COMMISSION FOR AGRICULTURAL COSTS AND PRICES

REPORT ON PRICE POLICY FOR KHARIF CROPS OF 2010-2011 SEASON

SUMMARY OF RECOMMENDATIONS

In this report, the Commission for Agricultural Costs and Prices presents its views on the Price Policy for Kharif Crops of 2010-2011 Season. The Commission recommends that the minimum support prices for the kharif crops of 2010-2011 season be fixed at the following levels:

Commodity	Variety	Quality	Minimum Support Price (Rs per quintal)
Paddy	Common	FAQ	1000/-
	Grade-A	"	1030/-
Jowar	Hybrid	"	880/-
	Maldandi	"	900/-
Bajra	-	"	880/-
Maize	-	"	880/-
Ragi	-	"	965/-
Tur (Arhar)	-	"	2800/-
Moong	-	"	3170/-
Urad	-	"	2900/-
Groundnut-in-shell	-	"	2300/-
Soyabean	Black	"	1400/-
	Yellow	"	1440/-
Sunflowerseed	-	"	2350/-
Sesamum	-	"	2900/-
Nigerseed	-	"	2450/-
Cotton (Kapas):			
(i) Staple length (mm) of 24.5 -25.5 and Micronaire value of 4.3 - 5.1		"	2500/-
(ii) Staple length (mm) of 29.5 -30.5 and Micronaire value of 3.5 – 4.3		"	3000/-
VFC Tobacco			

Black soil	F_2 grade	"	5000/-
Light soil	L_2 grade	"	5200/-

(Para 4.16)

The Commission further recommends that:

i) **alongwith the thrust on strategies for accelerated growth of food production, there should be greater focus on research efforts and the requisite research-extension-farmer linkages for achieving higher yields per hectare as well as efficient use of the available resources.**

(para 1.8)

ii) **the Government should on priority carry out a review of the state of procurement operations in the non-traditional areas of the country aimed at initiating corrective measures. Associating various appropriate agencies available in the States other than the usually enlisted organizations (ex: cooperative organizations, SHGs) for procurement operations, needs to be given serious consideration.**

(para 1.10)

iii) **the Government should consider to provide food items for daily use including coarse grains, through authorized outlets at reasonable prices alongwith the traditional public distribution system, so that their availability across the country is assured to the public and price rise could be kept under check.**

(para 1.15)

iv) **any sound strategy for agriculture development should have an integral component for adaptation to the impact of climatic change through action plans in areas such as agricultural research to evolve varieties that are climate resilient as well as cope with the likely increase in water stress.**

(para 1.23)

v) **the plan priorities and related schemes/programmes for irrigation development should follow a balanced approach, with greater thrust on micro irrigation and enhanced efficiency in water utilisation as well as limited extraction of groundwater in over-exploited regions alongwith its increased utilisation in under-exploited regions.**

(para 1.26)

vi) **the Government should follow a two-pronged strategy in the seeds sector: increase SRR to the advisable levels in respect of various crops, and lay equal emphasis on the production of quality/hybrid seeds.**

(para 1.28)

vii) alongwith the thrust on increased availability of farm credit, there should be emphasis on the greater inclusion of new farmers, especially small and marginal, under institutional coverage as well as the increased outreach of cooperative credit societies.

(para 1.31)

viii) the monitoring and evaluation aspects of NREGA have to be adequately strengthened with greater role for social audit, and the implementation may be focussed towards off-season times when the agricultural operations are not in peak, laying emphasis on agriculture-related activities, with appropriate regional variations, through requisite amendments in the operational guidelines, so that the usual agricultural work in the areas may not face problems in obtaining sufficient farm labour.

(para 1.33)

ix) urgent steps are to be taken to notify the rules that are pending under the new/amended statutes pertaining to agricultural markets as well as bring in or improve the basic infrastructure and facilities in these markets, so that the mandis facilitate and not frustrate the production and other related activities on the farm front.

(para 1.34)

x) greater emphasis should be laid on the post-harvest management of agricultural commodities through development of appropriate technologies and facilities as well as development of small and medium scale food processing units.

(para 1.36)

xi) concerted efforts have to be made through effective extension services for immediately spreading about the pulses varieties and technologies developed in the research organizations to the farmers field.

(para 2.65)

xii) in order to bring level-playing field for the benefit of farmers and also domestic oil sector, Government needs to review the present import duty structure on edible oils.

(para 2.78)

xiii) keeping in view the urgent need to augment domestic availability of edible oils, the productivity of all the oilseed crops especially of oil palm and tree borne oilseeds should be given special attention by replacing the existing Integrated Scheme of Oilseeds, Pulses, Oil palm and Maize (ISOPOM) to a newly constituted Technology Mission for Oilseeds.

(para 2.80)

xiv) Ministry of Textiles should look into the limitations in the capacity expansion of the domestic textile mills with a view to increasing the export of value added cotton products like yarn, fabrics and textiles.

(para 2.107)

xv) Ministry of Textiles may look into the grievance of the Cotton Industry regarding low priority being given to by-products of cotton, which suffer from faulty processing, traditional crushing techniques, lack of extension education etc. and may take appropriate remedial measures, either through a new scheme or through the existing Technology Mission on Cotton.

(para 2.108)

xvi) DES and Tobacco Board need to sort out the discrepancy in the cost of cultivation data collected by Directorate of Tobacco Development and Central Tobacco Research Institute and consider extension of coverage for collection of cost of cultivation data to Karnataka also.

(para 2.123)

An Overview

Rainfall and other weather-related factors continue to be decisive in the context of Indian agriculture. The performance of agriculture in the country during the year 2009-10 has again indicated this feature. Variations of monsoon around its long-term trend during the year had a major impact on the crop prospects. The rainfall during the South-West monsoon season (June 1 to September 30, 2009) was below normal, with the area-weighted rainfall during the period for the country as a whole being 77 per cent of long period average (LPA). The unevenness in the receipt of rainfall across time and space added to the adverse impact. The monsoon appeared early over the Kerala coast, but, after about a fortnight, got considerably subdued. The subsequent rains during August/September, to an extent, made up the deficit. The uneven distribution of rainfall during the period adversely affected North-West, Central and North-East India. Out of the 36 meteorological sub-divisions in the country, monsoon rainfall was excess only in 3 and normal in 10 which together constitute only 28 per cent of the country. However, 23 sub-divisions faced deficient rainfall which covered 72 percent of the nation. The rains in the latter part of the season improved the reservoir position. Cumulative rainfall during the North-East monsoon (October 1 to December 31, 2009) was, however, 8 percent above normal as compared with 31 percent below normal during the corresponding period of previous year. Among the 36 meteorological sub-divisions, cumulative rainfall was excess/normal in 23 sub-divisions encompassing 63 percent area of the country and deficient/scanty only in 13 sub-divisions with a coverage of 37 percent area of the country. As on February 11, 2010, the total live water storage was 40 percent of the Full Reservoir Level (FRL) vis-à-vis 39 percent on the corresponding date of last year.

1.2 As per data released by the Ministry of Agriculture, 334 districts faced drought in the country because of the deficit as well as unevenness in the distribution of rainfall during the South-West monsoon season in 2009, spread over 14 States such as Uttar Pradesh, Maharashtra, Assam, Bihar, Rajasthan, Jharkhand, Andhra Pradesh, and Karnataka. The occurrence of drought is a major natural calamity that would imperil the nation's food security and create various other problems including slowing down overall growth of the economy. Several measures have been taken by

the Government to address the situation. The specific measures in the context of agriculture, inter alia, include: announcement of the scheme of diesel subsidy for drought and deficit rainfall affected areas; allocation of additional quantities of seeds to support alternate crop plan; ensuring adequate availability of fertilisers in areas receiving good rainfall to enhance productivity and production; providing flexibility to utilise funds under Rashtriya Krishi Vikas Yojana (RKVY) to meet agricultural contingent situations; issue of advisories to farmers through Extension Directorate of the Department of Agriculture & Cooperation, and the Indian Council of Agricultural Research (ICAR); and various review meetings at higher levels. Similar initiatives were also taken by other related Ministries such as Power and Water Resources. Of late, the Government has brought out a Drought Management Manual intended to provide practical guidelines for administrators, experts and civil society in operationalising drought mitigation and other related relief measures. It needs to be ensured that the perspectives taken up in the Manual are meeting with effective implementation through active participation of all concerned.

1.3 As a result of shortfalls in the South-West monsoon, the area coverage under Kharif crops of 2009 season was around 5 percent lower than that of last year. This has occurred mainly on account of decline in the case of paddy and groundnut. As against this, the area sown under rabi crops (as on March 13, 2010) has been about 105.8 per cent of the normal area under rabi crops. This enhancement has been brought in by the increase in several items, particularly wheat, barley, gram, moong, groundnut, and sesamum.

1.4 According to the Second Advance Estimates of Crop Production (Directorate of Economics and Statistics, Ministry of Agriculture, Government of India), for the year 2009-10, the performance of kharif crops was not satisfactory. The shortfalls in South-West monsoon and its deficiencies in region-wise distribution had a depressing effect on the kharif crops. The production of kharif rice estimated at 72.87 million tonnes is considerably lower than the final estimates of 84.91 million tonnes in 2008-09. Even after including the estimated rabi rice, the production of rice for 2009-10 would be 87.56 million tonnes which is way below the production of 99.18 million tonnes recorded in the past year as well as the target of 100.50 million tonnes set for the current year. After 2004-05, this happens to be the lowest level of rice

production. In fact, this has been a major factor that has pulled down the overall kharif production and the foodgrains production in particular. The kharif production scenario for the various coarse cereals is also revealing the same state of decline. The output of kharif jowar is expected to decline from 3.05 million tonnes (2008-09) to 2.51 million tonnes in 2009-10. For the year as a whole, the production is anticipated to decline from 7.24 million tonnes (2008-09) to 6.77 million tonnes (2009-10), as the estimated increase in rabi output would, to an extent, cut down the extent of downfall. In respect of bajra, the drop in production would be from 8.89 million tonnes (2008-09) to 6.39 million tonnes (2009-10), a decline of 28.12 percent. The production of kharif maize is also looking down from 14.12 million tonnes (2008-09) to 11.66 million tonnes (2009-10), and the expected improvement in rabi crop is only marginal, thus leaving the decline in output almost unabated. There has been erosion in the output of ragi also, from 2.04 million tonnes (2008-09) to 1.87 million tonnes (2009-10). For coarse cereals as a whole, the total kharif output would be 22.77 million tonnes (2009-10) vis-à-vis 28.54 million tonnes in the past year. The insignificant increase in the rabi counterpart could not dent the downfall. The scenario remains the same for cereals as a whole.

1.5 As regards pulses, the kharif output indicates decline in respect of tur, urad and moong. Related to urad and moong, even the rabi production is estimated to stagnate. The category of other kharif pulses is also recording decline. Only in the case of gram as well as other rabi pulses, there would be enhanced output. For pulses as a whole, the kharif portion is going down from 4.69 million tonnes (2008-09) to 4.21 million tonnes (2009-10), while the rabi output is moving up from 9.88 million tonnes (2008-09) to 10.53 million tonnes (2009-10), thus marginally elevating the total output for 2009-10 by 0.17 million tonnes. The total kharif foodgrains output of 99.85 million tonnes in 2009-10 would be the lowest since 2002-03, and even the total foodgrains production that year estimated at 216.85 million tonnes would be the lowest after 2005-06.

1.6 Regarding oilseeds, on the whole, as in the case of foodgrains, the kharif component has brought down the overall production, while the rabi output is expected to reduce the extent of decline. For groundnut, the kharif output has taken a sharp dip from 56.17 lakh tonnes (2008-09) to 39.16 lakh tonnes (2009-10). The

decline is glaring, related to the target of 72.21 lakh tonnes. The rabi portion is expected to impart marginal improvement, making the total output to 55.25 lakh tonnes, less by 37.57 lakh tonnes compared to the previous year. The output of sesamum and nigerseed is also heading for decline, even though not significantly. For sunflower, both the kharif and rabi produce are anticipated to register falls, reducing the total output from 11.58 lakh tonnes (2008-09) to 10.44 lakh tonnes (2009-10). The only exception is soyabean where the kharif production would increase from 99.05 lakh tonnes to 102.17 lakh tonnes. In the case of safflower (rabi) also, there would be decline, from 1.89 lakh tonnes (2008-09) to 1.68 lakh tonnes (2009-10). However, for rapeseed & mustard (rabi), there would be improvement, from 72.01 lakh tonnes (2008-09) to 74.29 lakh tonnes (2009-10), albeit quite below the targetted production of 82.54 lakh tonnes. For the total nine oilseeds, the kharif production would be 161.91 lakh tonnes (2009-10), less by 16.17 lakh tonnes compared to last year, and the total production (kharif and rabi) would be 263.22 lakh tonnes (2009-10), 13.97 lakh tonnes below that of 2008-09, and far below the target of 316.00 lakh tonnes set for the year. In respect of commercial crops, for cotton, there would be marginal improvement: from 222.76 lakh bales (2008-09) to 223.18 lakh bales (2009-10). Whereas, for jute & mesta, there is anticipated to be decline, even though insignificant, from 103.65 lakh bales (2008-09) to 103.57 lakh bales (2009-10). However, for sugarcane there would be striking decline, from 2850.29 lakh tonnes (2008-09) to 2512.68 lakh tonnes (2009-10). In all the three cases, the production levels anticipated are far below the laid-down targets.

1.7 On the whole, the agricultural crop production in the current year is generating cause for concern. The prospects have been depressed by the kharif output, as further indicated by the decline in the area under kharif crops during the year. The increase in area under rabi crops and the expected increase in output could only mitigate the decline to a limited extent. The drop in output has been more pronounced in respect of foodgrains. In perspective, during 1997-98 to 2008-09, the average annual growth rate of foodgrains production in the country was about 1.35 per cent as against 2.42 per cent during 1987-88 to 1997-98. The present slow growth in the production of foodgrains would fall short of the annual growth rate of demand for foodgrains including for uses other than for direct human consumption, which will grow at 2-2.5 percent per annum during the XI Plan.

1.8 Confronted by the more or less static extent of land and water resources available for cultivation, enhanced efforts enabled by technological innovations are warranted to boost up production, particularly of foodgrains. The large gap between actual yield and that obtained in front-line field demonstrations, reveals the untapped potential for increasing productivity. Exploiting this potential could lead to major increase in production and productivity in the sector. But this is not happening because of the weak research-extension-farmer linkage. While technologies more adaptable to wide regional variations are required, effective extension remains vital for realization of demonstration trials yield at farmer's field on a large scale. There are anticipations that India could become a net rice importer in the not so distant future unless the current yield growth rate is stepped up consistently. After having been a food surplus country for nearly three decades, India's per capita grain production is back to the levels of the 1970s. It is also contextual to appreciate that the yield of crops in India are low as compared to that in many other countries. The recent past has been devoid of any major adoption of high-yielding foodgrain varieties. Considering the rise in Incremental Capital Output Ratio from about 2.5 to 4, it is important that the efficiency of investment is also enhanced, so that the intended growth does not deliver any major strain on the limited resource base. Accordingly, the Commission is of the view that **alongwith the thrust on strategies for accelerated growth of food production, there should be greater focus on research efforts and the requisite research-extension-farmer linkages for achieving higher yields per hectare as well as efficient use of the available resources.**

1.9 The procurement of foodgrains (rice and wheat) has shown mixed trend during the year 2009-10. The rice procurement for Central Pool during the Kharif Marketing Season (KMS) 2009-10 (October-September) has undergone a marginal decline (2.3 percent) to 24.34 million tonnes, as on 17.03.2010, as against 24.93 million tonnes during the corresponding period of the previous year. The decrease has mainly occurred in the States of Andhra Pradesh, Punjab, Tamil Nadu and Uttar Pradesh. Regarding wheat, the procuremenmt continued to be buoyant. The procurement during Rabi Marketing Season (RMS) 2009-10 was 25.38 million tonnes as against 22.69 million tonnes during last year. While the higher Minimum

Support Price (MSP) is boosting procurement prospects, the increased wheat procurement has been contributed by the better crop, and the other way round in the case of rice. The stock level of both rice and wheat in the Central Pool has increased during 2009 compared to 2008: rice from 7.86 million tonnes to 15.35 million tonnes and wheat from 22.03 million tonnes to 28.46 million tonnes (as on 1st October). This is against the buffer norm of 5.2 million tonnes for rice and 11.0 million tonnes for wheat. As on January 1, 2010, the stock of rice was estimated at 24.35 million tonnes and that of wheat at 23.09 million tonnes. The likely stock of rice is estimated at 28.85 million tonnes as on April 1, 2010, compared to the stipulated buffer norm of 12.20 million tonnes. A similar situation would emerge with respect to the stock of wheat which is estimated at 18.35 million tonnes as on April 1, 2010, as against the buffer norm of 4.0 million tonnes. While the offtake of rice, after increasing to 25.23 million tonnes in 2007-08 declined to 24.62 million tonnes in 2008-09, is projected to marginally improve to 25.00 million tonnes in 2009-10, that of wheat increased to 12.20 million tonnes in 2007-08, 14.88 million tonnes in 2008-09, and is likely to increase upto 18.15 million tonnes in 2009-10.

1.10 In the course of Commission's interaction with the various stakeholders, it has been revealed that the coverage of procurement operations is neither adequate nor effective. Certain parts of the country are still left out of the procurement network, and in the process denying the benefits of MSP to the target group. It seems the procurement mechanism of the official agencies continues to be largely confined to operations in the traditional procurement areas. There are also reports that regions with poor market infrastructure are usually excluded from MSP operations by Central agencies. Whereas there appears to be no further expansion in the network of Food Corporation of India (FCI), that of State agencies has in some places undergone curtailment. It is imperative to expand the reach of procurement network, especially to the unreached areas. In case FCI may not be in a position to increase its coverage, appropriate agencies may be identified in the States and entrusted with the task of undertaking procurement. For instance, in the State of Orissa, the PACSs have been enlisted for the purpose, and the initiative has imparted contentment among the farmers. Earlier also, the Commission in its Reports had highlighted the requirement for effective procurement. But this is still a lacunae in several places. It is pertinent to mention that the National Policy on Farmers, 2007, has emphasized

that assured and remunerative marketing opportunities hold the key to continued progress in enhancing farm productivity and profitability, for which the MSP mechanism would be implemented effectively across the country. The Commission reiterates that **the Government should on priority carry out a review of the state of procurement operations in the non-traditional areas of the country aimed at initiating corrective measures. Associating various appropriate agencies available in the States other than the usually enlisted organizations (ex: cooperative organizations, SHGs) for procurement operations, needs to be given serious consideration.**

1.11 The decline in the production and availability of various agricultural items had a visible impact on prices. The Wholesale Price Index (WPI base 1993-94) for agricultural commodities and food articles was 264.2 and 272.4 (up to January, 2010), increasing by 10.5 per cent and 13.6 per cent respectively over the previous year, compared with the overall inflation of 2.9 per cent. The price buoyancy has remained unabated since 2008-09.

1.12 During 2009-10, the market prices of almost all agricultural commodities under consideration remained buoyant in most places. The index of average Wholesale Prices (WPI) of food articles (base 1993-94= 100) increased from 222.0 in 2007-08 to 239.8 in 2008-09, and 272.4 in 2009-10 (up to January, 2010). The increase of 13.6 per cent during 2009-10 has been the highest in recent years. The WPI of rice went up from 191.8 in 2007-08 to 213.0 in 2008-09 and to 241.7 in 2009-10. The increase of 11.1 percent and 13.5 percent in the years 2008-09 and 2009-10 has been sharp. In the case of jowar, it was up from 309.4 in 2007-08 to 331.6 in 2008-09 and to 377.6 in 2009-10. There has been continued increase, even though the extent of increase was only 7.2 per cent in the previous year as against 13.9 per cent in the current year (2009-10). As regards bajra, it rose from 235.7 in 2007-08 to 251.8 in 2008-09 and 322.0 in 2009-10. During the past decade, the increase of 27.9 percent in 2009-10 has been the highest. The WPI of maize climbed from 236.1 in 2007-08 to 255.9 in 2008-09 and to 292.0 in 2009-10. For cereals as a whole, the wholesale prices kept up the trend of increase: 6.2 percent (2007-08), 8.9 percent (2008-09), and 12.1 percent (2009-10).

1.13 The wholesale prices of most kharif pulses increased substantially, whereas that of oilseeds increased marginally. The average WPI of tur registered an increase of 13.94 percent in 2007-08, 10.17 percent in 2008-09 and a steep increase of 50.72 percent in 2009-10 (up to January, 2010). In the case of moong, there was a decline of 11.80 percent in 2007-08 which gave way to an increase of 7.25 percent in 2008-09 and thereafter a sharp increase of 39.04 percent in 2009-10. Similarly for urad, the decline of 16.55 percent in 2007-08 transformed into an increase of 0.44 percent in 2008-09 and further to a steep increase of 32.53 percent in 2009-10. Among oilseeds, the WPI of groundnut went up by 25.99 percent in 2007-08, but moderately by 4.09 and 4.21 percent in 2008-09 and 2009-10 respectively. But for sunflower seed, there was a major increase of 28.26 percent in 2007-08 followed by a decline of 0.26 percent in 2008-09 and a greater decline of 5.73 percent in 2009-10. The WPI of soyabean registered increase, but the rate of increase was on the decline: 29.56 percent in 2007-08, 22.51 percent in 2008-09 and 10.63 percent in 2009-10. The price index in respect of nigerseed has exhibited different indications: a hefty increase of 80.60 percent in 2007-08, a lower but still substantial increase of 23.50 percent in 2008-09, and a decline of 25.31 percent in 2009-10. The average WPI of raw cotton increased from 178.1 in 2007-08 to 220.2 in 2008-09, but marginally declined to 215.0 in 2009-10.

1.14 Generally, the agricultural scenario in the country has been featured by overall price increase and the increase has been particularly pronounced during the past year. In fact, it has been a matter of great concern that during 2009-10, especially in the second half, the food prices have registered double digit increase. Fast-increasing food prices are impacting family budgets all over the country. Many essential items of daily requirement for the common public, have almost gone beyond their reach. This has to be appreciated against the priority laid on National Food Security. The supply shortages in the wake of erratic monsoon and the drought like situation, increased liquidity in the economy following the stimulus packages as well as the inflationary expectations and hoarding have played up the prices. The year-on-inflation in the composite food index (with a weight of 25.4 percent) was 19.8 percent in December, 2009, as against 8.6 percent last year. Similar inflation in respect of food articles was 19.2 percent, whereas the composite non-food inflation within the manufactured group of WPI (with a weight of 53.7 percent) was 2.4

percent which is lower than 6.7 percent recorded last year. The indications are towards concentrated inflation. In December, 2009, nearly 67 percent of the overall WPI inflation could be attributed to food items (primary and manufactured). Among food items, rice, wheat and pulses together contributed 25 percent (ref: Economic Survey, 2009-10).

1.15 Several measures have been taken by the Government to contain inflationary conditions in the economy. These measures, inter alia, include Open Market Sales under which 2 million tonnes of wheat and 1 million tonnes of rice were allocated to the States. It was also decided to give additional 10 kgs of foodgrains to cardholders under TPDS over and above their stipulated quota. Sale of subsidised foodgrain and pulses was permitted through NCCF and NAFED. Import of several items such as rice, wheat, pulses, edible oils, and sugar, was made easy through import duty reductions or its total elimination as well as other liberalised measures. Similarly, export restrictions were imposed on several essential items. In addition to augmenting supplies, measures were also initiated to restrict demand through fixing stock limits for wholesalers and large consumers. The Government is also considering greater competition and the need to take a firm view on opening up the retail trade, so as to bring down the wide difference between retail and farm gate prices. An important plank of the strategy against price rise could be channelling foodgrains and other critical items of daily requirement at reasonable prices through newer outlets alongwith the traditional public distribution system. The present attempts by the Government to provide essential items of daily consumption through authorized outlets, should meet with greater coverage and expansion. Therefore, the Commission recommends that **the Government should consider to provide food items for daily use including coarse grains, through authorized outlets at reasonable prices alongwith the traditional public distribution system, so that their availability across the country is assured to the public and price rise could be kept under check.**

1.16 As brought out in the FAO Food Outlook, December, 2009, the world agricultural markets are, of late, raising concerns about a possible price escalation in respect of basic food items. The redeeming factors are that world cereal stocks are ruling at comfortable levels, and the demand for bio-fuels has also decelerated.

