

## Agriculture

### Production and growth

#### Monsoon – 2004

As per the long-range forecast for the 2004 south-west monsoon rainfall issued by Indian Meteorological Department (IMD) in April and updated in June, the rainfall for the country as a whole was expected to be near normal and quantitatively 100 per cent of the Long Period Average (LPA) with an error of  $\pm 4$  per cent. The season ended with the area-weighted rainfall for the country as a whole at 87 per cent of the LPA (Table 8.1). This large deficiency was mainly due to suppressed rainfall activity (81 per cent of the LPA) during July 2004 against the expectation of 98 per cent of the LPA. However, rainfall over the country as a whole during June and August was near normal. Over the 4 broad homogenous regions of India, rainfall was expected to be 103 per cent of its LPA over

north-west India, 103 per cent of LPA over central India, 96 per cent of LPA over north-east India and 97 per cent of LPA over the southern peninsula with an error of  $\pm 8$  per cent. The actual rainfall over these 4 regions was deficient at 78 per cent, 89 per cent, 94 per cent and 85 per cent of the LPA, respectively.

8.2 On the sub-divisional basis, none of the meteorological subdivisions experienced severe drought conditions (seasonal rainfall deficiency exceeding 50 per cent) at the end of the season. However, Himachal Pradesh, West Uttar Pradesh, Punjab, West Rajasthan, Vidarbha and Telangana experienced moderate drought conditions (seasonal rainfall deficiency between 25 and 50 per cent). Out of 524 meteorological districts, 133 districts (25 per cent) experienced moderate drought conditions and 36 districts (7 per cent) experienced severe drought conditions at the end of the season.

**Table 8.1 : Monsoon performance—1997 to 2004  
(June – September)**

Year	Number of meteorological sub-divisions			Percentage of districts with normal / excess rainfall	Percentage of long period average rainfall for the country as a whole
	Normal/ excess	Deficient / scanty	Total		
1997	32	3	35	81	102
1998	33	2	35	83	105
1999	28	7	35	67	96
2000	28	7	35	65	92
2001	29	6	35	68	91
2002	15	21	36	37	81
2003	31	5	36	76	105
2004	23	13	36	57	87

Source: India Meteorological Department.

## Reservoir storage

8.3 A total storage capacity of 212.8 billion cubic meter (BCM) has been created in the country with the help of major and medium projects. Central Water Commission monitors storage position of 71 important reservoirs spread all over the country, of which as many as 27 reservoirs are having significant hydro-power benefits with installed capacities of more than 60 MW each. The total designed storage at full reservoir level (FRL) in these reservoirs is 131.3 BCM. The total availability of water in the 71 major reservoirs was 85.1 BCM at the end of the monsoon of 2004 against 78.8 BCM last year (Table 8.2). The storage, however, has still fallen short of the last ten years' average storage of 95 BCM.

## Crop prospects 2004-05

8.4 Erratic monsoon rainfall in 2004 caused a substantial fall in kharif foodgrains production (Table 8.3). The second advance estimates of foodgrains production released by the Agriculture Ministry on January 19, 2005, puts the kharif foodgrains production at 102.9 million tonnes, which is short of last year's production by nearly 9 million tonnes. Good post-monsoon rains, especially during October 2004, which helped a build up of soil moisture, and the prevalence of cool weather conditions through rabi season, improved the prospects of rabi foodgrains, and is expected to help offset the loss in kharif foodgrains production partly. The Agriculture Ministry has projected rabi foodgrains production at 103.5

	2003		2004		Avg. of last 10 years	
	Storage BCM	Percent of FRL	Storage BCM	Percent of FRL	Storage BCM	Percent of FRL
At the beginning of monsoon season	14.3	11	16.7	13	21.5	16
At the end of monsoon season	78.8	60	85.1	65	95.0	72
Increase in monsoon storage	64.5	49	68.4	52	73.5	56

FRL: Full Reservoir Level. BCM: Billion Cubic Meter.  
Source: Central Water Commission.

Crop/Year	1999-2000	2000-01	2001-02	2002-03	2003-04*	2004-05**
Rice	89.7	85.0	93.3	72.7	87.0	87.8
Wheat	76.4	69.7	72.8	65.1	72.1	73
Coarse Cereals	30.3	31.1	33.4	25.3	37.8	31.9
Pulses	13.4	11.1	13.4	11.1	15.2	13.7
Food grains						
Kharif	105.5	102.1	112.1	87.8	112.0	102.9
Rabi	104.3	94.7	100.8	86.4	100.0	103.5
Total	209.8	196.8	212.9	174.2	212.0	206.4

\*4<sup>th</sup> advance estimates. \*\* 2<sup>nd</sup> advance estimates.  
Source: Ministry of Agriculture.

million tonnes, up 3.5 million tonnes from the last season. The overall foodgrains production for the 2004-05 season is, thus, estimated at 206.4 million tonnes, which is nearly 6 million tonnes less than last year.

8.5 The kharif shortfall in rice production is expected to be made up in rabi rice production. The total rice production at 87.7 million tonnes is likely to be nearly one million tonnes more than the last year. The production of wheat at 73 million tonnes is also likely to be higher by a similar margin as compared to last year. There is, however, likely to be a shortfall in the production of both coarse cereals and pulses, which are essentially rainfed crops. The shortfall is likely to be particularly pronounced in the case of coarse cereals. The estimated decline of nearly 6 million tonnes in the production of coarse cereals is largely responsible for the decline in the overall foodgrains production in the current year (2004-05).

8.6 Oilseeds production, estimated at 24.8 million tonnes, is marginally less than last year's level (Table-8.4). However, maintenance of production of oilseeds almost at the same level as last year's (which was a record), despite deficient and erratic rainfall, is a matter of satisfaction and is, in a way, endorsement of the Government's recent tilt in the price policy announcements towards the

deficient crops of oilseeds and pulses. The production of cotton is also expected to rise significantly mainly because of the remunerative prices that accrued to the farmers last year, attracting the farmers to the cultivation of cotton. However, the decline in the production of sugarcane continued for the third year in succession, mainly because of the deficient rainfall in the sugar producing regions of Maharashtra.

#### *The international year of rice*

8.7 Rice is life for thousands of millions of people. In Asia alone, more than 2,000 million people obtain 60 to 70 percent of their calories from rice and its products. It is of significant importance for food security in an increasing number of low-income food-deficit countries. However, rice production is facing serious constraints including a declining rate of growth in yields, depletion of natural resources, labour shortages, gender-based conflicts, institutional limitations and environmental pollution. Overcoming hunger, poverty and malnutrition - while protecting the environment - requires collective action by all stakeholders. The diversity of the regions, people, and resources connected within the world's rice-based systems requires a diverse approach for global rice-based development that includes participation from the local to the international

**Table 8.4 : Commercial crop production**

(Million tonnes)

<b>Crop</b>	<b>1999-2000</b>	<b>2000-01</b>	<b>2001-02</b>	<b>2002-03</b>	<b>2003-04@</b>	<b>2004-05@@</b>
Groundnut	5.3	6.4	7.0	4.4	8.3	6.5
Rapeseed/ Mustard	5.8	4.2	5.1	3.9	5.8	7.6
Soya bean	7.1	5.3	6.0	4.6	7.9	7.8
Other oilseeds	2.5	2.5	2.6	2.2	3.1	3.0
Total nine oilseeds	20.7	18.4	20.7	15.1	25.1	24.8
Cotton*	11.5	9.5	10.0	8.7	13.8	17.1
Jute & Mesta**	10.6	10.6	11.7	11.4	11.2	9.7
Sugarcane	299.3	296.0	297.2	281.6	236.2	234.2

\*Million bales of 170 kgs each; @ 4th advance estimates  
 \*\* Million bales of 180 kgs each @@ 2nd advance estimate  
 Source: Ministry of Agriculture.

### Box 8.1 : The International Year of Rice (IYR)

The United Nations General Assembly (UNGA) declared 2004 the International Year of Rice (IYR). The theme of the IYR - "**Rice is life**"- reflects the importance of rice as a primary food source, and is drawn from an understanding that rice-based systems are essential for food security, poverty alleviation and improved livelihood. Rice is the staple food of over half of the world's population. In Asia alone, it is observed, more than 2 billion people obtain 60 to 70 per cent of their energy intake from rice and its derivatives; it is the most rapidly growing food source in Africa and is of significant importance to food security in an increasing number of low-income food-deficit countries. Rice-based production systems and their associated post-harvest operations employ nearly 1 billion people in rural areas of developing countries and about four-fifths of the world's rice is grown by small-scale farmers in low-income countries. Efficient and productive rice-based systems are, therefore, essential to economic development and improved quality of life, particularly in rural areas.

level. The United Nations General Assembly had, after having recognised the importance of this crop, declared 2004 as the "International Year of Rice" (IYR) (Box 8.1).

