—	—	—	572	572
11	23	3,353	(a)	14	33 ^{WB}	1	6	3,604	2,879
—	—	75	—	—	—	—	—	75	65
—	—	46	—	—	—	—	—	46	43
—	—	40	—	—	—	—	—	40	38
—	—	1,163	9	—	34 [?]	—	—	1,383	1,049
—	—	21	—	—	1	—	—	30	30
—	40	1,433	—	—	11	—	—	1,541	1,489
—	—	8	—	—	—	—	—	8	8
360	396	6,103	39	125	256	786	1	8,313	5,388
262	276	1,992	(a)	4 ^d	152	240 ^H	1	2,698	1,798
1	3	137	(a)	(a)	1	(a)	(a)	155	90
(a)	5	821	(a)	23	1	(a)	(a)	380	306
97	112	3,653	39	54	102	546 ^P	(a)	5,080	3,194
9	26	7,351	306	(a)	475	183	44	9,635	7,226
1 ^{if}	3	3,627	112	—	178	26 ^{AP}	23	4,156	3,434
8	12	1,025	48	(a)	143	67 ^K	2	1,467	1,215
—	—	321	—	—	(a)	—	—	373	221
(a)	11	2,346	144	(a)	154	89 ^{TN}	19	3,001	2,330
—	(a)	32	2	—	2	1	—	38	28
77	86	2,255	66	77	292	273	37	3,606	3,079
3(e)	6	763	44	77*	49	220 ^G	36*	1,373	1,233
74	80	1,482	22(b)	(a)	241	53(d) ^M	1(c)	2,220	1,833
—	—	9	—	—	1	—	—	12	12
—	(a)	1	—	—	(a)	—	—	1	1
1,217	1,771	34,237	424	469	2,318	1,523	107	43,116	34,799

**1.07. PERCENTAGE OF IRRIGATED AREA TO TOTAL AREA UNDER THE CROPS—STATEWISE
1976-77**

State	Rice	Jowar	Bajra	Maize	Wheat	Barley	Cereals	Gram	Pulses	Food Grains	Ground-nut	Rapeseed & Mustard	Oil Seeds	Cotton	Sugar-cane	All Crops
Andhra Pradesh	93.7	1.4	11.0	17.6	65.2	d	47.8	1.3	0.2	40.9	10.7	d	9.1	9.0	98.3	35.0
Assam (a)	33.8	d	d	d	d	d	38.6	d	9.3	32.6	d	d	d	d	d	17.3*
Bihar	32.7	0.4	d	16.5	72.2	16.8	38.1	5.0	1.6	33.0	d	15.6	5.8	100.0	25.6	31.8
Gujarat (c)	29.9	4.2	11.2	3.2	52.4	100.0	17.8	3.9	1.3	16.2	2.4	100.0	6.1	12.7	100.0	13.5
Haryana	92.4	23.0	8.4	21.1	89.3	55.3	56.4	25.5	24.9	48.0	d	46.2	41.2	98.4	89.9	51.1
Himachal Pradesh	52.0	d	d	5.9	16.4	16.7	17.0	4.2	4.8	16.1	d	d	40.9	d	25.0	16.7
Jammu & Kashmir	91.4	d	d	6.6	26.7	18.2	41.1	10.2	9.6	39.1	d	71.9	58.5	d	50.0	40.6
Karnataka	55.9	7.5	6.6	84.1	21.0	d	19.2	4.9	0.9	15.5	5.7	d	5.1	7.6	99.3	14.9
Kerala	37.6	d	d	d	d	d	37.2	d	d	35.7	d	d	3.1	d	d	12.7
Madhya Pradesh	15.9	d	d	0.1	26.2	36.1	13.1	5.9	2.9	10.3	d	17.4	1.9	4.0	97.4	9.8
Maharashtra	24.2	5.4	3.4	46.8	50.6	22.2	12.1	17.3	2.9	10.4	2.4	d	1.5	2.5	100.0	11.2*
Manipur	42.4	d	d	d	d	d	40.1	d	d	38.9	d	d	d	d	d	36.1
Meghalaya	43.8	d	d	d	d	d	36.8	d	d	36.5	d	d	d	d	d	22.5
Nagaland	58.8	d	d	d	d	d	40.8	d	d	38.8	d	d	d	d	d	34.8
Orissa	25.7	d	d	1.6	60.7	d	22.9	d	d	19.3	6.6	d	2.1	d	75.6	19.2
Punjab (c)	95.4	50.0	59.7	70.5	90.5	62.3	87.0	27.6	28.3	81.9	23.8	79.4	39.6	98.4	90.3	80.8
Rajasthan	35.8	0.1	0.6	5.1	70.8	72.9	23.3	16.2	7.1	17.6	1.3	39.5	9.8	81.7	95.5	17.6
Tamil Nadu	86.4	12.8	11.8	78.9	d	d	53.5	d	2.0	47.8	16.2	d	17.7	37.1	99.4	42.0
Tripura	6.9	d	d	d	d	d	6.8	d	d	6.7	d	d	d	d	50.0	7.8*
Uttar Pradesh	21.1	1.0	0.8	15.2	79.6	58.3	44.2	21.4	24.0	40.9	0.3	49.2	16.4	87.0	75.5	42.1
West Bengal (b)	28.7	d	d	11.8	40.5	8.8	28.3	d	5.7	25.5	d	d	d	d	40.7	20.2*
All India	38.3	4.5	5.4	17.7	65.0	56.0	31.9	15.3	7.6	27.3	6.0	34.2	7.5	21.8	79.9	25.8

(a) Based on figures for the 1953-54.

(b) Based on figure for the 1967-68.

(c) Based on T.R.S. estimates of irrigated area.

(d) Is equal to Nil or Negligible.

+ Based on irrigated area reported under forecast crops.

* Based on latest available figures of gross irrigated and gross area sown.

Source: Estimates of area and production of principal crops in India 1978-79, Directorate of Economics & Statistics, Ministry of Agriculture & Rural Reconstruction, New Delhi.

1.03. SOWING AND HARVESTING PERIODS OF CROPS

Seasons	Period	Sowing period	Harvesting period	Principal crops
Kharif	May to middle of October	Generally at the beginning of the south-west monsoon, May to July	At the end of the south-west monsoon, September to October (may continue till November in some cases)	Jowar, Rice, Bajra, Maize, Ragi, Tur, Moong, Urad, Sugarcane, Groundnut, Castor, Sesamum, Cotton, Jute and Tobacco
Zaid Kharif	August to January	August to September	December to January	Rice, Jowar Rapeseed, Mustard, Cotton, Oilseeds and Toria
Rabi	Middle of October to middle of April	At the beginning of the cold weather, October to December	February to April (may continue till May in some cases)	Wheat, Barley, Gram, Linseed, Mustard, Masur, Oils, Peas and Potatoes
Zaid Rabi	Beginning of February to beginning of May	At the beginning of hot weather, February to March	Middle of April to May (may continue till June in some cases)	Water-melons, Toria, Summer vegetables, Jowar and Maize for fodder.

Source: Indian Crop Calendar, 1967

1.09. SOWING SEASON OF PRINCIPAL CROPS IN MAJOR GROWING STATES

State	Rice			Jowar		Bajra	Maize	Wheat	Gram
	Autumn	Winter	Summer	Kharif	Rabi				
Central									
Madhya Pradesh	10th June to 15 Aug.	—	—	10th June to 7th Aug.	20th Sept. to Oct.	15th June to 8th Aug.	June July	Oct.-Nov.	Oct.-Nov.
Rajasthan	July-Aug.	—	—	June-Aug.	—	June-July	June-July	Oct.-Dec.	Sept.-Nov.
Uttar Pradesh	May-July	June-Aug.	Jan.-Feb.	June-July	—	June-Aug.	June-July	Oct.-Dec.	Sept.-Nov.
East									
Assam	Mid-Feb. April	May-July	—	—	—	—	April-May	Nov.-Dec.	—
Bihar	May-July	July-Sept.	Jan.-Feb.	—	—	—	June-July	Oct.-Dec.	Oct.-Dec.
Meghalaya	Mid.-Feb.- April	May-July	—	—	—	—	April-May	—	—
Nagaland	March-May	May-July	—	—	—	—	—	—	—
Orissa	May-June	June-Aug.	Dec.-Jan.	June-July	—	—	June-July	Oct.-Nov.	—
West Bengal	March-June ^B March-Aug. ^T	April-June ^B June-Aug. ^T	— Oct.-Feb. ^T	—	—	—	April-June	Oct.-Dec.	Nov.-Dec.
North									
Haryana	May-Aug.	—	—	June-July	—	June-Aug.	June-July	Oct.-Dec.	Sept.-Nov.
Himachal Pradesh	June-July	—	—	—	—	—	April-June	Oct.-Nov.	Sept.-Nov.
Jammu & Kashmir	—	April-July	—	—	—	June-July	April-June	Oct.-Nov.	—
Punjab	May-Aug.	—	—	June-July	—	June-July	June-July	Oct.-Dec.	Sept.-Nov.
South									
Andhra Pradesh	March-May	June-Oct.	Dec.-Feb.	Nov.-Dec.	March-April	June-Aug.	June-Aug. ^K Oct.-Dec. ^R	—	Nov.-Dec.
Karnataka	May-Aug.	June-Oct.	Dec.-Feb.	May-July	Sept.-Nov.	June-Aug. Nov. ^R	April-July	Sept.-Nov.	Sept.-Dec.
Kerala	April-June	Aug.-Oct.	Nov.-Feb.	—	—	—	—	—	—
Tamil Nadu	May-Nov.	Oct.-Jan.	Feb.-April	June-Oct.	Nov.-May	May-Dec.	—	—	—
West									
Gujarat	June-Aug.	—	—	June-July	Sept.-Oct.	June-July	June-July	Oct.-Nov.	Oct.-Nov.
Maharashtra	June-July	—	—	June-July	Sept.-Nov.	June-July	June-July ^K Nov.-Dec. ^K	Oct.-Nov.	Sept.-Nov.
All India	March-Aug.	June-Oct.	Nov.-Feb.	April-Aug.	Sept.-Dec.	June-Aug.	June-Aug.^K Oct.-Dec.^R	Sept.-Dec.	Sept.-Dec.

B—Broadcasting, T—Transplanting, K—Kharif, R—Rabi

(Continued)

109. SOWING SEASON OF PRINCIPAL CROPS IN MAJOR GROWING STATES (Concluded)

State	Potatoes (Winter)		Potatoes (Summer)		Sugarcane	Tobacco	Groundnut	Cotton	Jute
	Hills	Plains	Hills	Plains					
Andhra Pradesh	—	Oct.-Nov.	—	—	June-May	Oct.	May-Oct.	June-Oct.	—
Assam	Oct.-Nov.	Oct.-Nov.	Feb.-March	—	Merch-April	Oct.-Nov.	—	April-May	Feb.-March
Bihar	—	Oct.-Feb.	—	—	Dec.-Feb.	—	July-Aug.	June-July	March-July
Gujarat	Nov.-Dec.	Oct.-Nov.	—	—	Oct.-May	July-Sept.	June-July	June-Sept.	—
Haryana	(Sept.-Oct. Jan.-April)	Sept.-Oct. Dec.-Jan.	Jan.-Feb. March-May	Sept.-Oct. Jan.-Feb.	Feb.-April	Nov.-March	June-July	May-June	—
Himachal Pradesh	Jan.-Feb.	—	April-May	—	March-May	May-June	June	—	—
Jammu & Kashmir	June-July Sept.-Oct.	Sept.-Oct.- June-July	March-June	Mar.-June	Feb.-March	March-July	—	—	—
Karnataka	—	July-Jan.	April-May	June-Jan.	Dec.-March	April-Sept.	June-Aug.	May-Sept.	—
Kerala	—	—	—	—	Nov.-Feb. Jan.-March	—	—	Aug.-Sept.	—
Madhya Pradesh	Oct.-7 Dec.	15 Oct.-Nov.	June-15 Aug.	10 June- 15 Aug.	15 Dec.- 8 May	10 June- 15 Nov.	10 June- July	20 May- July	—
Maharashtra	—	Nov.	—	July	Dec.-April	July-Sept.	June-July	June-Sept.	—
Meghalaya	Oct.-Nov.	Oct.-Nov.	Feb.-March	—	—	Oct.-Nov.	—	April-May	Feb.-March
Orissa	—	Oct.-Nov.	Feb.-March	—	Feb.-May	Sept.-Oct.	June-July	—	May-June
Punjab	Sept.-Oct.- Jan.-April	Sept.-Oct.- Dec.-Jan.	Jan.-Feb. March-May	Sept.-Oct. Jan.-Feb.	Feb.-April	Nov.-March	June-July	May-June	—
Rajasthan	—	Aug.-Nov.	—	—	Jan.-May	June-Aug. Nov.-Jan.	June-Aug.	May-July	—
Tamil Nadu	Sept.-Dec.	Oct.-Nov.	April-May	April.-May	Dec.-Sept.	Sept.-Jan.	Jan.-May July-Oct.	Feb.-Nov.	—
Uttar Pradesh	Nov.-Dec.	Sept.-Oct.	Sept.-Oct.	Sept.-Oct.	Sept.-April	Sept.-Feb.	May-July	April-June	Jan.-July
West Bengal	—	Sept.-Nov	—	—	Dec.-April	Sept.-Dec.	—	—	March-June
All India	Aug.-Dec.		Feb.-July		Dec.-May	July-Dec.	May-Aug.	Mar.-Sept.	Feb.-July

Source: Estimates of Area, and Production of Principal Crops in India 1978-79.

Directorate of Economics & Statistics, Ministry of Agriculture & Rural Reconstruction, New Delhi.

1.10. DISTRIBUTION OF AREA ACCORDING TO ANNUAL RAINFALL

Rainfall amount		Approximate percentage of area receiving rainfall
Dry	0--750 mm	30.0
Medium	750—1,150 mm	42.0
Assured	1150—2,000 mm	20.0
	above 2,000 mm	8.0
Total		100.0

1.11. DISTRIBUTION OF ANNUAL RAINFALL ACCORDING TO SEASONS

Rainfall	Duration	Approximate percentage to annual rainfall
South-West Monsoon	June-Sept.	73.7
Post-Monsoon	Oct.-Dec.	13.3
Winter or North-East Monsoon	Jan.-Feb.	2.0
Pre-Monsoon	March-May	10.4
Total		100.0

Source: Report from India Meteorological Department, Pune.

1.12. RAINFALL IN INDIA*

Sl. No.	Name of the sub-division	Annual rainfall (mm)	Rainfall as percentage of annual			
			Jan. to Feb.	March to May	June to Sept.	Oct. to Dec.
1.	Bay Islands	2,994.5	2.7	15.0	59.3	23.0
2.	Assam (including Manipur & Tripura)	2,516.4	2.3	25.1	65.3	7.3
3.	Sub-Himalayan West Bengal	3,126.2	1.0	15.4	78.0	5.6
4.	Gangetic West Bengal	1,425.3	2.7	12.4	75.6	9.3
5.	Orissa	1,482.2	2.7	8.6	76.7	12.0
6.	Bihar Plateau	1,372.0	3.9	6.5	82.0	7.6
7.	Bihar Plains	1,202.9	2.9	6.1	85.0	6.0
8.	Uttar Pradesh East	1,007.7	3.4	3.0	88.2	5.6
9.	Uttar Pradesh West	964.2	5.1	3.9	87.0	4.0
10.	Punjab (including Delhi & Haryana)	624.7	8.6	7.2	80.0	4.2
11.	Jammu & Kashmir	994.6	19.2	24.0	47.5	9.3
12.	Rajasthan, East	704.1	2.1	2.3	92.5	3.0
13.	Rajasthan, West	311.1	3.6	4.9	89.1	2.4
14.	Madhya Pradesh, West	1,004.9	2.2	2.0	90.7	5.1
15.	Madhya Pradesh, East	1,401.7	3.1	3.5	87.7	5.7
16.	Gujarat Region	976.5	0.4	1.0	95.2	3.2
17.	Saurashtra and Kutch	482.6	0.9	2.1	93.1	3.8
18.	Konkan	2,872.0	0.1	1.2	93.9	4.8
19.	Madhya Maharashtra	920.7	0.8	4.1	83.6	11.5
20.	Marathwada	773.6	1.5	4.0	83.3	11.0
21.	Vidarbha	1,099.6	2.9	3.1	87.0	7.0
22.	Coastal Andhra Pradesh	1,008.3	2.3	8.8	56.6	32.3
23.	Telangana	926.5	2.1	6.1	81.7	10.0
24.	Rayalaseema	677.8	2.2	11.3	54.4	32.0
25.	Tamil Nadu	1,008.1	5.3	14.8	33.0	47.1
26.	Coastal Karnataka	3,264.8	0.1	4.4	87.7	7.8
27.	Interior Karnataka, North	675.0	0.9	12.7	65.2	19.1
28.	Interior Karnataka, South	1,244.9	0.8	13.0	67.6	18.5
29.	Kerala	2,996.1	1.2	13.5	66.9	18.3
30.	Arabian Sea Islands	1,572.4	2.8	13.0	62.3	21.4

Note: The rainfall figures presented in this Table are based on data for the period 1901-50.

*Source: Koteswaram, P., *Meteorological and Climatological Aspects of Dryland Farming in India*, Paper presented at the I.C.A.R. workshop on "Dryland Agricultural Research", Indian Agricultural Research Institute, New Delhi (September 28 - Oct. 1, 1970).

Sub-Division

	Actual	Normal	Percentage departure	Actual	Normal	Percentage departure	Actual	Normal	Percentage departure	Actual	Normal	Percentage departure
Andman & Nicobar Islands	1,457	1,597	-9	638	721	-12	127	135	-6	392	495	-21
Arunachal Pradesh	2,443	2,149	+14	325	161	+101	35	106	-67	361	607	-40
Assam & Meghalaya	1,407	1,434	-2	240	156	+54	16	48	-67	390	551	-29
Nagaland, Manipur, Mizoram and Tripura	965	1,382	-30	202	204	-1	6	41	-85	515	443	+16
Sub-Himalayan West Bengal & Sikkim	1,998	2,271	-12	348	182	+91	29	51	-44	475	546	-13
Gangetic West Bengal	1,358	1,094	+24	206	163	+27	23	36	-35	201	166	+21
Orissa	1,130	1,148	-2	158	174	-9	23	36	-37	95	105	-9
Bihar Plateau	1,331	1,105	+20	102	103	1	61	50	+23	116	103	+13
Bihar Plains	882	1,022	-14	233	75	213*	52	31	+69	92	80	+15
East Uttar Pradesh	698	914	-24	191	71	+42	51	37	+35	31	33	-8
Plains of West Uttar Pradesh	675	800	-16	47	49	-4	32	47	-33	59	36	+66
Hills of West Uttar Pradesh	1,481	1,576	-6	90	102	-12	70	120	-42	238	166	+43
Haryana, Chandigarh and Delhi	682	518	+28	25	35	-27	27	51	-46	52	39	+33
Punjab	626	493	+27	33	38	-12	29	52	-45	75	46	+66
Himachal Pradesh	1,506	1,348	+12	110	111	-1	128	186	-31	253	214	+33
Jammu & Kashmir	437	378	+16	150	147	+2	153	216	-29	356	332	+7
West Rajasthan	415	296	+40	2	14	-84	17	10	+62	16	18	-15

East Rajasthan	877	662	+33	3	32	-90	12	11	+12	13	20	-37
West Madhya Pradesh	977	945	+3	92	56	+63	444	22	+102	32	24	+33
East Madhya Pradesh	1,216	1,199	+1	112	77	+46	75	46	+65	62	52	+19
Gujarat Region, Daman, Dadra and Nagar Haveli	1,050	791	+33	7	31	-79	3	3	-10	3	10	-67
Saurashtra, Kutch	574	533	+8	10	34	-71	1	4	-61	1	6	-79
Konkan and Goa	2,715	2,557	+6	137	132	+4	0	2	-78	125	45	+181
Madhya Maharashtra	455	517	-12	182	103	+76	19	6	+231	82	46	+76
Marathwada	511	653	-22	200	82	+144	44	14	+208	30	32	-5
Vidarbha	936	996	-6	98	76	+26	51	24	+113	48	40	+19
Coastal Andhra Pradesh	458	555	-17	354	342	+4	33	18	+88	33	70	-53
Telangana	553	777	-29	186	109	+71	33	12	+166	56	64	-13
Rayalaseema	430	424	+1	261	178	+47	11	11	-5	65	66	-1
Tamil Nadu & Pondicherry	325	285	+14	851	549	+55	9	47	-80	91	120	-24
Coastal Karnataka	2,926	2,945	-1	289	232	+25	0	4	-98	388	157	+148
North Interior Karnataka	544	580	-6	191	125	+52	19	9	+98	127	73	+73
South interior Karnataka	378	381	-1	296	221	+34	9	12	-27	159	152	+4
Kerala	1,459	1,743	-16	797	542	+47	62	40	+57	657	493	+33
Lakshadweep	1,014	1,001	+1	539	357	+51	7	34	-80	297	167	+78

Note: (i) In calculation of percentages, rainfall figures are taken correct to 0.1 mm.

(ii) +20% or more of normal indicates excess rainfall.

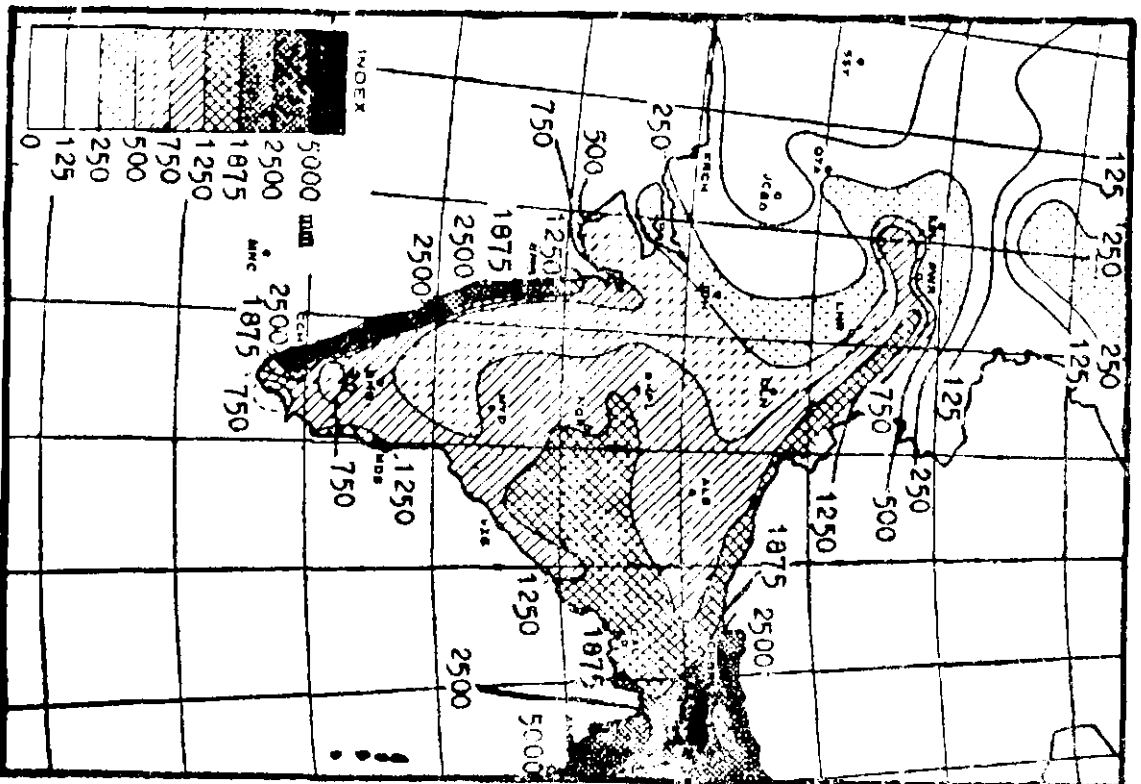
(iii) +19% to -19% of normal indicates normal rainfall.

(iv) -20% to -59% of normal indicates deficient rainfall.

(v) -60% to -99% of normal indicates scanty rainfall.

(vi) -100% of normal indicates no rainfall.

Source: Weekly weather reports issued by the Director-General of Observatories, Pune.



Annual rainfall in India in mm

1.14. HIGH, MEDIUM AND LOW RAINFALL REGIONS

('000 hectares)

State/Union Territory	High rainfall regions (1150 mm. and above)			Medium rainfall regions (750 mm. to 1150 mm.)			Low rainfall regions (upto 750 mm.)			Total		
	Net irrigated area	Net area sown	Gross area sown	Net irrigated area	Net area sown	Gross area sown	Net irrigated area	Net area sown	Gross area sown	Net irrigated area	Net area sown	Gross area sown
Andhra Pradesh	—	—	—	2,638	7,534	8,798	643	4,102	4,440	3,281	11,636	13,238
Assam	572 ^a	2,458	3,076	—	—	—	—	—	—	572 ^a	2,458	3,076
Bihar	1,336	6,724	8,410	954	1,650	2,357	—	—	—	2,320	8,374	10,767
Gujarat ^b	106 ^a	753 ^a	802 ^a	391 ^a	2,390 ^a	2,567 ^a	956 ^a	6,281 ^a	6,761 ^a	1,453	9,424	10,130
Haryana	—	—	—	89	243	364	1,667	3,323	4,786	1,736	3,566	5,150
Himachal Pradesh	5	68	102	89	488	805	—	—	—	94	556	907
Jammu & Kashmir	42	288	353	186	354	457	74	97	103	302	689	913
Karnataka	271	953	1,103	313	2,442 ^a	2,674	617	6,895	7,116	1,201	10,230	10,893
Kerala	457	2,202	2,999	—	—	—	—	—	—	457	2,202	2,999
Madhya Pradesh	764	10,317	12,077	691	7,388	8,213	190	855	922	1,645	18,560	21,212
Maharashtra	500	3,822	4,164	387	7,775	8,177	585	6,727	7,145	1,472	18,324	19,486
Manipur ^c	65	140	194 ^a	—	—	—	—	—	—	65	140	194 ^a
Meghalaya	48	164 ^d	178 ^a	—	—	—	—	—	—	48	164 ^d	178 ^a
Nagaland	32	107	107	—	—	—	—	—	—	33	107	107
Orissa	878	5,973	7,315 ^a	—	—	—	—	—	—	878	5,973	7,135 ^a
Punjab	—	—	—	274	634	972	2,702	3,479	5,044	2,976	4,133	6,016
Rajasthan	—	—	—	412	1,792	2,206	1,966	14,175	15,680	2,378	15,967	17,886
Tamil Nadu	560	1,048	1,363	2,256	5,127	6,285	—	—	—	2,816	6, 75	7,648
Tripura	30	243	377	—	—	—	—	—	—	30	243	377
Uttar Pradesh	733 ^a	1,754 ^a	2,624 ^a	4,764 ^a	12,990 ^a	16,808 ^a	1,744 ^a	2,424 ^a	3,574 ^a	7,241	17,168	23,006
West Bengal	1,489 ^b	6,185 ^a	7,462	—	—	—	—	—	—	1,489 ^b	6,185 ^a	7,462
Union Territories	61	382	432	—	—	—	55	71	111	116	453	543
All India	7,980	43,531	53,138	13,424	50,807	60,683	11,199	48,369	55,682	32,603	142,707	169,503

^a Relates to the year 1953-54.

^b Total figures relate to the year 1971-72. Its break-up has been estimated in proportion to that in the year 1970-71.

^c Ad-hoc estimates.

^d Relates to the year 1972-73.

^e Relates to the year 1967-68.

*Estimates

Note: Data are based on Land Utilisation Statistics returns for the year 1973-74.

Source: Directorate of Economics & Statistics, Ministry of Agriculture & Rural Reconstruction, New Delhi.

2.00. AREA AND PRODUCTION

2.01. AREA UNDER SELECTED CROPS—ALL INDIA (1951-52 to 1976-79)

('000 hectares)

Year	Rice	Wheat	Jowar	Bajra	Maize	Total Cereals	Gram	Total pulses (including gram)	Total food-grains	Ground-nut	Cotton (lint)	Jute	Sugar-cane
1951-52	29,830	9,471	15,944	9,519	3,310	78,186	6,830	18,775	96,961	4,017	6,556	790	61,634
1952-53	29,969	9,828	17,539	10,769	3,605	82,243	7,256	19,845	102,088	4,795	6,359	734	50,996
1953-54	31,989	10,681	17,785	12,199	3,869	87,336	7,968	21,729	109,065	4,247	6,987	494	44,411
1954-55	30,764	11,259	17,464	11,366	3,749	85,944	9,248	21,914	107,858	5,541	7,546	503	58,789
1955-56	31,521	12,367	17,362	11,338	3,696	87,344	9,779	23,216	110,560	5,133	8,086	704	60,543
1956-57	32,277	13,524	16,237	11,251	3,758	87,828	9,674	23,316	111,136	5,532	8,019	77	69,051
1957-58	32,298	11,730	17,311	11,169	4,079	86,942	9,091	22,538	109,480	6,420	8,014	705	71,155
1958-59	33,172	12,617	17,960	11,428	4,265	90,453	10,080	24,311	114,764	6,251	7,964	733	73,358
1959-60	33,820	13,380	17,707	10,695	4,344	90,990	10,326	24,833	115,823	6,442	7,295	662	77,817
1960-61	34,128	12,927	11,412	11,469	4,407	92,018	9,276	23,563	115,581	6,463	7,610	629	110,001
1961-62	34,694	13,570	18,249	11,278	4,507	92,989	9,566	24,243	117,232	6,896	7,978	917	103,967
1962-63	35,695	13,590	18,414	10,982	4,643	93,579	9,193	24,265	117,844	7,263	7,730	847	91,918
1963-64	35,809	13,490	18,376	11,103	4,582	93,235	9,354	24,186	117,421	6,886	8,221	869	104,225
1964-65	36,462	14,322	18,056	11,827	4,618	94,237	8,870	23,175	118,112	7,376	8,365	845	121,909
1965-66	35,470	12,572	17,679	11,965	4,799	92,385	8,015	22,718	115,103	7,698	7,962	758	123,990
1966-67	35,251	12,838	18,054	12,239	5,074	93,181	8,003	22,121	115,302	7,299	7,836	797	92,826
1967-68	36,437	14,998	18,428	12,808	5,583	98,772	8,257	22,649	121,421	7,553	7,995	880	95,500

1968-69	36,967	16,955	18,731	12,052	5,716	99,166	7,105	21,264	120,430	7,088	7,596	527	124,875
1969-70	37,689	16,626	18,605	12,493	5,862	101,547	7,751	22,023	123,570	7,125	7,731	768	135,024
1970-71	37,592	18,241	17,374	12,913	5,852	101,792	7,839	22,534	124,316	7,326	7,605	749	126,366
1971-72	37,756	19,139	16,777	11,773	5,668	100,472	7,912	22,151	122,623	7,516	7,800	815	113,570
1972-73	36,688	19,463	15,518	11,817	5,838	98,362	6,967	20,915	119,277	6,990	7,679	700	124,867
1973-74	39,286	18,583	16,716	13,934	6,015	108,111	7,761	23,427	126,588	7,024	7,574	793	140,805
1974-75	37,889	18,010	16,189	11,265	5,863	99,051	7,041	22,024	121,075	7,063	7,562	664	144,299
1975-76	39,475	20,454	16,092	11,571	6,031	103,727	8,320	24,454	128,181	7,222	7,350	585	140,804
1976-77	38,511	20,922	15,772	10,751	6,000	101,373	7,974	22,983	124,356	7,043	6,885	737	153,007
1977-78	40,282	21,456	16,316	11,104	5,883	104,018	7,974	23,497	127,515	7,028	7,866	797	176,966
1978-79 (Provisional)	40,196	22,220	16,125	11,341	5,779	105,573	7,871	23,549	128,122	7,548	8,087	888	156,450

Source: Directorate of Economics and Statistics, Ministry of Agriculture & Rural Reconstruction, New Delhi.

2.02. PRODUCTION OF SELECTED CROPS— ALL INDIA (1951-52—1978-79)

(’000 tonnes)

Year	Rice	Wheat	Jowar	Bajra	Maize	Total cereals	Gram	Total pulses (including gram)	Total food-grains	Ground-nut	Cotton (lint)	Jute	Sugar-cane (cane)
1951-52	21,300	6,183	6,077	2,346	2,076	43,576	3,387	8,420	51,996	3,192	3,276	4,715	31,786
1952-53	22,899	7,501	7,359	3,192	2,870	50,012	4,208	9,189	59,201	2,929	3,341	4,629	29,495
1953-54	28,214	8,017	8,082	4,547	3,039	59,203	4,832	14,918	69,821	3,445	4,125	3,116	31,497
1954-55	25,219	9,043	9,201	3,519	2,975	57,085	5,621	10,950	68,035	4,245	4,445	2,952	36,303
1955-56	27,557	8,760	6,726	3,428	2,802	55,805	5,418	11,045	66,850	3,862	4,181	4,232	32,779
1956-57	29,037	9,403	7,327	2,873	3,078	58,304	6,231	11,551	69,855	4,369	4,924	4,323	33,683
1957-58	25,525	7,998	8,635	3,620	3,150	54,749	4,890	9,562	64,311	4,710	4,982	4,015	34,325
1958-59	30,847	9,958	9,033	3,868	3,463	63,992	7,023	13,149	77,141	5,178	4,879	5,199	37,658
1959-60	31,676	10,324	8,579	3,493	4,073	64,873	5,618	11,799	76,672	4,562	3,876	4,534	36,414
1960-61	34,574	10,997	9,814	3,283	4,080	69,314	6,250	12,704	82,018	4,812	5,604	4,134	45,549
1961-62	35,683	12,072	8,029	3,645	4,312	70,951	5,785	11,755	8,2706	4,994	4,850	6,358	42,349
1962-63	33,217	10,778	9,748	3,959	4,507	68,623	5,362	11,528	80,151	5,036	5,536	5,442	40,996
1963-64	36,998	9,853	9,198	3,878	4,561	70,569	4,562	10,073	80,642	5,298	5,747	6,079	46,353
1964-65	39,308	12,257	9,683	4,519	4,664	76,939	5,777	12,417	89,356	6,004	6,011	6,064	48,838
1965-56	30,589	10,394	7,581	3,752	4,823	62,403	4,224	9,944	72,347	4,263	4,852	4,476	44,717
1966-67	30,438	11,393	9,224	4,463	4,894	65,864	3,622	8,347	74,231	4,411	5,266	5,358	40,336
1967-68	37,612	16,540	10,048	5,185	6,270	82,950	5,971	12,102	95,052	5,731	5,777	6,320	46,665
1968-69	39,761	18,651	9,804	3,802	5,701	83,595	4,309	10,418	94,013	4,631	5,447	2,931	49,236
1969-70	40,430	20,093	9,721	5,327	5,674	87,810	5,546	11,691	99,501	5,130	5,564	5,658	49,121
1970-71	42,225	23,832	8,105	8,029	7,486	96,604	5,199	11,818	108,422	6,111	4,763	4,988	48,322
1971-72	43,068	26,410	7,722	5,319	5,101	94,074	5,081	11,094	105,168	6,181	6,950	5,684	47,511
1972-73	39,245	24,735	6,968	3,929	6,388	87,119	4,537	9,907	97,026	4,092	5,735	4,978	50,903
1973-74	44,051	21,778	9,097	7,519	5,803	94,657	4,099	10,008	104,665	5,932	6,309	6,220	51,163
1974-75	39,579	24,104	10,414	3,272	5,559	89,812	4,015	10,014	99,826	5,111	7,156	4,471	49,855
1975-76	48,740	28,846	9,504	5,736	7,256	107,995	5,879	130,39	121,934	6,754	5,950	4,440	50,903
1976-77	41,917	29,010	10,524	5,853	6,361	99,806	5,424	11,361	111,167	5,264	5,839	5,353	53,383
1977-78	62,671	31,328	12,064	4,730	5,973	114,434	5,410	11,973	12,6407	6,087	7,243	5,361	66,160
1978-79*	53,829	34,700	11,563	5,515	6,219	119,200	5,835	12,170	131,370	6,387	7,927	6,454	50,180

* Provisional.

Source: Directorate of Economics and Statistics, Ministry of Agriculture & Rural Reconstruction, New Delhi.

2.03. AVERAGE YIELD PER HECTARE OF SELECTED CROPS—ALL INDIA
(1951-52 to 1978-79)

(kilograms)

Year	Rice	Wheat	Jowar	Bajra	Maize	Total cereals	Gram	Total pulses (including Gram)	Total food-grains	Ground-nut	Cotton (lint)	Jute	Sugar-cane (Cane)
1951-52	714	653	381	246	627	557	496	448	536	649	85	1,074	31,786
1952-53	764	763	420	296	796	608	580	463	580	611	89	1,135	29,495
1953-54	902	750	455	375	785	678	608	489	640	811	100	1,129	31,497
1954-55	820	803	527	310	794	664	608	500	631	766	100	1,056	36,303
1955-56	874	708	387	302	704	639	554	476	605	752	88	1,082	32,779
1956-57	800	695	451	255	819	664	644	495	629	783	104	1,008	33,693
1957-58	790	682	499	324	772	630	538	424	587	734	105	1,025	34,325
1958-59	930	789	503	338	812	707	697	541	672	828	104	1,277	37,658
1959-60	937	772	484	327	938	713	544	475	682	708	86	1,197	36,414
1960-61	1,013	851	533	286	926	753	674	539	710	745	125	1,183	45,549
1961-62	1,028	890	440	323	957	763	609	485	705	725	103	1,248	42,349
1962-63	931	793	529	361	992	733	583	475	680	695	122	1,156	40,996
1963-64	1,033	730	501	349	995	757	481	416	687	769	119	1,260	46,353
1964-65	1,078	913	536	382	1,010	816	651	520	757	814	122	1,292	46,838

(Continued)

2.03. AVERAGE YIELD PER HECTARE OF SELECTED CROPS—ALL INDIA (Concluded)
(1951-52 to 1978-79)

(kilograms)

Year	Rice	Wheat	Jowar	Bajra	Maize	Total cereals	Gram	Total pulses (including Gram)	Total food-grains	Ground-nut	Cotton (lint)	Jute	Sugar-cane (Cane)
1965-66	862	827	429	314	1,005	675	527	438	829	554	104	1,062	43,717
1966-67	863	887	511	365	964	707	453	377	844	604	114	1,210	40,336
1967-68	1,032	1,103	545	405	1,123	840	721	534	783	759	123	1,293	46,665
1968-69	1,076	1,160	523	315	997	843	607	490	781	653	122	1,002	49,236
1969-70	1,073	1,209	522	426	968	865	715	531	805	720	122	1,326	49,121
1970-71	1,123	1,307	466	622	1,279	949	663	524	872	634	106	1,186	48,322
1971-72	1,141	1,380	460	452	900	938	642	501	856	828	151	1,255	47,511
1972-73	1,070	1,271	449	333	1,094	886	651	474	813	585	127	1,280	50,933
1973-74	1,151	1,172	544	540	965	918	528	427	827	845	142	1,412	51,163
1974-75	1,045	1,308	643	290	948	907	570	455	824	724	161	1,211	49,855
1975-76	1,235	1,410	591	496	1,203	1,041	767	533	944	935	138	1,367	50,903
1976-77	1,088	1,387	667	544	1,080	985	680	494	894	747	144	1,307	53,333
1977-78	1,306	1,480	730	426	1,051	1,100	676	510	991	866	157	1,210	56,160
1978-79	1,339	1,574	717	486	1,076	1,140	741	517	1,025	846	167	1,308	50,160

Source: Directorate of Economics and Statistics, Ministry of Agriculture & Rural Reconstruction, New Delhi.

2.64. ALL INDIA CROP COMPETITIONS*—HIGHEST YIELD OBTAINED

Year	Yield (kg/hectare)		
	Paddy	Wheat	Jowar (Rabi)
1964-65	9,095		
1965-66	9,476	6,618	
1966-67	10,633	9,286	6,805
1967-68	10,517	10,335	7,600
1968-69	9,096		
1969-70	14,260	12,388	
1970-71	15,862	16,117	
1971-72	15,325	7,600	
1972-73	16,912	12,858	
1973-74	17,772	14,000	
1974-75	14,992	13,748	
1975-76	16,796	13,736	
1976-77	11,919	10,856	

*All India Crops Competition organised by the Ministry of Agriculture & Rural Reconstruction, New Delhi.

Source: "Indian Agriculture in Brief"—17th Edition, Department of Economics and Statistics, Ministry of Agriculture & Rural Reconstruction, New Delhi.

2.95. STATEWISE AREA, PRODUCTION AND AVERAGE

State/Area/Production/ Yield		Rice	Wheat	Jowar	Bajra	Ragi	Small millets	Barley	Total cereals
Andhra Pradesh	A	3923.4	23.1	2290.3	586.2	312.8	673.9	—	8102.2
	P	7301.1	15.0	1339.6	355.6	346.8	321.8	—	10024.3
	Y	1861	649	585	628	1107	478	—	1237
Assam	A	2241.3	68.1	—	—	—	8.8	—	2341.0
	P	2172.3	69.2	—	—	—	4.3	—	2259.5
	Y	969	1096	—	—	—	@	—	965
Bihar	A	5586.2	1833.4	17.8	13.0	182.7	166.6	137.1	8812.3
	P	5508.5	2554.5	6.7	5.0	119.2	71.4	97.6	9348.4
	Y	980	1393	@	@	652	429	712	1061
Gujarat	A	459.1	619.4	1016.6	51.3	126.1	6.9	6.9	4033.9
	P	534.5	1192.4	577.4	1553.7	39.1	109.9	3.3	4254.6
	Y	1164	1924	568	1064	762	672	@	1055
Haryana	A	463.0	1488.4	146.0	870.0	—	—	89.0	3145.0
	P	1241.0	342.0	26.0	382.0	—	—	141.0	5282.0
	Y	2680	2300	178	439	—	—	1584	1679
Himachal Pradesh	A	98.5	322.8	—	—	11.9	26.1	36.9	766.9
	P	122.8	363.9	—	—	12.0	17.6	46.9	991.5
	Y	1247	1127	—	—	1108	674	1271	1293
Jammu & Kashmir	A	267.3	189.8	0.2	15.2	—	19.5	11.9	776.9
	P	546.0	185.9	0.1	11.8	—	9.5	7.9	1158.8
	Y	2043	979	@	@	—	487	@	1492
Karnataka	A	1146.1	343.9	1979.9	602.7	1028	4025	—	5748.0
	P	2303.3	223.2	1932.0	313.6	1465.2	205.9	—	6984.7
	Y	2010	649	976	473	1424	512	—	1215
Kerala	A	8065	—	2.0	—	2.3	2.6	—	813.4
	P	1241.3	—	0.9	—	1.6	1.7	—	1245.5
	Y	1539	—	@	—	@	@	—	1531
Madhya Pradesh	A	4728.6	3533.6	1910.2	170.8	20.3	1600.4	181.6	12837.2
	P	3482.1	3267.7	1269.3	108.0	5.8	317.3	196.7	9200.8
	Y	736	952	665	632	@	198	1083	717
Maharashtra	A	1498.3	1186.8	6524.2	1575.3	222.9	192.5	8.9	11277.9
	P	2200.8	951.3	4881.4	539.3	200.5	81.3	6.6	8962.6
	Y	1469	802	748	342	900	422	@	796
Manipur	A	179.1	—	—	—	—	—	—	191.8
	P	300.0	—	—	—	—	—	—	318.9
	Y	1675	—	—	—	—	—	—	1663
Meghalaya	A	106.4	2.0	—	—	—	2.2	—	127.5
	P	130.2	2.7	—	—	—	2.3	—	148.9
	Y	122.4	@	—	—	—	@	—	1,168
Nagaland	A	72.9	—	—	—	—	—	—	84.4
	P	76.5	—	—	—	—	—	—	85.7
	Y	1049	—	—	—	—	—	—	1015
Orissa	A	4372.0	61.3	33.9	8.4	275.7	230.8	—	5112.0
	P	4401.9	113.2	22.3	3.8	194.4	102.4	—	4950.1
	Y	1007	1847	658	@	705	444	—	968

YIELD PER HECTARE OF PRINCIPAL CROPS—1978-79

A=Area: '000 hectares
 P=Production: '000 tonnes
 Y=Yield: Kg/hectare

Gram	Tur	Other pulses	Total food-grains	Ground-nuts	Cotton*	Jute*	Potato	Sugar-cane (cane)	Tobacco
63.3	204.9	1139.6	9510.00	1262.8	382.5	—	0.3	142.0	199.2
19.1	44.2	316.8	10404.0	1128.5	387.0	—	0.5	9481.9	189.5
302	216	278	1094	894	154	—	@	66774	951
3.2	6.4	93.9	2444.5	—	4.2	114.9	34.8	47.9	5.3
1.5	4.5	36.4	2301.9	—	2.0	899.0	176.8	1658.0	3.9
@	@	388	942	—	@	1408	5080	34614	@
217.6	88.8	1113.6	10232.3	6.5	0.7	165.1	141.6	131.3	11.1
121.2	57.4	512.5	10039.5	6.3	1.6	831.9	1140.4	4175.8	9.6
557	646	460	981	@	@	907	8054	31804	@
66.0	131.5	348.2	4579.6	2038.9	1758.8	—	10.5	57.9	74.6
59.0	74.4	97.3	4485.3	1826.5	2101.2	—	206.4	3286.6	153.6
894	566	279	979	896	203	—	19657	56763	2059
1061.0	7.4	60.2	4273.6	9.1	286.0	—	14.8	190.0	0.3
1039.0	7.7	29.1	6357.8	10.9	603.0	—	267.7	6850.0	0.3
979	@	483	1488	1198	358	—	18088	36053	@
36.6	0.2	36.4	840.1	1.6	0.5	—	13.6	3.8	0.6
24.9	0.1	12.4	1028.9	1.7	0.5	—	70.0	72.0	0.2
6805	@	341	1225	@	@	—	5147	@	@
4.4	—	50.6	831.9	—	0.5	—	2.6	1.1	0.4
2.7	—	35.2	1196.7	—	1.0	—	9.0	35.1	0.2
@	—	696	1439	—	@	—	@	@	@
178.7	315.1	680.5	7122.3	993.5	1045.6	—	9.8	157.8	47.7
74.1	195.8	313.3	7567.9	774.0	822.7	—	91.0	11822.7	33.0
415	621	356	1063	779	134	—	9286	74922	692
—	3.0	33.5	849.9	17.5	7.2	—	—	7.1	0.4
—	0.8	15.1	1261.4	17.0	9.9	—	—	408.6	0.8
—	@	451	1484	971	@	—	—	@	@
1868.7	487.1	2339.4	17532.4	447.5	677.0	—	21.0	71.9	2.5
1107.3	314.7	706.8	11329.6	237.7	297.0	—	229.9	2107.0	1.3
593	646	302	646	531	75	—	10948	29305	@
460.2	675.8	1666.3	14080.2	794.7	2508.5	—	10.9	244.1	12.8
157.3	399.2	477.6	10016.7	478.2	1317.1	—	51.0	22482.0	7.4
342	591	287	711	602	89	—	4679	92102	@
0.2	—	5.6	197.6	—	0.9	—	2.2	2.1	—
0.1	—	2.2	321.2	—	0.4	—	13.0	82.5	—
@	—	@	1626	—	@	—	@	@	—
0.1	0.2	1.3	129.1	—	5.9	6.1	18.0	0.2	—
0.1	0.3	0.8	150.1	—	3.7	41.7	121.8	9.7	—
2	@	@	1163	—	@	1230	6767	@	0.5
—	—	9.2	93.6	—	—	0.1	3.0	4.3	@
—	—	4.6	90.3	—	—	0.5	14.0	150.0	—
—	—	@	965	—	—	@	4567	@	—
43.7	69.8	1444.0	6669.5	150.5	6.6	49.3	8.5	46.0	19.6
21.6	38.1	716.2	57226.0	224.6	7.3	4390	61.2	2810.0	9.6
494	346	496	859	1492	@	1603	7200	61087	@

(Continued)

2.05. STATEWISE AREA, PRODUCTION AND AVERAGE YIELD

State/Area/Production/ Yield		Rice	Wheat	Jowar	Bajra	Ragi	Small millets	Barley	Total cereals
Punjab	A	1053.0	2721.0	1.8	97.0	—	—	40.0	4345.8
	P	3073.0	7380.0	1.3	95.0	—	—	58.0	11313.3
	Y	2918.0	2715	—	979	—	—	1450	2603
Rajasthan	A	210.0	1989.3	808.5	4530.6	—	52.2	406.6	8805.3
	P	233.6	2872.3	324.1	1148.5	—	14.8	547.4	5924.7
	Y	1112	1444	401	253	—	284	1346	673
Tamil Nadu	A	2713.0	1.7	712.0	432.7	292.4	456.2	0.1	4627.3
	P	6107.0	0.6	685.1	408.1	445.8	343.6	0.1	8011.1
	Y	2251	@	982	943	1525	753	@	1731
Tripura	A	298.5	4.0	—	—	—	—	—	302.5
	P	368.4	9.6	—	—	—	—	—	378.0
	Y	1234	@	—	—	—	—	—	1250
Uttar Pradesh	A	5097.5	7265.4	671.1	920.7	193.7	466.8	880.2	16682.1
	P	5896.3	11233.5	492.6	577.1	187.4	310.4	985.4	20522.2
	Y	1157	1546	734	627	967	665	1120	1226
West Bengal	A	4632.2	521.0	0.2	0.7	12.6	13.0	35.5	5261.9
	P	6295.3	998.2	0.2	0.5	8.1	6.9	28.0	7394.0
	Y	1359	1916	@	@	@	@	789	1405
A. & N. Islands	A	10.9	—	—	—	—	—	—	10.9
	P	16.2	—	—	—	—	—	—	16.2
	Y	1486	—	—	—	—	—	—	1488
Arunachal Pradesh	A	81.0	1.6	—	—	—	15.7	—	121.3
	P	86.9	2.4	—	—	—	10.5	—	126.0
	Y	1073	@	—	—	—	669	—	1039
Chandigarh	A	—	—	—	—	—	—	—	—
	P	—	—	—	—	—	—	—	—
	Y	—	—	—	—	—	—	—	—
Dadra, Nagar Haveli	A	9.9	0.3	0.7	—	2.9	0.7	—	14.5
	P	13.8	0.5	0.3	—	3.1	0.2	—	17.9
	Y	1394	@	@	—	@	@	—	1234
Delhi	A	3.5	43.2	9.4	15.4	—	—	1.4	73.7
	P	3.5	116.0	3.6	7.4	—	—	1.9	1328
	Y	@	2685	@	@	—	—	@	1802
Goa, Daman & Diu	A	53.8	—	—	0.5	6.3	—	—	60.6
	P	93.9	—	—	0.9	5.6	—	—	100.4
	Y	1745	—	—	@	@	—	—	1657
Mizoram	A	54.6	—	—	—	—	—	—	63.3
	P	19.3	—	—	—	—	—	—	27.6
	Y	353	—	—	—	—	—	—	436
Pondicherry	A	29.3	—	0.1	1.7	2.1	0.2	—	33.4
	P	59.2	—	0.3	5.1	4.9	0.2	—	69.7
	Y	2020	—	@	@	@	@	—	2087
All India	A	40195.9	22220.1	16124.9	11341.5	2618.8	4456.8	1816.1	104573.2
	P	538287.7	34982.2	11563.4	5515.4	3038.6	1932.0	2120.8	119200.4
	Y	1339	1574	717	486	1160	433	1155	1140

@ Crop being unimportant in State/Union Territory, average yield has not been calculated.

Source: Estimate of Area and Production of Crops in India 1978-79. Directorate of Economics & Statistics, Ministry of Agriculture, and Rural Reconstruction, Government of India.

PER HECTARE OF PRINCIPAL CROPS--1978-79 (Concluded)

A=Area: '000 hectares
 P=Production: '000 tonnes
 Y=Yield: Kg./hectare

Gram	Tur	Other pulses	Total food-grain	Ground-nuts	Cotton*	Jute**	Potato	Sugar-cane (cane)	Tobacc
349.0	7.7	47.9	4750.4	129.0	633.0	—	36.4	107.0	0.1
282.0	4.0	24.0	11623.9	114.0	1325.0	—	727.2	605.0	0.1
808	@	514	2447	884	356	—	19978	56542	@
1745.9	44.8	1818.6	12414.6	385.2	402.4	—	2.9	59.5	2.9
1587.3	14.3	287.1	7813.4	237.9	569.9	—	5.6	2194.4	2.7
909	319	158	629	618	241	—	@	36881	@
8.8	105.8	588.8	5830.7	990.0	238.1	—	13.6	171.7	12.5
5.2	48.6	168.1	8233.0	1146.4	495.7	—	102.6	17925.2	18.3
@	460	285	1544	1158	257	—	7544	104398	1464
0.8	0.5	3.8	307.1	0.5	1.7	3.6	2.3	2.0	0.9
0.1	0.2	1.7	380.0	0.5	1.6	21.6	32.5	77.2	0.3
@	@	@	1237	@	@	1030	14130	@	@
1659.7	499.0	881.1	19721.9	317.7	34.0	11.3	281.3	1634.9	5.9
1264.2	700.1	467.2	22883.7	179.5	16.9	96.0	4359.3	62612.2	7.1
762	1403	530	1160	565	85	1529	15497	38297	1203
100.6	12.7	439.5	5814.7	—	0.5	538.0	161.5	32.1	13.2
65.3	8.4	189.9	7657.6	—	0.6	4123.9	2444	1884.9	12.7
649	661	432	1317	—	@	1380	15133	58720	962
—	—	1.6	12.5	—	—	—	—	0.1	—
—	—	0.6	16.8	—	—	—	—	1.9	—
—	—	@	1344	—	—	—	—	@	—
—	—	—	121.3	—	—	—	—	—	—
—	—	—	126.0	—	—	—	—	—	—
—	—	—	1039	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—
—	2.0	3.0	19.5	—	—	—	—	—	—
—	1.0	1.4	20.3	—	—	—	—	—	—
—	@	@	1041	—	—	—	—	—	—
3.3	—	2.0	79.0	—	0.1	—	0.2	0.3	Neg
2.8	—	0.8	136.4	—	0.3	—	1.2	1.7	Neg
@	—	@	1727	—	@	@	@	@	—
—	—	—	60.6	—	—	—	—	1.4	—
—	—	—	100.4	—	—	—	—	64.1	—
—	—	—	1657	—	—	—	—	@	—
—	—	0.4	63.7	—	0.3	—	0.5	0.5	0.5
—	—	0.1	27.7	—	0.6	—	0.3	9.1	0.3
—	—	@	435	—	@	—	@	@	@
—	—	5.7	39.1	3.1	1.6	—	—	2.0	—
—	—	3.1	72.8	3.3	2.3	—	—	197.4	—
—	—	@	1862	@	@	—	—	@	—
7871.3	2662.5	13014.7	128121.7	7548.1	8086.6	888.4	790.3	3119.0	411.0
5834.8	1913.8	4420.9	131369.9	6387.0	7927.3	6453.6	10125.4	156450.0	451.2
741	719	340	1025	848	167	1308	12812	50160	1098

* Production in '000 bales of 170 kg. each.
 ** Production in '000 bales of 180 kg. each.

2.06. RUBBER—AREA, PRODUCTION AND AVERAGE YIELD PER HECTARE
1977-78 and 1978-79

State	Area (hectares)		Tapable area (hectares)		Production (tonnes)		Average yield (kg/hectare)	
	1977-78	1978-79	1977-78	1978-79	1977-78	1978-79	1977-78	1978-79
Karnataka	7,886	7,872	3,910	3,893	1,959	2,180	501	539
Kerala	212,271	214,415	177,884	177,055	135,907	123,677	764	698
Tamil Nadu	11,646	11,683	8,990	8,952	9,015	9,367	1,003	1,046
Andaman &								
Others	1,556	1,940	216	190	106	153	—	—
All India	233,359	235,910	191,000	190,300	146,987	135,297	770	710

Source: Rubber Board, Kottayam, Kerala

2.07. TEA—AREA, PRODUCTION AND AVERAGE YIELD PER HECTARE
1977, 1978 and 1979

State	Area (in hectare)		Production (in '000 kg)			Average yield per hectare (in kg)	
	1977	1978*	1977	1978*	1979	1977	1978
Assam	190,621	192,427	293,837	299,155	278,418	1,541	1,555
West Bengal	89,253	89,954	128,736	136,629	132,078	1,442	1,512
Tripura	5,800	5,631	3,920	4,458	@	760	792
Bihar	459	459	21	54	@	46	118
Himachal Pradesh	4,183	4,183	873	717	@	209	171
Uttar Pradesh	1,799	1,799	467	464	@	228	258
Total North India	291,915	294,453	427,794	440,877	408,242	1,465	1,479
Tamil Nadu	36,333	36,593	73,252	75,800	77,147	2,016	2,071
Karnataka	1,834	1,837	3,558	3,359	3,504	1,940	1,829
Kerala	36,194	36,150	51,683	51,887	57,432	1,427	1,419
Total South India	74,361	74,580	128,473	130,446	138,083	1,728	1,749
All India	366,276	369,033	556,267	571,323	546,325	1,619	1,548

*Provisional

@Separately not available

Source: Tea Board, Calcutta

**2.06. AREA, PRODUCTION AND YIELD PER HECTARE OF CROPS -
FRUITS AND CONDIMENTS (1976-77 to 1978-79)**

Crop	A=Area in '000 hectares P=Production in '000 tonnes Y=Yield in kg/ha	1976-77	1977-78	1978-79
Banana	A	246	254*	†
	P	3,756	3,814*	†
	Y	15,290	15,017*	†
Papaya	A	12	16	†
	P	245	260	†
	Y	19,786	16,596	†
Sweet Potato	A	234	238	225
	P	1,555	1,589	1,545
	Y	6,641	6,674	6,875
Tapioca	A	386	358	361
	P	6,375	5,688	6,053
	Y	16,524	15,876	16,748
Turmeric	A	67	76	82
	P	110	126	147
	Y	1,642	1,668	1,786
Opium	A	57	64	52
	P	1.5	2.1	1.8
	Y	26	33	35
Cardamom	A	97	96	96
	P	4	5	5
	Y	45	47	48
Coconuts	A	1,074.5	1,056.5	1,067.2
	P	5,765.3	5,412.6	5,470.8
	Y	5,366	5,123	5,126
Ginger (dry)	A	26	36	34
	P	43	72	67
	Y	1,692	1,991	1,957
Black Pepper	A	114	112	112
	P	32	26	26
	Y	277	229	233
Chillies (dry)	A	782	791	806
	P	419	543	638
	Y	537	687	792
Guar Seed	A	2,812	2,367	2,647
	P	1,110	965	1,094
	Y	395	408	413
Arecanut	A	171	176*	†
	P	165	170*	†
	Y	771	766*	†
Garlic	A	38	42	49
	P	130	132	164
	Y	3,610	3,212	3,327

* Production in terms of million nuts and yield in number of coconuts per hectare.

** In '000 tonnes of dried nuts without husk. Yield in kg/1000 bearing Palms.

† Not available.

Source: Directorate of Economics & Statistics, Ministry of Agriculture & Rural Reconstruction, New Delhi.

2.09. STATEWISE IRRIGATED AND UNIRRIGATED YIELD OF PRINCIPAL CROPS

(kgs. per hectare)

State	Crop	Irrigated		Unirrigated	
		1976-77	1977-78	1976-77	1977-78
<i>Rice</i>					
Andhra Pradesh	Kharif	1,397	1,488	537	629
	Rabi	1,800	1,957		
Assam	Autumn	1,470	1,401	727	824
	Winter	1,451	1,344	1,089	1,154
	Summer	972	1,583	592	1,287
Bihar	Autumn		1,101	602	639
	Winter	1,006	1,051	760	905
	Summer	1,114	1,022	751	654
Gujarat		1,563	2,052	1,064	1,182
Haryana					
Himachal Pradesh			1,537		1,366
Kerala	Autumn	1,577	1,843	1,156	1,303
	Winter	1,538	1,557	1,410	1,398
	Summer	1,478	1,535	1,146	1,120
Madhya Pradesh			1,357		889
Maharashtra	Autumn	1,445	1,305	1,313	1,644
	Summer	1,622	1,584		
Orissa	Autumn	848	917	505	714
	Winter	1,028	1,104	712	969
	Summer	1,513	1,383		
Tamil Nadu	I & II Crop	1,866 ^C	2,067 ^C	964 ^C	1,294 ^C
Uttar Pradesh	Early	1,289 ^A	1,550 ^A	841 ^A	934 ^A
	Late	1,199 ^W	1,489 ^W	755 ^W	949 ^W
<i>Jowar</i>					
Andhra Pradesh	Kharif	1,283	1,182	410	639
	Rabi	1,464	1,854	579	569
Gujarat	Kharif	926	1,120	488	433
	Rabi	1,413	1,584	805	725
Haryana		264	223	178	99

(Continued)

2.09. STATEWISE IRRIGATED AND UNIRRIGATED YIELD OF PRINCIPAL CROPS
(Continued)

(kgs. per hectare)

State	Crop	Irrigated		Unirrigated	
		1976-77	1977-78	1976-77	1977-78
Karnataka	Kharif		1,078	—	646
	Rabi		1,114		566
Madhya Pradesh					847
Maharashtra	Kharif			957	1,086
	Rabi	1,071	815	453	442
Tamil Nadu		1,886	2,073	810	786
<i>Bejra</i>					
Andhra Pradesh		1,199	1,548	337	552
Gujarat	Kharif		—	655	666
	Summer				
Haryana		860 ^K	811	547 ^K	287
Karnataka			306		324
Madhya Pradesh					557
Maharashtra		667	848	375	354
Tamil Nadu		1,759	1,903	911	726
<i>Maize</i>					
Andhra Pradesh	Kharif	1,578	2,047	703	1,369
	Rabi	1,938	1,784		—
Bihar	Bhadoi			851	705
	Aghani		2,104		
	Summer	1,349	1,317	981	1,101
Gujarat			—	761	470
Haryana		918		1,033	
Himachal Pradesh			1,373		1,963
Madhya Pradesh					838
Rajasthan		1,095	1,242 ^K	725	615 ^K
<i>Wheat</i>					
Assam		1,657	2,040	1,140	1,153
Bihar			1,025	787	814
Gujarat		1,827	2,199	467	498
Haryana		2,130	2,209	1,188	1,168
Karnataka			838		382
Madhya Pradesh			1,302		777
Maharashtra		1,059	1,085	513	576
Rajasthan		1,409	1,547	906	949
Uttar Pradesh		1,489	1,587	849	975
<i>Gram</i>					
Bihar			—	609	553
Gujarat				657	568
Haryana		898	1,011	783	792
Karnataka			656		394
Madhya Pradesh			828		472
Maharashtra		424	493	292	280
Rajasthan		1,159	899	712	747
Uttar Pradesh		904	829	798	702

(Continued)

2.09. STATEWISE IRRIGATED AND UNIRRIGATED YIELD OF PRINCIPAL CROPS
(Concluded)

(kgs. per hectare)

State	Crop	Irrigated		Unirrigated	
		1976-77	1977-78	1976-77	1977-78
<i>Groundnut</i>					
Andhra Pradesh	Kharif	737	—	417	827
	Rabi	1,549	1,355	962	895
Gujarat		1,056	1,102	997	885
Karnataka	Kharif		982		600
	Rabi/Summer		1,704		1,482
Madhya Pradesh			—		567
Maharashtra		1,781	1,570	630	659
Rajasthan		1,617	1,167 ^K	662	705 ^K
Tamil Nadu		1,674	1,935	730	1,055
<i>Sugarcane</i>					
Andhra Pradesh	Plant	74,380	84,980	55,650	67,580
	Ratoon	68,090	65,110	18,590	40,730
Assam			—	35,973	30,783
Bihar		31,756	28,538	33,000	38,537
Haryana		43,320	—		
Karnataka			81,694		56,300
Maharashtra		89,240	94,800		—
Rajasthan		46,144	47,201	29,048	9,212
Tamil Nadu		92,000	1,02,000		—
<i>Tobacco</i>					
Andhra Pradesh	Virginia	1,236	740	700	820
	Natu Variety	1,733	1,582	537	1,034
Gujarat		1,799	1,893	941	983
Karnataka			913		726
Maharashtra				535	
<i>Rapeseed & Mustard</i>					
Assam		364	—	364	421
Bihar		687	629	476	439
Haryana		725	595	547	896
Madhya Pradesh			—		351
Rajasthan		561	615	349	294
<i>Cotton (Kapas)</i>					
Andhra Pradesh		879	651	368	219
Gujarat		725	965	298	317
Haryana		1,009	903	*	
Karnataka			804		281
Maharashtra		680	509	174	262
Punjab					
Rajasthan			719		144
Tamil Nadu		1,615	1,696	322	320

* Comparative yield rates are not presented as there are very few plots in one of the categories.

† Not analysed as the percentage area under unirrigated is very low.

C=Combined (A + W) K=Kharif A=Autumn S=Summer W=Winter P=Provisional

Source: Consolidated Results of Crop Estimation Survey on Principal Crops issued by N.S.S.O.

