INDIA
FASTEST GROWING
FREE MARKET DEMOCRACY

AGRICULTURE

www.ibef.org

IBEF
INDIA BRAND EQUITY FOUNDATION

INDIA
FASTEST GROWING
FREE MARKET DEMOCRACY

AGRICULTURE

A report by Crisil for IBEF

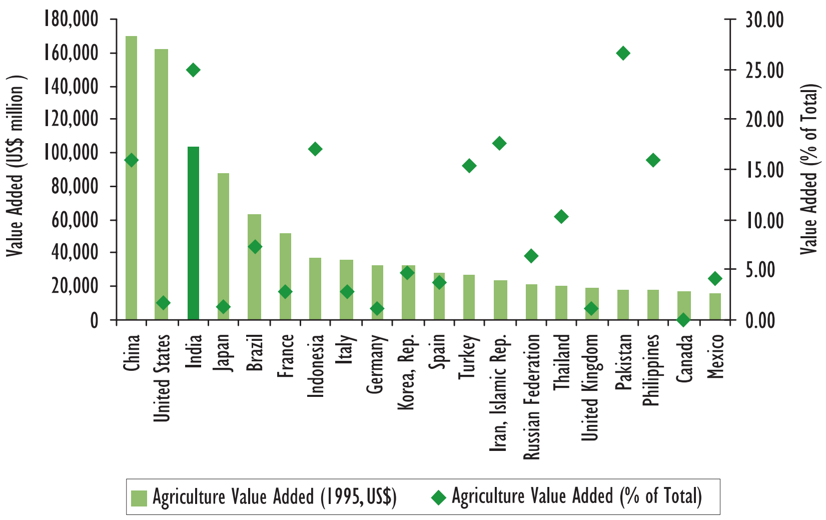
Agriculture contributes 25 per cent to the GDP of the country and is a key sector of the Indian economy, providing food security to the population, major employment opportunities to the rural population and consequently, a large domestic market for manufactured goods. This sector also accounts for 13 per cent of India's exports.

Initially agricultural activity was confined to the production of foodgrains and a few cash crops such as cotton, sugarcane and jute. In recent years there has been a remarkable change in the agricultural scene, including increasing diversity in a range of products and greater sophistication with the creation of critical infrastructural facilities like cold storage, refrigerated transportation, packaging, quality control etc. This sector is now poised for a leap with the introduction of new technology like IT and biotechnology.

WHY INDIA: A QUICK PERSPECTIVE

- Agriculture remains a key sector of the Indian economy accounting for 25 per cent share in the gross domestic product (GDP) and about 13 per cent of the total export earnings
- India is the second largest producer of rice and wheat in the world; first in pulses and fourth in coarse grains. India is also one of the largest producers of cotton, sugar, sugarcane, peanuts, jute, tea and an assortment of spices
- In terms of the real value added, the Indian agriculture sector ranks third, after China and the United States
- The share of agriculture in the total value added to the economy, at around 25 per cent, is still quite high. This implies that agriculture is likely to remain a priority, both for policy makers as well as businesses, in the foreseeable future and any move to ramp up the sector calls for a multi-pronged strategy
- In recent years, there has been a considerable emphasis on crop diversification towards horticulture (fruits, vegetables, ornamental crops, medicinal & aromatic plants and spices), plantation crops (coconut, cashew nuts and cocoa) and allied activities
- Creation of critical infrastructure for cold storage, refrigerated transportation, rapid transit, grading, processing, packaging and quality control measures open major opportunities for investment

The international league table



Source: World Development Indicators

POLICY INITIATIVES

Given the importance of agriculture in the national economy, it is imperative to step up the growth rate from the current average of 2.2 per cent. Recognising the need for a comprehensive strategy for the sector, the government is introducing a mechanism for easy rural credit and risk mitigation measures for farmers. The fiscal budget 2004-05 and 2005-06 of the Government contain the most recent articulation of the government's strategy to give an added impetus to the farm sector. Some of the highlights of the policy package are:

Increased domestic & foreign investment: Though direct foreign investment in agriculture, including plantations has not been permitted, the budget proposal actively encourages foreign investment in related sectors, particularly food-processing. The process of investing in sectors either from domestic sources or through FDI has been considerably simplified through the following set of measures:

- The government has abolished licensing for almost all food and agro-processing industries, except for a few items such as beer, potable alcohol and wines, cane sugar, hydrogenated animal fats, oils etc. and items reserved for the exclusive manufacture in the Small Scale Industries (SSIs)
- Automatic investment approval, including foreign technology agreements within specified norms, up to 100 per cent foreign equity or 100 per cent for NRIs and overseas corporate bodies is allowed for most of the food processing sector
- Free use of foreign brand names
- 100 per cent FDI in the fertilisers and pesticides sector 4 faste

Trade and taxes: Most agricultural products can be freely imported and exported, except for a limited list of items falling under the negative list and free import of capital goods, including used ones in food processing. Excise and import duty rates have been reduced substantially on a number of inputs for food processing and processed food items. In fact, many processed food items are totally exempt from excise duty now. Customs duties have also been substantially reduced on plant and equipment as well as on raw materials and intermediates, especially for exports.

Export promotion: The Exim Policy (2002-07) emphasises the importance of agricultural exports and included some policy measures to boost farm exports such as:

- Free export of most agricultural products
- Removal of procedural restrictions such as the requirement for registration, packaging etc.
- Setting-up of agri-export zones to enhance international market access, improve infrastructure facilities and to ensure better flow of credit
- Assistance for reducing marketing costs such as transportation, handling and processing for exports of selected farm commodities, financial assistance for improved packaging, strengthening of quality control mechanisms and modernisation of processing units, as well as arranging promotional campaigns such as buyer-seller meets and participation at important international fairs and exhibitions

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

- A new scheme has been introduced 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 by increasing incentives for exporters of such products

- Funds shall be earmarked under ASIDE (Assistance to States for Infrastructure Development of Export) for development of Agri Export Zones (AEZs)
- Capital goods imported under the Export Promotion Capital Goods (EPCG) scheme shall be permitted to be installed anywhere in the AEZs

Credit: The government is planning to double credit to the rural sector over the next three years. It has also hinted at introducing immediate measures to ease the burden of debt and high interest rates on farm loans. Public and private sector banks, regional rural banks (RRBs) and the cooperative banks have been entrusted with this responsibility. Since cooperative banks play a very crucial role in delivering farm credit, the health of these institutions is very important to be able to reach out to the needy farmers. Towards this end, the government has decided to appoint a task force to examine the reforms required in the cooperative banking system, including an effective regulator, to ensure the healthy financial position of these institutions

Infrastructure: Many well funded schemes to create or maintain rural infrastructure are in place and are constantly being revamped to address the changing needs of the sector. Among these, the Rural Infrastructure Development Fund (RIDF) and the Accelerated Irrigation Benefit Programme (AIBP) are two of the largest programmes. An interesting innovation is the launch of a new scheme to repair, renovate and restore all the water bodies (lakes, tanks etc.) that are critical for irrigation. Funds are not expected to be a constraint for implementing the project, due to the widespread support. For instance, the insurance company in the public sector, Life Insurance Corporation of India, on an average, invests on an average US$ 653 million annually in water system development programmes. The government will also turn to multilateral agencies for funding this scheme.