#### Growth in agriculture

8.8 The average annual growth rate of value added in agriculture, including allied sectors, declined from 4.7 per cent during the Eighth Plan (1992-1997) to 2.1 per cent during the Ninth Plan (1997-2002) (Table 8.5). As against the targeted average annual growth rate of 4 per cent during the Tenth plan, growth rate in 2002-03, the first year of the Tenth Plan (2002-07), was negative (-7.0 per cent). This, of course, reflects the impact of the severe

drought of 2002. Favorable monsoon facilitated an impressive growth rate of 9.6 per cent in 2003-04. However, deficient rainfall from the southwest monsoon is estimated to have caused a significant decline in kharif foodgrains production in the current year. As per second advance estimates of foodgrains production made by the Agriculture Ministry, total foodgrains production in the current year is expected to be 206.4 million tonnes compared to 212 million tonnes last year. The advance estimates of National Income 2004-05 released by the CSO on February 7, 2005, has projected the growth rate for the agriculture and allied sectors at 1.1 per cent for the current year 2004-05.

#### Plantation sector

##### Tea

8.9 India is the largest producer and consumer of tea in the world and accounts for around 27 per cent of world production and 13 per cent of world trade. Export of tea is around 20 per cent of domestic production (Table 8.6). Of late, some quantity of tea is imported for blending and re-exports. Under the present Foreign Trade Policy, import of tea is permitted with an import duty of 100 per cent.

8.10 The average All-India auction price of tea which was Rs 66.87 in 1997 started moving up significantly from 1998. However, the prices started falling from November 1999 onwards to reach Rs 61.71 per kg in 2000 and Rs 56.00 per kg in 2003. The low auction prices of tea have been a source of concern and the

Five Year Plan	Growth rate of Agriculture & Allied Sectors	Overall GDP growth rate
Seventh Plan (1985-1990)	3.2	6.0
Annual Plan (1990-1992)	1.3	3.5
Eighth Plan (1992-1997)	4.7	6.7
Ninth Plan (1997-2002)	2.1	5.5
Tenth Plan (2002-2007)		
2002-03+	- 7.0	4.0
2003-04++	9.6	8.5
2004-05+++	1.1	6.9

+ Provisional, ++ Quick estimates.  
+++ Advance estimates.  
Source: CSO.

**Table 8.6 : Tea production, consumption and trade***(Qty: million kgs Value: Rs crore)*

Year	Production		Export		Import		Domestic consumption\$
	Qty	Qty	Value	Qty	Value	Qty	
1997-98	835.6	211.3	2003.2	2.6	17.8	597	
1998-99	855.2	205.9	2191.8	8.9	64.7	615	
1999-2000	836.8	188.9	1796.3	10.4	62.0	633	
2000-01	848.4	203.6	1889.8	15.2	95.5	653	
2001-02	847.4*	190.0	1695.8	16.8	86.7	673	
2002-03	837.6*	184.4	1665.1	22.5	105.3	693	
2003-04	850.5*	183.1	1636.9	11.1	67.0	714	
2004-05 April-Oct. (Estimated)	623.1 (652.8)	103.8 (102.2)	904.9 (974.9)	23.1 (6.3)	99.8 (38.1)	735#	

\* Provisional. Figures in brackets for the corresponding period of previous year.

\$ Relates to calendar year # For the complete calendar year.

Source: Ministry of Commerce and Industry.

Government of India took several steps in 2004 to help the tea growers (Box 8.2). This resulted in moderate hikes in prices of tea during 2004.

#### Coffee

8.11 Among the plantation crops, coffee has made significant contribution to the Indian economy during the last 50 years. Although India contributes only 4 per cent of the world production, Indian coffee has created a niche for itself in the international market, particularly Indian Robustas, which are highly preferred for their good blending quality. Arabica coffee from India is also well received in the international market. The problem of excess supply observed in 2001-02 has eased with a pick up in both exports and domestic consumption, while output stagnated at a level lower than the bumper harvest observed in 2000-01 and 2001-02 (Table 8.7).

8.12 In recent years, coffee prices have fallen due to global production of coffee overtaking its consumption. The fall in the prices of coffee has affected all the coffee producing countries including India. To mitigate the problems of coffee growers arising from the present low prices of coffee, the Government of India has taken a series of steps including re-phasing / restructuring of loans taken by the coffee growers and interest relief to coffee growers (Box -8.2).

**Table 8.7 : Production, export and consumption of coffee***(Lakh tonnes)*

Year	Production	Export			Domestic consumption
		Qty	Rs crore	US\$ million	
1997-98	2.28	1.79	1708	477	0.50
1998-99	2.65	2.12	1752	431	0.50
1999-2000	2.92	2.45	1901	371	0.55
2000-01	3.01	2.47	1374	243	0.60
2001-02	3.01	2.13	1050	246	0.64
2002-03	2.75	2.07	1051	234	0.68
2003-04	2.75	2.32	1158	262	0.70*

\*provisional

Source: Ministry of Commerce and Industry.

#### Natural rubber

8.13 Rubber is primarily produced in the State of Kerala and adjoining Kanyakumari district of Tamilnadu, the traditional rubber growing areas of the country. Rubber is also produced in Tripura, Assam, Meghalaya, Mizoram, Manipur, Goa and Coastal Karnataka. Rubber plantations are spread over 5.7 lakh hectares in 16 States of the country. Production of natural rubber is dominated by smallholdings (with an average holding size of 0.5 hectare), which account for 88 per cent of the output. Consumption exceeded

### Box 8.2 : Initiatives to boost plantation sector in recent year

Tea	Coffee	Rubber
<ul style="list-style-type: none"> <li>● Replacement of the central excise duty payable on tea by an additional duty of excise of Re.1/- per Kg for creating a separate fund for long term development and modernisation of the tea plantation sector; .</li> <li>● Increasing the allowance under Section 33 AB of the Income Tax Act from 20 per cent to 40 per cent; .</li> <li>● Implementation of a credit relief package announced by RBI and IBA to help the tea industry; .</li> <li>● Introduction of a price sharing formula for equitable sharing of the sale proceeds between the Bought Leaf Factories and small tea growers; .</li> <li>● Implementation of IT based Information Dissemination Plan for the tea industry, including conversion of manual auction centers into electronic auction centers.</li> </ul>	<ul style="list-style-type: none"> <li>● Re-phasing / restructuring of loans taken by the coffee growers from commercial banks;”</li> <li>● Providing interest relief to coffee growers on their working capital loans taken from financial institutions;”</li> <li>● Undertaking campaigns to promote domestic consumption of coffee;”</li> <li>● Reduction of import duty on specified machinery for coffee sector to 5 per cent to enable the industry to improve the quality and productivity of coffee for making it globally competitive;”</li> <li>● Convincing the Commercial Banks to provide working capital loans to coffee growers at reduced interest rates.</li> </ul>	<ul style="list-style-type: none"> <li>● A number of plan schemes are being implemented. These schemes provide for suitable financial / technical assistance to the growers, processors, exporters etc for increasing production of natural rubber through expansion of area, enhancing productivity, improving the quality of produce to achieve competitiveness in the global markets and promoting agricultural and technological research in the interest of the industry ;”</li> <li>● In the context of boosting export of natural rubber and establishing India as regular exporter of this commodity, Government is implementing an Export Promotion of Natural Rubber Scheme since 2001-02. The scheme inter-alia provides for financial assistance to the exporters of NR for quality upgradation, certification, transportation etc.; ”</li> <li>● To regulate the import of inferior rubber coming into the country, which was passing as standard rubber, Government has enforced conformity with BIS standards on imported rubber also, as in the case of domestic rubber;”</li> <li>● Government is also implementing a Price Stabilization Fund Scheme with a corpus of Rs.500 crore for the benefit of the growers of tea, coffee, rubber and tobacco.</li> </ul>

domestic production between 2000-01 and 2003-04. With some improvement in the yield of natural rubber, output is expected to exceed consumption of natural rubber in 2004-05 (Table 8.8). For the development of the rubber

sector, the Government, through the Rubber Board, has taken various steps such as conformity with BIS standards on imported rubber, scheme for export promotion of natural rubber and providing suitable financial/ technical assistance to the growers (Box 8.2).

