

## ALLIED SECTORS

### Horticulture

7.64 The production of horticultural crops increased from 191.83 million tonnes in 2006-07 to 207.01 million tonnes during 2007-08. With a production of 15,840 million nuts, India has emerged as the largest producer of coconut in the world. India also accounts for 26.9 per cent of the world's production. Area and production of major horticultural crops are given as under (Table 7.14)

7.65 A major programme, namely the "National Horticulture Mission (NHM)" was launched in the country, during the Tenth Five Year Plan with effect from 2005-06, for holistic development of horticulture sector. The Mission's objectives are to enhance horticulture production through area-based regionally differentiated strategies to improve nutritional security and income support to farm households, to establish convergence and synergy among ongoing programmes for horticulture and to develop, promote and disseminate technologies.

**Table 7.14 : All-India area and production of horticultural crops**

(Area in '000 hectares; production in '000 tonnes)

Crop	2005-06		2006-07		2007-08*	
	Area	Production	Area	Production	Area	Production
Fruits	5339	55397	5554	59563	5775	63503
Vegetables	7131	110106	7584	115011	7803	125887
Flowers loose	146	686	144	880	161	870
Plantation crops	3283	11263	3207	12007	3226	12045
Spices	2422	3923	2448	3953	2603	4103
<b>Total Horticulture</b>	<b>18713</b>	<b>181814</b>	<b>19393</b>	<b>191831</b>	<b>20087</b>	<b>207012</b>

\* Provisional

7.66 Under the National Horticulture Mission, 344 districts have been taken up for the development of potential horticulture crops, of which, four were included during 2008-09. In the North-eastern region and the Himalayan States, an additional area of 4.86 lakh ha has been brought under various horticultural crops under TMNE from 2001-02 to 2008-09. An area of 12 lakh ha has been brought under improved methods of irrigation such as drip and sprinkler irrigation. During 2005-06 to 2007-08 Rs. 2,472.62 crore was released for the scheme, against which the expenditure incurred was Rs. 2,007.09 crore. In 2008-09, Rs. 1,010.49 crore was released for the scheme, and expenditure reported has been Rs. 1,148.15 crore.

7.67 A Centrally-sponsored scheme titled, Technology Mission for Integrated Development of Horticulture in the North Eastern region including Sikkim (TMNE) was initiated during 2001-02. It was extended to J&K, Himachal Pradesh and Uttarakhand in 2003-04. During 2001-02 to 2008-09, Rs. 1,538.60 crore was released of which Rs. 1,122.97 crore was for NE States and Rs. 415.63 crore for the Himalayan States. In 2008-09, an amount of Rs. 291.39 crore has been released, of which Rs. 218.00 crore is for North-eastern States and Rs. 73.39 crore is for Jammu & Kashmir, Himachal Pradesh and Uttarakhand. For the current year 2009-10, an allocation of Rs. 299.00 crore has been made, of which Rs. 220.00 crore is for North-eastern States and Rs. 79.00 crore is for Jammu & Kashmir, Himachal Pradesh and Uttarakhand.

7.68 Since the inception of the scheme, an additional area of about 4.86 lakh hectare has been brought under cultivation in various horticulture crops in North-eastern and the Himalayan States including fruits (3,06,101 hectare), vegetables (71,824 hectare.), spices (58,443 hectare), plantation crops (10,443 hectare), medicinal plants (5,651 hectare), aromatic plants (6,883 hectare), roots and tubers (1,040 hectare), flowers (25,762 hectare). Forty-seven wholesale markets, 262 rural primary markets, 64 apni mandis, 18 state grading laboratories, 31 ropeways and 49 processing units have been established in the North-eastern states and the Hill States of J&K Himachal Pradesh and Uttarakhand. The creation of infrastructure facilities such as nurseries, community tanks, tube-wells, tissue culture units, green houses, model floriculture centres, mushroom units, vermi-compost units etc. has helped in production and supply of quality planting

material and improved production and productivity of horticulture crops in the region. During 2009-10, an additional area of 1.00 lakh ha is proposed to be brought under various horticulture crops.