Crop Diversification: The government proposes to encourage farmers to diversify into areas such as horticulture, floriculture and oilseeds. It is launching a national horticulture mission with a goal to double production from the present level of 150 million tonnes to 300 million tonnes by 2011-12.

Oilseeds is another critical area that is receiving policy attention. During 2003-04, India produced 25 million tonnes of oilseeds but it also imported US$ 2.5 billion worth of edible oil. The government intends to help farmers diversify into oilseeds by promoting superior seed-technology and an appropriate policy of price support.

The National Horticulture Mission, announced in the budget 2004-05, wil be initiated in 2005-06 with an allocation of US$ 145 million for the mission. The mission will ensure an end-to-end approach with backward and forward linkages covering research, production, post-harvest management, processing and marketing, under one umbrella, in an integrated manner. As the mission gathers pace more funds will be provided.

The government also proposed to introduce a new scheme called Development/Strengthening of Agricultural Marketing Infrastructure, Grading and Standardisation, in the fiscal Budget 2005-06. The goal of this scheme is to induce large scale investment from the private and cooperative sectors for setting up agricultural markets, marketing infrastructure and support services such as grading, standardisation and quality certification. It is proposed that the scheme be implemented through the National Bank for Agriculture and Rural Development (NABARD) and the National Cooperative Development Corporation (NCDC) in those states, which amend their Agricultural Produce Marketing Committee (APMC) Acts.

R&D: Agricultural research and development is an area that deserves special attention. The Indian Council of Agricultural Research (ICAR) is a beneficiary of the scheme under which every commercial rupee earned by the institution is incrementally

matched by another rupee from the budget. Besides this, ICAR receives funds from the Technology Development Board for all commercially viable projects. The budget 2004-05 also aimed at expanding farm-related R&D to new frontiers like biotechnology, vaccines and diagnostics. There will be a special focus on farming in dry lands and non-irrigated areas.

Agricultural research has a vital role to play in the strategy for reviving and encouraging diversification. A task force headed by Dr M S Swaminathan has recommended the creation of a National Fund for Strategic Agricultural Research. An initial provision of US$ 11.5 million to operationalise this fund has been announced in budget 2005-06.

Agri-business for small farmers: The Small Farmers Agri-business Consortium (SFAC) was set up in 1994. SFAC will provide venture capital to projects and will be run, preferably by a banker, on purely business lines. The M S Swaminathan Research Foundation has identified 13 districts where there is a huge potential for agri-businesses and a propensity for investment of nearly US$ 36 million. The Ministry of Agriculture has initiated steps to improve the governance of SFAC, including the appointment of a banker as the chief executive. The budget also provides for the necessary additional capital that SFAC may require for aggressively promoting agri-businesses. In addition, agri-businesses are given tax exemption for their further development.

Risk mitigation: The Agriculture Insurance Company (AIC) was incorporated in December 2002. The National Agricultural Insurance Scheme, which insures the yield or crop, has been operational since the winter of 1999-00. The AIC is redesigning the scheme to ensure income rather than crop yields. It is also introducing a weather insurance scheme and is extending insurance coverage to livestock.

TRENDS IN AGRICULTURE: A QUIET REVOLUTION

India is the largest producer of coconuts, cashew nuts, ginger, turmeric and black pepper and the second largest producer of groundnuts, fruits and vegetables. India accounts for about 10 per cent of the world's fruit production. The country ranks highest in the production of mangoes and bananas. It also has the highest scale of milk production in the world. India is the fifth largest producer of eggs and seventh with regard to meat. New frontiers are being explored in the areas of IT application, contract and corporate farming and food processing.

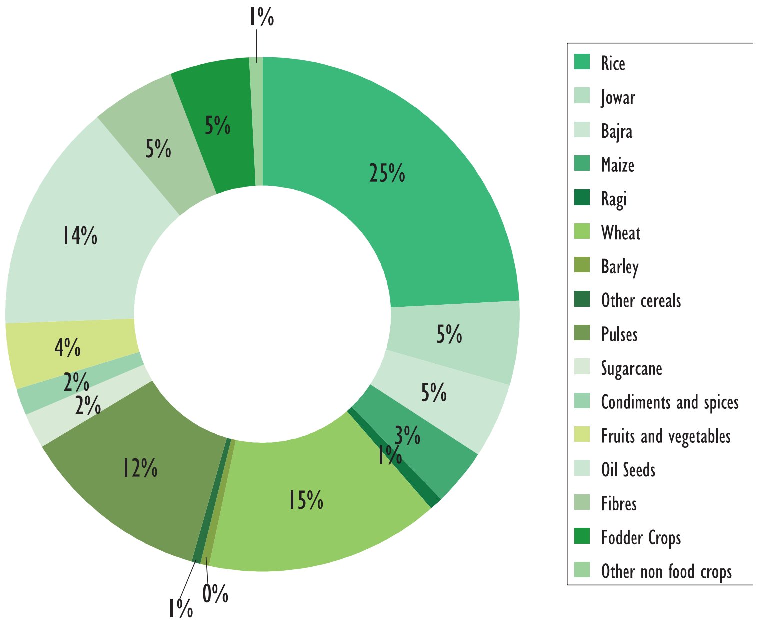
Dimensions of agriculture

Given the diversity of the domestic agriculture sector, it is useful to understand the different dimensions in terms of the crop mix, its geographical distribution and export and import profile.

Crop portfolio

While foodgrains continue to head the list of crops produced in the country, crops that have large commercial potential such as fruits and vegetables, fibres and condiments & spices etc. have gained significant share in the crop portfolio.

Share in area cultivated (2002-03)



Source: Department of Agriculture and Cooperation, Ministry of Agriculture

The regional spread

Distribution of major crops across the states provides a useful guide to the dynamics of Indian agriculture and the potential of the rural sector.