**2.10. CONVERSION RATIOS BETWEEN AGRICULTURAL RAW MATERIALS
AND PROCESSED PRODUCTS**

Raw material	Processed product
<i>Rice</i>	
Rice (cleaned) production	2/3 of paddy production
<i>Cotton</i>	
Cotton lint production	1/3 of <i>kapas</i> production
Cotton seed production	2/3 of <i>kapas</i> production 2 times of cotton lint production
<i>Jute</i>	
100 yards of hessian	54 lb. of raw jute
4,148 yards of hessian	1 ton of raw jute
1 ton of sacking	5.6 bales of raw jute (of 180 kg each) 1.11 tons of raw jute
1 ton of hessian, sacking	6.17 tons of raw jute (of 180 kg each) 1.05 tonnes of raw jute 5.9 bales of raw jute (of 180 kg each)
<i>Groundnut</i>	
Kernel to nuts in shell	70 per cent
Oil to nuts in shell	28 " "
Oil to kernels crushed	40 " "
Cake to kernels	60 " "
<i>Sesamum</i>	
Oil to seeds crushed	40 " "
Cake to kernels	60 " "
<i>Rape and mustard</i>	
Oil to seeds crushed	33 " "
Cake to seeds crushed	67 " "
<i>Linseed</i>	
Oil to seeds crushed	33 " "
Cake to seeds crushed	67 " "
<i>Castor seed</i>	
Oil to seeds crushed	33 " "
Cake to seeds crushed	67 " "
<i>Cotton seed</i>	
Oil to seeds crushed	14 to 18 per cent
Cake to seeds crushed	82 to 86 " "
<i>Cocunut</i>	
Copra to nuts	One tonne of copra nuts 6,773 nuts
Oil to copra crushed	62 per cent
Cake to copra crushed	38 " "

(Continued)

2.10. CONVERSION RATIOS BETWEEN AGRICULTURAL RAW MATERIALS AND PROCESSED PRODUCTS (Concluded)

Raw material	Processed product
<i>Niger seed</i>	
Oil to seed crushed	28 per cent
Cake to seeds crushed	72 " "
<i>Kardi seed</i>	
Oil to seeds crushed	40 " "
Cake to seeds crushed	60 " "
<i>Mahuwa seed</i>	
Oil to seeds crushed	36 " "
Cake to seeds crushed	64 " "
<i>Neem seed</i>	
Oil to kernels crushed	45 to 50 per cent
Cake to kernels crushed	50 to 55 " "
<i>Soyabean seed</i>	
Oil from soyabean crushed	18 per cent
Meal from soyabean seed crushed	73 " "
Hull from soyabean seed crushed	8 " "
Wastage from soyabean seed crushed	1 " "
<i>Sugar</i>	
Gur from cane crushed	10 " "
Crystal sugar from gur refined (gur refineries)	62.4 " "
Crystal sugar from cane crushed (cane factories)	9.97 " "
Khandasari sugar from gur refined	37.5 " "
Molasses from cane crushed	3.5 " "
Cane trash* from cane harvested	10.0 " "
<i>Lac</i>	
Seed lac	66.0 per cent of stick lac
Shelac	57.94 per cent of stick lac or 87.0 per cent of seed lac
<i>Cashewnuts</i>	
Cashew kernels	25 per cent of cashewnuts
<i>Butter and ghee</i>	
Butter from mixed milk	6.9 per cent
Ghee from mixed milk	5.5 " "

*This consists of leaves and portion of the top or the stalk which are removed from the cane stalk while harvesting and before sending cane to milling.

Source: *Indian Agriculture in Brief*, Seventeenth Edition, Directorate of Economics and Statistics, Ministry of Agriculture and Rural Reconstruction, New Delhi.

3.00 INDEX NUMBERS

3.01. ALL-INDIA INDEX NUMBERS OF AREA UNDER CROPS
(1973-74 to 1978-79)

(Base : Triennium ending 1969-70=100)

Crop	1973-74	1974-75	1975-76	1976-77	1977-78	1978-79
Rice	103.5	102.4	106.7	104.1	108.9	108.7
Jowar	89.9	87.0	86.5	84.8	87.7	86.7
Bajra	111.9	90.6	93.0	86.4	89.2	91.1
Maize	104.9	101.9	103.4	102.9	97.5	99.2
Ragi	98.2	102.5	109.4	103.9	108.2	109.0
Small Millets	95.1	93.0	96.9	97.0	94.8	92.4
Wheat	117.0	113.4	128.8	131.7	135.1	139.9
Barley	89.4	97.9	95.1	76.1	68.0	62.4
Cereals	103.4	99.3	104.0	101.6	104.3	104.9
Gram	100.8	91.5	108.2	103.7	103.7	102.4
Tur	100.0	95.6	100.9	96.9	99.2	100.6
Other Pulses	111.6	106.8	115.4	106.7	110.6	111.6
Pulses	106.5	100.1	111.2	104.5	106.8	107.0
Foodgrains	103.7	99.2	105.0	101.9	104.5	105.0
Groundnut	96.8	97.3	99.5	97.0	96.8	104.0
Sesamum	96.9	90.8	88.4	92.5	96.8	99.1
Rapeseed & Mustard	111.7	118.9	107.9	101.1	115.8	114.9
Linseed	115.8	117.7	120.5	107.4	114.3	115.1
Castorseed	132.6	143.2	90.9	120.2	92.1	108.3
Oilseeds	96.8	96.8	93.7	90.3	101.9	105.9
Cotton Lint	97.4	97.2	94.5	88.5	101.1	103.9
Jute	109.3	91.6	80.6	101.7	110.0	122.6
Mesta	120.5	103.8	107.1	114.2	118.7	122.5
Fibres	98.8	96.8	93.7	90.3	101.9	105.6
Tea	103.5	104.4	104.4	104.7	105.3	105.3
Coffee	120.7	121.0	133.0	146.1	146.1	146.1
Rubber	232.8	137.1	143.2	148.9	153.2	152.6
Plantation Crop	112.9	114.1	118.2	122.3	123.5	123.4
Pepper Black	100.4	100.6	99.9	102.8	100.0	100.0
Chilli (Dry)	103.4	96.0	103.5	109.3	110.6	112.7
Ginger (Dry)	117.4	113.6	126.8	118.4	146.0	139.1
Potatoes	114.6	123.9	131.3	130.7	140.3	166.7
Fruit and Vegetables	106.2	112.3	115.3	114.5	118.7	127.0
Sugarcane (Gur)	114.3	120.2	114.7	119.0	130.8	129.5
Tobacco	106.4	98.8	84.9	99.7	116.3	94.8
Misc. Crops	126.6	115.6	150.5	157.1	154.8	158.8
Non-food Crops	106.5	105.7	108.0	106.8	112.6	116.1
All Crops	104.5	110.8	105.9	103.2	106.5	107.6

Source: Estimates of area and production of principal crops in India — 1978-79.

Directorate of Economics & Statistics, Govt. of India, Ministry of Agriculture & Rural Reconstruction.

3.02. ALL-INDIA INDEX NUMBERS OF AGRICULTURAL PRODUCTION
(1973-74 to 1978-79)

(Base : Triennium ending 1969-70 = 100)

Crop	1973-74	1974-75	1975-76	1976-77	1977-78	1978-79
Rice	112.7	101.3	124.7	107.2	134.7	137.7
Jowar	92.2	105.5	96.3	106.6	122.2	117.1
Bajra	157.6	68.6	120.2	122.6	99.1	115.6
Maize	97.6	93.2	118.8	104.0	97.7	101.7
Ragi	109.7	113.1	148.0	108.2	151.7	160.1
Small Millets	107.4	88.1	104.6	95.2	112.5	105.0
Wheat	120.7	133.6	159.9	160.8	176.0	193.9
Barley	82.3	109.0	111.0	81.5	80.4	73.8
Cereals	113.2	106.4	128.8	117.8	137.3	143.1
Gram	78.7	77.1	112.9	104.2	103.9	112.1
Tur	79.1	103.0	117.9	96.9	108.4	107.5
Other pulses	103.8	96.1	116.8	97.2	106.9	102.2
Pulses	88.5	88.8	115.3	100.3	105.8	107.4
Foodgrains	110.3	104.3	127.2	115.7	133.6	138.8
Groundnut	114.9	99.1	130.9	102.0	118.0	123.0
Sesamum	110.3	89.1	109.1	96.0	118.4	122.8
Rapeseed & Mustard	114.2	150.8	129.6	103.8	110.4	125.6
Linseed	122.2	136.8	145.0	101.6	127.8	196.3
Castor seed	190.7	175.3	119.0	149.1	180.9	196.3
Oilseeds	114.5	114.9	123.8	103.9	117.5	124.2
Cotton Lint	112.7	127.8	106.2	104.2	129.3	141.5
Jute	125.7	90.2	89.5	107.9	108.1	130.1
Mesta	132.0	123.5	127.0	150.4	154.4	158.5
Fibres	115.4	119.4	103.4	106.3	125.2	139.0
Tea	120.0	124.4	123.7	130.0	141.9	145.2
Coffee	133.4	142.8	129.6	157.8	192.8	169.7
Rubber	172.7	179.5	190.2	206.5	202.9	186.8
Plantation crop	125.8	130.9	129.9	139.3	152.3	151.2
Pepper Black	111.0	109.0	110.6	136.5	110.6	112.6
Chillies (Dry)	114.6	101.7	121.3	56.7	125.3	147.1
Ginger (Dry)	195.0	192.0	227.5	210.4	266.2	249.5
Potatoes	118.0	151.1	176.0	172.7	195.9	243.8
Fruits & Vegetables	112.2	125.1	136.6	135.8	145.3	162.3
Sugarcane (Gur)	118.3	120.7	118.2	130.0	147.3	131.5
Tobacco	129.9	102.0	98.4	117.8	138.8	126.9
Misc. Crops	121.4	117.2	116.9	131.4	148.1	133.9
Non-food crops	117.0	118.3	121.3	118.1	133.0	136.2
All Crops	112.4	102.8	125.3	116.5	133.4	138.0

Source: Estimates of area and production of principal crops in India — 1978-79.

Directorate of Economics & Statistics, Govt. of India, Ministry of Agriculture & Rural Reconstruction.

3.03. ALL-INDIA INDEX NUMBERS OF YIELD (1973-74—1978-79)

(Base: Triennium ending 1969-70=100)

Crop	1973-74	1974-75	1975-76	1976-77	1977-78	1978-79
Rice	108.9	98.9	116.9	103.0	123.7	126.7
Jowar	102.6	121.2	111.3	125.7	139.3	135.1
Bajra	141.2	75.9	129.2	141.9	111.1	126.9
Maize	92.9	91.3	114.9	101.1	100.2	102.5
Ragi	111.5	110.1	135.3	104.1	140.2	147.5
Small Millets	112.9	94.8	107.9	98.1	118.7	113.6
Wheat	103.3	117.9	124.1	122.1	130.3	138.6
Barley	92.5	111.3	116.7	107.1	118.2	118.3
Cereals	107.8	103.7	118.9	110.7	124.9	129.3
Gram	78.4	84.7	104.3	100.5	100.2	109.5
Tur	79.0	107.8	116.9	100.0	109.3	106.9
Other pulses	93.0	90.0	101.2	91.1	96.7	91.4
Pulses & Foodgrains	84.5	90.7	105.0	96.7	100.2	101.7
Groundnut	118.9	101.9	131.6	105.2	121.9	119.0
Sesamum	113.4	98.1	123.8	103.8	122.3	123.9
Rapeseed & Mustard	102.3	127.0	120.1	102.7	95.3	109.3
Linseed	105.9	116.6	120.3	94.6	111.8	108.3
Castorseed	143.7	122.2	130.9	124.0	196.4	181.3
Oilseeds	110.9	109.6	120.8	104.3	113.1	115.6
Cotton lint	115.7	131.4	112.4	117.7	127.9	136.2
Jute	117.3	104.7	111.0	106.1	98.3	106.7
Mesta	110.0	119.5	118.6	131.7	130.1	129.4
Fibres	115.6	124.7	112.3	115.6	121.3	128.7
Tea	115.9	119.6	118.5	124.2	134.8	137.9
Coffee	110.6	118.1	97.4	108.0	132.0	116.2
Rubber	130.4	131.2	132.8	138.7	132.4	122.4
Plantation crops	116.3	120.2	117.4	123.6	134.1	133.2
Pepper Black	110.6	108.4	110.7	133.7	110.6	112.8
Chillies (Dry)	111.1	106.2	117.2	88.5	113.3	130.5
Ginger (Dry)	166.2	169.2	179.4	177.7	182.3	179.4
Potatoes	103.1	122.1	134.0	132.1	139.6	146.3
Fruits & Vegetables	105.5	110.9	118.6	117.4	120.5	125.0
Sugarcane (Gur)	103.8	100.7	103.1	109.2	112.6	101.5
Tobacco	122.1	116.2	115.9	118.2	119.3	133.9
Misc. crops	106.5	101.6	102.8	109.9	113.1	105.0
Non-food grams	108.5	107.9	110.2	108.0	113.6	114.1
All Crops	106.2	104.3	114.7	108.7	119.0	121.8

Source: Directorate of Economics and Statistics, Govt. of India, Ministry of Agriculture and Rural Reconstruction.

4.00. IMPORT AND AVAILABILITY

4.01(a). IMPORT AND VALUE OF CEREALS
(on Govt. of India account)Quantity : '000 tonnes
Value : Rs. crore

Year	Rice	Wheat	Total cereals*	C & F value**
1955	265	435	711	39.11
1956	325	1,095	1,443	56.34
1957	748	2,898	3,646	162.39
1958	397	2,716	3,224	120.51
1959	295	3,553	3,868	141.41
1960	699	4,388	5,137	192.84
1961	384	3,092	3,495	129.58
1962	390	3,250	3,640	141.09
1963	483	4,073	4,556	183.60
1964	645	5,821	6,266	266.25
1965	783	6,583	7,462	290.32
1966	787	7,784 + 48†	10,358	523.13
1967	453	6,348 + 52†	8,672	513.16
1968	446	4,766	5,694	361.20
1969	487	3,090	3,872	353.01
1970	206	3,425	3,631	267.55
1971	240	1,814	2,054	123.46
1972	131	314	445	24.29
1973	—	2,414	3,614	319.52
1974	—	4,203	4,874	463.04
1975	130	7,016	7,407	1,057.90
1976	146	5,832	6,515	982.24
1977‡	8	547	555	78.16

*Besides rice and wheat, it includes wheat flour, milo (sorghum) & maize (corn).

**C & F value is for total cereals.

†Wheat flour.

‡Provisional.

Source: *Bulletin on Food Statistics - 1978*, Directorate of Economics & Statistics, Ministry of Agriculture & Rural Reconstruction, New Delhi.

4.01(b). EXPORT OF FOODGRAINS FROM INDIA AND THEIR VALUE

Quantity : '000 tonnes
Value : Rs. crore

Year	Rice	Wheat flour & atta	Total cereals		Total foodgrains	
			Quantity*	Value	Quantity	Value
1955	101.90	2.08	113.06	5.94	113.06	5.94
1956	42.55	0.34	44.34	2.27	44.34	2.27
1957	0.18	0.03	0.21	0.02	6.16	0.35
1958	0.65	—	0.65	0.08	6.53	0.45
1959	0.12	Neg.	0.24	0.02	6.84	0.52
1960	0.02	Neg.	0.03	Neg.	7.82	0.59
1961	0.02	Neg.	0.03	Neg.	6.85	0.51
1962	0.16	—	0.17	0.02	9.77	0.81
1963	2.85	—	2.86	0.30	18.42	1.56
1964	2.83	0.03	3.06	0.28	14.33	1.22
1965	2.77	1.11	5.34	0.67	12.89	1.49
1966	2.29	0.21	8.56	0.95	33.15	4.03
1967	4.42	0.10	6.64	1.00	13.17	2.00
1968	2.61	0.23	6.49	0.91	22.83	3.44
1969	15.44	0.28	26.03	4.11	48.45	7.44
1970	27.29	18.57	52.09	6.95	83.89	11.46
1971	15.85	3.34	27.57	2.92	44.41	6.67
1972	15.18	1.24	26.55	4.48	33.66	5.98
1973	17.59	1.43	23.68	4.27	27.31	5.12
1974	41.43	—	45.12	22.19	48.03	22.87
1975	18.68	—	20.35	10.50	24.50	11.94
1976	37.90	—	43.02	13.80	48.25	15.59
1977	17.48	—	17.59	49.10	18.04	5.05

*Besides rice and wheat flour, it includes jowar, bajra, milo, sorghum and other sorts of grain and flour.

Note: Difference between "Total foodgrains" and "Total cereals" accounts for "Pulses" in respective category of quantity and value.

Source: *Bulletin on Food Statistics—1978*, Directorate of Economics & Statistics, Ministry of Agriculture & Rural Reconstruction, New Delhi.

4.02. IMPORT OF PRINCIPAL COMMODITIES
1976-77 to 1978-79

(Rs. Crore)

Commodities	1976-77	1977-78	1978-79*
I. Consumer goods	867.6	122.4	86.9
Cereals & Cereal preparations	867.6	122.4	86.9
II. Raw materials and intermediate manufactures	2,904.8	4,384.8	4,875.0
(a) Cashew nuts (Unprocessed)	18.3	18.0	9.2
(b) Copra	1.6	3.2	16.9
(c) Crude rubber (including synthetic and reclaimed)	8.4	10.7	28.2
(d) Fibres of which	283.4	419.3	258.4
(i) Raw wool	26.2	28.6	29.9
(ii) Raw cotton	129.5	188.9	29.1
(iii) Raw jute	6.8	Neg.	1.2
(e) Petroleum oil & lubricants	1,413.4	1,551.0	1,676.8
(f) Animal & vegetable oil & fats	118.0	737.9	552.4
(g) Fertilisers & Chemical products of which	506.1	727.8	911.5
(i) Fertiliser & fertilisers materials	261.2	338.0	449.6
(ii) Chemical elements and compounds	137.8	194.6	226.3
(iii) Dyeing, tanning and colouring materials	15.1	17.2	23.5
(iv) Medical & pharmaceutical products	42.2	63.6	79.9
(v) Plastic materials, regenerated cellulose & artificial resins	27.3	66.1	70.6
(h) Pulp & waste paper	6.1	21.2	41.9
(i) Paper, paper board & manufactures thereof	61.1	81.7	104.8
(j) Non-metallic mineral manufactures	191.8	362.6	557.9
(k) Iron & Steel	219.5	259.9	469.5
(l) Non-ferrous metals	157.1	191.5	247.5
III. Capital goods	1,979.4	1,158.8	1,274.0
(a) Manufacture of metals	31.9	38.0	46.2
(b) Non-electrical machinery apparatus & appliances	731.5	714.8	783.9
(c) Electrical machinery apparatus and appliances	145.3	173.4	173.4
(d) Transport equipment	170.7	232.6	270.5
IV. Others: unclassified	220.0	354.2	578.4
Total	5,073.8	6,020.2	6,814.3

*Provisional.

Source: "Economic Survey - 1979-80", Government of India

4.03. EXPORT OF PRINCIPAL COMMODITIES
1976-77 to 1978-79

(Rs. Crore)

Sl. No.	Commodity	Unit of qty.	1976-77		1977-78		1978-79	
			Qty.	Value	Qty.	Value	Qty.	Value
1.	Jute manufactures	'000 tonnes	457	201.1	521	244.9	328	165.7
2.	Tea	Million kgs.	244	293.1	221	555.3	224	569.7
3.	Cotton fabrics	Value	—	267.3	—	222.1	172	340.5
	(i) Mill made	Million sq. mtrs.	596	213.1	359	143.4	323	139.0
	(ii) Handloom	Million mtrs.	76	54.2	105	81.4	84	61.1
4.	Coir yarn and manufactures	'000 tonnes	N.A.	24.0	N.A.	23.9	N.A.	26.3
5.	Iron Ore	Million tonnes	23	238.5	22	240.8	21	232.9
6.	Oil cakes	'000 tonnes	1,793	234.4	854	133.3	885	115.8
7.	Leather and leather manufactures (excluding footwear)	Value	—	264.2	—	248.0	—	326.3
8.	Cashew kernels	Million kgs.	52	106.1	40	149.5	27	80.2
9.	Tobacco	Million kgs.	86	102.4	93	117.2	84	116.3
10.	Engineering goods	Value	—	566.3	—	617.4	—	699.4
11.	Coffee	Million kgs.	51	126.0	58	192.4	66	144.1
12.	Mica	Million kgs.	16	17.3	15	17.3	15	18.9
13.	Sugar	'000 tonnes	580	148.1	70	19.5	738	139.9
14.	Pepper	Million kgs.	21	38.4	25	49.1	16	28.9
15.	Manganese ore	'000 tonnes	783	19.1	443	10.9	628	15.4
16.	Raw Cotton	'000 tonnes	31	27.0	Neg	0.7	12	16.0
17.	Mineral fuel, lubricants etc.	Value	—	33.0	—	27.8	—	19.4
18.	Iron & Steel (excluding ferro-manganese and ferro-alloys)	Value	—	290.5	—	185.4	—	115.1
19.	Chemicals & allied products	Value	—	110.8	—	116.7	—	146.3
20.	Fish and fish preparations	Million kgs.	59	180.6	63	174.3	78	228.3
21.	Art silk fabrics	Million mtrs.	N.A.	29.2	N.A.	26.8	N.A.	38.9
22.	Footwear	Million pairs	18	29.3	15	24.0	13	26.9
23.	Vegetable oils (essentials & non-essentials)	Value	—	54.6	—	26.1	—	18.9
24.	Cotton apparel	Value	—	263.1	—	235.1	—	345.5
25.	Handicrafts	Value	—	455.7	—	751.8	—	952.3
26.	Silver	1000 kgs.	—	170.8	—	178.6	—	94.4
27.	Others	Value	—	851.8	—	900.8	—	1,081.6
	Total	Value	—	5,142.7	—	5,407.9	—	5,726.3

Source: "Economic Survey—1979-80", Government of India.

4.04. IMPORT OF COTTON
(1st September to 31st August)

('000 bales of 180 kg each)

Year	Cotton staple variety				Total of all varieties
	Below 1"	1" and above but below 1-1/16"	1-1/16" to 1-3/16"	1-3/16" and above	
1963-64	—	—	407	241	648
1964-65	—	—	646	320	926
1965-66	—	—	213	320	533
1966-67	—	—	474	302	776
1967-68	—	—	516	265	781
1968-69	—	—	167	253	420
1969-70	—	—	217	304	777†
1970-71	—	—	326	429	845†
1971-72	6	36	358	345	745†
1972-73	1	2	96	172	271
1973-74	1	5	54	119	179
1974-75*	1	9	14	52	76
1975-76*	105	54	33	9	201
1976-77*	9	98	115	181	403
1977-78*	101	42	420	183	746
1978-79*	37	1	10	34	82

* April—March.

† Includes cotton staple 1" and above but below 1-1/16".

Source: 1. Directorate of Cotton Development, Bombay (for data upto 1971-72).
 2. Department of Commercial Intelligence & Statistics, Calcutta (for 1972-73 onwards).

4.05. AVAILABILITY OF CEREALS AND PULSES IN INDIA

Year	Population (million)	Cereals (thousand tonnes)				Pulses net avail- ability (thous- and tonnes)	Per capita net availability			
		Net pro- duction	Net Imports	Change in Govt. stock	Net avail- ability		Cereals		Pulses	
							Kg. per year	Gms. per day	Kg. per year	Gms. per day
1951	363.2	40,087	4,801	(+) 589	44,299	8,047	120.0	334.2	22.1	60.7
1952	369.2	40,670	3,926	(+) 618	43,978	7,983	119.1	325.4	21.6	59.1
1953	375.6	45,456	2,035	(-) 488	47,974	8,605	127.7	349.9	22.9	62.7
1954	382.4	53,553	834	(+) 202	54,185	9,730	141.7	388.1	25.4	69.7
1955	389.7	51,705	596	(-) 746	53,047	10,169	136.1	572.9	25.9	71.1
1956	397.3	50,426	1,389	(-) 602	52,417	10,225	131.9	360.4	25.7	70.3
1957	405.5	52,768	3,626	(+) 856	55,538	10,626	137.0	375.3	26.2	71.6
1958	414.0	49,458	3,216	(-) 269	52,943	8,836	127.9	350.3	21.3	53.5
1959	423.1	57,388	3,858	(+) 492	60,754	11,558	143.6	393.4	27.3	74.9
1960	432.5	57,096	5,127	(-) 1,403	60,820	10,376	140.6	384.1	24.0	65.5
1961	442.4	60,893	3,493	(-) 165	64,551	11,135	145.9	399.7	25.2	69.0
1962	452.2	61,851	3,639	(-) 365	65,845	10,236	145.9	398.9	22.6	62.0
1963	462.0	60,190	4,551	(-) 22	64,763	10,853	140.2	384.0	21.8	59.8
1964	472.1	61,788	6,263	(-) 1,243	69,294	8,813	146.8	401.1	18.6	51.0
1965	482.5	67,335	7,447	(+) 1,063	73,719	10,853	152.8	418.5	22.5	61.6
1966	493.2	54,608	10,336	(+) 197	64,802	8,676	131.4	359.9	17.6	48.2
1967	504.2	57,648	8,665	(-) 260	66,573	7,298	132.0	361.8	14.5	39.6
1968	515.4	72,581	5,687	(+) 2,035	76,233	10,574	147.9	404.1	20.5	56.1
1969	527.0	73,145	3,846	(+) 462	76,529	9,094	145.2	397.8	17.3	47.3
1970	538.9	76,834	3,579	(+) 1,116	79,297	10,197	147.2	403.1	18.9	51.9
1971	551.2	84,528	2,027	(+) 2,568	83,987	10,324	152.4	417.6	18.7	51.2
1972	563.3	82,315	-491	(-) 4,694	86,518	9,700	153.5	419.4	17.2	47.0
1973	575.9	76,230	3,590	(-) 369	80,129	8,665	139.2	381.4	15.0	41.1
1974	588.3	82,825	4,830	(-) 404	88,059	8,754	149.2	410.1	14.9	40.9
1975	600.8	78,586	7,387	(+) 5,559	80,414	8,758	133.8	366.6	14.6	40.0

(Continued)

4.05. AVAILABILITY OF CEREALS AND PULSES IN INDIA (Concluded)

Year	Popu- lation (million)	Cereals (thousand tonnes)				Pulses net avail- ability (thous- and tonnes)	Per capita net availability			
		Net pro- duction	Net Imports	Change in Govt. stock	Net avail- ability		Cereals		Pulses	
							Kg. per year	Gms. per day	Kg. per year	Gms. per day
1976	613.3	94,496	6,440	(+) 10,627	90,409	11,404	14.72	402.2	16.6	50.8
1977	625.8	87,330	410	(-) 1,250	88,990	9,940	142.8	391.2	15.9	43.5
1978	638.4	100,130	(-) 1,000	(-) 270	99,400	10,320	155.7	426.6	16.2	44.3
1979*	651.0	104,300	(-) 950	(+) 300	103,050	10,650†	158.8	433.7	16.4	44.8

* Provisional: 1 kg per year=2.74 grams per day.

† Relates to production only.

- Notes: 1. Population figures are based on the latest projections made by Expert Committees set up by the Planning Commission.
2. Production figures relate to agricultural year (July-June), 1971 figures correspond to the production 1970-71 and so on for subsequent year. Figures of production used in this Table relate to partially revised estimates. Net production has been taken as 87.5 per cent of gross production in respect of cereals and pulses. The percentages used in respect of rice, wheat and gram are 92.4, 87.9 and 77.9 respectively, balance being provided for feed, seed requirements and wastage.
3. Figures relating to net imports have been arrived at by deducting gross exports from the gross imports.
4. Figures relating to change in stock represent a net increase or decrease in stocks at the end of calendar year. The plus sign represents an increase in stocks and the minus sign represents decrease in stocks during a particular year. The figures of stocks relate to total stocks both with State Govts. and Central Govt. Stocks held by traders and producers are not known.
5. The estimates of net availability are calculated as: Net production ÷ Net imports = Change in Govt. stocks.
6. Figures in respect of per capita availability given above are not strictly representative of the actual level of consumption in the country, especially as they do not take into account changes in stocks in possession of traders, producers and consumers.

Source: *Bulletin on Food Statistics 1978*, Directorate of Economics & Statistics, Ministry of Agriculture and Rural Reconstruction, New Delhi.
"Economic Survey—1979-80", Government of India, New Delhi.

5.00. STORAGE CAPACITY

5.01. CENTRAL AND STATE WAREHOUSES AND THEIR CAPACITY
(as on 31.12.77)

State/Union Territory	No. of Warehouses		Capacity (tonnes)	
	Central	State	Central	State
Andhra Pradesh	28	42	666	185
Assam	3	24	24	55
Bihar	8	56	77	183
Gujarat	16	66	194	315
Haryana	7	58	61	441
Karnataka	7	41	70	142
Kerala	3	65	29	133
Madhya Pradesh	9	150	125	406
Maharashtra	22	83	242	260
Orissa	7	54	49	59
Punjab	14	129	155	755
Rajasthan	9	95	74	421
Tamil Nadu	14	39	462	230
Uttar Pradesh	20	126	225	1412
West Bengal	17	34	215	121
Meghalaya	Nil	1	Nil	1
Mizoram	1	Nil	(a)	Nil
Nagaland	1	Nil	5	Nil
Union Territories	7	Nil	57	Nil
Total	187	1,063	2,739	5,119

(a) Less than 500 tonnes.

Source: Central Warehousing Corporation.

5.02. STORAGE ACCOMMODATION WITH THE FOOD CORPORATION OF INDIA

('000 tonnes)

State	Available on 31.12.76			Available on 31.12.77			C. A. P. storage capacity available with F. C. I.
	Owned	Hired	Total	Owned	Hired	Total	
Andhra Pradesh	284	593	877	367	765	1,132	1,089
Assam	133	237	370	153	206	359	—
Bihar	247	155	402	277	166	443	358
Delhi	167	28	195	166	24	190	51
Gujarat	182	389	551	196	388	584	46
Haryana	282	231	513	346	416	762	136
Himachal Pradesh	—	9	9	—	10	10	—
Jammu & Kashmir	10	30	40	14	28	42	13
Karnataka	74	115	189	89	114	203	225
Kerala	250	144	394	288	102	390	1
Madhya Pradesh	353	493	846	385	592	977	507
Maharashtra	787	126	913	807	213	1,020	924
NEF Region	10	67	77	18	72	90	—
Orissa	98	107	205	67	41	128	5
Punjab	1,045	193	1,238	1,121	438	1,557	454
Rajasthan	321	439	760	331	586	917	646
Tamil Nadu	265	309	574	320	458	778	1,135
Uttar Pradesh	795	982	1,777	797	1,129	1,926	924
West Bengal	413	852	1,265	568	799	1,367	505
Kandla	—	12	12	—	12	12	502
Total	5,696	5,511	11,207	6,330	6,557	12,887	7,521

C. A. P. = Cover and Plinth

Source: Food Corporation of India.

5.03. STATEWISE COOPERATIVE GODOWNS SANCTIONED AND COMPLETED

Sl. No.	Name of the State/Union Territory	No. of Godowns sanctioned upto 30.3.80			No. of Godowns completed upto 30.6.79		
		Rural	Mktg.	Capacity (tonnes)	Rural	Mktg.	Capacity (tonnes)
1.	Andhra Pradesh	950	517	3,08,650	727	363	1,98,990
2.	Assam	748	219	2,25,350	294	166	1,01,680
3.	Bihar	1,511	388	2,73,800	764	284	1,46,950
4.	Gujarat	1,648	393	3,21,650	1,517	373	2,78,800
5.	Himachal Pradesh	862	113	1,14,400	550	88	79,460
6.	Haryana	1,094	302	4,07,100	490	275	2,62,700
7.	Jammu & Kashmir	115	42	24,250	—	—	—
8.	Karnataka	3,603	786	6,66,770	2,351	696	4,51,600
9.	Kerala	1,375	110	1,69,690	1,062	83	1,25,200
10.	Madhya Pradesh	3,394	565	5,46,100	1,635	396	3,61,000
11.	Maharashtra	3,028	864	5,61,750	2,608	738	4,50,810
12.	Meghalaya	64	63	34,950	32	26	11,250
13.	Manipur	223	14	29,980	53	11	8,300
14.	Nagaland	10	7	5,250	10	6	3,750
15.	Orissa	1,137	356	2,46,470	535	204	1,10,500
16.	Punjab	3,404	496	11,22,140	1,715	434	7,69,460
17.	Rajasthan	2,125	172	2,44,570	775	126	1,09,020
18.	Tamil Nadu	3,512	300	5,60,260	2,942	266	4,87,080
19.	Tripura	103	16	14,750	59	15	9,650
20.	Uttar Pradesh	6,399	232	8,36,900	2,643	227	4,48,350
21.	West Bengal	1,704	376	2,61,850	629	237	1,22,150
22.	Arunachal Pradesh	—	9	4,000	—	4	2,000
23.	Lakshadweep	10	11	—	—	—	—
24.	NAFED	—	2	8,550	—	2	8,550
	Total	37,019	6,375	69,89,180	21,391	5,040	45,46,160

Source: National Cooperative Development Corporation, New Delhi.

6.00. POPULATION AND AGRICULTURAL ECONOMY
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6.01. POPULATION—STATEWISE
(Mid-year estimates as on 1st July)

('000)

State/Union Territory	1961	1966	1971	1976	1979
Andhra Pradesh	36,213	39,604	43,704	47,700	50,073
Assam (including Mizoram)	11,246	13,081	15,087	17,710	19,405
Bihar	46,767	51,556	56,646	62,569	66,215
Gujarat	20,812	23,652	26,838	29,978	31,954
Haryana	7,685	3,920	10,084	11,256	12,038
Himachal Pradesh	2,841	3,154	3,480	3,837	4,098
Jammu & Kashmir	3,581	3,983	4,650	5,317	5,740
Karnataka	23,761	26,415	29,447	32,585	34,526
Kerala	17,051	19,146	21,475	23,885	25,267
Madhya Pradesh	32,643	37,005	41,999	47,969	51,226
Maharashtra	39,880	44,886	50,670	56,010	59,124
Nagaland	375	458	521	617	679
Orissa	17,678	19,734	22,078	24,627	26,204
Punjab	11,228	12,390	13,600	14,805	15,607
Rajasthan	20,335	23,017	25,959	29,750	32,114
Sikkim	—	—	211	235	247
Tamil Nadu	33,880	36,970	41,335	44,477	46,325
Manipur	790	929	1,082	1,271	1,393
Meghalaya	759	887	1,019	1,168	1,266
Uttar Pradesh	74,162	86,956	88,736	97,221	102,671
West Bengal	35,206	39,833	44,630	50,578	54,023
Tripura	1,160	1,399	1,569	1,834	2,006
Delhi	2,700	3,327	4,112	5,102	5,780
Andaman & Nicobar Islands	65	90	117	152	175
Arunachal Pradesh	345	406	472	554	606
Chandigarh	124	190	262	378	463
Dadra & Nagar Haveli	59	67	75	82	86
Goa, Daman & Diu	630	712	865	1,012	1,107
Lakshadweep	24	27	32	34	35
Pondicherry	372	415	475	536	572
All India	442,372	493,209	551,230	613,273	650,982

Notes: 1. The above estimates are provisional. Provisional population and totals are adjusted to conform to 1971 census final population totals.

2. The population estimates for the States of Haryana, Punjab, Himachal Pradesh and Union Territory of Chandigarh relate to their areas after reorganisation in 1966.

3. Mid-year estimates for 1979 are based on the growth rate between 1st March 1978 and 1st March 1979.

Source: Registrar General of India.

6.02. AREA, POPULATION AND DENSITY—1971 CENSUS

State/Union Territory	Area ('000 sq. km.)*	Population ('000)	Density of population (per sq. km.)
Andhra Pradesh	277	43,720	158
Assam (including Mizoram)	100	15,072	151
Bihar	174	56,611	325
Gujarat	196	26,866	137
Haryana	44	10,090	229
Himachal Pradesh	56	3,467	62
Jammu & Kashmir	222**	4,639	NA
Karnataka	192	29,444	153
Kerala	39	21,473	551
Madhya Pradesh	443	41,915	95
Maharashtra	308	50,688	165
Manipur	22	1,078	49
Meghalaya	22	1,017	46
Nagaland	17	518	30
Orissa	156	22,059	141
Punjab	50	13,616	272
Rajasthan	342	25,916	76
Tamil Nadu	130	41,491	318
Tripura	10	1,564	156
Uttar Pradesh	294	88,713	302
West Bengal	88	44,557	508
Andaman & Nicobar Islands	8†	115	14
Arunachal Pradesh	84	470	6
Chandigarh	0.1	257	2,257
Dadra & Nagar Haveli	0.5	74	151
Delhi	1.5	4,113	2,742
Goa, Daman & Diu	4	862	2,155
Lakshadweep	0.03	32	1,067
Pondicherry	0.5	474	948
All India	3,280	550,822	178‡

NA=Not available.

* Provisional as on July 1, 1971.

** Includes areas under illegal occupation of Pakistan and China.

† As on January 1, 1966.

‡ Density worked out after excluding population and area figures of Jammu & Kashmir.

6.03. RURAL AND URBAN POPULATION—STATEWISE
(as per 1961 and 1971 Census)

State/Union Territory	1961* ('000)				1971** ('000)			
	Rural population	Urban population	Total population	Percentage of rural to total population	Rural population	Urban population	Total population	Percentage of rural to total population
Andhra Pradesh	29,709	6,274	35,983	82.56	35,100	8,403	43,503	80.69
Assam (including Mizoram)	10,308	795	11,103	92.84	13,631	1,327	14,958	91.13
Bihar	42,534	3,914	46,448	91.57	50,719	5,634	56,353	90.00
Gujarat	15,317	5,316	20,633	74.23	19,201	7,496	26,697	71.92
Haryana	6,283	1,308	7,591	82.77	8,264	1,773	10,037	82.34
Himachal Pradesh	2,634	178	2,812	93.66	3,218	242	3,460	92.01
Jammu & Kashmir	2,968	593	3,561	83.33	3,759	858	4,617	81.41
Karnataka	18,320	5,267	23,587	77.67	22,177	7,122	29,299	75.69
Kerala	14,350	2,554	16,904	84.89	17,881	3,466	21,347	83.76
Madhya Pradesh	27,745	4,627	32,372	85.71	34,869	6,785	41,654	83.71
Maharashtra	28,391	11,163	39,554	61.78	34,701	15,711	50,412	68.83
Manipur	712	68	780	91.32	931	142	1,073	86.81
Meghalaya	652	117	769	84.73	865	147	1,072	85.45
Nagaland	350	19	369	94.81	465	51	516	90.05
Orissa	16,439	1,110	17,549	93.68	20,099	1,846	21,945	91.59
Punjab	8,568	2,567	11,135	76.94	10,335	3,216	13,551	76.27
Rajasthan	16,874	3,282	20,156	83.72	21,222	4,554	25,766	82.37
Sikkim	155	7	162	95.78	190	20	200	90.63
Tamil Nadu	24,696	8,991	33,687	73.31	28,734	12,485	41,199	69.74
Tripura	1,039	103	1,142	90.98	1,394	162	1,556	89.57
Uttar Pradesh	64,275	9,480	73,755	87.15	75,953	12,388	88,341	85.98
West Bengal	26,385	8,541	34,926	75.55	33,445	10,967	44,312	75.25
Andaman & Nicobar Islands	50	14	64	77.85	89	28	115	77.23
Arunachal Pradesh	337	—	337	100.00	450	18	468	96.30
Chandigarh	21	99	120	17.20	24	233	257	9.45
Dadra & Nagar Haveli	58	—	58	100.00	74	Nil	74	100.00
Delhi	299	2,360	2,659	11.25	419	3,647	4,066	10.30
Goa, Daman & Diu	526	101	627	83.94	631	227	858	73.56
Lakshadweep	24	—	24	100.00	32	—	32	100.00
Pondicherry	280	69	369	75.89	274	199	471	57.96
All India	360,298	78,937	439,235	82.03	439,046	109,114	548,160	80.09

* Figures relate to 1st March.

** Figures relate to 1st April.

Source: Census of India 1971, Part II-A (i)—General Population Tables.

6.04. WORKERS IN AGRICULTURE ACCORDING TO 1971 CENSUS

('000)

State/Union Territory	As cultivators	As agricultural labours	Total
South			
Andhra Pradesh	5,795	6,829	12,624
Karnataka	4,073	2,717	6,790
Kerala	1,107	1,908	3,014
Tamil Nadu	4,608	4,490	9,098
West			
Gujarat	3,920	1,888	5,508
Madhya Pradesh	8,085	4,062	12,147
Maharashtra	6,537	5,393	11,930
North			
Haryana	1,303	430	1,773
Himachal Pradesh	903	54	957
Jammu & Kashmir	890	42	932
Punjab	1,665	787	2,452
Rajasthan	5,225	749	5,974
Uttar Pradesh	15,698	5,454	21,152
East			
Assam	2,410	406	2,816
Bihar	7,580	6,806	14,388
Orissa	3,368	1,938	5,306
West Bengal	3,955	3,272	7,227
Manipur	249	13	262
Meghalaya	309	44	353
Nagaland	203	4	207
Sikkim	90	5	95
Tripura	235	86	321
Union Territories	359	117	476
All India	78,267	47,494	125,761

Source: *Indian Agriculture in Brief*, 16th edition, Directorate of Economics & Statistics, Ministry of Agriculture & Rural Reconstruction, New Delhi.

6.05. PERCENTAGE DISTRIBUTION OF WORKERS BY INDUSTRIAL CATEGORIES

Industrial categories	Census year						
	1901	1911	1921	1931	1951	1961	1971†
Agricultural & Allied Activities	71.7	74.9	76.0	74.8	72.1	71.8	72.1
I. Cultivators	50.6	49.8	54.4	45.1	50.0	52.8	43.4
II. Agricultural labourers	16.0	20.6	17.4	24.8	19.7	16.7	25.3
III. Livestock, forestry, fishing, hunting, plantations, orchards, etc.	4.2	4.5	4.2	4.9	2.3	2.3	2.4
Non-Agricultural	28.3	25.1	24.0	25.2	27.9	28.2	29.7
IV. Mining & quarrying	0.1	0.2	0.3	0.3	0.6	0.5	0.5
V. Manufacturing	11.7	9.9	9.3	8.9	9.0	10.6	9.5
(a) Household industry*	**	**	**	**	**	6.4	3.5
(b) Other than household industry	11.7	9.9	9.3	8.9	9.0	4.2	6.0
VI. Construction	0.8	1.0	0.9	1.0	1.1	1.1	1.2
VII. Trade and commerce	6.1	5.5	5.7	5.6	5.2	4.0	5.6
VIII. Transport, storage and communication	1.1	1.1	0.9	1.0	1.5	1.6	2.4
IX. Other services	8.5	7.4	6.9	6.4	10.5	10.4	8.7
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Total Number of Workers						(165,538)	(180,373)

†Due to exclusion of work performed as secondary activity from the criterion of economic activity at the 1971 census, the figures are not strictly comparable with earlier censuses.

*Includes persons engaged in household activities under categories III & IV also.

**Included under categories II, IV and V (b).

Source: *India Pocket Book of Economic Information, 1972.*

**8.06. DISTRIBUTION OF VILLAGES ACCORDING TO POPULATION
(1971 Census)**

State/Union Territory	Total No. of inhabited villages	No. of villages with population						
		Less than 200	Between 200-499	Between 500-999	Between 1000-1999	Between 2000-4999	Between 5000-9999	10,000 and above
Andhra Pradesh	27,221	5,352	4,383	5,438	6,411	4,833	724	80
Assam (incl. Mizoram)	22,224	5,615	6,744	5,986	3,061	788	29	1
Bihar	67,566	17,440	20,483	15,232	9,313	4,337	675	86
Gujarat	18,275	2,054	4,351	5,242	4,395	1,968	248	17
Haryana	6,731	618	1,400	1,909	1,673	975	148	8
Himachal Pradesh (a)	16,916	12,020	3,723	861	260	50	2	—
Jammu & Kashmir	6,503	1,748	2,200	1,556	764	228	9	—
Karnataka	26,826	4,939	7,974	7,082	4,556	2,014	252	9
Kerala (b)	1,268	2	2	2	16	122	816	808
Madhya Pradesh	70,883	19,754	27,276	16,516	5,952	1,292	87	6
Maharashtra	35,778	5,058	9,088	10,529	7,439	3,102	492	75
Manipur (d)	1,949	974	476	237	172	79	8	—
Meghalaya	4,583	3,192	1,093	237	54	7	—	—
Nagaland	960	334	325	169	114	17	1	—
Orissa	46,992	18,548	15,223	8,821	3,546	830	22	2
Punjab	12,188	1,887	3,311	3,577	2,392	940	79	2
Rajasthan	33,305	8,771	11,010	7,817	4,008	1,524	165	10
Sikkim	215	—	31	119	63	7	—	—
Tamil Nadu	15,735	988	1,981	3,425	4,547	3,902	752	140
Tripura	4,727	2,995	969	473	222	65	3	—
Uttar Pradesh	112,561	27,356	34,856	28,295	16,081	5,400	515	58
West Bengal	38,074	7,604	10,957	9,085	6,622	3,342	412	52
Union Territories (c)	4,456	2,828	705	387	312	185	35	4
All India	575,936(d)	150,072	168,561	132,998	81,973	36,005	4,974	1,358

(a) There are 30 villages in Himachal Pradesh which are uninhabited (there being no residential houses located in these villages but having houseless population).

(b) Includes the population of unsurveyed forest area also.

(c) Excludes Union Territory of Mizoram which was a district of Assam on 1-4-71.

(d) Includes three villages of Manipur, the details of which are not available.

Source: Census of India 1971 (Provisional).

6.07. NUMBER OF DISTRICTS, TOWNS, VILLAGES AND COMMUNITY DEVELOPMENT BLOCKS

State/Union Territory	Districts (a)	Towns (b)	Villages (c)	C.D. Blocks (d)
Andhra Pradesh	21	224	29,428	324
Assam*	13	74	23,331	130
Bihar	31	202	78,027	587
Gujarat	19	216	18,697	218
Haryana	11	65	7,064	87
Himachal Pradesh	12	36	18,929	69
Jammu & Kashmir	10	45	6,742	73
Karnataka	19	245	29,533	175
Kerala	11	88	1,268	144
Madhya Pradesh	45	250	76,847	457
Maharashtra	26	269	38,661	343
Manipur	6	8	1,993	14
Meghalaya	3	6	4,982	24
Nagaland	3	3	966	21
Orissa	13	81	51,639	314
Punjab	12	108	12,888	117
Rajasthan	26	157	35,795	232
Sikkim	4	7	215	—
Tamil Nadu	15	439	16,660	374
Tripura	3	6	5,215	17
Uttar Pradesh	55	325	124,592	875
West Bengal	16	223	41,392	335
Union Territories**	19	29	4,500	96
All India	393	3,126	629,364	5,028

* includes Mizo district now constituted as U. T. of Mizoram.

**Excludes U. T. of Mizoram.

Sources : (a) *Census of India—Paper I of 1972—Final Population.*

(b) *Census of India—1971—Table A-1.*

(c) Includes 53,428 uninhabited villages. The data are based on *Census of India, 1971.*

(d) Data supplied by Deptt. of Rural Development as on 2-4-1975.

6.08 (a). TOTAL NUMBER AND AREA OF OPERATIONAL HOLDINGS—SIZEWISE

Size class (ha.)	Number (‘000)	Percentage	Area (‘000 ha)	Percentage
Below				
0.5	23,178	32.9	5,446	3.5
0.5—1.0	12,504	17.7	9,099	5.6
1.0—2.0	13,432	19.1	19,282	11.9
2.0—3.0	6,722	9.5	16,263	10.0
3.0—4.0	3,959	5.6	13,646	8.4
4.0—5.0	2,684	3.8	11,929	7.4
5.0—10.0	5,248	7.4	36,305	22.4
10.0—20.0	2,135	3.0	28,521	17.6
20.0—30.0	401	0.6	9,344	5.8
30.0—40.0	120	0.2	4,179	2.6
40.0—50.0	45	0.1	2,050	1.3
50.0 & above	65	0.1	5,071	3.7
Total	70,493	100.0	162,124	100.0

Source: *Indian Agriculture in Brief—16th edition*, Directorate of Economics & Statistics, Ministry of Agriculture & Rural Reconstruction, New Delhi.

**6.08(b). NUMBER AND AREA OF OPERATIONAL HOLDINGS—STATEWISE
1970-71**

State/Union Territory	Number ('000)	Percentage	Area ('000 ha.)	Percentage	Average size of holding (hectares)
Uttar Pradesh	15,639	22.2	18,158	11.2	1.16
Bihar	7,577	10.7	11,480	7.0	1.52
Andhra Pradesh	5,420	7.7	13,586	8.4	2.51
Tamil Nadu	5,314	7.5	7,709	4.8	1.45
Madhya Pradesh	5,299	7.5	21,194	13.1	4.00
Maharashtra	4,951	7.0	21,179	13.1	4.28
West Bengal	4,216	6.0	5,062	3.1	1.20
Rajasthan	3,727	5.3	20,341	12.5	5.46
Karnataka	3,551	5.0	11,368	7.0	3.20
Orissa	3,407	4.8	6,449	4.0	1.89
Gujarat	2,433	3.4	10,000	6.2	4.11
Kerala	2,365	3.3	1,593	1.0	0.70
Assam	1,964	2.8	2,883	1.8	1.47
Punjab	1,375	2.0	3,974	2.4	2.89
Haryana	913	1.3	3,447	2.1	3.70
Jammu & Kashmir	979	1.4	916	0.6	0.94
Himachal Pradesh	809	0.9	931	0.6	1.53
Remaining States & Union Territories	814	1.2	1,854	1.1	2.28
All India	70,493	100.0	162,124	100.0	2.30

Source: *Indian Agriculture in Brief*—16th edition, Directorate of Economics & Statistics, Ministry of Agriculture & Rural Reconstruction, New Delhi.

**6.08(c). SIZE DISTRIBUTION OF HOLDINGS ACCORDING TO IRRIGATION—SIZEWISE
1970-71**

Size-group	Wholly Irrigated		Partly Irrigated		Wholly Unirrigated		Total	
	Number ('000)	Area ('000 ha.)	Number ('000)	Area ('000 ha.)	Number ('000)	Area ('000 ha.)	Number ('000)	Area ('000 ha.)
Less than 1.0	8,770	3,052	5,807	2,629	20,305	7,327	35,382	13,008
1.0—2.0	1,019	2,453	3,719	4,805	7,731	9,743	10,869	17,001
2.0—4.0	1,117	2,786	3,472	8,751	6,057	14,729	10,646	26,246
Sub-Total (1.0—4.0)	3,036	5,219	7,191	13,556	13,788	24,472	24,015	43,247
4.0—10.0	538	2,733	2,900	15,327	4,484	22,865	7,922	40,925
10.0 and above	91	1,141	1,052	14,755	1,620	22,742	2,763	38,638
All Groups	12,435	12,145	16,950	46,267	40,687	77,406	70,082	135,818

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Note: Due to exclusion of purely current fallow holdings total number of holdings in this Table does not tally with the figures given in Table 6.08(a).

Source: *Indian Agriculture in Brief*—15th edition, Directorate of Economics & Statistics, Ministry of Agriculture & Rural Reconstruction, New Delhi.

6.09. IRRIGATION PUMPSETS/TUBEWELLS ENERGISED (13-4-1977)

State/Union Territory	Number of energised ending March					
	1951	1956	1961	1966	1975	1976
Andhra Pradesh	N.A.	N.A.	17,968	57,225	284,614	294,017
Assam	Nil	Nil	Nil	Nil	867	1,012
Bihar	47	697	3,200	10,660	104,034	118,055
Gujarat	910	2,825	6,963	77,155	113,723	121,654
Haryana	N.A.	743	3,526	15,220	134,953	141,885
Himachal Pradesh	Nil	2	20	88	1,202	1,320
Jammu & Kashmir	N.A.	10	85	194	640	744
Karnataka	2,460	8,003	16,888	42,371	208,009	244,910
Kerala	N.A.	N.A.	2,666	6,857	41,549	47,525
Madhya Pradesh	Nil	30	1,822	7,314	133,295	146,739
Maharashtra	142	2,166	7,219	44,976	380,844	412,068
Manipur	Nil	Nil	Nil	Nil	Nil	Nil
Meghalaya	Nil	Nil	Nil	Nil	Nil	5
Nagaland	Nil	Nil	Nil	Nil	1	1
Orissa	N.A.	N.A.	N.A.	N.A.	3,515	4,524
Punjab	N.A.	3,100	8,524	25,321	138,974	146,475
Rajasthan	30	47	1,038	6,861	86,793	93,826
Sikkim	Nil	Nil	Nil	Nil	Nil	Nil
Tamil Nadu	14,373	32,440	117,695	256,594	708,339	742,746
Tripura	Nil	Nil	Nil	Nil	40	99
Uttar Pradesh	3,046	5,713	9,881	17,402	249,480	280,738
West Bengal	N.A.	N.A.	56	437	7,694	10,701
Union Territories	Nil	Nil	1,353	4,069	15,064	16,629
All India	21,088	56,058	198,904	512,756	26,13,630	27,85,873

N.A.=Not available.

Source: *Indian Agriculture in Brief*—18th edition, Directorate of Economics & Statistics, Ministry of Agriculture & Rural Reconstruction, New Delhi.

6.10. NUMBER OF PUMPSETS ENERGISED AND VILLAGE ELECTRIFIED
(As on 30-6-80)

State/Union Territory	Total No. of villages	Villages electrified	% villages electrified	% rural population covered by electricity	Pumpsets energised
1. Andhra Pradesh	27,221	16,812 ^a	61.8	86.5	393,867 ^a
2. Assam	21,995	4,415	20.1	30.8	1,809 ^b
3. Bihar	67,566	20,628	30.5	44.3	152,206 ^b
4. Gujarat	18,275	11,168	61.1	77.8	207,656
5. Haryana	6,731	6,731	100.0	100.0	207,537
6. Himachal Pradesh	16,916	9,153	54.3	68.3	1,676
7. Jammu & Kashmir	6,503	4,552 ^a	70.0	68.7	986 ^a
8. Karnataka	26,826	16,325	60.9	76.3	293,170
9. Kerala	1,268	1,268	100.0	100.0	80,048
10. Madhya Pradesh	70,883	22,733	32.1	51.1	284,287
11. Maharashtra	35,778	25,808	72.1	86.0	609,958
12. Manipur	1,949	322 ^a	16.5	54.4	10
13. Meghalaya	4,583	596	13.0	29.1	47
14. Nagaland	960	334	34.8	52.5	Nil
15. Orissa	46,992	17,420	37.1	59.4	13,696
16. Punjab	12,188	12,126 ^{**}	100.0	100.0	269,262
17. Rajasthan	33,305	13,933 ^a	41.8	52.0	185,677 ^a
18. Sikkim	215	53 ^a	24.7	16.8	Nil
19. Tamil Nadu	15,735	15,570	98.9	99.8	897,385
20. Tripura	4,727	780	16.5	49.6	255
21. Uttar Pradesh	112,561	39,325	34.9	44.9	365,885
22. West Bengal	38,074	13,219	34.7	52.7	24,334
Total (States)	571,251	253,311	44.3	65.1	39,89,739

(Continued)

6.10. NUMBER OF PUMPSETS ENERGISED AND VILLAGE ELECTRIFIED (Concluded)
(As on 30-6-80)

State/Union Territory	Total No. of villages	Villages electrified	% villages electrified	% rural population covered by electricity	Pumpsets energised
1. Andaman & Nicobar Islands	390	96	24.6	61.7	1
2. Arunachal Pradesh	2,973	263 ^a	8.8	24.4	Nil
3. Chandigarh	26	26	100.0	100.0	506
4. Dadra & Nagar Haveli	72	52	72.2	82.4	228
5. Delhi	243	243	100.0	100.0	11,406
6. Goa, Daman & Diu	409	355	86.8	99.0	1,796
7. Lakshadweep	10	9	90.0	99.7	Nil
8. Mizoram	229	27	11.8	22.7	Nil
9. Pondicherry	333	333	100.0	100.0	7,745
Total (Union Territories)	4,685	1,404	33.0	72.8	21,682
Total (All India)	5,75,936	2,54,715	44.2	65.1	40,11,412

* Figure provisional.

** 62 villages have been declared uninhabited.

^a As on 30-9-1977.

^b As on 31-12-1979.

^c As on 31-3-1980.

^d As on 31-5-1980.

Source: RE Directorate of the Central Electricity Authority.

6.11(a). NET DOMESTIC PRODUCT AT FACTOR COST BY INDUSTRY OF ORIGIN
(At 1970-71 prices)

(Rs. crore)

Industry	1970-71	1971-72	1972-73	1973-74	1974-75	1975-76	1976-77	1977-78
1. Agriculture	16,354	16,209	15,118	16,298	15,917	17,989	16,902	18,867
2. Forest & Logging	397	414	411	399	486	501	549	556
3. Fishing	229	244	251	258	277	293	293	290
4. Mining & Quarrying	327	332	349	362	386	434	438	440
Sub-total: primary	17,307	17,199	16,129	17,317	17,016	19,197	18,182	20,153
5. Manufacturing	4,619	4,750	4,954	5,252	5,470	5,579	6,101	6,480
5.1 registered	2,874	2,923	3,049	3,277	3,392	3,396	3,795	4,013
5.2 unregistered	1,745	1,827	1,905	1,975	2,078	2,183	2,306	2,467
6. Construction	1,853	1,874	1,903	1,746	1,719	2,013	2,269	2,417
7. Electricity gas & water supply	318	337	355	364	393	450	514	528
Sub-total: Secondary	6,790	6,961	7,212	7,362	7,582	8,042	8,878	9,425
8. Transport, storage and communication	1,574	1,650	1,729	1,760	1,876	2,061	2,161	2,269
8.1 railways	522	559	557	502	562	638	699	743
8.2 transport by other means & storage	834	859	931	999	1,042	1,122	1,148	1,190
8.3 communication	218	232	241	259	272	291	319	336
9. Trade, hotels & restaurants	3,880	3,956	3,971	4,139	4,259	4,655	4,658	6,209
Sub-total: transport, communication and trade	5,454	5,606	5,700	5,899	6,135	6,706	7,019	7,478
10. Banking & insurance	644	713	761	765	695	826	994	1,114
11. Real estate, ownership of dwellings & business services	1,039	1,069	1,095	1,128	1,161	1,195	1,237	1,282
Sub-total: finance & real estate	1,683	1,782	1,856	1,893	1,856	2,021	2,231	2,396
12. Public administration & defence	1,635	1,785	1,863	1,980	2,087	2,238	2,375	2,521
13. Other services	1,650	1,695	1,742	1,752	1,857	1,898	1,934	1,990
Sub-total: community & personnel services	3,285	3,480	3,605	3,732	3,944	4,136	4,369	4,511
14. Total: net domestic product at factor cost	34,519	35,028	34,502	36,203	36,533	40,102	40,619	43,963

Source: National Accounts Statistics 1970-71-1977-78, C.S.O., Department of Statistics, Ministry of Planning, Govt. of India.

6.11(b). NET DOMESTIC PRODUCT AT FACTOR COST BY INDUSTRY ORIGIN
(At current prices)

(Rs. crore)

Industry	1970-71	1971-72	1972-73	1973-74	1974-75	1975-76	1976-77	1977-78
1. Agriculture	16,354	16,913	18,644	25,284	27,273	26,868	26,692	30,359
2. Forest & Logging	397	436	456	511	620	722	830	935
3. Fishing	229	246	285	367	422	526	599	623
4. Mining & quarrying	327	340	365	417	621	806	885	928
Sub-total: primary	17,307	17,935	19,750	26,579	28,936	27,922	29,006	32,845
5. Manufacturing	4,619	5,089	5,651	6,791	8,986	9,422	10,509	11,696
5.1 registered	2,874	3,124	3,465	4,226	5,636	5,838	6,623	7,256
5.2 unregistered	1,745	1,965	2,186	2,565	3,350	3,591	3,886	4,440
6. Construction	1,853	2,034	2,199	2,283	2,553	3,259	3,898	4,314
7. Electricity, gas & water supply	318	341	370	396	525	857	867	926
Sub-total: Secondary	6,790	7,464	8,220	9,470	12,064	13,338	15,274	16,936
8. Transport, storage & communication	1,574	1,725	1,877	2,084	2,549	2,852	3,364	3,535
8.1 railways	522	574	561	481	647	795	1,007	1,042
8.2 transport by other means & storage	834	908	1,066	1,318	1,576	1,884	1,854	1,942
8.3 communication	218	243	250	285	326	373	503	551
9. Trade, Hotels & Restaurants	3,880	4,218	4,669	5,787	7,503	8,213	8,814	9,980
Sub-total: transport, communication and trade	5,434	5,943	6,546	7,871	10,052	11,065	12,178	13,515
10. Banking & insurance	614	756	870	1,082	1,352	1,760	2,072	2,249
11. Real estate, ownership of dwellings & business services	1,039	1,125	1,227	1,315	1,398	1,513	1,744	2,144
Sub-total: finance & real estate	1,683	1,881	2,097	2,397	2,750	3,273	3,816	4,393
12. Public administration & defence	1,635	1,881	1,976	2,221	2,858	3,237	3,255	3,686
13. Other services	1,650	1,810	1,983	2,211	2,714	3,064	3,391	3,683
Sub-total: community & personnel services	3,285	3,641	3,959	4,432	5,572	6,301	6,846	7,369
14. Total: net domestic product at factor cost	34,519	36,864	40,572	50,749	59,374	61,899	67,120	75,058

Source: National Accounts Statistics 1970-71-1977-78, C.S.O. Department of Statistic, Ministry of Planning, Govt. of India, New Delhi.

**6.12. ESTIMATES OF NET NATIONAL PRODUCT BY INDUSTRY OF ORIGIN
PERCENTAGE DISTRIBUTION (at 1970-71 prices)**

Industry Group	1972-73	1973-74	1974-75	1975-76	1976-77	1977-78	1978-79
1. Agriculture, Forestry and Logging, fishing, mining and quarrying	47.2	48.1	46.7	48.0	44.9	46.0	44.9
2. Manufacturing, construction, electricity, gas and water supply	21.1	20.5	20.8	20.1	21.9	21.5	22.0
3. Transport, Communication and Trade	16.7	16.4	16.9	16.8	17.3	17.0	17.2
4. Banking and insurance, real estate and ownership of dwelling and business services	5.4	5.3	5.1	5.0	5.5	5.4	5.7
5. Public administration and defence & other services	10.5	10.4	10.8	10.3	10.6	10.3	10.4
6. Net domestic product at factor cost	100.9	100.7	100.3	100.2	100.2	100.2	100.2
7. Net factor income from abroad	-0.9	-0.7	-0.3	-0.2	-0.2	-0.2	-0.2
8. Net National Product at factor cost	100.0	100.0	100.0	100.0	100.0	100.0	100.0

*Quick estimates.

Source: Economic Survey—1979-80, Govt. of India.

7.00. PRICES

7.01. PROCUREMENT PRICES OF FOODGRAINS

(Rupees per quintal)

State/Crop	Variety	Procurement price						1977-78 to 1980-81@
		1971-72	1972-78	1973-74	1974-75	1975-76	1976-77	

I. PADDY

Andhra Pradesh	Akkullu	51.10	53.00	67.00	77.00	77.00	77.00
Assam (including Meghalaya)	Winter sail	56.25	56.25	70.00	74.00	74.00	76.00
Bihar	Coarse & medium	56.25	56.25	70.00	74.00	74.00	74.00
Gujarat	Coarse	53.00	56.00	70.00	74.00	74.00	74.00
Haryana	Begmi	53.00(n)	53.00	70.00	76.00	76.00	76.00
Jammu & Kashmir	Coarse	47.00	49.00	—	—	—	—
Kerala	Paighatmatla	56.25	56.25	—	—	—	—
Tamil Nadu	Kattaisamba	49.00	51.00	70.00	78.00	78.00	74.00
Karnataka	Coarse	50.00	52.00	70.00	74.00	74.00	74.00
Maharashtra	Coarse	58.00	58.00	70.00	74.00	74.00	74.00
Madhya Pradesh	Gurmatla	56.00	56.00	70.00	74.00	74.00	74.00
Orissa	Common	48.00	55.00 ⁺	—	74.00	74.00	74.00
Punjab	Begmi	53.00(n)	53.00(n)	70.00	76.00	76.00	76.00
Uttar Pradesh	Grade III	54.00	56.00	67.00	74.00	74.00	74.00
West Bengal	Common	56.00*	56.00*	70.00	74.00	74.00	74.00
All India	Standard	47.00 to 58.00	49.00 58.00	70.00	74.00*	74.00*	74.00*

(Rupees per quintal)

1977-78* @	1978-79* @	1979-80* @	1980-81* @
77.00	85.00	95.00	105.00

*Coarse varieties (n) = National + = Relates to medium variety @ All India

(Continued)

7.01. PROCUREMENT PRICES OF FOODGRAINS (Concluded)

(Rs. per quintal)

State/Crop	Variety	Procurement price									
		1970-71 and 1971-72	1972-73	1973-74	1974-75	1975-76	1976-77	1977-78	1978-79	1979-80	1980-81
II. JOWAR		55.00**	58.00	70.00	74.00	74.00	74.00	74.00	85.00	95.00	105.00
III. BAJRA		55.00**	60.00	72.00	74.00	74.00	74.00	74.00	85.00	95.00	105.00
IV. MAIZE		55.00**	58.00	70.00	74.00	74.00	74.00	74.00	85.00	95.00	105.00
V. RAGI		55.00**	57.00	70.00	74.00	74.00	74.00	74.00	85.00	95.00	105.00
VI. WHEAT											
Bihar	Red	71.00	71.00	71.00	}						
	Mexican/Common White	76.00	76.00	76.00							
	Superior	76.00	76.00	82.00							
Punjab & Haryana	Superior White	76.00	76.00	82.00	}						
	Red	74.00	74.00	74.00							
	Mexican/Common White	76.76	76.00	76.00							
U.P.	Red	74.00	74.00	74.00	}	105.00	105.00	105.00	110.00	112.00	115.00
	Mexican/Common White	76.00	76.00	76.00							
	Superior	76.00	76.00	82.00							
M.P.	Grade I, II, III & IV	—	—	—	}	(All varieties)	(All varieties)	(All varieties)	(All varieties)	(All varieties)	
	Red	74.00	74.00	74.00							
	Mexican/Common White	76.00	76.00	76.00							
Rajasthan	Superior	76.00	76.00	82.00	}						
	Red	74.00	74.00	74.00							
	Mexican/Common White	76.00	76.00	76.00							
	Superior	76.00	76.00	82.00	}						
All India		76.00	76.00	76.00							
				82.00							

**Uniform procurement price of Rs. 55.00 per quintal has been fixed for all States for Central Pool purchase. For internal purchases the State Govts. may fix the procurement prices upto Rs. 57.00.