7.69 A Centrally-sponsored scheme on micro irrigation has been launched in January 2006 for implementing drip and sprinkler irrigation in the country. The scheme is aimed at achieving better water use efficiency (60-70 per cent), increase in yield (30-100 per cent), saving fertilizer consumption (up to 40 per cent), reduction of weeding cost and inter-cultural operations, better quality produce and enhanced productivity.

7.70 Under this scheme, assistance is provided to all categories of farmers at 50 per cent of the cost of drip and sprinkler system and at 75 per cent of the cost for demonstration. The National Committee on Plasticulture Applications in Horticulture (NCPAH) through Precision Farming Development Centres (PFDCs) in 22 locations monitors the implementation of the programme. The programme is for horticulture, non-horticulture crops except oil palm and plantation crops like rubber, tea & coffee.

7.71 So far, 13 lakh ha has been brought under drip and sprinkler irrigation system in 18 states of the country. During the last two years implementation of the system has geared up and shows 25 per cent increase in area coverage. During 2007-08, a sum of Rs. 411.25 crore was released to 11 states and an area of 4.32 lakh hectares has been brought under micro irrigation. During 2008-09, Rs. 470.00 crore was released under micro irrigation to 16 states for covering an area of 5.50 lakh hectares including transfer of technology through training, awareness programme and publication of literature, etc.

#### *National bamboo mission*

7.72 With a view to harness the potential of bamboo crop in the country the Department of Agriculture and Cooperation (DAC), Ministry of Agriculture has been implementing a Centrally-sponsored scheme called the National Bamboo Mission (NBM) in 27 states in the country. This scheme is approved for the period 2006-07 to 2010-11 with a total outlay of Rs. 568.23 crore. A sum of Rs. 110.00 crore (RE) has been allocated for the scheme during 2008-09 and Rs. 84.66 crore was released to different state implementing agencies/institutions.

Table 7.15 : Key statistics on the NR sector in India (2003-04 to 2008-09)

Year	Area (ha)	Production (tonnes)	Productivity (Kg/ha)	Export (tonnes)	Import (tonnes)	Consumption (tonnes)
2003-04	575980	711650	1663	75905	44199	719600
2004-05	584090	749665	1705	46150	72835	755405
2005-06	597610	802625	1796	73830	45285	801110
2006-07	615200	852895	1879	56545	89799	820305
2007-08 (P)	635400	825345	1799	60353	86394	861455
2008-09 (E)	650000	864000	1875	45538	79927	865000

Source : The Rubber Board

(P) Provisional

(E) Estimates

### New initiatives in horticulture

7.73 The proposal for implementation of the project "Replanting and Rejuvenation of Coconut Gardens" in districts of Thiruvananthapuram, Kollam and Thrissur in Kerala and the Union Territory of Andaman & Nicobar Islands" has been approved on a pilot basis. Recognizing the importance for institutional support for development of horticulture in the North-east region, the Government of India has sanctioned a Central Institute of Horticulture in Medziphema, Nagaland, during January 2006, with a financial outlay of Rs. 20.00 crore spread over a period of five years. The outlay for the Tenth Five Year Plan is Rs. 8.35 crore and for the remaining three years of Eleventh Five Year Plan is Rs. 11.65 crore. The institute is being set up at Medziphema in an area of 43.50 hectares. The objectives and the identified programmes of the institute include capacity building by training of trainers, extension officers, farmers, entrepreneurs, processors and exporters. The programmes also include demonstration of improved technologies such as use of improved varieties/hybrids, adoption of INM / IPM practices, high-tech farming, precision farming, protected cultivation, post-harvest technology and extension support in the field of horticulture. The promotion of organic cultivation of horticultural crops and establishing convergence and synergy among programmes in the field of horticultural research and development are also envisaged.

### Rubber

7.74 India is the fourth largest producer of natural rubber (NR) with a share of 8.9 per cent in world production in 2008. The small-holding sector accounted for 89 and 93 per cent of rubber planted area and NR production respectively. Despite not having the best regions geographically favourable for growing NR, India continued to record the highest productivity among major NR producing countries.