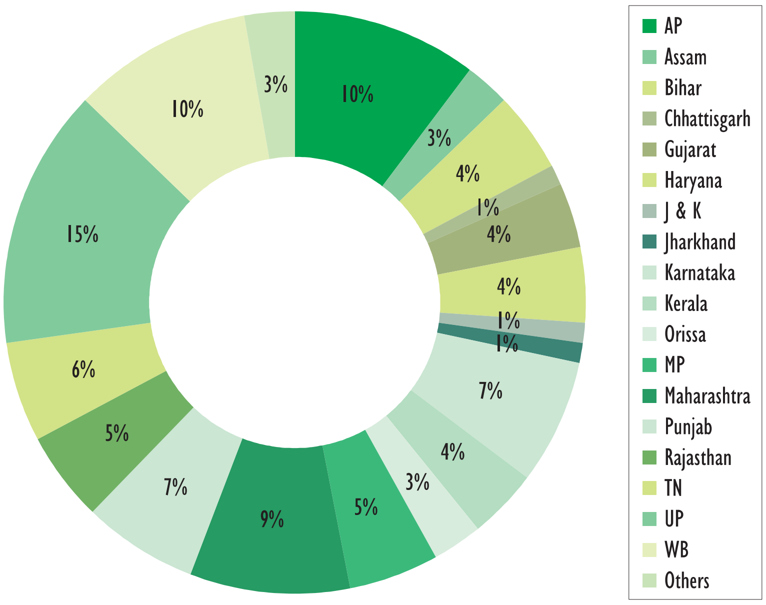
Food crops: West Bengal, Uttar Pradesh, Andhra Pradesh and Punjab are the major producers of rice. Uttar Pradesh and Punjab together constitute around 50 per cent of the total output of wheat. Rajasthan, Gujarat, Maharashtra and Karnataka are the biggest producers of millet.

Reduction in import duties structure to render industry most cost efficient

Cash crops: Madhya Pradesh, Gujarat, Rajasthan, Maharashtra, Andhra Pradesh, Karnataka and Uttar Pradesh are the leading producers of oil seeds. Uttar Pradesh is the largest producer of sugarcane and West Bengal produces more than three quarters of the jute. Tamil Nadu has the largest number of tea gardens, followed by Assam. The largest contributor to milk production is Gujarat, while floriculture and horticulture are dispersed widely across the states.

On the whole, Uttar Pradesh is the largest contributor to the agricultural GDP followed by West Bengal, Andhra Pradesh, Maharashtra, Karnataka and Punjab.

Share of agriculture in GDP (2002-03)



Source: Central Statistical Organisation

Agricultural trade

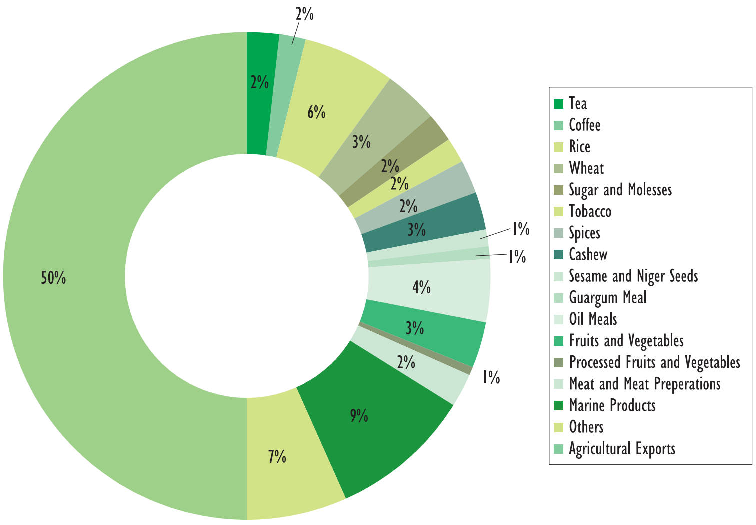
Given its magnitude, India's share in world exports of agricultural produce is somewhat small. However, it is poised to rise given the comprehensive policy measures that are being put into place to promote farm trade. In fact, the country's share in world exports rose from 1.1 per cent during 1999 to around 1.3 per cent during 2003. Its share in total agricultural imports fell marginally from 0.9 per cent to 0.89 per cent during the same period.

India's share in world trade of total agricultural produce

Source: Food and Agriculture Organisations of the United Nation

Agricultural exports increased from US$ 5.9 billion during 2001-02 to US$ 6.4 billion during 2003-04. It constitutes about 12 per cent of total merchandise exports. The growth in rice and wheat exports has been a recent development, together constituting about 20 per cent of total farm exports. The government's special efforts to encourage foodgrain exports in recent years through the granting of WTO compatible subsidies has made India one of the leading exporters of foodgrains in the international market.

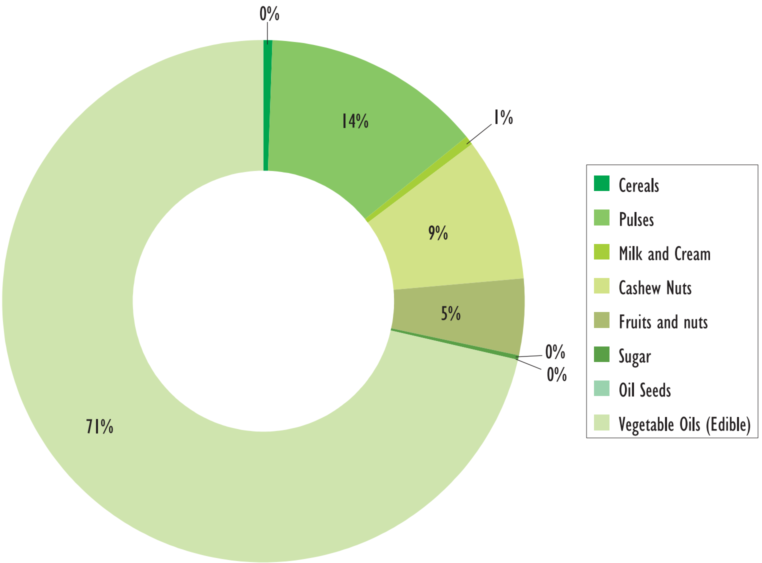
A commodity-wise break-up of exports



Source: Economic Survey, 2004-05

Import of agricultural commodities rose to US$ 2.8 billion during 2002-03 from US$ 2.3 billion during 2001-02. The share of farm imports in total merchandise imports is around 4.5 per cent. Edible oil, accounting for almost two-thirds of total farm imports, is the single-largest item of farm imports. Import of pulses is also significant and accounts for around 20 per cent of total agri-imports.

A commodity-wise break-up of farm imports



Source: Economic Survey, 2004-05

EMERGING TRENDS

Historically, India's crop portfolio has been dominated by foodgrains and a handful of cash crops. Over the past one decade, there has been a conscious and coordinated effort to diversify the agriculture base to develop domestic markets as well as increase export potential. The strategy has been to exploit the country's diverse climate and soil conditions that enable cultivation of an array of horticultural crops such as fruits, vegetables, floricultural plants, plantation crops, spices and medicinal and aromatic plants.

The horticulture boom

Horticulture is a generic term for a diverse range of products spanning fruits, vegetables, spices, coconut, medicinal & aromatic plants, mushrooms, cashew, cocoa etc. The boom in this sector over the past decade is evident from the rise in its share in the total agricultural output, employing about 24.5 per cent of the total cultivated area. Besides providing nutritional and livelihood security and helping alleviate poverty and generate employment, this sub-sector sustains a large number of agro-industries, which generate huge additional non-farming employment opportunities.

