

## CHAPTER 5

### **Agricultural Prices and Markets**

#### **Agricultural Prices**

5.1 Food and agricultural commodity prices in India are primarily determined by domestic demand and supply factors influenced by domestic price policy. The nature of markets facing the agricultural commodities and imperfections in these markets also influence the price transmission and the final consumer prices. India meets the bulk of its large food demand through domestic production, barring few commodities like edible oils and pulses.

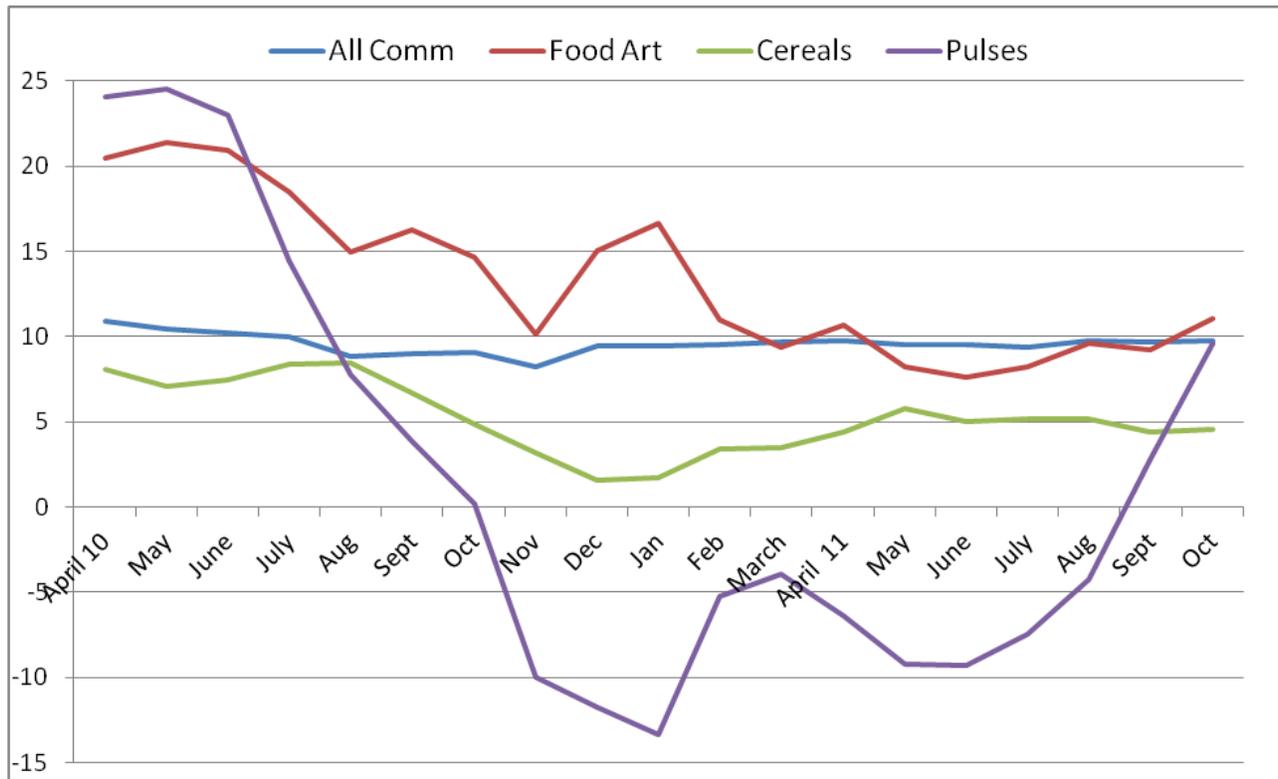
5.2 Inflation and price rise of food items have become a major concern for policy makers worldwide and particularly for India and other developing countries. In India, the recent food inflation is largely due to an inadequate supply response to increasing demand, aggravated by various other logistic and market-related constraints. Inflation affects the poor disproportionately and adversely impacts the achievement of removal of poverty.

#### **Food Articles**

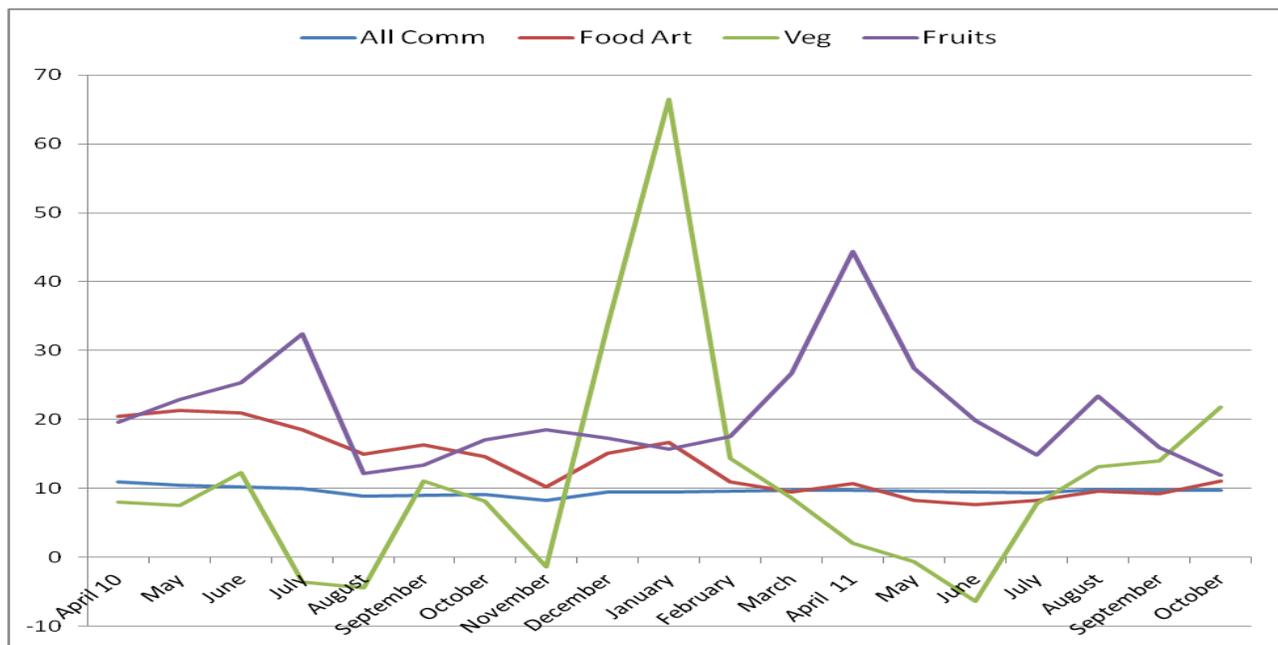
5.3 Data on wholesale prices show a continuous increase in Wholesale Price Index (WPI) for all commodities during the period April 2010 to October 2011. Food Articles have a weight of 14.34 in the wholesale price index. The increase in case of food articles however, showed a much higher increase in comparison to the index for all commodities. The increase in WPI of food articles moved in tandem with that of primary commodities during January-September 2010 and thereafter the WPI of food articles showed divergence from that of primary article prices showing a lower increase with substantial volatility. WPI for food articles peaked in January 2011, recording the highest increase of 16.68 percent during the period. Thereafter by March 2011 the prices declined to the level prevailing in September 2010. Between April and October 2011, the food prices maintained an upward trend though the increase is lower compared to the rise in primary commodities group.