Source: Indian Agriculture in Brief, 17th edition, Directorate of Economics & Statistics, Ministry of Agriculture & Rural Reconstruction, New Delhi.

8.01. MULTIPURPOSE COOPERATIVES AND PRIMARY AGRICULTURAL CREDIT SOCIETIES

(As on June 1976)

Zone/State	No. of societies	Membership ('000)	Loan advanced (Rs. '000)	No. of societies undertaking distribution of inputs	Distribution operation					
					Value of goods distributed (Rs. '000)					
					Seeds	Fertilisers	Pesticides	Agricultural implements	Others	Total
Central										
Madhya Pradesh	7,119	2,852	656,367	3,178	6,430	218,508	7,663	227	4,524	273,252
Rajasthan	5,149	2,381	614,150	2,822	10,991	133,917	982	61	17,472	163,403
Uttar Pradesh	8,701	7,631	1579,706	4,550	8,257	850,749	181	1,873	27,379	888,399
Delhi	276	26	2,976	—	—	—	—	—	—	—
East										
Assam	3,239	2,194	14,343	256	3,237	449	63	—	5	3,754
Bihar	165,00	2,740	193,289	222	1,191	8,326	902	7	243	10,669
Orissa	3,151	2,192	304,363	2,379	2,163	75,635	1,749	72	4,027	84,240
West Bengal	7,918	1,983	516,115	2,096	1,634	52,863	496	40	1,009	58,051
Manipur	708	140	3,614	35	—	421	33	—	—	454
Meghalaya@	329	52	6,826	—	—	30	—	—	66	96
Nagaland	191	13	3,279	1	—	—	—	—	214	214
Tripura	358	93	3,660	—	13	—	—	—	1	14
Andaman & Nicobar Islands	45	4	1,039	—	—	—	—	—	—	—

North

Haryana	2,430	984	766,509	988	39	972,922	--	--	--	272,967
Himachal Pradesh	2,349	552	60,935	1,703	345	22,403	61	--	--	22,809
Jammu & Kashmir	1,415	381	32,348	1,128	1,332	32,058	--	--	224	33,614
Punjab	9,800	1,594	871,598	6,221	275	450,815	--	9	27,618	568,417
Chandigarh	32	4	852	--	--	--	--	--	--	--

South

Andhra Pradesh	6,111	4,670	942,642	355	1,120	44,243	1,865	609	8,871	56,708
Karnataka	5,184	3,127	763,139	3,769	8,143	266,627	12,427	2,323	27,977	317,497
Kerala	1,630	2,676	839,415	1,315	743	180,470	20,797	1,073	99,636	302,719
Tamil Nadu	4,802	4,758	1,493,545	4,424	2,539	498,981	21,913	476	1,525	523,434
Pondicherry	62	29	13,657	62	--	6,669	13	3	4,220	10,925
Laccadives	7	3	1,214	--	--	--	--	--	--	--

West

Gujarat	7,896	1,806	1387,562	4,206	66,732	643,902	85,236	5,171	65,049	866,090
Maharashtra	18,572	4,904	1625,921	4,108	21,622	400,291	12,732	7,101	18,029	459,775
Goa, Daman & Diu	140	66	4,538	66	4	1,985	4	--	12	2,005
Dadar & Nagar Haveli	11	5	674	1	5	--	--	--	--	5
Total 1976-77	123,356	44,832	12105,432	51,917	117,668	3352,425	88,006	10,872	333,852	4881,617
1977-78	116125	47,800	12704,549	43,605	136,815	4249,990	167,097	19,054	308,661	3902,823

Date in respect of Mizoram is not available.

Source: Statistical statements relating to the Cooperative Movement in India 1977-78, Part-I Credit Societies, Reserve Bank of India.

**8.02. SHORT-TERM LOANS ADVANCED BY PRIMARY AGRICULTURAL
CREDIT SOCIETIES**

(Rs. crore)

State/Union Territory	1976-77		1977-78		1978-79 Target
	Target	Anticipated achievement	Target	Anticipated achievement	
Andhra Pradesh	80.00	88.68	110.00	85.00	130.00
Assam	5.00	1.11	5.00	1.50	3.50
Bihar	27.00	31.00	55.00	25.00	65.00
Gujarat	130.00	140.50	134.00	134.00	138.00
Haryana	49.00	66.04	60.00	75.00	80.00
Himachal Pradesh	4.00	2.52	4.00	3.00	4.00
J & K	3.00	1.65	5.00	3.00	5.00
Karnataka	90.00	73.69	125.00	92.00	130.00
Kerala	60.00	50.47	55.00	55.00	65.00
Madhya Pradesh	100.00	68.69	75.00	73.00	80.00
Maharashtra	185.00	175.00	210.00	210.00	225.00
Manipur	0.50	0.42	0.65	0.47	0.90
Meghalaya	1.50	0.80	2.00	0.75	1.75
Nagaland	1.00	0.85	1.15	0.75	1.25
Orissa	25.00	17.60	32.00	20.00	25.00
Punjab	89.00	80.00	119.00	80.00	110.00
Rajasthan	56.00	67.10	85.00	75.00	95.00
Sikkim	0.05	0.07	0.40	0.18	0.33
Tamil Nadu	110.00	130.00	120.00	130.00	140.00
Tripura	1.60	0.29	1.25	1.00	1.10
Uttar Pradesh	97.00	133.00	150.00	200.00	275.00
West Bengal	47.00	51.05	80.00	75.00	100.00
Total	1,161.65	1,179.57	1,429.45	1,339.65	1,675.83

Source: Annual Plan 1976-77.

**8.03. MEDIUM-TERM LOANS ADVANCED BY THE PRIMARY AGRICULTURAL
CREDIT SOCIETIES**

(Rs. crore)

State/Union Territory	1976-77		1977-78		1978-79 Target
	Target	Ant. Ach.	Target	Ant. Ach.	
Andhra Pradesh	4.00	4.09	5.00	6.00	10.00
Assam	0.50	0.30	0.50	0.50	1.00
Bihar	5.00	4.50	6.00	4.00	10.00
Gujarat	10.00	63.27	10.00	11.00	12.00
Haryana	3.00	5.98	6.00	5.00	7.00
Himachal Pradesh	3.25	3.32	3.50	3.50	4.00
J & K	0.20	0.80	0.25	0.19	0.25
Karnataka	5.00	4.85	8.00	8.00	N.A.
Kerala	6.50	11.45	10.00	12.00	13.25
Madhya Pradesh	12.00	4.00	8.00	8.00	8.00
Maharashtra	3.00	5.67	3.00	5.00	5.00
Manipur	0.20	—	0.05	0.20	0.30
Meghalaya	0.25	—	0.50	0.35	0.40
Nagaland	0.50	—	0.15	0.02	1.00
Orissa	7.00	6.20	9.00	8.00	12.00
Punjab	5.00	0.43	5.00	1.50	2.00
Rajasthan	4.00	1.33	7.00	3.00	5.00
Sikkim	0.03	—	—	0.06	0.09
Tamil Nadu	5.00	5.00	5.00	5.00	6.00
Tripura	0.20	0.04	0.10	0.08	0.10
Uttar Pradesh	5.80	9.79	7.00	10.00	18.00
West Bengal	3.00	1.51	8.00	4.00	7.00
Total	82.63	132.33	103.05	95.40	119.39

Source: Annual Plan 1976-77.

8.34 LONG-TERM LOANS ADVANCED BY LAND DEVELOPMENT BANKS

State	1976-77		1977-78		1978-79 Target
	Target	Ant. Ach.	Target	Ant. Ach.	
Andhra Pradesh	26.00	33.00	45.00	50.00	55.00
Assam	2.00	0.31	5.00	1.50	3.00
Bihar	30.00	19.00	45.00	15.00	42.00
Gujarat	20.00	2.07	20.00	5.00	15.00
Haryana	18.60	16.21	20.00	22.00	26.50
Himachal Pradesh	0.75	0.33	1.00	0.50	0.75
J & K	0.70	0.23	0.50	0.55	0.50
Karnataka	26.00	23.92	30.00	23.00	30.00
Kerala	6.00	10.00	15.00	11.50	22.00
Madhya Pradesh	25.00	22.74	25.00	20.00	25.00
Maharashtra	30.00	17.65	30.00	21.00	30.00
Manipur	0.50	—	1.00	0.60	1.00
Meghalaya	0.25	—	0.10	—	0.20
Nagaland	0.50	—	0.30	0.02	1.00
Orissa	10.00	7.40	12.00	10.00	15.00
Punjab	23.00	21.60	28.00	24.00	35.60
Rajasthan	10.00	10.43	15.00	13.00	20.00
Sikkim	0.05	—	0.20	—	0.15
Tamil Nadu	18.00	19.51	18.00	15.00	19.00
Tripura	0.35	—	0.55	0.20	0.30
U.P.	50.00	36.45	50.00	44.00	70.00
West Bengal	8.00	8.05	15.00	14.01	20.00
Total	305.70	2.0.13	376.65	270.88	432.00

8.05. PRIMARY AGRICULTURAL CREDIT COOPERATIVES

Item	1950-51	1955-56	1960-61	1968-69	1973-74	1974-75	1975-76**	1976-77 (Provisional)
I. Primary Agril. Credit Societies (short and medium term loans)								
No. of Societies (lakhs)	1.05	1.60	2.12	1.68	1.54	1.53	1.35	1.23
Percentage villages covered	N.A.	N.A.	75	92	95	95	97	97
Membership (Nos. in lakhs)	44.08	77.91	170.41	291.73	349.56	364.42	395.21	415.47
Percentage agril. population covered (estimated)	9	15	30	42	41	41	45	47
Average membership per society (Nos.)	45	49	80	174	227	238	293	338
Paid-up share capital (Rs. crore)	7.61	16.80	57.75	167.31	271.06	296.29	327.31	349.91
Deposits (Rs. crore)	4.28	7.04	14.59	76.84	89.28	101.05	113.31	119.35
Working capital (Rs. crore)	37.25	79.10	273.92	812.22	1,580.28	1,801.48	1,989.70	2,071.1
Loans advanced during the year (Rs. crore)	22.90	49.62	202.75	503.97	760.46	900.83	1,023.45	1,153.35
Percentage loans overdue to loans outstanding	22	25	20	35	43	43	43	42
II. Land Mortgage Banks (long term loans)								
Number of banks								
(a) Central	5	9	18	19	19	19	19	20
(b) Primary	286	302	463	740	857	872	890	893
Loans advanced during the year to individuals (Rs. crore)	1.38	2.86	11.62	148.16	158.09	180.76	215.36	242.81
Loans outstanding with individuals (Rs. crore)	6.59	13.47	37.74	402.15	914.53*	948.46	903.31	1,117.52

N.A. Not available.

**Data in respect of Assam, Jammu & Kashmir, Meghalaya and Andaman & Nicobar Islands are not available.

Source: *Indian Agriculture in Brief*, 17th edition, Directorate of Economics & Statistics, Ministry of Agriculture & Rural Reconstruction, New Delhi.

8.06. AGRICULTURAL MARKETING AND PROCESSING COOPERATIVES

Type of societies	1960-61	1965-66	1968-69	1972-73	1973-74	1974-75	1975-76 (Provisional)
I. Primary agric. marketing societies							
1. No. of societies	3,100	3,196	7,724*	3,268	3,278	3,127	N.A.
2. Membership							
(a) Societies ('000)	75	140	174*	146	141	141	N.A.
(b) Individuals (lakhs)	13.93	21.41	51.27*	28.51	28.36	29.96	N.A.
3. Share capital (Rs. crore)	7.49	18.77	28.97*	33.91	35.22	36.25	N.A.
II. Value of agricultural produce marketed by cooperatives during the year (Rs. crore)							
(a) Total	179	360	588	921	1,110	1,434	1,559
(b) Of which—foodgrains	24	137	222	321	355	447	522
III. Value of agricultural production requisites distributed by coop. during the year (Rs. crore)							
(a) Total	35.69	121.06	252.91	394.47	479.72	714.98	814.24
(b) Of which—fertilisers	28.22	80.11	200.24	324.00	400.00	617.00	715.69
IV. Cooperative sugar factories							
1. No. of licensed factories	56	76	88	138	178	177	180
2. No. of factories in production	30	52	62	87	91	97	106
3. Sugar produced	4.5	9.3	12.0	14.6	15.6	20.9	20.3
4. Share of cooperative sector in national production (%)	14.8	26.4	33.8	37.7	39.5	43.6	47.7
V. Cotton ginning and pressing societies							
1. No. of cooperatives undertaking processing of cotton							
(a) Cotton ginning & pressing societies	128	155	162	187	204	227	247
(b) Marketing societies undertaking processing	27	52	58	70	75	71	72
(c) Total	155	207	220	257	279	298	318
2. Raw cotton ginned (lakh quintal)	15.16	23.64	25.65	39.98	32.88	50.44	60.14
3. Cotton pressed (lakh bales)	3.86	5.18	6.52	9.18	8.51	9.80	10.88

*Includes data relating to 4,382 sugarcane supply societies.

Source: *Indian Agriculture in Brief*, 17th edition, Directorate of Economics & Statistics, Ministry of Agriculture & Rural Reconstruction, New Delhi.

9.0. FIVE-YEAR PLANS

9.01. ACHIEVEMENTS OF AGRICULTURAL PRODUCTION UNDER FIRST, SECOND, THIRD, FOURTH AND FIFTH PLANS

Commodity	Units	First Plan End 1955-56	Second Plan End 1960-61	Third Plan End 1965-66	Fourth Plan End 1973-74	Fifth Plan				
						1974-75	1975-76	1976-77	1977-78	1978-79
Foodgrains	Million tonnes	66.9	82.0	72.4	104.7	99.8	121.0	111.2	126.4	131.4
Oil seeds of which --	"	5.7	7.0	6.6	9.2	8.9	10.3	8.2	9.3	9.9
Groundnut	"	3.7	4.7	4.3	5.9	5.1	6.8	5.3	6.1	6.4
Sugarcane (Gur)	"	6.1	11.1	12.8	14.4	14.7	14.4	15.8	18.0	16.0
Cotton (lint)	Million bales (170 kg. each)	4.2	5.6	4.9	6.3	7.2	6.0	5.8	7.2	7.9
Jute	Million bales (180 kg. each)	4.2	4.1	4.5	6.3	4.5	4.4	5.4	5.4	6.5
Mesta	Million bales (180 kg. each)	1.2	1.1	1.3	1.5	1.4	1.5	1.7	1.8	1.8
Tobacco	Thousand tonnes	303.0	307.0	293.0	462.1	363.1	359.0	419.0	494.0	451.0
Tea	"	285.0	321.0	366.0	472.0	489.0	487.0	512.0	559.0	571.0
Coffee	"	34.4	43.2	63.9*	86.4*	92.5*	84.0*	102.3*	125.0	110.0
Rubber	"	22.5 ^b	25.4 ^b	50.0 ^b	125.2 ^b	130.1 ^c	137.8 ^c	149.6 ^c	147.0	135.3
Coconut	Million nuts	4,226.0	4,639.0	5,058.0	5,850.6	6,029.6	5,829.0	5,765.0	5,413.0	5,471.0
Arecanut	Thousand tonnes	N.A.	N.A.	119.0	167.4	165.0	160.0	165.0	170.0	N.A.
Cashewnut	"	82.0	124.0	159.0	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
Pepper	"	28.0	28.0	23.0	29.0	28.2	26.0	32.0	26.0	26.0
Lac	"	44.2	52.8	23.5	19.5	24.7	21.8	23.9	20.9	9.1

N.A. = Not available.

* Groundnut, castorseed, sesamum, rapeseed, mustard and linseed (for 1955-56 and 1960-61).

^b Figures relate to calendar year.

^c Supplied by Rubber Board.

* Supplied by coffee board.

Source: (1) *Indian Agriculture in Brief*, 17th Edition, Directorate of Economics and Statistics, Ministry of Agriculture & Rural Reconstruction, New Delhi.

(2) *Estimates of Area and Production of Principle Crops in India 1978-79*, D.E. & S. Ministry of Agriculture & Rural Reconstruction, New Delhi.

(3) *Economic Survey 1979-80*, Government of India, New Delhi.

**9.02(a). ACHIEVEMENTS OF AGRICULTURAL DEVELOPMENT
PROGRAMME DURING PLAN PERIODS
(First to Fourth Plan)**

Programme	Unit	First Plan	Second Plan	Third Plan	Annual Plan (1966-68)	Fourth Plan
Major & medium irrigation (Gross)—						
Additional area benefited	M. hectares	1.3	2.1	2.1	1.54	2.55
Minor irrigation (Gross)—						
Additional area benefited	M. hectares	3.83	3.84	5.21	4.05	7.23
Soil conservation on agricultural land—						
Additional area benefited	M. hectares	0.30	1.00	3.86	4.10	6.65
Dry farming—						
Additional area benefited	M. hectares	—	—	—	—	61.00
Consumption of chemical fertiliser*						
(a) Nitrogenous (N)	Lakh tonnes	1.07	2.10	5.80	12.10	18.30
(b) Phosphatic (P ₂ O ₅)	Thousand tonnes	19	70	132	380	650
(c) Potassic (K ₂ O)	Thousand tonnes	11	—	—	170	300
Plant protection	M. hectares	2.40	6.50	17.20	79.40	60.53
Consumption of pesticides	Thousand tonnes	—	—	—	—	—

* Level reached/to be reached.

N.S.=Not specified.

N.A.=Not available.

Source: *Indian Agriculture in Brief*, 17th edition, Directorate of Economics and Statistics, Ministry of Agriculture & Rural Reconstruction, New Delhi.

9.02(b). ACHIEVEMENTS OF AGRICULTURAL DEVELOPMENT PROGRAMMES

Programmes	1973-74	1974-75	1975-76	1976-77	1977-78	1978-79	1979-80
I. Irrigation							
(Cumulative levels)							
(Million hectares)							
(a) Major & Medlum	18.69	19.35	20.10	20.71	22.20	23.00	23.80
(b) Minor	23.50	24.30	25.20	26.20	27.30	28.60	30.00
Total (a)+(b)	42.19	43.65	45.30	46.91	49.50	51.60	53.80
II. High yielding varieties							
(Million hectares)							
(i) Paddy	10.0	11.2	12.4	13.3	15.6	16.9	13.6
(ii) Wheat	11.0	11.2	13.5	14.5	15.5	16.1	13.5
(iii) Jowar	1.1	1.3	2.0	2.4	3.1	3.1	3.0
(iv) Bajra	3.0	2.5	2.9	2.3	2.6	2.9	3.1
(v) Maize	0.9	1.1	1.1	1.1	1.2	2.1	2.0
Total	26.0	27.3	31.9	33.6	38.0	41.1	35.2
III. Consumption of Chemical Fertilisers							
(Million tonnes)							
(i) Nitrogenous (N)	1.83	1.77	2.15	2.46	2.91	3.42	3.50
(ii) Phosphatic (P)	0.65	0.47	0.47	0.64	0.87	1.11	1.15
(iii) Potassic (K)	0.36	0.34	0.28	0.32	0.51	0.59	0.61
Total (N+P+K)	2.84	2.57	2.89	3.41	4.29	5.12	5.26
IV. Gross cropped Area							
(Million hectares)	169.6	164.6	170.3	169.1	172.7	174.0	175.5
V. Soil Conservation							
(Million hectares)	17.1	18.0	18.9	19.5	20.3	20.8	21.7
VI. Conservation of Pesticides							
(Technical Grade Material)							
('000 tonnes)	42.1	41.2	49.7	50.5	59.2	N.A.	N.A.

@ Anticipated achievement

Source: Economic Survey 1979-80, Government of India.

9.03. BENEFITS FROM MAJOR AND MEDIUM IRRIGATION SCHEMES

('000 hectares)

State/Union Territory	Ultimate Irrigation potential	Irrigation from pre-Plan scheme	Achievement to end of Fourth Plan from Plan schemes		Achievement during 1974-75		Anticipated benefits during 1975-76		Target of benefits 1976-77	
			Potn.	Util.	Potn.	Util.	Potn.	Util.	Potn.	Util.
Andhra Pradesh	6,480	1,676	923	846	47	5	46	70	40	55
Assam	970	—	42	17	—	2	—	2	13	6
Bihar	9,229	404	1,481	832	88	67	88	78	79	102
Gujarat	2,150	53	822	396	58	42	80	44	55	89
Haryana	*	436	1,093	1,093	28	35	47	17	51	64
Himachal Pradesh	N.A.	—	—	—	—	—	—	—	—	—
Jammu & Kashmir	150	43	41	36	5	4	6	4	5	5
Karnataka	2,000	308	559	432	83	21	45	68	37	83
Kerala	1,000	158	223	228	3	3	23	23	13	13
Madhya Pradesh	5,630	513	476	285	21	40	52	62	84	82
Maharashtra	2,850	255	592	291	45	69	90	80	105	80
Manipur	N.A.	—	—	—	—	—	—	—	—	—
Meghalaya	N.A.	—	—	—	—	—	—	—	—	—
Nagaland	N.A.	—	—	—	—	—	—	—	—	—
Orissa	3,600	455	685	673	39	38	50	60	40	35
Punjab	4,920	1,220	800	780	13	10	25	20	30	25
Rajasthan	3,150	326	847	774	48	40	55	88	51	31
Sikkim	N.A.	—	—	—	—	—	—	—	—	—
Tamil Nadu	1,610	891	286	228	32	32	7	7	7	15
Tripura	N.A.	—	—	—	—	—	—	—	—	—
Uttar Pradesh	11,200	2,553	1,551	1,311	291	198	386	200	348	300
West Bengal	2,310	440	785	837	39	44	43	20	45	54
Total States	56,750	9,705	10,936	9,014	821	653	1,042	843	1,000	1,019
Union Territories										
Pondicherry	N.A.	—	10	10	—	—	—	—	—	—
Grand Total	56,705	9,705	10,946	9,024	821	653	1,042	843	1,000	1,019

*Included in Punjab.

Source: Annual Plan—1976-77.

9.04. AREA BENEFITING FROM MINOR IRRIGATION DURING FIFTH PLAN

('000 hectares)

State/Union Territory	Fifth plan target	1975-76	1976-77	1977-78	1978-79 Target
Andhra Pradesh	1,800	1,651	1,714	1,761	1,830
Assam	680	385	415	450	489
Bihar	2,637	1,961	2,174	2,386	2,707
Gujarat	1,456	1,344	1,369	1,411	1,466
Haryana	1,150	970	1,000	1,056	1,107
Himachal Pradesh	100	87	89	91	95
Jammu & Kashmir	350	315	323	330	339
Karnataka	1,140	950	1,017	1,070	1,150
Kerala	350	289	297	309	324
Madhya Pradesh	1,700	1,284	1,397	1,527	1,672
Maharashtra	1,700	1,455	1,542	1,611	1,691
Manipur	78	34	51	67	89
Meghalaya	25	13	16	20	25
Nagaland	53	43	46	49	55
Orissa	750	511	572	644	764
Punjab	2,950	2,730	2,790	2,850	2,920
Rajasthan	1,926	1,815	1,849	1,880	1,919
Sikkim	10	6	7	8	9
Tamil Nadu	2,100	1,891	2,028	2,054	2,074
Tripura	45	33	35	36	39
Uttar Pradesh	10,485	8,504	9,102	8,886	9,500
West Bengal	1,600	1,203	1,314	1,433	1,592
Total States	33,085	27,664	29,147	29,929	31,836
Total U. Ts.	111	41	48	62	N. A.
Total States U. Ts.	33,196	27,705	29,195	29,991	31,839
All India Figures	28,580	25,200	26,200	26,800	N. A.

(Adopted by Planning Commission).

Source: *Indian Agriculture in Brief*, 17th edition, Directorate of Economics & Statistics, Government of India, New Delhi.

9.05. AREA UNDER SOIL CONSERVATION ON AGRICULTURAL LAND

('000 hectares)

State/Union Territory	1975-76	1976-77	1977-78
Central			
Madhya Pradesh	2,482	2,538	2,616
Rajasthan	1,010	1,010	1,014
Uttar Pradesh	2,025	2,071	2,117
East			
Assam	24	29	35
Bihar	494	519	553
Manipur	10	11	12
Meghalaya	13	14	14
Nagaland	7	10	13
Orissa	141	156	N.A.
Sikkim	—	0.27	1.23
Tripura	6	8	9
West Bengal	87	93	101
North			
Haryana	181	201	232
Himachal Pradesh	16	17	19
Jammu & Kashmir	3	4	6
Punjab	149	180	198
South			
Andhra Pradesh	427	437	447
Karnataka	1,883	2,133	2,300
Kerala	51	52	53
Tamil Nadu	571	629	673
West			
Gujarat	1,703	1,713	1,759
Maharashtra	7,568	7,759	7,895
Total States	18,851	19,493.27	20,067.23
Union Territories	41	43	N.A.
Grand Total	18,892	19,636.27	20,067.23

Source: Planning Commission, New Delhi.

9.06. H.Y.V.P. AREA—ACHIEVEMENTS DURING 1975-76 and 1976-77

('000 hectares)

Zone/State	1975-76					Total	1976-77					Total
	Paddy	Wheat	Maize	Jowar	Bajra		Paddy	Whea	Maize	Jowar	Bajra	
Central	2,782	6,267	94	256	418	9,817	2,917	6,710	84	346	310	10,367
Madhya Pradesh	1,150	803	50	250	27	2,280	1,194	1,000	35	338	30	2,595
Rajasthan	39	826	20	6	314	1,205	44	910	25	6	255	1,240
Uttar Pradesh	1,598	4,638	24	—	77	6,332	1,679	4,860	24	2	25	6,528
East	2,780	1,919	406	2	—	5,106	3,438	2,155	369	5	—	5,967
Assam	328	59	19	—	—	399	431	64	10	—	—	505
Bihar	768	1,229	357	—	—	2,354	998	1,417	314	—	—	2,729
Manipur	35	5	0.2	—	—	40	40	10	3	—	—	53
Meghalaya	6.5	1.5	4.5	—	—	12	9	2	5	—	—	16
Nagaland	2.5	0.3	1.6	—	—	4	4	0.6	2	—	—	6.6
Orissa	483	60	30	2	—	575	557	53	33	5	—	648
Sikkim	—	0.06	—	—	—	0.06	—	0.4	2	—	—	2.4
Tripura	104.3	2.0	—	—	—	106.3	109	8	—	—	—	117
West Bengal	1,053	562	—	—	—	1,615	1,290	600	—	—	—	1,890
North	928	3,634	241	—	292	5,095	1,032	3,968	222	—	303	5,545
Haryana	169	1,087	17	—	250	1,523	190	1,200	20	—	250	1,660
Himachal Pradesh	61.5	212	586	—	—	333	70	260	75	—	—	405
Jammu & Kashmir	180	140	25	—	1	346	193	152	29	—	1.7	375
Punjab	517	2,195	140	—	41	2,893	579	2,376	98	—	52	3,105

(Continued)

South	5,172	160	316	786	471	6,905	4,854	112	292	534	463	6,255
<i>Andhra Pradesh</i>	2,477	31	92	189	174	2,993	2,024	32	73	150	203	2,428
<i>Karnataka</i>	575	129	184	517	191	1,596	400	80	159	384	140	1,163
<i>Kerala</i>	260	—	—	—	—	260	260	—	—	—	—	260
<i>Tamil Nadu</i>	1,860	—	40	80	106	2,086	2,170	—	60	N.A.	120	2,350
West	711	1,426	75	913	1,701	4,828	1,017	1,507	93	1,484	1,176	5,277
<i>Gujarat</i>	172	452	48	79	1,292	2,043	178	506	49	38	981	1,752
<i>Maharashtra</i>	539	976	27	834	409	2,785	839	1,001	44	1,446	195	8,525
<i>Union Territories</i>	70.2	50.0	1.0	0.8	14.9	126.2	79.0	50.0	1.8	0.8	15.0	146.6
Total States	12,372.8	13,407.9	1,131.0	1,957.0	2,882.0	31,750.7	13,256.0	14,472.0	1,061.6	2,369.0	2,252.7	33,413.3
Total States & Union Territories	12,443.0	13,457.9	1,132.0	1,957.8	2,896.9	31,867.6	13,337.0	14,522.0	1,063.4	2,369.8	2,267.7	33,539.9
All India	12,500.0	12,500.0	900.0	1,300.0	2,800.0	30,000.0	13,500.0	14,100.0	1,210.6	2,250.0	2,150.0	33,210.6

Source: Ministry of Agriculture & Rural Reconstruction, New Delhi.

9.07. H.Y.V.P. AREA—ANTICIPATED ACHIEVEMENTS DURING 1977-78

('000 tonnes)

Zone/State	Paddy	Wheat	Maize	Jowar	Bajra	Total
Central	3,348	7,350	85	361	474	11,618
Madhya Pradesh	1,500	1,200	30	350	20	3,100
Rajasthan	48	950	22	7	414	1,441
Uttar Pradesh	1,800	5,200	33	4	40	7,077
East	4,330	2,606.6	465.6	6	—	7,408.4
Assam	450	80	12	—	—	542
Bihar	1,300	1,800	400	—	—	3,500
Manipur	45	6	6	—	—	63
Meghalaya	14	2.0	5	—	—	22
Nagaland	5	1.2	3.6	—	—	9.8
Orissa	800	100	35	6	—	941
Sikkim	0.2	2.4	4	—	—	6.6
Tripura	116	9	—	—	—	125
West Bengal	1,600	600	—	—	—	2,200
North	1,235	3,935	220	—	301	5,691.4
Haryana	230	1,170	20	—	250	1,670
Himachal Pradesh	65	250	65	—	—	380
Jammu & Kashmir	200	165	35	—	1.4	401.4
Punjab	740	2,350	100	—	50	3,240
South	5,488	138	311	815	515	7,264
Andhra Pradesh	2,425	38	66	215	225	2,966
Karnataka	500	100	170	600	150	1,525
Kerala	360	—	—	—	—	360
Tamil Nadu	2,200	—	70	—	140	2,410
West	1,118	1,460	89	1,861	1,326	5,854
Gujarat	200	460	38	40	1,100	1,838
Maharashtra	918	1,000	51	1,821	226	4,016
Total States	15,516	15,489.6	1,165.6	3,043.0	2,816.4	37,830.6
Union Territories	80	50.0	2.5	0.9	16.0	149.4
States & Union Territories	15,596.2	15,539.6	1,168.1	3,043.9	2,832.4	37,980.2
All India Target	15,596.2	15,540.0	1,168.1	3,043.9	2,832.4	37,980.2

Source: Ministry of Agriculture & Rural Reconstruction, New Delhi.

9.08. H.Y.V.P. AREA—TARGETS FOR 1978-79*

('000 hectares)

Zone/State	Paddy	Wheat	Maize	Jowar	Bajra	Total
Central	3,650	7,850	120	416	530	12,566
Madhya Pradesh	1,700	1,360	50	400	30	3,480
Rajasthan	50	1,050	30	10	450	1,590
Uttar Pradesh	1,900	5,500	40	6	50	7,496
East	5,494	2,972.4	525.6	8	—	9,000.2
Assam	520	90	14	—	—	624
Bihar	1,700	1,950	450	—	—	4,100
Manipur	50	13	7	—	—	70
Meghalaya	17	3	6	—	—	26
Nagaland	6	2	4.6	—	—	12.6
Orissa	1,100	200	38	8	—	1,346
Sikkim	1.2	4.4	6	—	—	11.6
Tripura	125	10	—	—	—	135
West Bengal	1,975	700	—	—	—	2,675
North	1,325	4,028	225	—	354	5,932
Haryana	250	1,180	20	—	300	1,750
Himachal Pradesh	75	268	65	—	—	408
Jammu & Kashmir	250	180	40	—	4	474
Punjab	750	2,400	100	—	50	3,300
South	5,850	170	338	950	600	7,908
Andhra Pradesh	2,500	40	68	250	250	3,108
Karnataka	600	130	200	700	170	1,800
Kerala	500	—	—	—	—	500
Tamil Nadu	2,250	—	70	N.A.	180	2,500
West	1,120	1,680	115	2,050	1,750	6,185
Gujarat	220	480	40	50	1,400	2,190
Maharashtra	1,000	1,200	75	2,000	350	4,625
Total States	17,539	16,700.3	1,323.6	3,424	3,234	42,220.9
Union Territories	80	50	2.5	0.9	16.5	149.9
Total States & Union Territories	17,619	16,750.3	1,326.1	3,424.0	3,250.5	42,371.1
All India	17,500.0	16,500.0	1,300.0	3,500.0	3,200.0	42,000.0

*Provisional

Source: Ministry of Agriculture & Rural Reconstruction, New Delhi.

9.09. STATEWISE YIELD OF H.Y.V.P. OF PRINCIPAL CROPS

(Kgs. per hectare)

State	Crop	1976-77	1977-78
I. Rice			
Andhra Pradesh	Kharif	1,584	1,640
	Rabi	2,009	1,995
Assam	Autumn	1,107	1,550
	Winter	1,804	1,651
	Summer	469	1,713
Bihar	Winter	1,409	1,305
	Summer	1,472	1,150
Gujarat		1,354	1,808
Haryana		2,899	2,765
Himachal Pradesh			1,497
Kerala	Autumn	1,605	2,054
	Winter	1,824	1,893
	Summer	1,910	2,026
Madhya Pradesh			1,293
Maharashtra	Autumn	1,645	1,865
	Summer	1,860	1,764
Orissa	Autumn	858	1,018
	Winter	1,097	1,287
	Summer	1,569	1,442
Tamil Nadu	Autumn	1,930(C)	2,147 C)
Uttar Pradesh	Autumn	1,246*	1,325
II. Jowar			
Andhra Pradesh	Kharif	986	1,456
	Rabi	1,414	1,678
Gujarat	Kharif	1,083	885
	Rabi	1,178	
Madhya Pradesh			1,104
Maharashtra	Kharif	1,492	1,568
	Rabi	940	929
Tamil Nadu		3,036	2,239

(Continued)

9.09. STATEWISE YIELD OF H.Y.V.P. OF PRINCIPAL CROPS (Concluded)

(Kgs. per hectare)

State	Crop	1976-77	1977-78
III. Bajra			
Andra Pradesh		1,070	1,441
Gujarat		692	732
Haryana		771	581
Madhya Pradesh			1,188
Maharashtra		695	700
Tamil Nadu		1,832	1,728
IV. Maize			
Andhra Pradesh	Kharif	1,381	2,085
	Rabi	2,495	2,139
Bihar	Kharif	1,174	1,240
	Summer	1,709	1,619
Gujarat		703	482
Haryana		1,499	1,323
Himachal Pradesh			1,466
Madhya Pradesh			1,504
V. Wheat			
Bihar		1,408	1,376
Gujarat		1,911	1,994
Haryana		2,026	2,149
Maharashtra		876	847
Rajasthan		1,571	1,745
Uttar Pradesh		1,505	1,553

(C) Combined (Autumn & Winter)

*Including Winter rice.

Source: Consolidated results of crop estimation surveys on principal crops, issued by National Sample Survey Organisation, New Delhi.

**9.10(a). DISTRICTS COVERED UNDER SFDA PROJECTS IN
THE FIFTH FIVE-YEAR PLAN**

- | | |
|--|--|
| <p>1. Andhra Pradesh (15)</p> <ol style="list-style-type: none"> 1. Srikakulam* 2. Nalgonda* † @ 3. Visakhapatnam* 4. Guntur 5. Karimnagar 6. Krishna 7. East Godavari 8. Hyderabad 9. Warangal 10. Nellore 11. Medak 12. Nizamabad 13. Khammam 14. Ongole 15. Adilabad <p>2. Assam (4)</p> <ol style="list-style-type: none"> 1. Goalpara* 2. Nowgong* 3. Mikir Hills* 4. Kamrup* <p>3. Bihar (22)</p> <ol style="list-style-type: none"> 1. Nalanda* 2. Ranchi* 3. Katihar* 4. West Champaran* 5. Sitamarthi 6. Darbhanga 7. Madhubani 8. Monghyr 9. Begusarai 10. Bhagalpur 11. Santhal-Parganae 12. Hazaribagh 13. Dhanbad 14. Singhbhum area not covered by T.D.A. 15. Saran 16. Giridih 17. Samastipur 18. Gaya 19. Rohtas @ 20. East Champaran @ 21. Purnea @ 22. Patna @ <p>4. Gujarat (6)</p> <ol style="list-style-type: none"> 1. Junagadh* | <ol style="list-style-type: none"> 2. Surat* 3. Sabarkantha* 4. Vadodra* 5. Valaad* 6. Broach <p>5. Haryana (3)</p> <ol style="list-style-type: none"> 1. Ambala* 2. Gurgaon* 3. Hissar <p>6. Himachal Pradesh (3)</p> <ol style="list-style-type: none"> 1. Sirmur* 2. Solan* 3. Simla <p>7. Jammu & Kashmir (4)</p> <ol style="list-style-type: none"> 1. Jammu-Kathua* 2. Anantnag* 3. Baramulla* 4. Poonth-Rajouri* <p>8. Kerala (4)</p> <ol style="list-style-type: none"> 1. Cannanore* 2. Quilon* 3. Trivandrum 4. Trichur <p>9. Karnataka (8)</p> <ol style="list-style-type: none"> 1. Bidar* 2. North Canara* 3. Tumkur* 4. Hassan 5. Gulbarga 6. Bellary 7. Shimoga 8. Mysore <p>10. Madhya Pradesh (12)</p> <ol style="list-style-type: none"> 1. Ujjain* 2. Bilaspur* 3. Durg* 4. Chindwara* 5. Satna 6. Sarguja 7. Jabalpur 8. Mandasaur 9. Sagar 10. Shahdol |
|--|--|

(†) Cuddapah Project merged with DPAP.

**9.10(a). DISTRICTS COVERED UNDER SFDA PROJECTS IN
THE FIFTH FIVE-YEAR PLAN (Continued)**

- | | |
|-----------------------------|-------------------------------|
| 11. Rajnandgaon | 2. Bharatpur* |
| 12. Raisen-Sehore | 3. Udaipur* |
| | 4. Bhilwara* |
| | 5. Ajmer* |
| | 6. Chittorgarh |
| 11. Maharashtra (13) | |
| 1. Thana* | |
| 2. Ratnagiri* | |
| 3. Satara* | |
| 4. Kolaba | |
| 5. Kolhapur † | |
| 6. Dhulia | |
| 7. Amravati | |
| 8. Chandrapur † | |
| 9. Buldhana | |
| 10. Akola | |
| 11. Nanded | |
| 12. Osmanabad | |
| 13. Parbhani † | |
| | 18. Tripura (.) |
| | 1. Tripura* ^b |
| | 19. Tamil Nadu(12) |
| | 1. Madurai* |
| | 2. South Arcot* |
| | 3. Tirunelveli* |
| | 4. Salem* |
| | 5. North Arcot* |
| | 6. Tiruchirapalli |
| | 7. Thanjavur |
| | 8. Chingleput |
| | 9. Coimbatore |
| | 10. Pudukkotai |
| | 11. Kanyakumari |
| | 12. Nilgiris |
| 12. Manipur (1) | |
| 1. Manipur † | |
| 13. Meghalaya (2) | |
| 1. K & J Hills* | |
| 2. Garo Hills* | |
| 14. Nagaland(1) | |
| 1. Nagaland* | |
| 15. Orissa(7) | |
| 1. Bolangir* | |
| 2. Dhenkanal* | |
| 3. Ganjam* | |
| 4. Cuttack* | |
| 5. Keonjhar* | |
| 6. Sambalpur | |
| 7. Puri | |
| 16. Punjab(4) | |
| 1. Amritsar-Ferozepur* | |
| 2. Sangrur-Patiala* | |
| 3. Jullundur-Kapurthala* | |
| 4. (a) Hoshiarpur* | |
| (b) Ropar* | |
| 17. Rajasthan(6) | |
| 1. Alwar* | |
| | 20. Uttar Pradesh (26) |
| | 1. Budaun* |
| | 2. Fatehpur* |
| | 3. Rae Bareli* |
| | 4. Pratappgarh* |
| | 5. Mathura* |
| | 6. Ballia* |
| | 7. Basti |
| | 8. Jaunpur |
| | 9. Gorakhpur |
| | 10. Varanasi |
| | 11. Sultanpur |
| | 12. Hardoi |
| | 13. Sitapur |
| | 14. Farukhabad |
| | 15. Moradabad |
| | 16. Shahjahanpur |
| | 17. Unnao |
| | 18. Meerut |
| | 19. Ghazipur |
| | 20. Garhwal |
| | 21. Gonda |
| | 22. Bahraich |
| | 23. Kheri |

^b North district: 3 blocks, South district: 3 blocks, West Tripura district: complete.

9.10(a). DISTRICTS COVERED UNDER SFDA PROJECTS IN THE FIFTH FIVE-YEAR PLAN (Continued)

24. Mainpuri	22. Goa, Daman & Diu (1)
25. Bareilly	1. Goa, Daman & Diu*
26. Allahabad	23. Pondicherry (1)
21. West Bengal(9)	1. Pondicherry*
1. Darjeeling*	24. Delhi (1)
2. Hooghly*	1. Delhi*
3. West Dinajpur*	25. Arunachal Pradesh (1)
4. Nadia	1. Arunachal Pradesh ^(e)
5. Murshidabad	26. Sikkim (1)
6. Malda	1. Whole state
7. Cooch-Behar	
8. Jalpaiguri	
9. 24-Parganas	

* Projects continuing from the Fourth Five-Year Plan.

@ Projects to merge with Command Area Development Programme when CADA is ready to take up a large programme for SF/MF/AL. The projects allowed to continue in the remaining years of the Fifth Plan by adjusting outlays for other project in the State.

(e) Not yet set up.

Figures in parenthesis indicate to number of projects.

A. *During the IV Plan*, SFDA and MFAL programmes were launched. Though, most of the projects were sanctioned during 1970-71, they started functioning effectively only 1971-72. The project, continued upto the end of 1975-76, covering last three years of the Fourth Plan and the first two years of the Fifth Plan. The salient features of the project were:

(1) The programme of Small Farmers Development Agency (SFDA) is particularly production and institutional credit oriented. This scheme is proposed to be taken up in 46 selected areas; 50,000 potentially viable small farmers (with holdings generally between 2.5 and 7.5 acres) are to be assisted in each project area with subsidised irrigation support, land levelling, soil conservation, improved agricultural implements, custom service facilities, storage and marketing and in development of subsidiary occupations like dairy, poultry, fishery, piggery, etc. The average outlay on each project will be Rs. 1.50 crore during the Fourth Plan. The programme includes giving of assistance to rural artisans also. Farmer participants will be given a subsidy of 25 per cent from the agency and the balance as loans mainly from cooperative credit institutions. This scheme will benefit about 20 lakh families.

(2) Marginal Farmers and Agricultural Labourers (MFAL) Programme is oriented towards development of subsidiary occupation with the help of institutional credit. This scheme is proposed to be taken up in 41 selected areas; 15,000 marginal farmers (with holdings generally up to 2.5 acres) and about 5,000 agricultural labourers are to be assisted in each project area with subsidised credit support (up to 33½ per cent for inputs subject to a maximum of Rs. 100 for one season and Rs. 200 for two seasons in one year and two years) for agricultural and subsidiary occupations. Provision has also been made for giving direct wage employment in the off-season to agricultural labourers in rural works of a productive nature. The average outlay on each project will be Rs. one crore during the Fourth Plan. This scheme will benefit 8 to 9 lakh families.

(3) Rural Works Programme (RWP) is designed to generate employment opportunities for agricultural labourers in the chronically drought affected areas. This programme covers 54 districts in 13 States. Fourth Plan outlay in the Central non-Plan sector is Rs. 100 crore and each selected district is expected to get an allocation of nearly Rs. 2 crore. These schemes include irrigation, soil conservation and road building, etc.

(Continued)

**9.10(a). DISTRICTS COVERED UNDER SFDA PROJECTS IN
THE FIFTH FIVE-YEAR PLAN (Concluded)**

B. *In the Fifth Five-Year Plan*, that is from 1974-75, based on the recommendations of the National Commission on Agriculture, the number of SFDA project has been increased to 160 including the existing ones and investment of Rs. 200 crore, the SFDA/MFAL agencies have been made composite to cover both small and marginal farmers and agricultural labourers and the Programme content has undergone the following readjustments:

The definitions of small farmers and marginal farmers have been revised to include farmers having land-holdings between 2.5 and 5 acres of dry land, and upto 2.5 acres of dry land, respectively.

The components of rural artisans and rural works programmes will continue upto the end of 1975-76 only and therefore, be renamed as *Drought Prone Areas Programme* (investment of Rs. 161.4 crore) with the following feature:

The Government have indentified 74 districts (Table 10b) wholly or partly in 13 States as chronically drought prone. In terms of population, the Programme covers about 600 lakh or 12 per cent of the population and in terms of area it covers 585,000 sq. km or nearly 19 per cent of the area.

The Programme lays special emphasis on the small and marginal farmers and other weaker sections of the community. Programme expects to cover 10,000 beneficiaries in a main DPAP district for this purpose. As a general principle, for every investment a small/marginal farmer makes on his farm, be it a construction of well, land development, soil conservation treatment, purchase of milch cattle, sheep, poultry, purchase of inputs like seeds, phosphatic fertiliser, pesticides, improved agricultural implements, composite crop demonstration, custom services, pumping sets both diesel and electric etc., subsidy of 25 per cent and 33.3 per cent respectively is given. For community works a subsidy of 50 per cent is given.

Source: Ministry of Agriculture and Rural Reconstruction, New Delhi.

**9.10(b). DISTRICTS COVERED UNDER DROUGHT PRONE AREAS PROGRAMME
(FORMER RURAL WORKS PROGRAMME) IN THE FIFTH FIVE-YEAR PLAN**

Andhra Pradesh

1. Anantpur
2. Chittoor
3. Cuddapah
4. Kurnool
5. Mehboobnagar
6. Nalgonda
7. Prakasam

Bihar

8. Palamau
9. Monghyr
10. Nawadah
11. Rohtas

Gujarat

12. Kutch
13. Banaskantha
14. Surendranagar
15. Rajkot
16. Jamnagar
17. Amreli
18. Panchmahals
19. Bhavnagar
20. Mehsana
21. Ahmedabad

Haryana

22. Mohindergarh
23. Bhiwani
24. Rohtak

Jammu & Kashmir

25. Doda
26. Udhampur

Karnataka

27. Bijapur
28. Belgaum
29. Dharwar
30. Chitradurga

31. Kolar
32. Gulbarga
33. Raichur
34. Bellary
35. Tumkur
36. Chikmagalur

Madhya Pradesh

37. Jhabua
38. Dhar
39. Sidhi
40. Betul
41. Khargaon
42. Shahdol

Maharashtra

43. Nasik
44. Ahmednagar
45. Poona
46. Satara
47. Sangli
48. Sholapur

Orissa

49. Phulbani
50. Kalahandi

Rajasthan

51. Jaisalmer
52. Barmer
53. Jalore
54. Dun arpur
55. Banswara
56. Pali
57. Jodhpur
58. Nagaur
59. Bikaner
60. Churu
61. Udaipur
62. Aimer
63. Jhunjhunu

**9.10(b). DISTRICTS COVERED UNDER DROUGHT PRONE AREAS PROGRAMME
(FORMER RURAL WORKS PROGRAMME) IN THE FIFTH FIVE-YEAR PLAN (Concluded)**

Tamil Nadu

64. Ramanathapuram
65. Dharmapuri

69. Banda

70. Jalaun

71. Hamirpur

Uttar Pradesh

66. Mirzapur
67. Allahabad
68. Varanasi

West Bengal

72. Purulia

73. Bankura

74. Midnapur

Note: Central allocation has been distributed to the various districts according to the following formulae:

Six districts covered by the World Bank Project—Rs. 4 crore per district.

Districts where the Programme covers more than 75 per cent—Rs. 3 crore per district of the area.

Districts where the Programme covers 50 per cent to 75 per cent of the area—Rs. 2.50 crore per district.

Districts where the coverage is less than 50 per cent of the area—Rs. 2.00 crore per district.
For the talukas in the contiguous districts—Rs. 0.30 crore per taluka.

Source: Ministry of Agriculture and Rural Reconstruction, New Delhi.

9.10(c). CUMULATIVE PROGRESS OF IMPLEMENTATION OF SFDA/MFAL PROJECTS

(In lakhs)

Programme	1973-74	1974-75	1975-76†	1976-77	1977-78
← -- At the end of -- →					
1. No. of participants identified	39.27	46.03	84.59	122.36	146.55
2. No. enrolled as members of cooperatives	19.56	23.28	34.78	50.77	62.18
3. No. of beneficiaries under:					
(i) Minor Irrigation	1.72	2.20	3.37	4.76	6.59
(ii) Milch cattle programme	0.76	1.16	1.73	2.70	3.81
(iii) Poultry	0.18	0.09	0.12	0.15	0.17
(iv) Other A.H. programme	0.25	0.48	0.96	1.41	1.77
(v) Rural works artisans scheme	0.08	0.12	0.12	0.12	0.12
(vi) Rural works programme	2.25	2.83	2.83	2.83	2.83
(vii) Improved Agriculture	11.27	15.42	24.44	34.35	44.89
4. Loans disbursed (Rs. lakh)					
(A) Through Cooperatives					
(i) Short term (year-wise)	2,711.81*	2,684.44*	4,231.89	6,264.76	6,974.78
(ii) Medium term	1,617.51	2,362.45	3,469.08	5,383.22	7,501.96
(iii) Long term	3,517.56	4,703.67	6,112.31	8,031.67	10,524.75
(B) Through Commercial Banks					
(i) Short term (year-wise)	252.28	316.62	409.57	839.80	726.75
(ii) Term loan	1,064.52	1,678.21	2,875.06	5,045.93	7,692.93
5. Amount released (Rs. lakh)	4,683.88	6,478.89**	8,628.89	11,278.89	15,774.89
6. Amount utilised	4,153.56	5,741.56	8,410.73	11,287.82	15,206.37

*Relates to Cooperative Year.

**Relates to 133 projects including 46 set up during the year for the Fifth Plan period.

† Relates to 160 projects (ongoing as well as newly set up for the Fifth Plan period).

Source: Ministry of Agriculture & Rural Reconstruction, New Delhi.

PART III

**SELECTED WORLD
FERTILISER AND AGRICULTURAL
STATISTICS**

1.00. WORLD STATISTICS—FERTILISERS

1.01. CAPACITY AND PRODUCTION OF N AND P₂O₅ IN SELECTED COUNTRIES—1978-79

('000 tonnes of nutrient)

Continent/Country	N			P ₂ O ₅		
	Capacity ¹		Production 1978-79	Capacity ²		Production 1978-79
	Existing*	Program- med		Existing*	Program- med	
Africa						
Egypt	271	597	216	—	65	87@
Morocco	—	—	26@	825	860	242@ ⁴
South Africa	666	140	451@	873	270	425@ ⁴
Tunisia	—	272	5@	482	495	251@ ⁴
North America						
Canada	2,109	—	1,674@	1,005	—	660@
USA	18,176	298	10,155	8,914	1,636	8,552
Latin America						
Brazil	479	892	273	246	812	1,186 ⁴
Mexico	1,709	1,095	593	548	281	227
Venezuela	651	—	65@	133	—	14@
Asia						
Afghanistan	58	—	48	—	—	—
Bangladesh	233	544	126	56	—	24
Burma	66	—	58	—	—	—
China	9,289	246	5,664@	24	—	1,775@
India	3,274 (3,902)	5,989 (5,861)	2,173 (2,224)	1,117 (1,284)	1,376 (1,209)	778 (763)
Indonesia	1,164	678	736@	—	—	—
Iran	581	326	72@	156	100	68
Iraq	543	272	166@	—	460	—
Japan	2,801	—	1,457	802	—	707
Korea, Rep. of	1,035	—	751	450	—	389
Korea, DPR	707	200	540@ ²	—	—	127@
Kuwait	543	272	310@	—	—	—
Pakistan	534	544	336	—	—	27
Philippines	199	—	48	81	—	36
Qatar	488	—	118	—	—	127@
Saudi Arabia	163	330	121	—	—	—
Sri Lanka	—	147	—	—	—	—
Turkey	397	544	269@	541	275	221@

(Continued)

1.81. CAPACITY AND PRODUCTION OF N AND P₂O₅ IN SELECTED COUNTRIES—1978-79 (Concluded)

('000 tonnes of nutrient)

Continent/Country	N			P ₂ O ₅		
	Capacity ¹		Production 1978-79	Capacity ²		Production 1978-79
	Existing*	Program- med		Existing*	Program- med	
Europe						
Austria	501	—	295@	74	—	104@
Belgium	645	—	753@	535	—	650@
Bulgaria	857	82	685	510	—	283
Czechoslovakia	996	—	625	12	—	367@
France	2,826	82	1,781@	1,225	—	1,459@
Germany, Dem. Rep.	1,318	262	892	—	—	413 ⁴
Germany, Fed. Rep.	2,809	370	1,273	202	—	686
Italy	1,825	—	1,442	302	—	544
Netherlands	2,232	—	1,540	403	—	405@
Norway	647	—	444	—	—	141
Poland	1,920	407	1,470	616	140	1,026
Romania	2,928	247	1,723	392	170	660
Spain	1,113	272	929	583	—	493
United Kingdom	1,605	330	1,147	582	85	419 ⁴
Oceania						
Australia	435	—	207@	196	111	847@
USSR	15,481	10,122	9,220 ³	4,619	1,990	5,811 ⁴
World Total	89,509	29,217	53,796	28,316	10,286	32,363

() For 1979-80;

N.A.—Not available

@ Unofficial estimate

¹Capacity of ammonia expressed as N.²Capacity of wet process phosphoric acid expressed as P₂O₅.³Nitrogen production includes technical grade nitrogen.⁴Phosphate production includes ground rockphosphate.Source: 1979, *Fertilizer Year Book*, FAO, Rome.⁵Existing capacity at the end of the year 1978-79 is taken from "World Fertilizer Review—1979-80" by William F. Sheldrick and Harald Stier, World Bank (A paper contributed at the FAI Seminar 'Critical Areas Affecting Fertiliser Consumption'—December 1979).

**1.02. RANKING OF MAJOR
1967-68 to**

Year	World Production	Ranking							
		I	II	III	IV	V	VI	VII	VIII
1967-68		USA	USSR	Japan	Ger- many Fed. Rep.	France	Italy	China	UK
	25,567.7	6,607.0	3,753.0	2,034.7	1,559.1	1,239.5	1,095.8	1,013.0	855.0
1968-69		USA	USSR	Japan	Ger- many Fed. Rep.	France	China	Italy	Nether- lands
	28,388.8	7,139.0	4,177.0	2,096.5	1,597.7	1,367.8	1,132.0	1,086.5	954.1
1969-70		USA	USSR	Japan	Ger- many Fed. Rep.	France	China	Italy	Poland
	30,181.2	7,562.0	4,509.0	2,180.9	1,574.1	1,318.1	1,235.0	960.3	937.8
1970-71		USA	USSR	Japan	Ger- many Fed. Rep.	China	France	Poland	Nether- lands
	32,971.8	8,161.0	5,423.0	2,105.1	1,504.6	1,426.0	1,351.1	1,029.9	956.9
1971-72		USA	USSR	Japan	China	France	Ger- many Fed. Rep.	Poland	Nether- lands
	34,961.7	8,091.0	6,055.0	1,915.0	1,853.0	1,416.8	1,320.8	1,080.8	1,038.0
1972-73		USA	USSR	China	Japan	France	Ger- many Fed. Rep.	Nether- lands	Poland
	37,824.9	8,433.0	6,533.0	2,245.0	2,199.0	1,476.5	1,470.6	1,216.6	1,147.3
1973-74		USA	USSR	China	Japan	France	Ger- many Fed. Rep.	Poland	Nether- lands
	40,437.3	9,158.0	7,209.0	2,791.0	2,138.3	1,642.3	1,473.0	1,365.6	1,211.8
1974-75		USA	USSR	China	Japan	France	Ger- many Fed. Rep.	Poland	Nether- lands
	42,513.7	8,474.0	7,806.0	3,090.0	2,340.9	1,694.1	1,574.5	1,457.5	1,334.5

PRODUCING COUNTRIES—NITROGEN
 1978-79

(000' tonnes N)

IX	X	XI	XII	XIII	XIV	XV	XVI	XVII	XVIII
Netherlands	Poland	Canada	Spain	Belgium	India	Romania	Bulgaria	Germany Dem. Rep.	Austria
849.3	593.6	470.1	424.9	402.8	402.6 (1.6)	372.2	353.8	386.0	252.5
UK	Poland	India	Canada	Bulgaria	Belgium	Spain			
840.7	758.9	563.0 (2.0)	554.2	504.2	494.9	494.0			
Netherlands	India	Canada	Spain	Bulgaria	Belgium				
892.6	730.6 (2.4)	671.6	550.6	540.7	491.8				
Italy	India	Canada	Spain	Bulgaria	Belgium				
955.8	832.5 (2.5)	726.1	646.9	601.6	593.6				
Italy	India	Romania	Canada	Spain	Belgium				
1,034.2	942.2 (2.7)	826.8	805.0	673.0	609.9				
India	Italy	Romania	Canada	UK					
1,054.5 (2.8)	1,045.5	874.0	771.6	751.2					
Italy	India	Romania	Spain	UK	Belgium				
1,129.3	1,049.9 (2.6)	854.0	762.7	755.4	653.8				
India	Italy	UK	Romania	Spain					
1,186.6 (2.8)	1,131.4	997.0	980.0	722.0					

(Continued)

**1.02. RANKING OF MAJOR
1967-68 to**

Year	World Production	Ranking							
		I	II	III	IV	V	VI	VII	VIII
1975-76		USA	USSR	China	Japan	Poland	India	France	Roma- nia
	43,896.0	9,591.0	8,467.0	3,172.1	1,557.0	1,532.6	1,506.6 (3.4)	1,361.0	1,292.0
1976-77		USA	USSR	China	India	Poland	Roma- nia	Nether- lands	Fed. Rep. of Ger- many
	46,240.2	9,787.9	8,531.0	3,842.0	1,862.4 (4.0)	1,548.1	1,331.0	1,297.3	1,289.8
1977-78		USA	USSR	China	India	Canada	Poland	Nether- lands	Japan
	49,331.9	9,495.0	9,025.0	4,600.3	1,999.8 (4.0)	1,577.7	1,520.9	1,452.6	1,446.0
1978-79	53,795.7	10,155.0	9,220.0	5,664.1	2,173.0 (4.0)	1,723.0	1,673.9	1,540.0	1,457.0
		USA	USSR	China	India	Roma- nia	Canada	Nether- lands	Japan

() = India's share in world production of N (percentage)

PRODUCING COUNTRIES—NITROGEN
1978-79 (Concluded)

('000 tonnes N)

IX	X	XI	XII	XIII	XIV	XV	XVI	XVII	XVIII
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Fed.	Nether-
Rep. of	lands
Germany	
1,259.0	1,155.0

1.03. RANKING OF MAJOR PRODUC

1967-4

Year	World production												
		I	II	III	IV	V	VI	VII	VIII	IX	X	XI	
1967-68	18,011.1	USA	USSR	France	Australia	GFR	Japan	China	Italy	Belgium	UK	Poland	Spain
		4,992.0	1,867.0	1,309.5	960.1	925.6	710.2	579.0	552.8	501.2	429.6	380.3	327.0
1968-69	18,493.8	USA	USSR	France	GFR	Australia	Japan	Belgium	China	Italy	Poland	UK	GFR
		4,824.0	1,934.0	1,374.0	904.7	866.4	768.0	644.1	627.0	554.1	477.4	436.3	367.0
1969-70	19,196.5	USA	USSR	France	GFR	Australia	Japan	China	Belgium	Italy	Poland	UK	GFR
		5,001.0	2,072.0	1,324.3	919.4	804.1	729.5	694.0	615.5	540.8	593.6	483.9	387.0
1970-71	20,698.8	USA	USSR	France	GFR	China	Australia	Japan	Belgium	Poland	UK	Italy	Spain
		5,389.0	2,500.0	1,450.8	945.8	781.2	694.7	665.3	619.8	599.2	523.6	510.0	487.0
1971-72	22,365.6	USA	USSR	France	GFR	China	Australia	Poland	Japan	Belgium	Spain	Italy	UK
		5,601.0	2,772.0	1,577.1	975.9	916.0	762.0	705.6	685.3	619.8	554.0	504.0	467.0
1972-73	23,811.7	USA	USSR	France	China	GFR	Australia	Poland	Japan	Belgium	Spain	Italy	UK
		5,795.0	2,929.0	1,611.5	1,031.0	985.0	900.0	763.0	728.9	635.1	576.0	500.0	447.0
1973-74	24,878.7	USA	USSR	France	Australia	China	GFR	Poland	Belgium	Japan	Canada	Spain	UK
		6,232.0	2,982.0	1,693.3	1,168.9	1,139.0	962.0	813.6	768.9	735.8	696.3	615.0	447.0

COUNTRIES - PHOSPHATE

('000 tonnes P₂O₅)

	XIV	XV	XVI	XVII	XVIII	XIX	XX	XXI	XXII	XXIII	XXIV	XXV	XXVI
DR	New Zealand	South Africa	Czechoslovakia	Netherlands	India	Yugoslavia	Tunisia	Romania	Hungary				
16	281.3	267.1	266.1	251.3	207.1 (1.1)	203.7	182.6	164.7	152.7				
ain	New Zealand	Netherlands	South Africa	Czechoslovakia	India	Tunisia	Romania	Yugoslavia	Finland				
5	323.6	273.3	270.8	259.9	213.2 (1.2)	183.2	161.8	172.5	165.1				
ar:	New Zealand	South Africa	Czechoslovakia	Netherlands	India	Romania	Tunisia	Finland	Hungary				
2	329.6	312.3	289.4	283.9	223.7 (1.2)	221.4	183.2	171.5	169.7				
DR	South Africa	New Zealand	Czechoslovakia	Netherlands	Romania	Yugoslavia	India	Finland	Tunisia	Hungary	Bulgaria		
5	324.5	321.3	313.2	275.2	244.2	232.9	228.1 (1.1)	191.6	177.3	167.2	147.6		
CR	New Zealand	Czechoslovakia	South Africa	Netherlands	India	Romania	Yugoslavia	Tunisia	Finland				
2	341.3	330.8	324.0	294.8	290.0 (1.3)	244.5	230.3	195.8	185.6				
h and	GDR	Netherlands	South Africa	Czechoslovakia	India	Brazil	Mexico	Finland	Tunisia				
6	409.4	351.5	340.0	334.3	330.3 (1.4)	277.6	217.2	213.0	193.6				
h and	UK	GDR	Romania	Netherlands	Czechoslovakia	India	Brazil	Yugoslavia	Mexico	Hungary			
2	417.0	364.6	361.0	349.8	336.4	324.5 (1.3)	320.3	268.5	254.8	189.9			

(Continued)

1.03. RANKING OF MAJOR PRODUC

1967

Year	World production												
		I	II	III	IV	V	VI	VII	VIII	IX	X	XI	
1974-75	27,059.7	USA	USSR	France	China	GFR	Poland	Japan	Belgium	Australia	Canada	Spain	B
		6,568.0	4,538.0	1,708.6	1,295.8	911.3	823.2	669.4	757.4	728.0	660.9	606.5	47
1975-76	26,125.8	USA	USSR	France	China	Poland	GFR	Belgium	Canada	Brazil	Japan	Australia	U
		6,531.0	5,185.0	1,258.8	1,246.2	929.4	649.0	625.0	610.0	594.4	585.3	480.7	46
1976-77	28,185.4	USA	USSR	France	China	Poland	Brazil	GFR	Australia	Canada	Japan	Spain	B
		7,070.4	5,226.0	1,498.4	1,348.5	928.3	926.1	733.4	721.6	631.8	625.0	592.2	58
1977-78	29,995.7	USA	USSR	France	China	Brazil	Poland	Australia	GFR	Japan	India	Canada	B
		(2.2)	7,480.0	5,886.0	1,560.0	1,387.4	1,122.4	966.2	754.6	722.5	696.0	689.9	650.0
											(2.2)		63
1978-79	32,383.1	USA	USSR	China	France	Brazil	Poland	Australia	India	Japan	GDR	Romania	C
		8,552.0	5,811.0	1,775.4	1,459.0	1,185.8	1,026.4	847.0	778.1	707.0	695.9	660.0	68
									(2.4)				

()=India's share in world production of P₂O₅ (percentage).