Area, production and productivity of horticultural crops in India (1991-92 to 2003-04)

Year	Area (in million hec.)	Production (in million tonnes)	Productivity (in million tonnes/hec.)
1991-92	12.8	96.6	7.5
1992-93	12.9	107.4	8.3
1993-94	13.1	114.6	8.7
1994-95	13.1	118.4	9.0
1995-96	13.7	125.5	9.2
1996-97	14.4	128.5	8.9
1997-98	14.8	128.6	8.7
1998-99	15.1	146.2	9.7
1999-00	15.3	149.2	9.8
2000-01	15.7	150.2	9.6
2001-02	17.2	146.5	8.5
2002-03	16.8	148.1	8.8
2003-04 *	17.2	156.1	9.1

Note: * Provisional

Source: Indian Horticulture Database 2003, National Horticulture Board and Economic Survey 2004-05

Surge in vegetable production

The production of vegetables substantialy increased from 58.5 million tonnes during 1991-92 to 90 million tonnes during 2003-04 and is currently second only to China. India leads the world chart in the production of cauliflower, is second in production of onions and third in production of cabbage. At 22.2 million tonnes, potato is the leading vegetable (in terms of tonnage) followed by brinjal and tomato at 7.7 million tonnes and 7.3 million tonnes respectively.

With regard to vegetable production, West Bengal leads among the states with 18 million tonnes, followed by UP at 13 million tonnes and Bihar at 10.2 million tonnes. Yield has increased with the adoption of hybrid seeds and also with increased cultivation of disease and pest resistant varieties. A seed production programme with advanced techniques has also helped enhance output and productivity.

The National Horticulture Board is working on the integrated development of vegetables, including root and tuber crops. The programme includes educating farmers on the latest technology, training them about post-harvest management through on-farm demonstrations and popularising zero-energy cool chambers for storage.

The fruits story

With the production of fruits at 47.5 million tonnes during 2003-04, India accounted for about 10 per cent of the world's production and was the second largest producer of fruits in the world. Bananas have the highest share at 35.6 per cent followed by mangoes at 22.6 per cent of the world production. The other major fruits grown are papayas, apples, guavas and citrus fruits.

The flowering of floriculture

The domestic floriculture industry has been witnessing an unprecedented growth during the past years and has also been getting increased acceptability in world markets, currently estimated at US$ 50 billion. The floriculture industry has been growing at an annual rate of 17 per cent, which has also seen a number of corporate houses entering the fray during the past three to five years. Higher standards of living and the growing desire to live in an environment-friendly atmosphere have led to a boom in the domestic market as well.

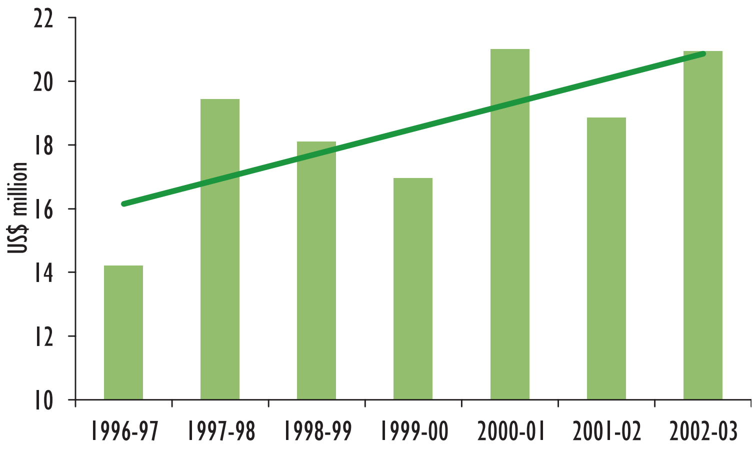
Area and production of flowers

Year	Area (in '000 hec.)	Production	
		Loose (in '000 million tonnes)	Cut (in million)
1993-94	53.3	232.5	555.2
1994-95	59.9	260.6	519.4
1995-96	81.9	333.8	536.8
1996-97	71.2	366.3	615.2
1997-98	73.5	365.7	622.2
1998-99	74	418.8	642.8
1999-00	88.6	509.2	680.6
2000-01	98.4	556.4	803.5
2001-02	106	535	2565

Source: Indian Horticulture Database 2003, National Horticulture Board

The export of cut flowers has been identified as a thrust area at the national level. The estimated area under flower cultivation is 106,000 hectares and the major flower producing states are Karnataka, Tamil Nadu, Bengal, Andhra Pradesh and Maharashtra. Traditional flowers such as marigold, jasmine, chrysanthemum, china aster, crossandra and tuberose (usually marketed loose in the domestic market), occupy nearly two-thirds of the area, with the balance including contemporary flowers such as rose, gladiolus, carnation, tuberose and orchids (used in bouquets and decorations). Production of cut flowers saw an increase of 219 per cent in a single year to 2,565 million during 2001-02 from around 803 million during the preceding year.

Floriculture exports



Source: Indian Horticulture Database 2003, National Horticulture Board

Floriculture exports increased from US$ 14 million during 1996-97 to over US$ 20 million by 2002-03. USA, Japan, Netherlands, German Fed. Republic and UK are the major buyers of cut flowers from India.

Livestock & fisheries

In addition to the horticulture sector and crop diversification, the livestock sector has also gained a lot of significance. This sector produced more than 88 million tonnes of milk, 40.4 billion eggs, 48.5 million kg of wool, 6 million tonnes of meat and 6.4 million tonnes of fish during 2003-04. This sector provides regular employment to 11 million in principal status and 9 million in subsidiary status. Women constitute 69 per cent of the labour force as compared to 35 per cent in crop farming. The livestock and fisheries sector together contributed 6.5 per cent to GDP during 2002-03.

The livestock sector also plays an important role in the utilisation 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 US$ 1.03 billion in 2003-04 (out of which the leather sector accounted for US$ 0.56 billion and meat & meat products accounted for US$ 0.37 billion).

The white revolution

With an estimated 88 million tonnes of milk production, managed by nearly 70 million farmers annually, India tops the chart of milk producers in the world. The average annual growth of the dairy sector is about 5.6 per cent. As a result of substantial increase in milk production, per capita milk availability rose from a low of 112 grams per day during 1970-71 to over 232 grams per day during 2004-05.

Impressive work has been done under the National Dairy Development Board's "Operation Flood" programmes for augmenting dairy production, processing and marketing of milk and milk products by the cooperative dairy sector following the now famous "Amul" model. Amul is a three-tiered cooperative structure of village level dairy cooperative societies, a district level cooperative milk union and a state level cooperative milk marketing federation, where profits are shared by the farmer members.

The Amul success

Formed in 1946, Amul initiated the dairy cooperative movement in the country and formed an apex co-operative organisation called the Gujarat Cooperative Milk Marketing Federation. Today this movement is being replicated in 70,000 villages in over 200 districts across the country, transforming the lives of villagers and has made India the largest producer of milk in the world.