However, negative impacts are anticipated from factors such as exchange rates, volatile oil prices and rising liquidity in the wake of prevalent low interest rates.

1.17 Regarding cereals, as against the global record production of 2284.1 million tonnes estimated for 2008-09, the forecasted production during 2009-10 is 2238.1 million tonnes (including rice in milled terms). The erosion is expected mainly among coarse grains and rice, and marginally for wheat. The significant factors responsible for this reduction are smaller plantings partly because of relatively lower cereal prices that prevailed after the previous year's exceptionally high levels which prompted extra cultivation, alongwith adverse weather conditions such as the drought in Argentina. But cereal supply in the 2009-10 marketing season is expected to be adequate, underpinned by the favourable production prospects and the relatively high opening stocks. The international price levels also give indications of more balance in cereal markets: the FAO Cereal Prices Index in January-November, 2009, has averaged 29 percent less than during the corresponding period last year and as much as 40 per cent below its peak in April, 2008.

1.18 In respect of wheat production, the record production of 681.4 million tonnes in 2008-09, has given way to a forecasted marginal fall in 2009-10 to 678.6 million tonnes. With only a modest expansion envisaged in wheat utilization, the global stocks are expected to increase. Any major price rise is not foreseen during the coming months. It is true that the average price of US wheat (No.2 Hard Red Winter, F.O.B. Gulf) remained at US$ 228 per tonne in November, 2009, an increase of 14 percent from September, but this is still 50 percent less than the peak price level of March, 2008.

1.19 The world rice production that was steadily increasing since 2002 and reached a record of 459.6 million tonnes in 2008-09, is forecasted to take a dip in 2009-10 to 450.8 million tonnes. This has been caused by the erratic pattern of South-West Asian monsoon and other natural disasters that impaired rice crops in several regions. Increase is experienced in world import demand as well as international prices. Since November, 2009, the decline in international rice prices got reversed, probably influenced by several announcements by Philippines that it would bid for around 2 million tonnes of rice imports, and rumours that India was

about to import a substantial quantum of rice. Still, the world rice prices in November were about 12 percent lower than one year ago.

1.20 After registering an increase to 1143.1 million tonnes in 2008-09, the world production of coarse grains is estimated to exhibit a decline to 1108.7 million tonnes in 2009-10. The tightness in supply-demand balance for coarse grains is strengthening its international prices. The export supplies would also take a beating, especially in respect of barley followed by sorghum, whereas trade in maize would register an increase. The international prices that were generally firm are now further looking up, particularly since October, enabled by the slide in US Dollar and pick-up in oil prices. In November, the US maize price (No. 2 Yellow, Gulf) averaged US$ 172 per tonne, an increase of 13 percent from September, although still down by 40 percent from the peak in June, 2008.

1.21 The output of oilseeds is expected to register rise from their previous depressed levels. Its production is forecasted to go up from 407.1 million tonnes (2008-09) to a new record of 440.5 million tonnes in 2009-10. This expansion will be almost entirely contributed by soyabeans, as production of other main oilseeds such as sunflowerseed, groundnut, cottonseed and rapeseed, is anticipated to either fall or remain unchanged, prompted primarily by unfavourable weather conditions. Generally, the markets for oilseeds and oilseed products are likely to remain vulnerable during 2009-10 as supplies are expected to be less ample relative to demand than in past years and prices may well remain volatile. The weather-related problems expected in South America and South East Asia, changes in the global economy, developments in mineral oil prices and exchange rates and possible adjustments in biofuel and trade policies may further aggravate the market uncertainties.

1.22 The deficiencies in the receipt of rainfall and its uneven distribution over various regions as well as the drought like situation that prevailed across the country during 2009-10 have once again brought to the fore the vulnerability of Indian agriculture to climatic variability. It is widely anticipated that the problem may get aggravated in future times. Any possible rise in temperature would tell upon yield levels in the agriculture sector. Certain estimates indicate that the Earth's surface

temperature has risen by 0.6±0.2ºC over the twentieth century. In the last 50 years, the rise has been 0.13±0.07ºC per decade. Some ICAR studies have projected that climatic changes could lead to a 10-40 percent loss in crop production by the end of this century. Increase in temperatures during grain development phase of rice and wheat affects their grain quality.

1.23 Global warming will constrain the progress in increasing grain production in future unless some new technologies are evolved to counter this. Agriculture has to develop mechanisms to reduce its vulnerability. Adaptation strategies, viz., change in planting timings and varieties, can reduce the extent of loss caused by high temperatures. There have been efforts in the country for developing a response mechanism to meet the requirements for climatic variability, but is devoid of adequacy to match the requirements of a vast country characterized by several and varying agro-climatic zones. It should be adequate for climatic forecasting, climate information generation and dissemination, early warning system, keeping in view the size and dimensions and related variabilities of the country. Specific thrust is required in terms of technology, approach and policies to minimize the impact of climate change on agriculture, particularly in the context of National Food Security. The Commission is of the view that **any sound strategy for agriculture development should have an integral component for adaptation to the impact of climatic change through action plans in areas such as agricultural research to evolve varieties that are climate resilient as well as cope with the likely increase in water stress.**

1.24 It is well known that the progress and spread of Green Revolution was mainly in the irrigated areas. Protective irrigation in time could reportedly increase yields by about 40 percent. The turnaround witnessed recently by Gujarat agriculture could testify that agriculture can also be a major driver of change. A key propellant of agricultural growth in the drought-prone State, inter alia, has been the increased access to water, particularly through check-dams and watershed. It is unfortunate that inadequate irrigation continues to be the bane of Indian agriculture. The sector is devoid of adequate investment and several irrigation projects are awaiting completion. A total number of 490 projects got spilled into the Tenth Plan from previous plans, and 477 irrigation projects are reported to spill over into the XI Plan.

Keeping in view the recent trends, the problem of monsoon dependency would persist and the Indian peasants will keep looking up to the sky for relief. The need of the times is serious irrigation planning to meet the deficit in the face of frequent deficient monsoon. Since there is limited scope for setting up new large surface irrigation projects, the emphasis should shift to completion of ongoing irrigation projects and betterment of existing ones. Effective and result-oriented utilisation of funds under the Accelerated Irrigation Benefit Programme has to be ensured, to eliminate further spillages of irrigation projects into future times.

1.25 Another core concern should be to enhance the irrigation efficiencies, so as to realize better output from the same quantity of water. Here, it has to be appreciated that the investment in agriculture sector predominantly pertains to augmentation of irrigation resources. Better water management comprising conservation as well as wise and judicious utilization leading to better water productivity for agriculture, holds the key for making these investments most productive. The promotion of resource conserving practices is critical for ensuring sustainable food production, given the uncertain monsoon. While the irrigation projects (major and medium) have contributed to the development of water resources, the conventional methods of water conveyance and irrigation, have involved wastage of water and also led to several ecological problems like water logging, salinization and soil degradation and thereby eroding productivity in the agricultural lands. The use of modern irrigation methods like drip and sprinkler irrigation could be a better option for efficient use of surface as well as groundwater resources. Accordingly, the Scheme of Micro Irrigation (MI) is under implementation, which aims at increasing the area under efficient methods of irrigation, viz. drip and sprinkler irrigation. However, these modes of irrigation that could save not less than 25 percent of water, constitute only about 2 percent of the net irrigated area in the country, and calls for greater thrust. The cultivation practices in the agriculture sector also may be oriented to be in consonance with the limited water resources. For instance, the system of rice intensification (SRI) could be popularised which, among other benefits, saves 25-50 percent on water requirement.

1.26 Another dimension on the irrigation front is that programmes or measures aimed at increasing irrigation in India should keep in view that the underground water

potential has been over-exploited in several places, mainly instanced by Punjab where the water table has gone down to a depth of about 200 metres. A good number of blocks in the country are now groundwater-deficient. The rate of extraction far exceeds the rate of replenishment in many blocks, leading to a progressive lowering of the water table. The gravity looks up when we consider that groundwater accounts for about 60 percent of irrigated area in the country. According to a recent World Bank report, India is the largest user of groundwater in the world. As of now, even if the entire potential of recharge is restored, there could still be deficiency, evidencing the crucial need for limiting extraction. Further, since groundwater is receding, wells have to be more and more deepened necessitating greater incurrence towards operational cost. Indeed, the neglect of well-balanced irrigation infrastructure has costed the nation too dear. At the same time, there are regions in Eastern India where adequate groundwater potential is awaiting utilisation. So, the vital concerns are: first, how to restrain groundwater use to sustainable levels in over-exploited regions and second, how to develop the large untapped groundwater potential in Eastern India. In perspective, the priority could be to exploit the abundant availability in the States of Assam, Bihar, Chhattisgarh, Orissa and parts of Jharkhand, Uttar Pradesh, and West Bengal. And, in the States where withdrawal currently exceeds recharge, the recharge and extraction should be appropriately correlated. The Commission recommends that **the plan priorities and related schemes/programmes for irrigation development should follow a balanced approach, with greater thrust on micro irrigation and enhanced efficiency in water utilisation as well as limited extraction of groundwater in over-exploited regions alongwith its increased utilisation in under-exploited regions.**

1.27 Seed is the basic input in agriculture and its role is fundamental for sustained growth and development of the sector. Needless to say, to protect the farming community, a strong seed production programme and quality control mechanism are imperative. At present, a lacunae in the sector is the inadequate availability of quality seed. The generation and diffusion of seeds of high yielding varieties and hybrids at reasonable prices are critical in sustaining agriculture growth. For any significant advance that India has achieved on the agricultural front in the past few decades, the role of high-yielding variety of seeds has been substantial. But the availability of

certified seeds in the country in the case of pulses and oilseeds is below requirements. Even the Seed Replacement Rates (SRRs) in respect of various crops in different States are still relatively low and require to be raised, particularly for groundnut, safflower and sunflower. There is stagnancy for SRR in the States of Orissa, Bihar, Uttar Pradesh, Jharkhand, Assam, Madhya Pradesh and Chhattisgarh. It is true that the distribution of certified seeds in the country has registered increase, but the feedback received by the Commission indicates that the quality of these seeds is questioned by farmers.

1.28 It is the inadequacy of high quality and good seeds that, inter alia, lowers the average productivity of major crops in the country much below the world average. The machinery for provision of quality seeds needs to be strengthened on priority. A welcome initiative in the Union Budget (2010-11) is the proposal to exempt the testing and certification of agricultural seeds from service tax. The Government of India is assisting quality seed production under the scheme of 'Strengthening and Development of Infrastructure Facilities for the Quality Seed Production' which needs to be given further strength and support. Also, the Seed Act should be reviewed for possible amendments to enforce strict quality control. Therefore, the Commission recommends that **the Government should follow a two-pronged strategy in the seeds sector: increase SRR to the advisable levels in respect of various crops, and lay equal emphasis on the production of quality/hybrid seeds.**

1.29 Keeping in view the national requirements and deficits involved, it would be advisable to encourage private seed producers to involve more in the pulses and oilseeds production. There should be a properly laid down functional mechanism to make realistic assessment of annual demand of seeds well in advance. Irrespective of the confinement of areas of seed production to certain parts in a state, seeds should be available at proper time and proximity to the farmers. A seed bank could be conceived to meet the farmers' requirement for contingent measures.

1.30 Alongwith other basic inputs, credit is an important input for agricultural development. It is true that credit flow to the sector has remarkably improved since 2004-05, the year in which the comprehensive credit policy was announced by the Government of India. Every year the actual disbursal of credit had surpassed the

target, and the aim of doubling the credit flow in three years was achieved ahead of schedule. For the year 2010-11, the target for credit to farmers has been raised to Rs.3,75,000 crore from Rs.3,25,000 crore (2009-10). Further, the interest subvention to incentivise timely repayment of crop loans has been enhanced from one percent to two percent for 2010-11, which lowers the effective rate of interest for such farmers to 5 percent per annum (ref: Union Budget, 2010-11). However, an examination of the number of new farmers financed since 2004-05 reveals that the progress on this front calls for improvement. As against 78.84 lakh new farmers provided with credit from various institutional sources, the corresponding numbers during the subsequent years were 78.73 lakhs (2005-06), 83.5 lakhs (2006-07), 85.19 lakhs (2007-08) and 94.9 lakhs (2008-09). The coverage of cooperative banks and Regional Rural Banks who are expected to be characterized by the greatest proximity to farmers, is 14.63 and 24.48 percentages, respectively (2008-09). The total number of accounts during 2004-05 to 2008-09 has only looked up from 4.13 to 4.56 crores. Thus, the composition of credit flow is giving room for concerns. The lending pattern does not seem to be favouring small and marginal farmers. It should be appreciated that for small and marginal farmers the only alternate sources of finance are expensive loans from moneylenders.

1.31 Credit growth by the cooperatives to the agriculture sector has relatively increased, but is not getting translated into more number of new accounts. The most potent means for widening and deepening access to institutional credit to the innumerable small and marginal farmers, are the cooperative credit societies. It is, therefore, crucial that the action plans for restructuring cooperative credit under implementation, on the lines of the recommendations of the Vaidyanathan Committee, are accelerated for early completion. Keeping in view the above, the Commission recommends that **alongwith the thrust on increased availability of farm credit, there should be emphasis on the greater inclusion of new farmers, especially small and marginal, under institutional coverage as well as the increased outreach of cooperative credit societies.**

1.32 National Rural Employment Guarantee Act (Mahatma Gandhi National Rural Employment Guarantee Scheme) is among the largest ever public employment programmes visualized in human history, which has completed four years of

implementation. With implementation now all across the country covering more than 4.5 crore households, it envisages that physical work leading to community assets will be created through rural labour in the vicinity of villages. The allocation has been stepped up to Rs.40,100 crore in 2010-11. However, there have been criticisms about NREGA, such as assets created by the scheme are not of quality, funds are being given out as dole to the not-so-deserving, maintenance of records at the block and gram panchayat levels are poor, and the status of monitoring, evaluation and social audit is not up to the mark. Further, the feedback received by the Commission from the various stakeholders reveals that the implementation of NREGA has considerably affected the availability of agricultural labour as well as its cost across the country. Their inadequate availability is constraining agricultural operations, especially during peak agricultural seasons. The implementation of minimum 100 days work programme under NREGA with fixed wage rate per day attracts more labour which curtails their availability to seasonal agricultural acivities.

1.33 To deliver the goods, NREGA must focus on raising the productivity of India's agriculture, by inclusion of activities aimed at agricultural development such as development of mini/micro irrigation potential. It is understood that guidelines on convergence of NREGA with schemes of the Ministry of Agriculture have been issued. The implementation of NREGA needs to be properly reviewed and reformed to facilitate betterment of the agriculture sector. Further, the offer of job opportunities under the programme should not be made to compete with the employment avenues otherwise available in the villages. After all, the objective of the programme is not to supplant the available farm employment opportunities in that region. Accordingly, the Commission recommends that **the monitoring and evaluation aspects of NREGA have to be adequately strengthened with greater role for social audit, and the implementation may be focussed towards off-season times when the agricultural operations are not in peak, laying emphasis on agriculture-related activities, with appropriate regional variations, through requisite amendments in the operational guidelines, so that the usual agricultural work in the areas may not face problems in obtaining sufficient farm labour.**

1.34 The agriculture sector needs well functioning markets to drive its growth. The Warehousing (Development and Regulation) Act, 2006 has come into force which

makes possible the introduction of a regulated system of warehouse receipts. However, it is understood that the rules under this Act are yet to be notified. Also, although several States have made APMC amendments, but many of them are yet to notify the relevant rules pursuant to such amendments that would make the changes fully operational. These steps should be expedited so that the marketing reforms would deliver the intended benefits. Another critical issue concerning market development is that in several places, the markets lack even basic infrastructure. Most of them are devoid of or inadequately endowed with common drying yards, cold storage units, facilities for grading, loading and unloading, weighing equipment, auction platform, etc. Quite often, the farmers have to deal with non-transparent methods of price discovery, with modern markets equipped with electronic auctioning remaining as the exception. The markets are in urgent need of improvement/modernization in terms of basic infrastructure and facilities, as indicated above. The Commission recommends that **urgent steps are to be taken to notify the rules that are pending under the new/amended statutes pertaining to agricultural markets as well as bring in or improve the basic infrastructure and facilities in these markets, so that the mandis facilitate and not frustrate the production and other related activities on the farm front.**

1.35 The post harvest management in several States in the country is still inadequate or is in its infancy which needs to be geared up. This is specially so in respect of horticultural produce, which is currently confronting umpteen storage and transport-related problems, and resultant uneconomic conditions. The post-harvest losses are reportedly about 20-30 percent in different horticultural crops. On priority, post-harvest technologies are to be adopted, which could greatly reduce the level of post-harvest losses, and maintain the quality of produce. There should be integrated pack homes, processing units, sorting and grading units, cold storages, etc. In the post harvest stages, maximum benefits are expected to emanate from improvements in storage practices. There should be adequate availability of cold chain for efficient handling and transportation of the raw as well as processed foods.

1.36 As indicated above, processing of food could eliminate wastage of agricultural produce to a great extent. The post-harvest losses of horticultural items can be minimized by converting the perishable commodities into value-added products

through the opening of small and medium scale food processing units. Food processing could ensure on the one hand better pricing to the farming community and on the other hand availability of the commodities in processed form to the consumers on a regular basis. Effective action plans should be brought in to bridge the present gap between the production centres of fruits and vegetables and far off consumption centres. In fact, there is a growing demand for new, consumer-friendly products out of food processing. As per some estimates, the organized food processing sector employs more than one million workers. The food processing market accounts for more than 30 percent of the total food market and is positioned in the path of growth. Quite often, farmers are not fully aware of the production possibilities in this sector. They need to be made aware about the availability of new technologies and market demand for their produce through strong information dissemination and extension mechanism as well as training. It is time to perceive a 'processed food revolution' alongwith 'green revolution'. Therefore, the Commission recommends that **greater emphasis should be laid on the post-harvest management of agricultural commodities through development of appropriate technologies and facilities as well as development of small and medium scale food processing units.** It is good that the Union Budget (2010-11) has proposed for focussed attention on a strong supply chain for perishable farm produce to reach consumption and processing centres promptly, and infrastructure and technology to convert such produce into value-added products.

II. PRICE SUPPORT OPERATIONS, CROP SITUATION, MARKET BEHAVIOUR, PROCUREMENT, DISTRIBUTION AND STOCKS

Minimum Support Price

In its Report on Price Policy for Kharif Crops of 2009-10, the Commission recommended, *inter alia*, Minimum Support Prices (MSP) for fair average quality (FAQ) of various crops to be fixed at the following levels:

(Rs. per quintal)

Crop	Variety	MSP fixed by Government for 2008-09 Season	MSP recommended by CACP for 2009-10 Season	MSP fixed by Government for 2009-10 Season
1	2	3	4	5
Paddy	Common	850&	950	950@
Paddy	Grade-A	880&	980	980@
Jowar	(Hybrid)	840	840	840
Jowar	(Maldandi)	860	860	860
Bajra		840	840	840
Maize		840	840	840
Ragi		915	915	915
Tur(Arhar)		2000	2300	2300
Moong		2520	2760	2760
Urad		2520	2520	2520
Groundnut-in-shell		2100	2100	2100
Soyabean(Black)		1350	1350	1350
Soyabean(Yellow)		1390	1390	1390
Sunflower-seed		2215	2215	2215
Sesamum		2750	2850	2850
Nigerseed		2405	2405	2405
Cotton (**Staple length (mm) of 24.5 - 25.5 and micronnaire value of 4.3 - 5.1)**		2500	2500	2500
Cotton (**Staple length (mm) of 29.5 - 30.5 and micronnaire value of 3.5 - 4.3.**)		3000	3000	3000
VFC Tobacco Black soil	F2 Grade	-	4350	-
VFC Tobacco Light soil	L2 Grade	-	4550	-

@ : Rs. 50 incentive bonus for paddy procurement during 2009-10, is payable over the MSP.
& : Bonus of Rs. 50/- per quintal is payable over the MSP.

2.2 The Government announced the kharif price policy for cereals, pulses, oilseeds and raw cotton on August 20, 2009, fixing MSP at levels recommended by the Commission. Subsequently for paddy an additional incentive bonus of Rs. 50/- per quintal for 2009-10 for both the grades was announced to maximize procurement.

The Textile Commissioner fixed the MSPs for different varieties of raw cotton on 30.09.2009, keeping in view the normal market price differentials and other relevant factors, namely, staple length and micronnaire value. The Government has not announced the MSP for tobacco for 2009-10 season.

Price Support Arrangements

2.3 The uniform specifications of paddy, rice, and coarse grains for procurement for the Central Pool during the kharif marketing season 2009-2010, were notified by the Government on 11th August, 2009. These specifications have fixed the maximum limit for moisture content at 17 per cent for paddy, 14 per cent for rice, jowar, bajra and maize, and 12 per cent for ragi. The levy prices of rice common as well as grade-A varieties, were also notified by the Central Government to the State Governments.

2.4 The uniform specifications of paddy, rice and coarse grains for the central pool, as mentioned above, have been notified by the Government, keeping in view the intent for improving the quality as well as for enabling smooth procurement. Accordingly, other than for moisture content, the specifications lay down the maximum limits for refractions such as foreign matter, damaged, discoloured, sprouted and weevilled grains, immature grains, etc. The limits prescribed vary from item to item. Relaxation in specifications was granted on the requests of Punjab, Haryana and UT Chandigarh Governments in the case of raw rice (Grade 'A' & Common) relaxing limit from uniform specification of 3 per cent to 4 per cent for damaged/slightly damaged grains including pin-point damaged grains/discoloured red grains in order to maximize the procurement of rice in drought year.

Rice

2.5 India produces about 96 million tonnes of rice in an area of 44.42 million hectares, which constitute about 42 per cent of the total foodgrains production and 36 per cent of the foodgrains area in the country (T.E 2008-09). It is also the staple food of about 65 per cent of the country's population. The above facts establish the importance of rice in the food security of India.