**Table 8.8 : Natural rubber-consumption, production and yield**

Year	Consumption ('000 Tonnes)	Production ('000 Tonnes)	Yield (Kg/ha)
1997-98	572	583	1549
1998-99	592	605	1563
1999-00	628	622	1576
2000-01	631	630	1576
2001-02	638	631	1576
2002-03	695	649	1592
2003-04*	719	711	1663
2004-05**	760	762	1727
*Provisional ** Expected			
Source: Ministry of Commerce and Industry.			

### Horticulture

8.14 The importance of horticulture in improving the productivity of land, generating employment, improving economic conditions of the farmers and entrepreneurs, enhancing exports and, above all, providing nutritional security to the people, is widely acknowledged. Horticulture sector, which includes fruits, vegetables, spices, floriculture, and coconut, among others, covered 17.2 million hectares of land in 2003-04, accounting for 8.5 per cent of the gross cropped area of the country. With production

**Table 8.9 : Area and production of major horticultural crops***(Area: Million hectares, Production: Million tonnes)*

Commodity	1991-92		2001-2002		2002-2003 (Provsional)		2003-04* (Provsional)	
	Area	Production	Area	Production	Area	Production	Area	Production
Fruit	2.9	28.6	4.0	43.1	3.8	45.2	4.0	47.5
Vegetables	5.6	58.5	6.2	88.6	6.0	84.8	6.2	90.0
Spices	2.0	1.9	2.6	3.2	2.4*	3.1*	2.4	3.2
Coconut	1.5	6.9	1.9	8.8	1.9	12.1	2.0	12.5
Cashew	0.5	0.3	0.7	0.5	0.8*	0.5	0.9	0.6
Areca nut	0.2	0.2	0.3	0.4	0.3*	0.4*	0.3	0.4
Other	0.2	0.2	1.5	1.8	1.5*	2.0*	1.5	2.0
<b>Total</b>	<b>12.3</b>	<b>96.5</b>	<b>17.2</b>	<b>146.5</b>	<b>16.8</b>	<b>148.1</b>	<b>17.2</b>	<b>156.1</b>

\* Provisional

Source : Ministry of Agriculture and Co-operation.

of 156.1 million tonnes in 2003-04 (Table 8.9), the sector contributed 30 per cent of GDP from agriculture. The targeted growth rate during the Tenth Plan for the sector is 6 to 7 per cent. With fruit production at 47.5 million tonnes in 2003-04, India accounted for about 10 per cent of the global production of fruits from an area of 4.0 million hectares and was the second largest producer of fruits in the world. With 90 million tonnes of vegetable production in 2003-04, India ranked as the highest producer of vegetables in the world. In the world, India occupied first position in the production of cauliflower, second in onion and third in cabbage

#### *New initiatives*

##### *National Horticulture Mission*

8.15 As per NCMP, the Government of India will pay focused attention on the overall development of horticulture in the country by launching a National Horticulture Mission. It was also highlighted in the Budget Speech of the Union Finance Minister that a National Horticulture Mission will be implemented for doubling horticulture production in the country by 2011-12. The Mission will be implemented shortly.

##### *National Bamboo Mission*

8.16 Bamboo, a versatile grass, is yet another crop, whose potential has remained untapped. There is wide scope for growing bamboo both in the forest and non-forest areas, and thereby generating additional income to the farmers besides regenerating the soil health. A special scheme has been launched to cover an area of two million hectares during the Tenth Plan in a mission mode approach integrating the production, post-felling management, value addition and marketing aspects. It is targeted to cover a total area of 6 million hectares under bamboo cultivation during the Tenth and the Eleventh Plans.

##### **Livestock, poultry and fisheries**

8.17 Livestock sector produced 88 million tonnes of milk, 40.4 billion eggs, 48.5 million kgs of wool, and 6 million tonnes of meat in 2003-04. According to the Central Statistical Organization (CSO), the value of output from livestock and fisheries sectors at current prices during 2002-03 were Rs.1,56,080 crore and Rs 30,014 crore, respectively. These sectors contributed 6.5 per cent of total GDP (5.4 per cent from livestock and 1.1 per cent from fisheries) in 2002-03.

8.18 The livestock sector by contributing milk, eggs and meat to the food basket plays a critical role in fulfilling the animal protein requirement of the people. The per capita availability of milk, which has been growing over the years, is projected to reach 232 grams per day in 2004-05 (Table 8.10). The livestock sector also plays an important role in utilization of non-edible agricultural by-products, apart from being an important foreign exchange earner. The total export earnings from livestock, poultry and related products was Rs. 4,734 crore in 2003-04, out of which leather sector accounted for Rs. 2,568 crore and meat & meat products accounted for Rs 1,694 crore.

<b>Table 8.10 : Production and per capita availability of milk</b>		
<b>Year</b>	<b>Milk production (Million tonnes)</b>	<b>Per capita availability (Gms./day)</b>
1950-51	17.0	124
1960-61	20.0	124
1970-71	22.0	112
1980-81	31.6	128
1990-91	53.9	176
2000-01	80.6	220
2001-02	84.4	225
2002-03	86.7	230
2003-04	88.1	231
2004-05 (P)	91.0	232

**Source :** Department of Animal Husbandry.

### **Poultry**

8.19 After the initial boost given by the Central Poultry Breeding Farms to promote poultry farming on commercial lines in the country, the share of production and marketing of the organized poultry sector has increased to about 70 per cent. A new centrally sponsored scheme called Assistance to State Poultry Farms is being implemented during the Tenth Plan. Under the scheme, one-time assistance is provided to suitably strengthen the farms in terms of hatching, brooding and rearing of the birds with provision for feed mill and their quality monitoring and in-house disease diagnostic facilities. Attempts are also being made to strengthen the contribution of

the unorganized sector by promoting backyard poultry.

### *Safety policies and legislation (in the background of Avian influenza)*

8.20 In order to prevent the ingress of the Avian influenza, commonly known as bird flu, in the country and restore consumer confidence in the wake of the outbreak of the disease in South and South-East Asian countries during January 2004, Government has taken several steps including ban of Import of poultry and poultry products completely from the infected countries, setting up of border check posts with neighbouring countries and clearance of baggage of livestock/livestock products at the airport by the quarantine officer (Box 8.3). The State

### **Box 8.3 : Safety measures to stop Avian Influenza in the wake of outbreak of the disease in January, 2004**

- All the State Governments have been alerted to be vigilant about the outbreak of the disease, if any.
- Import of poultry and poultry products has been banned completely from the infected countries."
- Border check posts with neighbouring countries have been set up.
- Customs authorities have been requested not to clear any baggage of livestock/livestock products without getting it cleared by the quarantine officer.
- Guidelines are issued to the States for further guidance to the poultry farmers.
- Continued vigilance is being exercised in all bordering States by taking help of the State Animal Husbandry Department who have set up check posts/quarantine stations at the borders, especially with Pakistan, Nepal, Myanmar and Bangladesh.
- The restriction on import of live birds and their products continues at present as bird flu is circulating in many countries.
- The samples from the suspected flocks from different parts of the country during the outbreak of the disease in 2004 were collected and sent to High security Animal Disease Laboratory (HSADL), Bhopal for testing to rule out the possibility of the disease in the country. All samples were tested negative.



Animal Disease Control Act is in existence in most of the States of the country. The Act becomes operative at the time of outbreak of any disease in the country. At the Central level, the Livestock and Livestock Products Importation Act, 1898 (amended in 2001) regulates import of livestock and livestock products.

### Fisheries

8.21 India is the third largest producer of fish and second largest producer of inland fish in the world. It is a source of cheap and nutritious food besides being a major foreign exchange earner (Table 8.11). The fisheries sector provides employment to over 11 million people engaged fully, partially or in subsidiary activities pertaining to the sector, with an equally impressive segment of the population engaged in ancillary activities.