This cooperative pattern envisages decentralised milk production by small scale dairy farmers, procurement by primary cooperatives, centralised processing by a union of dairy cooperatives and marketing by a federation of unions.

Amul is one of the largest food brands in the country with an annual turnover of US$ 500 million with products ranging from milk, butter, ghee, cheese, chocolates, ice creams and pizzas. The 'Amul' movement has not only led to an efficient system of milk collection but has also used IT to create higher profits for dairy farmers.

IT plays a critical role in coordinating approximately seven million litres of milk daily from about 11,132 village co-operative societies in the state of Gujarat and storing, processing and producing milk products at the 12 district dairy societies. Installation of over 3,000 automatic milk collection system units at village societies to capture member information, fat content, volume collected and amount payable to each member ensures fairness and transparency throughout the entire organisation.

Fisheries

India is the world's sixth largest producer of fish and the second largest producer of inland fish. The fisheries sector is recognised as a powerful generator of income and employment. It is also a source of nutritious food, besides being a major foreign exchange earner. Marine product exports rose from US$ 487 million during 1990-91 to US$ 1,249 million during 2003-04.

Production and export of marine products

	Fish production (in million tonnes)			Export of marine products	
	Marine	Inland	Total	Quantity (in '000 tonnes)	Value (in US$ million)
1980-81	1.5	0.9	2.4	80	297
1990-91	2.3	1.5	3.8	140	487
2000-01	2.8	2.8	5.6	503	1378
2001-02	2.9	3.1	5.9	468	1237
2002-03	3	3.2	6.2	502	1381
2003-04 (P)	3	3.4	6.4	412 (P)	1249

Source: Economic Survey, 2004-05

The rise of IT in the agricultural sector

The application of information technology (IT) in agriculture is usually associated with markets in developed countries and capital intensive methods of production. However, its relevance to the rural economy in a country like India cannot be overlooked.
IT can effectively be used to disseminate technology, streamline the supply chain for food processing and other agro-industries, leading to better price realisation by farmers. There are many efforts

underway which demonstrate the concrete benefits of IT for the rural population and the sector as a whole.

e-Choupals - the ITC experiment

An example of the successful application of IT is the e-Choupal experiment kicked off by ITC. ITC has designed and set up Internet kiosks called e-Choupals to support its agricultural product supply chain. The e-Choupals are totally owned and set up by ITC with the operators not having any investment or risk of their own. There are four kinds of e-Choupals tailored very specifically for four different products: shrimps, coffee, wheat and soyabeans. The first two involve large commercial farmers and the focus is on creating Internet access to global market information in order to guide production and supply decisions. There are a few dozen of these e-Choupals at present.

In the case of wheat and soyabean, since there are many small farmers, over 2,000 e-Choupals have been set up in several states. Soya e-Choupals, for instance, are used as registry points for procurement. Actual procurement is done at the factory and warehouse hubs but the initial logging in is done through the e-Choupal, which provides price information and thus price certainty. In fact, the e-Choupal price acts as a floor price for procurement, while the factory or warehouse price can be higher. e-Choupals can provide access to both local and global market prices on soyabeans and derivative products. In addition, they get access to operational information developed by ITC experts pertaining to cropping, seeds, fertilisers etc.

The initial benefits of the ITC effort include a substantial reduction in transaction costs from 8 per cent to just 2 per cent. These gains are shared almost equally between ITC and individual farmers. The longer-term goal is to use e-Choupals as sales points for soyabean oil, tractors and eventually a range of ITC produced consumer goods.

The use of IT is just a part of ITC's supply chain overhaul, but quick delivery of complex information pertaining to market conditions makes IT essential.

KEY PLAYERS

Domestic players

Britannia India Ltd (BIL)

Britannia India Ltd was incorporated in 1918 as Britannia Biscuit Co Ltd and currently the Groupe Danone (GD) of France (a global major in the food processing business) and the Nusli Wadia Group hold a 45.3 per cent equity stake in BIL through AIBH Ltd (a 50:50 joint venture). BIL is a dominant player in the Indian biscuit industry with major brands such as Tiger, Mariegold, Fifty-Fifty, Good Day, Pure Magic, Bourbon etc. The company holds a 40 per cent market share in the overall organised biscuit market and has a capacity of 300,000 tonnes per annum. Currently, the bakery product business accounts for 99.1 per cent of BIL's turnover. The company reported net sales of US$ 280 million in 2002-03. Britannia Industries Ltd (BIL) plans to increase its manufacturing capacity through outsourced contract manufacturing and a greenfield plant in Uttaranchal to expand its share in the domestic biscuit and confectionery market.

Dabur India

Dabur is one of the largest domestic FMCG companies, specialising in natural healthcare, personal care and food products. It was incorporated in 1975 with an emphasis on generic ayurvedic products. In the mid-1990s, this New Delhi-based company started diversifying into various businesses such as food, confectionery and merchandise exports. Dabur now enjoys a strong market position in the ayurvedic and herbal categories in the personal care and healthcare segments.

Indian Tobacco Corporation (ITC)

Rated among the world's leading companies by Forbes magazine, ITC ranks fourth in net profit among the country's private sector corporations. ITC has a diversified presence in cigarettes, hotels, paperboards & specialty papers, packaging, agri-business, branded apparel, packaged foods & confectionery, greeting cards and other Fast Moving Consumer Goods (FMCGs). While ITC is an outstanding market leader in its traditional businesses of cigarettes, hotels, paperboards, packaging and agri-exports, it is rapidly gaining market share even in its nascent businesses of branded apparel, greeting cards and packaged foods & confectionery.

ITC is also one of the largest exporters of agri-products in the country and one of the largest foreign exchange earners worth US$ 2 billion during the past decade. The company's e-Choupal initiative has been significantly helping the domestic farm sector enhance its competitiveness by empowering farmers through the power of the Internet.

Marico

Marico is a leading Indian group incorporated in 1990 and operating in consumer products, aesthetics services and global ayurvedic businesses. The company also markets food products and distributes third party products. Marico owns well-known brands such as Parachute, Saffola, Sweekar, Shanti Amla, Hair & Care, Revive, Mediker, Oil of Malabar and the Sil range of processed foods. It has six factories and sub-contract facilities for production. In 2003-04, the company reported a turnover of US$ 200 million. The overseas sales franchise of Marico's branded FMCG products is one of the largest among Indian companies. It is also the largest Indian FMCG company in Bangladesh. The company plans to capture growth through the constant realignment of their portfolio along higher margin lines and focus on volume growth, consolidation of market shares, strengthening of flagship brands and new product offerings (2-3 new product launches are expected in 2004-05).