5.4 Within the food items, there has been some variation in the importance of commodities accounting for food inflation. During April 2010 to October 2011, Eggs, Fish, Meat, Milk and Fruits have together consistently contributed more than 40 per cent of food inflation. Vegetables have contributed significantly during December 2010 to March 2011 and August 2011 to October 2011. Sugar was an important contributor to food inflation only at the beginning of 2010-11.

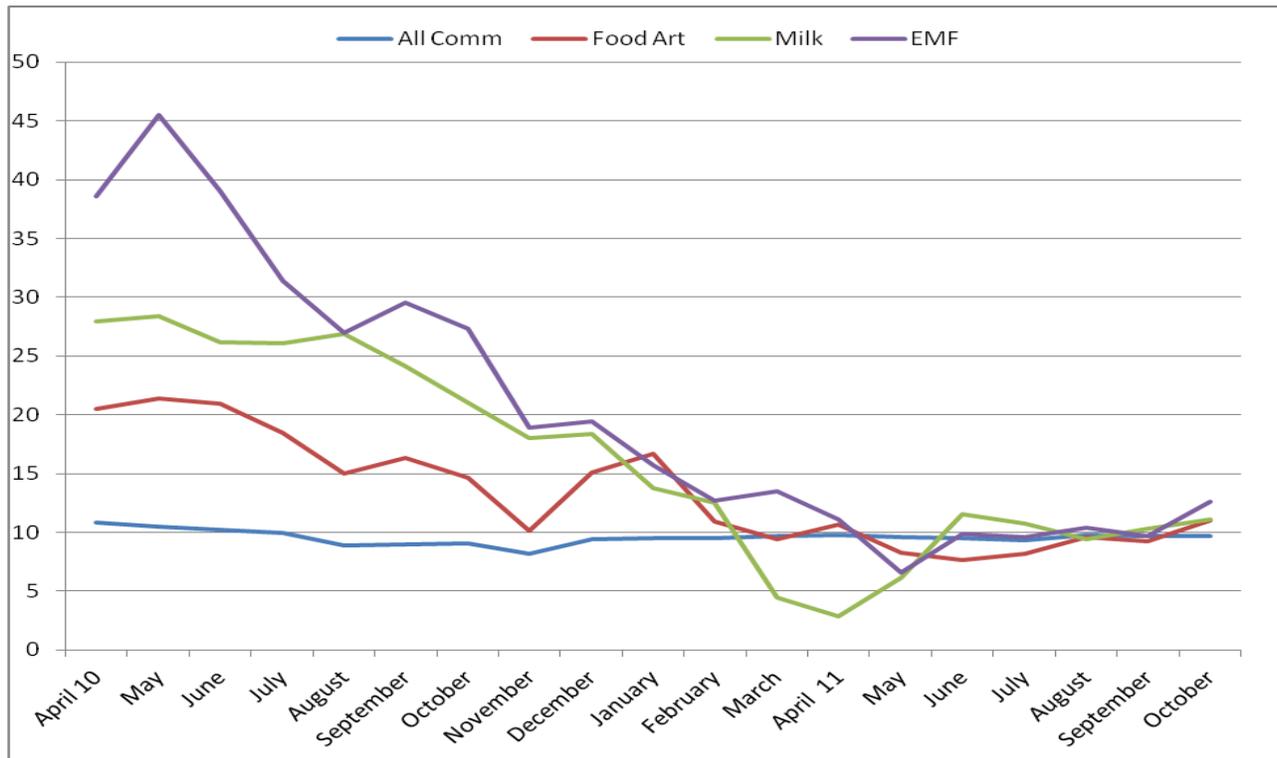
**Fig 5.1: Trend in Inflation in All Commodities, Food Articles, Cereals and Pulses**



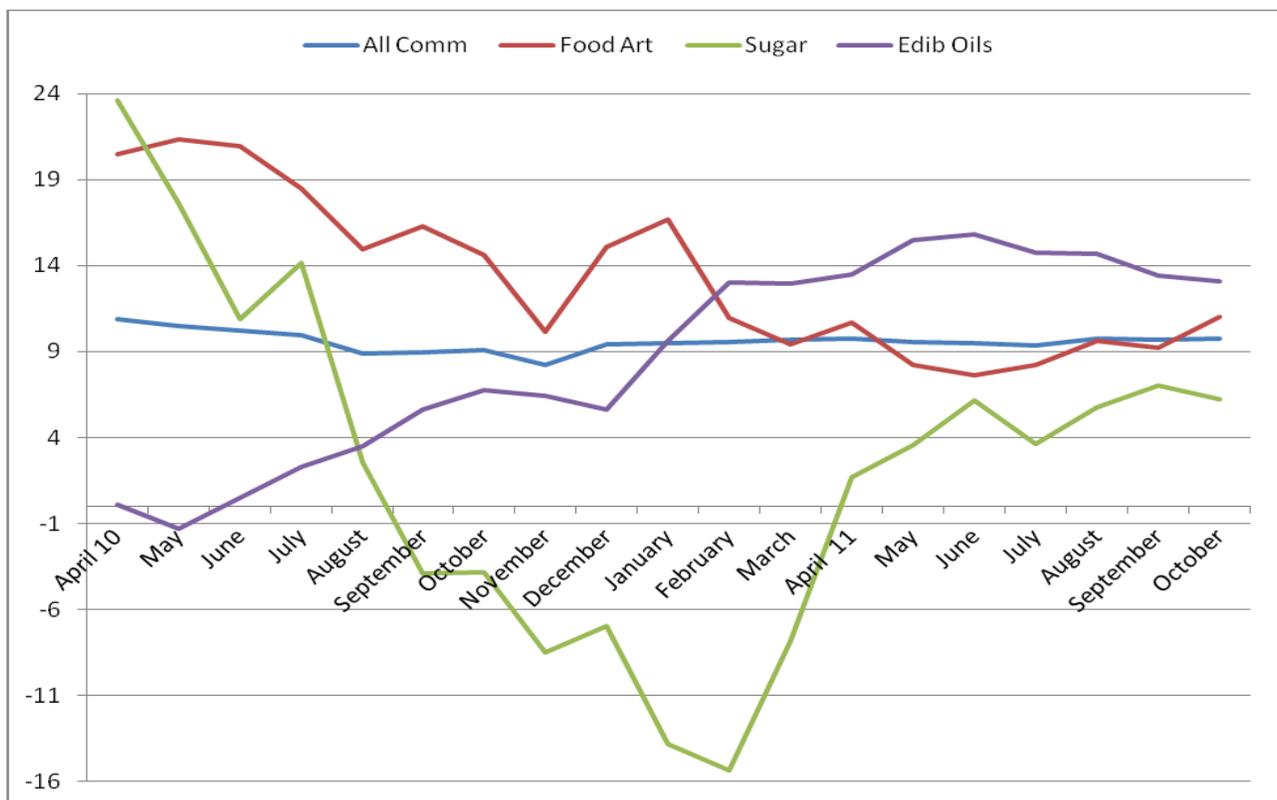
**Fig 5.2: Trend in Inflation in All Commodities, Food Articles, Vegetables and Fruits**



**Fig 5.3: Trend in Inflation in All Commodities, Food Articles, Milk, Eggs, Meat and Fish (EMF)**



**Fig 5.4: Trend in Inflation in All Commodities, Food Articles, Sugar and Edible Oils**



5.5 Within food grains there were occasional spurts in the contribution of rice, coarse cereals and pulses during the period April 2010 to October 2011. Prices of fruits and vegetables have witnessed significant increases in the last one year but are now showing some stability.

5.6 The pattern suggests that livestock products, fruits and vegetables have been the main drivers of food inflation. Actually from January 2011, when the contribution of the selected major items in food basket of WPI peaked, there has been a rise in the contribution of other commodities such as spices and condiments, tea and coffee to food inflation. Thus, commodity-specific factors are also at play in influencing food inflation apart from more generic factors such a faster rise in demand.