2.6 The kharif crop year 2009-10 witnessed unfavourable weather conditions. About 294 districts (58 per cent) received deficient/scanty rainfall during the South-West monsoon 2009. Rice, which is a major kharif crop and is considered a “water guzzler”, was badly affected, in terms of area, production and yield. As per Second Advance Estimates of Production of Directorate of Economics and Statistics, the kharif rice production during 2009-10 is estimated at 72.87 million tonnes as against the target of 86 million tonnes, a reduction of about 14.2 per cent over the production of 2008-09. The total rice production during 2009-10 is estimated at 87.56 million tonnes, a decline of 11.7 per cent over the production of 2008-09 and lowest after 2004-05. Kharif rice area and yield during 2009-10 are expected to decline by 10.2 per cent and 4.4 per cent respectively over 2008-09 achievements. (Table 2.1)

2.7 The performance of rice production during the current decade, 2000-01 to 2009-10 was marked by yearly fluctuations, especially in the first half. The year 2000-01 opened with production of 84.98 million tonnes, 5.2 per cent lower than the production of 1999-2000. However, the year 2001-02 witnessed record production at 93.34 million tonnes, followed by a sharp decline in production in 2002-03 to 71.82 million tonnes, the lowest level of production recorded since 1988-89. The year 2003-04 was another bumper production year with a production of 88.53 million tonnes, which was reversed in 2004-05, when the production declined by 6.1 per cent over the previous year. Starting from the year 2005-06, there have been steady increase in production levels which reached a level of 93.36 million tonnes in 2006-07 and further to 96.69 million tonnes in 2007-08 and 99.18 million tonnes in 2008-09. However, the year 2009-10 is projected to be an unfavourable crop year with the production estimated to fall by about 11.7 per cent over the previous year level. The rice production for the period 1997-98 to 2008-09 registered a lower growth rate of 1.27 per cent compared to 2.63 per cent achieved during 1987-88 to 1997-98. The year to year fluctuation in production indicates the continuing dependence of the crop on weather conditions. (Table 2.2)

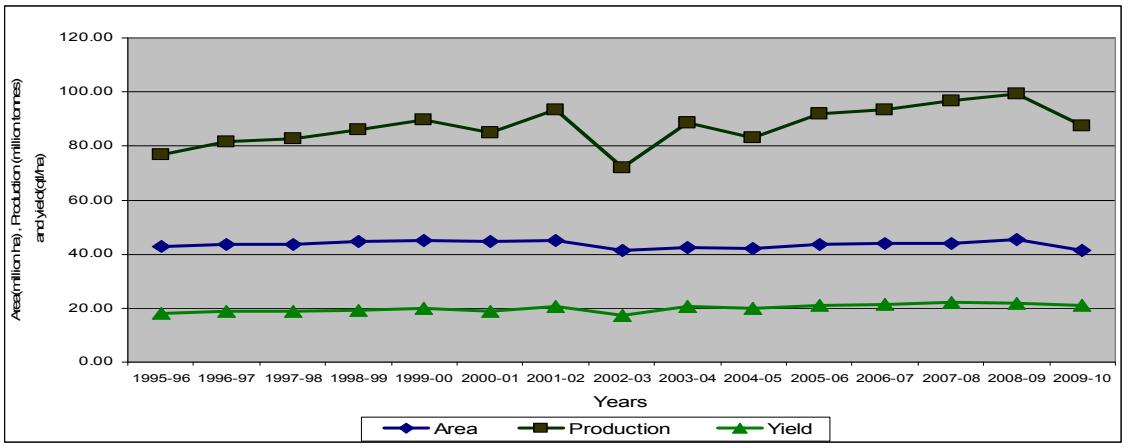
2.8 One reason for the lower growth rate of production during the period 1997-98 to 2008-09 was the stagnation in the area under rice during the same period. The area under rice during T.E 1997-98 was 43.24 million hectares while during T.E 2008-09 it was 44.42 million hectares. Year to year fluctuations were also visible.

During the year 2000-01, the area coverage was 44.71 million hectares, which increased marginally to 44.90 million hectares in 2001-02, reduced to 41.18 million hectares in 2002-03. During 2003-04, it increased to 42.59 million hectares and further reduced to 41.91 million hectares in 2004-05. Next three years show marginal fluctuations. However, during 2008-09, there was a significant step up in area to 45.54 million hectares which got reduced in 2009-10 to 41.34 million hectares. The overall stagnation in area coverage under rice is a pointer to the fact that the conventionally rice growing areas have reached a plateau and further expansion has to come from the Eastern and North-Eastern region. (Tables 2.1 & 2.2)

2.9 The growth rate of yield during the period 1997-98 to 2008-09 was lower than the period 1987-88 to 1997-98, with the yield growth rate averaging at 1.32 per cent during 1997-98 to 2008-09, compared to 1.91 per cent of the previous decade. (Tables 2.1& 2.2)

2.10 The performance in respect of all the three indicators, viz., growth in area, production, and yield, is shown in the Chart 1.

Chart 1: Trends in Area, Production and Yield of Rice



Data Source: Directorate of Economics & Statistics, Ministry of Agriculture.

2.11 Productivity enhancement is the one big challenge facing the crop, as is the case in other crops. The yield levels of paddy in India are still lower than the world average and that of major producing countries, as shown in the Table 2.1.

Table 2.1: Country-wise Yield of Paddy in 2007

Country	Yield (kg/ha)
USA	8092
Japan	6511
China	6422
Vietnam	4981
Indonesia	4705
Bangladesh	4012
Brazil	3826
Philippines	3801
India	3303
Pakistan	3301
Thailand	2906
World	4233

Source: Agricultural Statistics at a Glance, 2009

2.12 There is wide variation in the levels of rice productivity among the major producing states in the country. Punjab leads with a yield level of 4000 kg/ha (2009-10 estimated) followed by Tamil Nadu (3228 kg/ha), Andhra Pradesh (3197 kg/ha) and Haryana (2990 kg/ha). Uttar Pradesh, a leading state in rice production, has a yield level of 2021 kg/ha, even lower than the national average of 2118 kg/ha. West Bengal, which has projected the highest production during 2009-10 has lower yield rate of 2532 kg/ha compared to states like Punjab, Haryana etc. The yield levels of states like Orissa (1572 kg/ha), Madhya Pradesh (725 kg/ha), Chhattisgarh (999 kg/ha), Bihar (1185 kg/ha) Assam (1458 kg/ha), Gujarat (1661 kg/ha) and Maharashtra (1448 kg/ha) are significantly below the national average. Inter-state variations in productivity, to a large extent, can be explained in terms of availability of assured water supply, rice being a highly water intensive crop. High productivity states like Punjab, Haryana, Andhra Pradesh and Tamil Nadu are highly irrigated with the irrigation intensity in the range of 99.9 per cent (Haryana) to 93 per cent (Tamil Nadu). West Bengal and Orissa, though leading in terms of area and production have lower yield rates and also comparatively lower area under irrigation at 48.4 per cent and 42.6 per cent respectively. States with very low yield rates have low irrigation like Madhya Pradesh (14.3 per cent); Maharashtra (27.9 per cent); Assam (5.6 per cent); Chhattisgarh (32.3 per cent); Jharkhand (5.6 per cent). Thus, there is immense scope for increasing the productivity by providing assured irrigation

to the crop, which is presently only 56.7 per cent. Development of minor irrigation systems like ponds, tanks, canals, sprinkler and drip irrigation is the need of the hour. Simultaneously, development of appropriate technology package for rainfed areas can help in breaking the low yield barriers in the rainfed rice growing areas. Government may enhance action on the two areas of providing assured irrigation and developing appropriate technology for rainfed areas to improve productivity of rice in the country.

2.13 The crop season 2009-10 witnessed one of the worst droughts in the country, with 334 districts in 14 states affected by drought. The impact was felt, among other crops, in the cultivation of rice. There was across the board reduction in area, production and yield over the 2008-09 achievements. In view of climate change and global warming, frequent recurrence of droughts cannot be ruled out. Improved rice technologies like drought tolerant rice seedlings, better use of available soil moisture, enhancing the capability of the plant to recover rapidly from drought conditions etc can reduce the adverse impact on the crop and on the livelihood of the farmers. Research agenda of ICAR institutions should give due importance to development of technologies to combat situations like drought.

Market Behaviour, Procurement, Stocks, Distribution, Demand & Supply Balance and Trade

2.14 The trend of increasing rice prices witnessed in 2007-08 continued in 2008-09, with the average wholesale price index of rice showing an increase of 11.1 per cent over 2007-08 index. The index for the ten months (April 2009 to January 2010) of 2009-10 showed further increase of 13.5 per cent over the previous year.

2.15 As per information received from various centres, during the current marketing season, up to January 2010, the wholesale prices of common paddy fell below the MSP in Ambala in Haryana (Rs.980 per quintal during October 2009), Sagara in Karnataka (Rs.865 to Rs.885 per quintal during October 2009 to January 2010), Gondia in Maharashtra (Rs.939 to Rs.975 per quintal during October 2009 to January 2010), Sambalpur in Orissa (Rs.900 per quintal during October 2009 to January 2010), Patiala in Punjab (Rs.980 per quintal in November 2009), Mainpuri in

Uttar Pradesh (Rs.950 per quintal during November 2009), Kanpur in Uttar Pradesh (Rs.990 per quintal in December 2009) and Attara in Uttar Pradesh (Rs.875 per quintal during October 2009). Few centres in West Bengal like Suri, Bankura and Indas also had prices lower than the MSP during this period.

Procurement

2.16 The procurement of rice during 2009-10 marketing season, as on 17.3.2010, was 24.34 million tonnes as against the procurement of 24.93 million tonnes during the corresponding period of 2008-09, a decline of 2.3 per cent. About 38 per cent of the procurement so far was accounted for by Punjab (9.3 million tonnes), followed by Andhra Pradesh (3.3 million tonnes), Chhattisgarh (3 million tonnes), Uttar Pradesh (2.46 million tonnes), Haryana (1.8 million tonnes), and Orissa (1.7 million tonnes). States like Bihar, West Bengal, Assam, and Jharkhand continue to lag behind in procurement operations. During Commission's consultations with farmers and farmer associations, low procurement and absence of procurement centres in states like Jharkhand were flagged by the representatives. For MSP to become successful, it is necessary that FCI, together with the state governments through their decentralized procurement operations, should be in a position of readiness to procure, even from non-conventional regions and interior parts of the country, so that maximum possible farmers benefit. (Table 2.8)

2.17 One issue which came up during discussions with stakeholders is the absence of adequate storage facilities for procurement operations. Punjab alone is reported to have a storage gap of 71 lakh tonnes and for the whole country the storage gap is about 124 lakh tonnes. In this context, the announcement made in the Union Budget, 2010-11, to extend the guaranteed period for hiring godowns by FCI from five years to seven years is a welcome step.

2.18 Another issue with regard to the procurement operations by FCI is the increasing economic cost of foodgrains, as indicated in the Table 2.2.

Table 2.2: Economic Cost of Rice to FCI

Year	Economic cost (Rs./quintal)
2005-06	1350.67
2006-07	1391.18
2007-08	1563.70
2008-09	1789.78
2009-10	1893.71

Source: Food Bulletin, December 2009.

Considering the vastness of the country, and the various stages involved in the whole process of procurement and distribution, majority of the incidentals and costs become inevitable, however, the rising cost is a concern. Rising economic cost also impacts the market price of rice. A few issues can be further deliberated upon, which can favourably impact the economic cost. The statutory levies of the state governments to be paid by FCI for procurement are quite high in case of some states. For example, in case of Andhra Pradesh, Punjab and Haryana, the levies to be paid constitute about 11.5 per cent, 12.5 per cent and 10.5 per cent of the procurement price respectively (2008-09). In other states the incidence of levy is comparatively lower. For example, in Uttar Pradesh it constitutes about 8 per cent of the procurement price; Madhya Pradesh 3.70 per cent; Chhattisgarh 3.70 per cent; Orissa 7.50 per cent; Rajasthan 7.60 per cent; Karnataka 1.50 per cent; Maharashtra 2.55 per cent; Bihar 2.50 per cent, Kerala 8.50 per cent. Thus, in the three states of Punjab, Haryana and Andhra Pradesh the incidence of levy is comparatively much higher than other states and since majority of procurement of rice is from these three states, any reduction in the levy can reduce the procurement expenses of FCI. There is also wide disparity in the incidence of levy among different states as can be seen from above. To sustain the central procurement which is intended to help the farmers, the state governments should agree to have a uniform levy at a lower level. Expansion of decentralized procurement, which is presently being undertaken in about 11 states, to other states can reduce the overall transport costs involved in the procurement operations. Decentralised procurement also has the advantages of

covering more farmers under MSP operations, procurement and distribution of locally preferred crops etc.

Stock

2.19 Rice stock held by the FCI and the state agencies as on 01.01.2010 was 24.35 million tonnes. After taking into consideration the likely procurement and offtake during 2009-10, the estimated stock of rice as on April 1, 2010 is 28.85 million tonnes, 16.65 million tonnes more than the stipulated buffer norm of 12.20 million tonnes. The position is illustrated in the Table 2.3.

Table 2.3: Projected Stocks of Rice in the Central Pool

(Million tonnes)

Particulars	Rice
Official Stock as on 01.01.2010	24.35
Likely procurement during January- March 2010	10.50
Likely Offtake during Jan-March 2010	6.00
Likely Stock as on 01.04.10	28.85
Likely Procurement during 2010-11	33.00
Likely Imports during 2010-11	0.00
Likely Offtake during 2010-11	25.00
Likely Stock as on 01.04.11	36.85
Buffer Norm requirement for 1st April	12.20

Source: Projected by CACP

Offtake

2.20 Central Government undertakes offtake of foodgrains from the central pool to meet the requirements of Targeted Public Distribution System (TPDS) and various welfare schemes. Total offtake of foodgrains from central pool during 2008-09 was 39.5 million tonnes comprising of 24.6 million tonnes of rice and 14.9 million tonnes of wheat. The offtake under TPDS accounted for 34.8 million tonnes and other welfare schemes accounted for 4.7 million tonnes. Projected offtake of rice during 2009-10 is 25.00 million tonnes. (Table 2.11)

Demand and Supply

2.21 The consumption demand for rice for 2010-11 is projected on the basis of 63rd round of NSS household consumption data (July 2006 to June 2007) and the Population Census (2001) data. Accordingly, the household consumption demand for rice for 2010-11 is projected at 88.06 million tonnes, as indicated in the Table 2.4.

Table 2.4: Annual (365 days) Consumption of Rice

(Million tonnes)

	Per Person Per Month Consumption (Kg.)*			
	Rural	Urban	2009-10**	2010-11**
Population (Million)	72%	28%	1177	1193
Rice	6.56	4.80	86.88	88.06

*Weighted average of rural and urban consumption with respective population size as weights i.e. 72% for rural and 28% for urban.
**Consumption figures for 2009-10 and 2010-11 are on the basis of 63rd Round of NSSO.

Based on the demand projections and data on gross production, the situation that emerges in respect of overall supply of rice during the marketing year 2009-10 and 2010-11 is presented in the table 2.5.

Table 2.5 : Domestic Rice situation

(Million tonnes)

Crop Year (July-June)	2008-09	2009-10
Fiscal Year (April–March)	2009-10	2010-11
1. Gross Production	99.18	87.56
2. Net Production	91.64	80.91
(92.4% of Gross Production)		
3. Procurement**	33.68	33.00
4. Offtake, of which	25.00	25.00
Open Sale	00.20	00.20
5. Addition to Stock (3-4)	08.68	08.00
6. Export Sale	02.80	02.80
7. Supply [2-3+4-6]$	80.16	70.11
8. Consumption Demand #	86.88	88.06
9. WPI, Fiscal year (1993-94=100)	241.70*	

Source: Food Bulletin and DGCI &S
Note: production figures are crop year- wise and consumption demand is fiscal year-wise
*: Till January 2010;
#: Based on 63rd Round (July 2006-June 2007) of NSSO;
** Marketing year (October- September) $ Excluding opening stock

2.22 The availability of rice during 2010-11(fiscal year) is likely to decline to 70.11 million tonnes from 80.16 million tonnes of 2009-10, mainly attributed to steep reduction in the production during 2009-10, which will further increase the supply gap to 17.95 million tonnes. This has not taken into account the opening stock available with FCI.

Global outlook

2.23 As per FAO Food Outlook, December 2009, global output of paddy during 2009 is expected to decline and forecasted at 451 million tonnes, which is 1.9 per cent less than the production of 459.6 million tonnes estimated for 2008. The decline is attributed to erratic pattern of the south west Asian monsoon and a number of natural disasters like earthquakes, landslides and hurricanes.

2.24 During January-November 2009 period, the FAO All Rice Price Index fell by 15 per cent compared to one year ago, due to lower quotations. However, international rice prices started rebounding in November 2009, reacting to announcements by Philippines about its intention to import 2 million tonnes of rice and rumours about India's intention to import rice. For example, Indica with 25 per cent broken, f.o.b Vietnam, was quoted US$ 433 per tonne in November compared to US$ 360 per tonne quoted in October. (High quality indica rice gained 7 per cent and Thai white rice 100 per cent during this period) Japonica and aromatic rice varieties were little affected. Despite the recovery, world prices in November 2009 were about 12 per cent lower than one year ago.

2. 25 During 2009-10, total rice utilization, including food, feed and other uses, is expected to reach 454 million tonnes, 1.7 per cent increase over the utilization of 2008-09. Almost all of the above increase is expected to be absorbed in food consumption. The increase, according to the report, would be hardly sufficient to meet the needs of the world population and would keep the average per caput intake constant at around 57.3 kg.

2.26 International rice trade for the calendar year 2010, as per current forecast, is estimated to increase by 2.7 per cent to 31.2 million tonnes over the 2009 estimate.

This is based on the forecast of higher imports by those countries which have faced major crop losses due to inclement weather conditions and natural disasters. As per FAO estimates, trade in 2010 would be the second largest after 2007. World rice balance sheet is indicated in the Table 2.6.

Table 2.6: World Rice Market

	2007-08	2008-09 estimated	2009-10 forecast	% Change: 2009-10 over 2008-09
WORLD BALANCE (milled basis) million tonnes				
Production	441.2	459.6	450.8	-1.9
Trade	30.1	30.4	31.2	2.7
Total utilization	436.6	446.3	453.9	1.7
Food	377.0	383.3	389.1	1.5
Ending stocks	110.8	124.4	121.1	-2.7
SUPPLY AND DEMAND INDICATORS				
Per caput food consumption:				
World (kg/year)	56.9	57.2	57.3	0.2
LIFDC** (kg/year)	69.4	69.6	69.7	0.1
World stock-to-use ratio (%)	24.8	27.4	26.2	-4.4
Major exporters' stock-to-disappearance ratio (%)	17.5	20.6	14.3	-30.6
	2007	2008	2009	% Change Jan-Nov. 2009 over Jan-Nov. 2008
FAO Price Index (2002- 2004=100)	161.0	295.0	253.0*	-15.1

Source: FAO, Food Outlook, December, 2009.
*January-November 2009
** : Low Income Food -Deficit Countries.

2.27 As per guidelines brought out by Director General of Foreign Trade (DGFT), Department of Commerce, export of non-basmati rice is prohibited since 2007; except for limited quantities of 10,000 MT. Export of basmati rice is permitted subject to certain conditions. As per DGFT notification dated September 2009, the minimum export price of basmati rice is US$ 900 per tonne. During 2008-09, India exported 2.49 million tonnes of rice valued at Rs.11164.40 crore. The exports during 2009-10 (April-July 2009) amounted to 9.40 lakh tonnes. Import of rice by India has been insignificant over the years. India competes with countries like Thailand, Vietnam, USA and Pakistan in the export of rice. While short term measures to ban/restrict export of rice is inevitable at times, the long term goal should be to expand our

presence in the global market by making Indian rice internationally competitive in terms of price and quality.

Coarse Cereals

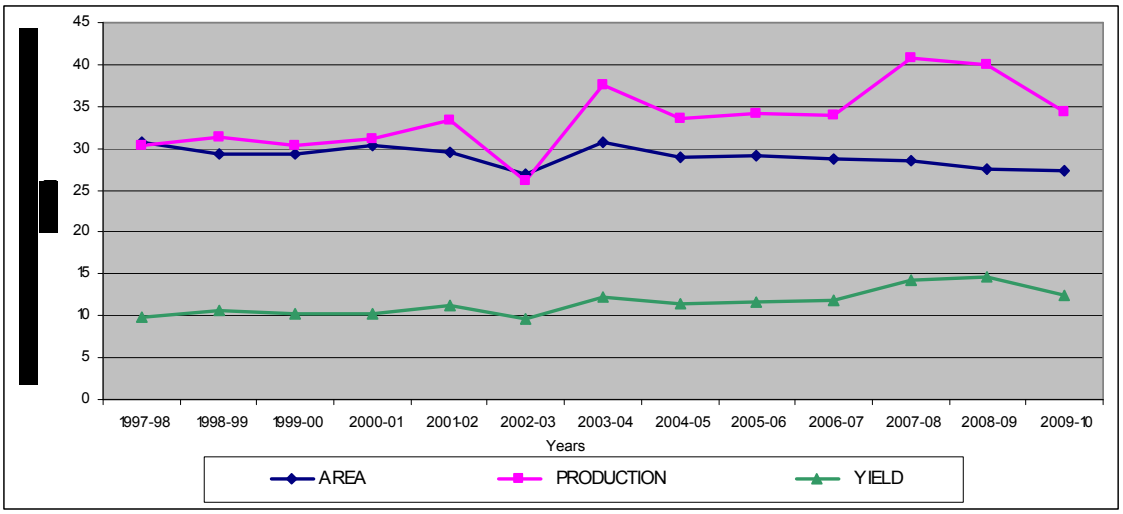
2.28 The major kharif coarse cereals in India are maize, jowar, bajra and ragi and the major producing states include Andhra Pradesh, Karnataka, Maharashtra, Tamil Nadu, Madhya Pradesh, Rajasthan and Gujarat. Coarse cereals, known for their rich nutrient contents, are the staple diet of millions of rural poor in India, particularly in the regions where they are grown. Coarse cereals play an important role in stabilizing food production in the country.

2.29 As per the Second Advance Estimates of production brought out by Directorate of Economics and Statistics (DES), for 2009-10, production of kharif coarse cereals is projected at 22.77 million tonnes during 2009-10, a decline of 20.2 per cent over the production of 28.54 million tonnes achieved in 2008-09. The estimated production of 22.77 million tonnes is also 30.2 per cent lower than the target of 32.65 million tonnes set for 2009-10. The production decline during 2009-10 is inspite of an increase in the area coverage from 20.83 million hectares in 2008-09 to 20.96 million hectares in 2009-10, a marginal increase of 0.62 per cent. The production decline during 2009-10, hence, can be fully accounted for by the decline in yield levels, which show a decline by about 20.8 per cent over the 2008-09 level. As regards individual items, production of kharif maize is estimated to be 11.66 million tonnes, bajra 6.39 million tonnes, kharif jowar 2.51 million tonnes and ragi 1.87 million tonnes, all crops exhibiting decrease over previous year's production levels. (Table 2.1)

2.30 The area under coarse cereals has been declining by 1.44 per cent during the period 1987-88 to 2008-09. This decline had been more pronounced during the period 1987-88 to 1997-98 (2.23 per cent) compared to the period 1997-98 to 2008-09 (0.63 per cent). However, the production had been increasing, at the rate of 0.44 per cent during the period 1987-88 to 1997-98 and at the rate of 2.48 per cent during 1997-98 to 2008-09. The growth rates of yield were significant; 2.73 per cent during the period 1987-88 to 1997-98 and 3.14 per cent during the period 1997-98 to 2008-

09, giving an overall growth rate of 2.42 per cent during the entire period 1987-88 to 2008-09. The trends in area, production and yield in respect of coarse cereals are shown in the chart 2. (Table 2.2)

Chart 2: All India- Area, Production and Yield of Coarse cereals



Data Source: Directorate of Economics and Statistics, Ministry of Agriculture.

2.31 Rajasthan has the largest area under coarse cereals (2009-10) and Maharashtra has the highest production, while productivity is highest in Punjab at 3282 kg/per hectare. Even though the yield rates of states like Andhra Pradesh (3037 kg/ha), West Bengal (2845 kg/ha), Bihar (2773 kg/ha), Tamil Nadu (2185 kg/ha), Haryana (1726 kg/ha), Karnataka (1687 kg/ha), J&K (1572 kg/ha) and U.P (1541 kg/ha) are greater than the national average of 1251 kg/ha, some of the major producing states like Rajasthan (549 kg/ha), Madhya Pradesh (848 kg/ha), Maharashtra (1056 kg/ha) and Gujarat (1097 kg/ha) have very low yield rates, lower than the national average.