1.04. RANKING OF MAJOR CONSUMING COUNTRIES -NITROGEN
1967-68 to 1978-79

('000 tonnes N)

Year	World consumption	Ranking								
		I	II	III	IV	V	VI	VII	VIII	IX
1967-68		USA	USSR	China	France	India	Ger. Fed. Rep.	UK	Japan	Poland
	23,941.7	6,157.5	3,089.0	1,793.0	1,133.1	1,034.6 (4.3)	950.2	908.8	899.9	604.8
1968-69		USA	USSR	China	France	India	Ger. Fed. Rep.	Japan	UK	Poland
	26,624.6	6,311.8	3,454.0	2,402.0	1,243.1	1,208.6 (4.5)	923.7	918.7	855.3	701.1
1969-70		USA	USSR	China	India	Ger. Fed. Rep.	Japan	Poland	UK	
	26,691.0	6,766.8	3,798.0	2,663.0	1,356.0 (4.7)	1,084.6	891.6	785.0	690.3	
1970-71		USA	USSR	China	India	Ger. Fed. Rep.	Japan	Poland	UK	
	31,766.7	7,378.6	4,605.0	3,115.0	1,479.0 (4.7)	1,130.8	872.5	822.4	800.8	
1971-72		USA	USSR	China	India	Ger. Fed. Rep.	UK	Poland	Japan	
	33,677.2	7,272.0	5,182.0	3,141.0	1,798.0 (5.4)	1,131.1	930.1	907.0	676.0	

Year	USA	USSR	China	India	France	Ger. Fed. Rep.	Poland	UK	Japan
1972-73	35,677.2	7,511.7	5,006.0	3,459.0	1,839.0 (5.2)	1,588.1	1,189.0	979.2	789.2
1973-74	38,696.9	8,296.0	6,224.0	4,015.0	1,839.1 (4.7)	1,629.0	1,100.8	1,078.6	874.4 821.2
1974-75	38,595.6	7,808.8	6,696.0	4,000.0	1,765.7 (4.6)	1,554.8	1,200.9	1,143.0	927.0
1975-76	42,908.3	9,445.2	7,339.0	4,360.6	2,148.6 (5.0)	1,707.8	1,228.1	1,227.9	1045.0
1976-77	45,039.0	96,59.1	7,252.0	4,598.4	2,457.1 (5.4)	1,815.0	1,328.1	1,212.6	1,110.0
1977-78	47,800.0	9,039.7	7,622.0	5,922.0	2,913.1 (6.1)	1,831.7	1,324.7	1,250.3	1,177.0
1978-79	51,434.8	9,655.1	7,658.0	6,913.0	3,419.5 (6.6)	1,978.0	1,354.1	1,350.0	1,222.0

() = India's share in world consumption of N (percentage)

1.05. RANKING OF MAJOR CONSUMING
1967-68 to

Year	World consumption	Ranking							
		I	II	III	IV	V	VI	VII	VIII
1967-68		USA	USSR	France	Australia	GFR	Japan	China	Italy
	16,956.6	4,040.0	1,697.0	1,505.2	880.0	787.9	670.0	543.0	464.5
1968-69		USA	USSR	France	Australia	GFR	Japan	China	Poland
	18,174.5	4,227.0	1,748.0	1,587.4	900.0	801.7	405.0	631.0	525.5
1969-70		USA	USSR	France	Australia	GFR	China	Japan	Poland
	18,817.9	4,144.7	1,916.0	1,683.7	882.2	856.6	730.0	702.1	595.5
1970-71		USA	USSR	France	GFR	China	Australia	Japan	Poland
	19,848.4	4,357.6	2,211.0	1,809.4	913.1	780.0	743.2	655.9	635.1
1971-72		USA	USSR	France	GFR	China	Australia	Poland	Japan
	21,098.3	4,420.7	2,442.0	1,932.1	934.0	917.0	775.8	718.6	661.4
1972-73		USA	USSR	France	China	GFR	Australia	Poland	Japan
	22,440.3	4,601.8	2,612.0	2,067.4	1,043.5	902.6	880.0	781.7	729.7
1973-74		USA	USSR	France	China	Australia	GFR	Poland	Japan
	24,159.1	4,817.2	2,731.0	2,168.0	1,260.1	1,170.6	916.7	850.2	793.0
1974-75		USSR	USA	France	China	Brazil	Poland	GFR	Japan
	23,922.3	4,160.0	4,092.8	1,710.8	1,324.2	912.5	866.7	876.9	692.4
1975-76		USA	USSR	France	China	Brazil	Poland	GFR	Japan
	25,181.8	4,742.3	4,728.0	1,664.3	1,253.4	1,013.8	947.2	779.7	623.3
1976-77		USA	USSR	France	China	Brazil	Poland	GFR	Australia
	27,333.3	5,107.2	4,903.0	1,796.2	1,354.8	1,308.3	933.1	887.4	739.3
1977-78		USSR	USA	France	Brazil	China	Poland	GFR	India
	28,199.8	5,104.0	4,823.1	1,839.7	1,545.5	1,475.7	947.6	873.2	866.6 (3.1)
1978-79		USSR	USA	France	China	Brazil	India	Poland	GFR
	30,406.2	5,360.0	5,029.2	1,950.0	1,891.0	1,523.1	1,106.0 (3.6)	940.0	906.2

() India's share in world consumption of P₂O₅ (percentage)

COUNTRIES—PHOSPHATE
 1978-79
('000 tonnes P₂O₅)

IX	X	XI	XII	XIII	XIV	XV	XVI	XVII
UK	Poland	Spain	GDR	India	Bulgaria	Czecho- slovakia	South Africa	Belgium
484.3	458.8	350.5	344.4	334.8 (2.0)	260.4	248.5	247.0	158.9
Italy	UK	Spain	Bulgaria	India	GDR	Czecho- slovakia	South Africa	Turkey
467.3	447.0	389.1	408.6	382.1 (2.1)	377.8	295.9	258.9	181.7
Italy	UK	Spain	India	GDR	Czecho- slovakia	Bulgaria	South Africa	
486.2	480.4	400.2	416.0 (2.2)	382.9	312.3	279.9	261.4	
UK	Italy	India	GDR	Czecho- slovakia	South Africa	Bulgaria		
542.6	518.4	541.0 (2.7)	410.0	349.6	272.0	235.1		
Italy	India	GDR	Czecho- slovakia	Turkey	Belgium			
574.5	558.2 (2.7)	385.6	365.8	295.4	266.0			
Brazil	Italy	India	Spain	UK	Canada	GDR		
690.1	588.2	581.2 (2.6)	472.2	461.8	415.30	396.0		
Brazil	India	Spain	Canada	UK	Italy			
719.9	649.7 (2.7)	518.6	494.2	478.2	472.2			
Australia	Spain	Canada	India	GDR	Czecho- slovakia	UK	Italy	
620.2	512.8	501.8	471.5 (2.0)	453.1	414.4	383.7	368.5	
Canada	Australia	Italy	India	Czecho- slovakia	GDR	Hungary	Spain	
502.7	490.3	489.6	468.8 (1.9)	456.5	441.1	429.3	422.2	
Japan	India	Spain	Turkey	Italy	Czech- slovakia			
737.0	635.6 (2.3)	556.7	521.9	483.0	459.0			
Australia	Japan	Italy	Turkey					
702.0	747.0	622.9	618.5					
Australia	Italy							
865.4	811.9							

1.06. RANKING OF MAJOR
1967-68 to

Year	World consumption	Rank-								
		I	II	III	IV	V	VI	VII	VIII	IX
1967-68		USA	USSR	France	GFR	Poland	Japan	GDR	UK	Czecho-slovakia
	14,074.5	3,440.5	2,136.0	1,158.3	1,119.3	773.4	658.8	615.9	500.4	410.2
1968-69		USA	USSR	France	GFR	Poland	Japan	GDR	UK	Czecho-slovakia
	14,695.5	3,530.3	2,176.0	1,213.4	1,045.9	914.6	670.2	596.2	484.5	466.3
1969-70		USA	USSR	France	GFR	Poland	Japan	GDR	Czecho-slovakia	UK
	15,469.2	3,661.1	2,319.0	1,279.5	1,120.1	1,035.9	668.3	623.6	475.9	461.5
1970-71		USA	USSR	France	Poland	GFR	GDR	Japan	UK	Czecho-slovakia
	16,669.8	3,838.6	2,574.0	1,388.6	1,184.6	1,114.2	613.9	610.5	535.1	514.2
1971-72		USA	USSR	France	Poland	GFR	GDR	Japan	Czecho-slovakia	UK
	17,625.1	3,929.9	2,788.0	1,503.0	1,262.6	1,233.5	638.8	577.6	571.5	496.5
1972-73		USA	USSR	France	Poland	GFR	Japan	Czecho-slovakia	GDR	UK
	18,794.0	4,207.4	3,238.0	1,646.0	1,235.8	1,147.5	599.6	585.2	529.3	458.9
1973-74		USA	USSR	France	Poland	GFR	Japan	GDR	Czecho-slovakia	Brazil
	20,733.2	4,601.1	3,605.0	1,825.9	1,419.1	1,163.3	684.9	658.3	572.0	526.5
1974-75		USA	USSR	Poland	France	GFR	Japan	GDR	Czecho-slovakia	China
	19,858.0	4,039.3	3,884.0	1,430.0	1,390.3	1,170.5	721.8	715.9	627.8	547.2
1975-76		USSR	USA	Poland	France	GFR	GDR	Czecho-slovakia	Brazil	Hungary
	21,440.3	5,176.0	4,726.2	1,496.3	1,314.2	1,099.0	706.5	695.6	557.6	533.1
1976-77		USSR	USA	France	Poland	GFR	Brazil	Japan	Czecho-slovakia	GDR
	23,116.5	5,577.0	5,292.3	1,494.2	1,440.2	1,195.1	721.5	647.0	634.0	623.9
1977-78		USSR	USA	France	Poland	GFR	Brazil	Japan	Czecho-slovakia	Hungary
	23,170.9	5,400.0	5,013.2	1,558.4	1,407.6	1,083.2	962.9	661.0	597.0	523.9
1978-79		USA	USSR	France	Poland	GFR	Brazil	Japan	Czecho-slovakia	India
	24,787.1	5,639.1	5,394.0	1,689.6	1,400.0	1,178.3	990.9	723.0	656.0	591.5 (2.4)

() = India's share in world consumption of K₂O (percentage)

CONSUMING COUNTRIES — POTASH

1978-79

('000 tonnes K₂O)

ing									
X	XI	XII	XIII	XIV	XV	XVI	XVII	XVIII	XIX
China	Italy	Belgium	Austria	Denmark	India	Canada	Brazil	Yugoslavia	Netherlands
250.0	178.4	177.3	174.4	173.8	169.9 (1.2)	166.1	136.9	132.0	128.2
China	Brazil	Denmark	Italy	India	Canada	Belgium	Hungary	Austria	
270.0	184.3	181.0	178.8	170.0 (1.2)	168.3	161.8	148.2	134.8	
China	Brazil	Italy	India	Brazil	Italy	Belgium	Denmark		
300.0	200.3	194.5	210.0 (1.4)	200.3	194.5	187.2	182.6		
China	Brazil	India	Hungary	Italy	Spain	Canada	Denmark		
325.0	305.9	236.3 (1.4)	229.0	225.3	206.0	184.3	181.5		
China	Brazil	Hungary	India	Spain	Italy	Denmark	Canada		
345.0	350.6	309.2	300.0 (1.7)	282.0	250.4	191.0	190.5		
Brazil	China	India	Hungary	Italy	Spain	Denmark			
456.2	375.7	347.5 (1.8)	328.8	266.3	257.1	203.7			
China	UK	Hungary	India	Spain	Italy	Denmark	Canada		
522.7	497.8	387.2	359.8 (1.7)	274.3	267.4	215.7	202.0		
Brazil	Hungary	UK	India	Spain	Italy	Canada	Belgium		
521.2	423.2	378.0	336.1 (1.7)	266.0	231.4	206.8	179.6		
Japan	UK	China	India	Italy	Spain	Canada	Denmark		
525.0	384.0	317.1	278.3 (1.3)	257.7	257.5	242.0	171.3		
Hungary	UK	China	India	Spain	Canada	Italy	Yugoslavia		
494.7	411.0	344.0	318.6 (1.4)	308.4	254.0	251.7	168.0		
India	GDR	China	UK	Italy					
506.2 (2.2)	471.7	436.6	416.0	328.8					
Hungary	China	GDR	UK						
554.7	553.6	455.1	426.0						

1.07. PRODUCTION AND CONSUMPTION OF N, P₂O₅ & K₂O
1977-78 & 1978-79

('000 tonnes)

Continent/Country	Production						Consumption					
	1977-78			1978-79			1977-78			1978-79		
	N	P ₂ O ₅	K ₂ O	N	P ₂ O ₅	K ₂ O	N	P ₂ O ₅	K ₂ O	N	P ₂ O ₅	K ₂ O
Africa	765.3	1,063.1	81.3	834.6	1,184.8		1,327.3	909.7	368.9	1,388.6	914.8	357.1
Algeria	41.8	79.3		42.2	86.6		66.4	92.7	25.0	61.4	74.7	25.0
Egypt	195.2	87.6		216.5	86.6		459.5	80.8	2.9	490.5	86.9	3.8
Morocco	20.9	184.8		25.6	242.0		75.2	70.4	33.9	80.7	72.0	33.0
Senegal	9.7	20.2		9.3	28.4		12.0	17.0	17.7	6.8	13.7	11.3
South Africa	414.0	403.0		451.0	424.8		343.0	390.0	135.3	379.0	408.0	130.1
Tunisia	5.0	246.4		5.0	251.5		17.2	23.3	3.3	23.5	27.7	4.0
North & Central America	11,827.6	8,433.5	8,181.5	12,589.0	9,460.5	8,673.0	11,048.9	5,570.0	5,580.0	11,762.9	6,104.2	6,296.6
Canada	1,577.7	650.9	6,206.5	1,673.9	659.6	6,387.0	705.8	560.6	269.0	834.6	630.5	345.2
Cuba	49.6	19.6		34.3	13.5		223.0	55.0	140.0	227.0	62.6	150.0
Mexico	611.2	282.1		593.4	227.0		794.2	218.0	55.5	752.2	258.7	55.7
U.S.A.	9,495.0	7,480.0	1,975.0	10,155.0	8,552.0	2,286.0	9,039.7	4,623.1	5,013.2	9,655.1	5,029.2	5,639.1

South America	574.5	1,233.6	11.2	529.8	1,280.3	11.2	1,217.5	1,834.3	1,102.9	1,209.9	1,831.1	1,148.6
Brazil	231.4	1,122.4		273.1	1,165.8		700.5	1,545.5	962.9	707.8	1,523.1	990.9
Chile	96.0	9.6	11.2	89.2		11.2	40.0	55.2	9.8	49.3	65.0	12.9
Colombia	71.6	50.0		66.0	50.3		155.2	75.1	51.4	141.3	66.3	63.0
Peru	68.8	1.6		70.7	1.4		104.2	15.3	13.8	69.3	16.3	12.6
Venezuela	75.0	18.0		65.0	14.0		87.6	53.6	39.1	91.5	59.1	46.2
Asia	11,139.2	3,860.4	953.2	13,165.8	4,435.0	962.7	13,475.4	4,836.7	2,156.2	15,162.5	5,732.7	2,628.6
Afghanistan	37.7			48.8			37.0	17.2		48.7	23.4	
Bangladesh	105.7	17.6		126.0	24.8		22³.2	90.6	25.1	227.7	106.1	42.0
Burma	53.0			67.5			49.9	10.1	1.9	67.9	14.4	3.2
China	4,600.3	1,387.4	270.0	5,664.1	1,775.4	310.0	5,922.0	1,478.7	436.6	6,913.0	1,891.0	553.6
India	1,999.8	669.9		2,178.0	776.1		2,813.4	773.1	482.7	2,986.1	950.9	560.0
Indonesia	396.1			736.0			465.2	111.8	38.4	524.0	135.4	75.4
Iran	124.0	91.4		72.3	67.9		221.7	163.1	3.9	167.2	119.4	1.0
Israel	68.1	44.3	683.2	72.9	54.4	652.7	38.2	19.4	21.7	42.2	20.2	21.9

(Continued)

1.07. PRODUCTION AND CONSUMPTION OF N, P₂O₅ & K₂O
1977-78 & 1978-79 (Concluded)

('000 tonnes)

Continent/Country	Production						Consumption					
	1977-78			1978-79			1977-78			1978-79		
	N	P ₂ O ₅	K ₂ O	N	P ₂ O ₅	K ₂ O	N	P ₂ O ₅	K ₂ O	N	P ₂ O ₅	K ₂ O
Japan	1446.0	696.0		1,457.0	707.0		716.0	747.0	661.0	723.0	775.0	728.0
Jordan		7.1			7.3		1.4	3.5	0.6	3.2	3.9	1.0
Korea Dem. Republic	440.0	127.0		540.0	127.0		442.8	127.0	40.8	535.0	127.0	104.7
Korea, Republic of	685.9	281.8		751.0	389.1		387.9	210.3	138.0	461.6	235.6	173.7
Pakistan	311.1	15.5		336.5	27.0		554.1	157.3	5.8	684.1	190.6	7.1
Philippines	37.9	29.3		45.7	36.1		174.2	40.4	45.9	205.4	49.8	56.6
Saudi Arabia	92.8			121.0			4.7	3.0	0.3	7.0	4.6	2.8
Qatar	75.9			117.6			0.8			0.4		
Sri Lanka							66.3	22.5	25.4	79.2	24.7	0.38
Turkey	187.3	275.8		268.7	220.5		665.7	613.5	19.5	773.8	654.1	25.0
Europe	15,785.2	6,617.9	3,185.7	17,199.5	8,894.0	3,683.2	12,952.7	8,659.7	3,329.3	14,002.5	9,178.6	3,716.0
Austria	286.0	167.5	—	295.0	140.0	—	134.5	94.4	147.5	143.6	93.8	142.3
Belgium-Lux	609.0	623.0	—	752.9	650.0	—	191.8	118.0	143.6	205.0	113.3	153.6
Bulgaria	705.0	278.6	—	685.3	282.7	—	362.6	331.2	47.8	376.3	328.6	32.7
Czechoslovakia	605.0	382.9	—	625.0	367.3	—	601.0	436.0	597.0	626.0	465.0	656.0
Denmark	116.8	98.6	—	121.3	105.6	—	373.7	140.6	177.2	378.9	135.6	172.6

<i>Finland</i>	185.4	143.5	—	239.2	165.2	—	166.4	142.9	127.0	183.3	152.1	136.5
<i>France</i>	1,470.0	1,560.0	1,704.8	1,781.0	1,459.0	1,831.3	1,831.7	1,839.7	1,552.4	1,978.0	1,950.0	1,689.6
<i>Germany Dem. Rep. of</i>	838.5	402.7	3,229.0	891.8	412.6	3,923.0	770.8	427.0	471.7	764.0	430.9	455.1
<i>Germany Fed. Rep. of</i>	1304.7	722.5	2,445.4	1,272.7	695.9	2,539.6	1,924.7	873.2	1,183.2	1,354.1	906.2	1,178.3
<i>Hungary</i>	572.4	196.3	—	812.5	238.8	—	582.1	404.9	523.9	570.1	409.5	554.7
<i>Italy</i>	1,041.7	509.5	184.2	1,442.1	544.2	134.7	817.3	630.8	326.6	1,042.7	811.9	384.0
<i>Netherlands</i>	1,452.6	261.6	—	1,540.0	405.0	—	446.7	86.6	110.7	442.0	87.0	106.0
<i>Poland</i>	1,520.9	966.2	—	1,470.2	1,026.4	—	1,250.3	947.6	1,407.6	1,350.0	940.0	1,400.0
<i>Romania</i>	1,381.0	548.0	—	1,723.0	569.0	—	571.0	468.0	91.1	821.0	522.0	137.0
<i>Spain</i>	906.0	478.9	551.8	929.2	498.1	662.6	788.1	375.8	247.4	870.6	460.8	288.1
<i>Sweden</i>	175.2	145.3	—	178.0	128.5	—	258.0	140.9	128.6	256.0	137.7	129.6
<i>United Kingdom</i>	1,199.0	433.0	121.0	1,147.0	419.4	171.8	1,177.0	416.0	416.0	1,222.0	425.0	426.0
<i>Yugoslavia</i>	383.9	229.1	—	395.7	217.6	—	402.0	205.0	195.0	425.0	220.0	210.0
USSR	9,025.0	5,586.0	8,347.0	9,920.0	58,110.0	8,193.0	7,522.0	5,104.0	5,400.0	7,658.0	5,366.0	5,394.0
Oceania	215.0	1,201.1	—	207.0	1,297.6	—	256.3	1,185.4	233.6	250.4	1,284.7	246.0
<i>Australia</i>	215.0	754.6	—	207.0	847.0	—	220.0	784.3	90.9	215.0	865.4	99.8
<i>Fiji</i>	—	—	—	—	—	—	9.9	1.8	0.2	9.0	2.2	0.7
<i>New Zealand</i>	—	397.7	—	—	399.9	—	22.0	398.1	140.4	20.0	415.3	143.2
World Total	49,331.9	29,995.7	2,5759.9	53,795.7	32,363.1	26,503.1	47,800.0	28,199.8	23,170.9	51,434.8	39,406.2	24,787.1

Source : 1979, Fertilizer Year Book, FAO, Rome.

104. PRODUCTION OF
1977-78 &

Continent/country	Year	Ammonium sulphate (N)	Ammonium nitrate (N)	Ammonium sulphate nitrate (N)	Calcium nitrate (N)	Urea (N)	Ammonium phosphate	
							N	P ₂ O ₅
Africa								
Egypt	1977-78	1.8	193.3	—	—	—	—	—
	1978-79	—	216.5	—	—	—	—	—
North & Central America								
U.S.A.	1977-78	451.0	947.0	—	—	908.0	1,396.0	4,126.0
	1978-79	462.0	1,032.0	—	—	1,090.0	880.0	4,610.0
South America								
Brazil	1977-78	7.9	102.5	—	—	25.9	86.3	271.1
	1978-79	11.8	107.0	—	—	32.9	88.8	284.4
Peru	1977-78	1.5	14.3	—	—	53.0	—	—
	1978-79	1.5	16.2	—	—	51.0	—	—
Asia								
Bangladesh	1977-78	—	—	—	—	105.7	—	—
	1978-79	—	—	—	—	126.0	—	—
India	1977-78	114.8	127.3	—	—	1,413.0	69.3	128.9
	1978-79	104.8	139.7	—	—	1,520.8	68.9	137.9
Indonesia	1977-78	19.4	—	—	—	876.7	—	—
	1978-79	27.1	—	—	—	708.9	—	—
Iran	1977-78	0.95	6.0	—	—	79.9	34.2	89.2
	1978-79	0.69	1.8	—	—	43.4	26.5	67.9
Israel	1977-78	17.7	—	—	—	11.4	—	—
	1978-79	19.3	—	—	—	13.7	—	—
Japan	1977-78	370.0	13.0	—	—	610.0	—	—
	1978-79	349.0	12.0	—	—	650.0	—	—
Korea, Rep. of	1977-78	39.4	—	—	—	416.0	42.9	109.5
	1978-79	40.0	—	—	—	490.6	78.8	201.4
Kuwait	1977-78	—	—	—	—	290.8	—	—
	1978-79	—	—	—	—	305.2	—	—
Pakistan	1977-78	10.9	12.5	—	—	278.7	—	—
	1978-79	20.6	21.1	—	—	285.5	—	—
Philippines	1977-78	—	—	—	—	—	—	—
	1978-79	—	—	—	—	—	—	—

FERTILISERS—MATERIALWISE

1978-79

('000 tonnes of nutrient)

N	P ₂ O ₅	K ₂ O	Other NPK complexes			Total		
			Single superphosphate (P ₂ O ₅)	Concentrated superphosphate (P ₂ O ₅)	Muriate of potash (K ₂ O)	N	P ₂ O ₅	K ₂ O
—	—	—	87.6	—	—	195.2	87.6	—
—	—	—	86.6	—	—	216.5	86.6	—
—	—	—	275.0	1,804.0	1,806.0	9,495.0	7,480.0	1,975.3
—	—	—	291.0	1,725.0	1,889.0	10,155.0	8,552.0	2,286.0
8.7	46.7	—	239.1	441.4	—	231.4	1,122.4	—
32.3	112.4	—	238.9	419.7	—	273.1	1,185.8	—
—	—	—	1.6	—	—	68.8	1.6	—
—	—	—	1.4	—	—	70.7	1.4	—
—	—	—	—	—	—	—	105.7	17.6
—	—	—	—	—	—	—	126.0	24.3
271.2	379.6	—	188.0	3.3	—	199.8	669.1	—
394.3	453.4	—	177.8	9.0	—	2,173.0	778.1	—
—	—	—	—	—	—	396.1	—	—
—	—	—	—	—	—	735.0	—	—
—	—	—	—	—	—	124.0	91.4	—
—	—	—	—	—	—	72.3	67.9	—
23.2	—	—	41.6	—	683.2	68.1	44.3	683.2
24.6	—	—	53.8	—	652.7	72.9	54.4	652.7
292.0	407.0	—	99.0	23.0	—	1,446.0	696.0	—
294.0	413.0	—	91.0	39.0	—	1,457.0	707.0	—
137.0	197.0	—	20.4	—	—	635.9	281.8	—
141.6	147.3	—	20.3	—	—	751.0	389.1	—
—	—	—	—	—	—	290.8	—	—
—	—	—	—	—	—	310.0	—	—
—	—	—	15.5	—	—	311.1	15.5	—
—	9.3	—	17.7	—	—	396.5	27.0	—
—	—	—	—	—	—	37.9	29.3	—
—	—	—	—	—	—	45.7	36.1	—

(Continued)

1.88. PRODUCTION OF
1977-78 &

Continent/country	Year	Ammonium sulphate (N)	Ammonium nitrate (N)	Ammonium sulphate nitrate (N)	Calcium nitrate (N)	Urea (N)	Ammonium phosphate	
							N	P ₂ O ₅
Europe								
Belgium-Lux	1977-78	111.0	243.1	—	—	—	—	19.1
	1978-79	—	—	—	—	—	—	—
Bulgaria	1977-78	23.2	382.1	—	—	297.2	—	—
	1978-79	25.8	371.9	—	—	285.3	—	—
Denmark	1977-78	—	23.3	—	—	—	—	—
	1978-79	—	25.4	—	—	—	—	—
Finland	1977-78	—	34.6	—	—	22.6	—	—
	1978-79	—	50.0	—	—	23.9	—	—
Germany, Fed. Republic of	1977-78	226.1	492.3	126.0	—	—	—	—
	1978-79	188.0	530.0	132.1	—	—	—	—
German Dem. Rep.	1977-78	—	—	—	—	—	—	—
	1978-79	—	—	—	—	—	—	—
Italy	1977-78	243.0	179.0	—	5.0	355.0	—	—
	1978-79	259.8	292.1	—	16.5	640.7	—	—
Netherlands	1977-78	118.6	423.6	—	—	468.4	23.1	27.2
	1978-79	—	—	—	—	—	—	—
Poland	1977-78	108.3	686.3	—	—	409.2	121.7	325.9
	1978-79	116.1	871.5	—	—	358.2	122.6	328.2
Australia	1977-78	—	—	—	—	—	—	—
	1978-79	—	—	—	—	—	—	—
U.S.S.R.	1977-78	—	—	—	—	—	—	—
	1978-79	—	—	—	—	—	—	—

Source: 1979, Fertilizer Year Book, FAO, Rome.

FERTILISERS—MATERIALWISE
1978-79 (Concluded)

('000 tonnes of nutrient)

Other NPK complexes			Single superphosphate (P ₂ O ₅)	Concentrated superphosphate (P ₂ O ₅)	Muriate of potash (K ₂ O)	Total		
N	P ₂ O ₅	K ₂ O				N	P ₂ O ₅	K ₂ O
—	167.2	—	—	—	—	609.0	623.0	
—	—	—	—	—	—	752.9	650.0	
—	—	—	—	—	278.6	705.0	278.6	
—	—	—	—	—	282.7	685.3	282.7	
—	88.1	38.4	—	60.3	—	116.8	98.6	
—	94.3	36.7	—	68.9	—	121.3	105.6	
—	127.4	128.3	—	2.9	—	185.4	143.5	
—	164.3	152.5	—	2.8	—	239.2	165.2	
388.7	366.2	—	46.9	—	1,963.0	1,304.7	722.5	2,445.4
362.2	342.1	—	36.7	—	2,022.3	1,272.7	695.9	2,539.6
—	—	—	—	—	—	838.5	402.7	3,329.0
—	—	—	—	—	—	891.8	412.6	3,323.0
259.7	343.5	—	131.0	35.0	—	1,041.7	509.5	134.2
315.3	377.2	—	134.9	32.1	—	1,442.1	544.2	134.7
132.0	156.3	—	11.2	64.9	—	1,452.6	261.6	
—	—	—	—	—	—	1,540.0	405.0	
—	—	—	571.1	—	—	1,520.9	966.2	
—	—	—	628.4	—	—	1,470.2	1,026.4	
—	—	—	754.6	—	—	215.0	754.6	
—	—	—	847.0	—	—	207.0	847.0	
—	—	—	—	—	—	9,025.0	5,586.0	8,347.0
—	—	—	—	—	—	9,220.0	5,911.0	8,193.0

1.05. PRODUCTION OF ROCKPHOSPHATE
1977, 1978 & 1979

('000 tonnes)

Continent/Country	1977	1978	1979
World Total	113,015	123,072	128,789
West Europe	215	137	134
Finland	—	—	2
France	19	25	20
West Germany	81	—	—
Sweden	50	80	62
Turkey	65	32	50
East Europe	23,629	23,947	23,000
U.S.S.R.	23,629	23,947	23,000
North America	47,256	50,037	51,611
United States	47,256	50,037	51,611
Central America	180	265	162
Curacao	80	80	49
Mexico	100	185	113
South America	651	1,156	1,700
Brazil	608	1,094	1,695
Colombia	—	2	5
Venezuela	43	60	—
Africa	29,622	32,561	34,017
Algeria	997	1,136	1,084
Egypt	580	642	645
Morocco	17,259	19,678	20,175
Senegal	1,802	1,762	1,804
South Africa	2,403	2,699	3,221
Togo	2,857	2,827	2,916
Tunisia	3,614	3,712	4,040
Uganda	1	—	—
Zimbabwe	109	105	132
Asia	9,401	12,267	13,874
China	2,000	3,200	4,800
Christmas Island	1,260	1,386	1,357
India	635	760	645
Indonesia	4	5	5
Israel	1,232	1,759	2,216
Jordan	1,782	2,303	2,826
North Korea	450	450	450
Philippines	13	4	5
Syria	425	800	1,170
Vietnam	1,600	1,600	400
Oceania	2,061	2,702	2,291
Australia	496	235	7
Nauru	1,146	1,999	1,838
Banaba	419	468	446

Source : Statistical supplement July—August, 1980.
The British Sulphur Corporation Ltd., London.

1.10. PRODUCTION OF SULPHUR-IN-ALL-FORMS
1977, 1978 & 1979

('000 tonnes)

Continent/ Country	1977		1978		1979	
	All-forms	Brimston	All-forms	Brimstone	All-forms	Brimstone
World Total	52,668	32,761	54,714	34,232	56,181	35,059
Western World	34,755	22,403	35,016	24,454	35,781	25,641
Communist World	17,913	8,358	19,698	9,778	20,400	9,418
West Europe	7,811	3,296	7,729	3,315	7,697	3,524
Finland	427	34	354	5	411	—
France	2,180	2,020	2,219	2,060	2,160	1,992
West Germany	1,627	851	1,564	855	1,811	1,044
Italy	678	76	640	70	568	65
Norway	203	5	195	6	176	7
Spain	1,335	12	1,290	13	1,120	15
Sweden	265	13	312	18	283	20
Others	1,096	286	1,146	328	1,202	388
Africa	750	36	767	36	741	37
Asia	4,404	2,434	4,464	2,470	4,618	2,714
Iran	597	527	524	542	335	335
Iraq	655	655	641	641	762	762
Japan	2,825	1,100	2,727	1,104	2,818	1,189
Others	397	152	578	184	703	428
Oceania	250	7	255	10	257	10
North America	19,006	16,289	19,243	16,328	19,671	16,811
Canada	7,546	6,776	7,380	6,625	6,932	6,364
United States	11,460	9,513	11,863	9,703	12,739	10,447
Latin America*	2,538	2,341	2,561	2,295	2,823	2,543
Mexico	1,974	1,875	1,992	1,818	2,230	2,120
Others	564	466	569	477	593	423
Communist World†	17,913	8,358	19,698	9,778	20,400	9,418
Poland	5,150	4,825	5,660	5,325	5,195	4,850
USSR	9,770	3,020	10,800	3,800	10,950	3,800
Others	2,993	513	3,238	653	4,255	768

* Latin America excluding Cuba.

† Totals include China, North Korea, Cuba, Vietnam, G.D.R.

Source: Statistical Supplement July-Aug. 1980. The British Sulphur Corporation Ltd., London.

1.11. PRODUCTION OF SULPHURIC ACID
(100% H₂SO₄)
1977, 1978 & 1979

('000 tonnes)

<i>Continent/country</i>	1977	1978	1979
World total	123,030	131,295	135,246
Western World	85,794	98,351	94,703
Communist World	37,236	39,944	40,543
West Europe	26,640	27,376	27,741
Belgium	2,030	2,109	2,309
France	4,382	4,487	4,957
West Germany	4236	4,591	4,458
Italy	3,200	3,150	2,950
Netherlands	1,638	1,858	1,786
Spain	2,997	2,965	2,950
United Kingdom	3,405	3,453	3,498
Others	4,752	4,763	4,833
Africa	6,210	6,367	6,764
Morocco	1,326	1,271	1,435
South Africa	2,341	2,525	2,544
Others	2,543	2,571	2,685
Asia	11,411	12,342	12,382
India	1,850	2,311	2,574
Japan	6,392	6,437	6,582
South Korea	988	1,400	1,450
Others	2,181	2,194	1,777
Oceania	2,493	2,570	2,773
Australia	1,803	1,890	2,058
New Zealand	690	680	715

(Continued)

1.11. PRODUCTION OF SULPHURIC ACID**(100% H₂SO₄)****1977, 1978 & 1979 (Concluded)**

('000 tonnes)

Continent/country	1977	1978	1979
North America	34,417	37,712	39,211
Canada	3,431	3,527	3,630
United States	30,986	34,186	36,181
Latin America*	4,623	5,156	5,832
Mexico	2,295	2,372	2,430
Argentina	244	249	282
Brazil	1,348	1,650	2,234
Chile	350	355	351
Others	386	530	535
Communist World	37,236	39,944	40,543
Poland	3,293	3,300	3,500
USSR	21,100	22,400	22,400
Others	12,843	14,244	14,643

* Latin America excluding Cuba.

Source: Statistical Supplement July-Aug. 1980. The British Sulphur Corporation Ltd., London.

1.12. CONSUMPTION OF
1977-78 &

Continent/country	Year	Ammonium sulphate (N)	Calcium nitrate (N)	Ammonium nitrate (N)	Urea (N)	Ammonium phosphate	
						N	P ₂ O ₅
Africa							
Egypt	1977-78	54.9	9.8	267.9	126.7	—	—
	1978-79	45.7	23.1	244.7	176.8	—	—
South Africa	1977-78	25.7	—	103.2	39.6	—	—
	1978-79	—	—	—	—	—	—
North & Central America							
Mexico	1977-78	—	—	—	—	—	—
	1978-79	209.9	—	82.9	174.2	42.5	108.6
U.S.A.	1977-78	170.7	—	746.4	799.0	92.8	162.8
	1978-79	143.2	—	764.8	877.3	90.4	150.0
South America							
Brazil	1977-78	169.8	—	106.2	202.6	170.8	493.4
	1978-79	172.6	—	109.9	197.2	162.9	486.0
Asia							
Bangladesh	1977-78	—	—	—	223.2	—	—
	1978-79	—	—	—	227.7	—	—
India	1977-78	113.9	—	126.3	2,175.7	111.1	230.6
	1978-79	119.8	—	160.5	2,224.5	139.6	318.1
Iran	1977-78	5.5	—	4.1	147.8	63.3	161.8
	1978-79	5.5	—	5.0	109.9	46.3	118.3
Japan	1977-78	196.0	—	12.0	129.0	—	—
	1978-79	195.0	—	13.0	135.0	—	—
Korea, Rep. of	1977-78	9.9	—	—	237.8	—	—
	1978-79	9.4	—	—	279.4	—	—
Pakistan	1977-78	26.6	—	20.5	303.0	40.8	—
	1978-79	20.0	—	19.0	530.8	35.6	—
Philippines	1977-78	—	—	—	—	—	—
	1978-79	—	—	—	—	—	—
Turkey	1977-78	—	—	—	—	—	—
	1978-79	—	—	—	—	—	—

FERTILISERS

1978-79

('000 tonnes of nutrient)

Other complexes			Single superphosphate (P ₂ O ₅)	Concentrated superphosphate (P ₂ O ₅)	Muriate of potash (K ₂ O)	Total consumption		
N	P ₂ O ₅	K ₂ O				N	P ₂ O ₅	K ₂ O
0.3	—	—	80.8	—	—	459.5	80.8	2.9
0.1	—	—	86.6	—	—	490.5	86.9	3.8
169.4	317.5	118.3	59.3	—	13.0	343.0	390.0	135.3
						379.0	408.0	130.1
—	111.5	—	56.7	49.8	—	794.2	218.0	55.5
49.2	37.1	—	56.4	58.5	—	752.2	258.7	55.7
—	—	13.6	18.8	442.8	2,350.0	9,039.7	4,623.1	5,013.2
—	—	12.6	15.7	504.3	2,765.7	9,655.1	5,029.2	5,639.1
11.0	46.9	7.5	264.8	611.9	932.4	700.5	1,545.5	962.9
35.6	112.5	11.2	254.9	535.8	952.7	707.8	1,523.1	990.9
—	—	—	—	90.6	25.1	223.2	90.6	25.1
—	—	—	—	108.1	42.0	227.7	108.1	42.0
281.5	381.4	2.0	157.7	3.4	475.8	2,813.3	773.1	482.7
335.9	454.7	1.9	170.8	7.2	551.0	2,986.1	950.9	560.0
—	—	—	—	0.3	—	221.7	163.1	3.9
—	—	—	—	0.6	—	167.2	119.4	1.0
310.0	460.0	—	97.0	30.0	523.0	716.0	747.0	661.0
315.0	483.0	—	92.0	36.0	568.0	723.0	775.0	723.0
140.2	144.1	79.1	29.7	9.7	43.0	387.9	210.3	138.0
172.8	180.0	105.8	27.5	2.8	51.5	461.6	235.6	173.7
163.2	104.2	—	16.2	0.6	—	554.1	157.3	5.8
78.8	90.9	—	17.6	0.02	—	684.1	190.6	7.1
—	—	45.9	—	—	—	174.2	40.4	45.9
—	—	56.8	—	—	—	205.4	49.8	56.6
—	—	—	—	—	—	665.7	613.5	19.5
—	—	—	—	—	—	773.8	654.1	25.0

(Continued)

1.12. CONSUMPTION OF
1977-78 &

Continent/country	Year	Ammonium sulphate (N)	Calcium nitrate (N)	Ammonium nitrate (N)	Urea N	Ammonium phosphate	
						N	P ₂ O ₅
Europe							
Austria	1977-78	0.6	—	83.3	0.5	—	—
	1978-79	0.5	—	89.0	0.6	—	—
Belgium-Lux	1977-78	4.9	1.4	113.7	0.5	0.7	
	1978-79						
Denmark	1977-78	0.8	8.6	29.9	2.4	—	
	1978-79	0.6	6.3	26.4	3.2	—	
Finland	1977-78	0.04	0.7	34.8	7.7	—	
	1978-79	0.03	0.9	38.2	6.7	—	
Germany, Fed. Rep. of	1977-78	35.8	4.4	746.6	—	—	
	1978-79	42.0	4.5	757.1	—	—	
Italy	1977-78	111.5	9.3	163.0	232.5	—	
	1978-79	114.0	16.5	178.1	335.2	—	
Netherlands	1977-78	1.2	10.1	368.4	0.7	0.6	0.08
	1978-79						
Poland	1977-78	100.0	—	762.7	270.6	62.2	160.2
	1978-79						
Spain	1977-78	88.4	3.0	336.5	122.1	—	—
	1978-79	95.3	3.9	344.4	154.7	—	—
U.K.	1977-78			545.0			
	1978-79			596.0			
Oceania							
Australia	1977-78		—	—	—	—	—
	1978-79	—	—	—	—	—	—
New Zealand	1977-78	11.0	—	1.0	7.5		
	1978-79	10.5	—	—	8.2		

Source: 1979, *Fertilizer Year Book*, FAO, Rome.

FERTILISERS
1978-79 (Concluded)

('000 tonnes of nutrient)

Other complexes			Single superphosphate (P ₂ O ₅)	Concentrated superphosphate (P ₂ O ₅)	Muriate of potash (K ₂ O)	Total consumption		
N	P ₂ O ₅	K ₂ O				N	P ₂ O ₅	K ₂ O
50.1	69.7	115.5	7.1	1.1	20.4	134.5	94.4	147.5
53.4	70.2	116.7	5.7	0.5	15.4	143.6	93.8	142.3
56.2		70.2			12.4	191.8	118.0	143.6
						205.0	113.3	153.6
195.9	72.9	92.5	67.5		83.9	373.7	140.1	177.2
194.5	74.9	92.5	60.5		79.6	378.9	135.6	172.6
123.9	127.1	112.2	2.9	0.1	2.1	168.4	142.9	127.0
136.4	137.2	123.3	3.1	0.1	1.7	183.3	152.1	136.5
365.5	386.6	408.2	63.7		377.7	1,324.7	873.2	1,183.2
385.1	420.2	429.8	78.3		356.8	1,354.1	906.2	1,176.9
295.6	466.5	227.0	135.0	39.0	58.0	817.3	650.6	326.6
377.6	593.1	289.0	139.7	69.0	58.0	1,042.0	811.9	384.0
58.6	46.0	40.1	3.8	21.7	29.2	446.7	86.6	110.7
						442.0	87.0	108.0
51.7	120.5	117.4	396.1	194.4	1,250.2	1,250.3	947.6	1,407.6
						1,350.0	940.0	1,400.0
165.9	261.6	212.5	104.3	2.4	13.0	788.1	375.8	247.4
200.4	341.4	247.4	115.3	3.4	16.7	870.6	460.8	288.1
568.0	361.0		3.0*	4.0*		1,177.0	416.0	416.0
555.0	372.0		2.0*	6.0*		1,222.0	425.0	426.0
						220.0	784.3	91.0
						215.0	865.4	99.8
					188.8	22.0	398.1*	140.4
					98.1	20.0	415.0*	148.2

1.13. FERTILISER CONSUMPTION PER HECTARE OF ARABLE LAND*
1977-78 & 1978-79

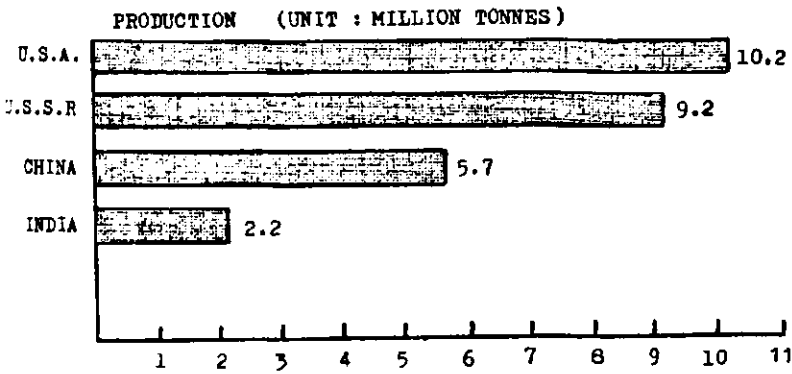
Continent/Country	(kg/hectare)							
	1977-78				1978-79			
	N	P ₂ O ₅	K ₂ O	N+P ₂ O ₅ +K ₂ O	N	P ₂ O ₅	K ₂ O	N+P ₂ O ₅ +K ₂ O
Africa	6.3	4.3	1.8	12.4	8.2	5.4	2.1	15.7
Egypt	182.3	24.1	1.0	187.5	172.8	30.6	1.3	204.8
Morocco	9.6	9.0	4.3	22.9	10.3	9.2	4.2	23.6
South Africa	23.6	26.8	9.3	59.6	25.9	27.9	8.9	62.7
North & Central Africa	41.2	21.0	21.0	83.2	43.2	22.4	23.1	88.1
Canada	14.9	13.8	6.2	34.3	18.8	14.2	7.8	40.9
Mexico	34.2	9.4	2.4	46.0	32.4	11.1	2.4	45.9
U.S.A.	48.2	24.6	26.7	99.5	50.4	26.3	29.4	106.1
South Africa	11.8	17.1	10.0	38.0	11.5	17.4	10.9	39.7
Brazil	16.9	37.7	22.8	77.4	17.4	37.4	24.4	79.1
Chile	6.9	9.5	1.7	18.0	8.5	11.2	2.2	21.8
Peru	31.2	5.3	4.0	40.5	28.9	4.8	3.7	37.4
Asia	29.5	11.0	5.0	45.4	33.7	12.8	5.8	52.3
Bangladesh	24.5	9.9	2.8	37.1	24.9	11.8	4.6	41.4
China	55.4	14.2	4.7	74.3	69.4	19.0	5.6	94.0
India	17.2	5.1	3.0	25.3	17.7	5.6	3.3	26.7
Israel	89.3	48.2	40.7	178.1	102.1	49.0	53.0	204.1
Japan	138.2	149.8	140.0	428.1	146.4	156.9	146.4	449.6
Korea, Rep. of	173.9	94.2	61.8	329.9	207.7	106.0	78.2	391.9
Pakistan	27.1	7.7	0.3	35.1	34.2	9.5	0.4	44.1
Philippines	21.5	5.0	5.7	32.2	25.4	6.1	7.0	38.5
Europe	90.9	60.6	58.8	210.3	98.5	64.6	61.3	224.5
Austria	87.5	60.3	90.7	238.5	87.3	57.0	86.5	230.8
Belgium-Lux	214.1	132.9	185.8	532.8	230.1	127.2	172.4	529.6
Czechoslovakia	114.3	82.9	113.5	310.7	119.7	88.6	125.0	333.4
Denmark	141.1	53.1	88.9	281.7	142.7	51.0	65.0	258.7
Finland	66.1	56.1	49.8	172.1	75.4	62.6	56.2	194.2
France	97.2	97.7	82.7	277.6	104.7	103.2	89.4	297.3
German Dem. Rep.	153.3	84.9	93.8	332.0	155.6	85.5	90.5	331.4
Germany, Fed. Rep. of	165.3	109.0	147.7	422.0	168.8	113.0	146.9	428.6
Italy	65.6	51.0	24.3	140.9	84.1	65.5	81.0	180.5
Netherlands	517.4	100.2	119.7	737.3	515.8	101.5	126.0	743.3
Norway	126.5	71.9	97.1	295.3	127.4	77.4	105.0	309.8
Poland	81.9	62.6	96.6	241.0	90.1	62.7	93.4	246.2
Spain	38.2	18.2	12.0	68.5	42.3	22.4	14.0	78.7
Sweden	86.2	47.1	43.0	176.2	85.4	46.0	43.2	174.6
U.K.	168.5	59.8	59.5	287.6	174.5	60.7	60.8	296.1
Yugoslavia	50.6	25.8	24.5	100.9	53.6	27.8	26.5	107.9
U.S.S.R.	32.4	22.0	23.2	77.6	33.0	23.1	23.3	79.4
Oceania	5.2	25.7	5.3	36.2	5.7	29.0	5.6	40.2
Australia	4.6	17.6	2.3	24.5	5.0	20.3	2.8	27.7
New Zealand	46.9	923.7	325.7	1296.3	44.5	922.2	318.3	1285.0
Fiji	42.5	7.7	0.9	51.1	38.5	9.4	3.0	50.9
World	32.7	19.3	15.9	68.0	36.4	21.5	17.5	74.4

* The term 'Arable Land' includes land under permanent crops, temporary crops (double cropped areas are counted once), temporary meadows, land under market and kitchen garden and land temporarily fallow or lying idle.

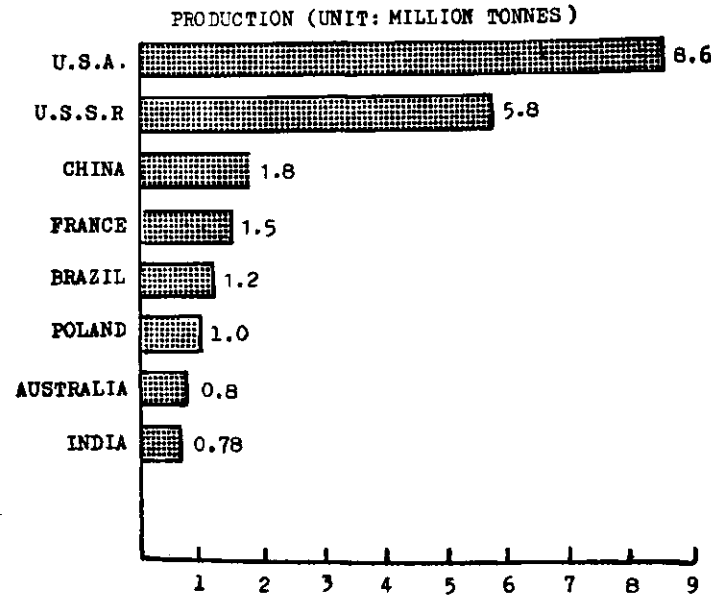
Source : 1979, Fertilizer Year Book, FAO, Rome.

RANKING OF INDIA IN PRODUCTION AND CONSUMPTION OF FERTILISER NUTRIENTS 1978-79

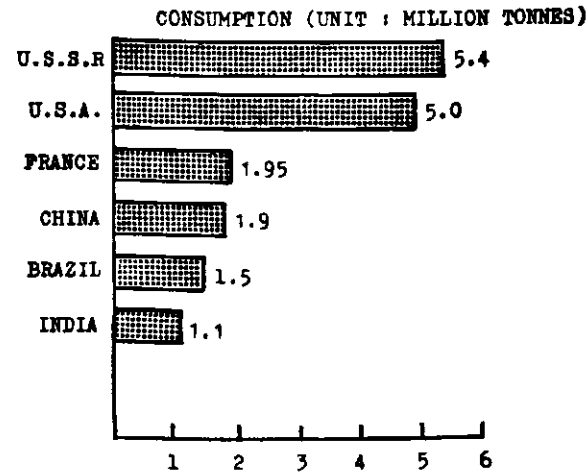
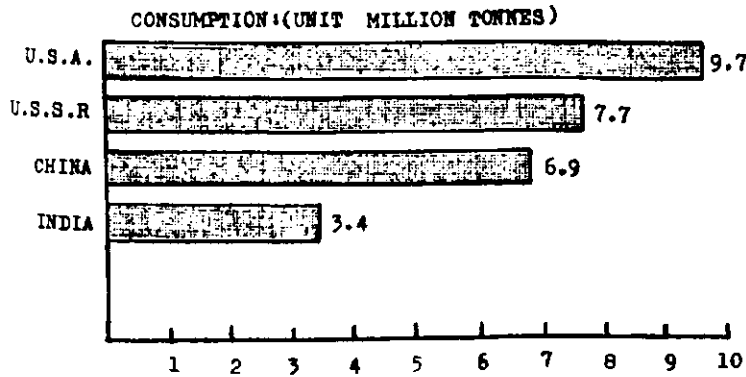
NITROGEN (N)



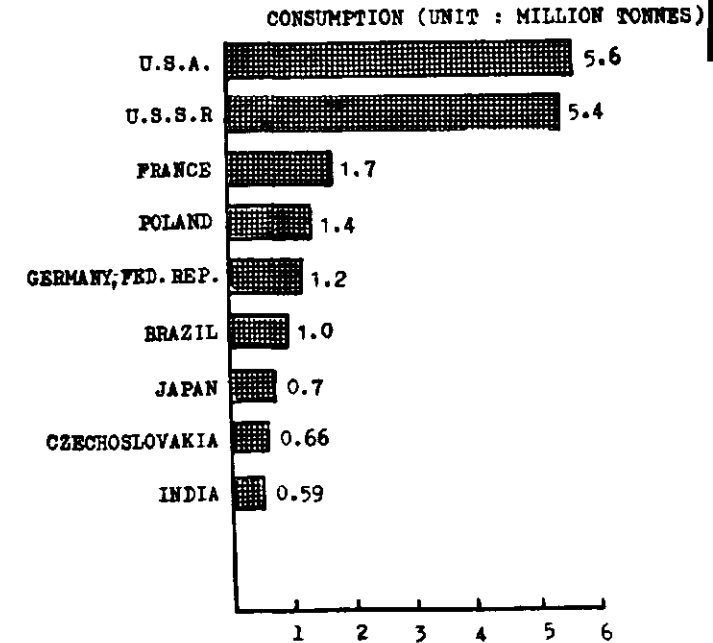
PHOSPHORUS (P₂O₅)



	INDIA'S RANKING IN	
	PRODUCTION	CONSUMPTION
N	IV	IV
P ₂ O ₅	VIII	VI
K ₂ O	-	IX



POTASH (K₂O)



1.14. FERTILISER CONSUMPTION PER HECTARE OF AGRICULTURAL LAND*
1977-78 & 1978-79

(kg/hectare)

Continent/country	1977-78				1978-79			
	N	P ₂ O ₅	K ₂ O	N+P ₂ O ₅ +K ₂ O	N	P ₂ O ₅	K ₂ O	N+P ₂ O ₅ +K ₂ O
Africa	1.3	0.9	0.4	2.6	1.4	0.9	0.4	2.7
Egypt	162.3	24.1	1.0	187.5	172.8	30.6	1.3	204.8
Morocco	3.7	3.5	1.7	8.8	4.0	3.5	1.6	9.1
South Africa	3.6	4.1	1.4	9.0	4.0	4.3	1.4	9.6
North & Central America	17.7	9.0	9.0	35.7	18.8	9.7	10.0	38.6
Canada	9.7	8.7	4.0	22.4	12.3	9.3	5.1	26.6
Mexico	8.1	2.2	0.8	10.9	7.7	2.6	0.6	10.9
U.S.A.	21.1	10.8	11.7	43.5	22.3	11.6	13.0	46.9
South America	2.3	3.3	2.0	7.6	2.2	3.3	2.1	7.6
Chile	2.3	3.1	0.6	6.0	2.8	3.7	0.7	7.2
Peru	3.5	0.6	0.5	4.6	3.2	0.5	0.4	4.2
Asia	13.6	5.1	2.3	20.9	14.1	5.3	2.5	21.9
Bangladesh	23.0	9.3	2.6	34.9	23.4	11.1	4.3	38.8
China	18.6	4.8	1.6	24.9	21.6	5.9	1.7	29.3
India	16.0	4.8	2.8	23.5	16.5	5.3	3.1	24.9
Israel	30.8	16.6	14.0	61.4	34.3	16.4	17.8	68.5
Japan	14.9	135.4	126.6	386.9	131.6	141.1	131.6	404.3
Korea, Rep. of	171.1	92.7	60.9	324.7	204.0	104.1	76.7	384.8
Pakistan	21.8	6.1	0.2	28.2	27.4	7.6	0.3	35.3
Philippines	19.2	4.5	5.1	28.7	22.6	5.5	6.2	34.3
Europe	56.4	37.6	36.4	130.4	61.1	40.1	38.0	139.2
Austria	38.5	26.5	39.9	104.9	38.6	25.2	38.3	102.2
Belgium-Lux	114.2	70.9	99.1	284.1	127.0	70.2	95.2	292.4
Czechoslovakia	86.2	62.5	85.6	234.2	90.3	66.9	94.4	251.6
Denmark	127.7	48.0	60.5	236.2	129.6	46.4	59.0	235.0
Finland	61.8	52.5	46.6	160.9	70.4	58.4	52.4	181.3
France	57.4	57.7	48.8	163.9	62.1	61.2	53.0	176.3
German Dem. Rep.	122.5	67.9	75.0	265.4	124.8	68.6	72.4	265.8
Germany, Fed. Rep. of	100.2	66.1	89.5	255.8	102.8	68.8	89.4	260.9
Italy	45.8	35.6	17.0	98.4	59.4	46.3	21.9	127.5
Netherlands	217.0	42.0	50.2	309.2	218.0	42.5	52.8	311.3
Norway	112.6	64.0	86.4	263.0	114.1	69.3	94.0	277.4
Poland	64.4	49.2	75.9	189.4	70.8	49.3	73.5	193.6
Spain	25.1	12.0	7.9	45.0	27.6	14.6	9.1	51.3
Sweden	69.3	37.9	34.6	141.7	68.7	37.0	34.8	140.5
U.K.	64.0	22.6	22.6	109.3	66.5	23.1	23.2	112.8
Yugoslavia	28.2	14.4	13.7	56.2	29.8	15.4	14.7	59.9
U.S.S.R.	12.4	8.4	8.9	29.7	12.6	8.8	8.9	30.4
Oceania	0.5	2.3	0.5	3.3	0.5	2.5	0.5	3.5
Australia	0.4	1.6	0.2	2.2	0.4	1.8	0.2	2.4
New Zealand	1.4	28.2	9.9	39.5	1.4	29.2	10.1	40.7
Fiji	33.2	6.0	0.7	39.9	30.1	7.4	2.8	39.8
World Total	10.6	6.3	5.2	22.0	11.3	6.7	5.4	23.4

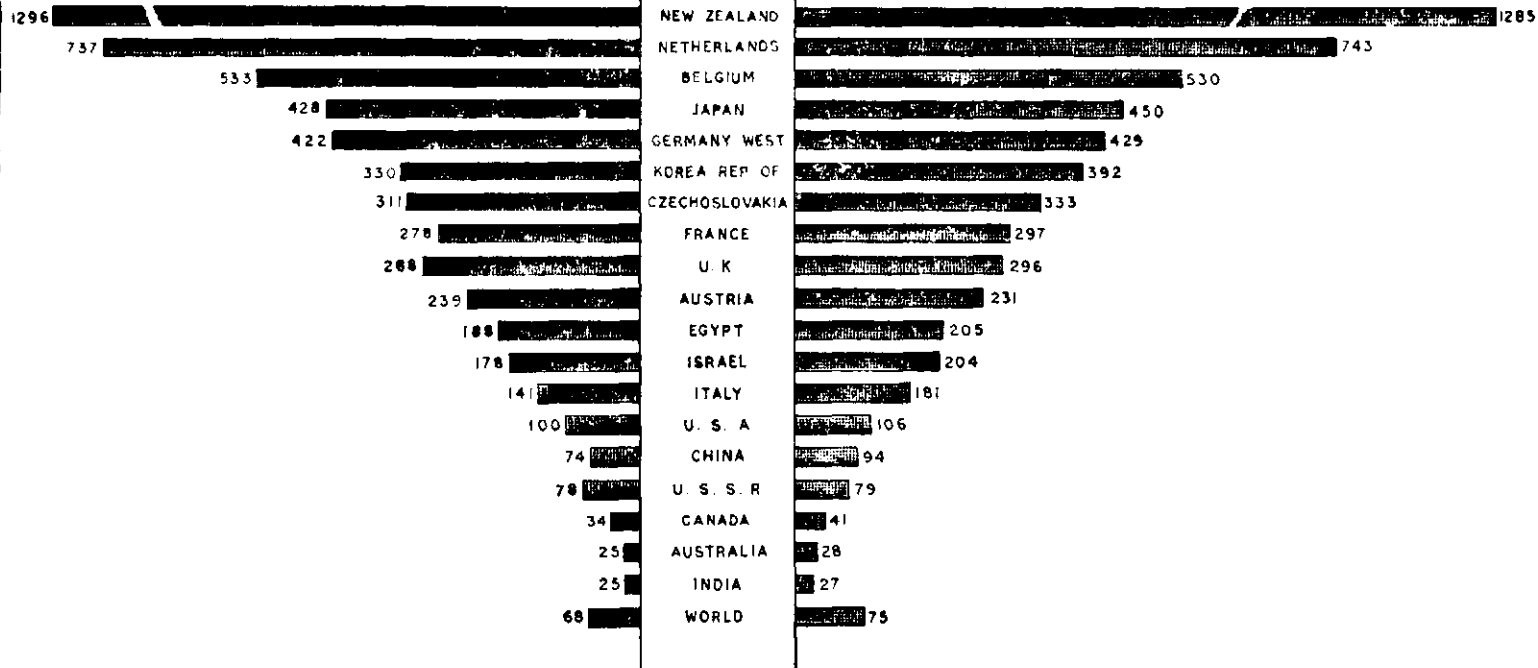
*Agricultural land includes, in addition to arable land and land under permanent crops, land under permanent meadows and pastures.

Source: 1979, *Fertilizer Hand Book*, FAO, Rome.

CONSUMPTION OF PLANT NUTRIENTS (KG)^{*}

1977-78

1978-79



^{*} PER HECTARE OF ARABLE LAND

SOURCE: BASED ON 1979 FERTILIZER REVIEW F.A.O., ROME

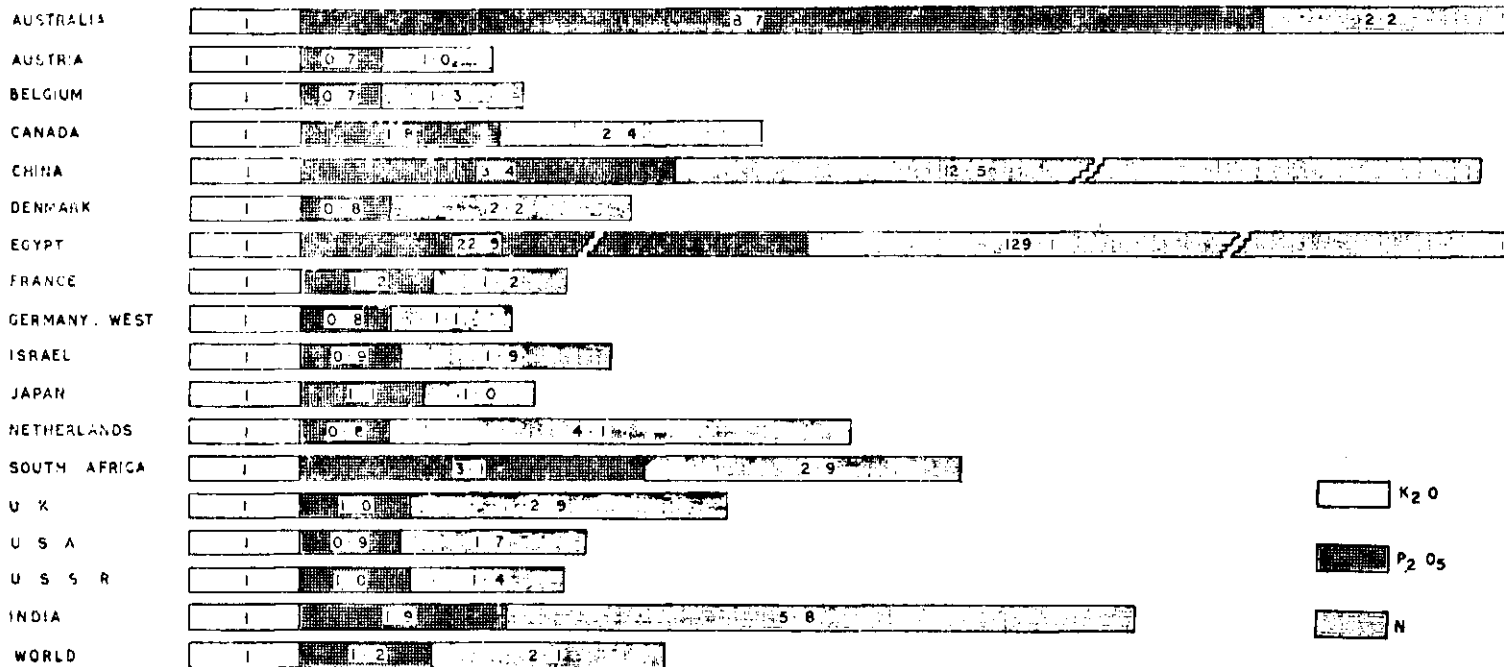
**1.15. CONSUMPTION RATIO OF N & P₂O₅ IN RELATION TO K₂O AND
N IN RELATION TO P₂O₅**

Continent/country	1977-78			1978-79		
	N/K ₂ O	P ₂ O ₅ /K ₂ O	N/P ₂ O ₅	N/K ₂ O	P ₂ O ₅ /K ₂ O	N/P ₂ O ₅
Africa	3.6	2.5	1.5	3.9	2.6	1.5
Egypt	158.4	27.9	5.7	129.1	22.9	5.6
Morocco	2.2	2.1	1.1	2.4	2.2	1.1
South Africa	2.5	2.9	0.9	2.9	3.1	0.9
North & Central America	2.0	1.0	2.0	1.9	1.0	1.9
Canada	2.6	2.1	1.3	2.4	1.8	1.3
Mexico	14.3	3.9	3.6	13.5	4.6	2.9
U.S.A.	1.8	0.9	2.0	1.7	0.9	1.9
South America	1.1	1.7	0.7	1.1	1.6	0.7
Brazil	0.7	1.6	0.5	0.7	1.5	0.5
Chile	4.1	5.6	0.7	3.8	5.0	0.8
Peru	7.6	1.1	6.8	7.9	1.3	6.1
Asia	6.2	2.3	2.7	5.8	2.2	2.6
Bangladesh	8.9	3.6	2.5	5.4	2.6	2.1
China	13.6	3.4	4.0	12.5	3.4	3.7
India	5.8	1.7	3.6	5.8	1.9	3.1
Israel	1.8	0.9	2.0	1.9	0.9	2.1
Japan	1.1	1.1	1.0	1.0	1.1	0.9
Korea, Rep. of	2.8	1.5	1.8	2.7	1.4	2.0
Pakistan	95.5	27.1	3.5	96.4	26.8	3.6
Philippines	3.8	0.9	4.3	3.6	0.9	4.1
Europe	1.6	1.0	1.5	1.6	1.1	1.5
Austria	0.9	0.6	1.4	1.0	0.7	1.5
Belgium-Lux	1.3	0.8	1.6	1.3	0.7	1.8
Czechoslovakia	1.0	0.7	1.4	1.0	0.7	1.4
Denmark	2.1	0.8	2.7	2.2	0.8	2.8
Finland	1.3	1.1	1.2	1.3	1.1	1.2
France	1.2	1.2	1.0	1.2	1.2	1.0
German Dem. Rep.	1.6	0.9	1.8	1.7	0.9	1.8
Germany, Fed. Rep. of	1.1	0.7	1.5	1.1	0.8	1.5
Italy	2.5	2.0	1.3	2.7	2.1	1.3
Netherlands	4.0	0.8	5.2	4.1	0.8	5.1
Poland	0.9	0.7	1.3	1.0	0.7	1.4
Spain	3.2	1.5	2.1	3.0	1.6	1.9
Sweden	2.0	1.1	1.8	2.0	1.1	1.9
U.K.	2.8	1.0	2.8	2.9	1.0	2.9
Yugoslavia	2.1	1.1	2.0	2.0	1.0	1.9
U.S.S.R.	1.4	0.9	1.5	1.4	1.0	1.4
Oceania	1.1	5.1	0.2	1.0	5.3	0.2
Australia	2.4	6.6	0.3	2.2	8.7	0.2
New Zealand	0.1	2.8	0.05	0.1	2.4	0.04
World Total	2.1	1.2	2.1	2.1	1.2	1.7

Source: Calculated from table 1.07.