5.7 Food prices in the international markets have also been on the rise at a faster pace since 2007. Such increases have an impact on domestic prices directly or indirectly. The volatility in domestic prices has been less than in the international prices. This has protected domestic producers and consumers from greater uncertainty over incomes and expenditures.

5.8 The rise in prices is not limited to food items alone. Petroleum product prices have also increased sharply in the last two years. As a result of higher costs and to some extent international prices, the minimum support prices have also increased to maintain incentives to the producers.

5.9 The rise in per capita GDP by an average of 6 percent in the last five years implies an increase in demand in excess of this given the income elasticity of more than unity for these items of consumption. In other words, production would have to catch up with demand growth to keep the price rise in check. Small decline in supplies can lead to sharp fluctuations in prices under these conditions.

5.10 Overall the retail prices of food items have shown a rising trend in 2010 and the first half of 2011 compared to 2009 in line with the movement of wholesale prices, with the exception of a few commodities. However, fluctuations in retail prices have been different in different markets depending on the local demand and supply conditions. There is considerable variation in average prices in major metros and sometimes even the direction of movement of prices varied across the metros.

## **Challenges**

5.11 In comparison to wholesale prices, retail prices in different consumption centres display divergent trends in different markets. Due to regional differences in consumption patterns and supply conditions the prices and their movements vary across the major markets. Imperfect market conditions, restrictions on the movement of agricultural commodities due to infrastructural constraints, transport costs and local taxes, etc. influence the retail price trends across the major markets and consumption centres. Differences in tastes and in varieties consumed across the centres also pose problems for comparison of retail prices.

5.12 The principal factors behind the higher levels of inflation in the recent period are constraints in production and distribution especially in high value items such as pulses, fruits and vegetables, milk and dairy products, egg, meat and fish. Increase in prices can be

attributed to both supply and demand factors. The per capita availability of some of the items such as cereals and pulses have been declining resulting in some pressure on their prices. In the case of fruits and vegetables, milk, egg, meat and fish, prices have gone up despite an increase in per capita availability. This is due to a changing pattern in the demand of the households for high value items with increasing income levels. Supply constraints are important in influencing the recent price rise both globally and nationally. Supply constraints are long term and short term in nature. Long-term supply constraints include for example: inelastic supply of land; water; inadequate investments in key areas like irrigation; land development; and R&D.

5.13 Short-term constraints are weather fluctuations, lack of timely availability of inputs like fertilizers, quality seed, credit and policy environment, etc. Both long-term and short-term factors have influenced the production of agricultural output in the recent period. Market imperfections also add to these trends by restricting the price transmission. These include lack of infrastructure facilities like efficient transport facilities, storage, processing, marketing and credit facilities.

5.14 The Population of India increased from 1.03 to 1.21 billion during 2001-2011. Increasing population in the face of a relatively constrained supply of agricultural output has brought down the per capita net availability of food grains from 510 grams per day in 1991 to 444 grams per day in 2009. This is an indicator of constrained supply in the face of increasing demand exerting pressure on the prices of food commodities.

5.15 Substantial funds are being spent on various welfare and employment oriented programmes and the same are likely to increase significantly in the near future with the introduction of the currently debated Food Security Bill. These programmes have infused substantial amounts of liquidity and purchasing power generating increased demand for food items.

5.16 When growth picks up at low income levels the demand for food items would increase as income elasticity of demand for food is higher at lower levels of income. Thus, lower per capita availability of food grains and structural shortage of key agricultural commodities like oilseeds and pulses combined with the rising demand have kept food price inflation high. This process has got further accentuated by spikes in global food prices through international transmission.

5.17 Rising international prices of oil also impacted the cost of production of agriculture through increase in input costs of fertilizers, transportation and a general rise in the cost of all other inputs and services. Increase in cost of production results in increasing the MSP of agricultural commodities which also influences market sentiments.

5.18 Supply responses to demand hikes are usually affected with a time lag. In the intervening period an injection of extra liquidity in the economy would lead to an upward pressure on prices. In India, expansionary monetary policies and fiscal deficits have been adopted in the recent years to maintain high growth rates in the face of global recession.

5.19 In the recent years, particularly since the commodity price hike of 2007-8, markets have become highly volatile. International stocks of key food items like cereals and animal feedstock are reduced due to shocks in major producing regions of Europe, Canada and Australia as also due to rising demand in developing countries putting upward pressure on prices. To some extent, speculative activities in the commodity markets also influence prices.

### The Way Forward

5.20 The enduring solution to price inflation lies in increasing productivity, production and decreasing market imperfections.

### Agricultural Price Policy and MSP

5.21 Minimum Support Prices have been a cornerstone of the agricultural policy since 1965. The objective is to ensure remunerative prices to the growers for their produce with a view to encourage higher investment and production and evolve a balanced and integrated price structure in the context of overall needs of the economy while safeguarding the interest of consumers by making available supplies at reasonable prices.

5.22 Implementation of MSP is undertaken through procurement by central and state level agencies. The procurement of wheat and rice is undertaken by the Food Corporation of India under the Department of Food & Public Distribution, primarily to meet the requirements of buffer stock; Targeted Public Distribution Scheme (TPDS) and other welfare schemes of the

#### Box 5.1: Minimum Support Prices

The rationale behind determination of MSP include, (i) the need to provide incentive to the producer/farmer for adopting improved technology and for developing a production pattern broadly in the light of national requirements; (ii) the need to ensure rational utilization of land, water and other production resources; (iii) the likely effect on the price policy on the rest of the economy, particularly on cost of living, level of wages, etc., and (iv) the terms of trade between agricultural sector and non-agricultural sector.

The Commission for Agricultural Costs & Prices (CACP), while formulating the recommendations on Price Policy, considers a number of important factors which, *inter alia*, include cost of production, changes in input price, trends in market prices, demand and supply situation etc. Cost of cultivation data for principal crops are collected under a plan scheme to generate state wise and crop wise estimates of cost of cultivation/production and made available to the CACP for use in connection with their recommendations of MSPs. The cost of cultivation/production takes into account all paid out costs, such as, those incurred on account of hired human labour, bullock labor and machine labor (both hired and owned) and rent paid for leased-in land besides cash and kind expenses on use of material inputs like seeds, fertilizers, manures, irrigation charges including cost of diesel or electricity for operation of pump sets, etc. Besides, cost of production includes imputed values of wages of family labour and rent for owned land. The cost also covers depreciation for farm machinery, building, transportation and insurance charges. As such, the cost of production covers not only actual expenses in cash and kind but also imputed value of owned assets including land and family labor.

government. However, the designated agencies' intervention in the market for undertaking procurement operations assist market prices not to fall below the MSPs fixed by the government.

5.23 Details regarding MSPs for selected crops during 2010-11 and 2011-12 are given in Table 5.1. The MSP has been a major contributing factor among others for sustained increase in agricultural production. The impact has been more pronounced for some of the crops in recent years. The change in area and production has been remarkable in the case of *Arhar* (Tur), *Moong* and *Urad*. Between 2006 - 07 and 2010 -11, area under *Arhar* (Tur) increased by around 24 percent and its production by 25 percent. During this period, area under Gram increased by about 23 percent and its production by 30 percent. Increase in the area under Wheat, between 2006-07 and 2010-11, was about 5 percent which culminated in an increase in production by 13 percent. In case of Groundnut while the area increased by about 6 percent, the increase in production amounted to 55 percent indicating an improvement in yield per hectare also. Similarly, in case of Soyabean the increase in area by 15 percent resulted in a production increase by 43 percent. Between 2006-07 and 2010-11, the area under Cotton increased by about 22 percent and its production by about 48 percent.