2.32 The export of coarse cereals during 2008-09 registered a manifold increase over the year 2007-08. The export of jowar, bajra, maize and ragi in the year 2008-09 went up to 3648 thousand tonnes from 232.6 thousand tonnes in 2007-08. Out of this, maize export constituted the largest chunk of (97 per cent) 3537 thousand tonnes, followed by jowar 90 thousand tonnes, bajra 16 thousand tonnes, and ragi 5 thousand tonnes. The highest export earnings of Rs. 3375 crore was realised from maize, followed by jowar of Rs. 97.5 crore and ragi of Rs. 4.4 crore. The import of

maize in 2008-09 was 7.28 thousand tonnes as against 4.27 thousand tonnes in 2007-08. (Tables 2.25 & 2.26)

2.33 FAO's latest forecast for world production of coarse grains in 2009-10 stands at 1109 million tonnes, down by 3 per cent from earlier year's achievement. World utilization of coarse grains in 2009-10 is forecast to increase by 1.2 per cent from the previous season. The slower growth reflects the impact of economic slowdown in the United States and several other industrial countries which have dampened the demand for meat and other animal products, and therefore, the overall demand for feed. Large supplies of feed wheat as well as non-grain alternatives are also considered important factors bearing down on feed usage of coarse grains in 2009-10. World food consumption of coarse grains is forecast to remain unchanged from the previous season, at around 193 million tonnes. Industrial applications of coarse grains, maize in particular, is likely to again demonstrate a brisk growth. The increase will be largely driven by continued strong demand from the fuel ethanol sector, most of which in the United States, where almost 107 million tonnes of maize are expected to be procured for processing into ethanol, up 14 per cent from 2008-09. World trade in coarse grains in 2009-10 (July-June) is forecast to reach 112 million tonnes, down slightly from the estimated trade volume in 2008-09 but well below the record level of nearly 131 million tonnes in 2007-08. Most of the anticipated decline is expected in barley and to a lesser extent in sorghum. International prices have remained generally firm since the start of the current marketing season. The increase in international prices has become more pronounced since October 2009, helped by the slide in the United States Dollar and a rally in oil prices.

Table 2.7: World Coarse Grain Market at a Glance

	2007-08	2008-09 *estimated*	2009-10 *forecast*	Change: 2009-10 over 2008-09
WORLD BALANCE	*million tonnes*			*%*
Production	**1082.4**	**1143.1**	**1108.7**	**-3.0**
Trade	**130.8**	**113.7**	**112.0**	**-1.5**
Total utilization	**1075.3**	**1095.7**	**1109.0**	**1.2**
Food	187.6	192.5	192.7	0.1
Feed	634.6	629.1	631.5	0.4
Other uses	253.1	274.2	284.8	3.9
Ending stocks	**172.6**	**208.9**	**205.2**	**-1.8**

Source: FAO Food Outlook December, 2009

The position regarding individual coarse cereals in India are given below:-

Maize

2.34 Maize now ranks as the third most important foodgrain crop in India after rice and wheat with a production of 17.30 million tonnes (DES, Second Advance Estimates, 2009-10) covering an area of 8.28 million hectares. Kharif production accounts for 11.66 million tonnes and kharif area coverage comes to 6.99 million hectares. Maize has its significance because of its wide variety of uses such as human food, animal feed and as a source of large number of industrial products. Diversified uses of maize for maize corn, starch, corn oil production, baby corns, popcorns etc and potential for exports has added to the demand of maize all over the world. To enhance the production and productivity of maize, it has been included in the Technology Mission on Oilseeds and Pulses since 1995. The Accelerated Maize Development Programme has been merged into the centrally sponsored Integrated Scheme of Oilseeds, Pulses, Oil palm and Maize (ISOPOM) for the overall development of these crops. The major producers of this crop are the states of Karnataka, Andhra Pradesh, Bihar, Punjab, Uttar Pradesh, Madhya Pradesh, Gujarat and Himachal Pradesh.

2.35 There has been increase in the area coverage under maize cultivation. It increased from 5.76 million hectares in 1987-88 (TE) to 6.19 million hectares in 1997-98 (TE) and further to 8.06 million hectares in 2008-09 (TE). However, in the

year 2008-09, there was decline in the area coverage by 3.15 per cent over 7.11 million hectares achieved in 2007-08 for kharif maize. States like Maharashtra and Karnataka witnessed area decline during 2008-09 compared to 2007-08, while there has been an increase in area in the states of Andhra Pradesh, Gujarat and Tamil Nadu. In 2009-10, the area is envisaged to increase by 1.36 per cent to 6.99 million hectares over 2008-09 for kharif maize. (Table 2.2)

2.36 The production of maize recorded an annual growth of 5.31 per cent during the period 1997-98 to 2008-09. This is substantially higher than the growth of rice during the same period. The annual growth rate of production was as high as 25.1 per cent in Tamil Nadu, 16.24 per cent in Maharashtra and 11.82 per cent in Andhra Pradesh.

2.37 At the all India level, the yield of maize recorded a growth rate of 2.46 per cent per annum during 1997-98 to 2008-09. The yield of maize is higher than that of rice in some of the states like Andhra Pradesh, Himachal Pradesh, Maharashtra and Karnataka. However, compared to other major producing countries and world average, India's yield is one of the lowest as indicated in the Table 2. 8.

Table 2.8: Country-wise Yield of Maize in 2007

Country	Yield (kg/ha)
USA	9458
Italy	9144
Argentina	7666
Turkey	6838
China	5151
Brazil	3785
Indonesia	3660
Mexico	3206
India	2440
World	5010

Source: Agricultural Statistics at a Glance, 2009

2.38 During 2009-10, prices of coarse cereals, in general, have been rising compared to 2008-09. The index of wholesale prices of maize, which stood at 246.1 in April 2008, rose to 277.7 in April 2009 and further rose to 294.7 in January 2010. Though the price of maize was ruling above MSP in general, price dipped below

MSP to Rs.780-830/ quintal in Gokak, Karnataka and to Rs.800/quintal in Mandla, Madhya Pradesh during October 2009 to January 2010. The total procurement of maize during 2009-10 (as on 17.03.2010) was 275.21 thousand tonnes.

(Table 2.14 & Annex-I)

2.39 The world trade in maize is forecast to increase in 2009-10. World maize trade is expected to reach 86 million tonnes, up around 2 per cent from the previous season. The increased demand is expected to come from the industrial applications of maize. The increase will be driven largely by the continued strong demand for ethanol, most from USA, where about 107 million tonnes of maize is expected to be procured during 2009-10 for this purpose. During 2009-10 (April-July), India exported about 1.47 million tonnes of maize, which is about 95.5 per cent of the total export of coarse cereals from India.

2.40 Considering the immense commercial value of maize, both domestically and globally, Government may consider taking up the development of the crop on a mission mode approach covering all aspects of research, production and post harvest activities.

Jowar

2.41 Jowar is cultivated in an area of 7.55 million hectares in India with a production of 6.77 million tonnes (Second Advance Estimates of DES, 2009-10). Of the above, kharif jowar accounts for about 41.7 per cent of the total area and 37 per cent of the total production. The crop is grown in arid and semi-arid regions of Gujarat, Uttar Pradesh, Karnataka, Maharashtra, Rajasthan and Andhra Pradesh and is used as food, fodder, and for the production of alcoholic beverages etc.

2.42 Production of jowar in kharif 2009-10 is estimated at 2.51 million tonnes (Second Advance Estimates, DES) as compared to 3.05 million tonnes in 2008-09. During the period 1997-98 to 2008-09, the production of kharif jowar declined by 3.43 per cent per annum as compared to 4.17 per cent per annum decline observed during the period 1987-88 to 1997-98. The decline in production was attributed to

significant acreage shifts away from jowar in the states of Madhya Pradesh, Karnataka and Andhra Pradesh. (Tables 2.1 & 2.2)

2.43 There have been wide inter-year fluctuations in the yield of kharif jowar. For example, the yield rate achieved in 1985-86 was 761 kg/ha and the expected 2009-10 yield rate is 797 kg/ha. There have been years like 1992-93, 1996-97, 2003-04, 2007-08 etc when the crop yield were comparatively higher at 1230 kg/ha, 1214 kg/ha, 1085 kg/ha, 1176 kg/ha etc respectively. Inter-state variations in yield are also present. As per 2009-10 estimates, Chhattisgarh is expected to register the highest yield (1468 kg/ha), followed by Karnataka (1275 kg/ha), Maharashtra (1140 kg/ha), Bihar (1098 kg/ha) and Gujarat (1040 kg/ha). States like Madhya Pradesh (703 kg/ha), Orissa (633 kg/ha) and Rajasthan (161 kg/ha) have lower yield levels compared to national average yield of 797 kg/ha.

2.44 In view of the decline in production, the average WPI of jowar (base 1993-94=100) rose from 331.2 in January 2009 to 382.1 in January 2010, registering an increase of 15.4 per cent. The prices of jowar were ruling above MSP, in general. The seed replacement rate for hybrid jowar is 100 per cent in Maharashtra, Gujarat, Karnataka and 58 per cent in Andhra Pradesh. For other varieties it is 24.7 per cent in Uttar Pradesh, 24 per cent in Karnataka, 15.85 per cent in Madhya Pradesh, 10 per cent in Maharashtra, 8.7 per cent in Rajasthan and as low as 6.00 per cent in Tamil Nadu. (Table 2.14)

Bajra

2.45 The production of bajra is estimated at 6.39 million tonnes in 2009-10 (Second Advance Estimates, DES) which is 2.5 million tonnes lower than the production in 2008-09. During the period between 1997-98 and 2008-09, production of bajra registered a growth rate of 3.19 per cent per annum as compared to the growth rate of 3.47 per cent observed during 1987-88 to 1997-98. The major producing states of bajra are Rajasthan, Uttar Pradesh, Maharashtra, and Haryana. The state with highest production is Rajasthan with 2.04 million tonnes, followed by Uttar Pradesh (1.38 million tonnes), Haryana (1.04 million tonnes), Maharashtra (0.81 million tonnes) and Gujarat (0.66 million tonnes).

2.46 The total acreage under bajra declined by 0.65 per cent per annum during the period 1987-88 to 2008-09. The state with highest yield is Haryana with 1.77 tonnes per hectare followed by 1.63 tonnes per hectare in Uttar Pradesh, 1.48 tonnes per hectare in Tamil Nadu, and 0.85 tonne per hectare in Madhya Pradesh (including Chhattisgarh) during 2009-10. While production of bajra is highest in Rajasthan its productivity (0.39 tonne per hectare) is the lowest among major producing states which is a serious cause of concern. The seed replacement rate of hybrid bajra is 100 per cent in Maharashtra, Karnataka and Gujarat and for all other varieties it is 92 per cent in Maharashtra, 77 per cent in Uttar Pradesh, 75 per cent in Haryana, 69 per cent in Madhya Pradesh and 46 per cent in Rajasthan.
(Table 2.2)

2.47 The index number of wholesale prices of bajra (base 1993-94=100) which was 263.2 in January 2009 increased to 346.2 in January 2010, registering an increase of 31.6 per cent. The month-end wholesale prices of bajra quoted during October 2009 – January 2010 ranged between Rs.1045-1110 per quintal in Rajkot (Gujarat), Rs.890-1020 per quintal in Jaipur (Rajasthan) and Rs. 780-905 per quintal in Hathras (Uttar Pradesh) as against the MSP of Rs.840 per quintal.

(Table 2.14)

Ragi

2.48 Ragi production in 2009-10, according to the Second Advance Estimates, would be 1.87 million tonnes as against the production of 2.04 million tonnes in 2008-09. The major ragi producing states are Karnataka, Tamil Nadu, Uttarakhand and Maharashtra. The production of ragi has fallen by 1.90 per cent per annum during 1997-98 to 2008-09. (Tables 2.1 & 2.2)

2.49 The area under ragi cultivation has been on the decline over the years. During the period 1987-88 to 2008-09, this decline was by 2.56 per cent per annum. This happened mainly in the states of Orissa, Bihar, Jharkhand, Andhra Pradesh, Gujarat and Maharashtra. The average yield of ragi is 1.46 tonnes per hectare in 2009-10. The yield of ragi during 2009-10 is highest in Tamil Nadu at 1.77 tonnes per hectare

followed by 1.66 tonnes in Karnataka, 1.23 tonnes in Uttar Pradesh including Uttarakhand and 1.16 tonnes in Andhra Pradesh. (Table 2.2)

2.50 The annual average index number of wholesale prices (Base 1993-94=100) of ragi increased by 31.4 per cent in 2009-10 (up to January 2010) over the preceding year. The monthly index on a point to point basis, rose from 13 per cent in January 2009 (over January 2008) to 27.4 per cent in January 2010. (Table 2.14)

2.51 Among the Kharif coarse cereals, excepting maize, the performance of jowar, bajra and ragi in terms of area and production has not been satisfactory. Area coverage has been declining. About 87 per cent of the crop area is without any assured irrigation. Since the crops under this category are cultivated in marginal lands mostly by small and marginal farmers, concerted efforts would be required in the form of availability of quality inputs, extension facilities, remunerative prices and procurement to stop the deceleration in the area and production. Though Government announces MSP for major coarse cereals, procurement has been low. The overall procurement of coarse grains during the kharif marketing season 2008-09 was 13.76 lakh tonnes. The procurement trend is indicated in the Table 2.9:

Table:2.9 : Marketing Season-wise Procurement of Coarse Cereals

('000 tonnes)

State/UT	2007-08	2008-09	2009-10*
Andhra Pradesh	61	178	-
Chhattishgarh	2	9	Neg
Gujarat	-	-	-
Haryana	123	310	78
Karnataka	14	712	270
Madhya Pradesh	1	60	Neg
Maharashtra	2	107	6
Punjab	-	-	-
Rajasthan	-	-	-
Total	203	1376	354

*as on 17.03.2010
Neg: Below 500 tonnes
Source: Department of Food and Public Distribution.

Pulses

2.52 Pulses are important food crops because of their high protein and amino acid content for the largely vegetarian population of India and livelihood opportunities for the poor mostly living under marginal rainfed conditions. Having double the protein content of wheat and three times that of rice, pulses are the main source of protein for masses and also valuable for the crop systems for maintaining and improving the productivity of soil due to their nitrogen fixing capacity. India is the largest producer, consumer and importer of pulses accounting for about 24.1 per cent of the world production of 61.34 million tonnes during 2007-08. Inspite of various governmental programmes for increasing the area and production of pulses the sector continues to face problems of stagnant acreage and low yield levels thereby preventing production to improve to the targetted levels. Pulses are mainly cultivated in the rainfed conditions as about 96 per cent of the pigeonpea, 77 per cent of chickpea, 94 per cent of green gram, 96 per cent of black gram and 94 per cent of lentil are rainfed. (Central Research Institute for Dryland Agriculture-CRIDA). The productivity of pulses in India at 659 kg/ha is lower than the productivity of Asia and World at more than 800 kg/ha. Even the establishment of Technology Mission for Pulses (together with oilseeds) in 1986 could not make significant headway in improving the health of the sector. In 2007-08, Government of India initiated a National Food Security Mission (NFSM), which has the mandate, among others, to increase production of pulses through area expansion and productivity enhancement in a sustainable manner in the identified 168 pulse growing districts in 14 states of the country. The Programme envisages increasing the production of pulses by 2 million tonnes by the end of the Eleventh Plan.

2.53 The total production of pulses during 2008-09 was estimated to reach a level of 14.57 million tonnes, a decrease of 1.29 per cent over the production of 14.76 million tonnes in 2007-08. As per the Second Advance Estimates for 2009-10, the total production of pulses is 14.74 million tonnes, an increase of 0.17 million tonnes over the production of 2008-09. The production has been showing significant year to year fluctuations. The year 1998-99 recorded bumper crop of 14.91 million tonnes which reduced to 13.41 million tonnes during 1999-2000 and further to 11.08 million tonnes during 2000-01. During 2001-02, the production increased to 13.37 million

tonnes, which showed a dip in 2002-03 to 11.13 million tonnes. The year 2003-04 was again a record production year of 14.91 million tonnes, which dropped to 13.13 million tonnes during 2004-05. The production has been increasing consistently since then to reach the level of 14.76 million tonnes during 2007-08. However, the production during 2008-09 recorded a decline of 0.19 million tonnes when compared to the 2007-08 levels. As per the Second Advance Estimates, the production of kharif pulses during 2009-10 is reported as 4.21 million tonnes as against the production of 4.69 million tonnes in kharif 2008-09. This is mainly attributed to the drought situation.

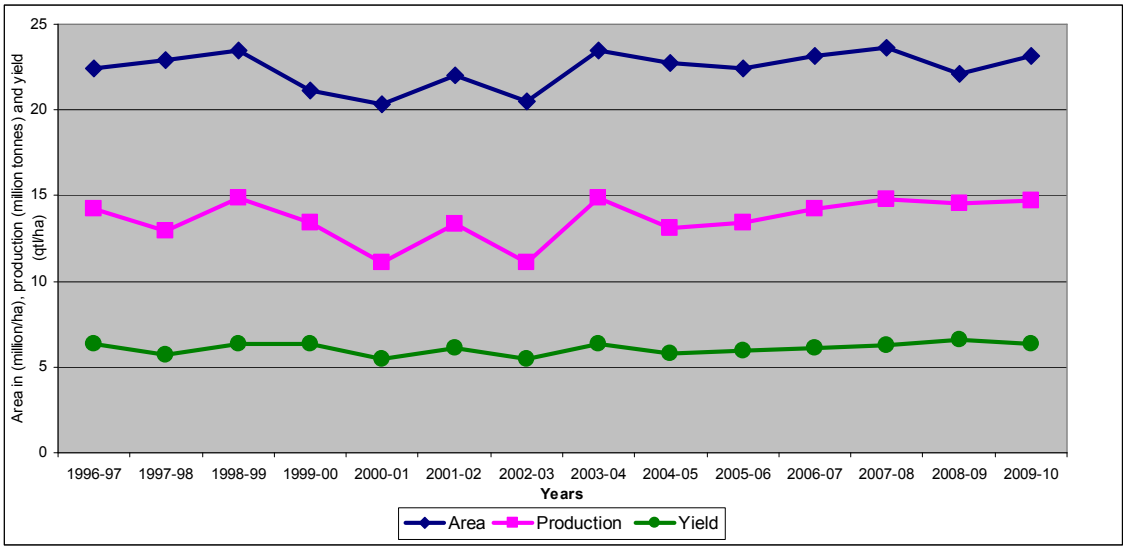
2.54 The major cultivated pulses in kharif season are tur (Arhar), moong and urad. During 2007-08, the level of output of kharif pulses was 6.40 million tonnes, which constituted 43.36 per cent of the total pulses output. This was an increase of 33.33 per cent against the level of kharif pulses output of 4.80 million tonnes in 2006-07. However, kharif production of pulses during 2008-09 was recorded at 4.69 million tonnes, contributing 32.19 per cent to the total pulses production, a decrease of 1.71 million tonnes (26.7 percent) over the previous year. As per the Second Advance Estimates, the production of pulses during kharif 2009-10 has been at 4.21 million tonnes against the target of 6.50 million tonnes. The rabi pulses during 2007-08 showed a decline of about 11 per cent at 8.36 million tonnes from 9.40 million tonnes in 2006-07. However, during 2008-09, the rabi pulses recorded production of 9.88 million tonnes (an increase of about 18 per cent) over the previous year, but during 2009-10, as per Second Advance Estimates, the rabi pulses production is estimated at 10.53 million tonnes, an increase of 6.6 per cent from the production level of 2008-09. Since 1989-90, tur (arhar-Pigeonpea) being the major crop in kharif pulses recorded highest production at 2.74 million tonnes in 2005-06, which subsequently declined to 2.31 million tonnes in 2006-07 (a decrease of about 16 per cent), but its production increased sharply by about 33 per cent in 2007-08 to reach a new highest level of 3.08 million tonnes. However, during 2008-09, the production of tur was recorded at 2.27 million tonnes, a decrease of 26 per cent as compared to 2007-08. The production of urad/blackgram (black mapte), another major kharif pulse crop moved in a range between 0.77 million tonnes (2000-01) to 1.12 million tonnes (2007-08) from the period 1998-99 to 2008-09, except the highest production at 1.20 million tonnes achieved in 2003-04. The highest production of urad (kharif and rabi)

at 1.50 million tonnes recorded in 2001-02 could not be achieved since then. The production of urad (Kharif and Rabi) further declined to its lowest level at 1.17 million tonnes during 2008-09, since 1995-96 and estimated to decline again in 2009-10 at 1.13 million tonnes. Similarly, in case of moong (green gram), highest production (kharif and rabi) was recorded in 2003-04 at 1.71 million tonnes, and the production during 2007-08 and 2008-09 was lower at 1.52 million tonnes and 1.03 million tonnes respectively, which dropped to 0.67 million tonnes during 2009-10 (Second Advance Estimates). However, for the year 2009-10, the kharif production of tur, urad and moong is estimated at 2.50, 0.80 and 0.41 million tonnes respectively (Second Advance Estimates). The steep decline in production of pulses is also an indication that the impact of National Food Security Mission (NFSM) is yet to be felt at the ground level.

2.55 For more than fifty years from 1953-54 to 2007-08, the total area under pulses cultivation in India remained virtually stagnant (fluctuating between 20–24 million hectares). The peak level of 24.83 million hectares achieved in 1959-60 could not as yet be reached. However, the area coverage during 2007-08 was at 23.63 million hectares, the highest coverage achieved since 1990-91. Subsequently, the area declined to 22.09 million hectares in 2008-09 and again increased to 23.16 million hectares in 2009-10 (Second Advance Estimates). The yield level under pulses increased, though with ups and downs, from 473 kg/ha in 1980-81 to 578 kg/ha in 1990-91, and attained the higher yield level at 635 kg/ha in 1996-97, 1999-2000 and 2003-04. While the yield level reduced to 577 kg/ha in 2004-05, it increased thereafter and reached to 659 kg/ha in 2008-09.

2.56 In pulses cultivation, stagnancy in area and persistent low levels of yield have been of great concern. During the years 2000-01 to 2008-09, the annual growth rate in area was 0.78 per cent compared to 1.91 per cent achieved in 1990-91 to 1999-2000 and (-) 0.09 per cent of 1980-81 to 1989-90. Growth rate in production was 0.98 per cent during the current decade so far compared to 0.59 per cent of 1990-91 to 1999-2000 and 1.52 per cent of 1980-81 to 1989-90. The growth rate of yield was lower at 0.22 per cent during 2000-01 to 2008-09, as compared to 1.61 per cent during 1980-81 to 1989-90 and 0.93 per cent during 1990-91 to 1999-00. The trends in area, production and yield in respect of pulses are shown in the Chart 3:

Chart 3: Total Pulses- Area, Production and Yield



Source: Directorate of Economics & Statistics, Ministry of Agriculture.

2.57 Pulses are grown in both kharif and rabi seasons. Kharif pulses in terms of total production of pulses, accounted for 33 per cent in 2006-07 and increased substantially to 43 per cent due to conducive weather conditions during 2007-08. However, the share of the kharif pulses has reduced to about 27 per cent during 2008-09. The rate of growth of kharif production which was 0.92 per cent during 1987-88 to 1997-98, increased to 0.97 per cent during 1997-98 to 2008-09, mainly due to increase in area, which grew at 0.17 per cent during the period. Productivity increased by 0.80 per cent during the same period.

2.58 The major pulses growing states are Madhya Pradesh, Maharashtra, Andhra Pradesh, Uttar Pradesh, Gujarat, Karnataka and Rajasthan, contributing about 86 per cent to the production and 84 per cent to the area under pulses in the country during the year 2008-09. During Kharif season 2008-09, Maharashtra leads in production of pulses, accounting for 17.90 per cent of the production in the country followed by Rajashtan 17.43 per cent, Uttar Pradesh 10.54 per cent, Karnataka 10.88 per cent and Madhya Pradesh 10.20 per cent. The State-wise area, production and yield of pulses is given in the Table 2.10:

Table 2.10 : State-wise Area, Production and Yield of Pulses (2008-09)

Production – 000 tonnes,
Area - 000 ha.
Yield - Kg /ha

S.No	State	Total Pulses			Kharif Pulses		
		Area	Production	Yield	Area	Production	Yield
1.	Andhra Pradesh	1771	1448	818	733	340	464
2.	Bihar (including Jharkhand)	973	750	771	310	207	668
3.	Gujarat	784	609	777	597	424	710
4	Haryana	182	178	978	54	46	852
5	Karnataka	2087	972	466	1190	510	429
6	Madhya Pradesh	4560	3683	808	903	478	529
7	Maharashtra	3082	1656	537	1848	839	454
8	Orissa	805	387	481	507	244	481
9	Punjab	24	22	917	18	15	833
10	Rajasthan	3672	1826	497	2384	817	343
11	Tamil Nadu	536	164	306	140	55	393
12	Uttar Pradesh	2223	1998	899	709	494	697
13	West Bengal	183	128	699	52	36	692
Total	All India	22093	14567	660	9808	4686	478

Source:- Directorate of Economics & Statistics, Ministry of Agriculture.