The estimated production and consumption of NR in 2008-09 is 8,64,000 and 8,65,000 tonnes against the projections of 8,75,000 and 8,99,000 tonnes respectively. The lower NR production is due to weather characterized by relatively high temperature and the lower NR consumption is due to the impact of economic slowdown. India is also the fourth largest consumer of NR with a share of 9.2 per cent in world consumption in 2008. The auto-tyre sector accounted for 57.5 per cent of NR consumption (Table 7.15).

7.75 In 2008-09, the estimated export of NR is 45,538 tonnes against the import of 79,927 tonnes. Duty-free channels accounted for 99 per cent of NR imported in 2008-09. Export of NR is perceived as a strategy to adjust domestic demand-supply balance and also to educate the growers on the necessity to process the produce in conformity with the international standards.

### Coffee

7.76 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 total world production, but Indian coffee has created a niche for itself in the international market, particularly Indian Robusta, which is highly preferred for its blending quality. Arabica coffee from India is also well received in the international market (Table 7.16).

7.77 The international coffee price for Arabica averaged at 79.85 US cents per lb while Robusta averaged at 32.89 US cents per lb during 2004, but recovered to 136.46 US cents per lb and 96.76 US cents per lb respectively during 2008. The current global financial crisis has had its impact on Indian coffee exports though it did not have much effect on domestic prices and domestic consumption. However, due to unfavourable weather conditions, 2008-09 production (at 2.62 lakh tonnes) has shown no growth over the previous year. Accordingly, the

**Table 7.16 : Production, exports and domestic consumption of coffee**

Year	Production Qty. in lakh ton	Exports		Domestic consumption in tonnes	
		Qty	Value (Rs. crores)		US mln.\$
2006-07	2.88	2.49	2008	455	85000
2007-08*	2.62	2.19	2047	503	90000
<b>2008-09*</b>	<b>2.62</b>	<b>2.04</b>	<b>1925</b>	<b>443</b>	<b>94400</b>

Source : The Coffee Board \* Provisional as on 13.04.2009,

level of exports has also come down. The Coffee Board continues with its initiatives to enhance the competitiveness of Indian coffee sector which inter alia include continuing the development support scheme during the Eleventh Five Year Plan period in which subsidy will be extended for the benefit of coffee growers for replantation, water augmentation, quality upgradation, pollution abatement, capacity building and welfare support; providing interest subsidy at the uniform rate of 5 per cent to coffee growers on their working capital loans taken from the financial institutions which will be limited to a ceiling of Rs. 50,000 per Arabica coffee grower and Rs. 40,000 per Robusta coffee grower and the interest rate, after allowing interest subsidy should not be lower than 7 per cent; undertaking campaigns to promote domestic consumption of coffee; providing subsidy for coffee roasting, grinding and packaging units during the Eleventh Five Year Plan; reduction of import duty on specified machinery for coffee sector to 5 per cent to enable the industry to improve productivity, quality and consumption of coffee; implementation of weather (rainfall) insurance as a risk management support for coffee growers in collaboration with Agriculture Insurance Company of India Ltd.

### Animal husbandry, dairying and fisheries

7.78 The livestock sector contributed over 5.26 per cent to the total GDP during 2006-07 and contributes about 31.7 per cent GDP from total agriculture and allied activities. The Eleventh Five Year Plan envisages an overall growth of 6-7 per cent per annum for the sector. In 2007-08, this sector contributed 104.8 million tonnes of milk, 53.5 billion eggs, 44 million kg wool and 2.6 million tonnes of meat. The 17th Livestock Census (2003) has placed the total livestock population at 485 million and total of poultry birds at 489 million. The 18th Livestock Census has been conducted throughout the country with reference date of October 15, 2007, results of which are awaited.

7.79 India ranks first in the world in milk production, which increased from 17 million tonnes (MT) in 1950-51 to about 104.84 MT by 2007-08. The per capita availability of milk has also increased from 112 grams per day in 1968-69 to 252 grams during 2007-08, but it is still low compared to the world average of 265 grams/day. About 80 per cent of milk produced in the country is handled in the unorganized sector and the remaining 20 per cent is shared equally by cooperative and private dairies. Over 1.28 lakh village-level dairy cooperative societies, spread over 346 districts in the country, collect about 22.8 million litres of milk per day and market about 18.9 million litres. The efforts of the Government in the dairy sector are concentrated on promotion of dairy activities in non-operation flood area with emphasis on building up cooperative infrastructure, revitalization of sick dairy cooperatives and federations and creation of infrastructure in the States for production of quality milk and milk products (Table 7.17).

