CHAPTER 2

AGRICULTURAL PRODUCTION

The performance of Indian agriculture, which has shown resilience in recent years, remains dependent on monsoon. The influence of monsoon, however, has been moderated by the initiation of various development programmes. Thus, even during the severe drought of 1987-88, the decline in agricultural production was only 0.8 per cent when compared with 1986-87, although foodgrains output declined by 2.1 per cent. The favourable weather conditions, together with the adoption of thrust programmes during the post-drought year, brought about significant increases in agricultural production. It increased by as much as 21.0 per cent in 1988-89 and by 1.7 per cent in 1989-90. Foodgrains production increased to 169.9 million tonnes in 1988-89 and further to 170.6 million tonnes in 1989-90. In 1990-91, with an exceptionally good monsoon and continuance of various development programmes, fixation of more remunerative farm prices, increased allocation of investible resources and water management, the production of foodgrains is likely to hit another peak and may even surpass the targetted level of 176.5 million tonnes. The production of other crops like oilseeds, sugarcane, jute and mesta has also recorded increases of varying proportions.

2.2 The commendable achievement in agricultural production is largely attributed to the policies, strategies and programmes adopted by the Government as also the intensive efforts of the agricultural scientists and the dynamic response of the farmers. The average annual growth in agricultural production during the Seventh Plan period was 4.1 per cent as against the plan target of 4 per cent. However, average annual growth in agricultural production during the Seventh Plan was lower than the average annual growth (with base 1979-80) achieved during the Sixth Plan when it was about 6 per cent.

Monsoon

2.3 The year 1990 was the third successive year which experienced a good monsoon. Some of the special features of 1990 monsoon were : (1) over 95 per cent of the Indian landmass received normal to excess rainfall; (2) rainfall was very well distributed over time and space; (3) there were no major floods and there was no meteorological sub-division in the "scanty rain" category; (4) apart from a more or less timely onset, it maintained a sustained tempo throughout the four months spell; and (5) in north-west India, monsoon rains commenced about two weeks earlier than usual and the monsoon started withdrawing about two weeks later than the normal dates, resulting in a welcome prolongation of the rainy season in the traditionally rain-deficient areas. This facilitated the execution of various agricultural operations with enthusiasm. However, the delayed monsoon in the Saurashtra region of Gujarat affected the groundnut sowings. The rainfall situation during the decade, meteorological sub-divisions-wise is given in Table 2.1.

TABLE 2.1

Monsoon Rainfall
(June—September)

Year	Number of Meteorological Sub-divisions			Per cent of districts having normal to excess rainfall
	Excess/ Normal	Deficient/ Scanty	Total	
1981 . .	28	7	35	69
1982 . .	24	11	35	48
1983 . .	32	3	35	85
1984 . .	25	10	35	64
1985 . .	26	9	35	65
1986 . .	21	14	35	52
1987 . .	14	21	35	43
1988 . .	32	3	35	88
1989 . .	29	6	35	72
1990 . .	32	3	35	84

2.4 In totality, the monsoon this year ranks as the third best during the past decade (after 1983 and 1988 monsoons), the precipitation being 106 per cent of the normal. The data set out in Table 2.2 indicates the comparative performance of the total rainfall over the country as a whole in 1990.

TABLE 2.2

Performance of Monsoon

Year	As per cent to normal rainfall
1981	100
1982	85
1983	113
1984	96
1985	93
1986	87
1987	81
1988	119
1989	101
1990	106

2.5 The regional distribution of rainfall as reflected in the All-India Cumulative Rainfall Index for the entire season constructed by using the average area (for triennium 1980-81 to 1982-83) sown under kharif rice in each meteorological zone as weights, indicates that rainfall recorded this year was 102.3 per cent of normal. Except East and South zones, the rainfall was much better in other zones when compared with a year ago. Unlike last year when southern zone had recorded the highest, it recorded the lowest rainfall this year. The details are given in Table 2.3 :

TABLE 2.3

Regional Rainfall Indices

(June to September)

Year	All India	Zones				
		West	North	East	South	Central
1979	77.0	85.2	52.1	84.4	94.8	69.0
1982	89.4	83.5	94.9	87.8	88.8	93.1
1986	85.3	78.4	88.9	83.7	89.9	86.5
1987	88.7	75.6	62.5	103.6	75.5	77.4
1988	109.6	121.2	116.5	107.6	123.9	90.3
1989	98.7	96.6	90.9	101.3	114.6	82.2
1990	102.3	113.9	112.0	98.0	93.2	112 4

2.6 The areas which received excess, normal and deficient rainfall were :

Rainfall	Meteorological Sub-divisions
(A) Excess	(1) Arunachal Pradesh ; (2) Haryana, Chandigarh and Delhi; (3) Punjab; (4) West Rajasthan; (5) West Madhya Pradesh; (6) Gujarat; (7) Vidarbha; and (8) Telangana.
(B) Normal	(1) Assam and Meghalaya; (2) Nagaland, Manipur, Mizoram and Tripura; (3) Sub-Himalayan West Bengal and Sikkim; (4) Gangetic West Bengal; (5) Orissa; (6) Bihar Plateau; (7) Bihar Plains; (8) East Uttar Pradesh; (9) Plains of West Uttar Pradesh; (10) Hills of West Uttar Pradesh; (11) Himachal Pradesh; (12) Jammu & Kashmir; (13) East Rajasthan; (14) East Madhya Pradesh; (15) Saurashtra, Kutch and Diu; (16) Konkan & Goa; (17) Madhya Maharashtra; (18) Marathwada; (19) Coastal Andhra Pradesh; (20) Rayalaseema; (21) Tamil Nadu and Pondicherry; (22) Coastal Karnataka; (23) North Interior Karnataka; and (24) South Interior Karnataka.
(C) Deficient	(1) Andaman and Nicobar Islands; (2) Kerala; and (3) Lakshadweep.
(D) Scanty	NIL.

Reservoir Situation

2.7 The excellent behaviour of the monsoon and the widespread showers during the fag-end of the monsoon boosted the water levels in tanks and reservoirs. The total live storage in 47 important reservoirs monitored by Central Water Commission till the end of September, 1990 was higher by 18 per cent at 93.4 TMC against 79.4 TMC during the corresponding period of 1989. The water storage in 1990 year was nearly 88 percent of the designed utilisable storage as against 75 per cent recorded during 1989. In fact, the water level in 1990 was more than the average of last six years live storage of 74.2 TMC.

Production Performance

2.8 In the terminal year of the Seventh Plan, the tempo of higher production built up in the preceding year continued as the production of foodgrains increased to an all time record of 170.6 million tonnes and was marginally higher than the production of 169.9 million tonnes achieved in 1988-89. Thus, the average annual foodgrains production during the Seventh Plan period was about 155 million tonnes as against the average of 138 million tonnes achieved during the Sixth Plan.

CHART 2·2

AGRICULTURAL PRODUCTION

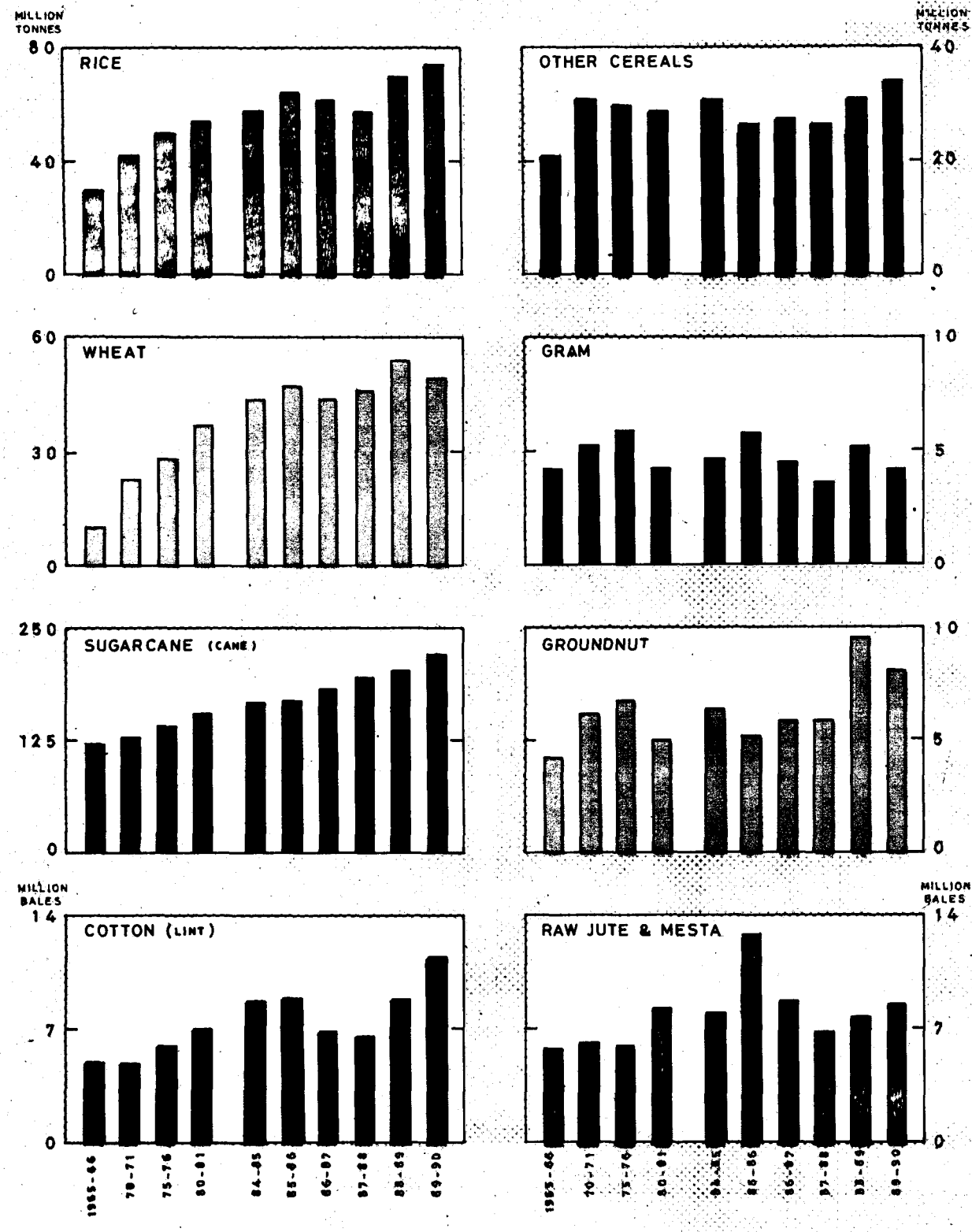
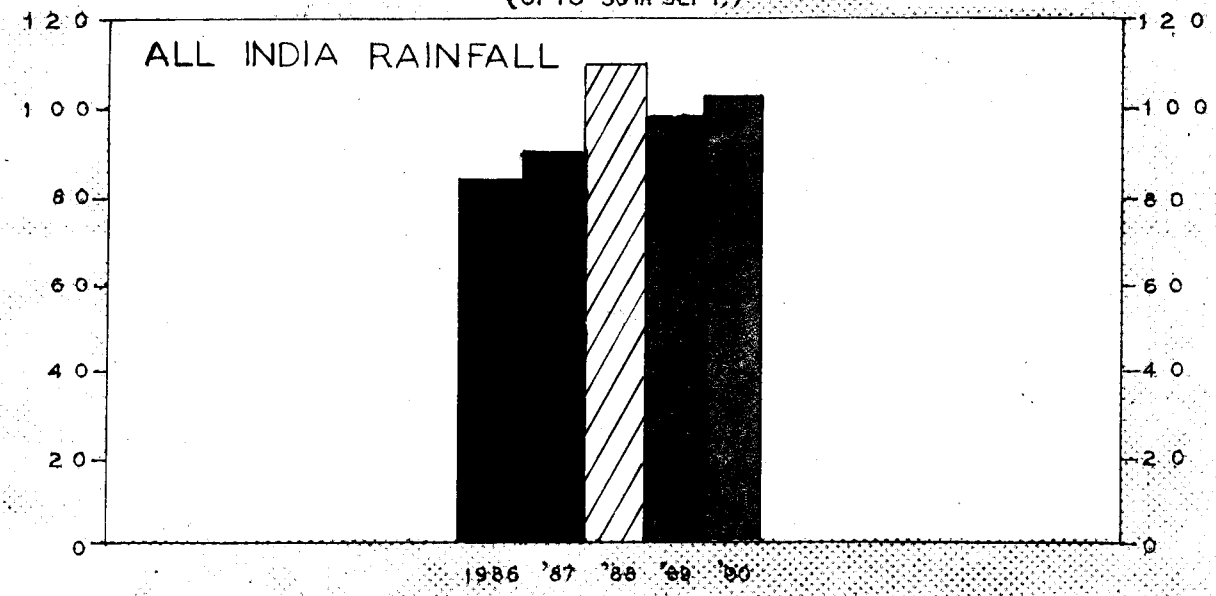