8.22 Potential of fish production from marine and inland sources has been estimated at 3.9 million tonnes and 4.5 million tonnes, respectively. Having almost reached a plateau

Year	Fish production (million tonnes)			Export of marine products	
	Marine	Inland	Total	Quantity ('000 tonnes)	Value (Rs crore)
1950-51	0.5	0.2	0.7	20	2
1960-61	0.9	0.3	1.2	20	4
1970-71	1.1	0.7	1.8	40	35
1980-81	1.5	0.9	2.4	80	235
1990-91	2.3	1.5	3.8	140	893
2000-01	2.8	2.8	5.6	503	6296
2001-02	2.8	3.1	5.9	458	5815
2002-03	3.0	3.2	6.2	521	6793
2003-04 (P)	3.0	3.4	6.4	412 (P)	5739

Source : Department of Animal Husbandry.

in production from the coastal waters, the scope for increasing fish production from marine sources now lies in the deep sea. A comprehensive Marine Policy was launched in November 2004 to facilitate sustainable

### Box 8.4 : Marine fishing policy 2004

- The policy objectives are: (1) to augment marine fish production of the country up to the sustainable level in a responsible manner so as to boost export of sea food from the country and also to increase per capita fish protein intake of the masses, (2) to ensure socio-economic security of the artisan fishermen whose livelihood solely depends on this vocation. (3) to ensure sustainable development of marine fisheries with due concern for ecological integrity and bio-diversity.

- **The main provisions contained in the policy are :**

**Marine fisheries resources:** The policy underscores the need for a departure from the open access concept in the territorial waters besides putting in place stringent management regimes. Promoting exploitation in the deep sea and oceanic waters would be another approach for reducing fishing pressure in the traditional fishing areas.

**Harvesting of marine fish resources:** The policy advocates protection, consideration and encouragement of subsistence level fishermen and technology transfer to small scale sector and infrastructure support to industrial sector. There would be exclusive areas in terms of depth and (or) distance earmarked for non-mechanised (non-motorised) traditional craft. An area beyond this would be demarcated for mechanised and motorised craft.

**Post-harvest operations:** Total utilisation of harvested fish for food and non-food uses would be the central theme. Efforts would be made to fully comply with international requirements in post harvest care of catch so as to achieve highest standards in food safety. It would also be the concern of the Government to ensure that the post-harvest losses are minimized.

**Resource management:** Exploitation of living resources within 50 metres depth zone is showing symptoms of depletion and in certain belts in the onshore waters, it tends to cross optimum sustainable levels. The policy therefore advocates a stringent fishery management system to be in place.

**Fishermen welfare:** Fishing is the sole livelihood for about 10 lakh fishermen households along the coastline and this policy attaches top priority to ensuring their social security and economic well being.

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**Environmental aspects:** The effect of environmental factors on the health of living resources needs increased attention in tune with the international awareness on the issue. Health hazards due to consumption of fish harvested from contaminated water is also becoming a matter of great concern in many parts of the world. The agencies responsible for legislation relating to environmental pollution would be urged to implement them more stringently so that the impact of pollution on fisheries can be minimized.

**Infrastructure development for marine fisheries:** Development of infrastructure for marine fisheries is of vital importance and should have an integrated approach. The facilities would inter alia include jetties, landing centres, provision for fuel, water, ice, repairs to vessels and gear. The concept of hygienic post-harvest handling of fish would also be woven into the project.

**Legislative support:** An enabling legal framework is an essential pre-requisite for proper management and control of fisheries sector. As at present, the subject of fisheries is in the State list under article 21 of the Indian Constitution, management and control of coastal fisheries is vested with the maritime States and union territories. At the same time the Union Government carries out management and control of the fishing activities beyond territorial limits in the EEZ.

**Policy for development of fisheries in the union territories of Lakshadweep and Andaman & Nicobar islands:** The waters around these two Island Groups are rich in fish resource, which are currently exploited far below the exploitable limits. Fisheries – capture, post harvest operations and marketing – is still an important means of livelihood for the inhabitants of these islands. It is, therefore considered relevant to have the policy initiatives in respect of the two UTs.

deep sea fishing (Box 8.4). In the inland sector, the potential for fishery development in East and North- Eastern States is immense. Fish is an important constituent of diet of the people of these States. Development of fisheries can go a long way to tackle the problem of food as well as unemployment in these States.

#### *National Commission on Farmers*

8.23 In February, 2004, Government of India constituted a National Commission on Farmers to examine various issues confronting the Indian farmers and to suggest appropriate interventions for improving the economic viability and sustainability of diversified agriculture, including horticulture, livestock, dairy and fisheries, and for doubling the farmers' income. The Commission was reconstituted in November, 2004 and its terms of reference also modified to address the larger issues relating to working out a comprehensive medium-term strategy for food and nutrition security, enhancing productivity based on an agro-ecological and agro-climatic approach, bringing about synergy between technology and public policy, attracting educated youth in farming, enhancing investment in agri-research, etc. The reconstituted National Commission on

Farmers is headed by Dr. M.S.Swaminathan and is expected to submit its final report within two years.

## **II. Agricultural Inputs**

### **Irrigation**

*8.24 Accelerated Irrigation Benefits Programme:* Accelerated Irrigation Benefits Programme (AIBP), launched in 1996-97 to encourage the States for completion of ongoing irrigation projects through Central Loan Assistance (CLA), is now helping accelerate benefits from locked-up investments. The Fast Track Programme, launched in February 2002 under AIBP, has been modified with effect from April 2004 to provide central assistance in the form of 70 per cent loan and 30 per cent grant for non-special category States and 10 per cent loan and 90 per cent grant for special category States for projects under the Fast Track Programme. For projects not under Fast Track Programme, an incentive of conversion of loan to grant is being given if projects are completed on schedule.

8.25 The Programme covered 181 major/medium irrigation projects or components of projects and 3,810 surface minor irrigation schemes up to 2003-04, with release of

Central Loan Assistance (CLA) of Rs. 15,398 crore up to December 2004 for such projects. This included 32 major/medium projects/components under the Fast Track Programme, for which CLA of Rs 1,444 crore was provided up to the end of December 2004. There were 32 projects completed by the end of December 2004, of which 5 were Fast Track Projects. An irrigation potential of 2.7 million hectares was created under the programme through the major/medium irrigation projects by the end of March 2004. During the same period, an irrigation potential of 80 thousand hectares were created through surface minor irrigation schemes.

**8.26 Command Area Development and Water Management Programme:** The restructured Programme which started from April 2004 is aimed at bringing about better water management practices and efficient utilisation of irrigation water which, inter-alia, includes taking up corrective measures for rectification of deficiencies of delivery systems on the one hand and participation of water users in sharing the cost of works on the other. The Programme would cover 133 project commands with total Culturable Command Area of 1.7 million hectares. The work is already in progress in 0.9 million hectares and is expected to pick up by the end of the 2004-05.

**8.27 Repair, renovation and restoration of water bodies:** A pilot scheme in the State sector

for repair, renovation and restoration of water bodies directly linked to agriculture is proposed to be taken up during the remaining period of the Tenth Plan. The objectives of the scheme are: (a) to restore and augment storage capacity of water bodies, and (b) to recover and extend their lost irrigation potential. As per the guidelines prepared for the scheme, water bodies having original irrigation culturable command area between 40 hectares and 2000 hectares would be eligible for this pilot scheme. The States may undertake pilot projects in one or two districts for increasing the storage capacity and the project would include work or repair of related structures like check dams, weirs, bunds and the water conveyance systems. Once the pilot scheme is completed and validated, it would form the basis for launching of the "National Water Resources Development Project" at a much larger scale and spread.

### Agricultural credit

#### *Flow of institutional credit to agriculture*

8.28 There has been a steady increase in the flow of institutional credit to agriculture over the years (Table 8.12). If the credit flow till December 2004 of the current year 2004-05 is any guide (the credit flow till December 2004 being only marginally less than the same for the whole of 2003-04), the institutional credit given by the banks to the agriculture sector in 2004-05 may substantially exceed the last

**Table 8.12 : Institutional credit to agriculture**

Institutions	(Rs crore)					
	1999-00	2000-01	2001-02	2002-03	2003-04	2004-05*
Co-operative Banks	18,363	20,801	23,604	24,296	26,959	24,471
Share (per cent)	40	39	38	34	31	28
Regional Rural Banks	3,172	4,219	4,854	5,467	7,581	9,176
Share (per cent)	7	8	8	8	9	11
Commercial Banks	24,733	27,807	33,587	41,047	52,441	52,038
Share (per cent)	53	53	54	58	60	61
Total	46,268	52,827	62,045	70,810	86,981	85,686
Per cent increase	26	14	17	14	22	

\* Upto December 2004.