Mother Dairy

Mother Dairy, Delhi was set up in 1974 under the Operation Flood Programme. It is now a subsidiary of a wholly owned company of the National Dairy Development Board (NDDB). Mother Dairy markets and sells dairy products under the Mother Dairy brand (like liquid milk, dahi, ice creams, dairy whitener and butter); Dhara range of edible oils and the Safal range of fresh fruits and vegetables, frozen vegetables and fruit juices at a national level, through its sales and distribution networks for marketing food items.

Ruchi Soya Industries Ltd (RSIL)

Ruchi Soya Industries Ltd is an agro-based industry with an annual turnover of US$ 575 million. RSIL is the flagship company of Ruchi Group. It is a fully integrated soya processor and the first company in the country to export soya meals and manufacture edible grade soya flour and textured soya proteins. Ruchi is the unmatched market leader for its Nutrela chunks and granules. Nutrela has also gained an overseas demand in recent years.

Shakti Bhog Food Ltd

Shaktibhog has been in command of the market since 1978. It is a leading brand name in the packaged *atta* (wheat flour) category, which makes it a major player in India both in terms of value and volume. Currently it stands tall at over US$ 92 million with an expansive range of products, including *besan* (flour-chickpea), *sooji* (cream of wheat), *dalia* (porridge), basmati rice, salt, pulses, tea, papad, maize/corn flour, jams, pickles, mouth freshner etc.

Foreign players

Agro Tech Foods Ltd

The company is one of the market leaders in the edible oils and branded food sector. ConAgra Foods Inc of USA along with Tiger Brands of South Africa holds a majority stake of 51.3 per cent in the company through CAG Tech Holdings, Mauritius. With well-known brands like Sundrop, Health World, ACT II and Rath as part of its portfolio, the company holds a dominant market share and leadership in the refined oil segment.

Cadbury India Ltd (CIL)

Cadbury India Ltd is a 93.5 per cent subsidiary of Cadbury Schweppes Plc, UK, a global major in the chocolate and sugar confectionery industry. CIL was set up as a trading concern in 1947 and subsequently began its operations with the small scale processing of imported chocolates and food drinks. CIL is currently the largest player in the chocolate industry in India with a 70 per cent market share. The company is also a key player in malted foods, cocoa powder, drinking chocolate, malt extract food and sugar confectionery segment. The company had also entered the soft drinks market with brands like 'Canada Dry' and 'Crush', which were subsequently sold to Coca Cola in 1999. Established brands include Dairy Milk, Perk, Crackle, 5 Star, Éclairs, Gems, Fructus, Bournvita etc. The company reported net sales of US$ 160 million in 2003. The company plans to increase the number of retail outlets for future growth and market expansion.

Cargill

Cargill Inc is one of the world's leading companies in agri-business with a strong presence in processing and merchandising, industrial production and financial services. Its products and geographic diversity (over 40 product lines with a direct presence in over 65 countries and business activities in about 130 countries) as well as

its vast communication and transportation network help optimise commodity movements and provide competitive advantage.

Cargill India was incorporated in April 1996 as a 100 per cent subsidiary of Cargill Inc, USA. It is engaged in trading in soyabean meals, wheat, edible oils, fertilisers and other agricultural commodities besides marketing branded packaged foods. It has also set up its own anchorage facilities at Rosy near Jamnagar in Gujarat for efficient handling of its import and export consignments.

Coca Cola

Coca-Cola started its India operations in 1993. Coca-Cola in India comprises of 27 wholly company-owned bottling operations and another 17 franchisee-owned bottling operations.
A network of 29 contract-packers also manufactures a range of products for the company. Leading Indian brands like Thums Up, Limca, Maaza, Citra and Gold Spot exist in the company's international family of brands along with Coca-Cola, Diet Coke, Kinley, Sprite and Fanta, plus the Schweppes product range. During the past decade, Coca-Cola has invested more than US$ 1 billion in India. In 2003, Coca-Cola India envisaged they would invest US$ 100 million in its operations.

Hindustan Lever Ltd (HLL)

Hindustan Lever Ltd is a 51 per cent owned subsidiary of the Anglo-Dutch giant Unilever, which has been expanding its operations in India. It is the country's biggest consumer goods company. HLL is among the top five exporters of the country and also the biggest exporter of tea and castor oil. The product portfolio of the company includes household and personal care products like soaps, detergents, shampoos, skin care products, colour cosmetics, deodorants and fragrances. It is also a market leader in tea, processed coffee, branded wheat flour, tomato products, ice cream, jams and squashes. HLL enjoys a formidable distribution network covering over 3,400 distributors and 16 million outlets. In the future the company plans to concentrate on its herbal healthcare portfolio and confectionery business. Its strategy for growth includes focussing on the 'power brands', growth through consumer relevant information, cross category extensions, leveraging channel opportunities and increased focus on rural growth.

H J Heinz Co

The US$ 8.4 billion American foods major, H J Heinz Co comprises 4,000 strong brand buffet in infant food, sauces and condiments. In India, Heinz has a presence through its 100 per cent subsidiary Heinz India Pvt Ltd. Heinz acquired the consumer products division of the pharmaceuticals major, Glaxo, in 1994. Besides the Heinz ketchup range, the product range in India consists of Complan milk beverage, the health drink Glucon-D, the infant food Farex and Nycil prickly heat powder.

Monsanto

From humble beginnings nearly a century ago, Monsanto is today a global leader in agricultural solutions. Monsanto India Ltd, a subsidiary of Monsanto Co USA, was incorporated in December 1949 as a private limited company in Mumbai and was converted into a public limited company on 1 July, 1978. Monsanto India, which has a strong presence in the herbicides and seeds business segment, registered a net profit of US$ 6 million on sales of US$ 67 million in 2001-02.

Monsanto is a committed participant in the seed industry. High-yield crop varieties and hybrid crops such as corn, sunflowers and cotton are important crops that Monsanto is committed to develop.

Nestlé India Ltd (NIL)

Nestlé India Ltd, a 59.8 per cent subsidiary of Nestlé SA, Switzerland is a leading manufacturer of food products in India. Its products include soluble coffee, coffee blends and teas, condensed milk, noodles (81 per cent market share), infant milk powders (75 per cent market share) and cereals (80 per cent market share). Nestlé has also established its presence in chocolates, confectioneries and other processed foods. Soluble beverages and milk products are the major contributors to Nestlé's total sales. Examples of its popular brands include Nescafé, Milkmaid, Maggi and Cerelac. The company has entered the chilled dairy segment with the launch of Nestlé Dahi and Nestlé Butter. Nestlé has also made a foray into the non-carbonated cold beverages segment through the placement of Nestea Iced Tea and Nescafé Frappe vending machines. Exports contribute to almost 23 per cent of its turnover.

PepsiCo

PepsiCo is a world leader in convenient foods and beverages, with revenues of about US$ 27 billion. PepsiCo brands are available in nearly 200 markets across the world. The company has an extremely positive outlook for India. PepsiCo entered India in 1989 and is concentrating on three focus areas - soft drink concentrate, snack foods and vegetable & food processing. PepsiCo's success is the result of superior products, high standards of performance and distinctive competitive strategies.