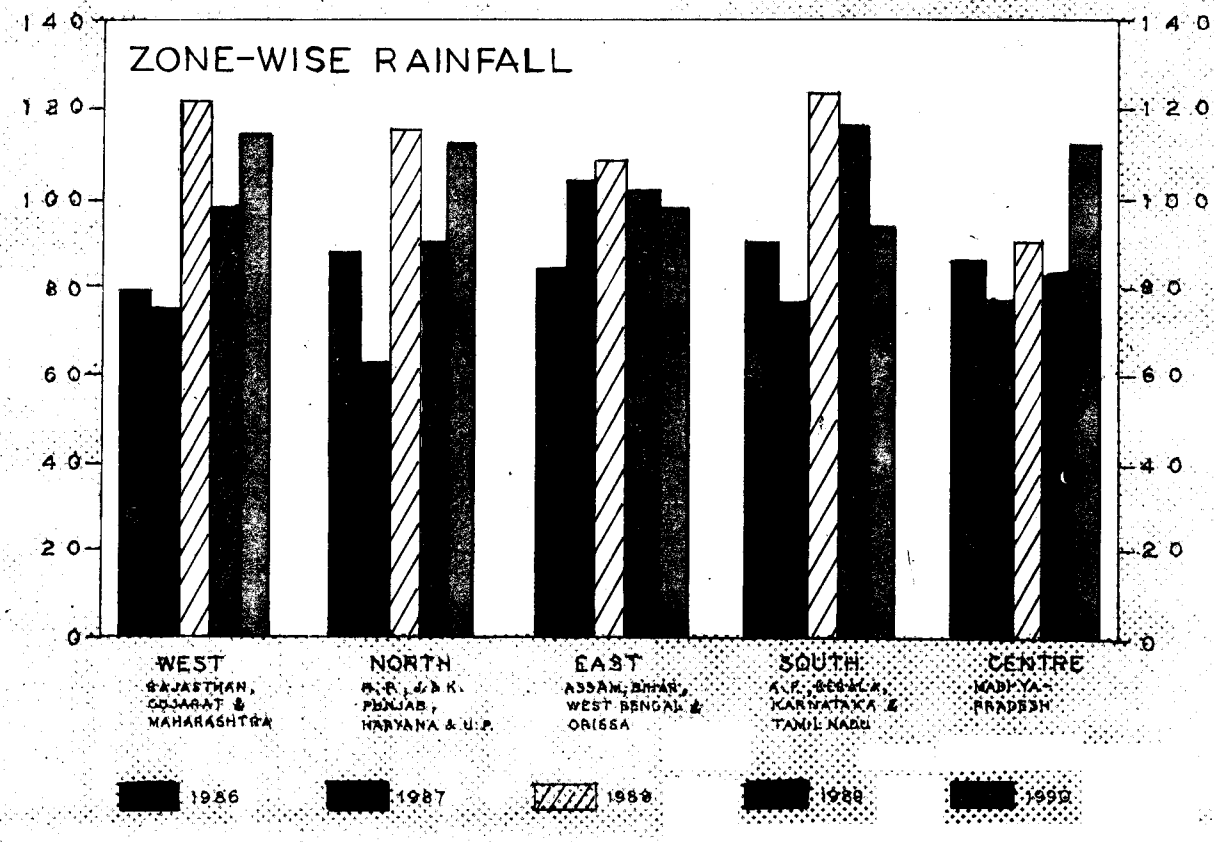
CHART 2.1

MONSOONS 1986-90

[ACTUAL RAINFALL AS PERCENTAGE OF NORMAL]

(UPTO 30th SEPT.)





2.9 The trends in foodgrains output in recent years have exhibited some significant qualitative changes. Following the Special Rice Production Programme together with other programmes, the contribution of rice to the increase in output has been much higher than the contribution of wheat. The share of rabi output in total foodgrains output has steadily increased, although in 1988-89 and 1989-90 its share went down. On the whole, the share of rabi crops in total foodgrains, which averaged 42 per cent in the Sixth Plan, increased to an average of 43.7 per cent in Seventh Plan. The share of coarse cereals and pulses has gone down in the total basket of foodgrains (Table 2.4).

TABLE 2.4

Agricultural Production

(Million Tonnes/Bales*)

Crop	1978-79	1979-80	1980-81	1981-82	1982-83	1983-84	1984-85	1985-86	1986-87	1987-88	1988-89	1989-90 (P)
Rice	53.8	42.3	53.6	53.2	47.1	60.1	58.4	63.8	60.6	56.8	70.5	74.1
	(2.1)	(—21.4)	(26.7)	(—0.7)	(—11.5)	(27.6)	(—3.0)	(9.4)	(—5.0)	(—6.1)	(23.9)	(5.0)
Wheat	35.5	31.8	36.3	37.4	42.8	45.5	44.1	47.1	44.3	46.2	54.1	49.7
	(11.6)	(—10.4)	(14.1)	(3.0)	(14.4)	(6.3)	(—3.1)	(6.6)	(—5.7)	(4.3)	(17.1)	(—8.1)
Pulses	12.2	8.6	10.6	11.5	11.9	12.9	12.0	13.4	11.7	11.0	13.8	12.6
	(1.7)	(—29.5)	(23.2)	(8.5)	(3.5)	(8.4)	(—7.0)	(11.7)	(—12.7)	(—6.0)	(25.5)	(—8.7)
Coarsegrains	30.4	27.0	29.0	31.1	27.8	33.9	31.2	26.2	26.8	26.4	31.5	34.3
	(1.3)	(—11.2)	(7.4)	(7.2)	(—10.6)	(21.9)	(—8.0)	(—16.0)	(2.3)	(—1.5)	(19.3)	(8.9)
Kharif Foodgrains	78.1	63.2	77.7	79.4	69.9	89.2	84.5	85.2	80.2	74.6	95.6	100.9
	(0.5)	(—19.1)	(22.8)	(2.3)	(—12.0)	(27.6)	(—5.3)	(0.8)	(—5.9)	(—7.0)	(29.5)	(4.5)
Rabi Foodgrains	53.8	46.5	51.9	53.9	59.6	63.2	61.0	65.2	63.2	65.8	74.3	69.7
	(10.5)	(—13.8)	(11.9)	(3.9)	(10.6)	(5.9)	(—3.3)	(6.9)	(—3.1)	(4.1)	(12.9)	(—6.2)
All Foodgrains	131.9	109.7	129.6	133.3	129.5	152.4	145.5	150.4	143.4	140.4	169.9	170.6
	(4.4)	(—16.8)	(18.1)	(2.9)	(—2.9)	(17.7)	(—4.5)	(3.4)	(—4.7)	(—2.1)	(21.0)	(0.4)
Groundnut	6.2	5.8	5.0	7.2	5.3	7.1	6.4	5.1	5.9	5.8	9.7	8.1
	(1.6)	(—6.4)	(—13.8)	(44.0)	(—26.4)	(34.0)	(—9.9)	(—20.3)	(15.7)	(—1.7)	(67.2)	(—16.5)
Rapeseed & Mustard	1.9	1.4	2.3	2.4	2.2	2.6	3.1	2.7	2.6	3.5	4.4	4.1
	(18.7)	(—26.3)	(64.3)	(4.3)	(—8.3)	(18.2)	(19.2)	(—12.9)	(—3.7)	(30.8)	(29.4)	(—6.8)
Oilseeds@	10.1	8.7	9.4	12.1	10.0	12.7	13.0	10.8	11.3	12.7	18.0	16.8
	(4.1)	(—13.9)	(8.0)	(28.7)	(—17.4)	(27.0)	(2.4)	(—16.9)	(4.6)	(11.5)	(42.9)	(—6.7)
Sugarcane	151.7	128.8	154.2	186.4	189.5	174.1	170.3	170.7	186.1	196.7	203.0	222.6
	(—14.3)	(—15.1)	(19.7)	(20.9)	(1.7)	(—8.1)	(—2.2)	(0.2)	(9.1)	(5.7)	(3.2)	(9.7)
Cotton (Lint)*	8.0	7.6	7.0	7.9	7.5	6.4	8.5	8.7	6.9	6.4	8.7	11.4
	(11.1)	(—5.0)	(—7.9)	(12.9)	(—5.1)	(—14.7)	(32.8)	(2.4)	(—20.7)	(—7.2)	(35.9)	(31.0)
Jute & Mesta*	8.3	8.0	8.2	8.4	7.2	7.7	7.8	12.6	8.7	6.8	7.9	8.4
	(15.3)	(—3.6)	(2.5)	(2.4)	(—14.3)	(6.9)	(1.3)	(61.5)	(—31.7)	(—20.9)	(16.2)	(6.3)

*170 kgs. each for cotton and 180 Kgs. each for jute and mesta. P : Provisional

@Nine major oilseeds including groundnut, castorseed, sesamum, rapeseed and mustard, linseed, safflower, nigerseed, sunflower and soyabean.

Figures in brackets are per cent increase or decrease over the year.

2.10 The performance of foodgrains production during the Seventh Plan was constrained by unfavourable weather conditions in the first two years and severe drought that occurred in 1987-88. As a result, the targets of foodgrains production could not be achieved in the first three years of the Seventh Plan. However, with a considerable thrust of various development programmes and the Special Foodgrains Production Programme (SFPP) launched in 1988-89, there was a remarkable recovery in foodgrains production as also in other crops and output reached their respective peak levels. The average annual increase in foodgrains production during the Seventh Plan was 3.6 per cent as against the targetted level of 3.7 per cent. The average annual increase in the production of other crops was 7.1 per cent in oilseeds, 5.6 per cent in sugarcane, 6.3 per cent in jute and mesta and 8.3 per cent in cotton (Table 2.5).

TABLE 2.5

Targets and Achievements of Agricultural Production during Seventh Plan

(Million Tonnes/Bales)

Crop	1985-86		1986-87		1987-88		1988-89		1989-90		1990-91	
	Target	Achievement	Target	Achievement	Target	Achievement	Target	Achievement	Target	Achievement	Target	Likely Achievement
1. Rice	63.5	63.8	65.0	60.6	64—65	56.9	68.0	70.5	72.5	74.1	73.7	75.0
2. Wheat	49.2	47.1	49.0	44.3	50—51	46.2	52.3	54.1	54.0	49.7	54.5	54.6
3. Coarse Cereals	33.0	26.2	32.0	26.8	32—32.5	26.4	33.0	31.5	33.8	34.3	33.3	33.4
4. Pulses	13.5	13.4	14.0	11.7	14—14.5	11.0	13.3	13.8	14.7	12.6	15.0	14.2
5. Total Foodgrains	159.2	150.4	160.0	143.4	160—163	140.4	166.6	169.9	175.0	170.6	176.5	177.2
6. Sugarcane	191.0	170.7	185-190	186.1	180-185	196.7	195.0	203.0	212.0	222.6	220.0	233.4
7. Oilseeds	13.6	10.8	14.8	11.3	14—15	12.7	15.7	18.0	16—17	16.8	18.0	19.2
8. Cotton*	8.5—8.6	8.7	8.8	6.9	8.8	6.4	9.8	8.7	10.0	11.4	11.5	10.2
9. Jute & Mesta@	8.7	12.6	8.5	8.7	8.6	6.8	9.2	7.9	9.5	8.4	9.0	9.0

*Bale of 170 kgs.
@Bale of 180 kgs.