Source : NABARD.

year's level. The agency-wise share of credit flow to agriculture shows that the Commercial Banks accounted for the major share (61 per cent), followed by Cooperative Banks (28 per cent) and Regional Rural Bank (11 per cent). However, there is a declining trend in the share of co-operative banks in the flow of institutional credit over the years, which is indicative of the need for restructuring and reforming these banks.

8.29 Realizing the need to enhance credit flow to agriculture, the Government, in consultation with the Reserve Bank of India (RBI), NABARD and commercial banks, announced on June 18, 2004, a credit package for the agriculture sector, which envisaged doubling of agriculture credit over three years (Box-8.5) (See Chapter 3). The Reserve Bank of India had also set up an Advisory Committee on the flow of credit to agriculture and related activities under the

Chairmanship of Prof. V.S. Vyas, which submitted its report to the Government on June 30, 2004. Several recommendations of the Committee have been accepted and communicated to the banks for implementation. These include waiving of margin / security requirements up to Rs 50,000/ for crop loans and up to Rs. 5 lakh for loans to agri- business and agri-clinics; dispensing with the restrictive provisions of Services Area Approach; and aligning NPA norms for direct agricultural advances to the cropping seasons of short duration and long duration crops.

#### *Kisan Credit Card Scheme (KCC)*

8.30 The Kisan Credit Card Scheme, which was introduced in 1998-99, has made rapid progress with the banking system issuing more than 435 lakh cards with cumulative credit of Rs 1,11,459 crore sanctioned up to

#### **Box 8.5 : Initiatives taken in June 2004 to enhance credit flow to agriculture**

- To step up agricultural credit from all lending institutions, estimated at Rs.80,000 crore during the 2003-04, by 30 per cent to around Rs.1,05,000 crore during 2004-05.
- The share of various agencies shall be as under:-
 

Commercial Banks	Rs.57,000 crore
Regional Rural Banks(RRBs)	Rs. 8,500 crore
Cooperative Banks(CBs)	Rs.39,000 crore
- The branches of CBs and RRBs will be energized to enhance the flow of agricultural credit."
- Under special agricultural credit plan, at least 100 new farmers should be financed at each rural and semi-urban branch during the current year, resulting in enrolment of about 50 lakh new borrowers."
- Financing of at least 2 to 3 new investment projects by each branch in plantation and horticulture, fisheries, organic farming, etc."
- Financing at least 10 Agro Clinics in each district during the current year."
- Providing credit to tenant farmers and oral lessees."
- Revisiting of scales of finance and re-aligning the same to meet the realistic needs of the farmers, especially capital-intensive agricultural operations."
- Special packages to promote technological upgradation in agriculture, agro-processing and agri-biotech.
- Debt restructuring as opposed to debt writes off In the following forms:
  - (a) Relief to farmers in distress by restructuring/rescheduling of their loans and making them eligible for fresh loans.
  - (b) Rescheduling of the debts of farmers in arrears and making them eligible for fresh loans.
  - (c) One Time Settlement (OTS) for small and marginal farmers and consider them eligible for fresh loans.
  - (d) Redemption of past debts from non-institutional lenders.

**Table 8.13 : Number of Kisan Credit Cards and amount sanctioned**

Agency	2001-02		2002-03		2003-04		2004-05 (up to September 30, 2004)		Total	
	No. of cards issued (Lakh No.)	Amount sanc- tioned (Rs crore)	No. of cards issued (Lakh No.)	Amount sanc- tioned (Rs crore)	No. of cards issued (Lakh No.)	Amount sanc- tioned (Rs crore)	No. of cards issued (Lakh No.)	Amount sanc- tioned (Rs crore)	No. of cards issued (Lakh No.)	Amount sanc- tioned (Rs crore)
Coop.Banks	54.36	15952	45.79	15841	48.78	9855	16	9741	258.6	5,233
RRBs	8.34	2382	9.64	2955	12.74	2599	5.6	1513	44.6	11,265
Comm.*Banks	30.71	7524	26.81	7387	31.00	9331	NA	NA	132.4	34,961
Total	93.41	25858	82.24	26183	92.50	21785	21.6	11,254	435.6	1,11,459
* Commercial Banks up to March 2004.		Source: NABARD.								

September 30, 2004 (Table 8.13). (See also Chapter 3). Besides the existing facilities of providing crop loan, the scope of KCC scheme has been enlarged to include term loans for agriculture and allied activities and a reasonable component to meet the consumption needs. Further, to provide adequate and timely credit support from the banking system to the farmers for their cultivation needs and to improve farmers' accessibility to bank credit for production purposes, the credit delivery mechanism is being simplified and more flexibility in the use of credit Kisan Credit Card (KCC) is being introduced.

#### *Self - Help Group (SHG) bank linkages programme*

8.31 The SHG- bank linkages programme has emerged as the major micro finance programme in the country. While 563 districts in all the States/ UTs have been covered under this programme, 560 banks including 48 commercial banks, 196 RRBs and 316 co-operative banks along with 3024 NGOs are now associated with this programme. The number of SHGs linked to the banks aggregated 1,276, 035 as on December 30,

2004. Cumulative disbursement of bank loan to these SHGs stood at Rs. 5,038 crore as on the same date.

#### **Agricultural Insurance**

##### *Farm Income Insurance Scheme (FIIS)*

8.32 The scheme was conceived to provide income protection to the farmers by integrating the mechanism of insuring production as well as market risks. The farmer's income would be protected by ensuring minimum guaranteed income. The scheme was implemented on a pilot basis during Rabi 2003-04 in 18 selected district of 12 States for wheat and paddy. During the season, 1.8 lakh farmers were covered over an area of 1.9 lakh hectares. Premium amounting to Rs 14.1 crore was generated as against the sum insured of Rs 239 crore. Claims to the tune of about Rs. 1.5 crore were paid for the season. The scheme was also implemented in selected districts of four States on pilot project basis during kharif 2004 season. (Table 8.14). During kharif 2004, a total of 2.22 lakh farmers were covered over an area of 2.02 lakh hectares. Premium amounting to Rs. 15.68 crore was generated against a sum insured of Rs. 177.56 crore.

**Table 8.14 : States implementing FIIS during kharif 2004 season**

Sl. No.	States	Districts
1	Jharkhand	West Singhbhum, East Singhbhum, Ranchi, Hajaribagh and Gumala.
2	Gujarat	Ahmedabad, Panchmahal, Surat, Baroda and Bulsad.
3	Maharashtra	Bhandra, Chandrapur, Gadchiroli, Raigarh and Thane.
4	West Bengal	Birbhum, North 24 Parganas, Murshidabad and Jalpaiguri.

Source: Ministry of Finance.

## National Agricultural Insurance Scheme (NAIS)

8.33 The scheme is operating on the basis of 'Area Approach', i.e., defined areas for each notified crops for widespread calamities, and on 'an individual basis' for localized calamities such as hailstorm, landslide, cyclone and flood. At present, the scheme is being implemented by 23 States and 2 Union Territories. Cumulatively, 5.9 crore farmers have been covered under NAIS in the last ten seasons i.e. from Rabi 1999-2000 to Kharif 2004 (Table 8.15).

### Seeds

#### Availability of quality seeds

8.34 Seed is a critical and basic input for attaining higher crop yields and sustained

growth in agricultural production. Distribution of assured quality seed is as critical as the production of such seeds. The Indian seed industry has shown impressive growth and should continue to provide further potential for growth in agricultural production. The role of the seed industry is not only to produce adequate quantity of quality seeds but also to achieve variety diversity.

8.35 Indian seeds programme largely adheres to the limited generation system for seed multiplication. The system recognizes three kinds of generation, namely breeder, foundation and certified seeds. Production of breeder and foundation seeds, and certified seeds distribution have gone up at an annual average rate of 3.4 per cent, 7.5 per cent, 9.5 per cent, respectively, between 2001-02 and 2005-06 (Table 8.16).