RATIO OF N : P₂O₅ : K₂O CONSUMPTION

1978-79



SOURCE BASED ON TABLE 1-15

**1.16. FERTILISER CONSUMPTION PER CAPITA AND PER HECTARE AND
YIELD OF PRINCIPAL CROPS
1978-79**

Continent/country	Fertiliser consumption (N + P ₂ O ₅ + K ₂ O)		Yield per hectare ('000 kg)					
	Per capita (kg)	Per hectare of arable land (kg)	Paddy	Maize	Wheat	Pulses	Sugar- cane	Potato
Africa	6.0	15.7	1,827	1,145	1,069	433	68,787	8,770
Egypt	14.6	172.8	5,755	3,714	3,176	2,051	80,838	16,616
North & Central America	67.4	88.8	4,046	5,527	2,146	922	60,668	26,914
Canada	77.0	40.9	—	5,575	1,690	1,791	—	23,727
U.S.A.	93.0	106.1	5,142	6,865	2,301	1,141	84,656	30,456
South America	18.0	39.7	1,827	1,742	1,294	577	57,413	9,928
Brazil	27.0	79.1	1,395	1,442	763	514	54,906	10,596
Asia	9.6	52.3	2,646	2,124	1,500	710	49,826	11,300
China	10.0	94.0	3,717	3,113	1,500	1,028	70,949	9,154
India	6.8	26.7	1,792	909	1,574	524	50,160	12,812
Israel	22.7	204.1	—	—	2,212	—	—	—
Japan	19.3	449.6	6,240	—	3,056	1,599	—	26,154
Korea, Rep. of	23.8	391.9	6,556	—	—	—	—	—
Pakistan	11.4	44.1	2,508	1,290	1,485	441	37,639	10,667
Philippines	6.5	38.5	2,000	—	—	—	42,411	—
Europe	66.5	224.5	4,967	4,609	3,403	851	76,250	21,029
Belgium-Lux	46.3	529.6	—	—	5,101	—	—	—
France	105.4	297.3	3,579	5,139	4,773	2,230	—	26,638
German Dem. Rep.	99.7	331.4	—	—	3,226	1,656	—	23,795
Germany, Fed. Rep. of	56.1	428.6	—	—	4,952	2,866	—	31,562
Italy	39.5	180.5	5,607	6,687	2,688	1,372	—	17,381
Netherlands	45.7	743.3	—	—	—	3,286	—	6,277
Poland	105.4	246.2	—	—	—	1,196	—	20,312
U.K.	37.0	296.1	—	—	7,140	2,595	—	31,789
U.S.S.R.	70.5	79.4	3,934	—	1,562	1,352	—	12,789
Oceania	80.8	40.2	5,637	4,721	1,408	902	76,033	24,195
Australia	83.4	27.7	6,349	3,360	1,390	679	79,217	22,857
World Total	25.0	75.4	2,815	3,271	1,782	715	56,041	15,503

Source: 1. 1979, *Fertilizer Year Book*, FAO, Rome.

2. 1979, *Production Year Book*, Vol. 33, FAO, Rome.

1.17. WORLD TRADE IN FERTILISERS
1977-78 & 1978-79

('000 tonnes)

Continent/Country	1977-78						1978-79					
	Imports			Exports			Imports			Exports		
	N	P ₂ O ₅	K ₂ O	N	P ₂ O ₅	K ₂ O	N	P ₂ O ₅	K ₂ O	N	P ₂ O ₅	K ₂ O
Africa	635.8	228.7	383.3	58.0	367.6	—	717.4	205.0	373.0	86.5	388.8	—
Algeria	17.0	21.2	31.2	—	—	—	26.1	6.6	26.7	—	—	—
Egypt	258.2	9.0	—	—	10.1	—	333.1	12.9	5.0	—	15.3	—
Morocco	62.1	—	35.7	2.9	99.4	—	61.3	—	29.1	9.3	117.9	—
South Africa	9.1	8.7	136.8	47.0	25.4	—	11.0	9.1	143.7	68.0	16.8	—
Tunisia	20.1	—	3.3	5.0	223.8	—	24.0	—	4.0	4.6	217.0	—
North & Central America	2,430.0	506.0	4,787.1	2,624.0	3,289.5	6,737.0	2,671.2	663.7	5,001.3	3,272.2	3,758.5	7,164.0
Canada	79.6	109.1	20.5	934.0	223.0	5,828.0	98.4	182.2	30.0	951.9	216.5	8,257.0
Cuba	174.2	50.8	133.8	—	—	—	192.6	49.1	186.8	—	—	—
Mexico	183.0	11.3	34.3	—	75.4	—	183.4	77.7	72.2	4.6	45.9	—
U.S.A.	1,708.0	212.0	4,488.0	1,618.0	2,984.0	909.0	1,974.0	216.0	4,611.0	2,246.0	3,491.0	907.0
South America	764.6	647.3	1,147.1	103.4	1.2	8.0	716.4	562.3	1,168.4	79.5	5.9	12.9
Brazil	469.1	423.1	982.9	—	—	—	434.7	337.2	990.9	1.4	—	—
Chile	3.2	71.9	7.0	68.8	—	8.0	15.2	51.3	27.0	68.9	—	12.9
Colombia	97.1	31.0	67.0	—	1.2	—	90.5	33.3	77.6	—	2.4	—
Peru	41.7	8.7	13.0	—	—	—	34.2	14.8	11.9	—	—	—
Asia	3,870.2	1,165.4	2,065.8	1,765.3	191.8	610.0	4,586.5	1,760.0	2,271.3	1,950.3	309.1	671.0
Bangladesh	119.8	52.7	22.5	—	—	—	181.2	88.1	55.4	—	—	—
China	1,359.2	94.0	149.0	12.3	2.8	—	1,244.1	193.0	254.0	22.8	—	—
India	758.1	163.9	598.9	—	—	—	1,232.0	243.5	517.4	—	1.8	—
Indonesia	9.9	38.0	40.0	184.1	—	—	17.1	121.5	77.2	100.0	—	—
Iran	53.2	29.0	8.3	—	—	—	41.1	37.7	—	—	—	—

Japan	25.0	69.0	665.0	622.0	12.0	—	34.0	100.0	667.0	806.0	35.0	—	—
Pakistan	341.8	204.8	2.1	4.5	—	—	438.4	202.8	9.1	1.2	—	—	—
Philippines	141.6	—	42.8	5.6	—	—	177.5	8.2	58.9	1.5	—	—	—
Sri Lanka	75.8	14.7	32.8	—	—	—	76.7	22.5	39.9	—	—	—	—
Turkey	407.4	216.1	24.4	—	—	—	489.7	405.4	20.6	—	—	—	—
Europe	2,445.1	1,909.7	6,285.5	5,014.9	1,471.3	5,041.9	2,885.7	2,477.9	6,198.9	5,587.1	1,807.5	5,521.7	
Austria	19.2	25.5	183.4	157.8	32.7	—	28.4	29.0	168.0	164.1	86.0	—	—
Belgium-Lux	237.5	55.3	325.1	685.5	457.7	—	192.4	60.0	370.0	740.8	470.0	—	—
Czechoslovakia	45.1	65.4	627.0	85.0	—	—	69.2	101.9	670.0	88.8	—	—	—
Denmark	248.9	38.8	215.8	5.8	9.2	—	295.1	56.3	201.9	4.9	16.8	—	—
France	476.0	580.0	362.1	251.0	135.0	680.2	545.0	730.0	315.3	314.0	239.0	701.8	—
German Dem. Rep.	52.9	28.5	—	42.3	—	2,740.0	38.4	20.9	—	66.0	—	2,744.0	—
Germany, Fed. Rep. of	473.6	308.7	179.3	363.0	121.2	1,248.8	494.2	331.5	207.6	486.3	123.4	1,582.5	—
Hungary	86.9	188.5	499.1	84.8	1.6	—	100.6	212.3	618.1	79.9	5.0	—	—
Italy	136.7	268.8	410.5	310.4	53.6	88.1	222.9	462.3	379.1	468.7	60.3	105.3	—
Netherlands	102.1	35.4	222.3	977.9	237.8	—	102.0	56.0	216.0	1,236.0	368.0	—	—
Romania	—	—	129.0	736.0	73.0	—	—	—	162.0	795.0	190.0	—	—
Spain	5.2	0.9	—	142.4	46.7	269.8	15.8	1.3	0.06	58.8	23.4	337.2	—
Sweden	101.4	8.8	130.8	0.5	11.4	—	115.7	21.8	133.0	2.1	4.5	—	—
United Kingdom	170.0	77.7	463.0	132.0	80.2	35.0	172.0	97.1	395.0	156.6	96.7	50.8	—
U.S.S.R.	14.0	6.2	—	700.2	212.7	2,506.1	8.9	15.7	—	790.7	214.3	2,400.8	
Oceania	59.4	48.7	238.0	0.5	50.8	—	49.4	41.3	245.8	6.0	51.1	—	
Australia	23.1	32.0	95.3	0.5	0.1	—	14.0	19.0	99.5	6.0	1.0	—	—
Fiji	9.9	1.8	0.2	—	—	—	9.0	2.2	0.7	—	—	—	—
New Zealand	20.2	13.7	140.4	—	1.8	—	20.0	18.0	148.2	—	2.0	—	—
World Total	10,219.0	4,514.1	14,906.9	10,286.3	5,594.9	14,903.0	11,635.4	5,725.8	15,258.7	11,772.4	6,527.2	15,770.4	

Source : 1979, Fertilizer Year Book, FAO, Rome.

1.18. FERTILISER PRICES PAID BY FARMERS

1977-78 and 1978-79

(a) Straight Fertilisers

(US \$/tonne of nutrient)

Country	Year	Ammonium sulphate	Ammonium sulphate nitrate (ammonia)	Calcium nitrate	Ammonium nitrate	Urea	Calcium ammonium nitrate	Single super phosphate	Concentrated super phosphate	Muriate of potash
Africa										
Egypt ^{1 2}	1977-78	333		392	328	361		248	258	154
	1978-79	333		392	325	338		320	312	
South Africa ^{2 7}	1977-78	474			509	444		381		197
	1978-79							319		
North & Central America										
Canada [@]	1977-78	440	(289)		428	372		459	359	186
	1978-79									
U.S.A. [@]	1977-78	572	(229)		487	407		551	367	181
	1978-79	604	(244)		464	419		612	412	206
South America										
Brazil	1977-78					528		603	634	242
	1978-79	809		745		805		549	655	287
Peru ⁴	1977-78	333		244	307	312		250	268	154
	1978-79	336			282	290		230	218	121
Asia										
Afghanistan ³	1977-78					483			372	
	1978-79					483			372	
Bangladesh ^{5 6}	1977-78					231			185	118
	1978-79					258			203	127
India [*]	1977-78	530				406		362		156
	1978-79					402		396		163
Iran ^{4 5}	1977-78	357			408	271			318	
	1978-79	358			409	271				
Israel ¹	1977-78	464				403	510	387		60
	1978-79	521				450		411		68
Japan [@]	1977-78	572			785	500		885		288
	1978-79	726				626		1,092		321

Korea, Rep. of ^a	1977-78	689			549		326		145	
	1978-79	692			550				145	
Pakistan ^{a, b, c}	1977-78	297	333		302	298	302	201	192	
	1978-79	284	334		288	292	298	202		
Philippines ^{a, b}	1977-78	675				438	622	480	523	232
	1978-79	815				521	730	557	560	280
Turkey	1977-78	250			250	285	257	168	144	119
	1978-79	201			201	230	207	136	116	96
Europe										
Austria ^{d, e}	1977-78	883		1,258		595	810	786	764	270
	1978-79	813				714	731	888	830	301
Belgium Lux [@]	1977-78	387		660	476	430		544		206
	1978-79	487		782	543	502		605		240
Czechoslovakia ^{a, b, c}	1977-78	347	(269)	484	384	380	388	350	416	96
	1978-79	363		454	402	398		367	436	100
Denmark ^a	1977-78	529	(229)	682			505	557		232
	1978-79	580	(226)	748			609	643		275
Finland ^{a, b}	1977-78	746		979		420	582	678	394	280
	1978-79	839		1,053		441	612	705	336	301
France ^{d, @}	1977-78	366		619	415			487		182
	1978-79	503		797	514			536		224
Germany, Fed. Rep. of ^{a, @}	1977-78	680	689	1,149	891	655	696	714		250
	1978-79	777	788	1,348	1,042	748	797	821		294
Italy [@]	1977-78	357		604	433	281		416		238
	1978-79	472		683	532	345		455		242
Netherlands [@]	1977-78	623		714		516	575	612	440	230
	1978-79	684		839		597	644	728	479	265
Poland ^a	1977-78	254			497	466		276		126
	1978-79	164			317	302		174		79
Spain ^{a, b}	1977-78	416	400	697	379	340	397	375	480	136
	1978-79	607	582	841	551	481	583	493	489	204
U.K. [@]	1977-78						342	471		178
	1978-79						476	474		203
Yugoslavia	1977-78					384	375	473	399	
	1978-79					389	381	459		
Oceania										
Australia ^a	1977-78	440	(291)	415		399		284	326	210
	1978-79	470	(355)	462		446		306	347	243
Newzealand	1977-78	504				486	565	252		121
	1978-79	564				509		195		152

(Continued).

**1.18. FERTILISER PRICES PAID BY FARMERS
1977-78 & 1978-79 (Continued)**

(b) Mixed & Complex Fertilisers

(US \$/tonne of product)

Continent/Country	Year	18-46-0	20-20-0 (20-10-10)	15-15-15 (24-24-0)	17-17-17 (11-55-0)
Africa					
Kenya	1977-78	296	251 (246)	251 (-)	- (306)
	1978-79				
South Africa ¹	1977-78	168			
	1978-79				
North & Central America					
Canada [@]	1977-78				- (207)
	1978-79				
U.S.A. [@]	1977-78	205			
	1978-79	232			
South America					
Chile [@]	1977-78	228			
	1978-79	205			
Peru ^{1 *}	1977-78	163	112 (-)	98 (-)	
	1978-79	159	158 (-)	- (-)	
Asia					
Afghanistan ^{1 *}	1977-78	253			
	1978-79	253			
Iran ^{2 **}	1977-78	170			
	1978-79	170			
Kuwait	1977-78			414 (-)	
	1978-79			(-)	
Nepal	1977-78		179 (-)	174 (-)	
	1978-79				
Pakistan ^{2 ***}	1977-78	145	91 (-)	95 (105)	
	1978-79	138	85 (-)	85 (100)	
Philippines ^{2 *}	1977-78	174			
	1978-79	228			
Turkey	1977-78	117			
	1978-79	94			
Europe					
Finland ^{3 *} @	1977-78			225 (-)	
	1978-79			232 (-)	
France ¹ @	1977-78				197 (-)
	1978-79				233 (-)

(Continued)

**1.18. FERTILISER PRICES PAID BY FARMERS
1977-78 & 1978-79 (Concluded)**

(b) Mixed & Complex Fertilisers (Concluded)

(US \$/tonne of product)

Continent/Country	Year	18-46-0	20-20-0 (20-10-10)	15-15-15 (24-24-0)	17-17-17 (11-55-0)
Germany, Fed. Rep. of ^a @	1977-78			233 (—)	
	1978-79			267 (—)	
Netherland@	1977-78		211 (—)		
	1978-79		233 (—)		
U.K.@	1977-78		— (138)	156 (—)	179 (—)
	1978-79		— (178)	188 (—)	216 (—)

*For details, see price Chapter in Part-I

@No subsidy

¹ Retail price

² Prices fixed by the Government

³ Prices at nearest railway station

⁴ Subsidies paid to transport agencies

⁵ Subsidies paid to manufacturers

⁶ Subsidies paid to cooperatives, farmer organisations or special agricultural suppliers

⁷ Subsidies paid directly to farmers

⁸ Subsidies paid to importers

Note: Prices those are paid by farmers at the farm-gate and relate to twelve-month period. They are shown with subsidies deducted wherever possible.

Afghanistan : Subsidies paid to fertiliser distribution company.

Australia : Prices F.O.B. factory. Subsidy started in 1977.

Canada : Prices during spring months.

Denmark : Urea price at nearest port.

Egypt : Subsidies paid to manufacturers, cooperatives, farmer organisation or special agricultural suppliers.

Germany,

Fed. Rep. of : Prices include value added tax.

India : Prices do not include sales-tax and other local taxes.

Israel : Prices ex-factory. Urea: price at port. Muriate: price at retail store.

Kenya : Prices are agreed upon by Government's Importers and distributors.

Nepal : Mountainous regions receive transport subsidies.

Netherlands: Prices include value added tax.

Philippines : Warehouse prices.

Poland : Ammonium sulphate, single superphosphate and potash fertilisers, bulk,

United

Kingdom : Calendar year since 1973.

(For quantum of subsidy, see Table 1.19)

Source : 1979, *Fertilizer Year Book*, FAO, Rome.

1.19. FERTILISER SUBSIDIES IN SELECTED COUNTRIES

1977-78 & 1978-79

(US \$/tonne of nutrient)

Country	Year	Ammonium sulphate	Ammonium nitrate	Calcium nitrate	Urea	Calcium ammonium nitrate	Single super phosphate	Concentrated super phosphate	Murrate of potash	Complex fertilisers		
										18-46-80	20-20-0	15-15-15
South Africa ⁴	1977-78	23	—	—	23	26	28	25	—	12	—	—
	1978-79	—	—	—	—	—	—	—	—	—	—	—
Peru ⁵	1977-78	256	186	207	67	—	309	195	63	98	94	91
	1978-79	270	168	—	125	—	279	123	95	57	—	—
Afghanistan ⁶	1977-78	—	—	—	—	—	—	191	—	—	—	—
	1978-79	—	—	—	—	—	—	140	—	58	—	—
Bangladesh ³	1977-78	—	—	—	204	—	—	315	164	—	—	—
	1978-79	—	—	—	—	—	—	—	—	—	—	—
Iran ^{3,5}	1977-78	178	440	—	205	—	—	—	—	343	—	—
	1978-79	178	178	—	205	—	—	—	—	344	—	—
Pakistan ^{3,4,5}	1977-78	30	111	—	101	—	331	—	—	72	—	—
	1978-79	302	579	—	94	—	564	—	—	116	—	—
Sri Lanka	1977-78	—	—	—	—	—	—	—	—	—	—	—
	1978-79	212	—	—	140	—	—	156	—	—	—	—
Austria ¹	1977-78	—	—	—	—	—	21	21	12	—	—	—
	1978-79	—	—	—	—	—	—	—	—	—	—	—

Czechoslovakia ¹	1977-78	37	42	46	42	—	222	274	60	—	—	—
	1978-79	39	44	48	44	—	232	287	62	—	—	—
Spain ²	1977-78	66	65	—	64	66	—	4	16	—	—	—
	1978-79	60	60	—	60	60	—	—	—	—	—	—
Australia ³	1977-78	66	66	—	66	—	63	60	—	—	—	—
	1978-79	57	57	—	57	—	65	62	—	—	—	—
New Zealand	1977-78	123	—	—	56	100	123	—	44	—	—	—
	1978-79	190	—	—	87	—	190	—	68	—	—	—

Note: Brazil : In 1975 January, 40 per cent subsidy went into effect; prior programmes paid interest on credit to buy fertilisers.

Afghanistan : Subsidy programme started in March 1976.

New Zealand : Subsidies include that on transport.

¹ Subsidies paid to transport agencies.

² Subsidies paid to manufacturers.

³ Subsidies paid to cooperatives, farmer organisations or special agricultural suppliers.

⁴ Subsidies paid directly to farmers.

⁵ Subsidies paid to Importers.

⁶ Subsidies paid to fertiliser distribution company.

Source: 1979, *Fertilizer Year Book*, FAO, Rome.

1.20. INDEX NUMBERS OF PRICES

Country	Prices received by farmers							Farming	
	1972	1973	1974	1975	1976	1977	1978	1972	1973
Africa									
Egypt ¹		75.9	93.5	100.0	115.3	—	—		85.1
South Africa ¹	69.7	80.8	89.8	100.0	105.3	108.7	—	60.0	68.4
North & Central America									
Canada	56.1	83.7	101.0	100.0	95.6	93.2	101.7	65.3	77.9
Mexico	53.7	69.0	83.7	100.0	137.0	162.6	185.7		
U.S.A.	67.6	96.8	103.8	100.0	100.5	98.9	118.5	66.5	80.2
Asia									
Japan	59.3	73.1	88.5	100.0	109.5	108.7	113.7	59.6	75.1
Korea	55.2	62.2	81.1	100.0	124.0	144.6	188.5	59.2	67.7
Turkey		62.9	85.3	100.0	115.0	141.3	205.0		84.0
Europe									
Austria ²	—	—	—	—	100.0	102.6	107.0	—	—
Belgium	78.7	89.6	88.3	100.0	113.6	113.8	—	74.2	86.1
Czechoslovakia	99.3	101.4	101.4	100.0	101.9	104.7	106.4	99.5	99.8
Denmark	69.3	89.9	90.8	100.0	113.0	117.5	—	81.0	78.8
Finland	61.3	69.0	79.6	100.0	113.4	721.8	128.8	57.6	64.8
France	78.1	87.5	91.8	100.0	114.7	123.8	—	64.7	71.8
Germany Fed. Rep.	85.9	91.3	88.3	100.0	111.9	106.8	102.8	79.2	88.1
Italy	60.3	75.3	89.0	100.0	119.6	148.2	—	58.5	69.8
Poland	85.0	87.7	95.6	100.0	118.7	134.1	140.3	90.1	92.3
Spain	69.4	78.8	85.4	100.0	110.4	139.4	157.6	54.4	64.9
Sweden ¹	—	81.5	88.7	100.0	111.0	120.1	127.5	—	84.0
U.K.	—	72.4	82.1	100.0	128.6	133.7	137.6	—	71.3
Oceania									
Australia ¹	92.9	108.3	95.4	100.0	111.6	111.5	138.1	56.8	65.5
New Zealand	87.6	123.4	110.5	110.0	135.1	159.6	—	—	79.2

¹Crop year July/June

Except for Australia June/June; Egypt November/October; Israel October/September.

RECEIVED AND PAID BY FARMERS

(Base year 1975=100)

Prices paid by farmer											
requisites					Fertilisers						
1974	1975	1976	1977	1978	1972	1973	1974	1975	1976	1977	1978
99.2	100.0	111.1				98.6	99.0	100.0	99.6	—	—
83.9	100.0	111.9	125.2	—	56.9	61.7	79.4	100.0	105.5	121.0	—
91.0	100.0	106.4	110.8	123.7	50.7	56.8	80.8	100.0	97.3	97.6	104.0
					80.2	81.7	100.0	100.0	132.8	156.5	177.9
91.2	100.0	108.0	109.9	118.7	43.3	47.0	77.0	100.0	85.2	83.4	83.0
94.4	100.0	104.6	107.1	103.2	52.6	59.5	86.4	100.0	104.3	106.2	104.3
83.5	100.0	133.6	161.0	229.9	42.7	47.8	60.6	100.0	168.9	168.9	168.9
101.2	100.0	116.6	147.4	244.6		37.2	93.8	100.0	86.4	86.4	68.4
—	—	100.0	105.4	108.6	—	—	—	—	100.0	99.7	102.5
94.6	100.0	112.4	115.0	—	68.4	69.1	86.8	100.0	106.7	107.5	—
100.1	100.0	100.4	103.8	105.1	99.3	99.6	99.7	100.0	99.1	128.0	127.5
94.2	100.0	107.4	114.2	—	46.8	48.7	69.8	100.0	90.0	84.8	—
82.0	100.0	120.1	142.4	146.0	59.2	64.6	77.6	100.0	129.2	155.1	155.1
89.1	100.0	105.6	114.1	—	57.5	61.1	85.1	100.0	99.0	102.0	—
94.5	100.0	106.6	110.0	109.3	71.2	72.8	88.8	100.0	101.9	99.5	99.2
88.9	100.0	128.6	141.2	—	51.7	50.2	85.3	100.0	112.2	124.4	—
96.6	100.0	115.1	133.0	135.7	102.1	99.9	100.6	100.0	100.6	125.1	124.7
85.7	100.0	125.6	138.4	154.8	—	—	89.1	100.0	103.1	168.4	126.4
95.1	100.0	109.2	121.8	131.8	—	58.5	85.0	100.0	100.3	103.2	109.3
91.0	100.0	123.3	142.4	146.4	—	59.3	84.0	100.0	105.2	118.1	137.0
85.7	100.0	111.5	123.0	131.8	32.6	37.1	85.7	100.0	92.6	96.3	100.4
90.0	100.0	110.7	129.6	146.3	—	76.3	94.4	100.0	98.6	135.1	147.3

1976=100.

Source: 1979, Fertilizer Year Book, FAO, Rome.

2.00. WORLD STATISTICS—AGRICULTURE

2.01. LAND USE AND IRRIGATION—1978

('000 hectares)

Continent/Country	Total area	Land area	Agricultural area			Forest and wood land	Other land	Irrigated area
			Arable land	Land under permanent crops	Permanent meadows and pastures			
Africa	3,031,269	2,964,743	154,069	15,127	866,336	636,608	1,352,603	7,831
Algeria	238,174	238,174	6,850	635	36,258	4,122	190,309	280
Egypt	100,145	99,545	2,700	138	—	2	96,705	2,838
Kenya	58,265	56,925	1,790	480	3,770	1,874	49,011	44
Morocco	44,655	44,630	7,418	450	12,500	5,195	19,087	475
South Africa	122,104	122,104	13,500	1,120	8,200	4,600	21,634	1,017
Sudan	250,581	237,600	7,470	45	24,000	91,500	114,585	1,550
Tanzania	94,509	88,604	4,119	1,030	44,680	31,074	7,710	80
Tunisia	16,361	15,536	3,255	1,160	3,250	510	7,361	140
Uganda	23,604	19,971	4,080	1,530	5,000	2,759	6,602	4
North & Central America	2,241,492	2,135,527	265,437	6,601	354,693	718,492	790,304	23,543
Canada	997,614	922,107	44,220	80	23,650	326,129	528,028	490
Cuba	11,452	11,452	2,600	670	2,200	2,040	4,042	720
Mexico	197,255	192,304	21,700	1,520	74,499	70,400	24,185	5,000
U.S.A.	936,312	912,680	189,406	2,120	242,070	290,100	188,990	16,700
South America	1,781,851	1,753,562	83,173	22,299	444,704	918,396	284,990	6,663
Argentina	276,889	273,669	25,100	10,000	143,400	60,180	34,989	1,540
Brazil	851,197	845,651	32,300	8,420	167,000	507,000	190,931	1,050
Chile	75,695	74,880	5,630	198	11,850	20,686	36,516	1,320
Peru	128,522	128,000	3,100	330	27,120	73,800	23,650	1,180
Venezuela	91,205	88,205	4,800	557	16,850	47,970	18,028	360

Asia	2,757,442	2,676,879	426,082	23,307	623,041	553,050	1,051,399	130,950
Afghanistan	64,750	64,750	7,910	140	50,000	1,900	4,800	2,600
Bangladesh	14,400	13,391	8,915	212	600	2,209	1,455	1,450
Bhutan	4,700	4,700	254	2	20	3,000	1,424	—
Burma	67,655	65,776	9,558	448	361	32,170	23,239	981
China	959,696	930,496	98,850	750	220,000	115,000	495,896	48,000
India	323,759	297,319	164,500	4,000	12,450	66,850	49,519	35,500
Indonesia	190,435	181,135	14,168	2,200	12,046	121,800	30,921	5,904
Iran	164,800	163,600	15,330	620	44,000	18,000	85,650	5,850
Iraq	43,492	43,397	5,260	195	4,000	1,500	32,502	1,700
Israel	2,077	2,033	325	88	818	116	688	213
Japan	37,231	37,103	4,844	596	554	25,011	8,598	3,270
Jordan	9,774	9,718	1,180	190	100	125	8,123	85
Korea Dem. Rep.	12,054	12,041	2,130	90	50	8,970	801	1,000
Korea Rep.	9,848	9,819	2,079	143	41	6,578	978	1,122
Laos	23,680	23,080	845	20	800	15,000	6,415	78
Nepal	14,080	13,680	2,305	14	1,700	4,450	5,211	210
Pakistan	80,394	77,872	19,715	275	5,000	2,860	50,022	14,000
Philippines	30,000	29,817	5,260	2,850	980	13,000	7,737	1,113
Syria	18,518	18,411	5,150	438	8,421	455	3,947	519
Sri Lanka	6,561	6,474	1,023	1,122	439	2,383	1,507	536
Thailand	51,400	51,177	15,800	1,700	308	21,289	12,080	2,600
Turkey	78,058	77,076	25,123	2,922	27,400	20,155	1,476	2,030
Vietnam	32,956	32,536	5,400	455	4,870	12,500	9,311	1,450
Europe	467,055	472,780	127,339	14,756	67,016	154,670	88,999	13,670
Austria	8,385	8,272	1,547	98	2,071	3,266	1,290	4
Belgium-Lux	3,310	3,262	863	28	723	702	966	1
Bulgaria	11,091	11,055	3,926	366	1,923	3,833	1,007	1,168
Czechoslovakia	12,787	12,552	5,112	134	1,706	4,525	1,075	N.A.
Denmark	4,307	4,237	2,644	12	268	493	820	342
France	54,703	54,568	17,353	1,540	12,978	14,551	8,146	846
Finland	33,701	30,545	2,430	—	173	23,630	4,312	55
German Dem. Rep.	10,818	10,597	4,776	263	1,243	2,953	1,362	160
Germany Fed. Rep.	24,858	24,412	7,508	515	5,155	7,218	4,016	313
Italy	30,123	29,495	9,427	2,974	5,145	6,326	5,533	2,880

2.01. LAND USE AND IRRIGATION—1978 (Concluded)

('000 hectares)

Continent/Country	Total area	Land area	Agricultural area			Forest and wood land	Other land	Irrigated area
			Arable land	Land under permanent crops	Permanent meadows and pastures			
Netherlands	3,719	3,405	823	34	1,189	290	1,069	270
Norway	32,422	30,783	808	—	94	8,330	21,553	7
Poland	31,288	30,457	14,710	279	4,071	8,664	2,738	148
Spain	50,478	49,953	15,640	4,938	11,000	15,250	3,125	2,943
Sweden	44,996	41,182	2,997	—	728	26,424	11,013	60
Switzerland	4,129	3,977	376	20	1,625	1,052	904	25
United Kingdom	24,482	24,172	6,937	64	11,378	2,062	3,731	133
Yugoslavia	25,580	25,540	7,204	723	6,354	9,239	2,020	145
U. S. S. R.	2,240,226	2,227,200	226,900	4,861	374,300	920,000	701,139	16,600
Oceania	859,956	842,906	43,320	958	480,772	155,457	182,399	1,656
Australia	768,685	761,793	42,518	165	446,578	107,000	185,532	1,480
Fiji	1,827	1,827	148	88	65	1,185	343	1
New Zealand	26,868	26,867	435	15	13,750	6,986	5,681	175
Papua N. Gulan	48,169	45,171	17	342	106	38,424	6,282	—
Soloman Islands	2,845	2,754	56	4	31	2,560	101	—
World Total	13,390,315	13,073,597	1,326,320	87,909	3,150,862	4,056,673	4,451,833	200,913

N. A.—Not available

Source: 1979, *Production Year Book*, Vol. 33, FAO, Rome.

2.02. NUMBER AND AREA OF AGRICULTURAL HOLDINGS

Continent/Country	Year	Number ('000)	Area ('000 hectares)
Africa			
Egypt	1960-61	1,642.2	2,614.1
Morocco	1961	1,106.8	5,117.0
Sierra-Leone	1970-71	286.1	520.6
South Africa	1960	110.4	105,944.9
North & Central America			
Canada	1971	366.1	68,663.2
Mexico	1970	1,016.6	144,637.1
U.S.A.	1969	2,730.3	430,321.4
South America			
Brazil	1970	4,932.2	293,012.2
Chile	1965	258.6	30,644.1
Peru	1971-72	1,390.9	23,545.1
Asia			
India*	1970-71	70,483.0	182,124.0
Indonesia	1968	12,236.5	12,883.9
Japan	1970	5,354.6	5,388.6
Korea, Rep.	1970	2,421.4	2,132.2
Pakistan	1960	12,154.9	21,592.8
Philippines	1960	2,165.2	7,772.5
Sri Lanka	1962	1,169.8	1,838.5
Europe			
Austria	1960	396.5	7,683.9
Belgium	1970	184.6	1,542.3
Denmark	1970	140.2	2,941.3
France	1970	1,587.0	35,039.2
Germany, Fed. Rep.	1960	1,761.1	21,360.7
Italy	1970	3,620.8	25,091.3
Netherlands	1970	184.6	2,142.6
Norway	1969	482.1	8,504.6
Poland	1970	3,398.1	16,427.5
Spain	1972	2,558.8	45,633.5
U.K.	1970	326.7	17,992.3
Oceania			
Australia	1970	249.5	497,118.2
New Zealand	1971-72	62.8	19,030.4

*Agricultural Census—1970-71, Ministry of Agriculture and Irrigation, New Delhi.

Source: 1975, *Production Year Book*, Vol. 29, FAO, Rome.

**2.03. TOTAL AGRICULTURAL AND
1977, 1978 &**

Continent/Country	Population					
	Total			Agricultural		
	1977	1978	1979	1977	1978	1979
Africa	429.9	442.7	455.9	280.7	286.3	292.0
Algeria	16.8	17.4	18.0	8.8	9.0	9.1
Egypt	38.8	39.9	40.9	20.0	20.4	20.8
Kenya	14.6	15.2	15.8	11.5	11.9	12.3
Morocco	18.4	19.0	19.6	9.7	9.9	10.2
South Africa	26.9	27.7	28.5	7.9	8.0	8.2
Sudan	16.9	17.4	17.9	13.3	13.5	13.8
Tanzania	16.3	16.9	17.4	13.5	13.8	14.2
Uganda	12.0	12.4	12.8	9.9	10.2	10.4
North & Central America	353.4	358.6	364.0	52.5	52.8	53.0
Canada	23.3	23.5	23.7	1.4	1.3	1.3
Cuba	9.6	9.7	9.9	2.4	2.4	2.4
Mexico	63.3	65.4	67.7	24.5	24.7	25.0
USA	216.8	218.5	220.3	5.4	5.2	5.0
South America	227.0	232.9	238.9	78.0	78.5	79.0
Argentina	26.0	26.4	26.7	3.6	3.6	3.5
Brazil	116.1	119.5	122.9	47.0	47.4	47.9
Chile	10.6	10.7	10.9	2.2	2.1	2.1
Peru	16.4	16.8	17.3	6.8	9.9	7.0
Venezuela	13.5	14.0	14.4	2.7	2.7	2.7
Asia	2,412.8	2,460.6	2,509.0	1,453.9	1,465.5	1,477.2
Afghanistan	20.3	20.9	21.5	16.1	16.4	16.8
Bangladesh	81.0	83.5	86.1	68.5	70.4	72.4
Bhutan	1.2	1.2	1.8	1.1	1.1	1.2
Burma	32.8	33.6	34.4	17.7	17.9	18.1
China	920.8	933.0	945.0	573.1	573.0	572.7
India	647.9	662.9	678.3	423.2	428.6	434.0
Indonesia	141.8	145.1	148.5	86.7	87.7	88.6
Iran	34.8	35.8	36.9	13.8	14.0	14.1
Iraq	11.8	12.2	12.6	5.0	5.1	5.2
Israel	3.6	3.7	3.8	0.3	0.3	0.3
Japan	118.9	114.9	115.9	14.8	14.1	13.4
Jordan	2.9	3.0	3.1	0.8	0.8	0.8
Korea Dem. Rep.	16.7	17.1	17.5	8.1	8.1	8.2
Korea Rep.	36.0	36.8	37.3	15.2	15.1	14.9
Nepal	13.3	13.6	13.9	12.4	12.7	12.9
Pakistan	74.9	77.3	79.8	41.2	42.1	43.1
Philippines	46.6	48.0	49.5	22.3	22.7	23.0

ECONOMICALLY ACTIVE POPULATION

1979

(in million nos.)

Economically active population

Total			In agriculture			Per cent in agriculture		
1977	1978	1979	1977	1978	1979	1977	1978	1979
162.2	166.1	170.2	109.2	110.8	112.5	67.3	66.7	66.1
3.7	3.9	4.0	2.0	2.0	2.0	53.0	51.9	50.8
10.9	11.2	11.5	5.6	5.7	5.8	51.6	51.2	50.8
5.6	5.8	6.0	4.5	4.6	4.7	79.0	78.5	78.1
4.8	5.0	5.2	2.5	2.6	2.7	52.9	52.3	51.7
9.9	10.2	10.4	2.9	2.9	3.0	29.2	29.0	28.7
5.3	5.4	5.6	4.2	4.2	4.3	78.5	77.9	77.4
6.8	7.0	7.1	5.6	5.7	5.8	82.6	82.1	81.6
5.0	5.1	5.3	4.1	4.2	4.3	82.5	82.0	81.4
141.7	144.2	146.8	17.2	17.3	17.3	12.2	12.0	11.8
9.9	10.0	10.1	0.6	0.6	0.5	5.9	5.6	5.3
2.9	2.9	3.0	0.7	0.7	0.7	25.3	24.6	24.0
18.3	18.9	19.5	7.1	7.1	7.2	38.7	37.8	36.9
97.2	98.5	99.9	2.4	2.3	2.2	2.5	2.4	2.3
72.7	74.6	76.5	24.5	24.6	24.8	33.6	33.0	32.4
10.0	10.1	10.2	1.4	1.4	1.4	13.9	13.6	13.2
36.6	37.6	38.7	14.8	14.9	15.1	40.5	39.7	38.9
3.4	3.5	3.6	0.7	0.7	0.7	19.9	19.4	18.9
4.8	4.9	5.1	1.9	1.9	1.9	39.5	38.8	38.1
4.1	4.2	4.4	0.8	0.8	0.8	20.1	19.4	18.7
1093.0	1,019.3	1,035.7	601.6	604.1	606.6	60.0	59.3	58.6
6.9	7.0	7.2	5.4	5.5	5.6	79.0	78.6	78.2
27.8	28.6	29.4	23.5	24.1	24.7	84.6	84.4	84.1
0.6	0.6	0.6	0.6	0.6	0.6	93.7	93.6	93.5
13.3	13.6	13.8	7.2	7.2	7.3	54.0	53.3	52.5
430.4	435.4	440.2	267.9	267.4	266.8	62.2	61.4	60.6
251.6	256.3	261.1	164.3	165.7	167.0	65.3	64.6	64.0
48.7	49.7	50.7	29.8	30.0	30.3	61.2	60.4	59.7
9.8	10.0	10.3	4.0	4.0	4.0	40.7	40.0	39.3
2.9	3.0	3.1	1.2	1.3	1.3	42.1	41.5	40.9
1.3	1.3	1.4	0.1	0.1	0.1	7.6	7.4	7.1
58.6	59.1	59.6	7.8	7.4	7.0	13.2	12.5	11.8
0.7	0.7	0.7	0.2	0.2	0.2	28.1	27.3	26.6
7.4	7.6	7.8	3.6	3.6	3.6	48.5	47.6	46.7
13.4	13.8	14.2	5.7	5.7	5.7	42.3	41.1	39.9
6.4	6.5	6.6	5.9	6.1	6.2	93.0	92.8	92.7
20.6	21.2	21.7	11.3	11.5	11.7	55.0	54.5	53.9
16.3	16.7	17.1	7.8	7.9	8.0	48.2	47.5	46.8

(Continued)

**2 03. TOTAL AGRICULTURAL AND
1977, 1978 &**

Continent/Country	Production					
	Total			Agricultural		
	1977	1978	1979	1977	1978	1979
Syria	7.8	8.1	8.4	3.8	3.9	4.0
Sri Lanka	14.1	14.3	14.6	7.6	7.7	7.8
Thailand	43.8	45.1	46.3	38.6	34.4	35.2
Turkey	42.1	43.2	44.2	24.7	24.7	24.7
Vietnam	48.7	49.9	51.1	35.3	35.8	36.4
Europe	477.9	480.0	481.7	77.2	75.1	73.1
Austria	7.5	7.5	7.5	0.8	0.8	0.7
Belgium-Lux	10.2	10.2	10.2	0.4	0.3	0.3
Bulgaria	8.8	8.8	8.8	3.3	3.1	3.0
Czechoslovakia	15.0	15.1	15.3	1.8	1.7	1.7
Denmark	5.1	5.1	5.1	0.4	0.4	0.4
Finland	4.7	4.8	4.8	0.8	0.7	0.7
France	53.1	53.3	53.5	5.3	5.1	4.9
German Dem. Rep.	16.8	16.8	16.7	1.8	1.7	1.7
German Fed. Rep.	61.4	61.3	61.2	3.0	2.8	2.7
Italy	56.4	56.7	56.9	7.4	7.1	6.7
Netherlands	13.9	13.9	14.0	0.8	0.8	0.8
Norway	4.0	4.1	4.1	0.4	0.3	0.3
Poland	34.7	35.0	35.2	11.4	11.2	11.0
Sweden	8.3	8.3	8.3	0.5	0.5	0.5
Spain	36.1	36.5	36.4	6.9	6.7	6.5
UK	56.1	56.1	56.1	1.3	1.2	1.2
Yugoslavia	21.8	22.0	22.1	8.9	8.7	8.5
USSR	259.0	261.3	263.5	48.9	47.2	45.6
Oceania	21.8	22.0	22.3	4.6	4.6	4.6
Australia	14.0	14.2	14.3	0.9	0.9	0.9
Fiji	0.6	0.6	0.6	0.3	0.2	0.2
Papua N. Guian	2.9	2.9	3.0	2.4	2.4	2.5
New Zealand	3.1	3.1	3.1	0.3	0.3	0.3
World Total	4,181.9	4,258.1	4,335.3	1,995.7	2,009.9	2,024.4

Note: Agricultural population—All persons depending for their livelihood on agriculture. This comprises all persons actively engaged in agriculture and their non-working dependents.

Economically active population—All persons engaged or seeking employment in an economic activity, whether as employers, own-account workers, salaried employees or unpaid workers assisting in the operation of a family farm or business.

Economically active population in agriculture—It includes all secondary active persons engaged privately in agriculture, forestry, hunting or fishing.

Source: 1979, *Production Year Book*, Vol. 33, FAO, Rome.

ECONOMICALLY ACTIVE POPULATION
1979 (Concluded)

(in million nos.)

Economically active population

Total			In agriculture			Per cent in agriculture		
1977	1978	1979	1977	1978	1979	1977	1978	1979
2.0	2.1	2.1	1.0	1.0	1.0	48.6	48.2	47.6
4.8	4.9	5.1	2.6	2.7	2.7	53.9	53.7	53.5
19.8	20.3	20.8	15.2	15.5	15.8	76.8	76.3	75.8
17.8	18.1	18.5	10.4	10.4	10.3	58.6	57.2	55.8
22.6	23.1	23.5	16.4	16.6	16.7	72.4	71.8	71.2
213.6	214.9	216.1	35.8	34.9	34.0	16.8	16.3	15.8
3.3	3.3	3.8	0.4	0.3	0.3	10.6	10.1	9.6
3.9	3.9	4.0	0.1	0.1	0.1	3.6	3.4	3.3
4.7	4.7	4.7	1.7	1.7	1.6	37.0	35.7	34.4
7.6	7.6	7.6	0.9	0.9	0.8	12.0	11.4	10.8
2.4	2.4	2.4	0.2	0.2	0.2	8.1	7.7	7.4
2.2	2.3	2.3	0.4	0.3	0.3	15.2	14.5	13.8
22.6	22.8	22.9	2.3	2.2	2.1	10.0	9.5	9.1
8.6	8.7	8.7	0.9	0.9	0.9	10.5	10.2	9.9
28.3	28.5	28.6	1.4	1.3	1.2	4.9	4.6	4.3
21.1	21.2	21.3	2.8	2.6	2.5	13.2	12.5	11.8
5.3	5.3	5.4	0.3	0.3	0.3	6.1	5.8	5.6
1.5	1.5	1.5	0.1	0.1	0.1	8.8	8.5	8.1
19.0	19.3	19.5	6.2	6.2	6.1	32.8	32.0	31.2
3.6	3.6	3.6	0.2	0.2	0.2	5.9	5.6	5.3
12.7	12.8	13.0	2.5	2.4	2.4	19.7	18.9	18.2
25.9	25.9	25.9	57.8	55.9	54.2	2.2	2.2	2.1
10.0	10.1	10.2	4.1	4.0	3.9	41.0	39.8	38.6
130.3	131.8	133.4	24.6	23.8	23.1	18.9	18.1	17.3
9.3	9.4	9.5	2.0	2.1	2.1	22.1	21.9	21.8
6.0	6.0	6.1	0.4	0.4	0.4	6.4	6.2	6.0
0.2	0.2	0.2	0.08	0.08	0.08	42.3	41.6	40.9
1.4	1.5	1.5	1.2	1.2	1.2	83.5	83.1	82.7
1.2	1.2	1.2	0.1	0.1	0.1	10.0	9.7	9.5
1,732.7	1,760.4	1,788.2	815.0	817.6	820.3	47.0	46.4	45.9

2.04. AREA, PRODUCTION AND YIELD PER HECTARE OF RICE
1978 & 1979

Continent/Country	Area (^{'000} hectares)		Production (^{'000} tonnes)		Yield (kg/hectare)	
	1978	1979	1978	1979	1978	1979
Africa	4,659	4,779	8,322	8,732	1,786	1,827
Egypt	433	436	2,351	2,507	5,431	5,755
Madagascar	1,037	1,216	1,914	2,327	1,845	1,914
Sierra Leone	425	400	620	480	1,459	1,200
Tanzania	210	167	260	200	1,238	1,198
Zaire	279	280	213	230	765	821
North & Central America	1,940	2,007	7,990	8,121	4,118	4,046
Cuba	220	220	458	500	2,082	2,273
Mexico	121	151	397	489	3,286	3,238
U.S.A.	1,202	1,206	6,040	6,199	5,026	5,142
South America	6,760	6,788	11,504	12,401	1,702	1,827
Brazil	5,551	5,439	7,242	7,589	1,305	1,395
Colombia	406	442	1,715	1,932	4,222	4,371
Peru	110	122	468	545	4,251	4,463
Asia	130,692	130,564	354,029	345,491	2,709	2,646
Afghanistan	210	210	428	450	2,038	2,143
Bangladesh	10,083	10,000	19,273	19,355	1,911	1,936
Bhutan	193	195	290	295	1,503	1,513
Burma	5,011	5,013	10,500	10,000	2,095	1,995
China	37,552	38,575	138,202	143,400	3,680	3,717
India	40,196	38,500	80,743	69,000	2,009	1,792
Indonesia	8,929	8,850	25,781	26,350	2,887	2,977
Iran	315	300	1,280	1,212	4,063	4,040
Japan	2,548	2,500	16,354	15,600	6,418	6,240
Korea Dem. Rep.	780	780	4,500	4,800	5,796	6,154
Korea Rep. of	1,233	1,228	8,342	8,051	6,766	6,556
Laos	690	640	796	900	1,154	1,406
Nepal	1,263	1,265	2,339	2,500	1,852	1,976
Pakistan	2,026	1,975	4,908	4,953	2,423	2,508
Philippines	3,524	3,500	7,318	7,000	2,077	2,000
Sri Lanka	839	899	1,890	1,806	2,252	2,009
Thailand	8,268	8,300	17,530	15,640	2,115	1,884
Vietnam	4,889	5,618	10,040	10,500	2,054	1,869
Europe	399	389	1,850	1,933	4,641	4,967
France	13	13	45	45	3,576	3,579
Italy	191	181	979	1,014	5,120	5,607
Portugal	33	35	135	135	4,096	3,883
Spain	68	69	401	427	5,874	6,188
U.S.S.R.	580	610	2,096	2,400	3,614	3,934
Oceania	103	130	512	735	4,978	5,637
Australia	91	109	490	692	5,356	6,349
Fiji	8	18	1,752	1,895	13	35
World Total	145,133	145,268	386,303	379,814	2,662	2,615

Source : 1979, Production Year Book, Vol. 33, FAO, Rome.

**2.05. AREA, PRODUCTION AND YIELD PER HECTARE OF WHEAT
1978 & 1979**

Continent/Country	Area ('000 hectares)		Production ('000 tonnes)		Yield (kg/hectare)	
	1978	1979	1978	1979	1978	1979
Africa	8,469	8,386	8,630	8,963	1,019	1,069
Algeria	1,884	1,700	1,083	581	1,200	706
Egypt	584	584	1,942	3,326	1,856	3,176
Morocco	1,754	1,656	1,876	1,796	1,070	1,084
South Africa	1,792	1,900	1,690	2,220	943	1,168
Tunisia	1,131	1,134	750	680	663	600
North & Central America	34,440	36,521	72,780	78,369	2,113	2,146
Canada	10,584	10,500	21,146	17,746	1,998	1,690
Mexico	759	628	2,654	2,272	3,497	3,618
U.S.A.	23,043	25,333	48,922	58,289	2,123	2,301
South America	8,534	9,553	12,120	12,366	1,420	1,294
Argentina	4,685	4,564	8,100	7,800	1,729	1,709
Brazil	2,801	3,831	2,677	2,924	956	763
Chile	580	560	893	995	1,540	1,776
Uruguay	192	316	174	380	905	1,204
Asia	85,414	90,251	1,22,491	1,35,333	1,434	1,590
Afghanistan	2,348	2,400	2,813	2,200	1,198	917
China	36,001	40,001	52,002	60,003	1,444	1,500
India	21,456	22,220	31,749	34,982	1,480	1,574
Iran	5,000	4,550	5,700	5,000	1,140	1,099
Iraq	1,496	1,750	910	1,492	608	852
Israel	87	58	167	128	1,921	2,212
Japan	112	144	367	440	3,274	3,056
Mongolia	415	410	356	400	858	976
Nepal	366	356	411	415	1,123	1,166
Pakistan	6,360	6,696	8,367	9,944	1,316	1,485
Syria	1,555	1,441	1,651	1,319	1,061	961
Turkey	9,346	9,300	16,769	17,631	3,616	1,896
Europe	26,172	24,659	94,635	83,921	1,794	3,483
Austria	86	270	1,195	850	4,177	3,146
Belgium-Lux	194	198	1,022	1,010	5,255	5,101
Bulgaria	935	770	3,466	3,000	3,708	3,896
Czechoslovakia	1,270	1,100	5,601	4,400	4,410	4,000
France	4,166	4,063	20,970	19,393	5,034	4,773
German Dem. Rep.	686	740	3,147	3,226	4,589	4,359
Germany Fed. Rep.	1,619	1,609	8,118	7,971	5,013	4,952
Italy	3,472	3,400	9,332	9,140	2,688	2,688
Spain	2,752	2,548	4,806	4,118	1,746	1,616
United Kingdom	2,257	1,370	6,613	7,140	5,261	5,212
U.S.S.R.	62,898	57,602	1,20,824	99,100	1,921	1,562
Oceania	16,280	11,670	18,579	16,427	1,807	1,408
Australia	10,189	11,590	18,250	16,100	1,791	1,390
New Zealand	91	90	329	327	3,613	3,644
World Total :	2,36,207	2,38,723	4,50,059	4,25,478	1,905	1,782

Source : 1979, *Production Year Book*, Vol. 33, FAO, Rome.

**2.06. AREA, PRODUCTION AND YIELD PER HECTARE OF MAIZE
1978 & 1979**

Continent/Country	Area (^{'000} hectares)		Production (^{'000} tonnes)		Yield (kg/hectare)	
	1978	1979	1978	1979	1978	1979
Africa	21,286	20,855	27,751	23,880	1,304	1,145
Angola	600	600	400	300	667	500
Egypt	797	791	3,117	2,938	3,909	3,714
Ethiopia	910	1,001	982	1,067	1,079	1,066
Kenya	1,490	1,400	1,456	1,286	2,169	1,800
Malawi	1,100	1,000	1,273	1,200	1,400	1,200
Nigeria	1,668	1,665	1,480	1,500	904	901
South Africa	6,000	6,000	9,930	9,240	1,655	1,373
North & Central America	38,446	38,702	197,508	213,896	5,137	5,527
Canada	782	800	4,032	4,963	5,155	5,575
Guatemala	591	650	260	260	1,285	1,308
Mexico	7,184	7,148	10,909	9,255	1,519	1,295
USA	28,439	28,726	180,008	197,208	6,330	6,865
South America	16,185	16,660	26,794	29,023	1,656	1,742
Argentina	2,660	2,800	9,700	8,700	3,647	3,107
Brazil	11,804	11,314	18,533	16,309	1,221	1,442
Colombia	671	615	862	870	1,285	1,416
Venezuela	506	519	804	848	1,588	1,634
Asia	27,993	29,360	54,221	62,358	1,937	2,124
China	11,037	13,050	31,607	40,620	2,864	3,113
India	5,779	5,500	6,219	5,000	1,076	909
Indonesia	3,025	2,600	4,029	3,200	1,332	1,231
Pakistan	650	656	798	846	1,228	1,290
Turkey	580	600	1,300	1,358	2,241	2,263
Thailand	1,438	1,466	2,791	3,300	1,945	2,251
Europe	11,539	12,212	48,390	56,290	4,193	4,609
Bulgaria	601	730	2,236	3,300	3,722	4,521
France	1,803	2,003	9,531	10,293	5,286	5,139
Hungary	1,321	1,372	6,655	7,400	5,038	5,394
Italy	928	936	6,221	6,260	6,704	6,687
Romania	3,179	3,330	10,208	12,310	3,211	3,718
Yugoslavia	2,146	2,251	7,585	10,082	3,534	4,479
USSR	2,535	2,667	8,951	8,400	3,531	3,150
Oceania	75	83	313	392	4,160	4,721
Australia	45	50	130	168	2,861	3,360
World Total	11,8059	120,540	363,927	394,231	3,083	3,271

Source: 1979, *Production Year Book*, Vol. 32, FAO, Rome.

**2.07. AREA, PRODUCTION AND YIELD PER HECTARE OF TOTAL PULSES
1978 & 1979**

Continent/Country	Area ('000 hec.)		Production '000 tonnes)		Yield (kg/hectare)	
	1978	1979	1978	1979	1978	1979
Africa	11,827	11,789	5,086	5,103	430	433
Egypt	145	149	300	305	2,069	2,051
Ethiopia	833	850	634	644	761	758
Morocco	524	434	296	299	565	688
Nigeria	4,210	4,215	852	903	202	214
Niger	974	968	286	286	294	277
Tanzania	458	455	205	203	447	445
Uganda	582	603	276	289	473	480
Zaire	250	255	153	156	610	611
North & Central America	3,318	3,257	2,861	3,004	682	922
Canada	99	82	156	146	1,576	1,701
Dominican Republic	60	67	61	45	1,023	801
Mexico	1,773	1,799	1,146	1,311	646	729
USA	760	700	1,500	1,630	1,140	1,141
South America	5,860	5,533	3,101	3,195	529	577
Argentina	281	269	265	297	941	1,107
Brazil	4,786	4,421	2,268	2,271	474	514
Chile	174	196	156	177	899	904
Peru	127	133	103	107	814	806
Asia	42,670	43,738	20,216	31,057	685	719
Afghanistan	35	35	57	58	1,629	1,657
Bangladesh	342	361	253	252	741	697
Burma	474	567	329	326	694	575
China	13,659	14,305	13,392	14,700	980	1,028
India	23,307	23,429	11,648	12,119	500	524
Iran	193	204	199	210	1,031	1,031
Japan	93	102	155	163	1,662	1,599
Korea Dem. Rep.	325	327	274	280	843	856
Pakistan	1,541	1,687	808	743	524	441
Syria	277	230	200	153	721	664
Thailand	451	452	308	307	684	681
Turkey	645	694	814	794	1,261	1,145
Europe	2,882	2,991	2,623	2,545	910	851
France	67	67	148	149	2,213	2,230
German Dem. Rep.	50	50	83	83	1,657	1,656
Germany Fed. Rep.	15	12	43	34	2,903	2,866
Italy	272	249	367	341	1,349	1,372
Netherlands	9	9	29	26	3,181	3,286
Poland	182	230	252	275	1,384	1,196
Spain	575	578	471	434	818	751
United Kingdom	78	79	207	204	2,643	2,595
USSR	5,058	5,028	7,724	6,800	1,527	1,352
Oceania	194	187	148	169	760	902
Australia	127	120	64	82	501	679
New Zealand	21	20	59	62	2,841	3,110
World Total	71,808	72,524	50,759	51,873	707	715

Source: 1979, *Production Year Book*, Vol. 33, FAO, Rome.

**2.08. AREA, PRODUCTION AND YIELD PER HECTARE OF POTATOES
1978 & 1979**

Continent/Country	Area ('000 hectares)		Production ('000 tonnes)		Yield (kg/hectare)	
	1978	1979	1978	1979	1978	1979
Africa	517	528	4,433	4,629	8,574	8,770
Algeria	73	73	473	477	6,483	6,534
Egypt	55	59	885	977	15,983	16,616
Kenya	48	48	361	300	7,516	7,500
South Africa	50	50	717	750	14,355	15,000
Tanzania	22	22	85	85	3,864	3,864
North & Central America	764	726	20,239	19,551	26,476	26,914
Canada	112	114	2,497	2,706	22,338	23,727
Mexico	61	56	837	727	13,711	12,982
U.S.A.	555	518	16,567	15,769	29,854	30,346
South America	1,008	1,017	16,567	15,769	9,600	9,928
Argentina	115	113	1,593	1,694	13,804	14,971
Bolivia	130	130	793	800	6,100	6,154
Brazil	209	203	2,015	2,149	9,659	10,596
Colombia	142	151	1,996	2,066	14,093	13,698
Peru	255	255	1,650	1,700	6,471	6,667
Asia	3,043	3,268	33,335	36,928	10,956	11,300
Bangladesh	90	97	863	909	9,586	9,401
China	1,453	1,534	13,029	14,040	8,967	9,154
India	665	790	8,135	10,125	12,228	12,812
Japan	128	130	3,305	3,400	25,820	26,154
Korea Dem. Rep.	118	120	1,450	1,500	12,288	12,500
Nepal	52	55	276	300	5,308	5,455
Pakistan	30	30	294	320	9,854	10,767

(Continued)

**2.02. AREA, PRODUCTION AND YIELD PER HECTARE
OF POTATOES—1978 & 1979 (Concluded)**

Continent/Country	Area (^{'000} hectares)		Production (^{'000} tonnes)		Yield (kg/hectare)	
	1978	1979	1978	1979	1978	1979
Turkey	179	180	2,750	2,909	15,363	16,128
Europe	5,986	5,796	121,217	121,884	20,251	21,028
Austria	57	58	1,401	1,494	24,619	25,732
Czechoslovakia	220	215	3,995	4,000	18,193	18,605
France	277	268	7,467	7,139	26,957	26,638
German Dem. Rep.	579	527	10,777	12,540	18,628	23,795
Germany Fed. Rep.	355	277	10,510	8,747	29,574	31,562
Hungary	116	99	16,235	15,106	1,883	1,500
Italy	172	171	2,843	2,967	16,488	17,381
Netherlands	162	166	38,572	37,772	6,231	6,277
Poland	2,360	2,441	46,648	49,582	19,769	20,312
Spain	371	351	5,364	5,437	14,458	15,490
United Kingdom	214	204	7,330	6,485	34,237	31,789
U.S.S.R.	7,042	6,970	86,124	90,300	12,230	12,956
Oceania	46	45	1,042	1,086	22,549	24,195
Australia	36	35	772	800	21,415	22,857
World Total	18,496	18,350	276,072	284,471	14,999	15,563

Source: 1979, *Production Year Book*, Vol. 33, FAO, Rome.

2.09. AREA, PRODUCTION AND YIELD PER HECTARE OF SUGARCANE—1978 & 1979

Continent/Country	Area ('000 hectares)		Production ('000 tonnes)		Yield (kg/hectare)	
	1978	1979	1978	1979	1978	1979
Africa	840	875	58,151	60,214	65,335	68,787
Egypt	104	105	8,296	8,488	78,780	80,838
Mauritius	82	82	6,260	6,500	76,347	79,268
South Africa	250	220	18,412	18,296	73,646	83,164
North & Central America	2,789	2,877	171,078	174,538	61,343	60,668
Cuba	1,246	1,320	66,400	70,000	53,291	53,030
Mexico	480	502	34,380	35,415	71,625	70,548
Costa Rica	33	34	2,579	2,871	79,102	79,491
U.S.A.	301	297	24,514	15,112	81,452	84,656
South America	3,437	3,555	176,672	204,097	57,101	57,413
Argentina	343	339	13,600	14,123	39,650	41,612
Brazil	2,388	2,519	129,223	138,323	54,112	54,906
Colombia	275	282	22,900	24,200	83,303	85,816
Guyana	56	57	74,375	68,457	4,185	3,900
Peru	54	53	8,400	6,700	155,556	126,415
Venezuela	73	63	4,939	4,400	68,054	69,841
Asia	5,879	5,811	310,011	289,532	52,735	49,826
China	411	430	29,394	30,508	71,581	70,949
India	3,151	3,119	176,966	156,450	56,180	50,160
Pakistan	823	738	30,077	27,763	36,567	37,639
Philippines	472	483	20,273	20,480	42,971	42,411
Sri Lanka	7	7	370	370	50,000	50,000
Europe	6	5	357	366	61,658	76,250
Spain	5	4	317	330	70,444	94,286
Oceania	312	334	24,684	25,382	79,005	76,033
Australia	252	267	21,457	21,151	85,248	79,217
Fiji	54	60	2,849	3,850	52,759	64,167
World Total	13,313	13,457	760,553	754,130	57,128	56,841

Source: 1979, *Production Year Book*, Vol. 33, FAO, Rome.

2.10. AREA, PRODUCTION & YIELD PER HECTARE OF TEA—1978 & 1979

Continent/Country	Area ('000 hectares)		Production ('000 tonnes)		Yield (kg/hectare)	
	1978	1979	1978	1979	1978	1979
Africa	160	168	203	201	1,268	1,198
Kenya	62	83	93	99	1,516	1,196
Malawi	18	18	32	33	1,790	1,863
Mozambique	11	11	15	16	1,364	1,455
Tanzania	18	18	17	18	989	994
Zaire	10	10	5	5	520	520
South America	55	53	39	45	699	846
Argentina	43	41	24	30	556	728
Brazil	6	6	9	9	1,500	1,500
Peru	4	4	3	3	625	750
Asia	1,728	1,810	1,436	1,462	831	808
Bangladesh	43	40	37	39	845	969
China	808	898	294	303	364	337
India	366	380	571	550	1,561	1,528
Indonesia	78	83	89	93	1,145	1,120
Japan	60	60	105	108	1,750	1,769
Sri Lanka	243	243	199	210	819	864
Turkey	53	55	94	117	1,778	2,126
U.S.S.R.	77	78	111	105	1,437	1,346
World Total	2,925	2,114	1,796	1,821	887	861

Source: 1979, *Production Year Book*, Vol. 33, FAO, Rome.