**Table 5.1 : Minimum Support Prices  
(According to Crop Year) Rs. per quintal**

Commodity	2010-11	2011-12
<b>Kharif Crops</b>		
Paddy Common Grade 'A'	1000 1030	1080 1110
Bajra	880	980
Maize	880	980
Arhar (Tur)	3000*	3200*
Moong	3170*	3500*
Urad	2900*	3300*
Cotton Staple Length : 24.5- 25.5 mm Staple Length : 29.5-30.5 mm	2500 3000	2800 3300
Groundnut in shell	2300	2700
Sesamum	2900	3400
<b>Rabi Crops</b>		
Wheat	1120#	1285
Gram	2100	2800
Rapeseed & Mustard	1850	2500
<b>Other Crops</b>		
Copra	4450	4525
Sugarcane@	139.12	145.00

Notes: \*Additional incentive @ of Rs.500/- per quintal of *tur*, *urad* and *moong* sold to procurement agencies payable during the harvest/arrival period of two months.

# An additional incentive bonus of Rs. 50/- per quintal is payable over the MSP.

@ Fair and Remunerative Price

## Challenges

5.24 In a large number of markets in several states, such as Bihar, eastern UP, Orissa, Assam, M.P. and Chhatisgarh where surpluses are emerging, there is a need for effective procurement operations and for strengthening the market infrastructure.

### The Way Forward

5.25 Measures to improve the efficacy of MSP in agricultural markets are namely:

- Extend the price support mechanism effectively across the country
- Invest in building market infrastructure in the states

## **Market Intervention and Price Support Schemes**

5.26 The Department of Agriculture & Cooperation implements the Market Intervention Scheme (MIS) for procurement of horticultural commodities which are perishable in nature and are not covered under the Price Support Scheme. The objective of intervention is to protect the growers of these commodities from making distress sale in the event of a bumper crop during the peak arrival period when the prices tend to fall below economic levels and cost of production. The MIP is implemented when there is at least a 10 percent increase in production or a 10 percent decrease in the ruling market prices over the previous normal year. The Market Intervention Scheme (MIS) is implemented at the request of a state /UT government which is ready to bear 50 percent of the loss (25 percent in case of North-Eastern States), if any, incurred on its implementation. The extent of total amount of loss to be shared on a 50:50 basis between the central government and the state government is restricted to 25 percent of the total procurement value which includes cost of the commodity procured plus permitted overhead expenses. Under the Scheme, in accordance with MIS guidelines, a pre-determined quantity at a fixed Market Intervention Price (MIP) is procured by NAFED as the Central agency and the agencies designated by the state government for a fixed period or till the prices are stabilized above the MIP whichever is earlier. The area of operation is restricted to the concerned state only.

5.27 During the year 2010-11, the MIS has been implemented in five states covering potato (U.P. and W.B. with a total quantity of 10 lakh metric tonnes), oil palm ( Andhra Pradesh : 47500 metric tonnes), apple ( Himachal Pradesh 6100 metric tonnes) and areca nut (Karnataka 1200 metric tonnes).

### **Price Supports Scheme (PSS)**

5.28 The Department of Agriculture & Cooperation implements the PSS for procurement of oil seeds, pulses and cotton, through NAFED which is the Central nodal agency, at the Minimum Support Price (MSP) declared by the government. NAFED undertakes procurement of oil seeds, pulses and cotton under the PSS as and when prices fall below the MSP. Procurement under PSS is continued till prices stabilize at or above the MSP. Losses, if any incurred by NAFED in undertaking MSP operations are reimbursed by the central government. Profit, if any, earned in undertaking MSP operations is credited to the central government.

5.29 Under the PSS during 2010-11, procurement was made Milling Copra in four states, Tamil Nadu (7,434 metric tonnes), Kerala (12,408 metric tonnes), A&N Islands (53, 35 metric tonnes) and Karnataka (30,86 metric tonnes) for a total value of Rs 135 crore.

## **Agricultural Markets**

5.30 The increasing trend of agricultural production has brought in its wake, new challenges in terms of finding markets for the increased marketed surplus in the country. Challenges and opportunities that the global markets offer in the liberalized trade regime are also to be addressed. For the farming community to benefit from the new global market access opportunities, the internal agricultural marketing system in the country needs to be integrated and strengthened. Agricultural marketing reforms and the creation of marketing infrastructure has therefore been a prime concern of the government.

5.31 The subject of agriculture and agricultural marketing is dealt with both by the state as well as the central government in the country. Starting from 1951, various Five-Year Plans laid stress on development of physical markets, on-farm and off-farm storage structures, facilities for standardization and grading, packaging, transportation, etc. Most agricultural commodity markets generally operate under the normal forces of demand and supply. The role of government is normally limited to protecting the interests of producers and consumers, only in respect of wage goods, mass consumption goods and essential goods; and to promote the organized marketing of agricultural commodities in the country through a network of regulated markets.

### Regulation of Agricultural Produce Markets (APMCs)

5.32 To achieve an efficient system of buying and selling of agricultural commodities, most of the state governments and union territories have enacted several legislations to provide for regulation of the Agricultural Produce Markets. The basic objective in the setting up of setting up of a network of physical markets has been to ensure reasonable gains to the farmers by creating a market environment where there is fair play of supply and demand forces, to regulate market practices and to attain transparency in transactions. With growing agricultural production, the number of regulated markets has also been increasing in the country. While, there were 286 regulated markets in the country at the end of 1950, their number has increased to 7157 by 2010.

### Marketing Reforms Initiatives

5.33 In response to the need for providing competitive choices of marketing to farmers and to encourage private investment for the development of market infrastructure and alternative marketing channels, a Model Act on agricultural marketing had been formulated and circulated to the states/UT by the Ministry of Agriculture in 2003 to guide them on the removal of barriers and monopoly in the functioning of agricultural markets. Seventeen states have already amended the APMC Act as per provision of the Model Act. Seven states have also notified APMC Rules under their Act. Details regarding the present status is indicated in Table 5.2:

**Table 5.2: Progress of Reforms in Agricultural Markets (APMC Act) as on 31.10.2011**

S.No.	Stage of Reforms	Name of States/ Union Territories
1.	States/ UTs where APMC Act reforms have been done for Direct Marketing; Contract Farming and Markets in Private/ Coop Sectors	Andhra Pradesh, Arunachal Pradesh, Assam, Goa, Gujarat, Himachal Pradesh, Jharkhand, Karnataka, Maharashtra, Mizoram, Nagaland, Orissa, Rajasthan, Sikkim, Uttrakhand and Tripura
2.	States/ UTs where APMC Act reforms have been done partially	a) <b>Direct Marketing:</b> NCT of Delhi, Madhya Pradesh and Chhattisgarh b) <b>Contract Farming:</b> Chhattisgarh, Madhya Pradesh, Haryana, Punjab and Chandigarh

**Table 5.2: Progress of Reforms in Agricultural Markets (APMC Act) as on 31.10.2011 (Contd.)**

S.No.	Stage of Reforms	Name of States/ Union Territories
3.	States/ UTs where there is no APMC Act and hence not requiring reforms	Bihar*, Kerala, Manipur, Andaman & Nicobar Islands, Dadra & Nagar Haveli, Daman & Diu, and Lakshadweep
4.	States/ UTs where APMC Act already provides for the reforms	Tamil Nadu
5.	States/ UTs where administrative action is initiated for the reforms	Meghalaya, Haryana, J&K, West Bengal, Puducherry, NCT of Delhi and Uttar Pradesh.