2.11 With favourable monsoon conditions and the continuance of the various thrust programmes, foodgrains production in 1990-91 may be slightly higher than the targetted level; the foodgrains production in 1990-91 is expected to be about 177 million tonnes.

2.12 There has been deceleration in the rate of growth in agriculture during the Seventh Plan compared with the rate achieved during the Sixth Plan. The average annual rate of increase in foodgrains production was 3.6 per cent during the Seventh Plan as compared with 6.3 per cent recorded during the Sixth Plan (with base 1979-80). The average annual growth rate of kharif foodgrains declined from 7.1 per cent during the Sixth Plan to 4.3 per cent during the Seventh Plan and that of rabi foodgrains declined from 5.7 per cent to 2.9 per cent over the same period. The slower growth in foodgrains output is mainly attributable to deceleration in the growth of yield per hectare from 5.8 per cent per annum in the Sixth Plan to 3.4 per cent per annum in the Seventh Plan. In the case of coarse cereals, it is worth noting that there has been a negative growth rate in its acreage during both the plan periods. The average annual growth rate of coarse cereals production declined from 3.6 per cent in the Sixth Plan to 2.6 per cent during the Seventh Plan and that of pulses declined significantly from 7.4 per cent to 2.1 per cent over the same period. Among the non-foodgrains crops, oilseeds and sugarcane also recorded a lower growth in the Seventh Plan compared with the growth achieved in the Sixth Plan mainly on account of lower growth in productivity. It was only in the case of cotton, jute and mesta that the growth in output during the Seventh Plan was higher than in the Sixth Plan. The trends described in this paragraph are outlined in Table 2.6.

TABLE 2.6

Annual Average Growth Rates

(per cent)

Crops	Sixth Plan			Seventh Plan		
	Area	Production	Yield	Area	Production	Yield
1. Foodgrains	0.3	6.3	5.8	0.1	3.6	3.4
2. Kharif Foodgrains	0.2	7.1	6.4	0.2	4.3	3.8
3. Rabi Foodgrains	0.5	5.7	5.2	(—)0.1	2.9	3.0
4. Coarse Cereals	(—)1.0	3.6	4.4	(—)0.7	2.6	3.4
5. Rice	1.0	7.8	6.4	0.6	5.4	4.6
6. Wheat	1.3	6.9	5.5	(—)0.1	2.8	2.8
7. Jowar	(—)0.8	0.2	0.8	(—)1.2	4.5	5.4
8. Bajra	0.4	12.1	10.3	2.4	15.5	7.3
9. Maize	0.3	9.2	8.6	0.3	5.3	4.3
10. Pulses	0.5	7.4	6.8	0.6	2.1	1.0
11. Gram	0.2	7.2	8.0	(—)0.3	1.8	0.6
12. Arhar	3.1	8.8	5.3	2.6	1.5	(—)1.2
13. Oilseeds	2.3	9.6	6.5	4.0	7.1	2.6
14. Groundnut	0.2	5.8	4.5	4.4	8.5	2.6
15. Rapeseed & Mustard	3.3	18.6	14.1	5.1	7.6	2.1
16. Cotton	(—)1.9	3.5	5.6	0.2	8.3	7.5
17. Jute & Mesta	(—)1.1	(—)0.1	1.4	(—)2.3	6.3	6.8
18. Sugarcane	2.9	6.4	3.4	3.0	5.6	2.6

2.13 The State-wise production performance during the Seventh Plan was significant in Bihar, Haryana, Orissa, Punjab, Tamil Nadu, Uttar Pradesh anp West Bengal where the average foodgrains output increased by more than 15 per cent over the average for the Sixth Plan. In fact, it was as high as 34 per cent in West Bengal, 24 per cent in Haryana, 23 per cent in Punjab, 21 per cent in Bihar and 18 per cent in Uttar Pradesh. However, average production declined in Gujarat, Kerala and Rajasthan.

2.14 Crop production was affected in many states because of adverse weather conditions during the second and third years of the Plan. The year 1988-89 and 1989-90 brought about a sharp recovery in almost all the states. The average annual growth in foodgrains production in different states during the Seventh Plan works out to be as high as 6.8 per cent in West Bengal followed by 4.8 per cent in Haryana, 4.6 per cent in Punjab, 4.3 per cent in Tamil Nadu, 4.2 per cent in Bihar, 3.6 per cent in Uttar Pradesh nad 3.1 per cent in Orissa. There was, however, a decline in production in the states of Gujarat, Kerala and Rajasthan.

Rice

2.15 Rice is the most important cereal crop grown over an area of about 42 million hectares with an irrigation coverage of only 43 per cent. A large area is rainfed and most fluctuations in food production in the country are primarily due to variability in production of rice. The production of rice had declined in 1986-87 and 1987-88 due to drought conditions to 60.6 million tonnes and 56.9 million tonnes respectively. With the good monsoons of 1988-89 and 1989-90, the country has been able to step up its production considerably over the last two years with a peak production of 74 million tonnes achieved in 1989-90. The increase in production in 1989-90 was due to an increase both in acreage (1.1 per cent) and in yield per hectare (4.0 per cent). The increase of 3.6 million tonnes (5 per cent) in 1989-90 over 1988-89 was largely contributed by major rice producing states of Assam (3.6 lakh tonnes), Haryana (2.6 lakh tonnes), Orissa (9.9 lakh tonnes), Punjab (17.7 lakh tonnes), Tamil Nadu (6.4 lakh tonnes) and West Bengal (3.6 lakh tonnes). The increase in rice production and productivity can be attributed, inter alia, to the effective implementation of the Special Food-

grains Production Programme for rice which covered 14 major States and the Special Rice Production Programme in Eastern States.

2.16 Considering the trend in rice production, its output in 1990-91 has been targetted at 73.7 million tonnes (Kharif Rice 65.7 million tonnes and Rabi Rice 8.0 million tonnes). With the excellent monsoon, over both space and time, recorded in 1990, the overall kharif crop condition in the major rice growing States was reported to be satisfactory. Owing to satisfactory monsoon in rabi rice areas, it is expected enough water will be available in canal commands as well as in tank irrigated areas for rabi rice cultivation. During 1990-91, the SFPP-Rice programme was proposed to be expanded. The programme implementation, inter alia, included the developmental programmes for increasing the basmati rice production for export promotion in 19 identified districts in Uttar Pradesh, Punjab and Haryana. Taking all these factors into account, it is expected that the rice production during 1990-91 may reach the level of 75 million tonnes.

Wheat

2.17 Wheat has played a very important role in stabilising the foodgrains production in the country over the past few years. It recorded an all time high level of production of 54.1 million tonnes in 1988-89 which was higher than the target of 52.3 million tonnes. However, in 1989-90 it declined to 49.7 million tonnes due to pre-mature rise in temperature in January-February 1990 and consequent early flowering of the plant. The production, except in Punjab, suffered in most of the major wheat producing states, particularly in unirrigated areas of Uttar Pradesh, Madhya Pradesh, Rajasthan, Gujarat, Bihar and Haryana. Apart from decline in productivity, there was shrinkage of area to the extent of 2.7 per cent over 1988-89, although the acreage has generally been registering a rising trend reaching the level of 24 million hectares in 1988-89.

2.18 The target of wheat production for 1990-91 has been fixed at 54.5 million tonnes. Since the soil moisture conditions are favourable and the water storage conditions are satisfactory, the area under the crop in 1990-91 is likely to be about 24 million hectares. The main thrust of the strategy for increasing wheat production has been through improvement in productivity by cultivation of identified high-yielding varieties with a recommended package of practices. These, inter alia, include expansion of the area wherever possible; provision of high quality seeds of new high-yielding varieties at reasonable rates; use of optimum and balanced doses of fertilisers; efficient water management to provide irrigation at critical stages of crop growth; weed control at the proper time; and to ensure adequate supply of power and diesel to run tubewells and pump sets at the time of sowing and irrigation at appropriate timings. Along with these, the SFPP for wheat which has been launched from 1988-89 in 71 identified districts is proposed to be increased to 100 identified districts. As a result of these measures and favourable weather, the production of wheat in 1990-91 may register a substantial increase and is expected to be higher than that of 54.1 million tonnes, the peak production level achieved in 1988-89 and may be around the targetted level of 54.5 million tonnes.

Coarsegrains

2.19 The development of coarse cereals has assumed a greater importance since it directly benefits the small and marginal farmers. Coarsegrains are grown under rainfed conditions. The crops included in coarsegrains are jowar, bajra, maize, ragi, small millets and barley. These were grown in an area of 38 million hectares forming about 30 per cent of the total area of 127 million hectares under foodgrains in 1989-90. There has been a noticeable expansion, for the second year in succession, in the output of coarsegrains, which reflects the spread of benefits in favour of dry and unirrigated areas where small and marginal farmers predominate. The production of coarse cereals which had increased by 19.3 per cent to 31.5 million tonnes in 1988-89, advanced further by about 9 per cent to 34.3 million tonnes in 1989-90, surpassing the peak of 33.9 million tonnes achieved in 1983-84. The increase in production in 1989-90 came through the increase in productivity as area under the crop had declined by 2.7 per cent. The increase in the output of coarse cereals was largely contributed by increase in production of jowar, maize and ragi. However, the increase was partly offset by decline in production of bajra and barley.