2.11. AREA, PRODUCTION AND YIELD PER HECTARE OF COFFEE GREEN—1978 & 1979

Continent/Country	Area (^{'000} hectares)		Production (^{'000} tonnes)		Yield (kg/hectare)	
	1978	1979	1978	1979	1978	1979
Africa	9,262	9,548	4,608	4,972	497	521
Cameroon	300	314	107	112	357	356
Ethiopia	681	692	191	194	280	280
Ivory Coast	951	1,000	196	275	206	275
Madagascar	210	180	69	60	331	333
Uganda	170	170	121	120	713	706
North & Central America	1,450	1,384	860	933	593	674
Costa Rica	82	83	96	97	1,171	1,163
El. Salvador	147	180	132	180	894	1,000
Mexico	391	345	550	661	215	228
South America	3,859	4,060	2,164	2,332	561	572
Brazil	2,667	2,227	1,226	1,295	593	581
Colombia	1,100	1,170	649	762	608	651
Peru	123	130	67	72	554	554
Venezuela	255	253	255	247	60	62
Asia	750	834	645	613	48	511
India	190	190	125	105	658	553
Indonesia	376	456	223	267	593	586
Philippines	122	123	84	86	692	695
World Total	9,262	9,548	4,608	4,972	497	521

Source: 1979, *Production Year Book*, Vol. 83, FAO, Rome.

**2.12. AREA, PRODUCTION AND YIELD PER HECTARE OF TOBACCO LEAVES
1978 & 1979**

Continent/Country	Area ('000 hectares)		Production ('000 tonnes)		Yield (kg/hectare)	
	1978	1979	1978	1979	1978	1979
Africa	324	340	272	299	840	881
Malawi	75	79	51	54	680	681
South Africa	43	43	44	45	1,029	1,037
Tanzania	82	26	17	22	531	831
Zimbabwe	49	82	85	100	1,735	1,613
North & Central America	595	526	1,242	974	2,086	1,851
Canada	49	36	116	86	2,383	2,361
Cuba	60	48	46	30	767	625
Mexico	44	48	76	80	1,721	1,667
U.S.A.	384	341	918	702	2,393	2,061
South America	463	470	595	611	1,285	1,290
Argentina	62	76	82	68	995	901
Brazil	320	318	409	423	1,280	1,330
Colombia	32	36	62	68	1,950	1,915
Paraguay	22	16	27	19	1,252	1,226
Asia	2,421	2,314	2,634	2,954	1,088	1,121
Bangladesh	56	50	50	44	898	878
Burma	65	61	58	51	895	837
China	734	739	1,002	1,023	1,366	1,384
India	504	411	494	451	979	1,098
Indonesia	175	189	79	89	452	471
Japan	64	63	172	169	2,705	2,702
Korea Rep.	64	56	134	123	2,086	2,210
Pakistan	53	53	74	72	1,399	1,361
Philippines	74	74	57	57	775	775
Thailand	153	159	71	71	467	449
Turkey	304	280	288	287	947	1,026
Europe	524	533	688	690	1,312	1,296
Bulgaria	115	120	139	110	1,213	917
Greece	102	102	127	127	1,245	1,245
Italy	56	56	107	113	1,918	2,007
Poland	44	45	59	70	1,347	1,549
Romania	50	50	41	45	818	900
Yugoslavia	61	63	62	65	1,023	1,032
U.S.S.R.	165	170	232	258	1,709	1,518
Oceania	11	10	19	18	1,695	1,694
Australia	9	8	15	14	1,764	1,823
World Total	4,504	4,363	5,731	5,444	1,273	1,248

Source : 1979, *Production Year Book*, Vol. 33, FAO, Rome.

CONVERSION FACTORS AND TABLES

1. CONVERSION FACTORS Handy Equivalents

AREA		WEIGHT	
1 hectare	=2.47109 acres	1 metric ton	=2,204.7 pounds
1 acre	=0.40468 hectare		=0.98421 long tons
	=4,840 sq. yd.		=1.10231 short tons
	=43,660 sq. ft.		=1,000 kilograms
	=.00156 sq. miles	1 long ton	=2,240 pounds
	=4.048 sq. metres		=1.01605 metric tons
1 sq. mile	=640 acres		
	=259 hectares	1 short ton	=2,000 pounds
	=2.59 sq. kilometres		=0.90781 metric ton
1 sq. kilometre	=0.3861 sq. mile		
	=100 hectares	1 kilogram	=2.20462 pounds
		1 pound	=0.45359 kilogram
		1 maund	=81.2857 pounds
			=37.324210 kg.
YIELD		DISTANCE	
100 kg. per hectare per acre	=1.4869 bushels (60 lb.)	1 mile	=8 furlongs or 1,760 yards =1.609 kilometres
1 bushel (60 lb.) per acre	=67.253 kg. per hectare	1 kilometre	=5/8 mile (3,280.89 ft.)
1 kg. per hectare	=0.882169 lb. per acre	1 metre	=1.0936 yards
1 lb. per acre	=1.129864 kg. per hectare	1 inch	=25.4 millimetres
		1 foot	=30.48 centimetres
		1 yard	=91.44 centimetres

1. WEIGHT**Tons to metric tons**

Tons	1	2	3	4	5	6	7	8	9	10
Metric tons	10.2	20.3	30.5	40.6	50.8	61.0	71.1	81.3	91.4	101.6

Pounds (av) to kilogrammes

Pounds	1	2	3	4	5	6	7	8	9	10
Kilogrammes	0.45	0.91	1.36	1.81	2.27	2.72	3.18	3.63	4.18	4.54

2. LENGTH**Miles to kilometres**

Miles	1	2	3	4	5	6	7	8	9	10
Kilometres	1.61	3.22	4.83	6.44	8.05	9.66	11.29	12.87	14.43	16.09

Yards to metres

Yard	1	2	3	4	5	6	7	8	9	10
Metres	0.61	1.83	2.74	3.36	4.57	5.49	6.40	7.32	8.23	9.14

Inches to millimetres

Inches	1	2	3	4	5	6	7	8	9	10	11	12
Millimetres	25.40	50.80	76.20	101.60	127.00	152.40	177.80	203.60	228.60	254.00	279.40	304.80

3. AREA**Acres to hectares**

Acres	1	2	3	4	5	6	7	8	9	10
Hectares	0.40	0.81	1.21	1.62	2.02	2.43	2.83	3.24	3.64	4.05

Square yards to square metres

Square yards	1	2	3	4	5	6	7	8	9	10
Square metres	0.48	1.67	2.51	2.34	4.18	5.02	5.85	6.69	7.53	8.36

4. CAPACITY**Gallon (Imp) to litres**

Gallons	1	2	3	4	5	6	7	8	9	10
Litres	4.55	9.09	13.64	18.18	22.23	27.28	31.82	36.37	40.22	45.46

**PART IV
APPENDICES**

MEMBERS OF FAI
(As on July 1, 1980)

Active Members	...	53
Associate Members	...	133
Overseas Associate Members	...	27

(As on July 1, 1980)

ACTIVE MEMBERS

1. ADARSH CHEMICALS AND FERTILIZERS LIMITED**Regd. Office: Udhana-394 210, Dist. Surat, Gujarat.**

GRAMS: "ADARSHCHEM"

TELEX: 0178 221 ACF

TELE: 88531-34

BOARD OF DIRECTORS

Shri Chhitarambhai K. Patel
Chairman
 „ Dahyabhai J. Patel
Executive Director
 „ Ishwarbhai P. Patel
Executive Director
 „ Shantilal N. Patel
Executive Director
 „ Mohanbhai K. Patel
Executive Director

Shri Jerambhai L. Patel
Director
 „ Dahyabhai K. Patel
Director
 „ Maganbhai M. Amin
Director
 Dr. Ramanlal C. Patel
Director
 Shri G. G. Dave
Director
Secretary: Shri K. J. Patel

Production and Marketing

The company was incorporated on 19th June 1957. The company set up the plants to manufacture single superphosphate and sulphuric acid in 1962. The present capacities are as under:

Superphosphate—70,000 tonnes per annum
 Sulphuric acid —23,100 tonnes per annum

The company has converted its sulphuric acid plant to DCDA system in 1978. The company is expanding its existing capacities of single superphosphate and sulphuric acid plants as under:

	Additional annual capacity M.T.	Annual capacity after expansion M.T.
Single superphosphate	66,000	1,36,000
Sulphuric acid	33,000	56,100

The additional capacities will go on stream

by mid 1981. The company does not propose to raise its share capital.

The company had completed its diversification programme by successfully commissioning the first ever plant in India to manufacture maleic anhydride, a vital basic chemical mainly used for insecticides (Malathion), polyester resins, paints, lubricants, etc. with a licensed capacity of 3,000 tonnes per annum. The plant, put up with technical collaboration and technical know-how with Halcon International Inc., U.S.A. went into production in 1977. The maleic anhydride produced by the company has been unanimously accepted by indigenous users, thus resulting in saving of substantial foreign exchange.

The authorised share capital of the company is Rs. 1,35,00,000. The paid-up capital of the company now stands at Rs. 111 lakh which includes the issue of bonus shares in the ratio of 2 shares for every 5 shares in 1971, rights equity shares to an extent of Rs. 52.48 lakh in 1974 and public issue of preference shares to an extent of Rs. 25 lakh in 1974.

2. THE ANDHRA SUGARS LIMITED

Regd. Office: Venkatarayapuram, (TANUKU) 534 215,
West Godavari District, Andhra Pradesh

Grams: 'SUGARS'

Telex: RY 0492-242
HD 0155-570

Tele: 333 (5 Lines)

BOARD OF DIRECTORS

Shri M. Harischandra Prasad, Chairman and Managing Director,	Shri M. Thimmaraja, B.Tech., M.B.A., (Florida) Executive Director
.. B. B. Ramaiah, M.Sc. (Wis.), A.M.P. (Harward) Managing Director (Tech.)	.. V. K. D. V. Satyanarayana Raju,
.. M. Venkatarayudu, B.Com., Joint Managing Director,	.. M. A. Krishnamachary, B.A., B.L.
.. P. Narendranath Chowdary, B.Sc., Executive Director, (Chemicals and Fertilisers Dn. Kovvur)	.. J. V. Somayajulu, M.A., B.Ed.,
	.. H. R. Sayoji Rao,
	.. C. S. Vidyasankar
	.. M. M. Menon (IFC Nominee)
	.. K. Jagannathan (I.C.I.C.I. Nominee)

CAPITAL STRUCTURE (As on 30-9-1979)

(a) Authorised capital	No. of shares	Value (Rs.)
1. 9.5% first cumulative redeemable preference shares of Rs. 100/- each	30,000	30,00,000
2. 9.5% second cumulative redeemable preference shares of Rs. 100/- each	95,000	95,00,000
3. Equity shares of Rs. 10/- each	37,50,000	3,75,00,000
		<hr/> 5,00,00,000
(b) Issued capital		
1. 9.5% first cumulative redeemable preference shares of Rs. 100/- each	30,000	30,00,000
2. 9.5% second cumulative redeemable preference shares of Rs. 100/- each	30,000	30,00,000
3. Equity shares of Rs. 10/- each	33,45,423	3,34,54,230
		<hr/> 3,94,54,230
(c) Subscribed and paid-up capital		3,94,54,215
(d) Reserves		6,36,37,097

The company was established at Tanuku, West Godavari district, Andhra Pradesh in 1947 and a sugar factory with a crushing capacity of 600 tonnes cane per day went into production in 1951-52 season. During the past 30 years, there was continuous progress to 1,000 tonnes in 1957 and to 1,250 tonnes in 1962. During 1968-69 season, the crushing capacity was increased to 2,500 tonnes of cane per day with the installation of sugarcane diffusion plant. The capacity of the sugar plant was doubled further from 2,500 to 5,000 tonnes per day and commissioned during the crushing season 1978-79.

Manufacture of sugar is done by double sulphitation process.

At Tanuku

An industrial alcohol distillery was set up in 1961 with a licenced capacity of 8 lakh gallons per annum. Later in 1976 permission to enhance the licenced capacity to 6,000 gallons per day (from 3,000 gallons per day capacity) is obtained and work is in progress.

A plant to manufacture 1080/720 tonnes of acid/anhydride per annum was set up in

the year 1962. Later the process was developed to give better anhydride/acetic acid ratio, and transferred to two parties in different capacities.

A plant to manufacture 1,268 tonnes/annum of ethyl acetate was also set up in 1964.

A unit to manufacture 4 sugarcane diffusers per annum was set up pursuant to industrial licence dated 17-6-1971.

Industrial licence to manufacture 500 tonnes of aspirin per annum was also obtained on 30-6-1976 and the unit going into production by the end of June 1980.

Industrial licence to manufacture 1,000 tonnes of sugar factory boiling house equipment per annum was obtained on 21-2-1977.

At Kovvur

Sulphuric acid plant with a licenced capacity of 50 tonnes per day (continuous process)

was set up in 1961. The capacity was later increased to 75 tonnes per day in 1977.

Superphosphate (fertiliser) factory with a licenced capacity of 100 tonnes per day on 2 shift basis was set up in 1961.

Caustic soda, chlorine and hydrochloric acid plant with annual licenced capacities of 9,900 tonnes, 6,330 tonnes and 2,600 tonnes respectively were set up in 1965, which were later increased to 33,000 tonnes, 20,830 tonnes and 5,100 tonnes, respectively in 1974. Permission obtained to increase the capacities further to 46,200, 29,730 and 7,100 tonnes respectively. This expansion is under implementation.

Chlorosulphuric acid plant with licenced capacity of 5,000 tonnes per annum is set up in July 1972. Letter of Intent was given for further expansion to 5,000 tonnes per annum.

A licence to manufacture 5,000 tonnes of potassium hydroxide per annum was also given and it is installed in 1978.

3. THE ANIL STARCH PRODUCTS LIMITED

Regd. Office: Anil Road, P.B. No. 10009, Ahmedabad-380 025

Grams: 'NILA'

Telex: 264

**Tele: 373022, 373122, 373222
371018, 371118, 373071**

BOARD OF DIRECTORS

Shri Arvind Narottam

Chairman

.. Shrenik Kasturbhai

Managing Director

" Shripal Chinubhai

Managing Director

Secretary: Shri V. R. Shah

Shri Navnitlal Sakarlal

" Jaykrishna Harivallabhadas

" B. K. Daphtary

" Nusli N. Wadia

" Ajay Chimanbhai

" H. T. Parekh

" C. V. Kapadia

The company was promoted in 1939 as a limited company by M/s. Kasturbhai Lalbhai & Co., and commenced production in 1941. Capital of the company as on 31-12-79 was as follows:

	(Lakhs)
Authorised capital	Rs. 250.00
Equity	Rs. 100.00
Preference	Rs. 5.00
Reserves	Rs. 274.36

The registered office of the company and its main starch, liquid glucose, dextrose, enzymes, sulphuric acid, activated carbon and alumina ferric, etc. plants are located at Anil Road, Ahmedabad, with a Forgings Division at Odhav Road, Ahmedabad. The company's Fertilizers and Chemicals Division

is functioning since 1964 at Nava Bunder Road, Bhavnagar.

The company started production of single superphosphate in the year 1949 at Ahmedabad. In view of the great demand for superphosphate in Saurashtra, a large unit for its production was started in 1964 at Bhavnagar with a licensed capacity of 34,000 tonnes per annum.

The company has two contact process sulphuric acid plants at Bhavnagar and Ahmedabad. The company also produces NPK mixed fertilisers at Bhavnagar and Ahmedabad. The company's starch, starch derivatives and chemical plants are among the biggest units in our country and are engaged in the production of maize starch, chemical

starches, dextrins and by-products like maize germ oil, maize oil cake, maize gluten, corn steep, etc. and liquid glucose, dextrose monohydrate, anhydrous dextrose, calcium gluconate, sorbitol and activated carbon. The company has pioneered in India in the production of enzymes required for various industrial applications. At its Bhavnagar Plant, the company also produces sodium silico-fluoride.

In its activities detailed in the preceding paragraphs, the company employs 100 officers and technical personnel and 150 office

staff. There are more than 1,000 workers in the company's employment.

The company has a comprehensive network of sales representatives throughout the country for marketing its products.

The company's laboratories at the plants are constantly engaged in research work for developing improved products and processes and maintaining strict quality control on finished products. The company's research and development laboratory is recognised by the Government of India.

4. ANISH CHEMICALS

**Regd. Office: Next to Kinariwala Industries, Behind Anil Starch,
Lal Bahadur Shastri Road, Ahmedabad-380025**

Grams: ANISHCHEM

Tele: 374053

Anish Chemicals is a partnership concern:

Name of the partners:

Shri M. Dutt
" Chinubhai Manibhai Sheth

Mr. Bipin P. Sheth
Manager In-Charge
Shri P. J. Shah

In 1972, the company installed completely indigenous semi-automatic plant at GIDC Estate at Vapi for manufacture of single superphosphate under SSI unit. Considering the proximity of raw materials and the market for the product, in 1977, the plant was shifted

to Ahmedabad. The plant has a capacity to manufacture 9,000 m. tons of SSP per annum. The partners are technical persons with long experience of manufacturing and marketing of superphosphate.

5. AVENUE MANURES LTD.

28, Chittaranjan Avenue, Calcutta-700 012

Gram: KHAITANSON

Telex: KLOK 3541

Tele: 27-3434/37

BOARD OF DIRECTORS

Shri Binod Kumar Khaitan
" K. C. Chatterjee

Shri G. C. Jha
" M. R. Pasari

The fertiliser department of M/s. Khaitan Sons & Co. was set up in 1926 when the firm handled the distribution of Japanese sulphate of ammonia imports on behalf of M/s Mitsui Kaisha Ltd.

In 1942, a small quota of 250 tons was allotted to the firm by the Central Government for distribution to the North-East India tea industry.

The quota was gradually increased until the firm became the third largest quota holder for the North-East tea industry. In 1953, the entire preparation and distribution of fertilisers in Assam was entrusted to it,

the company then was operating under the name and style of Compound Fertiliser Limited. Seventy five depots and distribution centres were organised throughout the State at that time.

The firm manufactures and distributes all types of fertilisers for tea and field crops and has depots throughout Assam.

Khaitan Sons & Co., also have a plywood factory, where both commercial and tea chest plywoods are manufactured. Other interests include chemicals, jute and fibre, tea gardens, stores and machines, etc.

6. BHARAT FERTILISER INDUSTRIES LIMITED

Regd. Office: 12, Nanabhai Lane, Fort, Bombay-400 023

Factory: Maniwada, Thana.

Grams: GRAFERTS

Tele: 317932

Established in 1956 and incorporated as a Public Limited Company in 1962. Pioneer industry in the manufacture of organic and inorganic compound granulated fertilisers. The company has its single superphosphate plant with a capacity of 25,000 tons per annum.

The company has introduced high density

polythene bags for packing its products.

The company has been awarded distribution for Maharashtra and Madhya Pradesh for urea and DAP of Southern Petrochemical Industries Corporation Ltd., Tamil Nadu.

The company is managed by a Board of Directors.

7. CHEMICAL UNIT OF ASSOCIATED INDUSTRIES (ASSAM) LTD.

P.O. Chandrapur, Kamrup, Assam

Authorised Controller: Assam Industrial Development Corpn. Ltd., Zoo Road, Gauhati-781 024.

(A Government of Assam Undertaking)

The Associated Industries (Assam) Ltd., was incorporated on 7th November 1959 as a Public Limited Company, promoted by a Private Industrial Group from Calcutta. The company obtained two industrial licences, one for setting up a textile mill in 1959-60 and another for a chemical unit in 1960-61 at Chandrapur near Gauhati, in the district of Kamrup, Assam.

The chemical unit is having 3 plants, viz.

- | | | |
|---------------------------|-----|--------|
| 1. Sulphuric acid plant | ... | 50 TPD |
| 2. Single superphosphate | ... | 100 " |
| 3. Liquid sulphur dioxide | ... | 12 " |

Besides, it is having a mixing & bagging plant for superphosphate with a capacity of 200 tonnes/day. The chemical unit of the company was commissioned in July 1963 but the management had to declare closure of this unit on 2-8-1971 mainly due to financial constraints and market difficulties.

Immediately after the closure of the chemical unit, the State Government made a request to the Central Government for taking over the management of the company. Subsequently, in July 1974, the Government of India had taken over the chemical unit under Industries (Dev. & Reg.) Act 1951 and appointed Assam Industrial Development Controller for a period of 5 years with effect from 8-7-1974 and this period takeover has been subsequently extended for another two years, i.e., up to 7-7-1981.

The affairs of this unit, are being managed by a Management Committee constituted by

the Assam Industrial Development Corporation Ltd. The present members of the Management Committee are:

1. Shri P. K. Dutta, I.A.S.
Managing Director
Assam Industrial Development
Corpn. Ltd.
Zoo Road, Gauhati
2. Shri G. C. Goswami, I.A.S.
Director of Industries
Government of Assam
Bhamunimaidan
Gauhati
3. Shri D. P. Hazarika
Managing Director
Assam Finance Corporation
Ganespuri
Dispur
Gauhati-5
4. Shri K. P. Sridharan
Officer-in-Charge
Industrial Finance Corporation
of India Ltd.
G.N.B. Road
Gauhati

The present Chief Executive is Dr. R. N. Das.

The industrial undertaking manufacturing sulphuric acid, superphosphate fertiliser and liquid sulphur dioxide is the first of its kind in North-Eastern region.

8. COIMBATORE PIONEER FERTILIZERS LIMITED

**Regd. Office and Factory: Muthugoundanpudur Post,
Via Sulur-641 402, Coimbatore District.**

Gram: CHEMFERTS, Coimbatore

Telex: 0855/329 (CBE)

Tele: 88-213
88-214

BOARD OF DIRECTORS

Shri G. R. Damodaran
" L. G. Ramamurthi
" A. L. Govindarajulu
" V. Ramaswamy Naidu

Shri V. Vidyasagar
" K. V. Balasubramaniam
" C. R. Lingiah
" D. Vidyaprakash
Managing Director

This is the only inland factory in the State of Tamil Nadu. The company started production in 1966 with a plant capacity of 150 tonnes of superphosphate per day and 50 tonnes of sulphuric acid per day. The authorised capital is Rs. 50 lakhs issued and paid up is Rs. 36 lakhs.

The plant and equipment are of latest design supplied by M/s. Chemiebau, Kofn,

West Germany, now M/s. Davy Powergas and is performing with maximum efficiency.

Apart from superphosphate and sulphuric acid the company is also manufacturing oleum 20/25 per cent.

Further diversification programmes are also under implementation like manufacture of chlorosulfonic acid and other chemicals based on sulphuric acid and oleum.

9. COROMANDEL FERTILISERS LIMITED

**Regd. Office: Sarojini Devi Road,
Secunderabad-500 003, A.P.**

Gram: GROMOR

Telex: 0155-216

Tele: 72034-5-6-7
70116-7-8-9

BOARD OF DIRECTORS

Dr. Charat Ram
Chairman
Shri J. H. Eckart
" J. T. Gibson Jr.
" John K. John
" J. W. Kent
" A. Krishnaswamy

Shri R. H. Matzke
" J. Rameshwara Rao
" D. R. Schemltz
" N. C. Sengupta
" K. Yoshida
" R. V. K. M. Suryarau
Managing Director

Coromandel Fertilisers Limited was promoted by two major U.S. Corporations, Chevron Chemical Company and International Minerals and Chemical Corporation, and an Indian firm, E.I.D.-Parry (India) Limited.

The company was incorporated as a private limited company in October 1961 and became a public limited company in April 1964. The plant was formally commissioned on December 10, 1967. The authorised capital of the company is Rs. 25 crores and the gross

fixed assets as at December 31, 1979 were valued at Rs. 56.26 crores. Majority ownership is with Indian investors as the share capital of U.S. companies is 47 per cent and the rest 53 per cent is held by Indian shareholders.

The plant is located on a 500-acre site adjacent to Hindustan Petroleum Corporation Limited, Visakhapatnam in Andhra Pradesh. The principal products are high analysis complex fertilisers, GROMOR urea ammonium

phosphate 28-28-0 and NPK 14-35-14. The annual rated capacity in terms of nutrients is 83,800 tonnes of nitrogen (N) and 84,500 tonnes of phosphate (P).

The factory has five process plants, the daily rated capacities of which are 357 tonnes of ammonia, 400 tonnes of urea, 900

tonnes of sulphuric acid, 325 tonnes of phosphoric acid and 1,160 tonnes of complex fertiliser.

Shri R. V. K. M. Suryarau, Managing Director, Coromandel Fertilisers Ltd., is a Director on the Board of FAI.

COROMANDEL EXECUTIVES

Shri R. V. K. M. Suryarau
Managing Director

" M. M. Rao
Special Director

„ N. Balasubrahmanyam
**Special Director—
Finance & Secretary**

" M. R. Krishnaiah
**Special Director—
Plant & Projects**

Shri J. C. Lakshman
Manager—Administration

" T. Krishnamurthy
Manager—Marketing

" V. Vasudevan
Manager—Distribution

" A. Ramanathan
Project Manager—Cement

Factory: Malkapuram, Post Box No. 125
Visakhapatnam (AP),
Phone: 7211 & 7455

Delhi Office: Jeevan Deep Building
Parliament Street, New Delhi
Phone: 381338 & 311364

10. DECCAN SALES CORPORATION LIMITED 'Jamunotry', 26th Road, Bandra, Bombay-50

Grams: NOFAMINE: Bandra: Bombay

Tele: 538481/82

BOARD OF DIRECTORS

Dr. R. T. Doshi, M.Com., LL.B., Ph.D.,
Chairman

Shri S. M. Shah,
(Special Executive-Magistrate)
Vice-Chairman

" A. S. Bhise
Managing Director

Shri R. M. Deshmukh, M.L., LL.B. (Cantab)
Bar-at-law
Director

„ J. M. Shah
Director

" M. S. Doshi
Director

Deccan Sales Corporation Ltd., owes its origin to the vision and pioneering work of two young men, Dr. R. T. Doshi, M.Com., LL.B., Ph.D and Shri S. M. Shah, in the fertiliser field for over two decades. It was originally incorporated as a private limited company in 1954 and initially dealt in organic and inorganic straight fertilisers. From 1955-56, the company undertook the manufacture of NPK mixtures and was recognised as an established approved manufacturer by this State Govt. The company was converted into a public limited company during 1962 with an authorised share capital of Rs. 50,00,000 and the project for setting up

a most modern granulation plant near Bombay started taking shape.

Finally in 1965 the management established a most modern granulated compound fertiliser plant with an annual capacity of 44,000 tonnes at Bhandup near Bombay. The entire plant is on T.V.A. process evolved by a famous American fertiliser company.

The company manufactures different formulae of granulated compound fertilisers as approved by the State Government under the trade name of 'YASHODHAN'. Its 18:18:10 produce was produced at Government level for distribution in the hybrid

cereal and high yielding varieties projects. Its product has gained wide popularity as ensuring high quality control and is considered a hallmark of reliability. Its turnover during the last 5 years amounted to an average of about Rs. 2 crore.

The company has wide network of distribution arrangement having representatives and agents at taluks and district levels.

The company has a group of agro-based industries under the same management. "Swati Industries Pvt. Ltd.," after sustained research carried on by two of its eminent technical personnel, developed a special product called "SPARTIN" which provides secondary and micronutrient elements in the soils and crops. It has found great favour with consumers. The company has recently manufactured a new type of product called "NU-SPARTIN", a micronutrient spray which is capable of being sprayed on plants through a sprayer. It has proved highly efficacious and popular. This product can best be described as a low cost micronutrient compound fertiliser.

A separate company Fertiplant Engineering Co. Pvt. Ltd., was incorporated in 1966, in collaboration with M/s. FEECO International Inc., Wisconsin, U.S.A. It has undertaken the manufacture of complete mixing and fertiliser granulation plants with a capacity of Rs. 54 lakh a year. The company has so far secured firm orders for 42 complete plants from different States in the country, out of which 41 have already been commissioned and the remaining five are under various stages of execution. The capacity of the plants varies from 5 to 7.5 tonnes per hour, the components and machinery being cent per cent indigenous.

The company has also built up a couple of cattle feed plants with completely indigenous components and equipment. The company has also designed, fabricated, supplied and commissioned one Alfalfa Dehydration Plant to M/s. Karnataka State Forest Industries Copn., having capacity of 5 tonnes per hour. It has also supplied one Dryer to M/s. Hindustan Lever Limited.

The company has set up a Research and Development Centre at Ladavli, in the Mahad Taluka of Kolaba District, at a cost of Rs. 1 million. It is proposed to undertake manufacture of plant, chemical vessels, heat exchangers etc. required for the chemical industry.

Deccan Sales Corporation Ltd., has obtained recognition from the Government of India for its second Research & Development Centre at Bhandup, Bombay-78 at which it has developed a completely indigenous aerobic process for manufacture of

a high rate mechanical compost from city waste, garbage etc.

The company has commissioned one such plant for Baroda Municipal Corpn., at a cost of Rs. 63.00 lakh which was inaugurated by Hon'ble the former Prime Minister Shri Morarji Desai. A 200 TPD compost plant for M/s. Karnataka Compost Development Corpn., has been set up and commissioned at Bangalore. A similar compost plant for Jaipur, has been commissioned and compost plant owned by M/s. Rajasthan State Agro Industries Corporation is under erection at Jodhpur. The Company's Associate Co., viz. Fertiplant Engg. Co. Pvt. Ltd. has secured an order for a 300 TPD plant for the manufacture of organic compost at Bombay in association with the Bombay Municipal Corporation and the Maharashtra Agro Industries Development Corporation Ltd. and this Company viz., Deccan Sales Corpn. Ltd., at cost of Rs. 120 lakh and the work is completed and plant commissioned. Enquiries from other States e.g. Assam etc., are under process. The Delhi Municipal Corporation had placed a firm order for 150 TPD plant and work is in progress.

In addition to the fabrication and equipment for the granulating factory, Fertiplant Engineering Co. Pvt. Ltd. has designed and engineered vegetable and onion dehydration plants, spurgears of large sizes, material handling equipment such as belt conveyors, bucket elevators, pneumatic conveyors, as also specialised crushers and conveying chains of different specifications.

It has also invented a special type of water lifting pump which works on the electromagnetic system and does not require any special motor installation, maintenance, etc. It is a submersible pump, which has been registered under the trade mark of 'SAL-NALI'. The pump has versatile use.

Rescon Mfg. Co. P. Ltd. is another company under the same group of management which is a pioneer in the manufacture of certain sophisticated electronic equipment such as potentiometers, condensers, rheostats etc. Its average annual turnover is about Rs. 65 lakh. The factory is situated at Poona. The company has taken steps to expand its capacity, renovate its machinery and develop new products.

The management has promoted a public Ltd. Co. by the name of Karnataka Cement Ltd. to undertake manufacture of portland cement with a capacity of 200 T.P.D. at Chitapur in the Gulbarga Dist. of the Karnataka State. Considerable progress has been made and several effective steps are taken to implement the letter of intent issued by the Govt. of India in this behalf.

11. THE DHARAMSI MORARJI CHEMICAL CO. LTD.

**Regd Office: Prospect Chambers,
317/21, Dr. Dadabhoy Naoroji Road, Fort, Bombay-400 001.**

Grams: "DHARMAJAYA"

Tele: 258881-2-3

Telex: DMC-011-2646

BOARD OF DIRECTORS

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Smt. Chandraveli D. Morarji
.. Urvashi D. Morarji
Shri Jaysinh L. Thakkar
.. Bhalachandra K. Kamat
.. Haridas T. Kapadia

Secretary: Shri D. G. Mehta

A public company incorporated in Bombay in 1919. The company was promoted by Messrs Dharamsi Morarji & Co., who were the Managing Agents of the company since its inception till 2nd April 1970. The company has two factories in Maharashtra, one at Ambemath, Dist. Thane, and the other at Roha, Dist. Kolaba. The company's third factory is at Kumhari, Dist. Durg, Madhya Pradesh.

Its range of products covers superphosphate, sulphuric acid, alumina sulphate, chlorosulphonic acid, sulfamic acid, etc.

The authorised capital of the company is Rs. 7,00,00,000 consisting of 14,00,000 ordinary shares of Rs. 50 each.

It has promoted jointly with Messrs. Albright & Wilson Ltd., of United Kingdom and Pandit interests, a company called Messrs. Albright, Morarji and Pandit Ltd., which is the first company of its kind in India for the manufacture of industrial Phosphates and phosphoric acid by the wet process.

The company is also vitally connected with borax/boric acid industry for the manufacture of which it has floated a separate limited company called Messrs. Borax Morarji Limited with the collaboration of Borax (Holdings) Ltd., now known as R.T.Z. Borax Limited of United Kingdom. The equity shareholdings of R.T.Z. Borax Limited has since been transferred to Indian Shareholders.

In collaboration with the Madhya Pradesh States Agro Industries Development Corporation Ltd., the company has floated a new company, in the joint sector, called M.P. Agro Morarji Fertilisers Ltd., for manufacture of 60,000 tonnes of granulated fertilisers in the Hoshangabad District of Madhya Pradesh.

The company has, jointly with Kerala State Industrial Development Corporation and Premier Enterprises of Kerala, set up a plant for the manufacture of 16,500 tonnes of alumina sulphate (ferric) in the State of

Kerala.

The licenced capacities of some of the products for which the company holds industrial licences are:—

Particular	Tonnes per year		
	Ambemath	Kumhari	Roha
Sulphuric acid	1,61,700	66,000	—
Single super-phosphate	1,46,320	1,61,000	—
Triple super-phosphate	27,000	—	—
Alumina sulphate	46,200	33,528	6,600
Chlorosulphonic acid	19,800	3,600	—
Sulfamic acid	—	—	1,500
Sodium silico fluoride	1,750	(850	—
Aluminium fluoride	1,550	(—
Sodium fluoride	700	—	—
Silica compounds	—	(250	—
Activated silica	550	(—
Stabilised sulphur trioxide	16,500	—	—
Di-ethyl sulphate	—	—	750
Ammonium sulphamate	—	—	500
Alpha naphthol & beta naphthol	—	—	1,650
Benzene sulphonyl chloride	—	—	750
Thiophenol	—	—	300
Sodium aluminate	—	—	8,000
Hydrate of alumina	—	—	4,500
Cryolite	1,500	—	—

The know-how for the manufacture of the above products as well as the plant designs have been entirely developed by the company's own research, development and engineering staff. The company was the first to produce triple superphosphate in India.

The company's products are marketed through its own marketing organisation. The company has an upto-date soil testing labo-

ratory at its Kumhari factory and the company conducts demonstration trials based on soil test to promote balanced fertilisation techniques incorporating the effective use of single superphosphate.

Research experiments for trace elements and micro-nutrients are also undertaken for selected crop areas and micro-nutrients with a view to producing increased yields.

12. E.I.D. PARRY (INDIA) LTD.
Dare House, P.B. No. 12, Madras-600 001.

Grams: DISTIMULO **Telex TLX:** 315, Parry **Madras** **Tele:** Directors 21101 (4 lines)
General 29251 (20 lines)

BOARD OF DIRECTORS

Dr. Easo John,
Chairman & Managing Director,
Chief Executive

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Nominee of Industrial Finance
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" **Ashok Goenka**
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Director

" **N. Ramanand Rao**
Director

" **K. Achyuthan**
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" **N. S. Parthasarathy**
Special Director

" **D. L. N. Rao**
Special Director

" **M. Mukerjee**
Special Director

" **V. B. Khare**
Special Director

Thomas Parry who arrived in India in 1788 to seek his fortune was granted a licence to trade within limits as a free merchant by East India Company, which held monopoly of trade between India and the United Kingdom. So began Parry & Co. which remained a private partnership until 1928, when it was converted into a private limited company.

In 1948, Parry & Co. Ltd., was converted into a public limited company and in 1956 the whole of its ordinary share capital was acquired by the East India Distilleries and Sugar Factories Ltd. to form the E.I.D. Parry

Group which now consists of the holding company and its subsidiaries: Parry & Co. Ltd., Mofussil Ware House and Trading Co. Ltd., Andhra Fertilisers Ltd., the Parry Murray & Co. Ltd.

E.I.D. Parry Ltd. was a company incorporated in the U.K. carrying on business in India. To facilitate the company's increasing participation in the national growth, and with the approval obtained of the High Courts of Madras and England, the scheme involving the transfer of the undertaking of E.I.D. Parry Ltd. to E.I.D. Parry (India) Ltd. without fur-

ther act or deed has become effective from the 18th June 1976.

The Group has on its pay-roll nearly 15,000 employees and its interests are wide and varied, including the manufacture and sale of insecticides, fungicides, fertiliser mixtures for field crops and plantations, superphosphate, ammonium phosphate, ammonium sulphate, NPK complex fertilisers, seeds, sprayers, animal feeds, sugar, carbonic acid gas, denatured and rectified spirit molasses and European liquors, acids (hydraulic nitric and sulphuric), chemicals and ceramic ware. The group also sells a variety of products manufactured by reputable Indian and foreign concerns including electric motors, starters, transformers, generating sets in the electrical line, machine tools, pumps, diesel engines, cranes in the mechanical line and other engineering stores such as tarpaulines, chipboards, aluminium sheets, and a wide range of consumer and pharmaceutical goods.

The E.I.D. Parry Group are pioneers in the fertiliser field having established a bone-meal factory at Ranipet in the early twentieth century. They were the first in India to start a superphosphate factory in 1906 at Ranipet where the preparation of various standard fertiliser mixtures, insecticides and fungicides was subsequently undertaken. A second factory at Tadepalli commenced production in November 1960 bringing the total production capacity of the group upto 100,000 tonnes of superphosphate per annum. Formulation of plant protection chemicals is also carried out at Tadepalli. The group has fertiliser mixing factories at Tadepalli, Panruti, Katpadi Mettupalayam, Thirumangalam, Trichy, Mysore, Hospet, Kottayam and Calicut and over the last 70 years has built up an extensive marketing organisation providing unrivalled distribution facilities.

The fertiliser factory of E.I.D. Parry (India) Ltd. at Ennore, near Madras, was the first in the private sector to produce compound fertilisers. The factory was installed to manufacture about 51,000 tonnes per year

of ammonium phosphate 16:20 now marketed by the company under the trade name of 'Paramfos'. The expansion of the factory was completed in January 1968 to manufacture an additional nitrogenous fertiliser, ammonium sulphate (20.6 per cent N) to the extent of 38,610 tonnes per year utilising the by-product gypsum obtained from the phosphoric acid plant which is one of the plants in the manufacturing process of ammonium phosphate.

E.I.D. Parry (India) Ltd. have the distinction of being the first to manufacture NPK complex fertiliser in India at their factory at Ennore from November 1968.

E.I.D. Parry (India) Ltd. were the promoters along with Chevron Chemical Corporation and International Minerals and Chemicals Corporation, both of the USA, of Coromandel Fertilisers Ltd. at Visakhapatnam which manufacture 14 : 35 : 14 and 28 : 28 : 0 complex fertiliser and urea, and continue to market these products on a principal-to-principal basis.

The company continues as one of the marketers of complex fertilisers and urea manufactured by Madras Fertilisers Ltd., Manali.

The company's marketing activity in hybrid seeds has been extended to the high-yielding varieties of paddy and three seed processing units have been set up at Pappampatti and Trichy in Tamil Nadu and Chickballapur in Karnataka.

The company has set up a factory at Ennore for the manufacture of cattle and poultry feeds which is in production since May 1970. A second unit at Tadepalligundam in Andhra Pradesh has gone into production since 1975 and a third unit at Mysore since December 1976.

The E.I.D. Parry groups, are founder members of the Fertiliser Association of India and Dr. Easo John, Chairman and Managing Director of the company is the present Chairman of the Fertiliser Association of India.

13. THE FERTILISERS AND CHEMICALS TRAVANCORE LIMITED

Regd. Office: Udyogamandal, Kerala.

Gram: FACT UDYOGAMANDAL Telex: 0885-264 FACT Tele: Cochin 5901 to 5904
Dr. P. K. Narayanaswamy— Chairman & Managing Director

The beginning

The Fertilisers And Chemicals Travancore Limited (FACT) was conceived at a time of great food shortage in the former State of

Travancore. Dr. C. P. Ramaswamy Aiyer, the then Dewan of Travancore, has the vision to recognise that only chemical fertilisers could solve the food problem of the State.

He, therefore, sponsored the establishment of FACT. M/s. Seshasayee Brothers Limited, an industrial management house of South India was invited by him to organise the venture.

Work started at what is now known as Udyogamandal in 1944, and the factory went into commercial production in 1947. The company began with a capacity of 50,000 tonnes of ammonium sulphate (10,000 tonnes of N). The process adopted was unique. As there was no coal or natural gas in the area ammonia production was based on gas generated out of firewood. Until then, firewood gasification was just a laboratory process. To FACT belongs the distinction of converting it into a commercial process and exploiting it for the first and perhaps the last time in the history of chemical industry. Ammonium sulphate was manufactured from ammonia produced out of firewood and gypsum mined from Tiruchirapalli in Tamil Nadu.

Next to be set up was a superphosphate plant with a capacity of 44,000 tonnes. It became, therefore, necessary for the company to install a sulphuric acid plant of 75 tonnes capacity a day. FACT was then the largest producer of fertilisers in India.

Expansion and diversification

With the advent of the First Five Year Plan and the setting up of a much larger fertiliser plant at Sindri, the whole concept of fertiliser production underwent a change. FACT just had to expand to survive. In the meantime the company had taken up on itself the responsibility of setting up a caustic soda unit. Later thinking was that caustic soda production could be profitably organised as a separate unit; so a new company called The Travancore Cochin Chemicals Limited was formed jointly by the then Government of Travancore-Cochin, FACT and the Mettur Chemical Industrial Corporation Limited.

The hydrogen chloride arising out of the production of caustic soda was utilised by FACT for producing a new product, ammonium chloride, technical grade. Till then, the country's requirements of the ammonium chloride were met by imports. After FACT's ammonium chloride came into the market, there was no need for importing it at all.

First stage expansion

In the late fifties, the company took up further expansion programmes. The first stage expansion programme involves an outlay of Rs. 30 million (\$6 million) aimed at doubling the nitrogen capacity and introducing, for the first time, a new complex fertiliser—ammonium phosphate. It was then anticipated that adequate hydro-electro power would be available in the State for sustain-

ing an electrolysis plant. The additional capacity for the synthesis gas required was found by setting up an electrolytic hydrogen plant. A phosphoric acid plant and a plant capable of producing ammonium phosphate (16:20) grade were established.

Second stage expansion

The first stage expansion programme was soon followed by the second stage, involving an investment of Rs. 20 million (\$4 million). As the firewood gasification plant was becoming uneconomic and as there was no scope for expanding it any further due to the limited availability of firewood, it was necessary to replace it with a modern process. New processes by then had been found since the installation of the firewood gasification plant. The latest available was the TEXACO oil gasification process using raw naphtha as feedstock. As a result of the installation of a plant based on this process, the capacity increased to 30,000 tonnes of nitrogen and 15,000 tonnes of P_2O_5 .

Third stage expansion

Even before the second stage expansion programme was completed, a third stage expansion programme involving an outlay of Rs. 120 million (\$24 million) was taken up. This programme was intended to raise the nitrogen capacity to 70,000 tonnes and P_2O_5 capacity to 33,000 tonnes, the end-product capacities being 200,000 tonnes of ammonium sulphate, 125,000 tonnes of ammonium phosphate, 44,000 tonnes of superphosphate and 20,000 tonnes of ammonium chloride.

One of the most interesting features of the third stage expansion programme was the installation of a 300 tonnes a day ammonium sulphate plant based on the process know-how developed by FACT for the conversion of by-product gypsum.

Fourth stage expansion

While all these expansion programmes were in progress, the expectation of availability of power based on the original forecast given by the State Electricity Department (later the Electricity Board) were belied time and again. The electrolysis plant could seldom work to full capacity as enough power was not available. Powercuts had become much a 'hardy annual' and as a result production in several plants had to be curtailed drastically, even closed down for substantial periods. Dependence on such large quantities of power was causing huge losses to the company. And a way had to be found to reduce this dependence. Only by the elimination of the electrolytic hydrogen plant was this possible, but it meant making other suitable modifications to the plant.

A fourth stage expansion programme was, therefore, conceived on the basis of replacing the electrolytic cells and providing other ancillary facilities required to raise nitrogen capacity from 70,000 tonnes to 90,000 tonnes and P_2O_5 from 33,000 tonnes to 45,000 tonnes. Work on this programme involving an outlay of Rs. 50 million (\$6.7 million) has been completed. A substantial portion of the electrolytic hydrogen plant has been dismantled and sold to the Fertilizer Corporation of India for its unit at Nangal which is exclusively based on electrolytic hydrogen. The new ammonia plant has been commissioned. An ammonium phosphate plant with a capacity of 150 tonnes per day of 20:20 grade completely designed and engineered by FEDO (about which organisation, more later) also went on stream. With the completion of the fourth stage expansion programme, the total investment in Udyogamandal has gone upto Rs. 270 million. The power requirement has been reduced to 36,000 KWY from 50,000 KWY required at the end of third stage expansion programme.

In order to improve the financial position of the company, the management had prepared and submitted a product diversification project to the Government of India, in which it was proposed to stop the production of products involving wasteful expenditure and to start production of new industrial chemicals in a profitable way.

FACT Cochin Division

The new fertiliser unit—Cochin Division—set up by FACT at Ambalamedu near the Cochin Refineries, is on stream. The project was set up in two stages—Phase I and Phase II.

Cochin Division—Phase I

Designed to produce 330,000 tonnes of urea a year, the plant utilises the latest technology. For the manufacture of synthesis gas, the ICI-Steam-Naphtha Reforming Process under pressure, followed by the high and low temperature CO conversion, CO_2 removal by the Vetrocoke Process and final removal of carbon oxides by methanation have been adopted. The section has been designed by FACT in collaboration with the Davy Power Gas International of England. The 600-tonne per day ammonia plant, based on the Fauser Montecatini Process is in single stream. The 1000 tonnes/day urea plant based on the Fauser, Montecatini total liquid recycle process is designed by the Planning and Development Division of the Fertilizer Corporation of India in collaboration with Montecatini Edison of Italy. The urea synthesis section is in two streams and the rest in single stream.

The process water requirements of the

project will be met from a water reservoir of five months storage capacity formed by building an earthen dam. The power requirement is about 22 MW. Fourteen MW will be generated in the project in a back pressure turbine connected to the process steam unit.

A modern township with amenities like a shopping centre, hostels, recreation facilities, etc., has also been set up.

An important feature of the Cochin Project Phase I is that it is one of the large sized fertiliser plants in India to be completely designed, engineered and erected by indigenous technical know-how developed and acquired by FACT Engineering & Design Organisation and P&D Division of the Fertilizer Corporation of India, now Fertiliser (Planning & Development) India Ltd.

Cochin Division—Phase II

Phase II expansion programme of Cochin Division has also gone on stream. This expansion project is designed to produce 485,000 tonnes of NPK granulated fertilisers in a year. This project includes a 1,000 tpd sulphuric acid plant, which incidentally is the biggest in the country, a 360 tpd phosphoric acid plant and a 1,600 tpd NPK granulation plant. The project is entirely designed and engineered by FEDO.

Marketing

In India, the task of a fertiliser manufacturer does not stop merely with production. It goes beyond that. The magical transformation that fertiliser use brings about in food production is not fully realised by a vast majority of farmers. The task of educating the farming community that increased use of fertiliser means higher profit is a responsibility of the producer. It is also the producer's responsibility to deliver the right type of fertiliser at the farmer's door-step at the right time and at the right price.

In translating this marketing philosophy into action, the company has launched various programmes of fertiliser promotion work.

One of the significant contributions that FACT has made in the field of fertiliser promotion is the concept of the fertiliser festivals. Fertiliser festivals have assumed a role that no other instrument has been capable of in the past in attempting to reach the heart of the farmer. The fertiliser festivals introduced by FACT have become well known in many parts of India and even the United Nations have been caught up by this new concept and have made a special study of it so that it could be introduced in other developing countries.

Another contribution made by FACT in the field of fertiliser promotion is the Village Adoption Scheme. The theme of the scheme is that any strategy of agricultural development should focus on village as basic growth points. The scheme has been recommended for adoption throughout the country.

Organisation of Agro-Service Centres in key places is another innovation introduced by FACT recently. FACT offers all kinds of agricultural services to farmers free of cost, through a team of well qualified and trained agronomists. Facilities have been provided, again free of cost, for testing samples of soil.

A new dimension to the concept of agricultural extension in the country has now been set up by FACT by developing the idea of starting Agricultural Study Centres—FACT Krishi Vigyan Kendras—an effective and sustainable new medium for educating farmers.

Every year, a large number of demonstration plots are being organised by FACT in the fields to prove the profitability of fertiliser application.

Marketing network of FACT is fairly widespread all over South, comprising the States of Andhra Pradesh, Karnataka, Tamil Nadu and Kerala. FACT is also supplying its products to the States of Maharashtra, Madhya Pradesh, Punjab, Haryana, Rajasthan, Uttar Pradesh and West Bengal.

FEDO

Perhaps, FACT's most significant contribution to the fertiliser and chemical industry in India is its development of a separate organisation for the design and engineering of chemical and fertiliser plants and for evolving new processes for producing various chemicals, vital to industry. During the last 35 years of its growth, FACT has continuously been facing new challenges—challenges arising out of problems of technology, raw materials, processes, marketing and personnel. These challenges have been met by invention, innovation, improvisation and management action.

A new autonomous diversion under the name FACT Engineering & Design Organisation (FEDO) was, therefore formed to meet the challenges of the future.

Scope and capability of FEDO

FEDO is equipped to take up (1) techno-economic feasibility studies, (2) market surveys, (3) process selection and evaluation, (4) process engineering, (5) detailed engineering, (6) architectural design and town planning, (7) plant procurement, inspection and shipping, (8) construction, (9) site management and supervision, (10)

off-site design, (11) start-up and commissioning, (12) turn-key contracts, (13) after sales services, (14) refinancing on deferred payment schemes, and (15) operation and maintenance personnel training.

FEDO has entered into collaboration agreement with process licensors of international repute such as Davy Power-Gas International, Societe De Prayon, etc. in the fields of ammonia, acids and fertilisers. FEDO has its own process for the manufacture of ammonium sulphate from by-product gypsum, sodium silico fluoride, calcium silicate and cryolite. Other processes are being continuously developed in the research laboratory and pilot plants of FEDO. It can also secure processes developed by other organisations of international repute.

Among others, the major projects undertaken by FEDO include: the synthesis gas plants in Cochin and Durgapur fertiliser projects; hydrogen plant at Rasayani for Hindustan Organic Chemical; 360 tpd phosphoric acid plant at Sindri for Fertilizer Corporation of India; 300 tpd sulphuric acid plant at Trivandrum for Travancore Titanium Products; 200,000 tpa triple superphosphate plant along with sulphuric acid and phosphoric acid plants at Khetri for Hindustan Copper Ltd.; formic acid plant for Periyar Chemicals; catalysts plant for Catalysts & Chemicals at Edayar; 500,000 tpa complex fertiliser plant at Ambalamedu for Cochin Division of FACT; conversion of the existing contact process sulphuric acid plant for Fertilizer Corporation of India (now Rashtriya Chemicals & Fertilisers) at Trombay to DCDA system increasing rated capacity from 200 tpd to 300 tpd and incorporating atmospheric pollution control measures; Ossein and dicalcium phosphate plants for Kerala Chemicals & Proteins Ltd. at Chalakudy; 65 tpd ammonium chloride plant for Kothari (Madras) Ltd. at Manali; atmospheric pollution control project and conversion of sulphuric acid plant to DCDA system for Hindustan Organic Chemicals Ltd. at Rasayani, penicillin plant for Hindustan Antibiotics Ltd., Pimpri; revamping of 100 tpd sulphuric acid plant for Hindustan Zinc Ltd. at Udaipur; 85 tpd phosphoric acid plant for Hindustan Lever Ltd. at Haldia, etc.

FEDO has now ventured into new fields like pesticides and pharmaceuticals and drugs, and had captured several prestigious orders. Other projects now under execution by FEDO include 1,800 tpa Malathion project for Hindustan Insecticides Ltd. at Rasayani; 4.5 tpd formic acid plant for Kerala Acids and Chemicals Ltd. at Edayar; 5000 tpd DDT project for Hindustan Insecticides Ltd. at Rasayani; 1600 tpa Endosulfan project off-sites for Hindustan Insecticides Ltd. at Udyogamandal; Water gas purification plant

for Hindustan Lever Ltd. at Sewri; 26000 tpa ammonium chloride plant for Bihar Caustics and Chemicals Ltd. at Bihar; streptomycin, ampicillin projects for Hindustan Antibiotics Ltd. at Pimpri; high gamma BHC plant for Southern Pesticides at Kowur; zinc recovery and silver extraction plant for Hindustan Zinc Ltd. Udaipur; Soda ash and ammonium chloride plants (200 tpd each) for Tuticorin Alkali Chemicals and Fertilisers Ltd, Tuticorin; sulphuric acid and nitric acid plants for Ordnance Factory, Itarsi; three mini cement projects in Gujarat, etc.

Research & Development

FACT has the strong backing of not only experienced engineers and designers, but also of a full-fledged Research and Development Division. The Research Division is engaged in evolving new processes for the utilisation of by-product wastes, effluents, etc. arising in fertiliser manufacture. Some of the noteworthy achievements of FACT's industrial research programme are: By-product gypsum utilisation; manufacture of sodium silico fluoride; manufacture of calcium silicate; manufacture of synthetic cryolite and manufacture of urea phosphate.

Work is also done by the Research Division towards developing new processes for other companies.

FACT Engineering Works

FACT Engineering Works (FEW) another division of FACT, caters to the specialised needs of chemical and fertiliser industry in the fields of fabrication of plant and equipment as well as structural and erection works.

FEW is capable of fabricating specialised items like gas holders and tanks, primary and secondary cells, heat exchangers, kettel plates and pressure vessels, mixers, impellers and agitators. It also undertakes structural work and erection at site including that of columns, beams, casings, platforms, gratings, etc. and fabrication and laying of pipes for various requirements. Recently FEW diversified its activities to take up design, fabrication and erection of hydraulic gates, underground cross country pipelines etc.

Well-equipped with modern facilities for fabrication, machining, material handling, transportation and quality control, FEW is also well manned by experienced engineers and shopmen.

Personnel

Healthy industrial relations and a happy work force are the surest foundations for the efficient operation of the company. As a major industry in the State, FACT has the additional responsibility of setting standard for others in the field. An enlightened personnel policy is, therefore, pursued. The company has an employee strength of more than 7,000 inclusive of FEDO, FEW, Cochin Division and Marketing Division. The company has accepted in principle the linking of dearness allowances to the cost of living index and the worker automatically gets an increase in the wages with every increase in the cost of living index.

Following the principle that all disputes between workers and management should be settled through negotiation, long term agreements have been signed by the company with its employees.

Amenities provided to workers include a liberally subsidised canteen, a subsidised sports association and a medical benefit scheme for employees and their families. The company is attempting to provide maximum accommodation to the employees based on a phased programme. Family quarters as well as bachelor accommodation are provided with all modern amenities, free water and power. High schools and primary schools are also run by the company for the benefit of the children. There is also a fine arts wing. Subsidised transport facilities are provided to employees coming from far away places, in a limited way. The company has organised a welfare fund to provide financial assistance to employees in deserving cases.

Outlook for future

Fertiliser technology is developing very fast. Before a plant based on the most modern process is set up and commissioned, the process becomes obsolescent sometimes even obsolete. Fertiliser producers, therefore, have to be on the alert all the time to keep themselves abreast of the most modern developments in technology. With a growing research and development department and a competent design and engineering organisation, it should be possible for FACT to meet this challenge and help the country towards self-reliance in this field of activity.

14. THE FERTILIZER CORPORATION OF INDIA LIMITED

Central Office: 55, Nehru Place, New Delhi-110 019.

Gram: FERTILIZER

Telex: FCIND 2859

Phone: 682531

BOARD OF DIRECTORS

Shri K. C. Sharma
Chairman and Managing Director
.. S. M. Kelkar

Shri V. Kumar
.. S. S. Mahdi
.. S. Fareeduddin

Introduction

The Fertilizer Corporation of India Ltd., a Government of India undertaking was formed on January 1, 1961. It has ushered in a new area from April 1, 1978 after reorganisation.

After reorganisation, the Fertilizer Corporation of India Ltd., have two operating units at Sindri and Gorakhpur. FCI has three of the world's largest coal based projects, two of which at Talcher (Orissa) and Ramagundam (Andhra Pradesh) are complete and only awaiting commissioning. The third project at Korba (Madhya Pradesh) shall be taken up after successful commissioning of these two projects.

Capital Employed

The corporation is a public sector undertaking fully owned by the Government of India. It has an authorised capital of Rs. 800 crore. The total issued and subscribed capital as on March 31, 1979 is Rs. 374.13 crore.

Capacity and Growth

When all the projects in hand (except Korba) are commissioned the rated capacity of FCI plants would be 8,05,000 tonnes in terms of nitrogen and 1,50,000 tonnes in terms of P_2O_5 .

Amongst the existing units, complex, ANP fertiliser is being produced at Gorakhpur.

Sindri is Re-born

The old Sindri plant which was commissioned in 1951 continued to work profitably upto 1967, after which due to ageing the plant started suffering losses due to gradual reduction in production capacities and additional expenditure on maintenance cost. This resulted in the drawing up of a scheme for having a Rationalisation Project and a second Modernisation Project at Sindri which together would lead to the emergence of a new and bigger complex in place of the old Sindri plant which has been gradually scrapped except for the ammonium sulphate plant. The two projects were commissioned in October, 1979.

Sindri Rationalisation

The Rs. 60 crore Rationalisation Project involves the creation of a capacity of 3,26,000 tonnes of triple super phosphate (TSP) equivalent to 1,50,000 tonnes of P_2O_5 , almost half of the domestic production of phosphatic fertilisers. A novel feature of this project is the availability locally of the by-product gypsum to replace the natural gypsum hitherto hauled all the way from Rajasthan made possible by reacting sulphuric acid with rock phosphate to give phosphoric acid and by-product gypsum. While this by-product gypsum will be used in the existing ammonium sulphate plant, the phosphoric acid will be treated with rock phosphate to produce triple superphosphate.

The Rationalisation Project comprises a 880 tonnes/day sulphuric acid plant in terms of P_2O_5 and a 1,100 tonnes/day TSP plant.

The Rationalisation Project will require annually 2,50,000 tonnes of pyrites, 30,000 tonnes of sulphur and 5,00,000 tonnes of rock phosphate to produce 3,26,000 tonnes of TSP, 5,00,000 tonnes of by-product gypsum and 2,70,000 of pyrites cinder, a waste product. The project has gone into commercial production from October 1979.

Sindri Modernisation

Construction work on Modernisation Project began in 1975. This World Bank-aided project has been built at a cost of Rs. 179 crores. \$91 million (Rs. 82 crores) has been provided in the form of an IDA credit. It has a fuel-oil based ammonia plant of 900 tonnes per day. The remaining ammonia is converted into ammonium sulphate for which the existing plant in the old Sindri complex has been renovated. About 66 per cent of the equipment used is indigenous. The project went into commercial production in October, 1979.

Coal Based Plants

A new era dawned for the Indian fertiliser industry with the Government of India decision in 1969 to establish 3 coal based plants in the country—Talcher, Ramagundam and Korba.

The annual installed capacity of each of these projects is about 3 lakh tonnes of nitrogen with the end-product—5 lakh tonnes of urea per annum. In addition one million cubic metres of argon gas would also be produced in each plant.

Talcher Project

The Rs. 214 crore Talcher Project is designed to produce 2,28,000 tonnes of nitrogen annually by using about 1 million tonnes of coal to be obtained from the nearby South Balanda and Nandira collieries. The total requirement of 55 MW of power would be met by Orissa power grid while the water requirement would be met from the river Brahmini.

BARC is also setting up a heavy water plant within Talcher complex for the production of 62 tonnes of heavy water per year.

Talcher fertiliser plant produced urea from its own ammonia in January 1980 for the first time during trial runs.

When this plant will produce at its designed capacity of 4,95,000 tonnes of urea per annum, it would help boost production of food grain in the country by nearly two and half million tonnes per year.

Ramagundam Project

Ramagundam Project in the Telengana region of the Andhra Pradesh is identical to the plant coming up at Talcher. Its daily requirement of about one million tonnes of coal would be met from Singareni Colliery. The project's power requirement of 55 MW will be met by the Andhra Pradesh State Electricity Board which 15 million gallons of water per day would be drawn from the river Godavari.

Ammonia and urea were produced in Ramagundam Fertilizer project also in first week of January 1980.

Marketing Promotion and Extension Services

The corporation has developed a multi-channel distribution system for timely and efficient distribution of fertiliser produced by its own units, sister companies and imported fertilisers. At present the corporation's intensive marketing activities are confined to the State of Uttar Pradesh only. In other States, fertilisers produced by the units of the corporation which have been created with effect from April 1, 1978 consequent upon the re-organisation of FCI/NFL.

However, in recent past nucleus marketing offices have been set up for States of Bihar, Madhya Pradesh, Orissa and Andhra Pradesh. There is a scheme to conduct marketing in these States through these offices.

Dealership structure of the corporation consists of dealers belonging to various categories like private trade engaged in small

business, unemployed graduates to generate self employment, ex-servicemen to rehabilitate and provide reasonable livelihood, multi-purpose distribution centres to provide essential agricultural inputs through public sector oil company outlets, scheduled castes/Scheduled tribes to help them for their economic betterment, in addition to cooperative societies/service centres of cooperatives and agro-industries.

Closely associated with the marketing of fertilisers, FCI has developed wide ranging facilities for advising and educating farmers in the rational use of fertilisers and efficient farm management. It is equipped with modern soil testing and research laboratories in addition to mobile soil testing units for on-the-spot free analysis of soil samples.

Thus, FCI is not only engaged in the business of selling fertilisers, but, it is genuinely interested in improving the lot of the farmers by providing the services as a social obligation.

Industrial Chemicals

Besides fertiliser products, FCI produce anhydrous ammonia, dilute nitric acid, prilled ammonium nitrate, ammonium bicarbonate, ammonium sulphate (TG), sodium hexameta phosphate and argon gas at its operating units at Sindri and Gorakhpur.

When the two-coal based projects at Talcher and Ramagundam are commissioned more argon gas and some coal-tar distillation product would also be produced.

Gypsum Organisation

FCI is operating 21 gypsum mines located in five districts of western Rajasthan, viz., Barmer, Jaisalmer, Nagaur, Bikaner and Sriganganagar. The corporation has a capacity to mine about seven lakh tonnes of gypsum per year.

With the implementation of Sindri Rationalisation Scheme, the use of natural gypsum at Sindri would be completely eliminated. As a result of this, markets in other areas for gypsum are being explored.

The use of gypsum in reclamation of alkali soils has been made recently on a large scale in the States of Haryana, Punjab and Uttar Pradesh. The corporation has been able to procure a sizeable amount of orders of gypsum for agricultural uses in Punjab and Haryana. FCI has been able to make a significant headway in exporting gypsum to Middle East countries and Bangladesh.

Training Organisation

The concept of training requisite personnel in different categories in the Fertilizer Corporation Ltd. has received recognition

right from the inception of the first establishment at Sindri around 1951. There is now a full-fledged training organisation having number of training institutes established at its units and divisions which conduct personnel training activities of different requisite variety to meet the need for technical and managerial manpower requirements.

Such institutes are fully equipped with essential paraphernalia and are centres in human resources development activities as on going process in the corporation.

Various schemes of training offered cater to the induction training of new entrants, development training of existing employees and preparing apprentice groups as fresh talent required for the corporation.

FCI institutes have a pride in providing a large number of training personnel in the field of fertiliser production to man to executive position in the country. The corporation has also trained a large number of trainees from European, South-East Asian coun-

tries in advance manufacturing techniques under different collaboration's programmes.

At FCI's Central Office, an institute of Management Development imparts services for managerial development. This institute provides advanced training course for senior executives at corporate level and also cater to the needs of the entire federal group of fertiliser companies in the public sector.

Welfare

FCI subscribes to the view that a happy and satisfied employee is an asset for any organisation. FCI has provided liberal welfare measures to its employees and their families.

Modern self contained township with their own schools, play grounds, markets, hospitals etc. have been established. FCI has its own cooperative consumer stores which cater to its employees and their dependents.

Recreation and cultural programmes form an integral part of the life in FCI communities in different townships.

Details about Units/Divisions

Sindri Unit		(Tonnes)
		Rated capacity
		Attainable capacity
Nitrogen		67,200
Ammonium sulphate		3,55,000
		3,20,000
Chemicals	:	Nitric acid, chalk sludge, ammonium bicarbonate, ammonium nitrate (explosive grade), technical grade urea, sodium hexametaphosphate and guenidine nitrate.
Cokeoven	:	Hard and soft coke, motor benzon, benzene, oxylene refined.
Distilleries	:	Toluol, Still bottom oil, coal tar, road tar, solvent.
Products	:	Naphtha, toluene, naphthalene, crude light oil.
Sindri Rationalisation Project		
Capacity	:	P.O.—150,000 tonnes per annum.
Products	:	Triple superphosphate—3,26,000 tonnes/annum.
Feedstock	:	Pyrite rock phosphate
Date of commercial production	:	October 1979.
Sindri Modernisation Project		
Capacity	:	1,51,800 M.T. per annum.
Product	:	Urea—3,30,000 M.T. per annum.
Feedstock	:	Fuel Oil.
Date of commercial production	:	October 1979.