Note: \* APMC Act is repealed w.e.f. 1.9.2006.

### Status of APMC Rules

5.34 The status of APMC reforms in different states is given below:—

a) States where Rules have been framed completely :

Andhra Pradesh, Rajasthan, Maharashtra, Orissa, Himachal Pradesh, Karnataka, Rules have been framed completely.

b) States where Rules have been framed partially:

i) Mizoram only for single point levy of market fee;

ii) Madhya Pradesh for Contract Farming and special license for more than one market;

iii) Haryana for Contract Farming.

5.35 In order to expedite the pace of market reforms, the Ministry of Agriculture has set up a Committee of State Ministers In-charge Agricultural Marketing on 2 March, 2010, with members from the states of Maharashtra, Gujarat, Haryana, Uttarakhand, Bihar, Assam, Orissa, Andhra Pradesh, Karnataka and Madhya Pradesh. The Committee has submitted its "First Report" to the Government in September, 2011 which has been circulated to all States and UTs for implementation of its recommendations and to offer comments, if any.

5.36 The Government of India has also decided that assistance under National Horticulture Mission and Development and Strengthening of Agricultural Marketing Infrastructure, Grading and Standardization Schemes for development of market infrastructure projects to State Agencies/APMCs would be subjected to waiving of market fees for perishable horticultural commodities. It would permit direct marketing by farmers to consumers, processing units, bulk buyers of cold chain facilities, storage and contract farming. However, it has been decided that reasonable user charges can be levied for the use of market facilities and infrastructure.

### Linking Farmers to Markets

5.37 Some of the initiatives taken for Linking Farmers to markets at the state and the national level through infrastructure development and technological innovations are presented below in Box 5.2. A typical Rythu Bazar scene is shown in Fig 5.5 while Fig 5.6 displays a Shetkari Bazar site in Maharashtra.

**Fig 5.5. Rythu Bazar in Andhra Pradesh**



**Fig 5.6. Shetkari Bazar In Maharashtra**



### Box: 5.2. Types of Direct Marketing by Farmers

**Rythu Bazar** is an initiative to create infrastructure facilities to enable farmers to sell their products directly to consumers thereby ensuring that farmers realize better prices and consumers receive fresh vegetables, fruits, etc., at reasonable prices and thus, address constraints in the agricultural marketing infrastructure. Both producers and consumers are benefited from Rythu bazaars as producer's share in consumer's rupee is more by 15 to 40 percent as compared to other markets and consumers get fresh vegetables, fruits and food items at 25-30 percent less prices than the prevailing prices in nearby markets. Jain *et al.*

Typically, a Rythu Bazar covers 10 to 15 villages and at least 250 farmers including 10 groups (Self Help Groups) who are selected by a team consisting of Mandal Revenue Officers, Horticulture Officers and Agriculture Officers in the villages operate in the bazars. Adequate transport facilities are arranged for transport of goods to Rythu Bazars in consultation with State Road Transport Corporation. In addition, online information of prices and commodities movements is provided on the internet. More than 100 Rythu Bazars are in existence benefitting 4500 farmers and large number of consumers. Rythu Bazars can play a key role in addressing marketing problems and there is, thus, a clear need to facilitate similar marketing infrastructure throughout the country.

**Shetkari Bazar** is a concept of direct marketing by producer (farmer) to consumers. By circumventing the intermediaries, the produce reaches in good shape with minimum handling. This results in better price realization for the farmer-producer and good quality produce to the consumer at reasonably lower price. This is expected to help small farmers with small quantity of perishable fruit and vegetables to get a fair price and escape commercial exploitation in the market place. In 2002, the Government of Maharashtra decided to set up Shetkari Bazars in the State and the Maharashtra State Agriculture Marketing Board was appointed as nodal agency for implementing this scheme. The Shetkari Bazars are located in all district and key taluka places and are managed by the Agriculture Produce Market Committees (APMC) from the area. The produce brought by farmers is not levied cess. Local committees are set up to monitor the prices and take the commitment forward (Prakash V, Director, CFTRI, Mysore). A term loan up to Rs. 10.00 lakh is advanced to the APMCs for establishment of Shetkari Bazar. An amount of Rs. 31.10 crore has been sanctioned to 33 APMCs. There are 12 Shetkari Bazaars operating in the state and 33 additional markets have been sanctioned.

### Impact of Farmers' Markets/Direct Marketing

5.38 Producers use different market outlets (commission agents, local traders and farmers' markets) at different times of the year as a strategy to get the best price for their produce. Farmer's Markets are especially beneficial for small producers, who have difficulties in selling small volumes during the dry season in the conventional market system. Farmers' Markets have influenced producers' practices in two main ways namely: (i) diversification of production to include a wider variety of vegetables, and (ii) intensification to maximize the use of water and land resources throughout the year. Farmer's Markets have also stimulated producers' adoption of marketing strategies through a better understanding of consumers' needs and preferences based on incomes, dietary habits and local needs. Factors which affect producers' capacity to adapt to changes include access to credit and financial assets, and institutional support across the system. These are key factors in ensuring that farmers fully benefit from the Farmers' Market initiatives, and deserve to be better addressed. Direct Marketing enables farmers and processors and other bulk buyers to economize on transportation cost and to considerably improve price realization. This also provides incentive to large scale marketing companies to affect their purchases directly from producing areas.

### Market Research Information Network (MRIN)

5.39 Market information is of vital importance to all in the marketing system whether farmers, traders, processors or consumers who require market information for different purposes. For provision of information of prices of agricultural commodities prevailing in Agricultural Produce Markets in the country, the Ministry of Agriculture has launched the ICT-based Central Sector Scheme of Marketing Research and Information Network in March, 2000. This provides electronic connectivity to important wholesale markets in the country for collection and dissemination of price and market-related information. The scheme was implemented in the year 2000-2001 and presently, more than 3000 markets from all over the country have been linked to a central portal (<http://agmarknet.nic.in>). These markets report the daily prices and arrivals for more than 300 commodities and 2000 varieties from more than 1900 markets covering nearly all the major agricultural and horticultural produce. The information on arrivals and prices are disseminated in 12 regional languages.

5.40 In addition to price, diverse other market-related information is provided on the portal, for example, the accepted standards of grade labeling; sanitary and phyto-sanitary requirement; physical infrastructure of storage and warehousing; marketing yards; fees payable; etc. Efforts are underway to prepare a national atlas of agricultural markets on a GIS Platform that would indicate the availability of the entire marketing infrastructure in the country including storage, cold storages, markets and related infrastructure. Similarly, commodity profiles indicating the post-harvest requirements of important commodities are being loaded on to the portal.

5.41 Major stakeholders of the project are farmers, buyers and commission agents of agricultural produce, media persons, government functionaries, academicians, market functionaries, agri-business consultants, etc. The information available on the Portal is in the public domain and can be instantly accessed from anywhere in the world. Farmers and stakeholders are accessing this information throughout the length and width of the country and many agencies are using the contents of the Portal to generate market intelligence and making the same available to various stakeholders to support them in appropriate decision making. The project provides ready contents for the proposed one lakh IT kiosks being installed in rural areas by the Department of Information Technology.