**Table 8.15 : Performance of National Agricultural Insurance Scheme**

Sl. No.	Season	Farmers covered	Area (in lakh ha.)	Sum insured (Rs in crores)	Premium (Rs in crores)	Total claims (Rs in crores)
1.	Rabi 1999-00	579940	7.2	356.4	5.4	7.7
2.	Kharif 2000	8409374	132.2	6903.4	206.7	1222.5
3.	Rabi 2000-01	2091733	31.1	1602.7	27.8	59.5
4.	Kharif 2001	8695735	128.9	7502.5	261.6	493.3
5.	Rabi 2001-02	1955431	31.5	1497.5	30.1	64.7
6.	Kharif 2002	9768711	155.3	9431.7	325.5	1821.8
7.	Rabi 2002-03	2326660	40.4	1837.5	38.5	188.5
8.	Kharif 2003	7970830	123.5	8114.1	283.3	634.2
9.	Rabi 2003-04	4410151	92.0	3052.6	64.4	490.1
10.	Kharif 2004*	12737279	271.3	12464.6	439.2	.91
TOTAL		58945844	1013.9	52762.9	1682.5	4992.1
* Provisional		Source : Ministry of Finance.				

**Table 8.16: Production of breeder and foundation seeds, and distribution of certified seed**

Year	Production of breeder seed in quintals	Production of foundation seed in lakh quintals	Distribution of certified/quality seed in lakh quintals
2001-02	45485	5.4	91.8
2002-03	48858	6.2	93.8
2003-04	50043	6.5	100.0
2004-05	51000 (Anticipated)	7.0	127.4
2005-06	52000 (Anticipated)	7.4 (Target)	138.5 (Target)
Source: Ministry of Agriculture.			

## Fertilizer

### Fertilizer consumption

8.36 The consumption of chemical fertilizers in terms of nutrients during 2003-04 was 16.8 million tonnes, up 4.4 per cent from the 2002-03 level. Due to poor monsoon, consumption was lower in 2000-01 and 2002-03 (Table 8.17). With good monsoon in 2003, fertilizer consumption bounced back in 2003-04, but still fell short of the 1999-2000 level (18.1 million tonnes). In 2004-05 with deficient rainfall in some parts of the country and floods in other areas, fertilizer consumption is likely to be low.

8.37 A great deal of variability was observed in fertilizer consumption during 2003-04 among the States. Amongst States in the plains, per hectare consumption was quite high in Punjab, Haryana and Andhra Pradesh. It was quite low in Rajasthan, Orissa and Madhya Pradesh, apart from the States in the North- Eastern region (Table 8.18). The all India average consumption of fertilizer at 89.8 kgs per hectare in 2003-04 was higher than the preceding year's average of 86.1 kgs per hectare.

### Fertilizer production

8.38 Domestic production of fertilizers {nitrogenous (N) and phosphatic (P)} in 2004-

**Table 8.18 : Per hectare consumption of N.P.K. fertilizers  
(Based on 2000-01 provisional gross cropped area)**

S.No.	State/U.T.	2003-04	2002-03
1	Andhra Pradesh	136.8	123.5
2	Karnataka	74.9	89.5
3	Kerala	63.6	67.7
4	Tamil Nadu	112.5	117.2
5	Gujarat	95.1	73.8
6	Madhya Pradesh	55.0	39.4
7	Chhatisgarh	46.5	47
8	Maharashtra	65.7	75.3
9	Rajasthan	40.5	28.6
10	Haryana	167.1	150.4
11	Himachal Pradesh	49.4	41.9
12	Jammu & Kashmir	71.4	58.1
13	Punjab	184.1	172
14	Uttar Pradesh+	126.7	124.6
15	Bihar++	80.5	86.5
16	Orissa	41.4	36.9
17	West Bengal	122.4	128
18	Arunachal Pradesh	2.8	2.8
19	Assam	46.6	43
20	Tripura	29.4	21.6
21	Manipur	130.5	128.7
22	Meghalaya	17.0	16.1
23	Nagaland	2.2	1.7
24	Mizoram	0.0*	19.9
25	Sikkim	3.5	9.9
	<b>All India</b>	<b>89.8</b>	<b>86</b>

+ Includes Uttaranchal. ++Includes Jharkhand.  
\* non-response  
Source: Ministry of Chemicals & Fertilizers.

**Table 8.17 : Consumption of major fertilizers**

(in lakh tonnes)

Fertilizer	2000-01	2001-02	2002-03	2003-04	2004-05 (estimated upto Sept, 2004)
Urea	191.9	199.2	184.9	197.7	104.6
DAP	58.8	61.8	54.7	56.2	31.2
MOP	18.3	19.9	19.1	18.4	10.7
N	109.2	113.1	104.7	110.8	59.6
P	42.2	43.8	40.2	41.2	23.4
K	15.7	16.7	16.0	16.0	9.2
<b>Total</b>	<b>167.0</b>	<b>173.6</b>	<b>160.9</b>	<b>168.0</b>	<b>92.2</b>

Source: Ministry of Agriculture.

Year	Production		Imports	Subsidy			
	N	P	N+P+K	Imported Urea	Domestic Urea	Decontrolled P&K Fertilisers	Total
	('000 tonnes)			(Rs crore)			
1960-61	98	52	419	-	-	-	-
1970-71	830	229	629	-	-	-	-
1980-81	2164	842	2759	335	170	-	505
1990-91	6993	2052	2758	659	3730	-	4389
2000-2001	11004	3748	2090	1	9480	4319	13800
2001-2002	10771	3861	2398	47	8044	4504	12595
2002-03	10562	3906	1757	0	7790	3224	11014
2003-04	10634	3631	2019	0	8521	3326	11847
2004-05	10919#	4144#	1384**	473*	8143.15*	4046*	12662.15*

# Estimated. \* Budget estimate. \*\* Up to 31.10.2004.  
Source: Ministry of Chemicals & Fertilisers.

05 is estimated to be more than that in 2003-04 (Table 8.19).

#### *Pricing, control and subsidy*

8.39 To encourage balanced fertilizer use and make fertilizers available to farmers at affordable prices, the Central Government determines and notifies the selling price of urea as well as decontrolled P&K fertilizers such as Diammonium Phosphate (DAP), Muriate of Potash (MOP), Single Super Phosphate (SSP) and complexes. The current selling prices of urea and P&K fertilizers are less than the cost of production, the difference between the selling price and the cost of production as assessed by the Government is borne as subsidy. There has been no increase in selling prices of fertilizers since February 28, 2002 (Table 8.20). A marginal increase in selling

S.No.	Name of the fertilizer	Maximum retail price (Rs. per tonne)
1.	Urea	4830
2.	DAP	9350
3.	Complex fertilizers	6980-9080
4.	SSP	Varies from State to State

Source: Ministry of Chemicals & Fertilisers.

prices of fertilizers announced on February 28, 2003 was withdrawn with effect from March 12, 2003. With subsidy on urea at Rs.8,616 crore and on decontrolled phosphatic and potassic fertilizers at Rs.4,046 crore, the estimated total subsidy burden for fertilizer was Rs.12,662 crore during 2004-05.

#### **Agricultural mechanization**

8.40 Power availability for carrying out various agricultural operations has been increasing to reach a level of 1.4 kw per hectare (kw/ha) in 2003-04 from only 0.3 kw/ha in 1971-72. This increase was the result of increasing use of tractor, power tiller, and combine harvesters, irrigation pumps and other power-operated machines. The share of mechanical and electrical power has increased from 40 per cent in 1971-72 to 84 per cent in 2003-04. The State of Uttar Pradesh recorded the highest average sales of tractors during the five year period ending 2003-04, and West Bengal recorded the highest average sales of power tillers during the same period (Table 8.21). Efforts are on to encourage the farmers to adopt technologically advanced agricultural equipments in order to carry farm operations timely and precisely, and to economise the agricultural production process.



**Table 8.21 : Sale of tractors and power tillers (Nos)**

States	Tractors		States	Power tillers	
	Total sale (1999-2000 to 2003-04)	Average annual sale		Total sale (1999-2000 to 2003-04)	Average annual sale
Uttar Pradesh	290513	58102	West Bengal	25537	5107
Uttar Pradesh	268958	53791	West Bengal	23149	4630
Madhya Pradesh	138722	27744	Tamil Nadu	8278	1655
Punjab	104584	20916	Assam	6874	1375
Rajasthan	89087	17817	Karnataka	5499	1100
Haryana	78313	15662	Kerala	4562	912
Gujarat	63286	12657	Orissa	5183	1037
Bihar	71528	14305	Andhra Pradesh	3002	600
Andhra Pradesh	69421	13884	Maharashtra	2408	482
Maharashtra	57406	11481	Tripura	1932	386
Karnataka	44837	8967	Gujarat	1427	285
Tamil Nadu	37510	7502	Bihar	1149	230
Orissa	16391	3278	Manipur	884	177
Other States/UTs and Export etc.	76647	15329	Other States/UTs	5455	1091
<b>All India</b>	<b>1116690</b>	<b>223333</b>	<b>All India</b>	<b>68034</b>	<b>13606</b>

Source: Ministry of Agriculture.