Gorakhpur Unit	
Capacity	: Nitrogen—1,31,060 M.T. per annum. P ₂ O ₅ —7,200 M.T.
Product	: Fertiliser: Urea—2,84,920 M.T. per annum. Complex fertilizer—36,000 M.T.
Chemicals	: Anhydrous ammonia, carbon dioxide, carbon slurry, argon gas.

Talcher Project	
Capacity	: Nitrogen 2,27,700 M.T. per annum.
Product	: Fertiliser: Urea—4,95,000 M.T. per annum.
Date of commissioning	: October 1980.

Ramagundam Project	
Capacity	: Nitrogen—2,27,000 tonnes.
Product	: Fertiliser: Urea—4,95,000 tonnes.
Date of commissioning	: August 1980.

Korba Project	
Capacity	: Nitrogen—2,27,000 M.T. per annum.
Product	: Fertiliser: Urea—4,95,000 M.T. per annum.
Position of implementation	: Not yet indicated.

15. M/S. GAMMON INDIA LTD.

'Gammon House' Veer Savarkar Marg, Bombay-400 025.

Joined as an Active Member of the Association in April 1978.

16. GUJARAT STATE FERTILIZERS CO. LTD.

Fertilizernagar-391 750, Baroda.

Gram: FERTILIZER

Telex: 0175—211/324

Phone: 7451

BOARD OF DIRECTORS

Shri Jaykrishna Harivallabhdas
Chairman
.. R. B. Amin
.. T. K. Patel
.. B. C. Randeria
.. M. N. Kale
.. H. K. L. Capoor

Shri S. J. Coelho
.. Indubhai Chaturbhai Patel
.. M. C. Bhatt
.. R. C. Mehta
.. M. G. Shah
.. D. C. Gami
Managing Director

Brief History

Gujarat State Fertilizers Company Limited (GSFC) was incorporated on February 15, 1962 as a public limited company under the

Companies Act, 1956 (Act 1 of 1956) for manufacturing fertilisers and chemicals. The factory is situated at Fertilizernagar, District Baroda, in Gujarat State. Its Board of

Directors constitutes the above well-known industrialists and administrators.

Capital Structure

GSFC's authorised share capital is Rs. 25,00,00,000 divided into 22,00,000 equity shares of Rs. 100 each and 3,00,000 Redeemable Cumulative Preference Shares of Rs. 100 each. The paid-up share capital of the company as on date is Rs. 11,99,68,800. The State Government is the largest shareholder, holding 49 per cent of its share capital; of the remaining 35,792 shareholders about 14,069 are farmers. The financial institutions such as the Industrial Development Bank of India, the Unit Trust of India, the Life Insurance Corporation of India, the nationalised banks and other insurance companies hold between them, about 23.73 per cent of the capital.

The capital investment for the first phase to produce 1,75,000 tonnes of nutrients and the second expansion for producing 1,35,000 tonnes of nitrogen has been approximately Rs. 63,00,00,000. Alongwith the investment for caprolactum and other facilities for the third phase, the total investment amounts to about Rs. 96,00,00,000 including working capital, interest, township and other facilities. The complex has sales potential of about Rs. 100,00,00,000 per annum at the present prices.

Organisation

GSFC is a joint sector venture wherein the State Government, public financial institutions, the bankers and the public have invested their money in mutual trust. In its organisation, a new experiment in management has also been attempted. On its Board there are nominees of State Government and the Industrial Development Bank of India, besides non-officials drawn from amongst the most well-known industrialists and business men, and experts from the field of technology, finance, administration and co-operation.

In composition of its Board, an attempt has been made to ensure that the company's affairs are guided with initiative, imagination and enterprise combined with prudence, caution and fullest regard to public interest and the financial canons of propriety that are expected to govern the conduct of those in charge of public enterprise and investment.

Products

The company commenced its production of fertilisers on May 29, 1967 as trial production and the first 100 MT of fertilisers were despatched to all parts of Gujarat on June 5, 1967.

The second phase of the project started production in the third quarter of 1969. The

800 MT per day urea plant and the ammonia plant with capacity of 500 MT per day were completed in August, 1969 and are running well since then.

The third phase expansion of the project concerns the production of 20,000 MT per annum of caprolactum with about 80,000 MT per annum of ammonium sulphate as co-product. The range of products with the completion of the third phase in August, 1974, of the complex covers urea 3,67,200 tonnes (fertiliser grade), aggregate production of ammonium sulphate and diammonium phosphate 1,48,000 tonnes and 1,08,000 tonnes respectively or 2,56,000 tonnes of ammonium sulphate phosphate. In addition, the caprolactum facility would also contribute 80,000 tonnes of ammonium sulphate. Among the industrial products, liquid ammonia, technical grade urea, sulphuric acid, oleum, cyclohexane, cyclohexanone and caprolactum are produced and sold to industries. GSFC is the first company to produce enriched diammonium phosphate (18:46:0) in India. GSFC is the first and only manufacturer of caprolactum in India.

Marketing

The challenge of changing marketing conditions has been effectively met by adopting appropriate marketing strategies. Our marketing activities are extended from our traditional area of Gujarat, Maharashtra, MP, Rajasthan, Punjab, HP and Haryana to Uttar Pradesh and Andhra Pradesh. While the bulk of fertilisers are distributed through cooperatives, the company has also been marketing fertilisers through other institutional and private agencies in different States, besides the company's own retail outlets called Farm Information Centres/Fertiliser Depots numbering 200 in Gujarat State and a few in other States. The company is also maintaining about 90 warehouses in field for timely distribution of fertilisers. The company has always considered services to farmers as the most important aspect of its marketing strategy and accordingly it has framed consumer oriented marketing policies and undertaken various promotional activities with the objective of promoting scientific agriculture to raise agricultural production and thereby farmer's prosperity. It has been possible to effectively undertake various promotional activities like demonstration, soil and water testing, participation in fairs and festivals, distribution of literature, arranging farmers meetings, seminars, etc. Through GSFC's Farm Information Centres/Fertiliser Depots manned by agricultural graduates, various media of mass communication are also judiciously used to reach the farmers.

A monthly farmers' magazine "KRISHI JIVAN" published by GSFC provides useful agricultural information to subscribers

exceeding 41,000 in Gujarat State. The company also provides soil and water testing facilities to farmers free of cost. Agronomic research is undertaken at company's own farm and the farms of agricultural universities to recommend and promote correct use of fertilisers.

Besides routine promotional activities, the company has also undertaken special agricultural development projects as per the needs of the local agro-climatic conditions. GSFC was the first fertiliser manufacturer to make the introduction of crop insurance possible through General Insurance Corporation to cover the risk due to natural hazards. Another project titled "LEAP FORWARD PROJECT FOR AGRICULTURAL DEVELOPMENT OF RATHAWA ADIVASI FARMERS" undertaken in backward areas, has shown outstanding results. Under the village adoption scheme, two villages—one in paddy growing area and the other in bajra growing area, have been adopted during the year 1975-76. The scheme is continuing for the present year also. The company is also carrying out massive extension programmes in the IFPC districts of North Gujarat to guide farmers regarding effective use of fertilisers in sandy loam and sandy soils. The company has also prepared a comprehensive action programme for development of districts of North Gujarat which are having high irrigation potential but less fertiliser consumption. The plan is being implemented with efforts put in various directions to educate farmers regarding qualitative aspects of fertiliser use to reap optimum yields. The company has also launched a programme to encourage excellence in college campus with a view to promoting studies and research workers who make significant contribution to agriculture. Under this programme, the company has planned an expenditure of Rs. 5,57,400 over a period of six years to students and research workers by way of awarding prizes, scholarships and raising chairs for research in agricultural universities and agricultural management institutions.

Purge Gas Recovery

The company is setting up facilities to recover 2.8 million NM³ of argon, 5,200 MT methane and 66 MT/day of synthesis gas mixture of H₂ and N₂ from the purge gas of synthesis loop. The work on the project is in full swing and the plant is ex-

pected to be ready for commissioning by the middle of 1981.

Nylon-6 Project

As a logical development to the setting up of caprolactum manufacturing facilities, GSFC is setting up a nylon-6 chips plant for manufacturing nylon moulding powder to feed the plastic industry with a better and versatile grade of engineering plastic raw material which can be a substitute mostly for non-ferrous metals which are already in short supply in the country. The total capacity of nylon-6 plant would be 4,000 tonnes per annum. The civil work on the project has started and the project will be completed by the middle of 1981.

Melamine Project

The basic and detail engineering work on 5,000 MTPY melamine project is progressing satisfactorily and the plant is expected to be commissioned in late 1981.

Sulphuric Acid Project

A new sulphuric acid plant with a capacity of 1,32,000 MTPA is under construction. The civil work on the project has started and the plant is expected to be commissioned by the middle of 1981.

Research and Development

Research activities in GSFC were initiated concurrently with implementation of the fertiliser project, putting up agricultural research stations. Agronomical research on development of better farm practices through optimum use of water management, improved seeds, fertilisers, pesticides, etc. has been carried on over the years. A full-fledged research centre equipped with necessary facilities and manned by well qualified technologists and chemical engineers has been established and has been accorded recognition by the Department of Science and Technology, Government of India.

The main areas of research cover process and product development on bench scale as well as pilot plant scale in fertilisers, petro-chemicals, high polymers, corrosion studies, effluent disposal and pollution abatement. A number of pilot plants have been designed and installed on the basis of laboratory investigations carried out at our research centre.

17. HINDUSTAN FERTILIZER CORPORATION LIMITED**Regd. Office: 'Madhuban' 55, Nehru Place, New Delhi-110 019.****Grams:** URVARAK**Telex:** 2859**Tele:** 682531**Units:** Namrup (Assam), Durgapur (W.B.),

Barauni (Bihar), Haldia (W.B.)

Division: Marketing Division (Calcutta)**BOARD OF DIRECTORS**

(as on 30-7-1980)

Shri R. K. Ghosh

Chairman and Managing Director
Hindustan Fertilizer Corporation Ltd.,
55, Nehru Place,
New Delhi.. Shri D. G. Rao, Adviser (F),
Ministry of Petroleum, Chemicals
and Fertilizers,
Shastri Bhavan,
New Delhi.. Shri V. Kumar,
Joint Secretary and F.A.,
Ministry of Petroleum, Chemicals and
Fertilizers, Shastri Bhavan, New Delhi.

Shri R. Narayana,

Deputy Secretary,
Ministry of Agriculture and
Irrigation,
Krishi Bhavan,
New Delhi... Shri S. K. Sadasivam,
Director (Finance),
Hindustan Fertilizer Corporation Ltd.,
55, Nehru Place,
New Delhi.

Hindustan Fertilizer Corporation Limited came into existence on 1st April, 1978 following the reorganisation of Fertilizer Corporation of India Limited and National Fertilizers Limited. The corporation has three operating units namely—Namrup including Expansion (Assam), Durgapur (West Bengal) and Barauni (Bihar) and a project under construction at Haldia in West Bengal.

Capital employed

The corporation is a Public Sector Undertaking fully owned by the Government of India. It has an authorised capital of Rs. 500 crore. The total annual capacity of the units under production is 500.4 thousand metric tonnes of nitrogen per annum. Haldia Project is in advance stage of completion. Namrup III Project has been approved by Government and its implementation will start shortly. The project will have 600 t. ammonia, 100 t. urea a day capacity with natural gas as raw material. The project will be designed and constructed by FPDIL.

Details of the Units/Projects**1. NAMRUP UNIT (ASSAM)**Hindustan Fertilizer Corporation Ltd.,
Namrup Unit,

P.O. Parbatpur, Distt. Dibrugarh, Assam.

Nitrogen — 45,000 mt. per annum

Ammonium

sulphate — 1,00,000 mt. per annum

Urea — 55,000 mt. per annum

Raw materials—Sulphur, Natural gas.

2. NAMRUP EXPN.

Urea — 3,30,000 mt. per annum

Nitrogen — 1,51,800 mt. per annum

Raw materials—Natural gas.

3. DURGAPURHindustan Fertilizer Corp. Ltd.
Durgapur Unit, P.O. Muchhipura,
Distt. Burdwan (W.B.)

Nitrogen — 1,51,800 mt. per unit

Urea — 3,30,000 mt. per annum

Raw material—Naphtha

4. BARAUNIHindustan Fertilizer Corpn. Ltd.,
Barauni Unit, P.O. Urvarak Nagar,
Dist. Begusarai, Bihar.

Nitrogen — 1,51,800 mt. per annum

Urea — 3,30,000 mt. per annum

Raw materials—Naphtha

Project under constructionHindustan Fertilizer Corporation Ltd.,
P.O. Indian Oil Refinery,
Distt. Midnapore (W.B.).

Urea — 1,65,000 mt. per annum

NPK (15:

15:15) — 5,00,000 mt. per annum

Methanol — 41,000 mt. per annum

Nitrogen — 1,50,900 mt. per annum

P₂O₅ — 75,000 mt. per annumK₂O — 75,000 mt. per annum

Raw materials—1. Fuel oil 2. Sulphur

3. Rock phosphate 4. M.O.P. 5. Com-
mon salt.

18. HINDUSTAN ZINC LIMITED**(A Govt. of India Enterprise)****Regd. Office: 6, New Fatehpura, Udaipur-313 001, Rajasthan.****Gram: HINDZINC****Telex: 033-213****Phone: 3271-74**

Shri R. P. Kapur
Chairman-cum-Managing Director

Formed in 1966 by an Act of Parliament, as successor of Metal Corporation of India, Hindustan Zinc Limited has an authorised

capital of Rs. 100 crores. Its constituent units are:

Mines

1. Zawar Group of Mines, about 45 km. from Udaipur, Rajasthan with deposits of lead, zinc, cadmium and silver. The individual mines are:
 - (a) Mochia mines 6,00,000 tonnes of ore production per annum
 - (b) Balaria mine 6,00,000 tonnes of ore production per annum
 - (c) Baroi mine Mine under exploration
 - (d) Zawarmala mine On the shelf of the approved project.
 - (e) Capacity of the installed beneficiation plant at mines 4,975 tonnes per day.
2. Rajpura-Dariba Mines, near Fatehnagar, about 85 km. from Udaipur, Rajasthan, with deposits of lead, zinc, cadmium, silver and copper

Mines under construction

Planned capacity 9,00,000 tonnes of mining and milling per annum.
3. Maton Rockphosphate Mine, about 12 km. from Udaipur, Rajasthan. 1,80,000 tonnes of mining and milling per annum, including 90,000 tonnes per annum milling capacity under final state of completion
4. Sargipali lead mine, about 22 km. from Sundergarh, Orissa, with deposits of lead, silver and copper.

Mine under construction.

Planned capacity 1,50,000 tonnes of mining and milling per annum.
5. Agnigundala Lead Mine, near Bandalammottu, Distt. Guntur, Andhra Pradesh. 36,000 tonnes mining and 72,000 tonnes milling per annum including 36,000 tonnes per annum milling capacity under final stage of completion.
6. Rampura-Agucha Lead-Zinc Mine at a distance of 20 km. from Gulabpura, Distt. Bhilwara, Rajasthan.

Mine under exploration.

Smelters

7. Zinc Smelter at Debari, about 13 km. from Udaipur, Rajasthan.
 9. Lead Smelter at Tundoo near Katrasgarh, district Dhanbad, Bihar.
8. Visakhapatnam Zinc-Lead Smelter, Andhra Pradesh.

The recently modernised and expanded zinc smelter at Debari has the following

designed capacity:—

- | | |
|--|---------------------|
| 1. Single superphosphate 14 per cent P ₂ O ₅ ,
and 16 per cent WS P ₂ O ₅ | 72,600 MT per annum |
| 2. Sulphuric acid | 87,000 MT per annum |
| 3. Phosphoric acid (P ₂ O ₅) | 26,000 MT per annum |
| 4. Zinc ingots | 45,000 MT per annum |
| 5. Cadmium | 192 MT per annum |

The single superphosphate plant, which is part of the zinc smelter, is based on Kuhlmann process and utilises the distinction of being the first plant in the country manufacturing superphosphate entirely from the indigenous raw materials. The annual production of single superphosphate during '79-80 was 16,810 MT. 10,109 tonnes of phosphoric acid was also produced during the year '79-80.

Lead Smelter, Tundoo has an installed

capacity of 8,000 MT per annum of lead and 12 MT of silver.

Zinc-Lead Smelter at Visakhapatnam has the following designed capacity:

- | | |
|-------------------|-----------------------|
| 1. Sulphuric acid | — 66,000 MT per annum |
| 2. Zinc ingots | — 30,000 MT per annum |
| 3. Lead ingots | — 10,000 MT per annum |
| 4. Cadmium | — 115 MT per annum |
| 5. Silver | — 20 MT |

19. INDIAN EXPLOSIVES LIMITED (Fertilizer Division)

Regd. Office: 34, Chowringhee, Calcutta

Factory P.O Box No. 267 Panki, Kanpur, U.P.

Commercial Office: Himalaya House, 23 Kasturba Gandhi Marg
PO Box 698, New Delhi-110 001

Gram: INDEXFERT- N. Delhi

Telex: 031-4209 IELD

Phone: 45984

BOARD OF DIRECTORS

Shri A. L. Mudaliar
Chairman

Dr. S. S. Baijal
Managing Director

Dr. S. Varma
Production Director

Shri V. Kumar
Government Nominee

Shri A. K. Bose
Government Nominee

„ Shri O. P. Berry
Finance Institutions' Nominee

„ Shri P. K. Mukerjee

„ H. C. Raghubir
Dr. S. Ganguly

1. Background

IEL was formed in 1955 to manufacture commercial blasting explosives and the plant at Gomia (Bihar) was commissioned in 1958. IEL decided to enter the fertiliser field in 1965 and conducted detailed surveys culminating in the Kanpur fertiliser project. The 4,50,000 tonnes per annum urea plant (2,00,000 tonnes N) was inaugurated by the then Prime Minister of India on 6th December, 1969. The total capacity of the urea plant would be increased to 675,000 tonnes

per annum with the likely commencement of production by our third stream in 1981.

2. Financial and Technical Collaboration

The Fertiliser Project at Kanpur has been set up with the technical collaboration of Imperial Chemical Industries Limited, UK, who now holds 50.42 per cent of the shares in IEL. The International Finance Corporation and other overseas shareholders hold 8.89 per cent shares in IEL, the President of India 12.9 per cent and the Indian Public/Financial Institutions/Companies 27.72 per cent.

3. Raw Materials/Facilities

The factory is located on a 270-acre site about 6 km from Kanpur, close to the Panki railway station. The feedstock naphtha is pumped by pipeline from the Barauni refinery. Kanpur is at the focus of the UP State Electricity Board network ensuring adequate power supply. Ample supplies of water are available from the lower Ganges canal. Moreover, Kanpur is strategically located on the main railway system, is well served by road transport and commands a market area with well developed irrigation facilities and high potential for fertiliser consumption.

4. Marketing Organisation

The main market area for the Kanpur plant consists of the States of Uttar Pradesh, Haryana and Punjab. The headquarters of the marketing department is at New Delhi. To closely supervise and guide the field representatives (all qualified agricultural graduates) located in each district of the market area, IEL have established four area sales offices at Varanasi, Lucknow, Meerut and Chandigarh, manned by senior staff.

A significant proportion of IEL's production is sold through the cooperatives and other State Level Apex Institutions in the main market area. To supplement the sales, IEL have also set up a widespread dealer network in the market area consisting of about 3000 selling points including wholesalers at tehsil level and retailers at block/village level. A chain of buffer storage points near consumption centres has also established all over the market area for storing urea during the offseason and to meet the urgent requirements of cooperatives and distributors during peak seasons.

5. Marketing Development and Publicity Activities

To educate farmers on the correct methods of application of fertilisers, demonstrations are conducted every season on farmers' fields throughout the market area. These demonstrations incorporate the latest recommended package of practices for the crops and the emphasis is on the optimum use of N, P, K and micronutrients for obtaining the best results.

A soil testing laboratory is in operation at Panki. Soil samples from the demonstration plot as also from the farmers' fields are ana-

lysed in this laboratory and fertiliser recommendations issued. The technical service to the farmers is guided by specialists in the field of agriculture. The development activities in the market area are coordinated by Assistant Managers and Sales Officers attached to the four Area Offices.

Intensive field publicity campaigns are organised during the seasons in the form of mini kisan melas on the field demonstration plots in order to popularise balanced use of fertilisers. Cropwise folders giving the latest recommendations on the correct use of fertilisers and other package of practices are distributed widely amongst farmers every season. The media-mix includes regular puppet shows every season, participation in centre and state level exhibitions, village fairs, posters, well paintings, hoardings and radio advertising.

Since Kharif 1975, work in village adoption is being carried out in two villages: (i) Chakarpur—a village near Kanpur and (ii) Banguri—a village near Agra. The programme envisages total socio-economic development of these villages to increase the farm income of the villagers by 2 to 3 times within a period of 2 years or so. As a result of IEL's efforts, both the per hectare yields as well as the total agricultural production in these villages have considerably improved. After bringing electricity to one of the villages, tubewells have been installed and net work of pucca irrigation channels laid out for developing the irrigation resources. Communications, health and hygiene and children's schooling and other facets of life have also been improved. Gobar gas plants have been installed in order to motivate the farmers to adopt scientific recycling of organic wastes which provides clean fuel for cooking and lighting and enriched manure. Installation of hand pumps and renovation of existing wells has been undertaken to provide safe drinking water. A local farmers' club has been established to mobilise resources in order to manage the infrastructure created under the village adoption programme. The local lead banks have been associated to meet the credit needs of the villagers. While we have already withdrawn from village Chakarpur on realising our objective, we shall shortly be withdrawing from village Banguri.

Encouraged by the results obtained in two villages, IEL have adopted during 1979 another village Chauka, near Varanasi for integrated rural development.

20. INDIAN FARMERS FERTILISER COOPERATIVE LTD.**36, Nehru Place, New Delhi-110 019****Grams: 'IFFCO' New Delhi****Telex: 3887
3260 ND****Phone: 634187-96
(10 lines)****I. BOARD OF DIRECTORS****(As on May 1, 1980)**

Shri Brahmakumar Bhatt Chairman	Shri Sawai Singh Sisodia Director
.. Samar Pal Singh Vice-Chairman	.. I. Somasekharappa Director
.. Ali Ahmad Director	.. Nawab Singh Yadav Director
.. Sardara Singh Gill Director	.. V. B. L. Mathur Director
.. M. K. Khanna Director	.. B. S. Vishwanathan Director
.. A. G. Kulkarni Director	Dr. M. P. Khera Director
.. S. K. Maheshwari Director	Shri D. M. Dixit Director
.. M. N. Kotadia Director	.. A. P. Kurian Director
.. Vallabhbai P. Patel Director	.. S. M. Kelkar Director
.. Rohidas C. Patil Director	.. K. L. N. Rao Director
.. Arun Bhatnagar Director	.. U. Vaidyanathan Director
.. Balvinder Singh Director	.. Paul Pothan Managing Director
.. Veer Pal Singh Director	.. L. R. Talwar Marketing Director-cum- Deputy Managing Director
.. D. S. Bagga Director	Vacant Finance Director

II. BACKGROUND

An all India Cooperative Society was registered on November 3, 1967 under the name of Indian Farmers Fertiliser Cooperative Limited (IFFCO) with the purpose of taking up large scale manufacture and distribution of chemical fertilisers. In the initial formation of the Society, the following 10 States participated:

1. Punjab
2. Uttar Pradesh
3. Haryana
4. Gujarat
5. Tamil Nadu
6. Rajasthan

7. Madhya Pradesh
8. Andhra Pradesh
9. Maharashtra
10. Karnataka

The principle of share participation was that the product is to be shared by the respective State cooperative systems in proportion to their share-holding in the Society. Subsequent to the initial formation, the States of Bihar, West Bengal, Orissa, Kerala, Jammu and Kashmir, Himachal Pradesh and three Union Territories namely, Delhi, Chandigarh and Pondicherry have also become participants. The Registered Office of the Society is at New Delhi.

III. CAPITAL OUTLAY

The Authorised Capital is Rs. 200 crore of which Rs. 81.08 crore is subscribed and Rs. 80.77 crore is paid up. The capital resources of the Society, as on March 31, 1980 are as follows:

	(Rs. in Crore)
1. Government of India (Loan and Equity)	69.75
2. Cooperative (Equity)	31.57
3. U.S.A.I.D. (Loan)	11.39
4. Financing Institutions	17.95
5. Retained Earnings (Provisional)	99.82
6. World Bank (Loan)	76.82
	<hr/>
	307.30

At present, 27494 cooperative societies are share-holders and have subscribed Rs. 31.88 crore as share capital.

IV. PLANTS

The ammonia plant with a rated capacity of 910 tonnes per day and the urea plant with a rated capacity of 1,200 tonnes per day are located at Kalol Unit. The unit has a capacity of 3,96,000 tonnes of urea per annum. Besides, a 6 tonnes per day Dry Ice Plant has been set up to convert a part of the surplus carbon dioxide available at Kalol into dry ice. The Kandla Plant has a capacity for producing 4,15,000 tonnes of NPK per annum. The feed-stock for the Kalol Plant is natural gas while the Kandla Plant uses mainly imported phosphoric acid. The plants have been in commercial operation from the dates shown below:

NPK	— January 1, 1975
Ammonia	— March 1, 1975
Urea	— April 1, 1975
Dry ice	— March 29, 1978

V. MARKETING SET-UP

As per its constitution, IFFCO markets its products only through the constituent co-operatives spread over 16 States and 2 Union Territories of the Indian Union, namely, Punjab, Haryana, Rajasthan, Uttar Pradesh, Gujarat, Madhya Pradesh, Maharashtra, Andhra Pradesh, Karnataka, Jammu and Kashmir, Tamil Nadu, West Bengal, Bihar, Orissa, Kerala, Himachal Pradesh, Delhi and Chandigarh. In order to facilitate the marketing activities, IFFCO has four zonal offices with headquarters at Chandigarh, Allahabad, Ahmedabad and Bangalore. The zonal offices at Chandigarh, Allahabad and Bangalore have already started functioning. The zonal office at Ahmedabad is likely to start

functioning during 1980. Each State is headed by a State Marketing Manager. State marketing offices are supported by adequate number of area offices in each State. At present the number of such area offices is 32. In order to take care of promotional activities IFFCO has Zonal Agronomists located at each zonal office supported by area agronomists and field representatives, who are mostly agricultural graduates. Wherever the marketing operations justify it, the Society has its own service centres to provide the package of inputs and services under one roof. However, sales of IFFCO products are almost exclusive through about 21,500 co-operative sales points. The promotional programmes of IFFCO are designed to educate the farmers on improved farming techniques and the balanced fertilisation concept. Field days, farmers meetings, village adoption programmes, etc. are media to maintain close contact with the farming community.

The Society is also under an agreement with M/s. Hindustan Copper Limited under which IFFCO provides various marketing services principally to ensure the sale of HCL's triple and single superphosphate in the States of Punjab, Haryana, Rajasthan and Uttar Pradesh.

Service to cooperatives

The emergence of IFFCO as an efficient fertiliser cooperative strengthened the entire cooperative system of the country. Apart from ensuring regular and guaranteed supply of high quality fertilisers with liberal supply conditions and sound technical support, the Society also assists the cooperatives by providing training to sales point personnel. The excellent results obtained by the Society also in turn improve the financial condition of the otherwise weak lower tiers of the cooperative system which are IFFCO's shareholders.

VI. NEW PROJECTS

Phulpur Project

The Third Plant of IFFCO is being set up at Phulpur with a total investment of about Rs. 181 crore. The Project is financed as under:

	(Rs. in crore)
1. Equity	
(i) Cooperative	22.00
(ii) Government of India	31.00
2. Other Sources	
(i) IBRD (Long-term Loan)	98.10
(ii) Internal resources	29.90
	<hr/>
	181.00

The foreign exchange requirement for the Phulpur Project is provided by a loan from the World Bank amounting to \$109 million. This is a naphtha based plant with a capacity of 5 lakh tonnes of urea per annum. The plant is expected to go into production during June, 1980.

Kandla Expansion

A project for doubling the capacity of the NPK Plant at Kandla has also been taken up for implementation and is expected to be commissioned by July 1981. The estimated cost of the project is Rs. 23 crore and the entire amount is expected to be met out of the internal resources.

Hazira Project

(1) Hazira Project, consisting of 2 x 1350 MTPD plants and 4 x 1100 MTPD urea plants, was originally contemplated to be implemented jointly by IFFCO and NFL. The entire project has now been entrusted to the cooperative sector. To own and operate these two giant plants which will cost about Rs. 700 crore and produce 14,54,000 MT of urea per annum, a new Cooperative Society under the name of KRIBHCO has been registered on April 17, 1980.

(2) The new Society will have equity contribution of Rs. 350 crore from Government

of India, IFFCO and other cooperatives and balance requirement of Rs. 350 crore including foreign exchange requirement would be met through loans from World Bank and other financing agencies such as O.E.C.F. (Japan), O.D.A. (U.K.) and I.D.B.I., etc. IFFCO would contribute Rs. 100 crore towards equity while other cooperatives and Government of India would contribute Rs. 20 crore and Rs. 230 crore respectively.

Others

The debottlenecking of the Kalol Plant which involves different schemes, envisaging an increase in the output and an improvement in the efficiency, is in advance stages of implementation. The Amine Guard System which was commissioned during early 1979, is in regular operation. The Purge Gas Recovery Plant, the first to be set up in the country, is expected to be in regular production by June 1980. The others like the installation of standby boiler and modifications/additions in the different sections of the ammonia plant are expected to be ready in phases by the middle of 1981.

The Society has also taken up the setting up of a plant for the manufacture of 500 tonnes of Malathion per annum at Kalol and the same is expected to go into production in the last quarter of 1980.

21. INDIAN POTASH LIMITED

727, Pathari Road, Off Mount Road, Madras-600 006.

Grams: POTINDIA

Telex: MS 676

Tele: 85581, 85772

Indian Potash Limited (IPL) was started in 1955 at the instance of the Ministry of Commerce and Industry as a consortium of the then fertiliser interests.

Back in the early 60s, Potash was largely unknown to an average Indian farmer. Organised official research on crop response to potash application was almost non-existent. The data on potash as a fertiliser input was meagre. There was no organised promotional and sales effort for potash except in a few Southern States on a small scale.

The task before IPL was to establish the need of potash in crop production, promote its usage, develop an effective distribution and marketing network and to sustain and improve the market for potash.

To begin with, IPL relied on data left by "Potascheme" and followed up by further experimentation in cultivators' fields. These results led to official acceptance of potash as an inevitable plantfood, as evidenced by progressive acceptance of potash in official recommendations for many crops.

Since 1961, IPL has been in the forefront

for potash promotion through various methods such as award of Research Fellowships and collaboration in research projects on potash in universities and institutions, publication of "Indian Potash Journal" and also supply of reprints and research articles thus keeping research workers upto date on potash data, giving annual cash awards for outstanding research work on potash, organising visits of eminent scientists from abroad for exchange of ideas/views with their counterparts in India, organise demonstrations in cultivators fields, organisation of potash festivals, farmers' conferences, crash programmes and such mass contacts media, besides conducting audio visual programmes, AIR, TV interviews of "success farmers" etc.

Around 1970, the company expanded and developed into an undertaking in the joint sector with the participation of public, co-operative and private sectors—the public and cooperative sectors together holding the majority share in equity capital.

IPL has zonal/regional and State officers throughout the country. The Head Office is at Madras. IPL markets potassic fertilisers throughout India through public/cooperative

and private distribution agencies. IPL also meets the potash requirements of the various manufacturers of complex fertiliser and mixtures containing potash.

IPL also distributes pool urea on behalf of the Ministry of Agriculture, particularly in the States of Punjab, Haryana, U.P., Bihar, M.P., A.P., and West Bengal. A beginning has been made in distribution of 'Vijay' products manufactured by Madras Fertilisers Limited in the States of Punjab, Haryana and U.P.

Since 1978, IPL has been entrusted with the port handling and distribution of D.A.P., Urea, C.A.N., and ammonium sulphate imported through some ports as agents of the Ministry of Agriculture.

IPL is the pioneer in promotion work in India. About 300 field staff cover all important States doing sales and sales promotional activities. The Potash Research Institute of India has been established to undertake basic research on potassium.

Shri Sohan Singh, Managing Director, Indian Potash Limited, is also a Director on the Board of The Fertiliser Association of India.

22. JARDINE HENDERSON LIMITED

4, Clive Row, Calcutta-700 001.

Grams: FINGLAND

Tel: 22-4351

Jardine Henderson Ltd. is a public Limited Company having a authorised share capital of Rs. 3,50,00,000 or which Rs. 2,50,00,000 is fully paid up.

The Jardine Henderson Group companies are interested in a variety of industrial activity such as tea, jute, fertilisers, yarn, paints, tea chest and fittings, industrial leather, pest examination service, preconstruction soil treatment, engineering and mining equipment, packaging and other industrial products.

The present fertilisers factory was started under the name of Acme Fertiliser Works at Kidderpore, Calcutta, by Ewing & Co.,

Ltd. in 1920 which is a 100 per cent subsidiary of Jardine Henderson Ltd., to serve the interests of the tea estates in North-East India and of the cultivators in West Bengal for food and cash crops, particularly paddy, potato, jute, sugarcane and vegetables.

Fertiliser mixtures of all descriptions— inorganic and organic—are manufactured. The present capacity is about 30,000 tonnes per annum.

Besides being a fertiliser mixture manufacturer, the company manufactures insecticides-cum-fertilisers according to the specifications given by the customers.

23. THE JAY SHREE CHEMICALS & FERTILISERS

Prop.: Jay Shree Tea & Industries Limited

Regd. Office: 'Industry House', 10, Camac Street, Calcutta-700 017.

Grams: 'JAYSPUR'

Telex: JAYTEA-021-3510

Phone: 44-9821

BOARD OF DIRECTORS OF PROPRIETORS

Shri B. K. Birla
" B. M. Khaitan
" M. L. Shah
" D. N. Patodia

Officers
Shri B. C. Biyani
President
" S. N. Somani
Vice-President (Chemical)

The Jay Shree Chemicals and Fertilisers factory is located at Khardah (24 Parganas). The unit is in production since 1961. The present licensed capacity is as follows:—

1. Sulphuric acid—50 tons per day
2. Single superphosphate—57,360 m.t. per annum
3. Cryolite—300 m.t. per annum.

The unit also acts as authorised distributors for fertilisers throughout the State of West Bengal. Its products are marketed under the trade mark "Annapurna". During 1979-80 the unit achieved the production of 46,668 m.t. of single superphosphate.

A letter of intent has been recently received by the unit for further expansion of 33,000 m.t. of sulphuric acid and 66,000 m.t. of single superphosphate.

Other units of Jay Shree Tea & Industries Ltd.

A. TEA ESTATES:

Tamil Nadu (1) Sholayar Estate, P.O. Sholayar (2) Kallyar Estate, P.O. Sholayar, Kerala (3) Merchiston Estate, P.O. Kallarbridge, Trivandrum (Kerala), Sibsagar, Assam (4) Towok Tea Estate, P.O. Sonari (5) Manjushree Tea Estate, P.O. Sonari (6) Mangalam Tea Estate, P.O. Sonari (7) Nahorhabi Tea Estate, (8) Meleng Tea Estate, P.O. Nakachari, Cachar (Assam) (9) Dewan Tea Estate, P.O. Dewan (10) Burtoli Tea Estate, P.O. Dewan (11) Labac Tea Estate, P.O. Dewan (12) Kalline Tea Estate, P.O. Kalain (13) Jallalapore Tea Estate, P.O. Jallalapore Darjeeling (West Bengal) (14) Tukvar Tea Estate, P.O. Darjeeling, (15) Risheehat Tea Estate, P.O. Darjeeling, (16) Liza Hill Tea Estate, P.O. Marybong.

The number of gardens owned by the

company is 16 which are well spread over throughout the tea producing areas of the country. The total area under tea is approx. 7,200 hectares and the total production during the year 1979-80 was over 10.8 millions kgs.

B. PLYWOOD:

- (1) Woodcrafts Assam, P.O. Mariani (Assam).
- (2) Jay Shree Timber Products, P.O. Bakultala, Middle Andamans.

C. OTHERS:

- (1) Jay Shree Tyres & Rubber Products, Naini, Allahabad (U.P.).
- (2) Jay Shree Shipping, Bombay (Maharashtra).
- (3) Tea Warehouse & Sales Deptt., Calcutta (West Bengal).
- (4) Tea Warehouse & Sales Deptt., Cochin (Kerala).
- (5) Jay Shree Tea International Calcutta (West Bengal).

Capital Structure (Proprietors):

1) Authorised capital	1945	Rs.	50,00,000	
	1946	Rs.	1,50,00,000	
	1961	Rs.	2,50,00,000	
	1976	Rs.	3,50,00,000	
	1980	Rs.	5,00,00,000	(proposed)
2) Paid-up capital equity				
Shares subscribed in				
Cash		Rs.	50,45,000	18%
Bonus issues		Rs.	2,22,88,240	82%
		Rs.	2,73,33,240	100%
Proposed bonus issue				
in 1980		Rs.	1,36,66,620	

The outstanding feature is that for the equity shares of Rs. 50,45,000 subscribed in cash, the company has so far issued bonus shares of face value of Rs. 2,22,88,240 i.e. 4½ times (approx.) even after paying good dividends all through. It is further

proposed to issue bonus shares in the ratio of 1:2 of the face value of Rs. 1,36,66,620/- which will make rate of bonus shares as 7 bonus shares on 1 equity share paid for by the shareholder.

24. KAMDHENU CHEMICAL & FERTILISER INDUSTRIES

Head Office: 'Krishi Bhawan', 1379, Bhavani Pethi, Pune-411 002.

Grams: KAMDHENU

Tele : 26815, 26825

The company was established in 1969 with nine partners. All the partners are serving the agricultural masses by supplying seeds, pesticides, agricultural chemicals, agricultural machinery and implements and all other agrohorticultural needs for the last about 30 years.

The company is giving advice to the agriculturists in their difficulties about the seeds, pests, etc. and also advises them for use of motorised pumps, implements, etc.

The company has its main production of Government approved manure mixtures. The manure mixtures are sold in the State as Kamdhenu Manure Mixtures, Kamdhenu being the brand name. Manures have become very popular in the State.

Plantovit: Recently another new product named Plantovit containing plant vitamins has been introduced by the company.

The company has finalised 20 different formulae as per the actual requirements of micronutrients of various crops.

The company has been granted permission to manufacture granulated fertilisers and accordingly it has started manufacture of Kamdhenu Brand granulated fertilisers at the factory at Magwada and Thane. They are also in good demand.

Kamdhenu Pesticides: Company's one sister concern Kamdhenu Pesticides has just commenced producing 'Kamdhenu Pesticides' and has put on market 20 pesticides at present and intends to introduce some 60 more products shortly.

The company is also manufacturing its new product PLANTOMON containing plant hor-

mones. This has given fine results and is becoming popular among the agricultural masses.

The company has expanded its marketing activities in other States, i.e., Gujarat, Karnataka and Andhra Pradesh and is having its branches at Amaravati in Maharashtra and Chhani, Dist. Baroda in Gujarat, at Belgum in Karnataka and at Guntur in Andhra Pradesh.

The company started a Marathi Monthly Magazine 'Khad Kamdhenu' having a circulation of about 10,000 copies. Through this magazine, the company is imparting up-to-date methods of agriculture as well as controlling the various pests and insects, etc. It is being distributed among the farmers free of cost. The company also recently started its agricultural library.

The company has its own transport truck fleet, in order to move the agricultural products and fertilisers to the market and to the farmers.

The company has engaged some graduate representatives who move about in the various districts of the State giving advice to the needy farmers and also introducing the Kamdhenu Manure Mixture and other agricultural aids. The company has got about 350 distributing agents covering all the districts of Maharashtra through whom the business is carried on in the State.

The company has established a well-equipped laboratory to test fertilisers, agricultural chemicals, soil and water of the farmers and to give suitable advice to them.

**25. KOTHARI (MADRAS) LTD.
(Fertiliser Division)**

**Regd. Office: Kothari Building, 114, Nungambakkam High Road,
Madras-600 034.**

Gram: KOTHARI

Telex MS 325

Telephone : 812130 (10 lines)
Trunk Tel. : 811421 (3 lines)

BOARD OF DIRECTORS

Shri D. C. Kothari
Chairman & Managing Director

" H. C. Kothari
Vice-Chairman & Managing Director

" Pradip Kothari
Joint Managing Director

" K. S. Narayanan

" K. Srinivasan

Dr. Gopal Reddy.

Shri Jayantilal R. Mehta

" Arvind N. Lalbhai

" Y. N. Mafatala

" C. R. Pattabhi Raman

" R. B. Pradhan

" M. R. M. Punja

" K. S. Rangaraj

Blue Mountain Estates & Industries Ltd., incorporated in 1943 was amalgamated with M/s. Kothari (Madras) Ltd. The main business carried out from 1943 to 1960 was cultivation of tea and coffee. During 1960, the company erected a fertiliser plant for the manufacture of single superphosphate of 16 per cent P₂O₅. The installed capacity of this plant is 150 tonnes of superphosphate and 50 tonnes of sulphuric acid per day. The plant is situated at Ennore near Madras and the same was commissioned during July 1962.

The superphosphate is marketed under the Trademark Horse Brand in the States of Tamil Nadu, Karnataka, Andhra Pradesh and Pondicherry.

The unit also manufactures various standard NPK mixtures approved by the respective State Governments and markets them in the respective States. They are also distributors for Shriram Urea in the coastal districts

of Andhra Pradesh and Tamil Nadu and also distributors for Zuari, SPIC and Fertilizer Corporation of India. The marketing is done through a net-work of branches, depots, stock points, distributors and other agents in all these States. The unit employs technical personnel, field inspectors and propagandists.

The company has also very wide interest in tea, coffee and textile field. In addition to this they have set up a Rs. 16 crore caustic soda and ammonium chloride plant in Tamil Nadu (at Manali, Madras) to produce annually 33,000 tonnes of caustic soda, 20,000 m.t. of chloride, 24,000 m.t. of hydrochloric acid and 21,000 mt of ammonium chloride and the plant has gone into production of caustic soda from January 1979 and ammonium chloride from May 1979.

Shri D. C. Kothari, Chairman of the Company is a Director and the past Chairman of the Fertiliser Association of India.

26. KRISHNA INDUSTRIAL CORPORATION LIMITED**Regd. Office: Ramakrishna Building, 183, Mount Road, Madras-600-006.****Grams:** JEYESCE**Telex:** 565**Tele:** 86528, 85181**BOARD OF DIRECTORS**

Shri P. R. Ramakrishnan,
M.Sc., (M.I.T.) F.I.E.,
Chairman
" V. L. Dutt, Grad (B.I.M.)
" Alluri Sarvarayudu
" R. Baba Chandrasekhar,
B.Tech., M.S. (Cornell)

Smt. Rajeswary Ramakrishnan, B.A.
Shri S. V. R. Appa Rao Bahadur
" Rajah V.V.V.R.K. Yachendra
" R. Pradhu, B.E. (Hons.) S.M. (M.I.T.)
" R. Sivaramakrishna Prasad, B.Tech.

Carbon dioxide
factory: Vuyyuru, Krishna Dt. A.P.,

Fertiliser
division: Nidadavole, West Godavari
District, A.P.,

Incorporated on: 9th August, 1947

Capital
authorised: Rs. 1,00,00,000 divided into
2,50,000 6½ per cent tax
free cumulative preference
shares and 7,56,000 equity
shares of Rs. 10/- each.

Capital

paid up: Rs. 26,45,410 in 2,64,541
equity shares of Rs. 10/-
each.

The fertiliser division at Nidadavole has
a licensed capacity of 16,760 tonnes of
sulphuric acid and 50,800 tonnes of single
superphosphate per annum.

The company is also licensed for manu-
facturing fertiliser mixtures.

27. MADRAS FERTILIZERS LIMITED**Manali, Madras-600 068.****Grams:** MAFERT**Phone:** 552691**Telex:** 7351**BOARD OF DIRECTORS**

Dr. Easo John*
Managing Director

Shri S. Sundar
" S. V. S. Juneja

Shri M. Maghashenas
" D. E. Jones
" Joseph Kurian
" F. Kamali
" S. M. Kelkar

Background

Madras Fertilizers Limited (MFL) is a
public sector undertaking. The Government
of India holds 51 per cent of the share capi-
tal. The collaborators are Amoco India Inc.
and National Iranian Oil Company each with
a share participation of 24.5 per cent.

MFL plant is located at Manali, 16 km.
north of Madras.

The plant started commercial production
in November 1971 manufacturing urea and

complex fertilisers. The capacity for com-
plex fertiliser production was increased by
50 per cent in October 1976. The present
annual production capacity is 2.48 lakh MT
of ammonia, 1.53 lakh MT of urea and 5.40
lakh MT of complex fertiliser products. The
principal raw materials are naphtha from
the Madras Refineries Limited and phos-
phoric acid and potash from imports.

Products manufactured presently are com-
plex fertilisers in the grades—17-17-17,
14-28-14, 24-24-0 and 18-46-0 and urea, and
these products are marketed under the brand

* **Relinquished his office on March 28, 1980.**

name VIJAY through private marketers as well as institutional agencies under long term marketing agreements. Carbon dioxide and ammonia are also sold for industrial use

Until 1975, MFL marketing operations were confined to the five Southern States. The marketing territory has now been extended to Maharashtra, Madhya Pradesh, Orissa, Punjab, Haryana and Uttar Pradesh.

MFL marketing strategy includes making VIJAY fertiliser available as near the consumer as possible. Farmer education and product promotion are taken up on a very intensified scale. Farmer education programmes include multiple crop demonstration, farmer/dealer training programmes, use of mobile audio-visual units, slide-cum-tape presentations, folk media such as Burrakatha and Puppet shows, Village Adoption Programmes, and Intensive Consumer Contact Programmes. Recently, MFL has taken up programmes for long term agricultural development. In addition, the mass media, viz., Press, radio, cinema and printed literature are extensively used to create awareness to the concept of balanced fertilisation.

MFL has one of the best soil testing laboratories in the country and offers free soil test and fertiliser recommendation service. Facilities are also available to micro-nutrient analysis in soils and irrigation water analysis.

1979-80

Production performance during fiscal year 1979-80 though below expectations, was fairly good. 4.85 lakhs MT of complex fertilisers and 1.26 lakhs MT of urea were produced. The nutrient output was 1.41 lakhs MT N, 0.90 lakhs MT P_2O_5 and 0.76 lakhs MT K₂O, making a total of 3.07 lakhs MT. Capacity utilisation was 90 per cent for complex fertilisers and 80 per cent for urea.

During the year, 6.09 lakh MT of VIJAY products have been shipped from MFL Plant to the various destinations in the marketing territory. 3.67 lakh MT were despatched by road and 2.42 lakh Mt by rail.

For the first time in the operation MFL started handling and distribution of Pool Urea. The first vessel was received at Kakinada Port in March 1980 with approximately 14,400 MT.

MFL operated about 150 field warehouses with an average storage capacity of 97,000 MT. This capacity was hired from the Central and State warehousing corporations.

MFL also finalised product exchange arrangement with FACT and MCF for supply of urea in Kerala and Karnataka respectively. In exchange MFL will supply urea to these two manufacturers in Tamil Nadu.

Under the Long Term Agricultural Development Programme, MFL has taken up 22 operational units covering a cultivated area of nearly 4.5 lakh acres. There are six units in Tamil Nadu, six in Karnataka and ten in Andhra Pradesh. The programme is being implemented with support and cooperation from the respective Departments of Agriculture, Agricultural Research Stations, the Command Area Development Administration, the Cooperative set up and MFL Marketers. The main objective of the programme is to increase agricultural production in the selected areas by approximately 30 to 50 per cent during a 3 to 5 year period. Constraints in the way of agricultural growth are clearly identified and long and short term action plans are implemented to overcome these constraints. So far MFL has completed three years of operation in respect of seven units—3 in Karnataka, 3 in Andhra Pradesh and 1 in Tamil Nadu. The results achieved in the various areas of growth in all these units have been quite encouraging.

MFL achieved a unique safety record on August 7, 1979 by crossing 10 million man-hours of safe operation without a disabling injury. As of March 31, 1980 the record continues with 1877 days completed (11.57 million manhours) and with excellent chances of surpassing the world record of 11.71 million manhours for fertiliser industry as reported by National Safety Council, USA. MFL safety record during 1978 was rated as THE BEST for nitrogenous fertiliser industry by the National Safety Council, USA, on world basis.

MFL is people, and this philosophy is enshrined deep within each MFL employee. MFL believes that for an organisation to achieve results it has to think of work in terms of its people, more so, when it has a young work force on hand—the average age of its employees being 33 years.

Towards this objective MFL has introduced various benefits and with the existing competitive salary scales it is able to meet the aspiration of its work force.

MFL has also various councils and committees which act as forums of industrial democracy. MFL has cordial relation with its employees and has been strike free for nearly 8 years.

28. MANGALORE CHEMICALS & FERTILIZERS LIMITED

Regd. Office: 10/2, Kasturba Road. Bangalore-560 001, Karnataka.

Telegrams: "MANGFERT" Telex: 845 474 MCF IN Tele.: 55691 (4 lines)

Factory Office: Panambur, Mangalore 575 010, Karnataka.

Tele: "MANGFERT" Telex: 842 218 MCF IN Tele: 8601 to 8608

BOARD OF DIRECTORS

Dr. H. G. V. Reddy, I.A.S. Retd.
Chairman

Shri B. K. Shridhar
Managing Director

" C. V. Ramachandran
Director (Finance)

Dr. G. P. Kane

Dr. K. U. Mada

Shri M. R. Ganapathy Rao

Dr. S. K. Mukherjee

Dr. R. Dwarkinath

Shri B. R. Prabhakar

" M. C. Nanaiah

" P. R. Nayak

" M. K. Venkateshan

" D. K. Gandhi

" T. Shamanna

" K. R. Sreenivasan

Secretary

The company, incorporated on 18th July 1966, has an authorised capital of Rs. 25 crores, divided into 2,00,00,000 equity shares of Rs. 10/- each and 5,00,000 9.5 per cent redeemable cumulative preference shares of Rs. 100/- each. The paid-up capital of the company as on 31-12-1979 stands at Rs. 15,44,98,350/- after taking into account the public issue of (72,99,870 equity shares of Rs. 10/- each and 1,50,000 9.5 per cent redeemable cumulative preference shares of Rs. 100/- each) made in November 1972.

The company has set up a naphtha-based fertiliser plant at a total cost of Rs. 74.90 crores at Panambur near Mangalore for the manufacture of 2,17,800 tonnes of ammonia and 3,40,000 tonnes of "MANGALA" urea per annum, the daily capacity being 660 tonnes of ammonia and 1,030 tonnes of urea. Commercial production commenced in April 1976.

The production for the year 1978 and 1979 were as follows:

	1978	1979
Ammonia	1,38,503	1,58,771
Urea	2,32,120	2,66,965

The company has received letters of intent for setting up of—

- 1) Ammonium bicarbonate (food grade) plant with an installed capacity of 3,600 tonnes per annum and
- 2) Nitric acid complex for the manufacture of nitric acid (18,000 tonnes per annum), ammonium nitrate (Ex-

plosive Grade) (13,750 tonnes per annum) and sodium nitrate/nitrite (3,600 tonnes per annum) required for explosive unit.

The company has also conveyed to Government its proposal for the duplication of its ammonia and urea plants based on naphtha feed stock and fuel oil.

The company's economic marketing zone comprises Karnataka and parts of Kerala, Tamil Nadu, Andhra Pradesh and Maharashtra. The distribution of 'MANGALA' urea is arranged through (i) Karnataka State Co-operative Marketing Federation Ltd., (ii) Karnataka Agro Industries Corporation Limited and (iii) M/s. Rallis India Limited. The distributors ensure equitable and timely supply of fertilisers at controlled prices fixed by the Government of India, to the farmers through their wide network of retailers. We are endeavouring to distribute 50-55 per cent of our production in Karnataka. The company's production is moved by road as well as by broad and metre gauge rail in the marketing zone.

The company, in response to the request of the Ministry of Agriculture and Irrigation Government of India, has agreed to handle and distribute imported fertilisers, as a part of its social obligation under the company's new brand name of 'SUMANGALA', and has sold 'SUMANGALA' products of 39,300 tonnes in 1978 and 1,56,000 tonnes in 1979.

The company is following an enlightened policy of sales with long-term objectives for exploitation of the market potentialities by

securing the confidence and goodwill of the farmers, planters, distributors and their dealers. With a view to assist the farmers in achieving maximum yield profitably and raise their standard of living, the company has launched many projects and programmes like block demonstration; Village Adoption Programmes; gramvikas projects and dryland development project in collabora-

tion with the Department of Agriculture, Government of Karnataka, University of Agricultural Sciences and Grameena Banks in the State. /

Shri B. K. Shridhar, Managing Director, is also a Director on the Board of the Fertiliser Association of India, New Delhi.

29. THE MINERALS & METALS TRADING CORPORATION OF INDIA LIMITED

Regd. Office: 9 and 10 Bahadurshah Zaffar Marg, Express Building, Post Box 7051, New Delhi

Gram: EMTICIFERT

Telex: 2285 & 2934

Tele: 263413

BOARD OF DIRECTORS

Shri C. S. Swaminathan,
Chairman
" V. S. Bhatnagar,
Executive Director
" G. Ramaswamy,
Executive Director
" A. C. Bose,
Executive Director
" S. P. Gugnani,
Director

Shri R. N. Malhotra,
Director
" D. K. Jain,
Director
" A. J. S. Sodhi,
Director
" C. S. Venugopala Rao,
Director
" C. K. Swaminathan,
Director

Secretary: S. K. Kapur.

The Minerals & Metals Trading Corporation of India was incorporated as a private limited company on 26th September, 1963. It started functioning with effect from 1st October, 1963 and became a deemed public company from 1st July, 1975. The present authorised capital of the corporation is Rs. 25 crores. The paid up capital, which at the time of its incorporation was Rs. 2 crores, has since been raised to Rs. 21 crore. The entire capital is subscribed by the Government of India.

The central aim of the corporation is to broaden and enlarge the scope of exports of mineral ores and to arrange imports of essential raw materials for distribution to the industrial units in the country. The total trade turnover of the corporation in 1979-80 is estimated to be 13,794 million, with exports accounting for Rs. 2,138 million, imports for Rs. 11,601 million and domestic trade for Rs. 55 million. Iron ore is the principal item of export handled by the corporation accounting for over Rs. 1,689 million, followed by manganese ore for Rs. 140 million, chrome ore for Rs. 150 million, coal

for Rs. 19 million and barytes for Rs. 137 million.

To boost the exports of mica, a subsidiary corporation, styled as Mica Trading Corporation of India, was established on 18th June, 1973 with its registered office at Patna. It commenced functioning with effect from 1st June, 1974. During the year 1979-80, the subsidiary company exported mica worth about Rs. 230 million.

The role of MMTC in regard to the handling of imports is directly related to the import policy announced by the Government from time to time. The corporation has built up expertise in the field of imports and has been entrusted increasingly with the import and distribution of essential raw materials to the industrial units in the country.

The total import turnover in 1979-80 is estimated at Rs. 11,601 million, with fertilisers and fertiliser raw materials alone accounting for Rs. 6,197 million. In keeping with the higher consumption of finished fertilisers and increasing requirements of fertilisers and chemicals industry, the import

of fertiliser and fertiliser raw materials by the corporation in 1980-81 is expected to be over Rs. 8,767 million.

The import turnover in other items, viz., copper, zinc, lead, tin, aluminium etc., during 1979-80 is estimated at Rs. 3,960 million, steel at Rs. 985 million, industrial raw materials like raw asbestos, flourspar, molybdenum and antimony ore, etc. at Rs. 450 million.

The corporation serves a large number of industrial units spread all over the length and breadth of the country and has launched a scheme for export of finished products,

manufactured out of the raw materials imported by it and for the supplies of duty free raw material for export production. The corporation has regional Offices at Bombay, Calcutta, Madras, Visakhapatnam, Vascodagama, Cuttack, Haldia and Nalda and a foreign office in Tokyo (Japan) and has godown at Ahmedabad, Bombay, Calcutta, Bangalore, Delhi, Kanpur, Ludhiana, Hyderabad, Madras and Yamuna Nagar. As an organisation, responsible for the import of essential industrial raw materials, the MMTC has to play an increasingly important role in the years to come in the development plans of the country.

30 R. C. MITTER & SONS

"Ramesh Kuthi", 54 Ramkanto Bose Street, Calcutta-700 003.

Grams: 'PLANTFOOD' CALCUTTA **Tele:** Head Office: 55-3889 55-3767, 55-7536,

The firm started functioning in North-East India about 40 years back as one of the distributors of fertilisers and manufacturers of fertiliser mixtures. The then senior partner of the firm, Late R. C. Mitter, was connected with the fertiliser industry, since about 1910 and was associated to a great extent with almost all the important fertiliser concerns of Eastern India since the inception of their fertiliser departments before starting the present firm.

Late S. C. Mitter, ex-senior partner of the firm, was one of the sponsors and guiding stars of the Fertiliser Association of India. He was the first Chairman of the FAI, Eastern Region and occupied the said post consecutively for many years. He was also a Director of the FAI for a long period. He was a popular figure in the fertiliser trade and was actively connected with it for about 43 years.

The firm has extensive dealings in both organic and inorganic fertilisers of every description in this part of India. The firm has also been acting as one of the distributors to the North East India Tea Industry, appointed by the Ministry of Food and Agriculture, Government of India for about last 30 years. They are also one of the leading distributors of the Fertilizer Corporation of India, Indian Potash Ltd., etc.

The firm is connected in this line of trade traditionally for generations.

Structure

Registered Partnership firm.
Present Partners:

- Shri Sushil Chandra Mitter
- .. Asim Kumar Mitra, B.Sc.
- .. Amar Jyoti Mitra, M.Sc. (Ag.)
- .. Subhas Chandra Mitra, B.Sc. and others.

Products

Handles all types of organic and inorganic fertilisers. Also manufactures every type of fertiliser mixture. The installed capacity of the factory is 20,000 tonnes of mixed fertilisers.

Marketing activities

At present the marketing activities are mainly confined to North East India Tea Industry where the firm is very well connected practically with all the major and renowned tea estates.

The other sectors of the industry like agriculture, sugarcane, etc. are being served by some of their sister concerns. The sister concerns of this firm are also manufacturing pesticides, insecticides and some of the fertiliser ingredients, soil amendments, etc., such as rock phosphate powder, dolomite powder, lime stone powder, gypsum powder etc.

31. THE MYSORE FERTILISER COMPANY

Props.: MFC Industries Pvt. Limited "Lotus Court", 165, Thambu Chetty Street, Post Box No. 1206, Madras-600 001.

Grams: 'NITROGEN'

Tele: 22421 & 22422

MANAGING DIRECTOR

Shri V. Mohan Rao.

The Mysore Fertiliser Company was established in 1935 at Bangalore as a mixing firm. Later, the Head Office was shifted to Madras and business carried on as a partnership concern. The activities were then extended to Tamil Nadu, Andhra Pradesh, Karnataka, Kerala and Pondicherry States. It was converted into a Private Limited Company in 1965 and a number of sister concerns were started. The paid up share capital of the company and sister concerns are about Rs. 85 lakhs. The company has branches at: Vijayawada, Hyderabad, Kuppam, Cuddappah in Andhra Pradesh; Bangalore, Chikmagalur, Hassan and Koppal in Karnataka State; Palghat and Kottayam in Kerala State and Coimbatore, Erode, Cuddiore and Ootacamund in Tamil Nadu.

The company has a network of over 3000 depots and sub-depots to promote the sale of its products and supervised by the above branches through their sales officers in each district. The company has 11 mixing centres making special balanced fertilisers of all types of all cultivated and plantation crops.

The company is also marketer for nitrogenous, complex and phosphatic fertilisers of Public Sector, Joint Sector and Private manufacturers and also bulk marketer for other products. Manufacturers of various kinds of bone products, leather waste and animal waste into useful manures. It has laboratories at Madras, Vijayawada and Hassan for quality control.

The company is recognised by the State Governments of Tamil Nadu, Andhra Pradesh, Karnataka and Kerala as well as by Commodity Boards. The company also

markets pesticides, copper-sulphate, calcium oxide, dolomite, sprayers, seeds etc. through their net-work of dealers.

Mysore Insecticides Co. (Private) Ltd., Mysore Insecticides Co. (Andhra Pradesh), Karnataka Chemicals and Pesticides—the sister firms of the company are formulators of various pesticides and insecticides based on BHC, DDT, Heptachlor, Chlordane, Tedion, Zolone, Dimethoate, Malathion etc. Special formulations for Plantations and commercial crops on exclusive basis is a speciality.

Hassan Coffee Curing Works (Private) Ltd., is one of the group companies established with up-to-date machinery and equipped with electronic sorting machine for grading coffee to obtain the best qualities for exports. This company caters to plantation community for all estate requirements.

Mico Farm Chemicals Ltd.: Manufacturers of basic pesticides and formulators of various kinds of pesticides. The company manufactures benzene hexachloride technical, lindane technical and dimethoate technical. The company is attached with research and development laboratory and are under diversification on chemical industry.

Under this group, associate concerns are distillers of various essential oils for export market in US, Europe and Far Eastern countries also exports granites, starch, and perfumery compounds. Importers of edible oils, pulses and indenting agents for reputed foreign manufacturers.

Shri V. Mohan Rao, Managing Director of the company, is on the Board of Directors of Fertiliser Association of India.

32. NANDY DEY PVT. LTD.
67/49, Strand Road, Calcutta-700 070.

Gram: 'GLOTOBIS'

Phone: 33-9711

The existence of the company and its associates in the procurement/distributive trade is almost a quarter to century old who since a few years past diversified mainly in fertiliser/pesticides/agro-input implements as well in manufacturing having regd. trade mark for mixture fertiliser. Being appointed by the Government of West Bengal as distributor of fertiliser the company very po-

ularly acting in the field throughout the entire State. They are also an appointed distributors of Hindustan Fertiliser Corporation. Also dealing with the Indian Potash Ltd. etc. and in addition to several kinds of pesticides they are the appointed distributor for the products of Hoechst Pharmaceuticals Limited, Rallis India Ltd. etc. etc.

33. NATIONAL FERTILIZERS LIMITED

Regd. Office: 20, Community Centre, East of Kailash, New Delhi-110 065.

Gram: FERTNED

Telex: 4073

Phone: 681706 (PBX)

BOARD OF DIRECTORS

Shri D. K. Chakravorty
Director (Finance)
 „ U. R. W. Pande
Director
 „ V. Kumar
Director

Shri V. V. Ramasubba Rao
Director
 „ A. J. S. Sodhi
Director

National Fertilizers Limited was incorporated on 23rd August, 1974, initially with the responsibility of implementing two identical fuel oil based fertiliser plants, one each at Panipat (Haryana) and at Bhatinda (Punjab). On 1-4-1978, under the scheme of reorganisation of FCI-NFL, Nangal and Nangal Expansion Unit as also marketing offices of Northern Marketing Zone of FCI were taken over by NFL.

Capital Employed

The present authorised capital and the paid up capital of the company as on date are Rs. 400 crore and Rs. 262.37 crore respectively. The total investment upto 31-3-80 is of the order of Rs. 569.81 crore.

Existing Capacity

The constituent production units of the company are located at Nangal, Bhatinda and Panipat. While Nangal Expansion Unit commenced commercial production on November, 1978, Panipat and Bhatinda units were declared to be as under commercial production w.e.f. 1-9-79 and 1-10-79 respec-

tively. The total installed capacity is 3,20,000 Tes of CAN and 13,52,000 Tes of urea, i.e., 7,05,540 Tes in terms of nitrogen.

Units' Profile

Bhatinda, Panipat and Nangal Expansion Projects are first of their kinds, in the country and employ latest technology for ammonia production by partial oxidation of heavy petroleum feedstocks, sophisticated instrumentation and nearly complete automation for process control. The units have also adopted the latest technology in regard to anti-pollution measures.

Raw Materials & Utilities

The annual rated capacity in terms of nitrogen and products of the constituent units is indicated below:

1. Nangal

National Fertilizers Ltd.,	Nitrogen : 2,32,000
Nangal Unit,	Urea : 3,30,000
Naya Nangal (Punjab)	CAN : 3,18,000

2. Bhatinda

National Fertilizers Ltd., Sibian Road, Bhatinda, (Punjab)	Nitrogen : 2,36,800 Urea : 5,11,000
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3. Panipat

National Fertilizers Ltd., Gohana Road, Panipat, (Haryana)	Nitrogen : 2,36,800 Urea : 5,11,000
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Marketing Activities

NFL's marketing area of operation comprises the States of Punjab, Haryana, Rajasthan, Himachal Pradesh, J. and K. and Union territories of Delhi and Chandigarh. On the basis of ECA allocation made by Govt. of India, fertilisers are distributed to the state of U.P. also.

A double channel of distribution is employed viz. apex agro-cooperative institutions and private traders. Private trade constitutes dealers in various categories viz. small scale traders, dealers appointed entrepreneur development, MPDC, Ex-servicemen or dependents of those killed in action, those belonging to SC/ST and dealers from backward classes and economically weaker sections.

In addition to the above, factory gate sale points have been started for the first time in India at Nangal, Bhatinda and Panipat plants to supply CAN/urea in loose form directly to the farmers. These sale points are run departmentally by the marketing division.

As on 31-3-1980, the dealership network of NFL totals to 640 dealers under the various categories.