CHART 2-3

INDEX OF AGRICULTURAL PRODUCTION

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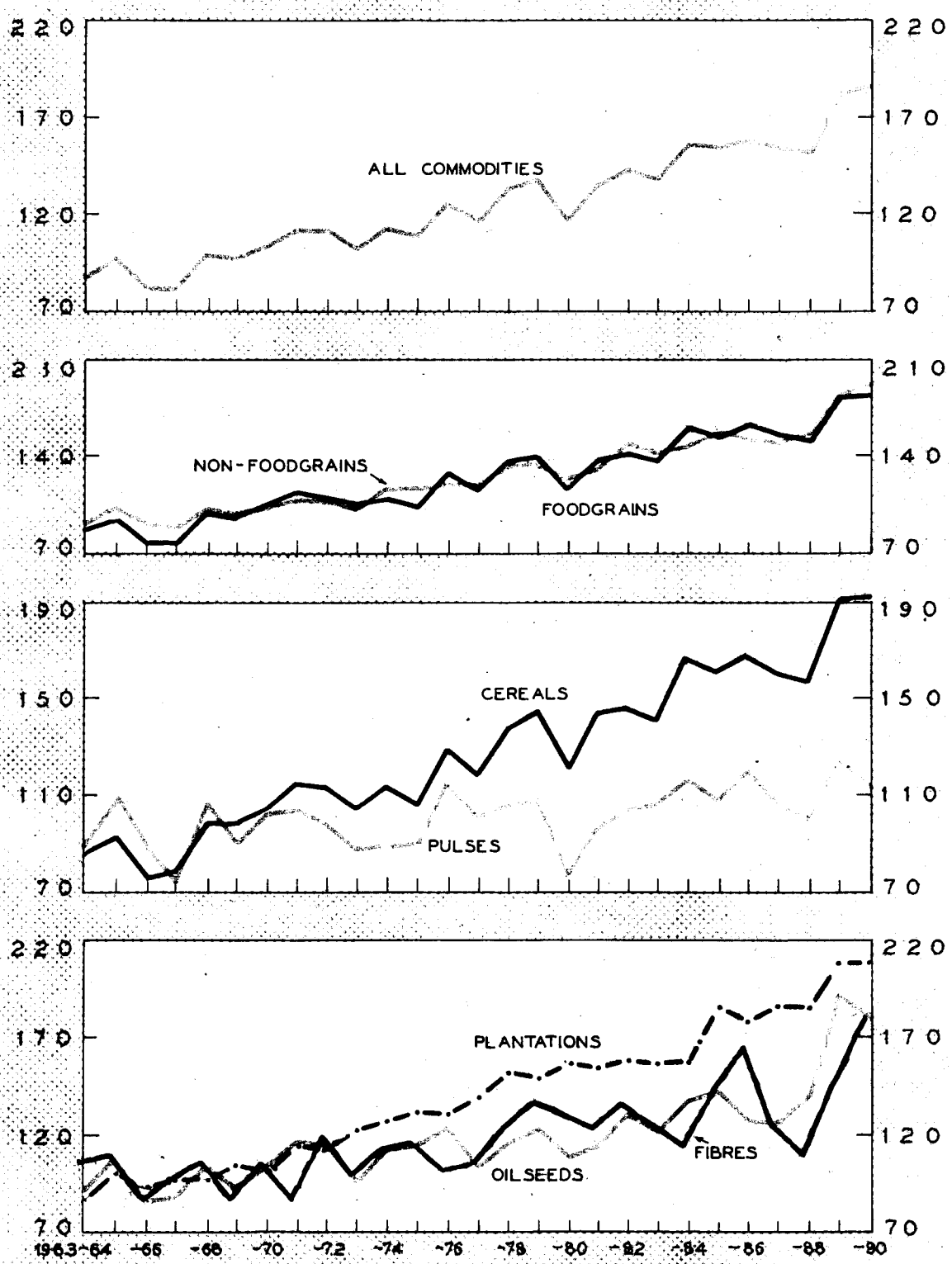
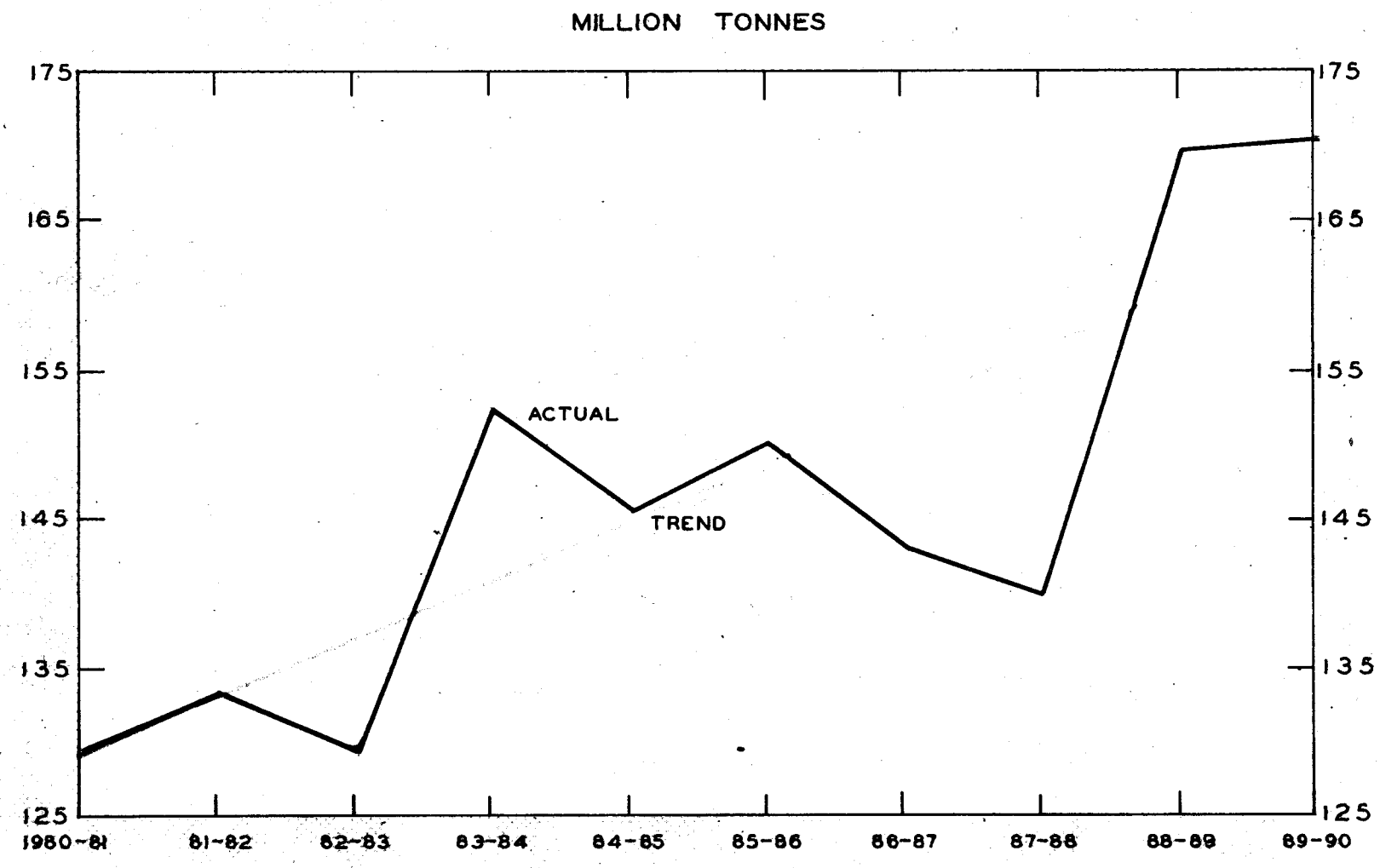


CHART 2.4

RECENT TRENDS IN FOODGRAINS PRODUCTION



2.20 The area under coarsegrains has been declining. The average annual reduction in acreage during the Sixth Plan was about one per cent. It fell further by 0.7 per cent during the Seventh Plan period. However, with the help of increase in productivity, the production of coarsegrains recorded an average annual growth of 2.6 per per cent during the Seventh Plan as against 3.6 per cent recorded during the Sixth Plan. The main constraints in increasing coarsegrains production are: (i) low coverage of area under high yielding varieties/hybrids because of non-availability of seeds in sufficient quantities, and (ii) reluctance of the farmers to invest on inputs as these crops are sensitive to climatic conditions. Incidentally, it is necessary to note, that for the first time, the production in the terminal year of Seventh Plan exceeded the target. In other years, it remained much below the targetted levels.

2.21 In the background of achievement in the past and the need to further increase the production of coarse cereals, the target for production in 1990-91 has been fixed at 33.3 million tonnes (27.9 million tonnes during kharif season and 5.4 million tonnes during rabi season). For achieving the target, SFPP-Maize is being implemented in 50 districts spread over 10 states, SFPP-Jowar in 33 districts of six states, SFPP-Bajra in 20 districts of four states and SFPP-Ragi in 20 districts of six states. The programme components include distribution of inputs like certified seeds, pesticides, plant protection equipments, farm implements etc. at subsidised rates. With development measures and favourable weather, the production target is expected to be achieved and may even be exceeded.

Pulses

2.22 The importance of pulses as an important source of protien in a balanced diet has special significance in Indian conditions. It is essential to note that the per capita availability of pulses has declined over the years. Pulses are grown over an area of 23 million hectares with production in the range of 13-14 million tonnes (accounting for 18 per cent of total area and less than 8 per cent of total foodgrains production) and the yield per hectare ranging 500—600 kgs. These are grown mainly under unirrigated conditions and the irrigated area accounts for about 9 per cent of the total area. The major pulses (arhar and gram) continue to be produced in the states of Madhya Pradesh, Maharashtra, Orissa, Rajasthan and Uttar Pradesh. The share of arhar and gram in the total production of pulses in 1989-90 was 21.4 per cent (2.7 million tonnes) and 33.3 per cent (4.2 million tonnes) respectively.

2.23 The production of pulses which had declined in the drought years of 1986-87 and 1987-88 to around 11 million tonnes, recorded a substantial increase to reach an all time peak level of 13.8 million tonnes in 1988-89 as against the earlier peak level of 13.4 million tonnes recorded in 1985-86. In fact, this was the only year when it exceeded the target of 13.3 million tonnes. However, in 1989-90, there was again a setback in its production when it fell to 12.6 million tonnes wholly because of decline in yield per hectare since there was a marginal expansion in acreage. The fall was recorded largely in rabi pulses (mainly gram)—the decline was about one million tonnes due both to shrinkage in area and lower productivity. The marginal fall in kharif pulses was on account of decline in yield per hectare. Almost all the major gram producing States recorded a decline in production during 1989-90 due to adverse weather conditions which affected the yeild per hectare.

2.24 The production of pulses in 1990-91 has been targetted at 15 million tonnes (5.5 million tonnes during kharif and 9.5 million tonnes during rabi season). This has been sought to be achieved through the continuance of pulses development programmes like National Pulses Development Project (NPDP) and Special Foodgrains Production Programme. The main objective of NPDP is to increase the production by adopting location specific technology. NPDP comprises distribution of improved seeds, block demonstrations, adaptive trials of promising varieties, pest control, extension work and plant protection. NPDP is supplemented by a special programe under SFPP launched in 13 states covering schemes (a) plant protection for gram and arhar and (b) expansion of area under summer moong/urad through distribution of seeds at concessional rates. Besides, pulses have also been brought within the purview of Technology Missions.

With these measures and an excellent monsoon, the production of pulses during 1990-91 is expected to reach another record level of about 14.2 million tonnes.

Oilseeds

2.25 Oilseeds, which constitute an important group of crops, are grown in an area of about 23 million hectares, mostly limited to rainfed areas (80 per cent) in contrast to cereals like wheat and rice which are grown largely under irrigated conditions. The bulk of the vegetable oil production is derived from nine cultivated oilseeds, namely, groundnut, rapeseed/mustard, sesamum, safflower, nigerseed, soyabean, sunflower-forming the edible group and linseed and castorseed-forming the non-edible group. Groundnut and rapeseed/mustard are the most important crops which together account for about 73 per cent of the total oilseeds production of 16.8 million tonnes in 1989-90. Soyabean and sunflower, though introduced relatively recently, have also augmented the domestic availability of edible oils. Among the kharif oilseeds, Gujarat is the largest producing state while Uttar Pradesh is the largest producer of rabi oilseeds. The major oilseeds producing states are Gujarat, Andhra Pradesh, Karnataka, Madhya Pradesh, Uttar Pradesh, Maharashtra, Rajasthan, Orissa and Tamil Nadu.

2.26 The production of oilseeds, which had declined in 1985-86 from the peak level of 13.0 million tonnes in 1984-85, increased to a record level of 18 million tonnes in 1988-89 and much above the target of 15.7 million tonnes largely due to favourable weather conditions. However, this level could not be maintained in 1989-90 and production fell to 16.8 million tonnes. This was on account of a steep fall recorded in groundnut production. The adverse weather conditions in Saurashtra and some other parts of the country resulted in a shortfall of 1.6 million tonnes of groundnut in 1989-90. Both kharif and rabi groundnut production declined. The production of rapeseed and mustard, the second major oilseed crop, also declined from 4.4 million tonnes in 1988-89 to 4.1 million tonnes in 1989-90 mainly on account of sizeable loss of crop in Rajasthan and Madhya Pradesh. However, the fall in oilseeds production was partly offset by increase in the production of soyabean and sunflower during 1989-90. The production of different oilseeds is given in Table 2.7.