7.80 A major programme for genetic improvement, the National Project for Cattle and Buffalo Breeding (NPCBB), was launched in October 2000 to be implemented over a period of 10 years in two phases of five years each with an allocation of Rs. 402 crore and Rs. 775.9 crore for Phase I and II, respectively. NPCBB envisages genetic upgradation and development of indigenous breeds on priority basis. At present, 28 states and one UT are participating in the project. Financial assistance to

**Table 7.17 : Production and per capita availability of milk**

Year	Per capita (grams/day)	Milk production (MT)
1990-91	176	53.9
2000-01	220	80.6
2005-06	241	97.1
2006-07	246	100.9
2007-08	252	104.8

the tune of Rs. 398.38 crore was released to these states up to 2007-08. During the financial year 2008-09, Rs. 87.37 crore has been released to the implementing agencies under the scheme.

### *Livestock insurance*

7.81 The Government implemented the Livestock Insurance scheme as a Centrally-sponsored scheme on a pilot basis during 2005-06 to 2007-08 in 100 selected districts across the country. The scheme has twin objectives of providing protection mechanism to the farmers and cattlerearers against any eventual loss of their animals and to demonstrate the benefit of the scheme to the people and popularize it with the ultimate goal of attaining qualitative improvement in livestock and their products. Under the scheme 50 per cent subsidy on premium was provided by the Government of India to insure crossbred and high-yielding cattle and buffaloes and the beneficiary paid 50 per cent of the premium. The benefit of the subsidy was restricted to two crossbred cows or buffaloes per beneficiary for a policy of maximum period of three years. The scheme was implemented in the states through the respective State Livestock Development Boards. As per information received from various states, during pilot period, 9.55 lakh animals were insured and out of 21,081 cases of claims made, 16,813 cases were settled. During the remaining period of the Eleventh Five Year Plan, the scheme is being implemented as a regular scheme as per existing guidelines in the 100 newly selected districts. There is provision of Rs. 153.43 crore in the Eleventh Five Year Plan for the Livestock Insurance scheme.

### *Poultry*

7.82 India produces more than 47.3 billion eggs per year, with per capita availability of 42 eggs per annum. As per the estimate provided by the Food and Agriculture Organization (FAO) for 2007, the annual chicken meat production in India is around 2.2 million tonnes. The value of exports was around Rs. 441 crore during 2007-08. Poultry sector has lately faced the onslaught of both bird flu and steep increase in prices of poultry feed ingredients like maize. A number of economic measures like conversion of unpaid principal and interest on working capital into term loans and reschedulement were announced in February 2008 to bail out the bird-flu affected farmers. The Reserve Bank of India has already issued guidelines for the "Agricultural Debt Waiver and Debt Relief Scheme, 2008," which was announced during Union Budget 2008-09 wherein

allied activities include poultry among others. These measures are expected to provide much-needed relief to distressed poultry sector. The Special Livestock and Fisheries Sectors Package for Suicide-prone Districts of Andhra Pradesh, Maharashtra, Karnataka and Kerala has been modified and subsidy for poultry units introduced.