### Construction of Rural Godown Scheme (Grameen Bhandaran Yojana)

5.42 Presently, there is limited warehousing capacity in the country as can be seen from Table 5.3. To create additional storage capacity the government launched on 1 April 2011, the Gramin Bhandaran Yojana aimed at the creation of scientific storage capacity with allied facilities in rural areas. This will meet the requirement of farmers in manifold ways such as, storing farm produce, processed farm produce,

**Table 5.3: Agriculture Warehousing Capacity in the Country**

PSU	Capacity (in MT)
FCI	32.05
CWC	10.07
SWCs	21.29
State Civil Supplies Corp./Deptt	11.30
<b>Total Public Sector</b>	<b>74.71</b>
Cooperative Sector	15.07
Private Sector	18.97
<b>Total</b>	<b>108.75</b>

*Source:* Report of Sub-Group on Warehousing and Bulk Handling for XII Plan, Department of Food and Public Distribution.

agricultural inputs, promotion of grading, standardization and quality control of agricultural produce to improve their marketability, prevention of distress sales immediately after harvest by providing the facility of pledge financing and marketing credit. It will strengthen the agricultural marketing infrastructure in the country by paving way for the introduction of a national system of warehouse receipts in respect of agricultural commodities stored in such godowns and will help to reverse the declining trend of investment in the agriculture sector by encouraging private and cooperative sector to invest in the creation of storage infrastructure in the country. The scheme was revised for XI Plan period 26 June 2008, with subsidy being provided at 25 percent of the project cost to all categories of farmers, agriculture graduates, cooperatives and CWC/ SWCs. All other categories of individuals companies and corporations are being given subsidy at 15 percent of the project cost. In case of NE states/hilly areas and SC/ST entrepreneurs and their cooperatives and Women Farmers, the subsidy shall be 33.33 percent. Since the inception of the scheme w.e.f. 1 April 2001 and up to 31 March 2011, 24,706 godowns having a capacity of 283.26 lakhs tonnes with a subsidy release of Rs.696.45 crores have been sanctioned by NABARD and NCDC all over the country. The government has, from 20 October 2011 revised the cost norms under the Scheme to encourage the creation of additional warehousing capacity, particularly in those areas where it is yet to fully pick up.

**Fig 5.7: A Typical Rural Godown**



### **Development/Strengthening of Agricultural Marketing Infrastructure, Grading and Standardization Scheme (AMIGS)**

5.43 The AMIGS is a reform-linked investment Scheme to encourage rapid a development of infrastructure projects in agriculture and allied sectors including dairy, meat, fisheries and minor forest produce. It is applicable in only such states/ UTs which undertake reforms in the APMC Act to allow direct marketing and contract farming and permit agricultural

produce markets to exist in private and cooperative sectors. The Scheme was launched in October, 2004. The assistance is provided for development of market infrastructure, linkages and value addition by private entrepreneurs, cooperatives and state agencies for projects such as cleaning, sorting, grading, drying and auction platform, pack-house etc. The Scheme is credit linked and demand driven. The subsidy for the projects under the Scheme is released through NABARD, NCDC and the Directorate of Marketing & Inspection. The sanctioned projects include combined harvesters, milk chilling units, cotton ginning and processing units, paddy parboiling units, fruits packaging, grading and marketing units, fruit and vegetables market yards, etc., which benefit the farmers during post-harvest management/ marketing of agricultural produce. Under the Scheme 6214 projects with a subsidy release of 439.54 crores has been sanctioned so far.

### Challenges

5.44 Inefficiency in the wholesale markets result in a long chain of intermediaries, multiple handling, loss of quality and increase in the gap between the producer and consumer prices. A large number of small retailers, each handling small quantities, create high overheads leading to a high marketing margin on the produce.

5.45 The purpose of regulation of agricultural markets was to protect farmers from the exploitation of intermediaries and traders and also to ensure better prices and timely payment for the produce. However, due to lack of development of an appropriate market infrastructure in tandem with changes in production, intermediation has tended to continue resulting in post-harvest losses at every stage thereby reducing the farmer's share in consumer's price. There is a strong need for providing an appropriate backward and forward integration to producers for ensuring primary value additions to the produce to enhance shelf-life while ensuring quality.

5.46 It is observed that only five states namely, Madhya Pradesh, Andhra Pradesh, Punjab, Maharashtra, and Haryana have more than 60 percent of the total capacity of godowns sanctioned in the country. Other states like Karnataka, Uttar Pradesh, West Bengal and Gujarat are picking up whereas there is little progress in the states like Goa, Jharkhand, Kerala, Uttarakhand, and Bihar and the North Eastern States. Long payback period and low levels of viability are attributed to be the main reasons for this imbalance. In the North Eastern Region, there has been a lack of response also due to the reluctance of financial institutions to provide credit facilities to such back-ended credit linked projects due to a community land holding pattern which does not facilitate land collateral in the name of individual borrowers.

5.47 There has been a lack of investment in the logistics of the retail chain, leading to a fragmented market chain. Across the States there is wide variation in the availability of marketing infrastructure such as auction platform, electronic weigh bridge, price dissemination terminals and display, storages and warehousing facilities, cleaning, grading and packaging facilities, processing and value addition, etc. However, it is observed that despite some reform initiatives by the states, there has been a lukewarm response from the private sector for taking up projects for the development of marketing infrastructure. It is felt that this is mainly due to viability issues given the long gestation period of projects

involving agricultural marketing infrastructure. It may not be possible to fund very large investment requirements of these projects fully from the limited budgetary resources of the government of India alone. In order to remove this shortcoming and to bring in private sector investment and techno-managerial efficiencies, the government is promoting Public Private Partnerships (PPP) in infrastructure development through a special facility envisaging support to PPP projects through 'viability gap funding'. Primarily, this facility is meant to reduce the capital cost of the projects by credit enhancement, and to make them viable and attractive for private investments through supplementary grant funding. In order to give a further boost to the creation of warehousing capacity in the country, the Ministry of Finance has allocated Rs.2,000.00 crore in the current financial year under the Rural Infrastructure Development Fund (RIDF).

### **The Way Forward**

5.48 The farming community requires facilities for efficient marketing including scientific storage so that wastage and produce deterioration are avoided. Also by meeting the credit requirement of the farmers, he will not be compelled to sell the produce at a time when prices are low. The states need to implement market reforms in their entirety to provide effective marketing channels to the producers.

5.49 The markets and their related infrastructure need to be covered under Viability Gap Funding so that the private sector is encouraged to make investments in the sector. More awareness programmes need be organized to popularize the Schemes with a special focus on the North Eastern Region.

### **India in Global Agriculture**

5.50 The Department of Agriculture and Cooperation is the nodal contact point in government of India for the Food & Agriculture Organization and World Food Programme. Bilaterally with countries of strategic interest, Memoranda of Understanding, Agreements, Protocols and Work Plans are signed and implemented for furthering cooperation in the field of agriculture and its allied sectors. The benefits that accrue to the sector from such agreements and MoUs are in the nature of capacity building, knowledge exchange through visits of scientists and technicians, exchange of genetic resources, etc. that aid in development of appropriate technologies and farm practices for enhancing agriculture productivity at farmers' field. Such cooperation also facilitates the creation of opportunities for trade in agricultural commodities. India's strategic interests are also served through partnerships with other countries.

5.51 India is a founder member of the FAO and has been taking part in all its activities. India has been availing services from the FAO from time to time in the form of training, consultancy services, equipment and material in the field of agriculture and allied sectors under its Technical Cooperation Programme. The World Food Programme (WFP) was set up in 1963 jointly by the United Nations and the Food & Agriculture Organization (UN/FAO). India is the founder member of WFP. WFP is mandated to provide emergency feeding in places facing acute food insecurity due to natural calamities as also man-made causes. Currently, the India Country Programme 2008-12 is under operation which focuses

on reducing hunger and malnutrition amongst women and children in vulnerable areas, development of appropriate products to deal with malnutrition at early ages of the children and creating livelihood opportunities for the poor. WFP has also made notable contributions through product innovations such as Indiamix and mapping of hunger in India through Food Atlases, etc. Presently, there are five agriculture sector-based projects which are being operated with the assistance of the World Bank. These projects mainly relate to Watershed Development, Soil and Water Conservation measures (Natural Resource Management), as well as overall agricultural development related issues. India also has cooperation programmes with other multilateral organizations such as the Japan International Cooperation Agency (JICA), German Technical Cooperation (GTZ), Asian Development Bank and International Fund for Agriculture Development (IFAD).