2.59 In India, inadequate adoption of improved technology, low irrigation coverage and uncertainties related to pulses farming are mainly responsible for slow growth. One reason for the stagnancy in area, production and productivity in pulses cultivation is the conditions under which the crop is generally grown, which is rainfed and in vast domains of arid and semi-arid regions of Central, Western and Peninsular India. The levels of production, productivity and area under pulses are generally determined by the weather/climatic conditions, primarily the coverage of monsoon. Generally the productivity of pulses is lower than the other crops. Hence farmers tend to shift from pulses to other crops. A look at the statistics from 1990-91 up to 2007-08 reveals that the trend in area under pulses showed wide variation in rabi crops and not much deviation in kharif crops. However, during 2008-09, the rabi area showed an increase while the kharif area witnessed a sharp decline as compared to the previous year.

2.60 While the requirement of water for pulses is much lower than that of most other crops, the importance of irrigation arises from the need to have timely

application of water, which a rainfed area may not be able to provide. The Technology Mission on Oilseeds and Pulses set up in 1986 and other specialized research institutions have not succeeded in breaking the impact of weather on the production of pulses. Hence expansion of irrigation facilities and development of technologies suitable for semi arid/arid zones are two important areas, which require the attention of National Food Security Mission, which has a mandate to increase the pulses production by 2 million tonnes by the end of 11th Plan.

2.61 In the country, per capita per year net availability of pulses, during the period from 1951 to 2008 was reduced to half from 22.1 kg to 10.7 kg. During the 1950's and upto 1963, it was fluctuating in the range of 22-27 kg. During 1966 to 1976, it further declined and remained in the range of 17.6-18.7 kg and thereafter it was continuously fluctuating in a low range of 10.7-13.8 kg upto 2007. Evidently, the production of pulses has failed to keep pace with the increase in population of the country. Fluctuation and long term static production of pulses combined with increasing consumption have necessitated continued large scale imports. The status with regard to import of pulses in the recent years is shown in the Table 2.11.

Table 2.11: Import of Pulses

Quantity -(000 tonnes)
Value- (Rs. In Crore)

Year	Total Pulses		
	Quantity	Value	Unit Value(in Rs./ Kg)
2004-05	1339.45	1777.58	13.27
2005-06	1695.95	2476.25	14.60
2006-07	2270.97	3891.91	17.14
2007-08	2835.06	5374.94	18.96
2008-09	2377.44	5989.76	25.19
2009-10 * (April-Nov, 2009)	2230.01	5795.34	25.99

Source: DGCI&S, Kolkata, *: Provisional

The status with regard to demand and supply of pulses in the country is provided in the Table 2.12.

Table 2.12: Demand and Supply of Pulses

(Million tonnes)

Crop Year (July-June)	2004-05	2005-06	2006-07	2007-08	2008-09	2009-10
Fiscal Year (April-March)	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11
Gross Production						
Tur	2.35	2.74	2.31	3.08	2.27	2.50
Other kharif pulses	2.37	2.13	2.49	3.32	2.42	1.71
Gram	5.47	5.60	6.33	5.75	7.06	7.46
Other Rabi Pulses	2.94	2.92	3.07	2.61	2.82	3.07
All Pulses	13.13	13.39	14.20	14.76	14.57	14.74
Net Production (87.5% of Gross Production	11.49	11.72	12.43	12.92	12.75	12.90
Procurement All Pluses (NAFED)	Negligible	Nil	Nil	Nil	Negligible	Nil
Export(FY) All Pulses	0.45	0.25	0.16	0.14	0.03	-
Import (FY) All Pulses	1.70	2.27	2.83	2.38	2.38*	2.38*
Supply (FY)	12.74	13.74	15.10	15.16	15.10	15.28
Consumption Demand		17.38	17.71	16.77	17.51	18.29

Source:- Production data from Directorate of Economics & Statistics and Export Import data from DGCI&S, Kolkata. * : projected the similar quantity of last year.

2.62 The increase in the import prices can be attributed to speculative activities in the international market considering the position of India as a larger importer of pulses. India's position as net importer of pulses is expected to continue in the coming years also considering land constraints, competition from more remunerative crops, lack of technology breakthrough etc. In such a situation, there is a need to explore long term supply arrangements with suppliers in the world trade so that the required quantity of imports would be assured on sustainable basis.

2.63 The Wholesale Price Index (WPI) of pulses (base 1993-94=100) released by the Office of Economic Adviser, Ministry of Commerce & Industry has been fluctuating widely in recent years. The WPI of pulses decreased from 189.2 in 2001-02 to 174.4 points in 2004-05. Thereafter, it gained upto 194.9 points (11.8 per cent) in 2005-06 and 254.2 points (30.4 per cent) in the year 2006-07, but dropped to 243.2 points (-4.3) per cent in 2007-08 and again increased to 259.9 points (6.9) per cent during the year 2008-09. The prices of pulses maintained its rising trend for the period 2009-10 (April, 2009 to January, 2010) as per Wholesale Price Index

Numbers. There has been a rising trend for Tur, moong and urad during 2009-10, when compared to 2008-09.

2.64 Procurement operations of pulses are undertaken by NAFED. Except 2096 tonnes of urad procured in 2004-05, no procurement of pulses has been made by NAFED under the price support scheme (PSS) upto 2007-08 as the prices of pulses continuously remained above the levels of MSP. As reported by NAFED for the kharif pulses during 2008, in-spite of 40 per cent increase in MSP over the previous year, the market prices were ruling well above the MSP levels in case of moong, urad and tur.

2.65 The productivity of pulses fluctuates due to erratic rainfall both in quantity and distribution. An analysis done by Central Research Institute for Dryland Agriculture (CRIDA), Hyderabad revealed that major constraints in pulse production leading to low productivity and production are erratic rainfall, non-availability of good quality seeds, degraded soils, neglect on input applications, poor crop management, high incidence of pest and diseases, lack of proper extension services and poor credit availability. The resource management is the key issue for bridging demand and supply gap. Production enhancement in pulse legumes also contributes to the long term sustainability of natural resources, the analysis further suggested. Improved varieties of pulses evaluated under rainfed conditions at different All India Coordinated Research Project on Dryland Agriculture (AICRPDA) Centres recorded yield gains to the extent of 40-50 per cent compared to local cultivars of different pulses. Frontline Demonstrations conducted across different centres of AICRPDA and Pulse Improvement Project of Indian Institute of Pulses Research (IIPR), Kanpur and International Crop Research Institute for Semi-Arid Tropics (ICRISAT), Hyderabad also indicated similar results. Hence there is a need to provide quality improved seeds of pulses to the farmers by adopting seed village concept with active participation of the farming community. Development of Rural Enterpreneurship through adoption by promoting IIPR Mini Dal Mill and Dal Processing Units in participatory mode through Self-Help-Groups (SHGs) may be encouraged to give better income to the farmers. The Commission recommends that **concerted efforts have to be made through effective extension services for immediately**

spreading about the pulses varieties and technologies developed in the research organizations to the farmers field.

Oilseeds

2.66 Production of oilseed crops have great significance because of its varietal uses by humans and for cattle feeding, most important among which is its use as cooking edible oil. Though India stands as one of the largest producers of oilseed crops in the world, its capability to meet domestic consumption demand of edible oils stands at about fifty per cent of the requirement and thereby necessitating heavy dependence on imports.

2.67 The production of oilseeds in India during the year 2008-09 at 27.72 million tonnes, remained down by 2.04 million tonnes, a decrease of 6.85 per cent from the highest production achieved at 29.76 million tonnes during the previous year 2007-08. The oilseeds production target for 2009-10 kharif crops was kept at 19.40 million tonnes. However, as per Second Advance Estimates of DES, production of kharif oilseeds is projected to remain short by 3.21 million tonnes (16.5 per cent) at 16.19 million tonnes, from the target fixed and short by 9.1 per cent from the production achieved in 2008-09. The total production of oilseeds during 2009-10, (kharif+rabi) is anticipated at 26.32 million tonnes, showing a deficit of 1.40 million tonnes, a decrease of 5 per cent over the 2008-09 production levels. The major shortfall in the kharif production of oilseeds have been estimated to be compensated to a large extent by the better production prospects in rabi season. According to 2008-09 production estimates, India accounts for 7 per cent of the world oilseeds production and ranks fourth largest producer of oilseeds in the world after USA, China and Brazil. However, due to its low productivity and higher domestic consumption/demand, India has become the largest importer of edible oils in the world. (Table 2.1)

2.68 The nine major oilseeds cultivated in different agro-climatic zones in India include groundnut, soyabean, sunflower, nigerseed, sesamumseed, castorseed, linseed, rapeseed/mustard and safflower. Among these, groundnut and sunflower, which are grown during kharif season, are also cultivated in rabi season. In fact, rabi

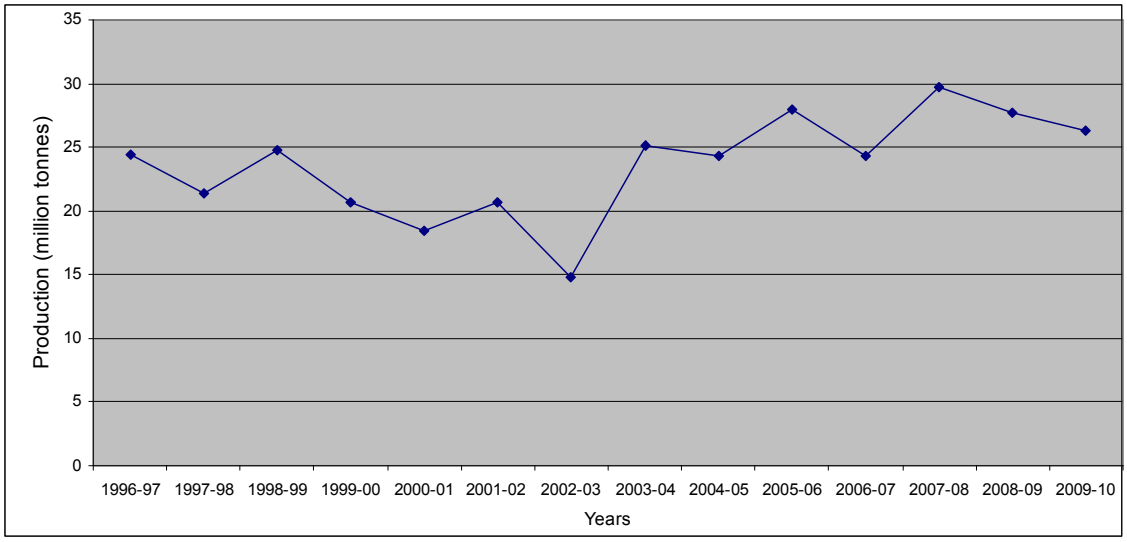
cultivation of sunflower has a much larger share (76 per cent) in its total production. Groundnut, soyabean, sunflower and rapeseed/mustard both in terms of area and production (about 92 per cent of total oilseeds production) accounts for the major oilseed crops in the country. The major oilseeds producing states are Madhya Pradesh, Gujarat, Maharashtra, Rajasthan, Karnataka, Andhra Pradesh, Tamil Nadu and Uttar Pradesh. Among the kharif oilseed crops, groundnut and soyabean accounts for about 87 per cent of the total oilseed production.

2.69 The production of oilseeds since 1992-93 remained in the range of 20-25 million tonnes barring the years 2000-01 and 2002-03 when it declined to 18.44 million tonnes and 14.84 million tonnes respectively. The year 2002-03 was one of the worst years in oilseeds production since 1992-93. Oilseeds production was generally stagnating at around 7-9 million tonnes during 1954-55 to 1980-81, moved upward in the range of 10-13 million tonnes from 1981-82 to 1987-88. Since 1987-88 onwards and up to 1998-99, there was a significant improvement in the production scenario, which moved in the higher range of 17-25 million tonnes that can be attributed to the success achieved by the Technology Mission on Oilseeds (TMO), introduced in 1986 to achieve self- sufficiency in the production of oilseeds. However, the production of 24.75 million tonnes achieved in 1998-99 could not be improved upon further in a consistent way. This can be due to lack of technology to evolve high yielding seeds suitable under rainfed conditions and limited spread of irrigation in the oilseed grown areas. The yearly fluctuations in production clearly indicate the fact that monsoon still decides the fate of the oilseeds production. The sharp decline of oilseeds production to 14.84 million tonnes in 2002-03 was mainly attributed to failure of monsoon and the recovery in production in 2003-04 to 25.19 million tonnes, in 2005-06 to 27.98 million tonnes and 29.76 million tonnes in 2007-08 again were primarily due to good, timely and evenly distributed monsoon rains. Further, the production declined to 27.72 million tonnes in 2008-09 due to non-conduciveness of weather and again expected to decline by 5 per cent at 26.32 million tonnes in 2009-10 due to drought and flood like conditions witnessed in oilseed producing States.

2.70 The performance of the current decade with respect to oilseeds production has been lower than the earlier decade. The present decade (1997-98 to 2008-09)

has an annual growth rate of 3.11 per cent compared to 4.68 per cent per annum achieved in the previous decade (1987-88 to 1997-98). The trend in production of oilseeds is shown in the Chart 4.

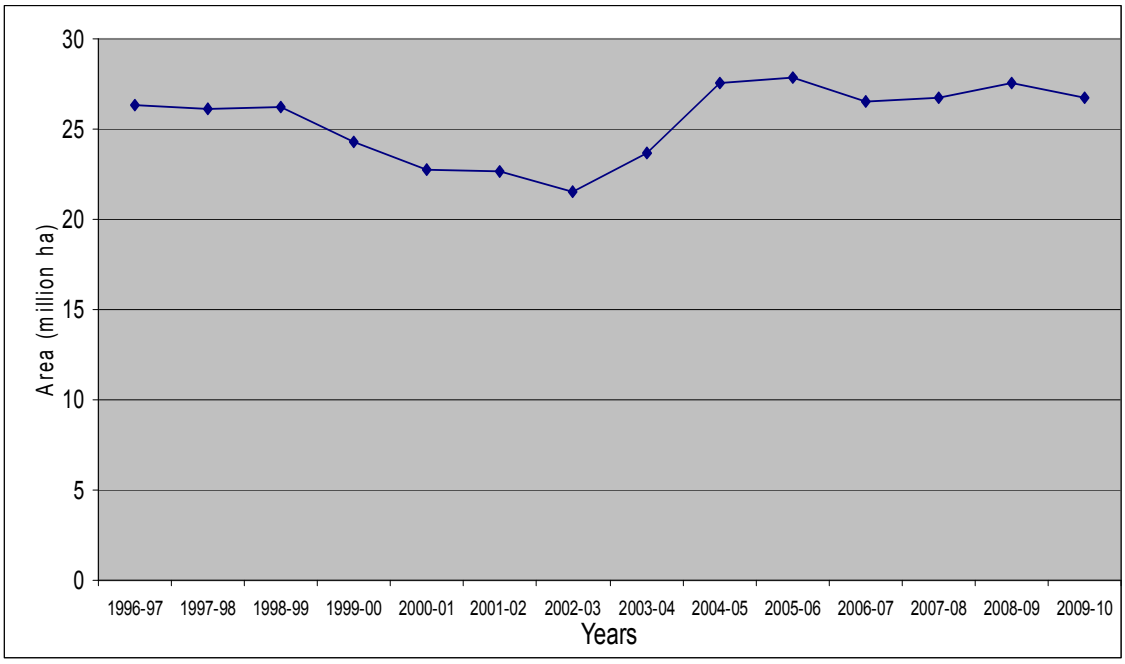
Chart 4: Production Trends in Oilseeds



Source: Directorate of Economics & Statistics, Ministry of Agriculture.

2.71 Area coverage under oilseeds reflects year-to-year fluctuations. The years 2004-05 and 2005-06 witnessed the highest coverage under the crop at 27.52 million hectares and 27.86 million hectares respectively. However, this could not be sustained as the area coverage declined to 26.51 million hectares during 2006-07. Subsequently, it showed a marginal increase to 26.69 million hectares and 27.56 million hectares in 2007-08 and 2008-09 respectively. The area under oilseeds is estimated to decline by 2.9 per cent at 26.76 million hectares in 2009-10 (Second Advance Estimates of DES). The average growth in area in the present decade (1997-98 to 2008-09) was lower at 1.07 per cent as compared to 2.36 per cent growth achieved in the previous decade (1987-88 to 1997-98). Negative growth rates in respect of groundnut (-) 1.41 was responsible for this low growth, though some of the oilseeds like soyabean and sunflower showed significant increase in the area coverage at 4.09 per cent and 3.70 per cent respectively. The trend in area coverage under oilseeds is indicated in the Chart 5.

Chart 5: Area Sown under Oilseeds



Source: Directorate of Economics & Statistics, Ministry of Agriculture.

2.72 Similar to the improvements in area and production of oilseeds, productivity has also increased. The annual growth of yield during 1997-98 to 2008-09 was 2.02 per cent while it was slightly higher at 2.27 per cent previously during 1987-88 to 1997-98. Though, the productivity of the oilseed crops increased at an annual growth rate of 1.59 per cent since 1987-88 to 2008-09 but the productivity levels are still much lower than that of other producing countries and world average (year 2008), which can be seen from Table 2.13. In case of productivity of groundnut, it stands about two third to the world average and about one third of the yield in China and the yield levels of USA. As regard to productivity of soyabean, it was about 35, 55 and 40 per cent of the yield in USA, China and world average respectively. It can be observed that productivity fluctuates worldwide but its level of fluctuation has been much higher in India, which clearly reflects dependence of oilseed crops on monsoon conditions.

Table 2.13: International Comparison of Productivity of Major Kharif Oilseeds

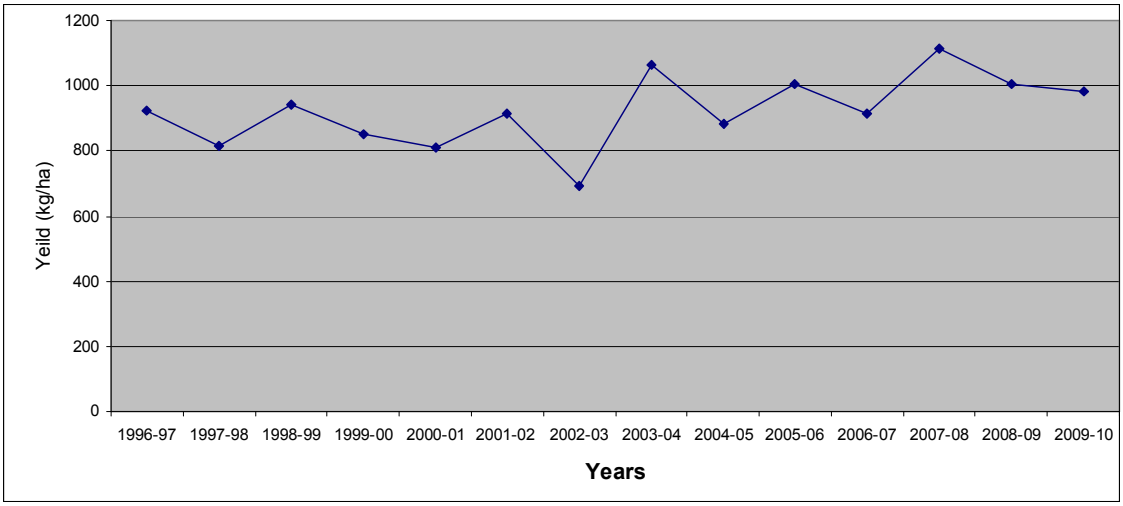
(Yield in kg/ha)

Country	Soyabean		Groundnut		Sunflower	
	2007	2008	2007	2008	2007	2008
Argentina	2971	2822	2790	2750	1488	1802
Brazil	2813	2817	2315	2623	1446	1337
China	1454	1703	3296	3102	1650	1779
Germany	1000	1000	-	-	2654	1964
India	1235	942	1459	1071	778	542
Nigeria	909	970	1720	1696	-	-
U.S.A	2806	2666	3508	3829	1621	1601
World	2436	2384	1691	1554	1234	1424

Source: FAOSTAT

The movement in the yield levels of oilseeds during the last ten years is shown in the Chart 6.

Chart 6: Yield levels of Oilseeds



Source: Directorate of Economics & Statistics, Ministry of Agriculture.

2.73 The causes of low yields for oilseed crops are broadly the same as in the case of other crops, viz., lack of modern farm practices, cultivation in rainfed areas and the consequent dependence on rainfall, non-availability of quality seeds/hybrid seeds, lack of disease and pest management practices and poor extension services. As oilseed crops are cultivated generally in areas where facility of irrigation do not exist and depend to a greater extent on monsoon, intensive adoption of quality research including water resource with irrigation and extension facilities would result in improving their yield levels.

2.74 The wholesale price index of oilseeds as a whole, which consistently increased to reach a high of 259.8 in the month of July 2008, registered an increase of 7.94 per cent in just three months in May-July, 2008 has softened to reach an index of 235.4 in February 2009. Since then, it started moving upward reaching at 254.3 in June 2009 and remained subdued thereafter till October but again showed an increasing trend up to January 2010. The average price index during 2009-10 up to January 2010 showed a marginal increase of 2.72 per cent compared to the 24.09 per cent and 12.78 per cent increase during 2007-08 and 2008-09 respectively. While all the oilseed crops continued the upward movement of prices though marginally during 2009-10, the increases were higher at 21.02 per cent and 6.52 per cent in respect of sesamum seed and soyabeen respectively. The prices declined during the current year in the case of rapeseed-mustard (3.69 per cent), sunflower seed (5.73 per cent) and nigerseed (25.70 per cent) crops, as compared to average prices in 2008-09, as shown in the Table 2.14.

Table 2.14: Percentage Change in Index of Wholesale Prices of Oilseeds

Commodity	Year	Average index (April-March)	Percentage change in index from previous year
Oilseeds	2007-08	218.1	24.09
	2008-09	245.9	12.78
	2009-10	252.6	2.72
Rapeseed/ Mustard	2007-08	204.4	18.81
	2008-09	251.8	23.19
	2009-10	242.5	(-) 3.69
Safflower seed	2007-08	166.7	15.93
	2008-09	191.4	14.78
	2009-10	193.8	1.25
Groundnut	2007-08	239.3	25.99
	2008-09	249.1	4.09
	2009-10	259.6	4.22
Soyabean	2007-08	187.7	29.56
	2008-09	230.0	22.51
	2009-10	254.5	6.52
Sunflower seed	2007-08	253.6	28.26
	2008-09	252.9	(-) 0.26
	2009-10	238.4	(-) 5.73
Sesamum seed	2007-08	205.5	9.76
	2008-09	266.4	29.65
	2009-10	322.4	21.02
Niger seed	2007-08	396.6	80.60
	2008-09	489.7	23.50
	2009-10	365.8	(-) 25.70

Source: O/o of Economic Adviser, M/o of Commerce & Industry.

Note: For the year 2009-10, average Index as on January 2010.

2.75 Contrary to the marginal increase of 2.72 per cent in wholesale price index in case of oilseeds, the WPI for edible oils during 2009-10 up to January 2010 decreased by 5.7 per cent as compared to average price increase of 7.4 per cent in 2008-09. The WPI in case of edible oils declined from the average Index at 188.2 for the year 2008-09 to 177.4 up to January 2010. Except a marginal increase in case of sunflower oil and sesamum oil, prices declined for all other edible oils but the decrease was more at 10.4 per cent in mustard oil, which has a major share in the cooking oils. The prices of edible oils perhaps declined primarily due to free and unhindered imports of edible oils at zero duty in large quantities. (Table 2.17)

2.76 NAFED, the central procurement agency for oilseeds has not procured oilseeds during the kharif 2009 season as the market prices of all kharif oilseeds covered under Price Support Scheme (PSS) have so far been ruling above the MSP, except sunflower seeds (3376 tonnes) reported purchased by the NAFED as on 1.12.2009 in the states of Andhra Pradesh, Haryana and Karnataka under price support scheme. The reasons for the price increase of oilseeds and edible oils since 2006-07 and up to 2008-09 can be attributed to factors, both domestic and global. Domestically, there exists a gap between domestic demand and availability of vegetable oils, as indicated in the Table 2.15.