TABLE 2.7

Production of Oilseeds

(Lakh Tonnes)

Oilseeds	1985-86	1986-87	1987-88	1988-89	1989-90
Groundnut :					
Kharif	37.6	44.3	41.8	74.9	61.2
Rabi	13.6	14.5	16.7	21.7	19.7
Total	51.2	58.8	58.5	96.6	80.9
Castorseed	3.1	2.3	2.0	4.1	5.1
Sesamum	5.0	4.5	5.8	6.8	7.1
Rapeseed & Mustard	26.8	26.0	34.6	43.8	41.2
Linseed	3.8	3.2	3.9	3.6	3.5
Nigerseed	1.9	1.3	1.8	1.8	1.8
Safflower	3.5	3.5	4.6	4.4	4.9
Sunflower					
Kharif	1.7	2.5	3.8	2.2	3.2
Rabi	1.1	1.7	2.5	1.5	2.7
Total	2.8	4.2	6.3	3.7	5.9
Soyabean	10.2	8.9	9.0	15.5	17.1
Total					
Kharif	59.5	63.8	64.2	105.3	95.5
Rabi	48.8	48.9	62.3	75.0	72.0
Total	108.3	112.7	126.5	180.3	167.5

2.27 During 1989-90, out of the total fall of 1.3 million tonnes, Gujarat alone recorded a fall of 1.1 million tonnes. Other major oilseeds producing states which recorded lower production include Andhra Pradesh, Rajasthan and Karnataka. However, the decline in production in these states was partly offset by increase in production in the states of Madhya Pradesh, Maharashtra and Tamil Nadu.

2.28 Despite steady progress achieved in oilseeds production, the country has not yet achieved self-sufficiency. The supply of edible oils still falls short of demand. As a result, edible oils continued to be imported in 1989-90, although it was much less than the imports in 1987-88. The imports during the oil year 1989-90 (November—October) aggregated 6.1 lakh tonnes valued at Rs. 328 crores as against 18.2 lakh tonnes valued at Rs. 1,061 crores imported in 1987-88. The increasing dependence on imports has therefore been somewhat halted which was made possible by substantial increase in edible oilseeds production which in turn was the result of the development measures undertaken by the Government. The imported oil is being predominantly distributed through the public distribution system and to some extent used for market intervention operations of National Dairy Development Board (NDDB). Blending of edible oils has also been permitted so as to enlarge the production/consumption of minor oilseeds/oils.

2.29 Considering the need to augment the supply of edible oils and thereby reduce the import dependence, a production target of 18 million tonnes of oilseeds has been fixed for 1990-91 : 10 million tonnes of kharif oilseeds and 8 million tonnes of rabi oilseeds. In order to achieve the target, the two centrally sponsored schemes, namely, National Oilseeds Development Project and Oilseeds Production Thrust Project, which were operating till 1989-90, have now been merged during 1990-91 into a single scheme namely Oilseeds Production Programmes (OPP). This scheme essentially provides financial assistance to the states for production and distribution of quality seeds, plant protection measures including supply of plant protection chemicals and equipments and organising demonstrations of improved technology.

2.30 In addition, the efforts of the Technology Mission on Oilseeds—established in May, 1986—in harnessing the best of production, processing and management technologies to accelerate self-reliance are being enhanced. The Government also announced an integrated oilseeds policy on 5th January, 1989. The policy highlighted commitment to support farmers with technology, inputs and attractive prices and to safeguard the interest of the consumers with reasonable prices. As a sequel to this policy, the Government appointed NDDB as the Market Intervention Agency for procurement of oilseeds and oil for building a buffer stock so as to ensure an incentive price to the farmers and release the same during the lean season at moderate prices to the consumers.

2.31 The production of kharif groundnut in 1990-91 has been affected considerably due to absence of rains at the time of sowing in the Saurashtra region—the main groundnut growing area in Gujarat. However, the production of other kharif oilseeds like soyabean, sunflower seed, castorseed and sesamum is expected to register a sizeable increase in production largely as a result of application of improved technology and timely and adequate rainfall recorded in their respective growing areas. The good monsoon has also helped the production of rabi oilseeds, particularly rapeseed and mustard, which is expected to reach another record production of about 53.2 lakh tonnes during 1990-91 mainly on account of large area expansion in Rajasthan, Haryana, Gujarat, Madhya Pradesh etc. The loss in kharif oilseeds is expected to be offset by increase in the output of rabi oilseeds and the overall level of oilseeds production in 1990-91 may exceed the target of 18 million tonnes.

Cotton

2.32 Cotton which is basically a rainfed crop (irrigated area under cotton being only 30 per cent), is grown over an area of 73 lakh hectares. The production is mainly concentrated in Gujarat, Maharashtra, Haryana, Madhya Pradesh, Punjab, Andhra Pradesh, Karnataka, Rajasthan and Tamil Nadu. These states together account for 99.4 per cent of total area and 99.6 per cent of the out-put in 1989-90. While area under cotton declined by 0.2 per cent, the production of

cotton registered a leap forward from 87.4 lakh bales in 1988-89 to 114.1 lakh bales in 1989-90 as against the target of 100 lakh bales. This was wholly on account of an increase in per hectare yield of lint; it increased from 202 kgs. in 1988-89 to 265 kgs. per hectare in 1989-90.

2.33 The country produces a wide range of varieties of cotton which include short staple, medium staple and superior long staple. The north-western belt comprising Punjab and Haryana and Rajasthan specialises mainly in short and medium staple varieties, while southern and western parts of the country produce basically long and superior long staple varieties. Substantial increases were recorded in all the major cotton growing states.

2.34 Despite a significant increase in cotton production, the country is still in short supply of medium and long staple cotton. In order to increase the production of these varieties, a centrally sponsored Intensive Cotton Development Programme, which was started in 1971-72, was revised during the Seventh Plan and emphasis was laid only on increasing the production of long and medium staple cotton. With the country becoming surplus in certain varieties of cotton, exports have been selectively allowed. Keeping in view the progress made, a production target of 11.5 million bales of cotton in 1990-91 has been fixed. The main objectives in cotton production during 1990-91 are : (1) increasing the production of medium and long staple cotton and (2) increasing productivity and improving quality of cotton. To achieve these objectives, the existing Intensive Cotton Development Programme was continued in all the major cotton growing states, namely, Andhra Pradesh, Gujarat, Haryana, Karnataka, Madhya Pradesh, Maharashtra, Punjab, Rajasthan, Uttar Pradesh and Tamil Nadu. The year 1990-91 was, in the beginning, slated for another bumper cotton crop. But subsequently, due to excessive rains in the later part of the season, the crop is reported to have been damaged by pests in major cotton growing districts of Punjab and Haryana. Even then the size of the crop in 1990-91 is expected to be about 102 lakh bales.

Jute and Mesta

2.35 In contrast to a continuous fall in acreage, production of jute and mesta increased from 7.9 million bales in 1988-89 to 8.4 million bales in 1989-90 due to a substantial increase in per hectare yield. The productivity increased by 7.5 per cent from 1,540 kgs. per hectare in 1988-89 to 1,656 kgs. per hectare in 1989-90. The increase of 6.2 per cent in the production of jute and mesta was shared by West Bengal and Assam.

2.36 The production of raw jute which had declined to as low a level as 57.9 lakh bales in 1987-88 increased by 15.9 per cent to 67.1 lakh bales in 1988-89 and further by about 6 per cent to 71.1 lakh bales in 1989-90 due mainly to increase in productivity. While production in West Bengal increased by 10.4 per cent from 45.3 lakh bales in 1988-89 to 50.0 lakh bales in 1989-90 on account of substantial increase in productivity, in Assam the increase was of the order of 18 per cent where output advanced from 6.7 lakh bales in 1988-89 to 7.9 lakh bales in 1989-90. In Bihar, the jute crop was smaller by about 14.8 per cent in 1989-90 mainly due to fall in acreage. Orissa also recorded a fall in production.

2.37 The production of mesta, following the increase in area and yield per hectare, increased from 11.5 lakh bales in 1988-89 to 12.4 lakh bales in 1989-90. The increase came through a substantial increase in productivity which increased from 909 kgs. per hectare in 1988-89 to 972 kgs. per hectare in 1989-90. About 49 per cent of the crop was produced in Andhra Pradesh followed by Orissa 17 per cent and Bihar 15 per cent. Maharashtra, Tripura, Karnataka and West Bengal also produced some quantity of mesta.

2.38 Considering the overall performance of jute and mesta production, a target of 9 million bales for 1990-91 has been fixed. With the continuance of Special Jute Development Programme for improving the productivity and quality in potential areas in different states and the reported increase in area following favourable weather conditions, the targetted level of production is likely to be achieved in 1990-91.

Sugarcane

2.39 Sugarcane is cultivated over an area of 33-34 lakh hectares both in sub-tropical and

tropical regions of the country. In the sub-tropical belt, main sugarcane growing states are Uttar Pradesh, Bihar, Haryana and Punjab and the tropical belt mainly comprises Maharashtra, Andhra Pradesh, Tamil Nadu and Karnataka. The production of sugarcane during 1989-90 crossed the peak level production of 203 million tonnes recorded in 1988-89 to a new high of 223 million tonnes in 1989-90—an increase of 9.7 per cent as against a target of 212 million tonnes. The favourable weather conditions together with price incentive and other developmental measures were responsible in the expansion of output. Even the area and productivity crossed their previous peak. While acreage increased by 2.4 per cent to 3.4 million hectares, productivity increased by 6.6 per cent to 65 tonnes per hectare during 1989-90. Except for Tamil Nadu and Karnataka, all other major sugarcane growing states recorded increase in varying proportion.

2.40 The rising trend in cane production is the outcome of various policy measures undertaken by the Government and developmental efforts initiated by the sugar industry in general and the concerted efforts made by the cane growers in particular. To make the cane cultivation more profitable, the Statutory Minimum Prices (SMP) for sugarcane are being revised upwards in regular intervals. These prices were increased from Rs. 19.50 per quintal in 1988-89 sugar season to Rs. 22 per quintal for 1989-90 sugar season and further to Rs. 23 per quintal for the 1990-91 season. To encourage the farmers to grow more cane, SMP for 1991-92 has been announced in advance at Rs. 24 per quintal. As against the SMP, sugar industry pays a still higher price (as recommended by State Governments) which serves a greater inducement to cane cultivators for increasing both production/productivity and quality of cane.

2.41 A target of 220 million tonnes has been fixed for 1990-91. The target is sought to be achieved through (a) production of quality seed cane, (b) increasing irrigation facilities, (c) judicious and timely use of fertiliser application, (d) better management of ratoons, (e) greater and effective participation of sugar factories in cane development programmes, (f) transfer of technology through various extension systems and (g) larger coverage under plant protection measures. Besides, states have been advised to avail of the loan facilities from the Sugar Development Fund. As a result of these measures, production of sugarcane in 1990-91 is expected to be around 233 million tonnes. As per the latest information available, with the continuance of the policy of partial decontrol together with the fiscal and financial incentives, sugar production in 1989-90 touched a peak level at 109.9 lakh tonnes. Considering the need to step-up sugar output in 1990-91, the Government continued to allow, as an additional incentive, higher free-sale quota (75 per cent against normal 55 per cent) of sugar produced during October 1, 1990 to November 15, 1990. Indications are that sugar output in 1990-91 sugar season may be above 115 lakh tonnes.