### G-20 Initiatives

5.52 In the context of price volatility of agricultural commodities a Ministerial on Agriculture-related issues has been set up. At the meeting of G-20 Agriculture Minister's in Paris on 22-23 June, 2011, a Ministerial Declaration on Action Plan on Food Price Volatility and Agriculture has been issued. It has been decided to focus generally on the following areas: (i) Agricultural production and productivity; (ii) Market information and transparency; (iii) International policy coordination; (iv) Reducing the effects of price volatility for the most vulnerable; and (v) Financial regulation of agricultural financial markets. The concrete steps outlined to achieve these goals are as follows: (i) International Research Initiative for Wheat Improvement (IRIWI) (ii) Agricultural Market Information System (AMIS); (iii) The Global Agricultural Geo-Monitoring Initiative; (iv) Rapid Response Forum; (v) Agriculture and Food Security Risk Management Toolbox; and (vi) Emergency Humanitarian Food Reserves. Follow up action has commenced.

#### Box 5.3: Agricultural Market Information System (AMIS)

The last few years have been characterized by high and volatile food prices. Stronger demand for food crops, animal products and bio-energy in conjunction with slow growth in agricultural productivity in addition to low stocks will continue to put upward pressure on prices and generate more volatility. In addition, over the past two decades grain production has expanded most in those regions of the world that are more prone to unstable weather. This contributes to food price fluctuations becoming more extreme while also make the forecasting of food production difficult.

In June 2011, the G20 Ministers of Agriculture while recognizing the importance of timely, accurate and transparent information in addressing food price volatility launched the Agricultural Market Information System (AMIS), a collaborative food information initiative. AMIS builds on and complements existing systems and improves global food market information. AMIS is a platform through which countries, international organizations and the private sector can work together to strengthen synergies and collaboration in order to improve data reliability, timeliness and frequency. AMIS will also build developing countries' capacity in market outlook analysis and promote policy dialogue.

### Agricultural Outsourcing

5.53 It is the endeavor of the government to keep itself abreast of global trends and practices in agricultural production, trade and investments. It has taken note of the efforts being made by China, Japan, Malaysia, South Korea, Libya, Saudi Arabia, UAE and Egypt to acquire agricultural lands in third countries to augment domestic food and fuel requirements.

It is a fact that a large country like India cannot depend on food imports to a large extent, especially as the global prices are impacted significantly with India's entry. Therefore, with a view to explore the possibility of offshore agriculture investments for addressing food security and also leveraging the skills of India's vibrant agri- entrepreneurs, the Department has entrusted a study to the Indian Institute of Foreign Trade on 'Agricultural Outsourcing : Possible Opportunities for India'. The recommendations made in the report are given in the Box 5.4.

**Box 5.4: Agricultural Outsourcing: Possible Opportunities for India**

The study has recommended, *inter alia*, that India should enter into bilateral framework agreements with countries which are willing to facilitate Indian investments, formulate Responsible Investment Principles on the basis of international norms, in consultation with investors, co-ordinate interventions of the Government of India under the India- Africa Framework for Cooperation and private investments by Indian entities in Africa to maximize the impact, and have a special focus on Latin America, where our Missions and the host countries are eager that India should take the initiative in this regard. A supportive policy will encourage Indian entrepreneurs to obtain the desired results.

5.54 The Ministry of Agriculture will need to play a nodal role in the initiative, in coordination with relevant Ministries and Agencies like the MEA, Ministry of Finance, Ministry of Commerce and Industry, Reserve Bank of India, EXIM Bank, etc. The provisions contained in the MoUs and Agreements are operationalised through drawing biennial Work Plans. Some examples of success in bilateral cooperation with other countries are discussed below.

5.55 There are more than 50 countries with which India has signed MoUs and Agreements and Work Plans for agricultural cooperation. During 2010-11, the following MoUs, Agreements and Work Plans were signed by the Department of Agriculture and Cooperation: (i) MOU with South Africa; (ii) Work Plan and Protocol with Turkey; (iii) MOU with Argentina; (iv) MOU with Austria; (v) Agreement with Tajikistan; and (vi) MOU with Government of Islamic Republic of Afghanistan and National Institution Building Project. Broadly, the areas for cooperation identified in these MoUs and agreements include cooperation in research and development, capacity building, germ-plasm exchange, post-harvest management, value addition and food processing, plant protection, animal husbandry, dairy and fisheries, etc.

5.56 Projects for setting up Centres of Excellence for mango, citrus and pomegranate under the Indo-Israel Work Plan in the State of Maharashtra are underway. Similar projects for the creation of Centres of Excellence for fruits and vegetables at Sirsa and Karnal have been initiated in the State of Haryana. These are in the final stages of completion and activities are being taken up under the advice of Israeli experts. Israeli experts are also providing technical assistance to the Department of Horticulture, Rajasthan for development of a Centre of Excellence at village Bassi, Jaipur in Rajasthan. The main activities selected for implementation are use of brackish water in agriculture and demonstration of front line technology in kinnow cultivation. Similarly, assistance has been extended to Sri Lanka by way of exporting seeds as per the requirements of that country. As a sequel to the signing of the MoU between India and USA on Strategic

Cooperation in Agriculture and Food Security in 2010, three working groups namely: (i) Working Group-I:-Strategic Cooperation for Food Security (including trilateral cooperation with African countries); (ii) Working Group-II:-Food Processing, Farm to Market Linkages and Agricultural Extension; (iii) Working Group-III:- Crop and Weather and Climate Forecasting were constituted. Follow up action has commenced.

5.57 India is also part of the strategic groups such as India, Brazil, South Africa (IBSA), Brazil, Russia, India, China and South Africa (BRICS), Bengal Initiative for Multi-Sectoral Technical and Economic Cooperation (BIMSTEC) and South Asian Association for Regional Cooperation (SAARC), etc. for further cooperation with other countries for advancing its strategic interests.