Table 2.15: Demand and Supply of Edible Oils

(In lakh Tonnes)

Oil year (Nov-Oct)	Production of Oilseeds	Net availability of edible oils from all domestic sources	Availability/ Consumption of edible oils (domestic+ import sources)	Gap between domestic supply and total supply	Consump-tion demand for edible oils@@
1	2	3	4	5	6
2001-02	206.63	61.46	104.68	43.22	NA
2002-03	148.39	46.64	90.29	43.65	NA
2003-04	251.86	71.40	124.30	52.90	NA
2004-05	243.54	72.47	117.89	45.42	NA
2005-06	279.79	83.16	126.04	42.88	118.50
2006-07	242.89	73.70	115.87	42.17	124.10
2007-08	297.55	86.54	142.62	56.08	127.57
2008-09	277.19	85.98	167.81	81.83	132.80
2009-10@	263.22	82.00	183.00	101.00	138.18

Source: Directorate of Vanaspati, Vegetable Oils & Fat, NA: Not Available
@: Projected @@: Projections made by the Expert Group based on behaviouristic approach

2.77 It can be observed from Table 2.15 that the gap between domestic supply and total supply including import has been increasing substantially since 2007-08. The imports of edible oils have become a regular compulsion in order to bridge the gap between the consumption demand and domestic availability. The trend in the imports of vegetable oils/edible oils during the last ten years is shown in the Table 2.16.

Table 2.16: Imports of Edible Oils

Year (April-March)	Quantity (in lakh tonnes)	Value (in Rs. crore)	Unit Value (Rs./kg)
2000 – 2001	41.77	5976.53	14.31
2001 – 2002	43.22	6464.97	14.96
2002 – 2003	43.65	8779.64	20.11
2003 – 2004	52.90	11683.24	22.08
2004 – 2005	47.51	11076.89	23.31
2005 --2006	42.88	8960.99	20.90
2006 --2007	42.69	9539.90	22.34
2007--2008	49.03	10301.08	21.01
2008 -- 2009	67.14	15819.01	23.56
2009-10 (Apr- July)	26.20	7471.19	28.51
2008-09 (Apr-July)	17.19	3620.38	21.06

Source: DGCI&S, Kolkata, Ministry of Commerce & Industry

2.78 The import duty structure has been reviewed from time to time, depending on the domestic requirement and supply positions. Keeping in view the rising prices of edible oils in 2007-08, the import duties were drastically reduced to 7.5 per cent in the case of refined and nil duty for import of crude edible oil since 1st April 2008. Besides this, export of major edible oils was banned from 17.3.2008 and the Government had initiated distribution of one million tonnes of edible oils to States/UTs at a subsidy @ Rs.15/kg which was subsequently enhanced to Rs.25/kg in January 2009, which is continued during 2009-10 with a lower rate of subsidy@ Rs.15/kg. Zero import duty on crude palm oil and its distribution at a subsidized price through PDS in some states have placed the domestic oil sector at a disadvantage particularly in the case of groundnut oil and mustard oil in which prices declined consistently since August 2008 by about 10-14 per cent in a period of one year. Presently when food prices have been increasing at an average rate of about 18 per cent, the prices of edible oils have been declining which no doubt well for the

consumer but place domestic oil sector and farmers at a disadvantageous position. Therefore, **in order to bring level-playing field for the benefit of farmers and also domestic oil sector, Government needs to review the present import duty structure on edible oils.**

2.79 India's dependence on import of edible oils/vegetable oils has been increasing gradually. In 1993-94 with the domestic availability of edible oils at 69.3 lakh tonnes, the country was self-sufficient up to 95 per cent of the requirement and only 5 per cent of the requirement was imported. Since then even though domestic availability increased up to 82 lakh tonnes in 2008-09, the country was able to meet only the 50 per cent of its consumption demand of edible oils. Such a higher dependence on imports has its own disadvantages, particularly in the global situation in regard to production prospects, prices structure etc. and at times may cause serious problem. In view of this, there does not appear to be an alternative but to enhance the domestic availability of edible oils.

2.80 Production of oils from secondary sources as well as oil palm can contribute more in augmenting net availability of edible oils in the country. In order to increase the production of edible oils special emphasis needs to be given to oil palm, as a plantation crop and also to tree borne oilseeds. Oil Palm is considered to be the highest oil yielding perennial crop, capable of yielding 10-15 times higher than the yield obtainable from traditional oilseeds. Since the palm oil is capable of yielding much more than the yield of edible oils obtained from traditional oilseeds, more emphasis needs to be given for availability of adequate infrastructure under the Oil Palm Development Programme. In order to achieve increased production of oil palm suggestions in detail have already been mentioned in Commission's kharif price policy report 2009-10. Since, out of the total imports of edible oils in the country palm oil alone accounts for about 80 per cent (crude-60 per cent and refined-20 per cent), the domestic potential of oil palm need to be utilised fully. Moreover, there is an urgent requirement for setting up a Technology Mission separately for oilseeds, which should include all oil crops; such as traditional oilseeds, secondary sources and oil palm and tree borne oilseeds replacing the existing Centrally Sponsored Scheme (CSS) Integrated Scheme of Oilseeds, Pulses, Oil palm and Maize (ISOPOM). The Mission Mode approach for oilseeds can help increase the

productivity of oilseeds and resultant increased availability of domestic edible oils, with proper monitoring and implementation of the Mission be assured through fixing clear accountability. Therefore, the Commission recommends that **keeping in view the urgent need to augment domestic availability of edible oils, the productivity of all the oilseed crops especially of oil palm and tree borne oilseeds should be given special attention by replacing the existing Integrated Scheme of Oilseeds, Pulses, Oil palm and Maize (ISOPOM) to a newly constituted Technology Mission for Oilseeds.**

2.81 Global trends in production and prices influence domestic oilseed economy in view of India's position as one of the largest importers of edible oil in the world. Global oilseed production in 2009-10 is forecast to increase by 8 per cent from 2008-09 to a new record production of 440 million tonnes almost on account of huge increase estimated in the production of soyabean at 17 per cent and palm kernels at 5 per cent. Among the countries, total output is anticipated to rise in the USA and South America due to increase in area and yield levels by favourable weather conditions. Table 2.17 indicates the position.

Table 2.17: World Production of Major Oilseeds

(Million tonnes)

Crops	2007-08	2008-09 estimate	2009-10 forecast
Soyabeans	220.0	211.5	248.0
Cottonseed	44.0	40.7	40.2
Rapeseed	48.7	58.4	58.3
Groundnut (unshelled)	35.4	35.2	33.0
Sunflower	28.9	33.9	31.5
Palm kernels	11.2	11.5	12.1
Copra	5.0	5.2	5.3
Total	393.2	396.4	428.4

Source: Food outlook, FAO- December 2009

2.82 FAO price indices (Jan-Dec) for oilseeds and oils/fats in 2009 up to November declined from 205 and 225 in 2008 to 160 and 148 implying 24.2 per cent and 36.7 per cent decrease from the 2008 levels. The factors which contributed to the decline in the prices of oilseeds and oil appear to be the gradual easing of the global supply and demand situation and better production prospects for 2009-10. FAO's supply and demand forecast for 2009-10 (October-September) suggests possible firmness

in the global prices of oils/fats as world consumption is anticipated to increase by 3 per cent and due to constraint in supply and low opening stock, the international prices for oilseeds and oilseed products during 2009-10 are expected to remain volatile. However, markets will behave subject to several external factors, like weather conditions, national policies, demand from the importing countries etc.

2.83 Global consumption demand for oil/fat continued to increase in spite of higher prices in 2007-08 and global economic slowdown in 2008-09 and further estimated to increase by over 3 per cent, mainly accounted for by increase of food uses in China, India and the other emerging economies in Asia and partly by non-food uses primarily for bio-diesel.

2.84 The world supply and demand position in respect of oilseeds and products is shown in the Table: 2.18.

Table 2.18: World Oilseeds and Products Market

(Million tonnes)

Product	2007-08	2008-09 estimate	2009-10 forecast
Total Oilseeds Production	403.5	407.1	440.5
Oils and Fats Production	155.6	159.7	168.0
Supply	179.8	182.8	190.0
Utilisation	157.5	161.7	167.0
Trade	80.5	85.1	83.9
Stock-to-utilisation ratio (%)	14.6	13.6	13.7
FAO Price Indices (Oct-Sep)	**2007-08**	**2008-09**	**% Change**
Oilseeds	217	156	(-) 28
Oils/fats	243	144	(-) 41

Source: FAO, Food Outlook, December 2009.

2.85 The Commission recommends MSP for five oilseeds crops viz., Soyabean, Groundnut, Sunflower seed, Sesamum seed and Nigerseed during the kharif season. The status of these crops in respect of area, production, yield and prices etc. is indicated below:

Soyabean

2.86 Among the major oilseed crops, Soyabean is the single largest oilseed crop cultivated in India. In terms of total area and production under oilseeds, soyabeen accounts for about 35 per cent and 36 per cent in 2008-09 as against 33 per cent in area and 37 per cent in production during 2007-08, which shows a reduction in production in spite of increase in area, even though, soyabeen alone contributes about 56 per cent in total production of kharif oilseeds. The area expansion under the soyabean crop has been significantly at an increasing trend, which jumped from merely 3 lakh ha in 1978-79, (15.4 lakh ha in 1987-88) to 95.1 lakh ha in 2008-09, an increase of more than 30 times. The growth rates of area and production during 1987-88 to 1997-98 were at 14.75 per cent and 19.32 per cent respectively during the period of Technology Mission on Oilseeds, the growth of which reduced to a low of 4.09 per cent and 4.77 per cent respectively during 1997-98 to 2008-09 period. However, the yield rates grew at a much lower rate of 3.99 per cent and 0.65 per cent during the same period. The low growth in yield may be due to the predominance of the crop under rainfed conditions (98.3 per cent) and the dependence on weather conditions. (Tables 2.1 & 2.2)

2.87 Considering the growing importance of the crop domestically and globally as a protein food for nutritional health and in feed, energy and bio-fuel sectors, steps should be taken to enhance the yield levels through inclusion of more area under irrigation and scientific farm practices including improved seeds. The production at 99.05 lakh tonnes in 2008-09 declined by 10.63 lakh tonnes (9.7 per cent) over the previous year's production of 109.68 lakh tonnes. However, the production is estimated to increase by 3.12 lakh tonnes (3.15 per cent) during 2009-10 over the 2008-09 production levels and an increase of 5.85 lakh tonnes (6.07 per cent), over the target of 96.32 lakh tonnes (Second Advance Estimates of DES). The wholesale price index of the soyabean has been continuously showing upward trend since 2007-08. The average WPI which was at 144.9 in 2006-07, reached to 254.5 up to January 2010 showing an average increase of 29.56 per cent, 22.51 per cent and 6.52 per cent in 2007-08, 2008-09 and 2009-10 respectively. World production of soyabean is expected to increase by 17 per cent in 2009-10 to 248.0 million tonnes from the 2008-09 estimated level of 211.5 million tonnes. Internationally, the prices

of soyabean and soya oil which were higher up to July 2008 from the 2007 levels started declining since August 2008 due to world economic slowdown which in March 2009 reached down at 2007 levels but the prices again picked up from April 2009 due to some sort of surge in demand from the importing countries like India.

(Tables 2.1 & 2.16)

Groundnut

2.88 Groundnut which has traditionally been a leading oilseed crop, accounting for about 39 per cent of the area under total oilseeds and about 54 per cent of the total oilseeds production in 1988-89, continuously losing its ground reaching the low at 23 per cent of the area under oilseeds and 26 per cent of the oilseeds production in 2008-09, which is a serious cause for concern and needs special thrust in increasing production and productivity of the crop. The production levels at 96.59 lakh tonnes, way back in 1988-89 had never been attained. The production of groundnut declined by about 22 per cent at 71.68 lakh tonnes in 2008-09 from the previous year. In the current year 2009-10, as per Second Advance Estimates, the production of groundnut is estimated to decline sharply reaching at 55.25 lakh tonnes, nosedive by 40 per cent and 23 per cent from 2007-08 and 2008-09 levels respectively primarily due to erratic and poor monsoon. (Table 2.1)

2.89 The growth rate of area under the crop has been negative both in kharif as well as total for kharif and rabi crops during the current (1997-98 to 2008-09) and previous decade (1987-88 to 1997-98). However, the intensity of decline was more at (-) 1.41 per cent per annum in the current decade than the performance in the previous decade at (-) 0.80 per cent per annum. A positive factor is the gradual increase in yield though at a low pace because of which, the reduction in area has been compensated by yield growth and achieved positive growth in production also. The growth in yield and production during the present decade (1997-98 to 2008-09) was at 1.79 per cent and 0.36 per cent per annum as against 1.50 per cent and 0.68 per cent achieved in the previous decade (1987-88 to 1997-98) respectively. This shows that the increase in production has been mainly due to increase in productivity. The groundnut is mainly grown in the states of Gujarat, Andhra Pradesh, Rajasthan and Tamil Nadu which accounts for about 80 per cent of the total production and 73 per cent of the total area in 2008-09. The crop is also grown

in the states of Karnataka, Maharashtra, Madhya Pradesh, U.P and Orissa at a lower scale. During 2008-09, among the States, Tamil Nadu ranks first in the yield (1989 kg/ha), followed by Rajasthan (1670 kg/ha) and Gujarat (1392 kg/ha) and are significantly higher than the All India Average yield of 1163 kg/ha. On the other hand, the states of Karnataka (614 kg/ha), Uttar Pradesh (688 kg/ha) and Andhra Pradesh (881 kg/ha) are trailing much below from the All India Average yield of 1163 kg/ha.

2.90 The average Wholesale Price Index (WPI), which reached to 239.3 points in 2007-08 registering an increase of 26.0 per cent from the previous year had reduced its tempo of upswings and moderated to 249.1 in 2008-09, showing an increase of 4.1 per cent. Similarly, the average price index during 2009-10 up to January 2010 was at 259.6 points, increased by 4.2 per cent over the previous year. However, the WPI for groundnut oil which increased 22.2 per cent in 2007-08 had decreased by 1.8 per cent and 3.5 per cent during 2008-09 and 2009-10 (upto January 2010) respectively which may be primarily because of excess supply of edible oils through cheaper imports. (Tables 2.1, 2.2 & 2.16)

Nigerseed

2.91 Nigerseed globally is valued as a high value bird feed in many countries especially USA though it is an oilseed crop. It is mainly produced in India and Ethiopia. The crop is grown in the marginal lands of the tribal areas of M.P. including Chhattisgarh, Orissa, Maharashtra and Karnataka. Gradually its area has been declining and there were no improvements in the yield during last two decades. The crop has lost its ground in terms of area and production, as its contribution in the area and production of oilseeds in the country is negligible. The area, production and yield have been consistently decreasing over the years. According to 2008-09 estimates, area, production and yield were at 3.93 lakh hectares, 1.17 lakh tonnes and 297 kg/ha respectively. As per the Second Advance Estimates for 2009-10, the production of the crop has been estimated to be 1.11 lakh tonnes, down by 0.06 lakh tonnes from the previous year and by 0.54 lakh tonnes from the targetted production. Since 1998-99, the production shows significant year-to-year fluctuations ranging from 1.1 lakh tonnes to 1.5 lakh tonnes barring 2002-03 (0.86 lakh tonnes) a drought year which may be attributed to prevailing monsoon/weather conditions. The prices

of the crop during the current year (up to January, 2010), decreased by 25.7 per cent as against the average increase of 80.6 per cent and 23.5 per cent during 2007-08 and 2008-09 respectively. Though nigerseed is not so important being insignificant in terms of production but considering its export potential and also impact in tribal areas, greater efforts need to be made for enhancing the productivity and production of the crop. The volume of nigerseed exported during 2000-01 to 2008-09 is given in the Table 2.19. (Tables 2.1, 2.2 & 2.16)

Table 2.19: Export of Nigerseed

Year	Quantity (000'tonnes)	Value (Rs. Crore)	Unit value (Rs./kg.)
2000-01	29.49	80.35	27.25
2001-02	22.22	47.85	21.53
2002-03	36.13	77.99	21.59
2003-04	17.89	45.41	25.38
2004-05	24.60	61.14	24.85
2005-06	28.42	60.25	21.20
2006-07	30.02	66.89	22.28
2007-08	21.68	90.03	41.52
2008-09	13.72	64.23	46.81

Source: DGCI&S, Kolkata, Department of Commerce

Sesamum

2.92 Sesamum seed is another oilseed crop having significant uses in variety of products besides as edible oil and exports, which accounts for about 6.6 per cent of the area and 2.3 per cent of the total production of oilseeds in the country in 2008-09. India ranks first both in production and area under the crop in the world. The major growing States of the crop are Rajasthan, Gujarat, M.P., U.P. and West Bengal and also grown in Andhra Pradesh, Karnataka, Maharashtra, Orissa and Tamil Nadu in limited areas. The area under the crop during the last three decades has shown a declining trend though with year-to-year fluctuations which declined from 21.78 lakh ha (TE 1987-88), 18.26 lakh ha (TE 1997-98) to 17.70 lakh ha (TE 2008-09). The growth in area during the current decade (1997-98 to 2008-09)

increased 1.07 per cent per annum as compared to negative growth of 3.21 per cent per annum in the previous decade (1987-88 to 1997-98). Similarly, production has also increased in the current decade though with year-to-year fluctuations. The peak level at 0.78 million tonnes achieved in 2003-04 was never attained thereafter and declined to 0.64 million tonnes in 2008-09. Further as per Second Advance Estimates of production for 2009-10, the production is expected to decline by about 6 per cent reaching at a low level of 0.60 million tonnes. Though the yield of the crop is at low level of 380 kg/ha, it varied widely in different states, from 833 kg/ha in West Bengal to 161 kg/ha in Uttar Pradesh (TE 2008-09). (Tables 2.1 & 2.2)

2.93 The production of sesamum seed has more significance due to its export potential. The crop has been in demand by the importers, which had increased from 1.83 lakh tonnes in 2000-01 to 3.17 lakh tonnes in 2007-08 though exports decreased to 2.16 lakh tonnes owing to lower production in 2008-09. The unit value of exports has shown a steady increasing trend, which had increased to about 145 per cent in 2008-09 over 2000-01 prices. The position of exports is given in the Table 2.20.

Table 2.20: Export of Sesamum seed

Year	Quantity (000'Tonnes)	Value (Rs. Crore)	Unit Value (Rs./ kg.)
2000-01	183.31	517.57	28.24
2001-02	218.97	562.23	25.68
2002-03	118.38	373.01	31.51
2003-04	189.11	708.89	37.48
2004-05	156.66	662.45	42.28
2005-06	199.81	746.60	37.37
2006-07	233.34	939.58	40.27
2007-08	317.02	1642.29	51.80
2008-09	215.96	1494.26	69.19

Source: DGCI&S, Kolkata, Department of Commerce

2.94 The average WPI for sesamum seed, which increased by 9.76 per cent at 205.5 in 2007-08 increased heavily by 29.65 per cent at 266.4 in 2008-09 and

continued to increase further by 21.02 per cent at 322.4 points for the current year up to January 2010. (Table 2.16)

Sunflower

2.95 The area coverage of sunflower as well as its productivity and production have been continuously showing an increasing trend though with year-to-year fluctuations since long but more significantly during the period of Technology Mission on Oilseeds (TMO). The area, production and yield increased to 26.68 lakh ha, 13.48 lakh tonnes and 505 kg/ha in 1993-94 from 7.52 lakh ha, 2.81 lakh tonnes and 374 kg/ha in 1985-86 respectively which clearly show a remarkable increase in all fronts of sunflower crop. Presently, in terms of area and production the crop occupies fourth position under the oilseeds after groundnut, rapeseed-mustard and soyabean. The crop is mainly produced in Karnataka, Andhra Pradesh and Maharashtra and also grown in some other states like Tamil Nadu, U.P. etc. The most important point to mention here is that the state of Karnataka which occupies 55 per cent of the area under the crop contributes only 43 per cent in the production due to lower yield at 496 kg/ha as against the All India yield of 639 kg/ha, 778 kg/ha in the case of Andhra Pradesh and 587 kg/ha in the case of Maharashtra during 2008-09. During the recent years since 2001-02, the area coverage under the crop had shown steady increase from 11.77 lakh hectares to 23.40 lakh hectares in 2005-06 and declined thereafter reaching at 18.13 lakh hectares in 2008-09. Production also showed consistent increase during the period from 2001-02 to 2005-06, from 6.8 lakh tonnes to 14.39 lakh tonnes. However, similar to area, production also declined thereafter reaching to 11.58 lakh tonnes during 2008-09 except that it increased to 14.63 lakh tonnes in 2007-08 due to favourable weather conditions. The area and production during 2009-10 as per Second Advance Estimates are anticipated to decline further at 16.18 lakh ha and 10.44 lakh tonnes due to drought and floods, which is lower by 8.9 per cent and 10 per cent respectively from the previous year. (Table 2.1)

2.96 The growth rates in area and production were higher during the previous decade (1987-88 to 1997-98) at 4.53 per cent and 8.91 per cent per annum as compared to present decade (1997-98 to 2008-09) at 3.70 per cent and 5.99 per

cent per annum respectively. Similar to the area and production, the growth rate of yield at 4.19 per cent per annum was higher in the earlier decade than the 2.20 per cent per annum growth achieved in the present decade. The yield was also showing significant year to year fluctuations influenced by the weather conditions. However, rabi sunflower yield rates have been observed much higher than the kharif crop because of cultivation under irrigated conditions, The crop is being grown only in rabi season in some parts of Haryana, Punjab, Uttar Pradesh and West Bengal where the yield levels at around 1700 kg/ha are more than double as compared to All India composite yield of 645 kg/ha as estimated for 2009-10 but the area under the rabi crop was very small. Considering the higher potential of sunflower in the rabi season and its growth potential in general as compared with other oilseed crops, special thrust should be accorded for its increased sowing in rabi season making it remunerative to the farmers through adoption of proper marketing and processing arrangements. (Tables 2.1 & 2.2)

2.97 The Average WPI for sunflower, which increased by 28.26 per cent at 253.6 in 2007-08 decreased marginally by 0.3 per cent at 252.9 in 2008-09 and continued declining further by 5.73 per cent at 238.4 points in 2009-10 up to January 2010. (Table 2.16)

Cotton

2.98 India occupies a prominent place in the international cotton sector, having 33 per cent of the global cotton area and 22 per cent of the world cotton production (2009-10). India is also the second largest producer and exporter of cotton, globally. The major cotton producing states in India are: Punjab, Haryana and north Rajasthan comprising the North zone; Gujarat, Maharashtra and Madhya Pradesh, forming the Central zone and Andhra Pradesh, Karnataka and Tamil Nadu comprising the South zone. The successful use of Bt variety of cotton seed is gradually transforming the sector, in terms of yield and incomes of the farmers.

2.99 As per estimates by Cotton Advisory Board (CAB), area under cotton during 2009-10 is envisaged at 101.52 lakh hectares, an increase of 7.93 per cent over the area coverage of 94.06 lakh hectares achieved in 2008-09. This was in spite of the fact that the cotton year 2009-10 was not congenial as far as weather and rainfall

pattern were concerned. Sowing in many states were delayed by one month due to inclement weather conditions. However satisfactory spell of late monsoons and the high returns realized by the farmers in 2008-09 due to large scale procurement by government agencies at a significantly high minimum support price could be major reasons for this spurt in cotton acreage during 2009-10. The increase in area was highest in case of central zone, which witnessed an area increase of 6.52 lakh hectares during 2009-10 over 2008-09, followed by North Zone. In South Zone, comprising of Andhra Pradesh, Tamil Nadu and Karnataka, the area coverage decreased during 2009-10 by 1.15 lakh hectares. The status is explained in the Table 2.21.