INVESTMENT OPPORTUNITIES

Increased levels of literacy, rapid urbanisation and rising per capita income have led to rapid growth and changes in demand patterns. An average Indian spends about 50 per cent of his household expenditure on food items. With a population of over one billion and a 350 million strong urban middle class and their changing food habits, the market for agricultural products and processed food is expected to grow significantly. The relatively low-cost but skilled workforce can be effectively utilised to set up a large, low-cost production base for domestic and export markets. The national policy aims at increasing the level of food processing from the present 2 per cent to 10 per cent by 2010 and 25 per cent by 2025. Foreign direct investment is not directly allowed in agriculture but there exist ample opportunities in related sectors.

Food processing & packaging - harnessing the potential

Food processing and packaging represents, perhaps, the biggest potential that the country's agriculture holds for the future with linkages with a spectrum of sub-sectors like horticulture, plantation, animal husbandry and fisheries.

While India has an abundant supply of foodgrains, the food processing industry is still nascent. Only 2 per cent of fruits and vegetables and 15 per cent of milk produced are processed. But despite these apparently low volumes, the processed food industry is the fifth largest segment of the economy, representing 6.3 per cent of the GDP. It accounts for 13 per cent of exports and 6 per cent of total industrial investment. The size of this sector is pegged at US$ 70 billion, including US$ 22 billion of value-added products. Clearly, an increase in size in line with the potential is likely to place India right at the top of this domain.

Contract farming: Pepsi's experiment with Indian tomatoes

The entry of global food giant Pepsi Foods in the domestic food processing sector is an interesting example of the coming together of the synergies of organised food processing and the enormous potential that Indian agriculture offers. Launching its agri-business in India with a special focus on exports of value-added processed foods, Pepsi entered the domestic foods mart in 1989 by installing a US$13.2 million tomato processing plant at Zahura in the Hoshiarpur district of Punjab. The food and soft drinks multinational intended to produce aseptically packed pastes and purees for the global market. However, before long, it recognised that investment in agri-processing plants would not be viable unless the yields and quality of farm produce met international standards. At that time, tomato had never been cultivated in Punjab with a focus on high yields and other desirable processing characteristics. This apart, there weren't enough quantities of tomato available even if the grown varieties/hybrids were procured from open market. The total Punjab tomato crop was 28,000 tonnes, available over a 25-28 day period, while Pepsi required at least 40,000 tonnes of tomato to operate its factory.

There was naturally a fair share of scepticism about the viability of production and the logistics situation in Punjab. This led to the birth of Pepsi's backward linkage with farmers in Punjab. Pepsi followed the contract farming method, where the farmer plants the company's crop on his farmland and the company provides selected inputs like seeds/saplings, agricultural practices and regular inspection of the crop and advisory services on crop management.

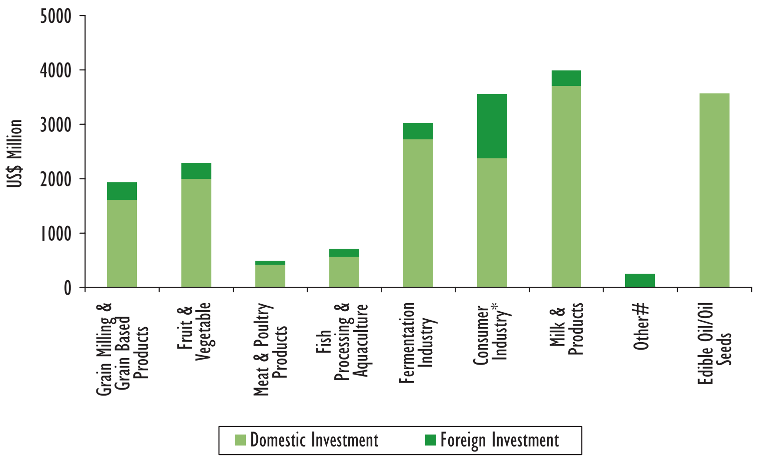
The Pepsi model of contract farming, measured in terms of new options for farmers, productivity increase and introduction of modern technologies, has been an unparalleled success. The company focused on developing the region and the desired produce-specific research as well as extensive extension services. It was thus successful in bringing about a drastic change in the Punjabi farmers' production system.

Another important factor in PepsiCo's success was its strategic partnership with local bodies like the Punjab Agricultural University and Punjab Agro Industries Corporation. The company's unique partnership with these institutions fuelled its growth in Punjab. Encouraged by the sweeping success of contract farming in tomato in several districts of Punjab, Pepsi has been successfully emulating the model for other foodgrains (basmati rice), spices (chillies) and oil seeds (groundnuts) as well, apart from other vegetable crops like potato.

Huge opportunities exist both in processing and packaging. The market for branded staples (wheat flour or 'atta', rice etc.) is an example of a segment where the focus has been on packaging rather than processing. The staples market till the early nineties was largely fragmented with some domestic brands like Shaktibhog, Lal Qila and Rose dominating some regional markets. The mid-90s saw the entry of multinational giants like Cargill, Pillsbury, Conagra and Robin Hood Multifoods, which led to the creation of a pan-Indian market. The domestic wheat flour market is estimated at 35,000-40,000 tonnes and is growing at 25 per cent annually.

The opening up of the agriculture sector has seen an exponential growth both in domestic and foreign investment in the agro-processing sector. FDI proposals worth US$ 4.1 billion were approved during 1991-02 and roughly US$ 2.5 billion of FDI was actually received.

Investment in the agro-processing sector (1991-02)



Note: *Including Soft Drinks/Waters/Confectionery etc.

#Including Food Additives, Flavours etc. The Estimates are rough estimates

Source: Ministry of Commerce and Industry

Corporate farming

The national agricultural policy envisages that "private sector participation will be promoted through contract farming and land leasing arrangements to allow accelerated technology transfer, capital inflow and an assured market for crop production, especially of oilseeds, cotton and horticultural crops." Contract farming is defined as a system for producing and supplying agricultural/ horticultural produce under forward contract between producers/ suppliers and buyers. The essence of such an arrangement is the commitment of the producer/seller to provide an agricultural commodity of a certain type, at a time and price and in the quantity required by a known and committed buyer.

Contract farming

Three giants and the farmer

Deep-pocketed corporates like Hindustan Lever, Rallis and ICICI Bank are engaged in the contract farming of wheat in Madhya Pradesh. Under the system, Rallis supplies inputs and know-how, while ICICI Bank finances the farmers; and HLL, the processing company that is also aggressively into food processing, provides the buyback arrangement for the produce. Under this arrangement, while farmers benefit from the assured market for their produce, in addition to timely, adequate and quality input supply including free technical know-how, HLL benefits through supply-chain efficiency and Rallis and ICICI Bank gain from the assured clientele for their products and services. The corporate consortium is also planning to rope in other specialist partners including insurance, equipment and storage companies.