Horticultural Crops

2.42 The horticulture sector, which started receiving attention from the Fourth Five year Plan, has recorded an impressive growth. The production of fruits and vegetables has increased at the annual growth rate of 2.2 and 11.7 per cent respectively during the Seventh Plan period. Fruits occupy an area of 3.2 million hectares with an estimated production of 261 lakh tonnes and India is the third largest producer of fruits next only to Brazil and U.S.A. In spite of India being the second largest producer of vegetables, next only to China, the production of vegetables has remained almost stagnant. Vegetable crops occupy an area of 5.5 million hectares with a production of 539 lakh tonnes. Various centrally sponsored and central sector schemes have been in operation in the case of fruits development; these include the package programme on pineapple and banana and improved technology for quality apple production and elite progency orchard scheme. Since coconut is valued both as oilseed and food crop, the Coconut Development Board has implemented various programmes for integrated development of coconut industry during the Seventh Five Year Plan. Similarly, integrated programme for development of spices, which include pepper, ginger, turmeric and chillies, was implemented during the Seventh Plan period. Production of cashewnuts, cocoa, arecanut, etc has expanded during the Seventh Five Year Plan through various development schemes.

Tea

2.43 Tea grown in an area of over 4 lakh hectares, is one of the most labour intensive industries employing more than a million workers. It plays an important role in the economy of the country. Its production has increased significantly from 544 million kgs. in 1979-80 to a peak of 703 million kgs. in 1989-90. The increase in production during this period has emanated largely from increase in productivity from 1,490 kgs. per hectare to around 1,681 kgs. per hectare. Despite the substantial increase in production, the target fixed for different years, except for 1985-86, of the Seventh Plan could not be achieved.

2.44 The North-Eastern parts of the country generally account for a major portion of tea production (75—80 per cent)—Assam and West Bengal are the bulk producers. Among the South Indian states, Tamil Nadu and Kerala are major producers of tea. Of late, the increase in production is largely shared by production in South India. There is a considerable difference between yield rate of North India and South India gardens arising essentially to agro-climatic factors. The average productivity in South India is about 2,000 kgs. per hectare, while in North India the yield rate is 1,600 kgs. per hectare.

2.45 Following good agro-climatic conditions, the production of tea in 1990-91 has increased to 719 million kgs. as against 703 million kgs. recorded in 1989-90. The government has been making continuous efforts to increase production of tea. Twenty five top tea estates have been identified for increasing production of tea. Besides, efforts are being made to increase the area under cultivation in the states of Uttar Pradesh and Orissa. The Tea Board is at present operating a number of schemes for stepping up the production. These schemes provide financial support in the form of loans and subsidies. The loan schemes include Tea Plantation Finance Scheme, Tea Machinery and Irrigation Equipment Hire Purchase Scheme, setting up of Tea Nurseries in cooperative sector, New Tea Unit Finance Scheme and Sophisticated Tea Packaging Arrangement Loan Scheme. The subsidy schemes on the other hand include Replanting Subsidy Scheme, New Tea Unit Financing Scheme, Darjeeling Interest Subsidy Scheme, Tea Extension Planting Interest Subsidy Scheme and Irrigation/Drainage Interest Subsidy Scheme.

2.46 Alongwith the increase in production, the domestic consumption (about two-third of output) of tea has also been increasing. The domestic demand has increased from 438 million kgs. in 1985-86 to 478 million kgs. in 1988-89 and further to 500 million kgs. in 1989-90. Exports of tea on the other hand, in quantitative term, declined from 209 million kgs. in 1988-89 to 203 million kgs. in 1989-90. In 1990-91, exports were of the order of 199 million kgs. as compared with 203 million kgs. during 1989-90. However, with the increase in average per unit value realisation from about Rs. 31 per kg. to about Rs. 43 per kg. export earnings increased from Rs. 644 crores in 1988-89 to Rs. 862 crores in 1989-90. In 1990-91 export earnings were Rs. 1,045 crores as against Rs. 862 crores during 1989-90. In order to boost foreign exchange earnings through tea exports, concerted efforts are being made to increase tea exports through fiscal and financial incentives. The exporters of tea received support from Brand Promotion Fund Scheme in the form of interest-free loan.

Coffee

2.47 The production of coffee in the country has been fluctuating as a consequence of fluctuations in weather conditions. The production which had reached to 2 lakh tonnes in 1984-85 came down to 1.2 lakh tonnes in 1989-90, although there has been expansion in acreage. Over 1988-89, coffee output declined by 43 per cent owing to adverse weather conditions in coffee producing states. During 1990-91, the production of coffee is expected to be around 1.7 lakh tonnes. However, the target of 1.8 lakh tonnes set for the terminal year of Seventh Plan had already exceeded during 1986-87 (1.9 lakh tonnes) and 1988-89 (2.1 lakh tonnes).

2.48 The Coffee Board, which is statutorily charged with the responsibility of the marketing of coffee produced in India, continued to extend its support in the fields of research, extension and credit to improve both quality and production of coffee. The bulk of coffee production is being exported, although domestic consumption has also increased over years. The country

exported 1.3 lakh tonnes valued at Rs. 363 crores in 1989-90 as against about one lakh tonnes valued at Rs. 337 crores in 1988-89. The exports durings 1990-91 were about one lakh tonnes valued at Rs. 276 crores. The decline in exports is due to poor crop during 1989-90 available for marketing in 1990-91 and fall in the international prices due to suspension of quota. The on-going Developmental Loan and Subsidy Scheme continued to remain in operation to assist coffee production.

Rubber

2.49 Natural rubber, one of the most valued raw materials, is grown in about 4.4 lakh hectares predominantly by the small growers. The production is estimated to have increased from 2.6 lakh tonnes in 1988-89 to about 3.3 lakh tonnes in 1990-91. The target of production for the terminal year of Seventh Plan was fixed at 2.6 lakh tonnes against a base level of 1.9 lakh tonnes in 1984-85. The growth in rubber plantation industry is characterised by an increase in production, area and productivity. The remunerative prices and financial and technical support are major factors contributing to appreciable increase in new plantings and replanting.

2.50 Natural rubber is mainly cultivated in the States of Kerala and Tamil Nadu. Of the total area, about 85 per cent is accounted by Kerala. As a result of promotional efforts, rubber is now successfully grown in the non-traditional areas of Karnataka, Tripura, Assam, Meghalaya, Mizoram, Manipur, Nagaland, Andaman and Nicobar Islands, Goa, Maharashtra and Orissa.

2.51 With the increased production of automobiles, the consumption of rubber has increased over the years. The consumption of natural rubber increased from 3.1 lakh tonnes in 1988-89 to 3.7 lakh tonnes in 1990-91. The gap between the demand for and supply of natural rubber is being met through imports. The import in 1989-90 was 26.5 thousand tonnes as against 51.3 thousand tonnes in 1988-89. During 1990-91, 40 thousand tonnes of natural rubber was imported. In view of the steadily increasing gap between domestic supply and demand for natural rubber, the Rubber Board has continued its efforts in the direction of achieving greater production. Under the Plantation Development Scheme liberal financial and technical assistance is given to growers for new plantings/replantings. Other important measures implemented by the Rubber Board include the distribution of higher yielding planting materials, supply of relevant inputs at concessional rates and encouragement for group processing and marketing centres by providing financial and technical assistance.

Agricultural Inputs

2.52 Agricultural inputs play an important role in accelerating the growth of agricultural production and productivity. Considering the progress made in the production of foodgrains, in particular wheat and rice, through introduction of high yielding varieties of seed together with an input package of assured irrigation facilities, fertilisers, weedicides and pesticides, agricultural credit and extension, greater efforts have been made to enlarge the availability of agricultural inputs and extend its coverage to all the agricultural crops. The developments made in this regard are elaborated in the following paragraphs.

Irrigation

2.53 Expansion of irrigation has been the main element of strategy for increasing foodgrains production. Irrigation support has been planned to be provided through major and medium irrigation projects, command area development, tank irrigation and use of ground water. Since minor irrigation schemes are quick maturing and labour intensive by nature, increasing emphasis was laid on the development of minor irrigation structures during the Seventh Plan. The irrigation potential created during the pre-plan period was 22.6 million hectares (9.7 million hectares from major and medium and 12.9 million hectares from minor irrigation projects). By the end of Sixth Plan, the cumulative irrigation potential was 67.5 million hectares. The achievement during the Seventh Plan period is anticipated to be about 12.2 million hectares (2.9 million hectares under major and medium projects and 9.3 million hectares under minor irrigation projects) against the target of 12.9 million hectares. Thus the total potential anticipated to have been created by the end of Seventh Plan adds up to 79.7 million hectares.

2.54 Despite huge investments having been made on creation of irrigation potential, particularly in major and medium irrigation projects, the utilisation of created potential is considerably low. As against an additional potential of 12.2 million hectares anticipated to have been created during the Seventh Plan period, the utilisation is expected to be about 10.9 million hectares. The cumulative gap in utilisation of potential till the end of Seventh Plan works out to about 8.3 million hectares. The gap (5 million hectares)is more in the case of major and medium projects, while it is 3.3 million hectares in the case of minor irrigation projects. The details are given in Table 2.8. The main reasons for this gap are that the farmer takes longer time in adjusting to the revised cropping patterns consequent upon the switchover from dry farming to irrigated farming and delay in the development of on-farm works like construction of field channels, land levelling and adoption of the warabandi system.

TABLE 2.8

Development of Irrigation Potential and its Utilisation

(Million Hectares)

Irrigation (additional area)	Assumed base level (84-85)	Achievement during VII Plan			Cumulative achievement upto VII Plan
		1985-89 (actual Achievement)	1989-90 (Ant. Achievement)	Total VII Plan	
1. *Major and Medium Irrigation*					
Potential	30.0	2.0	0.9	2.9	32.9
Utilisation	25.3	2.0	0.6	2.6	27.9
2. *Minor Irrigation*					
Potential	37.5	6.6	2.7	9.3	46.8
Utilisation	35.2	5.8	2.5	8.3	43.5
3. *Total*					
Potential	@67.5	8.6	3.6	12.2	79.7
Utilisation	@60.5	7.8	3.1	10.9	71.4

@Cumulative level.

2.55 A Centrally Sponsored Command Area Development (CAD) Programme was initiated in 1974-75 to bridge the gap between the irrigation potential and its utilisation. The programme broadly covers on-farm development works like construction of field channels, land levelling/ shaping, implementation of warabandi for rotational supply of water to ensure equitable and assured supply of irrigation water to each and every farm holding. It also includes arrangements for supply of inputs and credit, agricultural extension, construction of markets and godowns and development of ground water for conjunctive use. The programme at present covers 131 selected irrigation projects with a total culturable command area of around 18.5 million hectares in 20 States and 2 Union Territories. Cumulatively, till March, 1990 an area of 11.3 million hectares is expected to have been covered under field channels, 2.0 million hectares under land levelling and 5.2 million hectares under warabandi.

2.56 Minor irrigation schemes include ground water and surface water schemes. While ground water schemes include dugwells, shallow tubewells and pumpsets, the surface water schemes include tanks and reservoirs, diversion schemes, lift irrigation from rivers and streams etc. These schemes have been accorded special attention under the Special Foodgrains Production Programme. The Seventh Plan had envisaged the creation of additional irrigation potential of 8.6 million hectares in minor irrigation. As against the target, the likely achievement is 9.3 million hectares.

2.57 The progress of irrigation development has not been uniform among the States. Some states such as Bihar, Orissa, Madhya Pradesh, Gujarat and Maharashtra are lagging in the development of major and medium irrigation potential. In respect of ground water development, Punjab, Haryana and Uttar Pradesh have shown excellent progress, while States of Karnataka, Andhra Pradesh, Maharashtra, Bihar

Assam, Orissa, West Bengal, Madhya Pradesh and Kerala lagged behind.

Seeds

2.58 In recognition of the importance of quality seeds, efforts are being made to maximise production and distribution of foundation and certified seeds through National Seeds Corporation, State Farms Corporation of India and State Seeds Corporations. The high yielding varieties (HYV) programme introduced in 1966-67 and covering paddy wheat, jowar, bajra and maize, has covered large area under cultivation under different crops and by the end of Sixth Plan the total area covered under the HYV was 54 million hectares. During the Seventh Plan the area covered under HYV increased by 16.7 per cent to about 63 million hectares. The coverage during 1990-91 reached about 67 million hectares. The crop-wise coverage of area under HYV is given ina Tble 2.9.