**Capital formation in Indian agriculture**

8.41 The decline in the share of agriculture sector's capital formation in GDP from 1.92 per cent in the early 1990s to 1.28 per cent in the early 2000s is a matter of concern (Table 8.22). This declining share was mainly due to the stagnation or fall in public investment in agriculture, particularly since the mid-1990s.

However, there is indication of a reversal of this trend of late, with the public sector investment in agriculture reaching the highest level since the early nineties at Rs 5,249 crore in 2003-04. This has helped in improving the share of agriculture sector's capital formation in GDP from 1.28 per cent in 2001-02 to 1.31 per cent in 2003-04.

**Table 8.22 : Gross capital formation in agriculture (at 1993-94 Prices)**

Year	Investment in Agriculture			Per cent Share		Investment in Agriculture as per cent of GDP
	Total	Public	Private	Public	Private	
1990-91	14836	4395	10441	29.6	70.4	1.92
1995-96	15690	4849	10841	30.9	69.1	1.57
1996-97	16176	4668	11508	28.9	71.1	1.51
1997-98	15942	3979	11963	25.0	75.0	1.43
1998-99	14895	3870	11025	26.0	74.0	1.26
1999-00	17304	4221	13083	24.4	75.6	1.37
2000-01	16906	3927	12980	23.2	76.8	1.28
2001-02	17219	4969	12250	28.9	71.1	1.24
2002-03	18240	4359	13881	23.9	76.1	1.27
2003-04*	20510	5249	15261	25.6	74.4	1.31

\* Quick Estimates  
Source: Central Statistical Organisation.

### III. Agri-trade

8.42 India, in recent years, has been a net exporter of agricultural goods. The exports of agricultural products from India, which stood at US\$6,734 million and US\$7,533 million in 2002-03 and 2003-04, respectively, were more than two times the import of agricultural products in the corresponding years. During the first half of the current year 2004-05, the exports of agricultural products were US\$3,511 million, which were slightly less than double of the imports of the agricultural products during the same period.

#### Agri-exports

8.43 Despite an increase of 11.87 per cent during 2003-04 and 14.43 per cent during the first six months of 2004-05, the share of agri-exports in total merchandise exports came down from 12.8 per cent in 2002-03 to 11.8 per cent in 2003-04 and further, to 9.7 per cent during the first six months of 2004-05 (Table 8.23). The decline in the share of the agri-exports to total exports, notwithstanding the growth in its volume in the range of 12-14 per

cent, was because of a much faster growth in the volume of merchandise exports, which ranged between 21 and 32 per cent during the same period. Marine products, with a share of 17.6 per cent in 2003-04 and 15.6 per cent in agri-exports during the first half of 2004-05, continued to dominate the agri-exports, although its share in agri-exports remained much below the level of 2002-03 at 21.3 per cent. The export of oil meals gained substantially, both in volume and share, during 2002-03. The growth was also sustained during the first half of 2004-05, because of the increasing demand for Indian oil meals in world market, which is mainly flooded with oil meals of genetically modified (GM) oil seeds. Indian oil meals command a premium because of its non-GM nature. Despite an impressive growth of basmati rice exports, especially during the first half of the current year (from \$ 426 million in 2002-03 to \$ 433 million in 2003-04, and from \$ 170 million in the first half of 2003-04 to \$ 256 million in the corresponding period of 2004-05), there was a fall both in the volume of rice exports and its share in agri-

**Table 8.23 : Agricultural exports**

	2002-03		2003-04		2003-04 (Apr.-Sept.)		2004-05 (Apr.-Sept.)	
	Million US dollar	Percent share of agri- exports	Million US dollar	Percent share of agri- exports	Million US dollar	Percent share of agri- exports	Million US dollar	Percent share of agri- exports
Tea	343.6	5.1	356.3	4.7	155.5	5.1	197.2	5.6
Coffee	205.5	3.1	236.3	3.1	116.0	3.8	111.0	3.2
Rice	1218.1	18.1	907.0	12.0	458.4	14.9	456.3	13.0
Wheat	363.6	5.4	520.4	6.9	227.9	7.4	220.7	6.3
Sugar & molasses	375.1	5.6	269.0	3.6	189.3	6.2	14.8	0.4
Tobacco	212.5	3.2	238.6	3.2	113.6	3.7	131.7	3.8
Spices	342.8	5.1	336.1	4.5	141.7	4.6	222.1	6.3
Cashew	424.2	6.3	370.0	4.9	159.1	5.2	240.2	6.8
Sesame and niger seeds	93.2	1.4	164.2	2.2	47.3	1.5	47.1	1.3
Guargum meal	100.6	1.5	110.5	1.5	60.2	2.0	51.0	1.5
Oil meals	308.8	4.6	728.7	9.7	78.5	2.6	298.4	8.5
Fruits & vegetables	300.2	4.5	453.2	6.0	176.7	5.8	200.5	5.7
Processed fruits & vegetables	118.8	1.8	74.8	1.0	32.5	1.1	38.4	1.1
Meat & meat preparations	284.6	4.2	373.1	5.0	142.8	4.7	170.4	4.9
Marine products	1431.6	21.3	1328.7	17.6	625.2	20.4	549.5	15.6
Others	611.1	9.1	1066.1	14.2	343.3	11.2	561.7	16.0
Agricultural exports	6734.0	100.0	7533.0	100.0	3068.0	100.0	3511.0	100.0
Total exports	52719.4		63843.0		27412.0		36235.0	
Agri-export as per cent of total exports	12.8		11.8		11.2		9.7	

Source : Ministry of Industry & commerce.

exports in 2003-04 and the first half of 2004-05, in view of the decision of the Government to ban fresh export of foodgrains from the FCI since August 2003, in the light of the declining stock of foodgrains. The export of wheat also declined both in volume and share in the first half of 2004-05 as compared to the corresponding period of 2003-04.

8.44 The Foreign Trade Policy 2004-09, emphasized the importance of agricultural exports and announced the following policy measures to boost agri-exports:

- A new scheme called the Vishesh Krishi Upaj Yojana (Special Agricultural Produce Scheme) for promoting the export of fruits, vegetables, flowers, minor forest produce, and their value added products has been introduced (Box-8.6).
- Funds shall be earmarked under ASIDE (Assistance to States for Infrastructure Development of Export) for development of Agri Export Zones (AEZ).
- Capital goods imported under EPCG shall be permitted to be installed anywhere in the AEZ.

### Agri-imports

8.45 The import of agricultural products, which increased by 27 per cent in 2003-04, showed

### Box 8.6 : Vishesh Krishi Upaj Yojana

#### Objective

The objective of the scheme is to promote export of fruits, vegetables, flowers, minor forest produce, and their value added products, by incentivising exporters of such products.

#### Entitlement

Exporters of such products shall be entitled for duty credit scrip equivalent to 5 per cent of the FOB value of exports for each licencing year commencing from April 1, 2004. The scrip and the items imported against it would be freely transferable.

#### Imports allowed

Duty credit may be used for import of inputs or goods including capital goods, as may be notified, provided the same is freely importable under ITC(HS). Imports from a port other than the port of export shall be allowed under TRA (Telegraphic Release Advice) facility as per the terms and conditions of the notification issued by Department of Revenue.