The sugar pipeline

Another notable corporate initiative is the Belgaum (Karnataka) based Ugar Sugar Works' successful backward linkage with the farmers of northern Karnataka for supplying barley for its malt unit. The farmers surrounding the Ugar Sugar plant, cultivating sugar under intensive irrigation, were faced with the problem of soil salinity. Ugar Sugar began this initiative by creating awareness among farmers about alternative crops suitable for saline soils. And barley, known to give economic yields of good quality in saline soil came up as the alternative crop. The company assured the farmers of a market for their produce if they agreed to grow barley, besides extending the required technical and input support.

The biotech opportunity

The domestic farm sector has been successfully experimenting with the application of biotechnology since the mid-60s when the use of high-yielding seed varieties began to completely revolutionise yields. With the increased diversity in cropping pattern and new crop varieties, the importance of biotechnology inputs has multiplied. Broadly, biotechnology refers to the techniques that allow scientists to modify the DNA of crops to enhance their tolerance to pests and diseases, increase yields and improve quality and nutritional value.

GM Cotton

For the first time, the Union government approved commercial cultivation of genetically modified (GM) cotton, jointly developed by US multinational Monsanto and its Indian partner Maharashtra Hybrid Company (Mahyco), for three years from April 2002 to March 2005. The three cotton hybrids cleared by the Genetic Engineering Approval Committee (GEAC) carry the bacillus thuringienies (Bt) gene that protects the cotton plant against bollworm, a serious cotton pest, rampant in the country.

Although India is the world's largest cultivator of cotton, its output is less than that of the US and China. By cultivating Bt cotton, India expects to raise its cotton productivity and competitiveness.

After information technology, biotechnology may be the next big sector that India will be identified in the global market. Biotechnology is proving to be of tremendous help to the farm sector. India is the second largest food producer after China and thus offers a huge market for biotech products. Transgenics of rice, brassica, moonbean, pigeon pea, cotton, tomato and some vegetables like cabbage and cauliflower are already into field trials. Some of these will be ready for large-scale production by 2005. Protein-enriched wheat with higher lysine content will be introduced in the fieldby 2005.

Out of the US$ 500 million seed market, the share of the GM seed market is estimated to be US$ 250 million by 2005. Monsanto is now carrying out field tests of its GM crops in 40 locations across the country.

Investment in rural infrastructure

Without a strong and dependable cold chain system, the food processing industry cannot survive. The number of cold storages increased from 4,146 at the end of 2001 to 4,417 by the end of 2002. The government is putting special emphasis on establishing cold storage chains throughout the country with private participation. The scheme is aimed at reducing the post-harvest losses, which now hovers around 8-38 per cent of total horticultural produce and other perishable items like dairy produce, meat, fish, chicken etc. This opens up significant opportunities for private participation in the sector.

Investment in financial infrastructure

Changes in the financial structure of the sector are moving in tandem with improvements in physical infrastructure and open up potential opportunities for financial sector players. Three areas in the rural economy that are looking at significant activity and change are:

Agriculture futures

An important area where many new developments have taken place recently is the commodity futures market. The government, on the recommendation of the Forward Markets Commission, recognised the National Multi-Commodity Exchange, Ahmedabad; the Multi-Commodity Exchange, Mumbai and the National Commodity and Derivative Exchange, Mumbai, as nationwide multi-commodity exchanges. These markets have given a new thrust to futures trading in agricultural commodities.

Crop insurance

The government introduced the National Agricultural Insurance Scheme from rabi season (1999-2000). The scheme is available to all the farmers irrespective of the size of landholdings. It covers all food crops (cereals, millets and pulses), oilseeds and annual commercial/horticultural crops. The scheme operates on the basis of 'area approach' defining areas for each notified crop for widespread calamities and on an 'individual basis' for localised calamities such as hailstorm, landslide, cyclone and flood. Since its inception, around 59 million farmers have been covered under this scheme and the area coverage is now 101.4 million hectares.

Rural credit cards

As a pioneering credit delivery innovation, the Kisan (farmer) Credit Card scheme was introduced to provide adequate and timely financial support to farmers for meeting their cultivation needs including purchase of inputs. This flexible and cost-effective credit delivery system was introduced in 1998-99 and became very popular among farmers. A total of 43.5 million such cards were issued and cumulative credits amounting to US$ 24.2 billion were sanctioned by September 2004.

Flow of institutional credit to agriculture

Particulars/Agency US$ million Production (ST) credit	1997-98	1998-99	1999-00	2000-01	2001-02	2002-03	2003-04 Estimated
Co-operative banks	2932	2988	3426	3630	3948	4184	5204
RRBs	376	406	559	710	792	859	1018
Commercial Banks	2246	2287	2699	2952	3754	4521	5091
Total	5554	5682	6684	7292	8494	9563	**11313**
MT/LT credit							
Co-operative banks	858	805	812	923	1001	837	1340
RRBs	173	178	173	213	226	271	305
Commercial banks	2013	2097	3008	3135	3288	3961	4447
Total	3045	3080	3993	4271	4516	5068	**6091**

Source: Department of Agriculture and Cooperation, Ministry of Agriculture

CONTACT FOR INFORMATION

Information on the market and opportunities for investment in the agriculture sector in India can be obtained from the Confederation of Indian Industry (CII) which works with the objective of creating a symbiotic interface between industry, government and domestic and international investors.

Confederation of Indian Industry (CII)
The Mantosh Sondhi Centre
23, Institutional Area
Lodi Road
New Delhi 110003
India
Tel: + 91 11 2462 9994-97
Fax:+ 91 11 2462 6149
Email: indrani.kar@ciionline.org

DISCLAIMER

This publication has been prepared for the India Brand Equity Foundation ("IBEF").

This publication is for information purposes only. While due care has been taken during the compilation of this publication to ensure that the information is accurate to the best of IBEF's knowledge and belief, the content is not to be construed in any manner whatsoever as a substitute for professional advice.

IBEF neither recommends nor endorses any specific products or services that may have been mentioned in this publication and nor does it assume any liability or responsibility for the outcome of decisions taken as a result of any reliance placed on this publication.

IBEF shall in no way, be liable for any direct or indirect damages that may arise due to any act or omission on the part of the user due to any reliance placed or guidance taken from any portion of this publication.

The India Brand Equity Foundation is a public-private partnership between the Ministry of Commerce and Industry, Government of India and the Confederation of Indian Industry. The Foundation's primary objective is to build positive economic perceptions of India globally.

India **B**rand **E**quity **F**oundation
c/o Confederation of Indian Industry
249-F Sector 18
Udyog Vihar Phase IV
Gurgaon 122015 Haryana
INDIA

Tel +91 124 501 4087 Fax +91 124 501 3873
E-mail ajay.khanna@ciionline.org
Web www.ibef.org