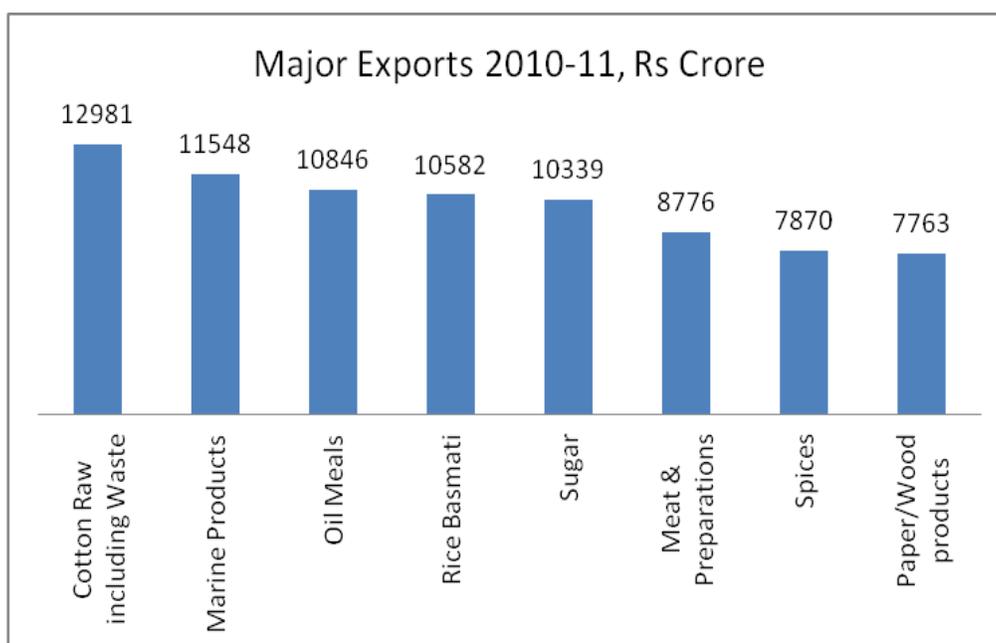
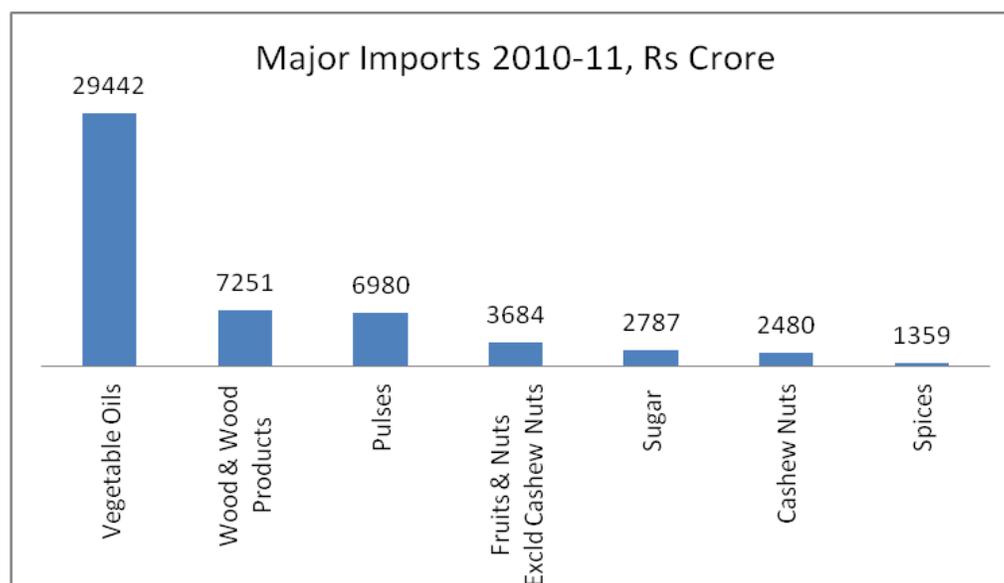
### **Indian Agriculture in World Trade**

5.58 India is among the 15 leading exporters of agricultural products in the world. As per international trade statistics, 2010, published by WTO, India's agricultural exports amounted to US \$ 17 billion with a share of 1.4 percent of world trade in agriculture in 2009. On the other hand, India's agricultural imports amounted to US 14 billion with a share of 1.2 percent of World Trade on agriculture in 2009.

5.59 Agricultural exports increased from Rs. 89341.50 crore in 2009-10 to Rs 120185.95 crore in financial year 2010-11 registering a growth of about 34.52 percent. Increase in value of agricultural exports during 2010-11 was primarily on account of higher exports of sugar, molasses, cotton, guar gum meal, spices, Niger seed, ground nut, maize, coffee, oil meal, castor oil, tea and jute compared to corresponding period of previous year. However, the share of agricultural exports in total exports decreased slightly from 10.57 percent in 2009-10 to 10.47 percent in 2010-11.

5.60 Agricultural imports recorded an overall decrease from Rs. 59528.33 crore in 2009-10 to Rs 56196.20 crore in 2010-11 registering a decline of -5.6 percent over the corresponding previous period. Decrease in the value of agricultural imports during this period was primarily due to lower imports of pulses, sugar and cotton. The share of agricultural imports in total imports also decreased from 4.37percent in 2009-10 to 3.50percent in 2010-11.

5.61 There has been generally a surplus in agricultural trade over the years. The trade surplus increased from Rs. 29813.17 crore in 2009-10 to Rs. 63989.75 crore in 2010-11 mainly due to the higher export of cotton, sugar and oil meals. India's major exports and imports in terms of value of total agricultural exports and imports in the recent period are given in Fig 5.8 and 5.9.

**Fig 5.8: India's Major Agricultural Exports****Fig 5.9: India's Major Agricultural Imports****Preferential / Free Trade Agreements (PTA/FTA)**

5.62 Negotiations on PTAs/FTAs are at various stages of progress with the European Union, EFTA (Switzerland, Norway, Iceland and Liechtenstein), MERCOSUR (Brazil, Argentina, Paraguay, Uruguay), Chile, Israel, Indonesia, Australia, New Zealand and Thailand. ASEAN (Brunei, Indonesia, Malaysia, Philippines, Singapore, Thailand, Cambodia, Lao PDR, Myanmar and Vietnam) Trade in Goods Agreement was signed on 13 August 2009. This has become effective from 1 January 2010. India –South Korea Partnership Agreement Comprehensive Economic Partnership Agreement (CEPA) was concluded on 7 August 2009.

Trade in goods agreements under India- Japan CEPA and India-Malaysia Comprehensive Economic Cooperation Agreement (CECA) were concluded during 2010-11 and have become effective from 1 August 2011 and 1 July 2011, respectively.

5.63 The Doha round of trade negotiations in the World Trade Organizations (WTO), which were launched in November 2001, is essentially on hold currently. The last revised Draft Modalities on Agriculture was brought on 6 December, 2008. Ten issues are namely Blue box support for US, Cotton, Sensitive Products / Non Sensitive Products beyond 100 percent duties, Tariff Simplifications, Tropical Products & Diversification Products and Preservation of Long Standing Preferences have been in square brackets or otherwise annotated in the modalities since December 2008.

5.64 The focus shifted to possibility of selecting some issues for finalization as an 'Early Harvest' in time for the 8<sup>th</sup> Ministerial Conference of the WTO scheduled to be held in December 2011,. As part of the "Early Harvest", it was decided to take up LDC issues , which were enlarged to LDC+ issues as largely insisted upon by USA. Australia has been taking the lead in pushing the Early Harvest Package which would include several other issues apart from LDC issues. Core LDC issues are Duty Free Quota Free (DFQF) market access and cotton subsidies. USA has been insisting that all the major players including Brazil, China, and India should make significant contributions in the package to take shape.

5.65 India has said that though the early harvest of LDC issues was important, the remaining issues of the Doha development agenda should also be dealt with. USA is unwilling to commit in LDC core issues such as DFQF and cotton it has been seeking to shift the onus on Brazil, China and India.

### **Challenges**

5.66 A Mini Ministerial was held in Geneva from 21 -29 July, 2008 to finalize the Modalities for Agriculture and NAMA. However, the Agricultural Negotiations broke down due to lack of consensus on the Special Safeguard Mechanism (SSM) apart from lack of consensus on other important areas of negotiation like sensitive products, tariff capping, tariff simplification etc. There were several other important developing country issues like cotton, preference erosion, tropical products, Duty Free Quota Free (DFQF) market access on which no agreement has been reached.

### **The Way Forward**

5.67 It is reported that the July 2008 negotiations in Geneva had moved very close to consensus. This development has enough flexibility to enable India to protect its agriculture against imports from developed countries. Hence India has to try hard to hasten the conclusion of this round.