Sales Turnover

The sales turn over of the company during the financial year 1979-80 was Rs. 140 crores approximately as against Rs. 55.73 crores are run departmentally by the marketing during 1978-79.

New Schemes

For optimum utilisation of ammonia produced at all the three plants, a common ammonia grid is being established with the creation of additional ammonia storage facilities at all the plants and acquiring of a fleet of ammonia tank wagons. To ensure additional on-stream days at Bhatinda and Panipat, an additional gasifier at each of the plants is proposed to be installed.

For effective by-product utilisation, proposals are under way for setting up of Methanol Plant at Nangal and Argon Recovery Unit at Panipat.

34. NEW CENTRAL JUTE MILLS COMPANY LTD.**(Proprietors)****Prop.: Sahu Chemicals & Fertilizers****Regd. Office: 8, Camac Street, Calcutta-700 017.****Main Sales & Admn. Office: "Times House", 4th Floor,
7, Bahadur Shah Zaffar Marg, New Delhi-110 002.****Gram: SAHKEMFERT****Tele: 275041, 270353****Telex: 31-2328-SJN-IN****BOARD OF DIRECTORS****Shri A. K. Jain,****Chairman****„ Manoj Kumar Jain,
Managing Director****„ B. P. Agarwalla,****„ M. P. Jalan,****„ P. L. Agarwal,****„ S. J. Utamsing,****„ S. K. Datta,****„ S. P. Bagaria.****Shri Dev Datt,****Executive Director (Finance),****„ D. Gupta,****Executive Director (Operations),****„ J. K. Jain,****General Manager,****Sahu Chemicals and Fertilizers.****(The Company was incorporated in 1915)
Jute Division**

The company owns two jute mills, namely, Albion and Lothian, having installed capacity of 60,000 tonnes per annum of jute

goods both situated at Budge Budge, 24 Parganas, West Bengal. Besides conventional jute goods, the company manufactures carpet

backing cloth upto 240" width and jute matting. The company's products are well received in India and abroad. A substantial percentage of the jute goods produced is exported.

Machinery Division

This division is also situated at Budge Budge, 24 Parganas, West Bengal with a well equipped foundry and machine shop. The company has developed full range of spinning and drawing frames, besides other jute mill machinery based entirely on indigenous components involving no expenditure in foreign exchange either on components or technology.

Fertilizers and Chemicals Division

Sahu Chemicals and Fertilizers, a unit of New Central Jute Mills Co. Ltd., established in 1958 is located at Sahupuri, Varanasi (U.P.). Sahu Chemicals and Fertilizers is a pioneer venture in the country for simultaneous production of ammonium chloride and soda ash. The installed capacity at the unit is 30,000 tonnes per annum each of ammonium chloride and soda ash. This unit also

meets the demand for ammonia of refrigeration and small chemical industries.

Intensive research carried out by the company as to comparative advantages of ammonium chloride as against other nitrogenous fertilisers established the overriding advantage of ammonium chloride as a nitrogenous fertiliser over other forms. This is particularly so in the case of paddy, sugarcane, maize, potato, tobacco, cotton etc.

The company has developed and standardised for Indian conditions process know-how for the simultaneous manufacture of soda ash and ammonium chloride for which Patent No. 131326 has been obtained from the Controller of Patents, Patents Office, Calcutta. This know-how and technology relating to the simultaneous manufacture of soda ash and ammonium chloride can be provided to other entrepreneurs. This will further assist in the rapid growth of the soda ash and ammonium chloride industry in our country. The process know-how has been recently made available on a non-exclusive basis to a soda ash-ammonium chloride unit in Punjab.

35. NEYVELI LIGNITE CORPORATION LIMITED (A Government of India Enterprise)

**Regd. Office: Administrative Office Building, Block-1, Neyveli-607 801,
South Arcot District Tamil Nadu.**

Gram: SALES

Telex: 41-7350 NLC

Phone: NTS/215

BOARD OF DIRECTORS

Shri V. Ramanujachari,

Director/Finance

.. O. Maheepathi,

Director/Personnel

.. T. V. Lakshmanan,

Director/Mines

.. M. P. Khosla,

Joint Secretary to the Govt. of India,
Ministry of Energy, Dept. of Coal,
New Delhi

Shri P. M. Belliappa,

Jr. Secretary,
Department of Power,
Ministry of Energy,
New Delhi

.. K. Venkatesan,
Secretary to Government,
Finance Department,
Government of Tamil Nadu,
Madras

.. K. Chokalingam,
Chairman,
Tamil Nadu Electricity Board,
Madras

Introductory

The Neyveli Lignite Project is one of the mighty Public Sector Enterprises in India, situated in South Arcot District of Tamil

Nadu. The genesis of the project was that the occurrence of lignite in and around Neyveli came to prominent notice in the later thirties, while drilling borewells for irrigation purposes in the region between Neyveli

and Chidambaram. During 1943-46, the Geological Survey of India drilled a number of bore holes which revealed the abundant availability of lignite over an area of about 25 square miles in and around Neyveli. The preliminary exploratory work was carried out by the State Government and then by the Government of India. The project was built into the present vast complex by the Neyveli Lignite Corpn. Ltd., a company owned by the Government of India and incorporated under the Companies Act 1956, in December 1956. The present authorised capital of the company is Rs. 220 crores, consisting of 22,00,000 equity shares of Rs. 1,000 each. The special feature of the project is that it is an integrated one in which the lignite extracted from the mine is completely utilised by the down stream plants form an industrial complex.

2 The constituent units of this project are:

- (i) An open-cast mine to extract lignite
- (ii) A thermal power station to generate electric power, using lignite as fuel
- (iii) A fertiliser plant to manufacture 'urea' based on lignite as the feed stock, now changed to furnace oil
- (iv) A briquetting and carbonisation plant to carbonise lignite into leco
- (v) A clay washing plant to supply refined white clay under the commercial name 'Nekolin'.

(i) **Open Cast Mine**

The open cast mine was inaugurated by the then Prime Minister, Shri Jawaharlal Nehru on 20-5-1957. The first seam of lignite was exposed in August 1961. The present production of lignite is around four million tonnes per annum. The annual requirements for all the consuming units viz. Thermal Power Station, Fertiliser Plant and Briquetting and Carbonisation Plant at full production is about 6.5 million tonnes. Production in the mine is expected to reach this level by 1980-81 through a mine expansion scheme under implementation. The extraction of lignite in 1979-80 was 28.97 lakh tonnes, the cumulative figure from the inception being 529.77 lakh tonnes.

(ii) **Thermal Power Station**

In a traditionally power starved State like Tamil Nadu, the imperative need for Thermal Power Station needs little emphasis. Neyveli Thermal Power Station was constructed in three stages: first 250 MW, next 400 MW and third 600 MW. The 600 MW station has been in construction since 1970. Lignite is used as fuel for the Power Station. However, since the capacity of mine was inadequate to supply lignite for optimum generation at the Power Station, pen-

ding expansion of the mine capacity, two of the 5-MW. Units of the Power Station were converted for operation on furnace oil in 1971. It is proposed to convert these two units back to lignite fuel after the capacity of the mine is raised to 6.5 million tonnes. In 1979-80, 2095.53 million units of power was generated the total generation since the commissioning of the plant till 1979-80 being 33165.91 million units.

(iii) **Fertiliser Plant**

The Fertiliser Plant at Neyveli has a capacity of 465 tonnes of urea per day and was commissioned in 1966. The Fertiliser Plant which was initially based on lignite since its inception was converted from lignite to oil gasification on 16-7-79. The Fertiliser Unit, achieved the production of 1,04,908 tonnes of urea during 1979-80. The plant has so far produced from the commencement till March '80 a total quantity of about 9.69 lakh tonnes of urea.

(iv) **Briquetting and Carbonisation Plant**

This plant produces carbonised lignite briquettes, a smokeless fuel, sold under the trade name 'LECO'. This lignite coke is extensively used not only in household sector, but also in the industrial sector, as a chemical reductant. One supreme advantage in using this reductant is that it is phosphorus-free coke. In this process raw lignite is crushed and dried in a steam driers to reduce the moisture content. The dried lignite is compressed and pressed through extrusion process to yield uniform briquettes. These briquettes are then carbonised in low temperature carbonisers to form carbonised briquettes. The capacity of the plant is about 3,27,000 tonnes of carbonised briquettes per year. The gas liquor received from the carbonisers is processed in the Tar Production Unit to yield a number of valuable by-products such as tar, carbolic acid, ortho cresol, metapara cresol, xylenol and multivalent phenols. These chemicals are used in a wide range of chemical and plastic industries. The charfines that are obtained along with the briquettes are purchased mainly by cement factories and brick kilns. Production of Leco during 1979-80 was 25,680 tonnes and the cumulative production is around 8.27 lakh tonnes.

(v) **Clay Washing Plant**

Good quality white china clay deposits occur immediately above the lignite seam. The Clay Washing Plant with a capacity of 6,000 tonnes of washed clay a year was commissioned in December 1961. The clay is used in a number of industries such as manufacture of electrical insulators, sanitary-ware, ceramics, crockery and also in paper and rubber mills.

36. PALLISHREE PRIVATE LIMITED**Fertilisers Sprayers Agro-chemicals****Farm: Arambagh, Hooghly****New City Office: P-31, C.I.T. Road (1st Floor), Calcutta-700 014.****Telegram: METRIPRAN****Telex: CA 2317****Telegram: Calcutta,****Office-24-6398****New Delhi Office: 24-2399****BOARD OF DIRECTORS****Shri B. K. Roy, B.A., LL.B.****Managing Director
Directors****Shri B. Bhanja, B.A.****Shri P. K. Bose, LL.B., F.C.A. (England)****" P. K. Roy, M.Sc.****Dr. P. K. Roy, M.S. (Cal.)**

The company was started as a Joint Stock Company in the year 1948 with a view to developing agriculture and rural economy. The promoters of the company were idealistic educated social workers of West Bengal. To improve the time-worn and out-dated methods of agriculture of West Bengal, the company started farming business at Arambagh, Dist. Hooghly with modern irrigational and agricultural machines in wasteland. The agricultural farm has been successfully developed and has become a model for other cultivators of the locality. The pioneer efforts were crowned with success and the company established a cold storage for the benefit of themselves as well as of local cultivators. The cold storage is efficiently managed by the company for storing seed potatoes.

The company is also distributing fertilisers and manures since long in the States of West Bengal, Bihar, Assam, Meghalaya, Manipur and Tripura.

Registered office:**Arambagh, Dist. Hooghly (West Bengal)****Principal Sales Office:****(a) 7, Indian Mirror Street,
Calcutta-700 013****(b) P-31, New C.I.T. Road
Calcutta-700 014****Branches:**

1. Muzaffarpur (Bihar)
2. Gauhati (Assam)

There are storage godowns at Tarakeswar and Arambagh in Hooghly and Seharabazar in Dist. Burdwan and also storage godowns in Calcutta and Muzaffarpur and Gauhati.

The company manufactures fertiliser mixtures of different grades approved by the Govt of West Bengal and the Govt. of Bihar; they also manufacture sterilised animal meal and manure; the product is marketed in brand name of "SUFALA PLANTING MIXTURE".

37. PIERCE LESLIE INDIA LIMITED**Regd. Office: 22/945 Jeppu Road, Mangalore-575 001****Head Office: Willingdon Island, Cochin-682 003****Branch Office: Calicut, Quilon, Coimbatore,
Mangalore, Trivandrum, Ernakulam.****Factories: Kara and Mamally (Calicut), Tellicherry, Coimbatore,
Kulshekar and Jeppu (Mangalore).****Depots: Pollachi, Trichy, Ernakulam, Hassan.****Telegram: PIERCEWILCOCHIN****Telex: 0885-215 PLI-IN****Telephone: 6868, 6869 &
6860**

Pierce Leslie started as a partnership in Malabar in 1862, their main business being the curing of coffee and export of agricul-

tural products, coir yarn, etc. and acting as Lloyd's Agents. The company subsequently acquired agencies for a number of shipping

lines, insurance companies, etc. In 1901, the business was transferred to a Private Limited Company registered in the United Kingdom.

Pierce Leslie India Limited was incorporated as a Private Limited Company in May 1968 and took over the business carried on by the U.K. Company. In October 1969, it became a Public Limited Company.

Starting in late 1920's, the company over the years has built up successful business in the processing and export of cashew kernels and cashewnut shell liquid, which is now one of the major activities of the company. It has 5 cashew processing factories located at Mangalore, Tellicherry and Calicut, in which they employ about 4,000 workers and the annual export turnover in cashew product is to the tune of Rs. 4 to 5 crore. The company is a pioneer in the field of cashew processing and export. As agents for the Coffee Board, it handles annually 14/15,000 tonnes of coffee for curing in their factories located at Mangalore, Calicut and Coimbatore.

The company has five mixing works located at Calicut, Mangalore, Hassan, Pollachi, Tiruchirapalli and supply fertiliser mixtures to tea, coffee, rubber and cardamom plantations as well as ryot crops. It has a wide network of over 900 fertiliser dealers in Tamil Nadu, Kerala and Karnataka. The company also represents a few reputed pesticides manufacturers for marketing their

various pesticides in Southern India.

The company in an IATA approved travel and air cargo agent and currently is engaged in a substantial expansion of travel and air cargo agency in a big way. It has also secured the approval of the Ministry of Labour, Directorate General of Employment & Training, Government of India, as an overseas recruiting agent and has already started recruiting personnel, particularly to Middle East. It has its well equipped travel offices at Ernakulam, Calicut, Bangalore, Trivandrum, Quilon, Mangalore and Coimbatore.

The company supplies the entire requirements to planters of tea, coffee, rubber and cardamom estates. For nearly two decades, it has been doing successfully helicopter spraying of weedicides & fungicides to rubber plantations in and around Kerala and now entering other States for spraying cotton, mango, fruits, etc. It holds agencies for Shalimar Paints, Mafron Refrigerant Gas, aluminium linings, pesticides, shipping lines, etc., and as specialised departments for clearing & forwarding of cargo at Cochin and Mangalore. The company is now giving greater emphasis on exports and diversifying its activities.

The company has an authorised capital of Rs. 1 crore and a paid-up capital of Rs. 55 lakh. The reserves amount to Rs. 47 lakh as at 30th September 1979.

38. THE PHOSPHATE CO. LTD.

14, Netaji Subhas Road, Calcutta-700 001.

Gram: SUPERALUM

Tel: 22-0771 (3 lines)

BOARD OF DIRECTORS

Shri B. G. Bangur
" R. N. Bangur

Shri B. M. Khaitan
" C. M. Mookherjee

The company was established in 1949 and started production of superphosphate in 1950. The company has an authorised, capital of Rs. 50,00,000 and subscribed and paid-up capital of Rs. 43,31,200. The promoters of the company are the pioneers of fertiliser industry in Eastern India.

The company's works is situated at Rishra in the Hooghly District of West Bengal. It has facilities of manufacturing superphosphates both in powder and granulated forms. Fertiliser mixtures both N.P.K & N.P. grades in granular forms are also manufactured at

its works. Apart from fertiliser manufacturing facilities, there are two streams for production of sulphuric acid and plants to produce various types and grades of sulphate of alumina and sodium silicofluoride.

The organisation has been making steady progress in various fields and sharing their expertise and experience in the fields of fertiliser manufacture, marketing and promotion with others. It also offers its technology for the production of granulated NPK fertiliser mixtures, alums, sodium bicarbo-

mate, etc. Several plants are installed at various places based on the company's know-how and technology and are working to the entire satisfaction of the costumers.

Various firsts are to the credit of the company. It is the first to manufacture superphosphate in both powder and granulated form and the first unit for manufacture of N.P.K. granulated fertilisers in Eastern India. The company is also the first unit in the country to utilise the waste gases of their superphosphate plant to produce fluorine compounds. The fluorine compounds play a vital role in various industries, simultaneously saving—valuable foreign exchange.

In its activities for the promotion of ba-

lanced fertilisation in the country and optimum use of the scarce resources, the company was the first to set up free soil testing laboratory in Eastern India in the private sector. It also undertakes field demonstrations for popularising scientific use of farm inputs.

The company's fertilisers, e.g., superphosphate and granulated mixed fertilisers are marketed under the trade name 'LAKSHMI'.

The company has set up a full fledged marketing and service organisation in the States of West Bengal, Bihar & UP with zonal offices and storage godowns at Patna, Varanasi and Delhi.

39. PAUSHAK LIMITED

Regd Office: Alembic Road, Baroda-390 003.

Gram: PAUSHAK

Telex: 0175/304

**Prone: Agro Sales, 8725, 8551;
Sok Ext. 8568**

With the changing trends in agriculture and development of sound agricultural practices, Paushak Limited (which was incorporated on 24th April 1968) has contributed its services by offering balanced fertilisation, crop protection measures for agricultural independence and economic development of the nation. It has a sound background, as it is a subsidiary company of Alembic Chemical Works Co. Ltd., one of the largest chemical and pharmaceutical manufacturers of India.

The Board of Directors consists of Shri C. R. Amin (Chairman), Shri R. B. Amin, Shri B. D. Patel, Dr. J. S. Patel, Dr. M. R. S. Iyengar, Shri M. D. Shah and Shri R. C. Shah. The authorised capital of the company is Rs. 3,00,00,000 and subscribed and paid up capital is Rs. 57,90,000 in shares of Rs. 100 each.

Historically, it has been proved as the common acceptable fact that Alembic has contributed not only in pharmaceutical products but also other products needed for industrialisation, the fertility of soil and protection of crops.

It started the manufacture of sulphuric acid in 1951 with a 10 tonnes per day capacity plant. In 1964 a new 50 tonnes per day capacity plant, of sulphuric acid was installed to cater to the increasing needs of other industries and to increase its production of superphosphate which provides one

of the most required major nutrients for abundant and rich crop.

Superphosphate plant was also established in 1951 with a capacity of 21,000 tonnes per year which was further expanded to 33,000 tonnes per year. Application of balanced fertilisers is a must for maximum yield. And the manufacture of balanced mixed fertilisers (NPK) of the recommended grades was started under the trade name ALCHEMPHOS in the year 1959.

Presently, Paushak is also marketing Kilex pesticides formulations for the protection of valuable crops from insects and other pests to offer as much services as possible for increasing agricultural production. The plant for the manufacture of technical carbaryl, one of the largely used pesticides, is under construction and likely to commence the production in the nearest future. The know-how for the manufacture of intermediates and final product carbaryl is also developed by the research division of the company.

Paushak has established a solvent extraction plant with 30 tonnes a day capacity for extracting oil by an edible solvent from different oil seeds, viz., soyabeans, groundnuts, cotton seeds, rice bran, etc. The extracted oil is used for the edible as well industrial purposes. The deoiled cake rich in proteins is suitable for human consumption, used for animal feed and also has favourable export potential.

In a nutshell Paushak views from the farmers point of view by constantly viewing the environment in which farmer works. This has helped to develop a perfect formula for prosperity—a unique agricultural

service. This package of inputs and practices helps turn agriculture into an organised industry—thus helping the farmer to obtain yields and optimum economic benefits.

40. PREMIER FERTILISERS LIMITED

Regd. Office: 151, Mount Road, Madras-600 002.

Gram: GROWELL

BOARD OF DIRECTORS

Shri M. Ct. Muthiah

Chairman

- " V. S. Tyagaraja Mudaliar
- " M. Ct. Pethachi
- " A. R. Ramanathan
- " V. K. Ramaswamy Mudaliar
- " S. P. Virmani
- " K. M. Venkatachalam

Shri H. S. Nagaraj

- " J. V. Somyajulu
- " O. M. Sp. M. Sevugam Chettiar
- " M. R. Srinivasan
- " J. T. Acharyalu, IAS
- " C. Ramdas, IAS
- " C. Narayanan

Premier Fertilisers Limited is a public limited company, registered under the Indian Companies Act 1956 and incorporated on 31-3-1960.

The authorised capital of the company is Rs. 1,00,00,000 consisting of Rs. 2,50,000—9 per cent taxable cumulative preference shares of Rs. 10 each and 7,50,000 equity shares of Rs. 10/- each. The paid-up capital of the company is Rs. 50,00,000 consisting of 5,00,000 equity shares of Rs. 10 each fully paid-up.

For the present the company is manufacturing sulphuric acid and superphosphate and also marketing NPK mixtures for paddy and various other crops. The factory is situated in the vicinity of Cuddalore Railway junction of Tamil Nadu with a manufacturing capacity of 40,000 tonnes of superphosphate and 16,500 tonnes of sulphuric acid per annum.

The company has a network of sales

organisations in Tamil Nadu, Andhra Pradesh and Karnataka States with headquarters at Madras. It has also branch sales units and mixing centres at the following places: Cuddalore, Trichy, in Tamil Nadu, Bangalore in Karnataka State; and Anantapur in Andhra Pradesh.

It has ample storage facilities in the above places. At these centres, it has qualified personnel to look after propaganda, publicity and demonstrations; each unit in charge of an agricultural graduate experienced in fertilisers and NPK mixtures. It has established a network of about 700 dealers in various places in Tamil Nadu, Andhra Pradesh and Karnataka States. The company has taken up distribution of Madras Fertilisers Ltd. products.

As part of its diversification programme, the company is now producing pesticides's formulations like BHC dust.

41. RALLIS INDIA LIMITED
Rallis House, 21, D.S. Marg, Bombay-400 001.

Grams: RALLI

Telex: PR 2357

Tele: 268221

BOARD OF DIRECTORS

Shri D. S. Seth
Chairman
 " A. D. Mango
Dy. Chairman
 Sir George Burton
 Shri A. S. Mathisson

Shri F. A. Mehta
 " J. D. Choksi
 " H. J. Silverston
 " R. Bounds
 " M. R. Shroff
 " V. J. Seth

Alternate Director

Shri J. S. Hewitt (**Alternate Director**
 to Sir George Burton)
Secretary: Shri B. K. Laskari

Capital Structure

Authorised capital made up of:

8,00,000 ordinary share of Rs. 100 each	8,00,00,000
1,00,000 6 per cent taxable cumulative preference share of Rs. 100 each	1,00,00,000
1,00,000 unclassified share of Rs. 100 each	1,00,00,000
	<hr/>
	Rs. 10,00,00,000

Issued subscribed and paid up capital:

4,96,039 ordinary share of Rs. 100 each	4,96,03,900
75,000 cumulative preference share of Rs. 100 each	75,00,000
Add amount paid-up on forfeited shares	1,800
	<hr/>
	Rs. 5,71,05,700

Rallis India Limited have, for over a century been associated with the agriculture of the country as bulk buyers of agricultural commodities, and since 1950, as manufacturers and distributors of fertilisers and pesticides.

Since 1962, they have a factory at Magarwara (U.P.) with an installed capacity of 60,000 tonnes per annum of superphosphate and 75 tonnes per day of sulphuric acid.

Rallis are one of the two principal distributors for Gromor Complex fertilisers manufactured by Coromandel Fertilisers Limited. They also distribute nitrogenous fertilisers manufactured by the Gujarat State Fertilisers Company Limited and Mangalore Chemicals & Fertilisers Limited. Rallis also distribute products manufactured by Madras Fertilisers Limited. They also have taken up the formulation of trace elements.

In the field of plant protection, they have a very wide range of products, with a basic technical material factory and 4 formulating units.

Rallis operate through 6 regional offices, 13 sales offices, 25 mixing centres and over 5,000 distributors. They run an Agricultural Advisory Service on a national scale for training the field staff, educating the distributors and giving advice to the customers on various technical matters concerning agricultural operations. They have a well equipped soil testing laboratory in Bangalore and also a biological development laboratory which carries out intensive laboratory and field trials on various plant protection chemicals.

The Fertilisers and Pesticides Division is controlled from the company's Head Office in Bombay.

Other activities of the company cover merchanting (cotton, jute, wool), tanning, materials, light engineering, consumer products, pharmaceuticals, industrial chemicals and exports.

Rallis is a founder-member of the Fertiliser Association of India.

42. RAMA KRISHI RASAYAN LIMITED
(Formerly West India Chemicals Limited)
Office: 17/1, M.G. Road, 2nd Floor, Poona-411 001.

Gram: SULPHACID

Telex: 0145-474

Phone: 25534
27142**BOARD OF DIRECTORS**

Shri V. J. Ramsinghani
 " A. J. Ramsinghani
 " M. S. Apte
 " P. I. Firasta
 " P. L. Kekre

Mrs. S. M. Gwalani
 Dr R. J. Rathi
 Shri H. L. Mahadevappa
 " S. P. Gupta

Capital Structure

1. Authorised capital made up of
 - (a) 60,000 equity shares of
Rs. 100/- each
Rs. 60,00,000/-
 - (b) 15,000 11 per cent redeemable
cumulative preference shares of
Rs. 100/- each
Rs. 15,00,000/-
2. Issued, subscribed and paid-up
 - (a) 40,000 equity shares of
Rs. 100/- each
Rs. 40,00,000/-
 - (b) 15,000 11 per cent redeemable
cumulative preference shares of
Rs. 100/- each
Rs. 15,00,000/-

The factory is located at Lonikalbhor on Sholapur Highway at about 10 miles from Poona City. The company started manufacturing operations during June 1967 but stopped operations in January 1970 due to financial problems.

Mr. Ashok J. Ramsinghani and his associates have taken over the company since December 1979. This company was re-named Rama Krishi Rasayan Limited, in May 1980.

The company manufactures 98 per cent sulphuric acid and single superphosphate (16 per cent P_2O_5), the respective licenced capacities being 16,000 MT and 33,500 MT p.h. During 1979-80 the production of sulphuric acid reached an all time high of 11,986 MT. The production of single superphosphate at 32,015, was affected by power cuts in the first quarter of the year. Nevertheless, overall performance of the company has improved and it is set for a great leap forward.

43. RASHTRIYA CHEMICALS & FERTILIZERS LIMITED
Chembur, Bombay-400 074.

Gram: FERTILIZER

Telex: 011-3027 RCF

Phone: 521451

Shri Duleep Singh
Chairman & Managing Director
 Rashtriya Chemicals & Ferts Ltd.
 Administrative Building, Chembur
 Bombay-400 074.

Shri S. M. Kelker
 Joint Secretary
 Department of Chemicals &
 Fertilisers
 Ministry of Petroleum & Chemicals
 & Fertilisers
 Shastri Bhawan
 New Delhi-110 001.

Shri V. Kumar
 Joint Secretary & Financial
 Adviser
 Government of India
 Department of Chemicals &
 Fertilisers
 Ministry of Petroleum & Chemicals
 & Fertilisers
 Shastri Bhawan
 New Delhi-110 001.

Shri D. M. Sukthankar, Secretary
 Government of Maharashtra
 Dept. of Industries, Energy & Labour
 Mantralaya, Bombay-400 032.

Shri S. V. S. Juneja
 Joint Secretary
 Department of Economic Affairs
 Ministry of Finance
 New Delhi.

Shri B. P. Sikdar
 Dy. Secretary
 Government of India
 Department of Agriculture
 Ministry of Agril. & Irrigation
 Krishi Bhawan
 New Delhi-110 001.

Inception

The Rashtriya Chemicals & Fertilisers Limited Bombay was incorporated in April 1978 as a result of re-organisation of Fertilizer Corporation of India Limited. As a sequel to re-organisation, Trombay Unit of FCI with all its expansion plants and the two proposed plants on Bombay High Gas came under RCF Management.

Capital

RCF is a Public Sector Company fully owned by the Government of India. It has an authorised capital of Rs. 500 crore as on 31-3-80 and the capital employed as on that date was about Rs. 113 crore.

Existing Capacity

The total attainable capacity of Trombay Unit at present is 165 thousand tonnes of N and 120 thousand tonnes of P_2O_5 inclusive of Trombay IV Expansion which has already started producing. Trombay Unit produces both types of fertilisers namely complexes popularly known as 'SUPHALA' and urea with a brand name 'UJJWALA'.

The work on Trombay V expansion for the production of urea is in progress as per plan and the plant is expected to be commissioned by July 1981. The capacity of production is 151.8 thousand tonnes of N and 330 thousand tonnes of urea.

The work on two urea plants to be erected at Thal Vaishat in Kolaba district of Maharashtra has started. This project has a designed capacity of 644 thousand tonnes of N is equivalent to 1,400 thousand tonnes of urea per annum.

Production Performance

During the year 1979-80 RCF produced 455 thousand tonnes of complexes and 104 thousand tonnes of urea. This gives a capacity utilisation of 76 per cent and 65 per cent for N & P_2O_5 respectively.

Sales Turnover

Sales turnover of all the fertilisers including imported products during 1979-80 was of the order of Rs. 86.20 crores.

Market Promotion & Extension Services

The sales in the RCF marketing area are effected through 1,600 authorised dealers at present. Dealers are of various categories like co-operative, private dealers, unemployed graduates, disabled servicemen, scheduled caste/scheduled tribes, candidates etc. To improve the economics of fertiliser application, RCF has got a special promotion programme on extensive scale, backed by the intensive research on research farms and cultivators' field.

Production of Chemicals

Over and above of fertilisers RCF produces large number of industrial chemicals. At present technical grade urea, argon gas, methanol, carbon-di-oxide, sulphuric and nitric acids, anhydrous ammonia, ammonium bi-carbonate, carbon black, sodium nitrate & nitrate and methylamines are produced at RCF. These are marketed by a separate marketing division and the annual turnover of these chemicals was Rs. 42.73 crores during 1979-80.

Canalizing Agency

RCF has been appointed canalizing agents by the Government of India for imports of methanol and ammonia, in the country. In addition, RCF also handles and markets imported urea. During 1979-80 following quantities of imported products were handled by RCF.

Product	Quantity in '000 MTs
Methanol	28
Ammonia	142
Urea	130

44. THE SCIENTIFIC FERTILISER COMPANY PRIVATE LIMITED**Regd. Office: 'Sudarsanam' Ponnurangam Road, R.S. Puram, Coimbatore.****Gram: NITROPHOS****Telex: CBE 340****Tele: 26356, 26357****BOARD OF DIRECTORS**

Shri A. N. Vijaraghavan
 " K. S. Ramaswamy
 " T. V. V. Pathy

Shri T. V. Ramachandran
 " T. V. Natarajan
 Smt S. Konammal

The company was established in 1938 by the late Shri T. V. V. Iyer, who pioneered the entry of national enterprise into the business of manure mixtures in South India.

With Head Office at Coimbatore and branches at Madras, Ootacamund, Cuddalore, Madurai, Guntur, Hyderabad, Mysore and Trichy, the company operates in three Southern States of Tamil Nadu, Andhra Pradesh and Karnataka supply balanced fertiliser mixtures for various field and plantation crops. The company's products are marketed under CROWN BRAND which is held in good regard by ryots and planters and accepted by them as a hallmark for quality and dependability.

The company's present aggregate capacity of 20,000 tonnes of mixtures per annum is now fully attained. Having careful regard to the inevitable increased accent on fertilisers in current and future plans, the production capacity is being geared to meet the increased demand.

There is an up-to-date analytical laboratory attached to the Coimbatore Factory and it is well equipped to analyse soil samples and to make fertiliser recommendations. All ingredients and mixtures held ex-stock at the company's various mixing centres are analysed regularly to ensure that the mixtures put out conform strictly to declared analysis. By way of increased service to the clients, an insecticides formulating unit at Guntur under the name and style of Scientific Insecticides Company has been established.

The Andhra Pradesh Government have recognised this undertaking as a SSI Unit eligible for allotments of technical raw materials. The dust formulations were placed in the market in December 1967 and have been well received by customers. The liquid formulations are on sale since August 1968 onwards. All products of the Scientific Insecticides Company bear the 'Crown Brand' and fully match the high standards associated with 'Crown Brand' fertilisers.

In 1976 a second formulating unit of the Scientific Insecticides Company has been commissioned in Trichy in Tamil Nadu, to more effectively cater to the requirements of clients in this State. The unit is formulating in addition to dusts, wettable liquid formulations, as in Gundur. Even within two years of its commissioning, this unit was able to achieve its full capacity in dusts and wettable formulations. The product range is being regularly expanded so that within the next few years, it will be possible to meet most, if not all, of the pesticides requirements of the farming community in the Southern States.

The company has nearly 700 distributors up-country selling its CROWN BRAND fertiliser mixtures as well as CROWN BRAND insecticides. Experienced inspectors well seasoned to answer the direct queries of the customers are placed in charge of 2 to 3 districts. They provide the essential link between the company and its distributors on the one hand and distributors and customer on the other and see that the high standards associated with CROWN BRAND are zealously safeguarded throughout. The number of field staff are being regularly increased to cope up with the needs of an expanding market.

The company has been appointed as distributors for the products (ammonium sulphate and calcium ammonium nitrate) of Steel Authority of India Ltd., in Guntur district of Andhra Pradesh and Zuari Agro Chemicals Ltd. and Fertilizer Corporation of India Ltd. in Karnataka State. To further intensify our activities in Karnataka State, a Regional Office has been recently started in Bangalore.

The company has been working as the selling agents of Indofil Chemicals Ltd., Bombay (a subsidiary of Rhom and Haas Company, Philadelphia) for their agricultural chemicals in the States of Tamil Nadu and Andhra Pradesh for the past several years.

- The Company has branches at:
1. 49, Second Line Beach, Madras-1.
 2. Commercial Road, Ootacamund.
 3. Neyveli Road, Cuddalore.
 4. 30, Aruppukottai Road, Villampuram, Madurai-12.
 5. 447/1, Mangalagiri Road, Guntur-1.
 6. 3-6/385/1 & 2 Himayat Nagar, Hyderabad-29.
 7. Yelwal Road, V. V. Mohalla, Mysore-2.
 8. 136/2A & 136/2B, Gundur, Tiruchirappally-7.
 9. 137/2 Sembattu Village, Guntur, Tiruchirappally-7.
 10. 205, IV Cross, Lalbagh Road, Bangalore-27.

45. SHAKTI CHEMICAL & FERTILIZER PVT. LTD.
Kodarma, Hazaribagh, Bihar.

Gram: SHAKTI

Phone: 27

DIRECTORS

Shri M. C. Agarwala
" U. C. Agarwala

Shri V.K. Agarwala
" B. Prasad

This Private Limited Company was incorporated on 26th Dec. 1976 to manufacture mixed granulated fertiliser. The capacity of the plant is 28,800 M.T. per annum and was commissioned on 2nd June 1978. Due

to its quality this company sold a good quantity of its product in spite of uncertainty of rain and severe drought in the State of Bihar.

46. SHRIRAM FERTILISERS & CHEMICALS

Kanchenjunga Building, 18, Barakhamba Road, New Delhi-110 001.

Grams: SHRICHEM

Telex: 031-3532

Phone: 46801

Shriram Fertilisers & Chemicals was set up in 1963 at Kota with an integrated complex for the manufacture of polyvinyl chloride, caustic soda and calcium carbide.

In 1969, nitrogenous fertiliser complex was added to its production facilities. The complex had an ammonia plant of 450 TPD and urea plant of 700 TPD capacity. Since then, this has been expanded to 550 TPD ammonia and 930 TPD urea.

The fertiliser plant is based on naphtha feedstock. The process of manufacture involves catalytic steam reforming of naphtha,

purification and synthesis to produce ammonia. Ammonia and carbon dioxide are synthesized at high pressure and temperature by the total recycle process to produce urea.

The original fertiliser project as well as the expansion are results of very close Indo-Japanese cooperation. There is no equity participation by the foreign collaborators in the project.

Dr. Charat Ram is a Director and ex-Chairman of the Board of Fertiliser Association of India.

47. SHAW WALLACE & CO. LTD.
4, Bankshall Street, Calcutta-700 001.

Grams: SHAWALACE

Tele: 23-5601, 23-9151

BOARD OF DIRECTORS

Shri S. P. Acharya
Chairman & Managing Director
 " R. W. Brittain
 " R. N. Ghatak
 " G. P. Oomman
 " T. S. Venkatesan
 " A. S. Malik

Shri T. C. Narayan
 " Ajaib Singh
 " Santanu Chaudhuri
 " B. P. Poddar
 " P. Sen Gupta
 " J. R. Scott

Funds Employed

As on 31st December 1978

	Rs. '000
Share capital	
Authorised:	
1,00,000 6% taxable cumulative preference shares of Rs. 100 each	1,00,00
40,00,000 Ordinary shares of Rs. 10 each	4,00,00
	5,00,00
Issued subscribed and called up:	
75,000 6% taxable cumulative preference shares of Rs. 100 each	75,00
40,00,000 Ordinary shares of Rs. 10 each	4,00,00
	4,75,00
Reserves and surplus	5,24,77
7½% debenture stock—1977-79	75,00
Secured/unsecured loans	2,56,03
	13,30,80
Employment of Funds	
Fixed assets	1,76,42
Investments	2,73,19
Current assets	27,91,09
Less: Current liabilities and provisions	10,00,00
	8,81,19
Total:	13,30,80

The company was established as a partnership firm on the 1st January 1886 and became a Public Limited Company in January, 1947.

The Shaw Wallace Group of companies have interests in a very wide field of industry which includes manufacturing, marketing, distribution and agencies.

The activities of the group cover a very wide range and include fertilisers, agro-

chemicals, livestock feeds and mineral supplements, glue, gelatine and other adhesives, liquor and wines, beer, shipping, tea, flour, yeast and minerals, computer services and exports.

Main Subsidiary Companies

Cruickshank & Co. Ltd., Calcutta.
 Maharashtra Distilleries Ltd., Aurangabad (Maharashtra).
 The Hooghly Flour Mills Co. Ltd., Calcutta.

The Indian Yeast Co. Ltd., Calcutta and Uran (Maharashtra).

Shaw Leiner Ltd., Calcutta and Jabalpur.

Tezapore Tea Co. Ltd., Calcutta and Darang (Assam).

Shaw Wallace Overseas Ltd., London.

Shaw Wallace & Hedges Ltd., Sri Lanka.

Principal Investments

Indian Potash Ltd.

Matheson Bosanquet & Co. Ltd.

Rewa Coalfields Ltd.

SKOL Breweries Ltd.

Agencies

Tea:

The Assam Frontier Tea Ltd.

Shipping—Shaw Wallace & Co. Ltd.

Deutsche Dampfschiffahrts - Gesellschaft "Hansa", Bremen, at Saurashtra, Bombay, Goa and Madras.

Hellenic Lines Ltd., New York and Piraeus at Bombay and Madras.

Ellerman City Liners, London (The Shipping Division of Ellerman Lines Ltd.) at Calcutta and Madras.

The Canadian City Lines Ltd., Montreal, Canada at Calcutta and Madras.

Gulf Shipping Ltd., London at Bombay, Saurashtra, Calcutta and Madras.

Ratnakar Shipping Limited, Calcutta at all Indian ports, except Calcutta.

Pent Ocean Steamships Pvt. Ltd., Bombay at Bombay, Malabar Coast and East Coast of India, except Tuticorin.

Poompuhur Shipping Corporation Ltd., Madras at Calcutta and Madras.

Kerala Shipping Corporation, Cochin at all ports in India, except Goa and Cochin.

Surrendra Overseas Ltd., Calcutta at all Indian ports, except Calcutta.

Seven Seas Transportation Ltd., Bombay at Calcutta and Madras.

Essar Bulk Carriers Ltd., Madras, at all Indian ports.

Jay Shree Shipping, Bombay at Malabar Coast, Cuddalore, Nagapattinam, Pondicherry, Madras and Calcutta.

Shipping—Cruickshank & Co. Ltd.

Leif Hoegh & Co. A/S Oslo at Calcutta.

Campagnie Generale Maritime, Paris at Calcutta.

Societe Navale Chargeurs Delmas—Vieljeux, Paris at Calcutta.

The Eastern Shipping Co. Ltd., Tokyo at Bombay.

World-wide Shipping Ltd., Hongkong at Calcutta and Bombay.

Seerland Shipping Management, Austria at Bombay, Viet Fracht, Hanoi at Bombay.

Fertiliser and Sulphur

Centraal Stikstof Verkoopkantoor b.v., The Hague.

Nederlandse Stikstof Maatschappij, Brussels, Belgium.

Societe Carbochimique, Societe Anonyme, Brussels, Belgium.

Fertilizers and Chemicals Travancore Ltd. Ruhur Stikstof, A.G., Bochum, West Germany.

Unie Van Kunstmestfabrieken b.v., The Hague, Holland.

Sime Darby Trading Ltd., London. Madras Fertilizers Ltd., Madras.

Insecticides and Agrochemicals

Agromore Ltd.

Sandoz (India) Ltd.

BASF India Ltd.

Wines & Spirits

John Walker & Sons Ltd.

Tranquerey, Gordon & Co. Ltd. John Exshaw & Cie.

Deinhard & Co. Ltd.

J. L. P. Lebegue & Co. Ltd. Erven Lucas Bols.

Products Agriculture

Manufacturers of superphosphate at Avadi (Tamil Nadu).

Fertiliser mixtures at several mixing works in East, South & Western India.

Livestock feeds at Salem, Tinnevely and Calcutta.

Marketeers of urea and complex fertilizers backed by a nationwide marketing and technical advisory service.

Adhesives

Manufacturers of quality glues at factories in South & Western India.

Food

Manufacturers of baker's yeast and flour with complete service to meet customers' needs.

Shipping

The organisation covers all major and minor ports in India including Sri Lanka.

Tea

The Group are amongst the leading producers and exporters of tea.

Liquor and Wines

Distillers and distributors of Haywards fine liquors, and beer.

Manufacture of Golconda wines and brandies and Doctor's Special.

Others

Manufacturers of sulphuric acid and sodium silico fluoride.

Employment

The group employs about 7000 persons.

Marketing activities

The organisation has built up a strong marketing network consisting of its own depots and agents, spread over more than 6,000 centres throughout the country. Besides, it has its representatives at all important centres in the north, east, south and western India.

Plans of expansion and diversion

The group aims to continue to expand its sales of fertilisers/pesticides and its export of traditional and non-traditional products. The company is setting up in Haldia a plant for manufacturing organo-phosphorus pesticides.

Chairman

Shri S. P. Acharya, Chairman and Managing Director is a Director on the Board of the Fertiliser Association of India.

48. SOUTHERN PETROCHEMICAL INDUSTRIES CORPORATION LIMITED

Regd. Office: 'SOUTH INDIA HOUSE', 36/40, Armenian Street, Madras-600 001.

Principal Office: 97, Mount Road, Guindy, Madras-600 032.

Telegram: 'SOUTHPETRO'

Telex: 7108

Telephone: 433241/48-8 lines

Plant: 'SPIC Nagar', Tuticorin-628 005.

BOARD OF DIRECTORS

Thiru M. A. Chidambaram

Chairman

.. S. Venkitaramanan, IAS
Vice-Chairman & President

.. S. P. Appasamy
**Executive Vice-President
(Marketing)**

.. A. C. Muthia
**Executive Vice-President (Admn.
& Personnel)**

Directors

Thiru B. R. Sreenivasamoorthy
(Finance)

.. B. K. Shah

.. S. Govind Swaminadhan

.. S. T. Sadasivan

.. M. N. Kale

.. S. D. Khosla

.. D. G. Ramaiah

.. T. N. Lakshminarayanan, IAS

.. K. Venkatesan, IAS

.. S. A. Subramani, IAS

.. K. P. Geethakrishnan

Southern Petrochemical Industries Corporation Limited, popularly known as 'SPIC', has set up modern facilities for the manufacture of fertilisers at SPIC Nagar, near Tuticorin, Tamil Nadu.

The company which was promoted by the Tamil Nadu Government and private entrepreneurs headed by Thiru M. A. Chidambaram, is a joint sector venture. It was registered on 18-12-1969 with the main object of

manufacturing fertilisers and chemicals including petro-chemicals and plastics.

Share Capital

The Authorised Share Capital of the company is Rs. 35 crore divided into 2,60,00,000 equity shares of Rs. 10 each and 9,00,000 redeemable cumulative preference shares of Rs. 100 each. The paid-up capital consists of 16,98,39,370 equity and 1,99,96,300 of preference capital.

Plants

SPIC ammonia and urea plants are amongst the largest single stream units in Asia involving no foreign collaboration. Approximately 70 per cent of the total equipment and material used in setting up these facilities have been indigenously procured. The licensed capacities of our plants are: (See Table 1).

The prime contractors for these plants are:

Ammonia M/s. Davy Powergas, London.
Urea M/s. Toyo Engineering Corporation, Japan.

Acid group of plants M/s. Hitachi Ship Building Company, Japan (Hitachi Zosen)

The commercial production from these plants which are put up in two phases, started as under:

Ammonia	18.6.1975
Urea	22.6.1975
Acid group of plants	Middle of 1976

The year 1978-79 witnessed several production achievements.

The 1,100 TPD ammonia plant could be stabilised at 100 per cent load and maximum daily production of 1,107.7 MT was achieved on 12-1-79. The urea plant had already been tested well above 100 per cent load and the performance was found to be satisfactory.

The phosphatic group of plants were able to run at a fairly high load. We had uninterrupted supply of sulphur and rock phosphate even though there were moments of anxiety during certain months. The PA and DAP plants exceeded their annual production targets.

The PA plant registered a maximum daily production of 225 MT on 14-1-79 which is 136 per cent of the rated capacity and the DAP 620 MT on 4-8-79 as against the rated capacity of 500 MT. The unexpected fire accident in the primary reformer of ammonia plant following a total power failure stopped the plant production for over two months

which resulted in achieving only 75 per cent and 74 per cent of targeted production of ammonia and urea respectively during the year.

The Table 2 gives the production during the year ended on 30th June 1979, the achievement on the target and the cumulative production since the commencement.

Marketing

The marketing philosophy of SPIC is the integration of fertiliser sales with the total agricultural development. This concept of agricultural development extends not only to the supply of fertilisers to the farmers at the nearest point but also to create an awareness among the farming community of the modern agronomical practices through training programmes, farmers meetings, field visits, demonstration plots, etc. Our services also include advising farmers on:

1. Balanced application of fertilisers
2. Soil testing
3. Farm management
4. Soil and water conservation
5. Modern techniques of harvesting
6. Use of right types of inputs such as quality seeds, pesticides, etc.

To keep the farmers informed of the latest developments, SPIC is bringing out periodically a journal called 'SPIC FARM NEWS' which is being published in three local languages, viz., Tamil, Kannada and Telugu besides English. These publications which are distributed to farmers free of cost, have become very popular.

Recently the Government of India has identified Tirunelveli District as having considerable irrigation potential, but lagging behind in fertiliser consumption. This being the home district of our plants, SPIC has adopted Tirunelveli District. A time bound programme has been chalked out by SPIC to reach as many farmers as possible in the villages of this District with required fertilisers and advice on package of practices and to bring about agricultural transformation. Over a period of four years from the commencement of production in June 1975,

TABLE 1

Plant	Rated capacity	Stream days/year	Annual licenced capacity
1. Ammonia	1,100 MT/D	320	3,52,000 MT
2. Urea (46.2% N)	1,600 MT/D	320	5,12,003 MT
3. Sulphuric acid	470 MT/D	320	1,50,000 MT
4. Phosphoric acid	185 MT/D	320	52,800 MT
5. DAP	500 MT/D	310	1,10,870 MT

SPIC has marketed nearly 14.8 lakh MT of fertilisers till 30th June 1979. The share of urea, so distributed, is over 13.20 lakh MT and that of complex fertilisers (UAP/DAP) approximately 1.34 lakh MT.

In order to meet the increased demand for fertilisers, SPIC is importing urea, CAN and ammonium sulphate through Government of India and distributing the same through its marketing channels. A quantity of nearly 2.23 lakh MT of imported fertilisers have so far been handled by SPIC out of which the share of urea alone came to nearly 1.78 lakh MT.

SPIC is adopting the following strategies in the area of logistics and transportation in order to cope with the increasing volume of fertilisers handled:

- (i) Substantially increasing the field warehouse capacity.
- (ii) Adopting coastal shipping transportation.
- (iii) Developing buffer warehousing so as to exploit road and rail transportation potential available at buffer warehouse location.

TABLE 2

Plants	Production during the year ended 30-6-79 (MT)	Achievements of target (%)	Cumulative production from the commissioning of the plant (MT)
1. Ammonia	2,06,075	75	7,79,404
2. Urea	3,16,398	74	12,45,827
3. Sulphuric acid	1,16,358	97	2,14,025
4. Phosphoric acid	38,983	107	68,715
5. DAP	79,600	109	1,24,308
6. UAP	Nil	—	21,843

49. T. STANES & COMPANY LIMITED

Agricultural Division, Post Box No. 3709
Coimbatore-641 018 (Tamil Nadu).

Grams: 'STANES'

Phone: 33514 to 33518

The firm was founded in 1861 by Sir Robert Stanes and was formed as a company in 1910.

From the time of its commencement, the company has been supplying all planting requirements, including fertilisers and now has 11 fertiliser mixing factories at the following places:

1. Tudiyalur;
2. Madurai;
3. Trichy;
4. Tirunelveli; and
5. Vellore in Tamil Nadu.
1. Ettumanoor;
2. Calicut; and
3. Kanimanagalam in Kerala.
1. Hassan;
2. Mangalore; and
3. Hospet in Karnataka.

The company also has its own branches as well as safe depots in Kotagiri, Madras and Theni in the State of Tamil Nadu, at Palghat, Alleppey, Cochin and Pampupore in Kerala and at Shimoga and Bangalore in Karnataka State.

The Tudyalur Mixing Unit is equipped with a modern mechanical mixing plant for compounding all types of fertiliser mixtures for all crops.

The sales organisation is backed by a well-equipped laboratory run by qualified Agricultural Chemists to ensure quality control and to maintain a high standard of product. The company extends free technical advice to both planting and cultivator customer on all agricultural problems through their qualified agricultural sales officers.

The Agricultural Division of the company meets the needs of the planters and farmers by promoting sale of agrochemicals, sprayers etc.

T. STANES & COMPANY LIMITED are also the authorised Distributors for:

1. Madras Fertilisers Ltd.—for Tamil Nadu, Kerala and Karnataka.
2. The Rashtriya Chemicals & Fertilisers —for Tamil Nadu, Kerala and Karnataka.
3. Southern Petrochemical Industries Corporation Ltd. (SPIC)—for Tamil Nadu, Kerala and Karnataka.
4. CIBA-GEIGY Agrochemicals—all over Tamil Nadu and Pondicherry.
5. INDOFIL CHEMICALS LTD.—Kerala & Karnataka States.
6. TUCAS Sprayers—Kerala State.
7. TUCAS Pesticides—All over Kerala State.
8. Union Carbide India Ltd.—Karnataka State.

The company has under its control three wholly owned subsidiary companies:

1. M/s. Stanes Motor (South India) Ltd. Dealers in Ambassador Cars, Trucks, Massey-Ferguson Tractors, Yezdi Motor Cycles and VIJAY Scooters.
2. The United Coffee Supply Company Limited.
Manufacturers of the famous 'STANES' brand Coffee and Tea.
3. M/s. Stanes Tyre & Rubber Products Limited.
A long standing well-known Company in the tyre retreading and relugging service, serving throughout South India.

The company is also a subsidiary of M/s. Simpson & Co. Ltd., Madras and a Unit Company of M/s. Amalgamations Limited, Madras.

50. STEEL AUTHORITY OF INDIA LTD.

14th Floor, Hindustan Times House, Kasturba Gandhi Marg,
New Delhi-110 001.

Grams: ISPAT

Telex: 021-7345

Phone 22-2731

M/s. Steel Authority of India Ltd. (SAIL) joined the Association as an Active Member from 1st January 1976. The following are the Steel Plants under SAIL:

1. Rourkela Steel Plant
2. Bhilai Steel Plant
3. Durgapur Steel Plant
4. Bokaro Steel Plant.

51. A. TALUKDAR & CO. (FERTILISERS) LIMITED

Regd. Office: 15, Clive Row, Calcutta-700 001.

Branch Office: Dibrugarh, Assam.

Grams: PLANTLIFE

Tele: 22-7712, 22-1036

As agents of Government of India for distribution of Pool nitrogenous fertilisers to North East India tea estates and agents of Government of West Bengal and Assam for distribution of fertilisers for paddy, potato, jute, sugarcane, vegetable, etc. and also appointed distributor of Steel Authority of India Ltd., Hindustan Fertiliser Corporation Ltd., The Indian Iron & Steel Co. Ltd., the company manufactures every kind of fertiliser mixture to the tune of 20,000 tonnes

per annum.

The Company has three Associate concerns:

- (1) Talukdar & Co. (Misc.)
- (2) Hindustan Bone Mill
(Manufacturer of bone meal, bone grist, etc. to export to foreign countries).
- (3) Rashmohan Cold Storage.

52. THE WESTERN CHEMICAL INDUSTRIES

**Manufacturers and Dealers in Acids, Chemicals & Fertilisers
Sonawala Cross Road, Goregaon East, Bombay-400 063.**

Gram: WESTCHEMIN

Phone: 691485

The company was incorporated in 1946 as a private partnership group to manufacture single superphosphate fertiliser, sulphuric acid, sodium bisulphate, sulphate of alumina ferric and non-ferric etc.

The present capacity of single superphosphate fertiliser plant is 6,700 M.T. per annum.

The company has plans for increasing the sulphuric acid and single superphosphate fertiliser capacity.

The main Executives of this company are Mr. S. C. Patel, Shri M. M. Patel and Shri R. C. Patel.

The company has its Factory and its Office at Goregaon East, Bombay-400 063.

53. ZUARI AGRO CHEMICALS LIMITED

Regd. Office: Jai Kisaan Bhawan, Zuarinagar-403 726 (Goa).

Grams: JAIKISAAN

Telex: 0191-224 & 0191-275

Phone: Zuarinagar 21-25 (5 lines)

BOARD OF DIRECTORSShri K. K. Birla—**Chairman**

" O. P. Berry
(IDBI Nominee)

" R. P. Fitton
(Alternate: Shri A. R. Wadia)

" C. M. Henderson
(Alternate: Shri D. B. Engineer)

" D. J. MacLennan
(Alternate: Shri W. Dalke)

Shri D. P. Mandelia

(Alternate: Shri R. C. Maheshwari)

" F. J. Prinzo
(Alternate: Shri C. H. Pardiwala)

" J. B. Powell
Alternate: Shri H. C. Asher)

" B. Richter
(Alternate: Shri A. Krishnaswamy)

Zuari Agro Chemicals Limited was registered in May 1967 and has its head office at Goa, where its modern single stream fertiliser plant for production of urea and complex fertilisers is located.

Sponsored by the Birla Group with the active collaboration of the United States Steel Corporation of Pittsburgh, U.S.A., the plant achieved mechanical completion in the later half of 1972 and commenced production of urea in May 1973. Due to non-availability of phosphoric acid, production of complex fertilisers commenced in March 1975.

The company has an issued share capital of Rs. 17 crore, the total project cost being Rs. 57 crore.

The plant has an annual capacity of 220,000 tonnes of ammonia, 340,000 tonnes of urea and 150,000 tonnes of complexes.

Its main raw material requirements at full production capacity are:

Naphtha 220,000 tonnes per annum

Fuel oil 85,000 tonnes per annum
Phosphoric acid 45,000 tonnes per annum

The manufacturing processes used are:

- Ammonia: 1. Hydro-desulphurization — Institute of Francais Du Petrole,
2. Steam Naphtha Reform — I.C.I. Limited.
3. CO₂ removal system — Benfield.
4. Ammonia synthesis — Mitsui-Toatsu.

Urea: Mitsui-Toatsu Total Recycle Process.

Complex fertilisers: Mitsui-Toatsu Process.

The company employs over 600 people including its marketing staff stationed outside Goa. The company has established a dealer network through which it is selling its JAI KISAAN Brand fertilisers. The sales activities are effected through regional offices located at Bangalore, Hubli, Kurnool, Nagpur, Poona and Secunderabad.

ASSOCIATE MEMBERS

(As on 1-7-1980)

1. M/s. Adarsh Agri-Aids Agencies,
12/3156-A, Bhajiwali Pole,
Buranpuri Bhagoi,
Surat-395 001,
Gujarat.
2. M/s. Agro Nutrients Pvt. Ltd.,
Vijay Bhawan, MORSHI Road,
Amaravati-444 601,
Maharashtra.
3. M/s. Assam Agro Industries,
Development Corporation Ltd.,
Uibari, Distt. Gauhati,
Assam.
4. M/s. Associated Cement Co. Ltd.,
Cement Marketing Division,
121, Cement House,
Maharshi Karve Road,
Bombay-400 020
5. M/s. Anil Fertilisers & Allied Products,
8-10, Swami Sannadi Lane,
East Main Street,
Madurai,
Tamil Nadu.
6. M/s. Albright Morarji & Pandit Ltd.,
Raj Mahal, 3rd Floor,
Veer Nariman Road,
Bombay-400 020.
7. M/s. Assam's Fertilisers (Pvt.) Ltd.,
12, Burdwan Road,
Calcutta-700 027.
8. M/s. Assam Farmers Friends,
(Agriculture Development Centre),
P.O. Sorbhog,
Distt. Kamrup (Assam).
9. M/s. A.P. State Cooperative
Marketing Federation Ltd.,
Hyderabad-500 001,
Andhra Pradesh.
10. M/s. A.P. State Agro Industries
Corporation Ltd.,
10-2-3, A.C. Guards,
Hyderabad-500 047.
11. M/s. Andhra Pradesh Agricultural
University,
Administrative Office,
Rajendra Nagar,
Hyderabad-500 030,
Andhra Pradesh.
12. M/s. Aries Agro-Vet Industries
Pvt. Ltd.,
Maharshi Karve Estate,
Andheri East,
Bombay-400 093.
13. M/s. Agrico Traders,
Nehru Bazar,
Post Box No. 87,
Trichur-680 001.
14. M/s. BASF India Ltd.,
"TIECICON House",
Dr. E. Moses Road,
Bombay-400 011.
15. M/s. Bihar State Cooperative
Marketing Union Limited,
Agriculture Marketing Division,
P.O. Box 104, G.P.O.,
West Lawn,
Patna-800 001,
Bihar.
16. M/s. Biswanath Agarwal,
Lohapur Distt.,
West Bengal.
17. M/s. Borax Morarji Ltd.,
Mahatma Gandhi Road,
Ambarnath,
Distt. Thane-400 601,
Maharashtra.
18. M/s. Bharat Heavy Electricals Ltd.,
High Pressure Boiler Plant,
Tiruchirapalli-620 014,
Tamil Nadu.
19. M/s. Bharat Alums & Chemicals Ltd.,
Aiwane Ghalib,
Mata Sundari Lane,
New Delhi-110 002.
20. M/s. Bharat Heavy Plates &
Vessels Ltd.,
Visakhapatnam-530 012,
Andhra Pradesh.
21. M/s. Berja Brothers Pvt. Ltd.,
Dibrugarh P.O.,
Dibrugarh-786 001,
Assam.
22. M/s. The Bidhan Chandra Krishi
Viswa Vidyalaya,
Haringhata,
P.O. Mohanpur,
Distt. Nadia,
West Bengal.

23. M/s. Bihar Agro Industries,
Hospital Road,
Forbesganj,
Distt. Purnea-854 301,
Bihar.
24. M/s. Cardamom Board,
(Government of India),
Banerjee Road,
Cochin-Kerala.
25. M/s. Catalyst (India) Ltd.,
Embassy Centre, 10th Floor,
207, Backbay Reclamation,
Nariman Point,
Bombay-400 021.
26. M/s. Central Warehousing
Corporation,
92, Nehru Place,
New Delhi-110 019.
27. M/s. Chembur Bone & Fertilisers
Co. Pvt. Ltd.,
"Derab Shaw House",
3rd Floor, Soorji Vallabhdas Marg,
Bellard Estate,
Bombay-400 038.
28. M/s. Chemi Fertilisers,
S. P. Verma Road,
Patna-800 001,
Bihar.
29. M/s. Coffee Board,
Post Box No. 5302,
Bangalore.
30. M/s. Deluxe Chemical Industries,
192, Jammalal Bajaj Street,
Calcutta-700 007.
31. M/s. C. Dhanwantrai & Co.,
"Lentin Chambers",
Post Box 1050,
Bombay-400 001.
32. M/s. Dewas Chemicals & Fertilisers
Mfg. Co. Ltd.,
13, Diamond Colony,
New Paleria,
Indore-452 001.
33. M/s. Esbee Manufacturing Agencies,
6-Haily Road,
New Delhi-110 001.
34. M/. Elecon Engineering Co. Ltd.,
Valiabh Vidyanagar,
Distt. Kaira,
Gujarat-387 111.
35. M/s. Engineers India Ltd.,
P.T.I. Building, 4th Floor,
4, Parliament Street,
New Delhi-110 001.
36. M/s. European Nitrogen Service
Programme,
Post Box No. 3547,
New Delhi-110 024.
37. M/s. Fartichem Ltd.,
Kannachal Road,
Sitpukhuri, Gauhati-3,
Assam.
38. M/s. Fertiliser (P&D) India Ltd.,
CIFT Building,
P.O. Sindri-882 122,
Distt. Dhanbad, Bihar.
39. M/s. Fertilisers and Industrial
Corporation,
Main Road,
Nidadavole,
West Godavari Distt.,
Andhra Pradesh.
40. M/s. Gir Raj Fertiliser & Chemicals,
Etah Road, Shikohabad,
Distt. Mainpuri (U.P.).
41. M/s. Granulated Fertilisers &
Feeds Pvt. Ltd.,
Nava Bunder Road,
Bhavnagar-360 005.
Gujarat.
42. M/s. Gujarat Narmada Valley
Fertiliser Co. Ltd.,
Opp. G.I.D.C. Estate,
National Highway No. 8,
P.O. Narmada Nagar,
Distt. Baroda-302 015.
43. M/s. Pesticides Formulation Unit,
Gujarat Agro-Industries
Corporation Ltd.,
Karanj Baugh, National Highway No. 8,
Near Chest Disease Hospital,
Naroda-380 014,
Ahmedabad,
Gujarat.
44. M/s. C. Gurusiddappa Sons,
Prop. Karnataka Fertilisers,
New Tharagupet,
Bangalore-560 001,
Karnataka.
45. M/s. Gujarat State Cooperative
Marketing Federation Ltd.,
Sahakar Bhavan, Relief Road,
Ahmedabad-380 001,
Gujarat.
46. M/s. Gujarat Agricultural University,
Bungalow No. 3,
Near Dafnala Shahibag,
Ahmedabad-380 004,
Gujarat.
47. M/s. Harshadray Pvt. Ltd.,
Jiji House,
Ravelin Street,
Bombay-400 001.
48. M/s. Hindwell Agencies,
302, Akash Deep,
26, Barakhamba Road,
New Delhi-110 001.

49. M/s. Hindustan Copper Ltd.,
Khetri Copper Project.
P.O. Khetri Nagar
Distt. Jhunjhunu-333 504.
Rajasthan.
50. M/s. Hindustan Lever Ltd.,
Hindustan Lever House,
Backbay Reclamation,
Bombay-400 020.
51. M/s. Himalaya Fertilizers Ltd.,
Post Office Majholi,
Nalagarh, Solan,
Himachal Pradesh.
52. M/s. Hindustan Dorr-Oliver (India)
Ltd.,
Dorr-Oliver House,
Chakala Andheri East,
Bombay-400 093.
53. M/s. Hindustan Fertilizer Industries,
F-145-146, Mewar Industries Area,
Udaipur-313 001.
Rajasthan.
54. M/s. Humphreys & Glasgow
Consultants Pvt. Ltd.,
"Gammon House",
Veer Savarkar Marg,
Prabha Devi,
Bombay-400 025.
55. M/s. Haryana State Cooperative
Supply & Marketing Federation Ltd.,
SCO 19, Sector 7-C,
Madhya Marg,
Chandigarh-160 017.
56. M/s. India Agro Chemical
Industries,
2209, Sector 21-C,
Chandigarh-160 022.
57. M/s. INKA Chemicals Pvt. Ltd.,
G-4, Hans Bhawan,
1-Bahadurshah Zaffar Marg,
New Delhi-110 002.
58. M/s. International Ore & Fertiliser
(India) Pvt. Ltd.,
Secunderabad-500 003,
Andhra Pradesh.
59. M/s. The Japan Urea Centre,
Sethi Bhavan, 5th Floor, No. 505,
7, Rajendra Place,
New Delhi-110 008.
60. M/s. Jaipal Udyog,
202, Akash Deep,
Barakhamba Road,
New Delhi-110 001.
61. M/s. Jay Shree Ferti-Pesti Industries,
278, Katra Peran,
Tilak Bazar,
Delhi-110 006.
62. M/s. Jayalakshmi Fertilisers,
Venkatarayapuram,
Tanuku,
West Godavari Distt.,
Andhra Pradesh.
63. M/s. Jeevan Fertilisers & Chemicals
Co. Pvt. Ltd.,
42, Large Scale Industrial Area,
Kota-3,
Rajasthan.
64. M/s. Jain Brothers,
Bana Bazar,
Jalgaon,
Maharashtra.
65. M/s. Kamal Chemicals & Fertilisers,
Shed No. 232 C/B Type,
G.I.D.C. Industrial State,
Pandesara Udhna,
Distt. Surat,
Gujarat.
66. M/s. Kerala Agricultural University,
Trichur,
Kerala-680 001.
67. M/s. Kisan Brothers,
A/37, Capital Commercial Centre,
Opp. Town Hall,
Ashram Road,
Ahmedabad-380 009,
Gujarat.
68. M/s. Karnataka State Warehousing
Corporation,
9/3, Primrose Road,
Bangalore-560 025.
69. M/s. Kishan Khad Agency,
Sasaram,
Bihar-821 115.
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