TABLE 2.9

Area under High Yielding Varieties of Seeds

(Million Hectares)

Crop	1984-85	Seventh Plan Target	1985-86	1986-87	1987-88	1988-89	1989-90	1990-91*
Paddy	22.8	32.0	23.5	24.0	22.1	25.4	27.6	29.2
	(55.3)		(57.0)	(58.4)	(57.3)	(60.8)	(65.4)	(68.5)
Wheat	19.1	22.0	19.1	19.2	19.7	20.2	20.7	21.9
	(81.0)		(83.0)	(83.0)	(85.4)	(83.8)	(88.1)	(90.5)
Jowar	5.1	6.5	6.1	5.5	6.1	6.1	6.8	7·6
	(32.9)		(37.6)	(34.5)	(38.7)	(41.8)	(45.6)	(51.7)
Bajra	5.2	6.5	5.0	5.3	4.0	5.9	5.2	5.4
	(43.7)		(46.8)	(46.8)	(45.4)	(49.0)	(47.7)	(52.4)
Maize	2.0	3.0	1.8	2.2	2.2	2.5	2.8	2.9
	(34.8)		(31.0)	(37.0)	(38.8)	(42.4)	(47.4)	(47.5)
Total	54.1	70.0	55.4	56.2	54.1	60.1	63.1	67.0

*Provisional

Figures in parenthesis give the percentage of HYV area to total area under the crop.

2.59 The distribution of certified/quality seeds has increased substantially from 25 lakh quintals in 1980-81 to about 57 lakh quintals in 1989-90. In 1990-91 the distribution of certified/quality seeds is expected to be of the order of 60 lakh quintals; the certified seeds will be 45 lakh quintals. The year to year fluctuations in distribution of quality seeds are largely attributed to (a) variation in demand of a specific crop variety, (b) diversification of area from one crop to another and (c) choice of taking up crops which requires less irrigation. As the quality seed (non-certified seed) does not come under the purview of the Seeds Act, 1966, separate monitoring for certified and quality seeds has been started from 1989-90. The distribution of certified/quality

seeds over years can be seen in Table 2.10.

TABLE 2.10

Distribution of Certified/Quality Seeds

Year	Distribution (lakh quintals)	Percentage increase over the preceding year
1980-81	25.0	—
1981-82	29.8	19.2
1982-83	42.1	41.1
1983-84	45.0	6.9
1984-85	48.5	7.8
1985-86	55.0	13.5
1986-87	55.8	1.5
1987-88	56.3	0.8
1988-89	56.8	0.9
1989-90	57.0	0.4
1990-91	60.0	5.3

2.60 In order to create increased infrastructural facilities commensurate with the projected seed production target and thereby increase the agricultural production, a World Bank aided National Seeds Project Phase-III has been launched with effect from March 28, 1990. The thrust of the project is to support efforts to assist the farmers by ensuring timely and adequate availability of certified/quality seeds of suitable varieties at reasonable prices and to provide facilities for the growth of private seed sector through adequate institutional financing. The project will cover initially the States of Andhra Pradesh, Assam, Bihar, Gujarat, Karnataka, Madhya Pradesh, Maharashtra, Orissa, Rajasthan, Uttar Pradesh and West Bengal. The National Seeds Corporation and State Farms Corporation of India will also be covered.

2.61 A New Policy on Seed Development, introduced with effect from October 1, 1988, is aimed at to secure to the farmer high quality seeds available anywhere in the world to maximise his yields, increase productivity and farm income. This is sought to be ensured by permitting access to best available seed by placing planting materials and seeds of vegetables and flowers under O.G.L. and some through regulated imports. As a result of the new policy, there has been significant increase in the import of high quality seeds, particularly those of oilseeds and vegetables.

Fertilisers

2.62 Consequent upon the expansion of area under irrigation and greater use of HYV seeds, consumption of fertilisers in the country recorded highest ever quantum jump of 2.3 million tonnes in 1988-89 to reach a level of 11.1 million tonnes of nutrients (NPK). It increased further to 11.7 million tonnes in 1989-90 as against the target of 12.5 million tonnes. The average per hectare consumption of fertilizers increased from 47.4 Kgs. in 1985-86 to an estimated 66.9 Kgs. in 1989-90. In 1990-91, following the third good monsoon year in succession, the consumption is anticipated to increase to 12.7 million tonnes. The details are given in Table 2.11.

TABLE 2.11

Consumption of Chemical Fertilizers

(Million Tonnes of nutrients)

Year	Nitrogenous	Phosphatic	Potassic	Total NPK
1980-81	3.7	1.2	0.6	5.5
1981-82	4.1	1.3	0.7	6.1
1982-83	4.2	1.4	0.7	6.3
1983-84	5.2	1.7	0.8	7.7
1984-85	5.5	1.9	0.8	8.2
1985-86	5.7	2.0	0.8	8.5
1986-87	5.7	2.1	0.9	8.7
1987-88	5.7	2.2	0.9	8.8
1988-89	7.3	2.7	1.1	11.1
1989-90	7.4	3.1	1.2	11.7
1990-91 (Provisional)	8.0	3.4	1.3	12.7

2.63 In addition to continuance of the existing supporting services and development programmes like ensuring supply of fertilisers at subsidised and uniform prices throughout the country, the other measures taken to increase the consumption include promotion of support services through the District Lead Fertiliser Scheme, extension support by fertiliser industry, opening of additional retail outlets in remote, hilly and inaccessible areas, supply of fertilisers through mobile vans and removal of registration/licensing for small stockists/dealers.

2.64 Rainfed areas which constitute 70 per cent of the cultivated area consume only about 20 per cent of the total fertiliser. In order to promote fertiliser use and strengthen soil testing facilities in the low fertiliser consumption and rainfed areas, a National Project and Development of Fertiliser Use in Low Consumption Rainfed Areas has been introduced since 1988-89 in certain identified districts of various states.

2.65 Consistent with the increased consumption of fertiliser, its production has increased gradually from 3 million tonnes in 1979-80 to about 9 million tonnes in 1988-89. In 1989-90, however, the production recorded was 8.5 million tonnes showing a fall of 4.7 per cent over 1988-89 production. The target for 1989-90 was set at 9.4 million tonnes. The shortfall in production has been primarily due to disruption in supplies of raw materials particularly imported phosphoric acid and ammonia. Other factors responsible were equipment break-down, power and labour problems. The production in 1990-91 is expected at about 9 million tonnes. With the increase in domestic production, the level of imports has declined from 3.6 million tonnes in 1984-85 to about 1.6 million tonnes in 1988-89. However, to meet the shortage, imports increased substantially to 3.1 million tonnes in 1989-90. Following the introduction of fertiliser retention price and subsidy scheme with effect from November 1, 1977, and the increasing trend in production/consumption, subsidy on fertilisers has increased from Rs. 604 crores in 1979-80 to as much as Rs. 4,542 crores in 1989-90. The estimated subsidy for 1990-91 is Rs. 4,388 crores which may increase as a consequence of Gulf crisis and higher petroleum product prices. The details are given in Table 2.12.

TABLE 2.12

Fertilisers : Production, Import and Subsidies

Year	Production (N + P) (000 Tonnes)	Imports (000 Tonnes)	Subsidies (Rs. crores)		
			On imported fertilisers	On domestic fertilisers	Total
1979-80	2983	2005	283	321	604
1980-81	3005	2759	335	170	505
1981-82	4093	2041	100	275	375
1982-83	4404	1132	55	550	605
1983-84	4533	1355	142	900	1042
1984-85	5181	3624	727	1200	1927
1985-86	5756	3399	324	1600	1924
1986-87	7070	2310	197	1700	1897
1987-88	7131	984	114	2050	2164
1988-89	8964	1608	201	3000	3201
1989-90	8543	3111	771	3771	4542
1990-91	9044	2758	658*	3730*	4388*

*Provisional

Pesticides

2.66 Crops including cereals, oilseeds, pulses, cotton and sugarcane are very vulnerable to pest attack. To save the crops from pests, increasing quantity of pesticides are being made available. As against a target of 75 thousand tonnes for the terminal year of the Seventh Plan, the consumption of pesticides was of the order of 52 thousand tonnes in 1985-86, 50 thousand tonnes in 1986-87, 49 thousand tonnes in 1987-88, 55 thousand tonnes in 1988-89 and an anticipated level of about 86 thousand tonnes in 1989-90. In 1990-91, the pesticide demand is placed at about 82 thousand tonnes. However, in the absence of any major pest incidence, the consumption may not be of this magnitude. The overall availability of pesticides in the country is regarded as satisfactory. Besides the increase in domestic production, imports are also being made.

2.67 In order to reduce the dependence on the use of chemical pesticides for reducing the crop losses, emphasis has been laid on the adoption of integrated pest management. The integrated pest management is a broad ecological approach that minimises pest population below economic injury level by employing all available pest control techniques such as culture, mechanical, biological, chemical and crop management practices in a compatible manner.

Agricultural Credit

2.68 The thrust of agricultural credit policy continues to be on providing adequate and timely credit to farmers, with a focus on small and marginal farmers or the weaker sections, through institutional agencies like co-operatives, commercial banks and regional rural banks in order to support agriculture and allied activities. The major objective of the policy is to enable the farmers specially the small and marginal farmers and other weaker sections to adopt modern technology and improved agricultural practices for increasing production and productivity. The other objective is to provide adequate credit support to areas covered under Dryland Farming, Pulses Development Programme, Special Foodgrains Production Programme (SFPP) and Special Rice Production Programme. In order to achieve the production targets in the selected districts

of nineteen States under SFPP, National Bank for Agriculture and Rural Development (NABARD) has taken various steps to provide adequate refinance facilities to the cooperative institutions. The measures, inter alia, include granting of loans to State Governments to enable them (i) to contribute to additional share capital needed by Primary Agricultural Credit Societies (PACS) and Central Cooperative Banks for managerial assistance to PACS, (ii) assistance for non-overdues, (iii) blocking of overdues of non-wilful defaulters, (iv) subsidy by the State Governments to small and marginal farmers for purchasing share for becoming members of PACS, and (v) assistance for Agricultural credit Stabilisation Fund of the State Co-operative Banks. Besides, the Government has also provided central assistance to those Central Cooperative Banks which are not eligible to operate credit limits sanctioned by NABARD on account of heavy overdues.

2.69 The volume of institutional credit for agriculture has increased from Rs. 2,550 crores in 1979-80 to Rs. 11,225 crores in 1988-89 and further to Rs. 13,022 crores in 1989-90. The target set for 1990-91 was Rs. 13,240 crores. Agency-wise disbursements of agricultural credit are given in Table 2.13.

TABLE 2.13

Disbursement of Agricultural Credit

(Rs. crores)

	1985-86	1986-87	1987-88	1988-89	1989-90	1990-91 (Target)
Cooperatives						
Short-term	2747	2824	3320	3594	4223	4708
Medium-term	393	531	547	602	416	394
Long-term	543	560	690	719	868	957
	3683	3915	4557	4915	5507	6059
Commercial Banks/Regional Rural Banks						
Short-term & Term Loans	3110	3796	3914	6310	7515	7181
Grand Total	6793	7711	8471	11225	13022	13240

2.70 Agricultural credit is provided at a concessional rate in comparison with commercial rates of interest. The rate of interest till September 21, 1990 ranged from 10 per cent per annum for loans upto Rs. 7,500 to 14 to 15.5 per cent for loans over Rs. 25,000. The rate of interest on agricaltural loans has been revised with effect from September 22, 1990. The new rates of interest range between 10 per cent on loan upto Rs. 7,500 and 14 per cent on loan exceeding Rs. 50,000. The Produce (Marketing) Loans Scheme has been introduced from December, 1988 on a pilot basis in specified districts in each of the 14 states where SFPP is under implementation. Loans under this scheme are available to those farmers who have availed of crop loans from the credit institutions for raising paddy, wheat, groundnut, rapeseed/mustard, gram and arhar. The quantum of loan under this scheme is however restricted to twice the amount of the crop loan taken by the farmer or 75 per cent of the value of produce at Government announced procurement/support prices subject tomaximum of Rs. 10,000 per individual.