### *Livestock health*

7.83 Animal wealth in India has increased manifold and animal husbandry practices have also changed to a great extent. With increased trade potential, the chances of ingress of exotic diseases into the country has also increased. With the improvement in the quality of livestock through launching of extensive cross breeding programmes, the susceptibility of these livestock to various diseases, including exotic diseases has increased. For ensuring the maintenance of disease-free status and to be compatible with the standards laid down by the World Animal Health Organization, major health schemes have been initiated to support animal health programmes in the state. In order to reduce morbidity and mortality, efforts are being made by the State Governments/Union Territory to provide better health care through polyclinics/veterinary hospitals/dispensaries/first-aid centres including mobile veterinary dispensaries. A network of 26,540 polyclinics/hospitals/dispensaries and 25,433 veterinary-aid centres (including stockmen centres/mobile dispensaries), supported by about 250 disease diagnostic laboratories are functioning in the states and Union Territories for quick and reliable diagnosis of diseases. In order to provide referral services over and above the existing disease diagnostic laboratories in the states, one Central and five regional disease diagnostic laboratories are also functioning. Further, for control of major livestock and poultry diseases the Government of India provides financial assistance to the States/UTs to supplement their activities to prevent, control and contain the animal diseases and also for strengthening of veterinary services including reporting of animal diseases in the form of Centrally-sponsored schemes called "Livestock Health & Disease Control". Besides, India was free from Avian Influenza till January 2006. The first outbreak was reported in February-April 2006 in remote areas in Maharashtra, Gujarat and Madhya Pradesh, followed by second outbreak in July 2007 in Manipur. The most widespread outbreaks were experienced in 2008 in

West Bengal and Tripura. All these outbreaks were controlled and contained efficiently and the country was free from Avian influenza in November 2008. The effort of the Indian Government was appreciated by the international organizations like the World Bank, WHO, FAO etc. In the subsequent outbreak, Avian influenza was reported in Assam, Sikkim and recurrence in West Bengal. All these outbreaks have been effectively controlled.

## Fisheries

7.84 Fish production increased from 6.8 million tonnes in 2006-07 to 7.3 million tonnes in 2007-08. Fishing, aquaculture and allied activities are reported to have provided livelihood to over 14 million persons in 2006-07 apart from being a major foreign exchange earner (Table 7.18). The National Fisheries Development Board (NFDB) has been set up to realize the untapped potential of the fishery sector with the application of modern tools of research and development including biotechnology. The board was registered in July 2006 under the Andhra Pradesh Societies Registration Act, 2001, and has become operational.

## Feed and fodder

7.85 Adequate availability of feed and fodder to the livestock is very vital for increasing the milk production and sustaining the ongoing genetic improvement programme. It is estimated that there

is shortage of about 34 per cent of green fodder in the country. To increase the availability of fodder, the department is implementing a Centrally-sponsored fodder development scheme throughout the country to supplement the efforts of the states in fodder development. Financial assistance to the tune of Rs. 924.91 lakh was provided to the states during 2008-09. A Central Minikit Testing Programme is also implemented under which Minikits of latest high-yielding fodder varieties are distributed free of cost to the farmers for their popularization. During 2008-09, 6.34 lakh Minikits were allotted to the states for distribution to the farmers.

## Credit and insurance

7.86 The "Farm Credit Package" announced in June 2004 was aimed at doubling the flow of institutional credit for agriculture in the ensuing three years. The credit flow to the farm sector got doubled during two years as against the stipulated time period of three years. The credit flow in 2008-09 is placed at Rs. 2,64,455 crore (Table 7.19).

7.87 A number of steps were taken to enhance credit support to farmers. About 808 lakh Kisan Credit Card (KCC) have been issued up to February 28, 2009. This scheme was introduced in August 1998 to provide adequate and timely credit support from the banking system to the farmers for their cultivation needs, including purchase of all inputs in a flexible and cost effective manner. The scheme

**Table 7.18 : Production and export of fish**

Year	Fish production (million tonnes)			Export of marine products	
	Marine	Inland	Total	Qty ('000 tonnes)	Value (Rs. crore)
1990-91	2.3	1.5	3.8	140	893
2000-01	2.8	2.8	5.6	503	6288
2003-04	3.0	3.4	6.4	412	6087
2004-05	2.8	3.5	6.3	482	6460
2005-06	2.8	3.8	6.6	551	7019
2006-07	3.0	3.8	6.8	612	8363
2007-08	2.9	4.2	7.3	541	7620

**Table 7.19 : Progress of credit flow**

Year	(Rs. crore)					
	2003-04	2004-05	2005-06	2006-07	2007-08	2008-09*
Credit flow during the years	86981	125309	180486	229400	254657	264455

\* Provisional

includes reasonable component of consumption credit and investment credit within the overall credit limit sanctioned to the borrowers. The Government has decided that from kharif 2006-07, farmers would receive crop loans up to a principal amount of Rs. 3 lakh at 7 per cent rate of interest and the Government of India and State Governments would provide necessary interest subvention to NABARD and other banks for this purpose.