#### Cenvat/ Drawback

Additional customs duty/excise duty paid in cash or through debit under Vishesh Krishi Upaj Yojana shall be adjusted as CENVAT Credit or Duty Drawback as per rules framed by the Department of Revenue.

signs of softening in 2004-05, with the agri-imports declining by 8 per cent during the first half of 2004-05 from US\$1,949 million in the corresponding period of 2003-04 (Table 8.24). The import of edible oils, which is the most dominant item of agri-imports, accounting for almost two-third of the total agri-imports in

Table 8.24 : Agricultural imports

	2002-03		2003-04		2003-04 (Apr.-Sept.)		2004-05 (Apr.-Sept.)	
	Million US dollar	Percent share of agri- imports	Million US dollar	Percent share of agri- imports	Million US dollar	Percent share of agri- imports	Million US dollar	Percent share of agri- imports
Cereals	24.5	0.9	19.4	0.5	8.8	0.5	12.4	0.7
Pulses	565.6	20.2	497.2	13.9	254.3	13.0	181.8	10.2
Milk & cream	2.0	0.1	19.5	0.5	1.36	0.1	1.48	0.1
Cashew nuts	255.4	9.1	298.5	8.4	158.99	8.2	226.74	12.7
Fruits & nuts excluding cashew nuts	132.6	4.7	174.6	4.9	67.73	3.5	71.27	4.0
Sugar	6.8	0.2	13.6	0.4	0.17	0.0	56.12	3.1
Oilseeds	2.4	0.1	3.0	0.1	0.81	0.0	2.58	0.1
Vegetable oils fixed (edible)	1814.2	64.7	2542.5	71.3	1456.8	74.7	1235.6	69.1
Agricultural imports	2803.4	100.0	3568.3	100.0	1948.96	100.0	1787.99	100.0
Total imports	61412.1		78149.1		34777.0		47755.9	
Agri-imports as per cent of total imports		4.6		4.6		5.6		3.7

Source : Ministry of Industry & commerce.

recent years, registered a sharp increase of nearly 40 per cent in 2003-04, following low production of oilseeds in 2002-03 at 15.1 million tonnes. This was mainly responsible for the large increase in the volume of agri-imports in 2003-04. With the record production of oilseeds in 2003-04 at 25.1 million tonnes, the import of edible oils declined during the first half of 2004-05 by 15.2 per cent from US\$1,457 million during the corresponding period of 2003-04, which mainly contributed to the decline in the agri-imports during the first half of 2004-05. Despite the increase in the volume of agri-imports in 2003-04 by 27 per cent over 2002-03, the share of agri-import in the total merchandise imports remained unchanged at 4.6 per cent. The share of agri-imports to total merchandise imports declined to 3.7 per cent in the first half of 2004-05 from 5.6 per cent in the corresponding period of 2003-04.

## **Agricultural marketing**

### *Agricultural marketing reforms*

8.46 The Inter-Ministerial Task Force on Agricultural Marketing Reforms, which submitted its report in June 2002, had made a number of recommendations to make the agricultural marketing system more vibrant and competitive. The major recommendations of the Task Force related to amendment to the State APMC Act for promotion of direct marketing and contract farming, development of agricultural markets in private and cooperative sectors, stepping up of pledge financing, expansion of future trading to cover all agricultural markets, introduction of negotiable warehouse receipt system and use of information technology to provide market-led extension services to the farmers. As a follow-up measure, the Central Government, in order to guide the States in the implementation of the suggested reforms, drafted a Model Act on Agricultural Marketing which, inter-alia, provided for the establishment of direct purchase centers and farmers' markets for direct sale to consumers, complete transparency in the pricing system, and payment to farmers on the same day, public-private partnership for professional

management of existing markets and setting up of Market Standards Bureau for promotion of standardization, grading and quality certification of produce. In the National Conference of State Ministers on Agricultural Marketing and Land Reforms held on January 7, 2004, all the State Governments agreed to adopt the Model Act on Agricultural Marketing in their respective States. The feedback received in the Agriculture Ministry indicates that 18 State Governments/UTs have initiated action for amending their State Agricultural Produce Marketing (Regulation) Acts.

### *Construction of rural godowns*

8.47 With a view to create scientific storage in rural areas, the Government is implementing a central sector scheme for the construction of rural godowns. The scheme, which is being implemented since March 2001, provides subsidy to private and cooperative bodies on the capital cost of the storage projects. By the end of 2003-04, 4851 storage projects were sanctioned by the banks involving an investment of Rs. 1,300 crore to create 105 lakh tonnes of rural storage capacity in the country. The scheme is continued for the period 2004-07, with certain modifications, involving a central outlay of Rs.115 crore, for creation of new storage capacity of 32 lakh tonnes and renovation of capacity of 4 lakh tonnes. During the current year 2004-05, projects with a capacity of 10.1 lakh tonnes have been sanctioned till end-September as against the target of 38 lakh tonnes of capacity. The scheme has helped the farmers to store their commodities near their fields and obtain pledge loans and marketing credit from the banks, thereby avoiding distress sale at the time of harvest.

### **Futures trading in agricultural commodities**

8.48 The Government of India in 2003-04 had initiated major steps towards introduction of futures trading in commodities, which included removal of prohibition on futures trading in all the commodities by issue of a notification and setting up of the National Level Commodity Exchanges. The momentum gathered in 2003-04 continued in 2004-05 and manifested

itself in increases in volumes, participation, number of commodities traded and various new initiatives taken by the National Exchanges (Table 8.25).

<b>Table 8.25 : Value of trading in agricultural commodities</b>	
<b>Name of the Exchange</b>	<b>Value of Trade (till Nov. 2004) (Rs crore)</b>
National Commodity and Derivative Exchange, Mumbai.	91470
Multi Commodity Exchange, Mumbai.	4384
National Multi Commodity Exchange, Ahmedabad.	9325
<b>Source : Ministry of Consumer Affairs.</b>	

8.49 The major agricultural commodities traded at these exchanges were soya oil, guar seed, guar gum, chana, jute, rubber, pepper, turmeric, wheat, kapas (cotton) etc. These exchanges have introduced various innovations which would increase efficiency of agricultural marketing in the country. The development of a system of physical delivery of commodities backed by warehouse receipt system is expected to help eliminate rigidities inherent in the trading of physical goods by providing for a judicious mix of protection against both price and quality risks. The National Commodity and Derivative Exchange, Mumbai has launched pilot projects in the States of Gujarat, Madhya Pradesh and Andhra Pradesh to help farmers understand the concept and benefits of hedging the price risk on the trading platform of an Exchange prior to harvesting.

#### **IV. Outlook**

8.50 Agriculture production in the current year has been adversely affected by the erratic and delayed monsoon with uneven distribution of rainfall over time and regions. As per quarterly estimates of GDP by the CSO, value added in agriculture and allied sector registered a growth rate of 3.4 per cent in the first quarter followed by a negative growth of (-) 0.8 per cent in the second quarter, resulting in a modest growth of 1.5 per cent in the first

half of the current year 2004-05. Although the prospects of Rabi crops are good, the second advance estimates of foodgrains production made by the Ministry of Agriculture, indicate a fall by 6 million tonnes from last year's level at 212 million tonnes. The CSO, in its advance estimates of National Income released on February 7, 2004, has projected a growth rate of 1.1 per cent for the agriculture and allied sector in 2004-05.

8.51 Past performance of agricultural credit reveals that though the overall flow of institutional credit has increased over the years, there are several gaps in the system like inadequate provision of credit to small and marginal farmers, paucity of medium and long-term lending and limited deposit mobilisation and heavy dependence on borrowed funds by major agricultural credit purveyors. These have major implications for agricultural development as also the well being of the farming community. Efforts are, therefore, required to address and rectify these issues.

8.52 Special emphasis needs to be given on micro-finance, as it is a valuable tool for fighting poverty and unemployment in rural areas. By putting credit, savings, insurance and other basic financial services within their reach, micro finance can provide thousands of poor people with opportunities to overcome poverty and unemployment. It is, in fact, such an important tool in fighting poverty in rural areas that it has got the attention of International Fund for Agricultural Development (IFAD), which has declared 2005 as "The International Year of Micro credit".

8.53 The development of efficient commodity futures markets requires establishment of a sound regulatory framework. The international experience shows that in all major countries, commodity futures trading is regulated as a part of all derivatives trading, with a unified regulator. This "convergence" between commodity futures markets and other derivatives markets would induce economies of scale. It would help in the utilisation of capital investments and institution building, which has already taken place for the derivatives markets, for the purposes of India's agricultural sector.

8.54 As regards the WTO agreement on agriculture, some of the important issues concerning the Indian farmer remain unresolved. The major challenge is to remain within the system and protect the interests of Indian farmers effectively. More than 65 per cent of Indians derive their livelihood from agricultural activities. Lack of financial resources constrain India from matching the level of support provided to agriculture by the developed countries. In such a situation, the only option available is to seek inclusion of those provisions in the agreement, which would provide sufficient protection to Indian agriculture.

8.55 Indian agriculture faces both opportunities and challenges with liberalization of domestic and global markets. There is a need to develop a new strategy for the agriculture sector. Appropriate measures are required to move away from the subsidy-based regime and to build a productive and internationally competitive agriculture structure. Promoting more rapid agriculture growth is important not only to achieve higher economic growth, but also to lift large number of households in rural areas out of the poverty and unemployment circle.