2.71 Despite phenomenal increase in the overall agricultural credit, the crucial problem of mounting overdues has been inhibiting its expansion to the desired extent. Overdues have been persisting around 40-42 per cent during the last 3-4 years. Increasing overdues have eroded the lending capacity of cooperative institutions for want of recycling of funds and ineligibility of the institutional agencies to borrow additional funds from the higher financing agencies.

2.72 In order to enable the farmers to improve the productivity, a scheme, as announced in the Central Budget 1990-91, has been introduced for providing debt relief upto Rs. 10,000 to the non-wilful defaulters of public sector banks and regional rural banks. For banks in the co-operative sector, a scheme on similar pattern was put into operation by State Governments. The Agricultural and Rural Debt Relief Scheme, 1990 which came into force from May 15, 1990 covers borrowers of public sector banks and those engaged in agriculture and other allied activities and artisans engaged in any activity of rural development relating to cottage and village industry, handicrafts, weaving, etc. A sum of Rs. 1,500 crores has been released to Reserve Bank of India under the scheme. The disbursement under the commitment of debt relief in 1990-91 may actually be much higher than the amount provided in the Budget. The debt relief, however, could adversely affect on profitability of banks and erode their lending capacity.

Crop Insurance

2.73 In order to provide a measure of financial support to the farmers in the event of crop failure as a result of natural calamity, a Comprehensive Crop Insurance Scheme has been in operation since 1st April, 1985. The scheme is voluntary in nature and covers all the farmers availing crop loans from cooperative, commercial and regional rural banks for raising wheat, paddy, millets, oilseeds and pulses. The premium payable is two per cent of the sum insured for wheat, paddy and millets and one per cent for oilseeds and pulses. Fifty per cent of the premium payable by small and marginal farmers is subsidised which is being shared equally by Central and State Governments.

2.74 Coverage under the scheme has been continuously expanding since inception. During the year 1989-90, the scheme was implemented in 17 States and Union Territories against 13 States and Union Territories in 1988-89. In all 42 lakh farmers in kharif 1989 and 7 lakh farmers in rabi 1989-90 were covered as against 30 lakhs and 9 lakhs respectively during the same period of the previous year. However, due to drought conditions and floods in 1986-87 and 1987-88, claims which had shot up from Rs. 84 crores in kharif 1985 to Rs. 277 crores in kharif 1987, came down to Rs. 34 crores in kharif 1989 following the good monsoon. Consequent upon the quantum jump in claims and heavy losses, the scheme was temporarily suspended in January, 1988. But it was re-introduced in September, 1988 with some modifications. The sum insured was, however, reduced from 150 per cent to 100 per cent of crop loans and limited to a maximum of Rs. 10,000 per farmer.

2.75 The progress of the scheme can be seen from Table 2.14:

TABLE 2.14

Progress of Crop Insurance Scheme

Season	No. of States/ UTs	No. of farmers covered (Lakhs)	Area covered (Lakh hectares)	Sum Insured (Rs. crores)	Premium collected (Rs. crores)	Claims paid/ payable (Rs. crores)
Kharif 1985	13	26.4	53.7	542.7	9.4	83.9
Rabi 1985-86	16	12.1	23.2	238.4	4.5	3.1
Kharif 1986	18	39.6	77.4	856.2	15.0	167.9
Rabi 1986-87	17	11.3	21.0	242.4	4.5	4.6
Kharif 1987	21	46.3	84.1	1140.7	19.1	277.2
Rabi 1987-88	19	21.3	32.4	475.4	8.8	12.1
Kharif 1988	13	29.6	52.4	547.9	8.8	29.2
Rabi 1988-89	9	8.7	10.1	164.1	3.1	3.9
Kharif 1989	17	42.3	66.5	873.9	14.5	34.4
Rabi 1989-90	17	6.6	9.6	151.6	2.8	1.8
Kharif 1990	17	19.4	34.1	515.1	7.6	95.4

Animal Husbandry

2.76 Animal husbandry plays a vital role in the country's rural economy. It is providing gainful employment particularly to small/marginal farmers and agricultural labourers, and other rural poor. It also supplements the nutritional deficiency in human diet. The gross value of output from this sector has increased from Rs. 280 billion in 1987-88 to Rs. 315 billion in 1988-89 which is about 24 per cent of the total agricultural output of Rs. 1335 billion. The animal husbandry programmes are aimed at meeting the requirement of milk, eggs, meat, wool, draught power and rural transport. Efforts are being made to improve the vast population of livestock by providing basic infrastructure and adopting improved technology.

2.77 With its large livestock population, the country has vast potential for meeting the growing needs of animal protein and raw material for the industry. The main objectives of the Seventh Plan in this direction were (i) to consolidate the gains achieved under various programmes of animal husbandry, (ii) to provide the infrastructure necessary to achieve accelerated growth in livestock production and (iii) to enable as large a section of rural population as possible, including small and marginal farmers, agricultural labourers and other rural poor to improve their nutritional and economic status by providing them with gainful employment through livestock rearing. As a result of the developmental efforts, production of milk and eggs has increased significantly. Milk production during the Seventh Plan increased by about 24 per cent from 41.5 million tonnes in 1984-85 to 51.4 million tonnes in 1989-90. Production of eggs on the other hand increased by more than 41 per cent from 14,252 million eggs in 1984-85 to over 20,204 million in 1989-90. The per capita availability of milk has risen from 56 kgs in 1984-85 per annum to 63 kgs per annum in 1989-90.

Dairy Development

2.78 As complementary to agriculture in India dairying provides supplementary income to vast majority of farmers, most of whom belong to the small or marginal category. In order to provide a linkage between the producers and the consumers, a rational approach to dairy development has been evolved. An integrated dairy development programme commonly known as Operation Flood was launched in 1970 to correct the deficiencies of the dairy sector by organising village milk producers in the dairy cooperative societies. The first phase, Operation Flood-I, was aimed at capturing a liquid milk market in the four metropolitan cities by linking 27 milk sheds. During the second phase, Operation Flood-II (1980—85), the programme was extended to almost all the states in the country—about 34,500 dairy cooperative societies had been organised in 136 milk sheds. Operation Flood-III (1985-94) is now under implementation with financial assistance from the World Bank and commodity assistance from EEC in the form of skimmed milk powder and butter oil. In all 62,800 dairy cooperative societies have been organised in 174 milk sheds involving about 7.4 million farmer members to procure 9.7 million kgs and marketing 8.0 million litres of milk a day in over 523 cities and towns of the country as against total milk processing capacity of 14.6 million litres a day and milk powder production capacity of 667 tonnes a day. A Technology Mission for Dairy Development has been launched in order to systemetise and coordinate dairy development with various field level development programmes. The Mission will also pursue specific research targets and focus on policy issues that will contribute to sustained dairy development.

Fisheries

2.79 Fisheries have been recognised as an important source of food, foreign exchange earner and employment. With various developmental measures, fish production has gradually increased from 7.5 lakh tonnes in 1950-51 to a record of 38.2 lakh tonnes in 1990-91. The increase in 1990-91 came both from the marine sector and inland sector. The export earnings in 1990-91 were of the order of Rs. 875 crores. The main thrust of the fisheries development programme is to promote the extensive and intensive fish farming activity in the inland sector and encouraging deep sea fishing in the marine sector so as to optimise fish production. In recognition of the important role of inland fisheries in the overall production of fish, the Government

has been implementing two important inland fisheries development programmes since the Sixth Five Year Plan. These are (a) development of aquaculture and (b) National Programme of Fish Seed Development. These programmes have led to a significant increase in inland fish production; its production in 1990-91 was about 14.7 lakh tonnes. Its share in the total production increased from 36 per cent in 1980-81 to 38 per cent in 1990-91. There has been a quantum jump in marine fish production from 18.2 lakh tonnes in 1988-89 to 22.8 lakh tonnes in 1989-90. In 1990-91, marine fish production was 23.5 lakh tonnes.

Agricultural Marketing

2.80 Regulation and development of agricultural markets, grading and standardisation of agricultural and allied commodities, assistance for creation of infrastructural facilities in agricultural produce markets and assistance for setting up of rural godowns are the major activities under agricultural marketing. The role of cooperatives in the marketing of agricultural produce has been progressively expanding. The public sector commodity corporations like the Food Corporation of India, Cotton Corporation of India and the Jute Corporation of India whose social objectives converge with those of cooperatives, have been increasingly utilising the services of cooperatives to procure specified agricultural commodities from the farmers. To help the farmers in getting remunerative prices, cooperatives have assumed a major role in price support operations in coarsegrains, oilseeds, copra and pulses and in market intervention for potato, onion, ginger and apples.

2.81 The net-work of marketing cooperatives exist almost in every mandi in the country. At present there are 2,636 general purpose primary cooperative marketing societies and 3,290 special commodity cooperative marketing societies dealing in oilseeds, cotton and fruits and vegetables. In addition, there are 157 District/Central Societies, 29 general purpose State Cooperative Marketing Federations, 16 State level Special Commodity Marketing Federations with the National Agricultural Cooperatives Marketing Federation (NAFED) at the national level. The turnover of the cooperatives in 1989-90 has increased to Rs. 6,282 crores as against Rs. 5,415 crores in 1988-89; these remained much above the targetted levels. The marketing operations of cooperative marketing societies are mainly in foodgrains; the share of other agricultural produce is very small. The NAFED has been appointed as a Central Nodal Agency for undertaking marketing operations of a number of agricultural commodities covered under the price support operations. Such purchases, arising from the price support operations, are being made by NAFED through the State designated agencies i.e. State Marketing Federations. In case of agricultural commodities which do not fall within the purview of price support operations, market intervention scheme is announced on the specific request of the State Governments and losses in these operations are shared on 50:50 basis between the Centre and State Governments. The market intervention scheme and the price support operations enabled the small/marginal farmers to obtain remunerative prices by making use of the operations launched by NAFED.

Outlook

2.82 The target for the production of foodgrains in 1990-91 was fixed at 176.5 million tonnes (99.1 million tonnes in the kharif season and 77.4 million tonnes in the rabi season). The good south-west monsoon, distributed well over time and space, would have exercised a favourable impact on foodgrains production in the kharif season. The confluence of favourable weather factors and the increased utilisation of inputs, such as seeds and fertilizers, suggests that the kharif foodgrains production may be around 100.8 million tonnes. While kharif rice output may be around 67 million tonnes, output of kharif coarsegrains and kharif pulses may be about 28 million tonnes and 5.4 million tonnes respectively. There may be some set-back in kharif oilseeds production in view of the absence of initial rains in the Saurashtra region of Gujarat resulting in a sizeable reduction in area under groundnut cultivation. However, other kharif oilseeds, and even groundnut, have fared better in other regions producing oilseeds.

In total, the loss of kharif oilseeds production may, therefore, be marginal. The shortfall in the kharif season, if any, is expected to be offset by an increase in rabi oilseeds output. Cotton, sugarcane and jute have also benefitted from the conducive seasonal factors. The targets set for sugarcane and jute may be achieved. The output of cotton may register a small decline, because of a loss in production in the major cotton producing districts of Punjab and Haryana. Given the behaviour of post-monsoon rains, together with an increased level of water storage in reservoirs and the availability of inputs, foodgrains output in the rabi season would attain the expected level. The total production of foodgrains in 1990-91 is, therefore, expected to be slightly higher than the targetted level and may be about 177 million tonnes.