7.88 In January 2006, the Government announced the package for revival of short-term rural cooperative credit structure involving financial assistance of Rs. 13,596 crore. NABARD has been designated as the implementing agency for the purpose. States are required to sign the Memorandum of Understanding (MoU) with the Government of India and NABARD, committing to implement the legal, institutional and other reforms as envisaged in the revival package. So far 25 states viz. Andhra Pradesh, Arunachal Pradesh, Assam, Bihar, Chhattisgarh, Gujarat, Haryana, Jammu & Kashmir, Jharkhand, Karnataka, Madhya Pradesh, Maharashtra, Manipur, Meghalaya, Mizoram, Nagaland, Rajasthan, Orissa, Punjab, Sikkim, Tamil Nadu, Tripura, Uttarakhand, Uttar Pradesh and West Bengal have executed the MoUs with the Government of India and NABARD. This covers 96 per cent of the Primary Agricultural Credit Societies (PACS) and 96 per cent of the Central Cooperative Banks (CCBs) in the country. Package for revival of long-term cooperative credit structure is also under consideration of the Government.

7.89 Agricultural Debt Waiver and Debt Relief Scheme 2008: In the Union Budget 2008-09, the Government announced a scheme of agricultural debt waiver and debt relief for farmers with the total value of overdue loans being waived estimated at Rs. 50,000 crore and a one-time settlement (OTS) relief on the overdue loans at Rs. 10,000 crore for implementation by all scheduled commercial banks, besides RRBs and cooperative credit institutions. The scheme covered direct agricultural loans extended to "marginal and small farmers" and "other farmers" by SCBs, RRBs, cooperative credit institutions (including urban cooperative banks) and local area banks.

7.90 Rehabilitation package for distress farmers: The Government of India has approved a rehabilitation package of Rs. 16,978.69 crore for 31 suicide prone districts in four States of Andhra Pradesh, Maharashtra, Karnataka and Kerala. The

rehabilitation package aims at establishing a sustainable and viable farming and livelihood support system through debt relief to farmers, improved supply of institutional credit, crop-centric approach to agriculture, assured irrigation facilities, watershed management, better extension and farming support services and subsidiary income opportunities through horticulture, livestock, dairying, fisheries etc. So far an amount of Rs. 15,889.02 crore (as on 31.03.2009) has been released to Andhra Pradesh, Karnataka, Kerala and Maharashtra under the package. The package for Development of Kuttanad Wetland Ecosystem in Kerala with an outlay of Rs. 1,840.75 crore was approved by the Government on 24.07.2008, as a part of rehabilitation package for the farmers in suicide-prone districts. The package for mitigation of agrarian distress in Idduki district of Kerala with an outlay of Rs. 764.45 crore was also approved by the Government as a part of the rehabilitation package.

### *Agriculture insurance*

7.91 The frequency and severity of droughts, floods and cyclones and rising temperatures, agro-climatic variations and erratic rainfall accentuates uncertainty and risk in the agricultural sector leading to huge losses in agricultural production and the livestock population in India.

7.92 The National Insurance Scheme (NAIS) for crops has been implemented from rabi 1999-2000 season. Under the scheme and until rabi 2007-08, an area of 184 million hectares of about 1,155 lakh farmers have been covered and a sum of Rs. 1,21,606 crore insured. Claims to the tune of about Rs. 11,607 crore have been reported against premium income of about Rs. 3,626 crore benefitting 302 lakh families.

7.93 Under the Weather Based Crop Insurance Scheme (WBCIS) being implemented by the Agriculture Insurance Company of India Ltd. (AIC), 10 states have been covered on pilot basis during the kharif 2008 season. About 1.4 lakh farmers with 1.87 lakh hectares of cropped area were insured for a sum of Rs. 309 crore generating a premium of Rs. 31.5 crore (including subsidy, farmers' share of premium is Rs. 11.82 crore). This pilot is being continued in rabi 2008-09. In addition to AIC, private insurers like ICICI-LOMBARD General Insurance Company and IFFCO-TOKIO General Insurance Company have also been included for implementation of the scheme in selected areas.