Table 2.21: Zone-wise Area under Cotton

(in lakh ha)

Season	Northern Zone	Central Zone	Southern Zone	Total* (All India)
2002-03	13.54	49.79	12.81	76.67
2003-04	13.22	50.04	12.53	76.30
2004-05	15.68	53.22	18.28	87.86
2005-06	16.11	54.01	15.86	86.77
2006-07	14.87	61.36	14.50	91.44
2007-08	14.56	62.47	16.35	94.14
2008-09	12.85	61.21	19.16	94.06
2009-10$	15.00	67.73	18.01	101.52

* including “others”; $ CAB estimates as on 18.12.2009

2.100 Coverage under Bt cotton continued to increase during 2009-10. Area under Bt cotton increased to 80.55 lakh hectares, which was about 80 per cent of the total cotton area in the country, from 73 per cent coverage achieved in 2008-09 at 68.81 lakh hectares. South zone has the highest acreage under Bt cotton (91 per cent); 72 per cent in Central zone and 85 per cent in North zone. Punjab has the largest area under Bt cotton (96 per cent), followed by Andhra Pradesh (95 per cent), Haryana (94 per cent), MP (94 per cent) and Maharashtra (87 per cent). States which are still lagging behind in the use of Bt cotton are Tamil Nadu (32 per cent), Gujarat (59 per cent) and Rajasthan (63 per cent). The status of the use of Bt cotton is shown in the Table 2.22.

Table 2.22: Area under Cotton and Coverage under Bt* Cotton during 2007-08 to 2009-10

(in lakh hectares)

State	2007-08			2008-09			2009-10		
	Total area	Bt area	%	Total area	Bt area	%	Total area	Bt area	%
Punjab	6.04	5.57	92	5.27	4.76	90	5.36	5.14	96
Haryana	4.83	2.79	58	4.56	3.46	76	5.22	4.90	94
Rajasthan	3.69	0.38	10	3.02	1.48	49	4.44	2.80	63
Gujarat	24.22	13.00	41	23.54	14.50	62	26.24	15.39	59
Maharashtra	31.95	25.62	80	31.42	25.72	82	35.03	30.48	87
M.P.	6.30	4.71	75	6.25	5.14	82	6.46	6.06	94
A.P.	11.33	10.00	88	13.99	11.43	82	13.19	12.53	95
Karnataka	4.03	1.46	36	4.08	1.57	38	3.95	3.16	80
Tamilnadu	0.99	0.60	61	1.09	0.12	11	0.28	0.09	32
Total**	94.14	63.34	67	94.06	68.81	73	101.20	80.55	80

Source: Directorate of Cotton Development, Mumbai,
Office of the Textile Commissioner, Mumbai
Note: * Bt area coverage as per official estimates **Total includes "others" also.

2.101 While it is true that widespread use of Bt cotton has helped in increasing the productivity of cotton in the country, there are two concerns; (i) there still exists a gap in productivity between Indian and world cotton; and (ii) there are wide inter-state variations. As per 2009-10 data, while the world average is 734 kg/ha, the average yield India could achieve was only 495 kg/ha.

Table 2.23: Average Yield of Indian and World Cotton

(kg/ha)

Year	China	USA	India	World
1980-81	550	453	169	411
1990-91	807	711	267	574
2000-01	1093	1008	278	612
2006-07	1245	894	520	733
2007-08	1225	976	554	794
2008-09	1265	985	524	763
2009-10	-	-	495	734

Source: Directorate of Cotton Development, Mumbai

2.102 Inter-state variations in yield are quite significant. As per estimates of CAB for 2009-10, Tamil Nadu which surpassed the world average of 763 kg/ha in 2008-09 by achieving a yield rate of 780 kg/ha has further improved upon it in 2009-10 with a yield level of 977 kg/ha and states like Gujarat and Andhra Pradesh have continued

with high average yields of 615 kg/hectare and 619 kg/hectare respectively. However, states like Maharashtra, Rajasthan and Karnataka are still struggling with very low yield levels of 325 kg/ha, 383 kg/ha and 387 kg/ha respectively. This is despite the fact that Maharashtra recorded 87 per cent coverage under Bt cotton during the same period. This also shows that just one input for example, Bt cotton in this case, cannot bring about high productivity. Gujarat's success in achieving high yield levels despite having much lower area under Bt cotton compared to other states also corroborates the above view. The state-wise average yields in 2008-09 and 2009-10 are indicated in the Table 2.24.

Table 2.24: State-wise Average Yield

(Kg/ha)

State	Average yield 2008-09	Average yield 2009-10
Punjab	565	507
Haryana	522	425
Rajasthan	422	383
Gujarat	650	615
Maharashtra	335	325
MP	490	474
AP	644	619
Karnataka	375	387
Tamil Nadu	780	977

Source: Office of the Textile Commissioner, Mumbai

2.103 Analysis of low yields of Indian cotton should not overlook major constraints under which the Indian farmer works. Majority of Indian farmers are resource poor with small holdings. About 65 per cent of the cotton area is rainfed. Inadequate technology transfer and extension facilities often result in indiscriminate use of inputs like pesticides, use of poor quality cotton seeds etc. One major reason for low yield of cotton in India, which came up frequently during discussions with stakeholders and needs to be highlighted, is cultivation of the crop in rainfed conditions. While in all other countries, cotton is an irrigated crop, in India only 35 per cent to 40 per cent of the crop is under irrigation, which limits the scope of adopting balanced nutrition. Government, through its micro irrigation programmes and through the Technology Mission on Cotton should take up adoption of suitable micro irrigation and water-harvesting systems like drip, sprinkler, tanks etc in rainfed cotton farming areas to address the one major limiting factor in enhancing the productivity of Indian cotton.

2.104 The production of cotton during 2009-10 is expected to register an increase of 1.72 per cent over the production of 2008-09. Cotton Advisory Board (CAB) has projected the production of cotton during 2009-10 at 295 lakh bales as against the production of 290 lakh bales achieved in 2008-09. Since 2009-10 also witnessed an area increase of 7.93 per cent over last year, the 1.72 per cent increase in production projected for 2009-10 would mean that the increase in area could not be fully realized into increased production. This has also brought down the average productivity during 2009-10 to 495 kg/ha compared to the average yield of 524 kg/ha achieved during 2008-09. Weather and rainfall pattern were not congenial during 2009-10 crop season. Overall sowing in many states was delayed by one month. States like Maharashtra, Andhra Pradesh and Karnataka experienced both drought and flood causing damage to cotton crop. The State-wise production estimates are given in the Table 2.25.

Table 2.25: State-wise Production of Cotton

(in lakh bales of 170 kg)

State	2008-09	2009-10 (P)
Punjab	17.50	16.00
Haryana	14.00	13.00
Rajasthan	07.50	10.00
Northern Zone	**39.00**	**39.00**
Gujarat	90.00	95.00
Maharashtra	62.00	67.00
Madhya Pradesh	18.00	18.00
Central Zone	**170.00**	**180.00**
Andhra Pradesh	53.00	48.00
Karnataka	09.00	09.00
Tamil Nadu	05.00	05.00
Southern Zone	**67.00**	**62.00**
Other States	02.00	02.00
Loose cotton	12.00	12.00
Total (All India)	290.00	295.00

Source: Office of the Textile Commissioner, Mumbai
(P) Estimated by CAB as on 18.12.2009

2.105 One long-standing issue regarding cotton statistics is the huge variation in the production statistics brought out by the Department of Agriculture and Cooperation and the Cotton Advisory Board. For 2009-10, the difference is about 65 lakh bales as can be seen from the Table 2.26:

Table 2.26 : Zone-wise Estimation of Cotton Production by Directorate of Economics and Statistics (DES) and CAB during 2009-10

(in lakh bales)

Zone	Production estimates by DES (provisional)	Production estimates by CAB (provisional)
North Zone	48.36	39.00
Central Zone	140.93	180.00
South Zone	39.00	62.00
Other states	1.75	2.00
Loose production	-	12.00
Total	230.04	295.00

Source: Directorate of Cotton Development and Office of the Textile Commissioner

2.106 The production data brought out by the Industry is based on market arrivals and that of Department of Agriculture and Cooperation is based on crop cutting experiments. Considering the importance of the crop, both domestically and internationally, it is in the interest of various stakeholders of the sector that the differences are resolved. As recommended in earlier reports, it is reiterated that there is an urgent need for expeditiously resolving the discrepancies in the production data brought out by the Industry and by the Ministry of Agriculture.

2.107 One issue which came up during discussions with stakeholders is the almost stagnating domestic mill consumption of cotton, at about 240 lakh bales, due to lack of absorptive capacity of the mills. This is preventing export of yarn and textiles which fetch higher prices in the international market. Export of raw cotton is benefiting other countries like China, which export value added cotton products from the raw cotton imported from India. Commission is of the view that value addition needs to be encouraged in the processing of cotton which will immensely benefit the domestic cotton and textile sector. **Ministry of Textiles should look into the limitations in the capacity expansion of the domestic textile mills with a view to increasing the export of value added cotton products like yarn, fabrics and textiles.**

2.108 A section of representatives of the trade indicated to the Commission the low priority being given by the Government towards promoting the by-products of cotton. For example, cottonseed, other than the lint, has large number of uses like production of cottonseed oil; production of propellants used for gun ammunition, manufacture of paper, tissue papers etc from cotton linters and production of cattle feed from cotton hulls. The by-product industry reportedly suffers from faulty processing, traditional crushing techniques, lack of extension education etc and hence only less than 5 per cent of the cottonseed is processed scientifically. The Commission reiterates its earlier recommendation that **Ministry of Textiles may look into the grievance of the Cotton Industry regarding low priority being given to by-products of cotton, which suffer from faulty processing, traditional crushing techniques, lack of extension education etc. and may take appropriate remedial measures, either through a new scheme or through the existing Technology Mission on Cotton.**

2.109 It was brought to the notice of the Commission that labour cost for picking operations forms the single largest component of cost in the cultivation of cotton. While other major cotton producing countries make use of mechanical devices for picking operations, in India it is still carried out manually. Research needs to be strengthened to develop mechanical pickers for cotton farmers, especially since there are increasing complaints of non-availability of labourers and increasing labour costs.

2.110 The cotton year 2008-09 was characterized by low demand, both for domestic consumption and for exports. Industry got impacted by the slow down in the domestic economic growth and by the global economic slow down. High domestic market prices also adversely affected the industry and the exporters. Hence 2008-09 witnessed a reduction in the total demand by about 18 per cent compared to the previous year and a very high closing stock of 71.50 lakh bales. With signs of improvement in the global economy, the demand for raw cotton and for finished products like yarn, fabrics and garments, both domestically and internationally, is expected to improve in 2009-10. It is reported that even at the high existing prices of cotton, Indian cotton prices are cheaper compared to global prices and hence the demand for Indian cotton, both within the country and abroad is likely

to stay during the coming months. However, even with a higher demand, supply-demand balance during 2009-10 will be comfortable and the year will end up with a closing stock of 68.50 lakh bales of cotton. The cotton balance sheet for 2009-10 is given in the Table 2.27.

Table 2.27: Cotton Balance Sheet

(in lakh bales of 170 kg)

Items	2007-08	2008-09	2009-10 (Prov.)
Supply			
Opening Stock	47.50	35.50	71.50
Crop	307.00	290.00	295.00
Imports	06.38	10.00	7.00
Total Supply	360.88	335.00	373.50
Demand			
Mill Consumption	195.67	190.00	207.00
SSI consumption	22.08	20.00	23.00
Non-mill Consumption	19.13	19.00	20.00
Exports	88.50	35.00	55.00
Total Demand	325.38	264.00	305.00
Closing Stock	35.50	71.50	68.50

Source: CAB, Ministry of Textiles, Mumbai. (as on 18.12.09)

2.111 Despite a good crop during cotton season 2008-09 and a bumper crop during the previous season, the domestic cotton prices remained high during 2008-09. The industry attributed the above to the steep hike in the support prices announced by the Government. The current cotton season, 2009-10 started with domestic prices lower than the corresponding opening prices of 2008-09, except in case of DCH-32. However, from the last week of October, 2009, the prices have been increasing steadily. The domestic prices, in the current season, are moving in tandem with international prices. The prices are expected to remain firm in the coming months in view of the lower global production and economic recovery in various countries during 2009-10. The movement of prices during 2009-10 cotton season is indicated in the Table 2.28.

Table 2.28: Market Prices of Lint during 2008-09 and 2009-10

(in Rs per candy)

Date/ month	J-34		H-4		S-6		DCH-32	
	2008-09	2009-10	2008-09	2009-10	2008-09	2009-10	2008-09	2009-10
1.10	23500	21700	26000	21600	26000	22700	32000	32900
31.10	21600	24400	22000	21900	22300	23800	31500	32900
27.11	19700	26000	21500	25100	21600	26000	30000	43000
31.12	20500	24500	21000	26000	21500	27300	28000	40500
31.01	21000	-	20900	-	21300	-	28000	-
27.02	20000	-	19900	-	20400	-	26500	-
31.03	21600	-	21100	-	22100	-	32100	-
29.04	22400	-	21000	-	22700	-	32000	-
30.05	23000	-	21800	-	23200	-	32200	-
30.06	23200	-	21900	-	23200	-	32400	-
31.07	23100	-	22500	-	23600	-	33100	-
31.08	22700	-	22200	-	23300	-	33100	-
30.09	21200	-	21600	-	22400	-	32900	-

Source: Cotton Corporation of India; 1 candy= 3.5562 quintals

2.112 For the cotton season, 2009-10, the Government of India has retained the same MSPs as were fixed for cotton season 2008-09, viz. Rs.2500 per quintal for medium staple length cotton having staple length of 24.5 to 25.5 mm with micronnaire value of 4.3 to 5.1 and Rs.3000 per quintal for long staple length cotton having staple length of 29.5 to 30.5 mm with micronnaire value of 3.5 to 4.3. At the start of the current cotton season, the kapas prices had started ruling at MSP level in the states of Punjab, Haryana, Rajasthan, Maharashtra and Andhra Pradesh. From the first week of November 2009, the kapas prices started ruling above the MSP in most of cotton growing areas except Andhra Pradesh and partly in Karnataka. The same trend continues presently. The procurement status as on 25.01.2010 (commercial and support price) is indicated in the Table 2.29.

Table 2.29: Procurement by CCI during Cotton Season 2009-10(as on 25.01.10)

(in lakh bales of 170 kg)

State	Purchases by CCI	
	2008-09	2009-10
Punjab	10.45	0.96
Haryana	2.59	0.32
Rajasthan	1.55	0.26
Gujarat	12.36	0.12
Maharashtra	19.97	0.48
Madhya Pradesh	7.37	0.02
Andhra Pradesh	32.76	2.17
Karnataka	1.63	0.04
Others	0.72	0.12
Total	89.40	4.49

Source: Cotton Corporation of India

2.113 Due to global economic slow down, the world cotton prices remained subdued during 2008-09 and averaged at 61 US cents per lb, as compared to the average price of 73 US cents per lb registered during 2007-08, a decline of about 16 per cent over 2007-08 prices. (as measured by Cotlook A index). The year 2008-09 started with high price at 78.04 US cents/lb which was higher than the average of 2007-08, but the prices started declining thereafter and till the second week of March 2009, the prices declined by about 30 cents/lb to reach a level of 50.15 US cents/lb. The price expectations for 2009-10 are brighter, in view of the expected recovery of the world economy. Since September 2009, the Cotlook index has shown steady increase to reach a level of 77.62 US cents/lb in January 2010. Taking into account the above factors, the International Cotton Advisory Committee (ICAC) in November 2009 had projected Cotlook A index to average 67 US cents/lb during 2009-10. However, the actual realisation would depend upon the health of major economies as well as on the consumption pattern of cotton and other fibres by the major cotton consuming countries.

Table 2.30: International Reference Prices of Cotton (in US cents per lb)

Month	Cotlook A index 2008-09	Cotlook A index 2009-10
August	78.04	64.14
September	73.59	63.99
October	62.30	66.82
November	54.96	71.78
December	55.47	76.78
January	57.71	77.62
February	55.21	
March	51.50	
April	56.78	
May	61.95	
June	61.39	
July	64.80	
Year Average	61.14	70.19*

Source: Cotton Corporation of India, Mumbai; *(the year average upto 27.1.10).

2.114 As per the latest estimates by International Cotton Advisory Committee (ICAC), the global cotton production during 2009-10 is estimated at 22.20 million tonnes, a decline of about 5.1 per cent from the level of 23.40 million tonnes achieved during 2008-09. While production is expected to decline in countries like China, Brazil, Turkey and Mexico, countries like India, USA, Pakistan and Australia are expected to increase their production during 2009-10 compared to the previous year. Global demand for cotton and cotton products declined during 2008-09, due to global economic crisis. However, due to the expected recovery during 2009-10, the world mill consumption is projected to increase by 2 4 per cent to 23.80 million tonnes. The demand increase is expected to be driven mainly by Asian countries like China, India and Pakistan. World trade in cotton is also expected to rise during 2009-10 due to the envisaged decline in the production of cotton by China. For 2010-11 season, the ICAC projections are still better with production and consumption showing further increase by 9 per cent and 2 per cent respectively over 2009-10 levels. This is in tandem with the forecasts by various international institutions like IMF, UNCTAD, OECD etc which indicate further recovery in world GDP during 2010 and 2011. The world cotton balance sheet as released by ICAC on January 4, 2010 is given in the Table 2.31.

Table 2.31: World Demand & Supply of Cotton

(Quantity in million tonnes)

Year beginning August	2008-09	2009-10	2010-11
World Cotton Production	23.40	22.20	24.10
World Cotton Consumption	23.24	23.80	24.20
World Cotton Exports	6.56	7.10	6.90
World Ending Stocks	12.34	10.75	10.75

(As per ICAC release dated January 4, 2010)

VFC (Virginia Flue Cured) Tobacco

2.115 Tobacco is an important agricultural cash crop in India from the point of view of employment creation and as a major foreign exchange earner. The sector faces challenges in view of the concerted efforts by Government and by various international organizations to reduce tobacco supply and demand considering the serious adverse health impacts from consumption of tobacco. India is a signatory to the WHO-Framework Convention for Tobacco Control (FCTC), aimed at reducing tobacco supply besides taking measures for reduction in demand.

2.116 Five countries viz. China, Brazil, India, USA and Turkey dominate the production of tobacco globally, accounting for about two-thirds of the world production. India occupies first position in the production of tobacco and twelfth position in the production of cigarettes. In India, the producers of the crop are the states of Andhra Pradesh, Karnataka, Maharashtra, Orissa, Bihar, Uttar Pradesh, West Bengal, Tamil Nadu and Gujarat. The Virginia Flue Cured (VFC) tobacco is the most prominent among the different kinds of tobacco cultivated in the country. Tobacco cultivation in the country continues to show resilience even in the face of challenges. The trends in area, production and yield of VFC tobacco indicated in the Table 2.32 explain the above phenomenon.

Table 2.32: Area, Production and Yield of VFC Tobacco

Year	Area in ha.	Marketed Produce (million kg)	Average Yield (kg/ha)	Unauthorised Production (million kg)
2005-06	191222	228.27	1194	29.01
2006-07	205050	269.00	1311	36.61
2007-08	212455	253.00	1191	22.59
2008-09	231185	318.00	1376	62.47
2009-10	233411	325.00 *	1392	-

Source: Tobacco Board, * Estimated

2.117 Consistent area increase needs to be analysed in the context of the various measures being taken by the Government to discourage production and consumption of tobacco. Measures include total ban on direct and indirect advertisements of all tobacco products, prohibition on sponsorship of sports and cultural events which encourage tobacco use, ban on smoking in public places, ban on sale of tobacco products to minors, ban on sale of cigarettes and tobacco products within a radius of 100 yards of educational institutions, mandatory pictorial depiction of warnings and provision of specified health warnings on the cigarette packets, propagation of alternate cropping system for tobacco cultivators etc. Certain special characteristics of tobacco cultivation like short duration, drought tolerance, fewer incidences of pests and diseases and high profitability and continued firm demand for cigarettes still make the crop an attractive proposition for cultivators.

2.118 On the demand side, India is the second largest consumer of tobacco in the world. India is considered to be demographically active in view of its predominant young population. This together with rising incomes, low aversion to smoking, and low per capita cigarette consumption compared to global average indicate a scenario of growth of tobacco consumption in the coming years. It is forecasted that cigarette market in India will grow over 2 per cent by 2013 provided there are no major changes in taxation rates (source: Tobacco Board).

The supply and demand position of VFC tobacco is shown in the Table 2.33.

Table 2.33: VFC Tobacco – Balance Sheet

(Qty: million kg)

Year	Opening stock	Production	Wastage and farm retention	Domestic consumption	Net exports	Carry-over stocks
2005-06	84.60	228.27	45.65	75.00	109.57	82.65
2006-07	82.65	269.00	53.80	82.00	120.30	95.55
2007-08	92.55	253.00	50.60	83.00	137.78	77.12
2008-09	77.12	318.00	63.60	82.00	151.04	98.48
2009-10(E)	98.48	325.00	65.00	85.00	175.00	98.48

Source: Tobacco Board; E- estimated

2.119 The demand and supply position has been comfortable. Domestic consumption and exports during 2009-10 are expected to be at higher levels compared to 2008-09. The year is expected to close with a surplus stock of 98.48 million kg. similar to that of last year.

2.120 World flue-cured leaf tobacco production in 2009 is estimated at 4305 million kg, an increase by 3 per cent over 2008 production. The global demand for cigarettes is expected to increase in the coming years. During 2003-08, the cigarette consumption by world population increased by about 7 per cent and it is forecasted that the world smoking population will increase by 1.6 per cent during 2008-13. (Source: Tobacco Board).

2.121 Cost of production of VFC tobacco has been increasing due to increase in the fuel, fertiliser, labour costs etc. However, the market prices have been ruling quite high.

2.122 Government has not been announcing the MSP for tobacco during the last two years, 2008-09 and 2009-10. Department of Commerce in their reply to Commission's query has indicated that "the MSP for VFC tobacco may be fixed at reasonable level in the light of its increased cost of cultivation and to safeguard the interest of the farmers against exploitation by the trade due to market glut situations".

Government may need to announce the MSP every season, since it gives a psychological comfort to the cultivators, though the market has been quite vibrant during the last few years with market prices averaging much above the MSP announced.

2.123 The Commission, in the last year's report, had indicated the discrepancy in the cost of cultivation data provided by the Directorate of Economics and Statistics, Ministry of Agriculture and the data received from the Tobacco Board. DES collects the data from the Directorate of Tobacco Development and Tobacco Board from the Central Tobacco Research Institute (CTRI). Also Directorate of Tobacco Development data covers only Andhra Pradesh, while Karnataka is also a major tobacco growing state. The issue was raised during the recent consultation meeting also. Commission reiterates its earlier recommendation that **DES and Tobacco Board need to sort out the discrepancy in the cost of cultivation data collected by Directorate of Tobacco Development and Central Tobacco Research Institute and consider extension of coverage for collection of cost of cultivation data to Karnataka also.**

III. MOVEMENT OF INPUT PRICES, COST OF PRODUCTION, TERMS OF TRADE AND INTER CROP PRICE PARITY

3.1 The Commission set to examine the estimates of cost of cultivation/production generated under the Comprehensive Scheme state-wise for each crop in order to prepare the cost projections for the kharif season 2010-11, based on the profiles of information received from State Governments, Office of Economic Adviser, Ministry of Commerce and Industry, Labour Bureau, Shimla, Fertilizer Association of India, etc. To have an appreciation of the broad spectrum of the problems in the agriculture sector, the Commission visited the states of Orissa, Maharashtra and Karnataka and held meetings on 17th -18th February, 2010 in Delhi with State Government officials, farmers' representatives and other stakeholders. Most of the farmers put forward the view that the cost of cultivation/production has gone up due to increase in the prices of several inputs, especially that of human labour. They also highlighted about non availability of farm labour during peak period of agricultural operations, because of shift to the work provided under Mahatma Gandhi National Rural Employment Guarantee Scheme. Majority of the farmers' held that there was a need for evolving a mechanism by which the farm labourers working under Mahatma Gandhi National Rural Employment Guarantee Scheme could be put to agricultural work so that agriculture does not run short of labour supply. One of the significant suggestions was that since Mahatma Gandhi National Rural Employment Guarantee Scheme is a rural employment programme providing at least 100 days of assured employment during the year, it could be restructured in order to accommodate the farm labour during the lean period of agricultural season and free them for demands of agricultural work during its peak period.

3.2 There was a demand from farmers' association that the budget for agriculture had to be stepped up given its allocation as percentage of gross domestic product having been on the decline over the years since 1990's. Inadequate procurement facilities in most of the states, especially in the eastern states of the country came in for focused discussion. This according to them led to farmers resorting to distress sale of their produce. Given the constraints of labour supply for farming activities in the countryside, greater use of farm machinery suited to Indian farming conditions was also discussed. The crop insurance scheme, it was pointed out, did not find

favour with majority of the farmers because it was not farmer friendly. This was on account of the farmers not being indemnified for their loss unless it was yield loss for the block/tehsil as a whole. Majority of farmers expressed the view that the crop insurance scheme would benefit them to a great extent if the unit of indemnity for yield loss was disaggregated further down to the village/panchayat level. The issue of fertilizer scarcity was also raised.

3.3 The cost of cultivation/production remains the major factor in the determination of Minimum Support Price for several agricultural commodities. The Commission therefore with the help of cost of cultivation estimates received from the Directorate of Economics and Statistics, Department of Agriculture and Cooperation built up cost projections crop-wise and state-wise for the year 2010-11. In order to construct crop specific cost projections, the Commission tracked the movement of cost of different inputs and in turn likely overall escalation in C_2 cost, based on detailed information from State Governments and other sources.

3.4 Since the submission of last kharif report there has been an upward movement in the level of input prices. During the period January, 2009 to January, 2010, the prices of all agricultural inputs have registered an increase excepting fertilizer which has shown a decline by (-) 3.92 percent. It is mentioned here that the Government of India has announced 10 percent hike in urea price from 1st April, 2010, besides that the retail prices of other subsidized fertilizers at farmgate level will be decided by the Companies. Two major inputs that have recorded increase in price during the period January, 2009 to January, 2010 are fodder and diesel oil: fodder has recorded increase by 27.77 percent, and diesel oil (LDO) by 21.20 percent. Pesticides have also recorded a substantial increase by 18.03 percent during the same period.

3.5 The Statutory Minimum Wages for agricultural labourers have been revised upwards in the states of Haryana, Karnataka, Punjab, Bihar, Kerala and Uttar Pradesh. On analysis of month-wise average daily wage rates for agricultural labour, it is observed that between January 2009 and January 2010, Bihar has recorded the highest increase of 29.95 percent followed by 28.17 percent for Andhra Pradesh, 27.97 percent for Haryana, 25.49 percent for Orissa. These states have

shown an increase in average daily wage rate during January 2009 to January 2010 within a range of 25 to 30 percent. The lowest increase in wage rate of 4.89 percent is reported in Gujarat. The other states like Assam, Karnataka, Kerala, Madhya Pradesh, Maharashtra, Punjab, Rajasthan, Tamil Nadu, Uttar Pradesh, West Bengal have registered increase in wage rate between 13 and 20 percent. The daily wage rate on an average for agricultural labour is about Rs.136 for Andhra Pradesh, Rs.259 for Kerala, Rs.143 for Punjab, Rs.171 for Haryana and the remaining states have their daily wage rates for agricultural labour reported around Rs.90 to 100 and Madhya Pradesh is the lowest wage rate state for agricultural labour that receives only Rs.70. In recent years, the trends of increase in agricultural wage-rate have gained momentum so much so that it has touched more than Rs.100 for different kinds of agricultural operations.

Paddy

3.6 The Directorate of Economics & Statistics has provided estimates of cost of cultivation/production of paddy for the year 2007-08 in respect of Andhra Pradesh, Assam, Bihar, Chhattisgarh, Gujarat, Haryana, Himachal Pradesh, Jharkhand, Karnataka, Kerala, Madhya Pradesh, Maharashtra, Orissa, Punjab, Tamil Nadu, Uttar Pradesh, Uttarakhand and West Bengal. The details of the latest available estimates of paddy and those pertaining to the previous year of 2006-07 are presented in Table 3(A). There has been upward movement in C_2 cost of production per quintal in majority of the paddy growing states during the year 2007-08, compared to that in the preceding year. There has been an upward movement in the per quintal cost of production in 2007-08 as against 2006-07 for the states of Andhra Pradesh, Chhattisgarh, Gujarat, Haryana, Himachal Pradesh, Jharkhand, Karnataka, Kerala, Madhya Pradesh, Orissa, Punjab, Tamil Nadu, Uttarakhand and West Bengal. The per quintal cost of production in these states has gone up mostly either due to decline in yield or to increase in paid up cost borne by the farmers. In the category of paid up cost, the input that has shown substantial increase in cost is human labour. In the states of Andhra Pradesh, Chhattisgarh, Gujarat, Karnataka, Kerala, Orissa, Punjab, the rise in per quintal cost of production is accompanied by the increase in yield. This results from increase in paid up cost, especially the cost on account of human labour. The yield increase is negative at 13.28 percent for Himachal Pradesh that has shown

increase in per quintal cost by 30.91 percent, at 10.33 percent for Jharkhand showing an increase in per quintal cost by 9.83 percent, at 5.24 percent for Madhya Pradesh with an increase in per quintal cost by 12.75 percent, at 2.82 percent for Tamil Nadu with increase in per quintal cost by 9.85 percent, at 12.41 percent for Uttarakhand recording increase in per quintal cost by 4.41 percent, at 0.92 percent for West Bengal showing an increase in per quintal cost by 6.92 percent. The per hectare paid up cost of production for the paddy growing states for the year 2007-08 is as low as Rs.10192.18 for Bihar with the yield of 29 quintals per hectare and is as high as Rs.27148.18 for Tamil Nadu with yield level of 49.36 quintals per hectare. The elaborate details of disaggregated data on cost of cultivation/production of paddy for the year 2007-08 and for the preceding years are given in Tables 3.3 and 3.4.

[Tables 3(A), 3.3 & 3.4]

3.7 The Commission has arrived at the likely levels of cost of production of paddy in different states for the ensuing season 2010-11, on the basis of the cost of production/cultivation data available for the year 2007-08. In order to make the projections consistent and as comprehensively accurate as possible, each of the latest 3 years data pertaining to each state is projected and their projected averages are taken. To carry out the projection exercise, state specific composite variable input price index for each crop has been constructed to capture the movement of input prices between the base year and the year of projection (2010-11). Lastly, the all India weighted average cost is computed with weights being the shares of production of each state in the total production of the crop growing states.

(Table 3.5)

3.8 In accordance with the aforesaid methodology, the projected per quintal paid out cost of production of paddy plus imputed cost of family labour (A_2+FL) for 2010-11 works out to an average of Rs.535.84 for Andhra Pradesh, Rs.672.52 for Assam, Rs.510.67 for Bihar, Rs.442.92 for Chhattisgarh, Rs.458.17 for Gujarat, Rs.509.00 for Haryana, Rs.695.05 for Himachal Pradesh, Rs.678.03 for Jharkhand, Rs.476.79 for Karnataka, Rs.864.67 for Kerala, Rs.645.63 for Madhya Pradesh, Rs.898.62 for Maharashtra, Rs.534.04 for Orissa, Rs.349.40 for Punjab, Rs.622.32 for Tamil Nadu, Rs.592.55 for Uttar Pradesh, Rs.485.04 for Uttarakhand and Rs.602.86 for West Bengal. As against this, the projected C_2 cost of production stands at Rs. 746.24 for

Andhra Pradesh, Rs. 843.17 for Assam, Rs. 655.79 for Bihar, Rs.636.45 for Chhattisgarh, Rs.585.21 for Gujarat, Rs.761.64 for Haryana, Rs.945.02 for Himachal Pradesh, Rs.856.39 for Jharkhand, Rs.644.77 for Karnataka, Rs. 1093.45 for Kerala, Rs. 856.05 for Madhya Pradesh, Rs.1067.82 for Maharashtra, Rs 748.44 for Orissa, Rs.565.60 for Punjab, Rs.812.25 for Tamil Nadu, Rs.775.85 for Uttar Pradesh, Rs.662.99 for Uttarakhand, Rs.778.30 for West Bengal. The weighted average cost of production of paddy for all these states works out to Rs.550.78 on A_2+FL basis and Rs.742.43 on C_2 basis. [Table 3(G)]

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3.9 Of all the paddy growing states, Madhya Pradesh has the estimated yield level at 15.87 quintals per hectare that remains the lowest. In parallel to this, Himachal Pradesh has the estimated yield level of 15.90 quintals per hectare. These two states have more or less the same estimated per quintal cost of production with a difference being higher on the side of Himachal Pradesh by about Rs.89 per quintal due to the prevailing low wage rate in Madhya Pradesh. The state reporting the lowest per quintal cost of production has invariably been Punjab for which C_2 cost is estimated at Rs.565.60 per quintal with the maximum yield of 64.08 quintals per hectare. Andhra Pradesh ranks second in yield performance at 52.14 quintals per hectare with an estimated cost of production at Rs.746.24 per quintal, compared to which Haryana with a slightly lower yield of 50.79 quintals per hectare has a little higher estimated cost of production at Rs.761.64 per quintal. From the perspective of the level of cost of production, Kerala has the highest cost at Rs.1093.45 per quintal even with a moderately comfortable yield performance at 36.52 quintals per hectare that remains way above that of many states like Madhya Pradesh, Maharashtra, Orissa, Uttar Pradesh, Uttarakhand, Assam, Bihar, Chhattisgarh, Gujarat, Himachal Pradesh, Jharkhand, etc. This is attributed to the fact that the agricultural wage rate is the highest in Kerala. [Table 3(J)]

3.10 The Commission also receives cost of cultivation estimates from various state governments. These are examined in detail in the Commission and compared with the corresponding CS data and also with the projected costs of production of various crops for the ensuing kharif season. Although these estimates are not strictly comparable with the CS estimates because of certain conceptual and methodological differences, the comparison exercise serves the useful purpose of

cross-validation of the cost data. In some cases these state estimates pertain to more recent years and information therein is used for the purpose of projections.

3.11 Andhra Pradesh, Maharashtra, Uttar Pradesh, Uttarakhand have furnished cost of production figures in their respective state replies for the year 2007-08 and for the succeeding years. For the sake of comparison between the cost of production figures furnished in the state replies and in the Comprehensive Scheme estimates, a little adjustment has been made to make two sets of figures comparable. Andhra Pradesh has reported the cost of production for paddy at Rs.921.00 per quintal for the year 2007-08 in its reply as against Rs.638.56 per quintal in the CS estimates. The difference in the levels of cost of production estimate for the state of Andhra Pradesh in the two sets of data is a consequence of comparatively lower yield level reported in the state reply and relatively higher yield level reported in the CS estimates. Uttar Pradesh in the state reply has the cost of production at Rs.817.00 per quintal for paddy as against Rs.600.73 per quintal in the CS estimates. The reason for the difference is the lower yield level reported in the state reply than in the CS estimates. In the case of Maharashtra the yield levels in both the data sets are closely comparable in that state reply shows 29.40 quintals per hectare vis-à-vis 30.60 quintals per hectare in the CS estimates. However, for Maharashtra, per quintal cost of production shows considerable difference in the two sets of figures, with CS estimates reporting higher per quintal cost of production at Rs.894.01 per quintal than Rs.658.00 per quintal given in state reply. This difference in cost of production per quintal in the two sets of figures is largely a result of higher per hectare cost of cultivation reported in the CS estimates despite close parallel in yield performance in the two sets of data related to Maharashtra. Uttarakhand presents a scenario where the levels of yield, per hectare cost of cultivation show sharp contrast in the two data sets in a way that gives cost of production figures close to each other. The state reply of Uttarakhand has put the cost of production figures for the year 2007-08 at Rs.500.00 per quintal, compared to the CS estimates of Rs.527.66 per quintal. The yield levels are 29.92 quintals per hectare in the state reply and 35.00 quintals per hectare in the CS estimates, for Uttrakhand. Similarly, per hectare cost of cultivation in the state reply stands at Rs.26149.00 per hectare and at Rs.22301.17 per hectare in the CS estimates in respect of Uttar Pradesh.

[(Table 3(H)]

3.12 The projected costs of production of paddy for the year 2010-11 have been received from the states of Andhra Pradesh, Haryana, Orissa, Punjab, Uttarakhand, Maharashtra and West Bengal. Per quintal cost of production estimate as made by the state of Andhra Pradesh stands at Rs.1098 which is higher than Rs.746 projected by the Commission. The difference in level of projection for the year 2010-11, done separately by the Government of Andhra Pradesh and the Commission can be explained in terms of difference in yield levels being higher on the side of CS estimates. The Government of Andhra Pradesh has estimated the lower yield level of 45.00 quintals per hectare compared to 52.14 quintals per hectare in the CS estimates. The cost projections for Haryana are Rs.1025 per quintal in the state reply and Rs.762 per quintal done by CACP. And this is due to the difference in yield estimated lower in the state reply than in the CS estimates. Maharashtra presents a case of comparable per quintal cost of production estimates in the state reply and in CS estimates. These are Rs.1021 per quintal in the state reply as against Rs.1068 in the CACP projection. It is noteworthy to mention that the yield levels estimated in the state reply and in the CACP projection are close to each other i.e. around 29 to 31 quintals per hectare. The cost projections for Uttarakhand are not comparable due to non-availability of yield estimates for 2010-11 in the state reply. In the case of West Bengal, the projected costs of production estimated separately in the state reply and by CACP are more or less the same in view of the closeness of yield levels both in the state reply and CACP projection. The per quintal cost of production estimated in the state reply of West Bengal stands at Rs.750 as against Rs.778 in the CACP projections. [Table 3 (I)]

Coarse Cereals

3.13 Jowar, bajra, maize and ragi are the major kharif coarse cereal crops for which cost estimates are available under CS. For jowar, CS estimates of cost of cultivation/production are available for 2007-08 in respect of Andhra Pradesh, Karnataka, Madhya Pradesh, Maharashtra, Rajasthan and Tamil Nadu. It may be observed from Table 3(C) that between 2006-07 and 2007-08, the actual C_2 cost of cultivation per hectare for jowar is estimated to have increased in all the above jowar growing states excepting Rajasthan, where it has declined by about (-) 1.22 percent. Despite decline in per hectare cost of cultivation in Rajasthan there is increase in per

quintal cost of production by 25.20 percent in 2007-08 over the preceding year and this is due to the sharp decline in yield by (-) 20 percent. Madhya Pradesh, Karnataka, Maharashtra, Tamil Nadu have shown improvement in yield performance in the range of 19 to 34 percent, with states like Andhra Pradesh, Rajasthan experiencing decline in their respective yield levels. Cost of production has gone down in the year 2007-08 in jowar for the states of Madhya Pradesh and Tamil Nadu, accompanied by increase in the respective yield levels by 25.93 percent and 33.46 percent. For Bajra per quintal C_2 cost of Production has gone up for the year 2007-08 over the year 2006-07 by 2.68 percent for Gujarat, 1.68 percent for Uttar Pradesh, with percentage increase in their respective yield levels by 9.94 percent and 9.55 percent. Karnataka and Maharashtra are reported to have shown decline in levels of cost and increase in yield. [Table 3 (c)]

3.14 The maize crop has recorded increase in yield during the year 2007-08 for Andhra Pradesh by 22.42 percent, for Bihar by 8.78 percent, Gujarat by 347.58 percent, Himachal Pradesh by 4.32 percent, Karnataka by 8.71 percent, Madhya Pradesh by 80.66 percent, Rajasthan by 86.79 percent, Tamil Nadu by 10.28 percent, Uttar Pradesh by 5.00 percent. In the state of Andhra Pradesh, the increase in yield has not resulted in decline in C_2 cost due to substantial increase in per hectare cost of cultivation for the year 2007-08 vis-à-vis 2006-07. Similarly, Bihar, Himachal Pradesh and Uttar Pradesh represent the story of both increase in their respective yield levels and the overall cost of production as a result of substantial increase in their costs of cultivation per hectare. In respect of ragi, the per quintal cost of production has registered increase by 28.48 percent in 2007-08 as against the preceding year for the state of Karnataka and by 55.41 percent for the state of Maharashtra. This is due to decline in the respective yield levels by (-)18.78 percent and (-)21.78 percent respectively. Tamil Nadu has recorded decline in cost of production by (-)24.68 percent and this can be ascribed to the substantial jump in yield by 71.66 percent in 2007-08 over the previous year. [Table 3 (C)]

3.15 The cost estimates for jowar, bajra and maize have been made available from the states of Andhra Pradesh, Maharashtra, Uttar Pradesh, etc., for the years 2007-08 and 2008-09. The comparable estimates given in the state replies and under Comprehensive Scheme are for the year 2007-08 for the states of Andhra

Pradesh, Maharashtra and Uttar Pradesh. For jowar, the cost of production per quintal as reported in the state reply of Andhra Pradesh stands at Rs.941.00 as against Rs.1166.40 in the CS estimates for the year 2007-08. The difference in the per quintal cost of production in the two sets of data is largely a result of state reply of Andhra Pradesh having shown yield of 12.50 quintals per hectare compared to 10.55 quintals per hectare in the CS estimates. Maharashtra state reply has reported per quintal cost of production of Rs.561.00 for jowar, as against the relatively higher per quintal cost of Rs.748.90 in the CS estimates. The relatively lower per quintal cost of Rs.561.00 in the state reply of Maharashtra is due to higher yield of 18.16 quintals per hectare given in the state reply compared to 17.32 quintals per hectare given in the CS estimates. Compared to these two states of Andhra Pradesh and Maharashtra which have shown relatively lower cost of production in the state replies, Uttar Pradesh has recorded higher cost of production for jowar at Rs.765.00 per quintal in the state reply as against Rs.537.84 per quintal in the CS estimates. The considerable difference in the two data sets for the state of Uttar Pradesh arises out of difference in the reported yield levels, with state reply putting yield level at 9.69 quintals per hectare and CS estimates, at 22.36 quintals per hectare. For bajra, in regard to the state of Maharashtra, CS estimates have reported per quintal cost of production of Rs.646.00 as against Rs.742.88 in the state reply. The difference in the cost of production in the two data sources arises not essentially from difference in reported yield levels but from higher per hectare cost of cultivation in the CS estimates than in the state reply of Maharashtra. The state reply of Uttar Pradesh has reported per quintal cost of production for bajra at Rs.764.00 as against Rs.537.84 in the CS estimates. The higher cost of production reported in the state reply of Uttar Pradesh is due to comparatively low yield given in the state reply and relatively higher yield in the CS estimates. In regard to maize, state reply of Andhra Pradesh has furnished per quintal cost of production at Rs.881.00 vis-à-vis Rs.611.10 in the CS estimates. This difference in reported costs of production can be attributed to the difference in yield levels being higher on the side of CS estimates than that of state reply. Uttar Pradesh presents the same picture on cost of production and level of yield for maize for the year 2007-08 in the two sets of data.

3.16 As far as cost projections for coarse cereals for the comparative data sets for jowar is concerned, the projection for Andhra Pradesh made by CACP for 2010-

11 stands at Rs.1237 per quintal as against Rs.1165 per quintal given in the state reply. Maharashtra state reply has furnished the projections for jowar for 2010-11 at Rs.810 per quintal compared to Rs.862 per quintal projected by CACP. Haryana presents a case of comparable cost projections for the year 2010-11 for bajra, CACP projection being Rs.1076 per quintal and state reply projecting at Rs.1094 per quintal. For maize, CACP's projections for Andhra Pradesh for 2010-11 is put at Rs.781 per quintal as against Rs.994 per quintal in the state reply. This is due to the difference in the yield estimated higher in the CACP projection than in the state reply. [Tables 3(H) & 3(I)]

3.17 The projected cost of production (A_2+FL) for jowar for 2010-11 in respect of Andhra Pradesh, Karnataka, Madhya Pradesh, Maharashtra, Rajasthan and Tamil Nadu are Rs.944.16, Rs.925.45, Rs. 596.66, Rs.688.35, Rs.760.31 and Rs.878.56 per quintal respectively while the projected cost of production per quintal on C_2 basis for these states are Rs.1237.05, Rs.1169.64, Rs.810.12, Rs. 861.89, Rs. 995.06 and Rs. 1069.94 respectively. The weighted average A_2+FL and C_2 cost of production for jowar works out to Rs.760.85 and Rs. 965.00 per quintal respectively. The projected cost of production for bajra for the year 2010-11 for the states of Gujarat, Haryana, Karnataka, Maharashtra, Rajasthan and Uttar Pradesh on A_2+FL basis works out to Rs. 593.99, Rs.846.90, Rs.717.01, Rs.704.49 and Rs.507.82 and Rs.422.02 per quintal respectively, while the C_2 cost of production per quintal for these states are Rs. 717.73, Rs. 1075.83, Rs.879.47, Rs.883.04 and Rs.689.25 and Rs.689.19 respectively. The weighted average A_2+FL and C_2 costs of production of bajra for the year 2010-11 works out to Rs.578.80 and Rs.767.99 per quintal respectively. The A_2+FL projected cost of production of maize for the states of Andhra Pradesh, Bihar, Chhattisgarh, Gujarat, Himachal Pradesh, Jharkhand, Karnataka, Madhya Pradesh, Rajasthan, Tamil Nadu, Uttar Pradesh and Uttarakhand are Rs. 573.20, Rs.392.13, Rs.461.78, Rs.941.39, Rs.561.17, Rs.679.44, Rs.419.20, Rs881.56, Rs.938.33, Rs.491.75, Rs.693.20 and Rs.859.86 per quintal respectively, while the projected C_2 cost of production for these states works out to Rs. 780.96, Rs. 512.88, Rs. 625.20, Rs. 1094.48, Rs. 766.77, Rs.877.55, Rs. 566.41, Rs.1110.46, Rs.1130.53, Rs. 673.93, Rs.954.49, Rs.1121.17 per quintal respectively. The weighted average A_2+FL and C_2 costs of production of maize on the basis of these costs work out to

Rs. 604.18 and Rs.789.66 per quintal respectively. For ragi, projection has been carried out for Karnataka, Maharashtra and Tamil Nadu for 2010-11. The projected A_2+FL cost of production for ragi for Karnataka works out to Rs.831.93 per quintal, Rs.2063.81 per quintal for Maharashtra and Rs.739.17 per quintal for Tamil Nadu. The projected C_2 costs of production for 2010-11 for these states are Rs.1010.24 per quintal, Rs.2267.66 per quintal and Rs. 960.78 per quintal respectively. The weighted average cost of production of ragi works out to Rs.922.12 per quintal on A_2+FL basis and Rs. 1107.18 per quintal on C_2 basis respectively.

[Table 3(G)]

Pulses

3.18 The latest available estimates of cost of cultivation/production for 2007-08 for major kharif pulses of tur (arhar), moong and urad are presented in Table 3 (D). As can be seen from Table 3 (D), the cost of production per quintal for tur(arhar) is observed to have increased in 2007-08 by 13.96 percent for Andhra Pradesh and 7.11 percent for Uttar Pradesh. The increase in cost of production in these two states is also accompanied by the increase in yield by 12.75 percent for Andhra Pradesh and 1.82 percent for Uttar Pradesh. Despite the increase in yield levels of these two states, the cost of production has gone up relatively due to higher increase in their respective per hectare costs. For the year 2007-08, Bihar, Gujarat, Karnataka, Madhya Pradesh, Orissa and Tamil Nadu have demonstrably performed well in terms of their respective efficiency in cost of production and increase in yield levels. The cost of production for moong has plummeted in all the states due to increase in yield excepting the state of Karnataka where the decline in yield level by (-)7.84 percent has also not resulted in increase in per quintal cost of production due to decline per hectare cost of cultivation in 2007-08. One of the striking features of moong growing state of Karnataka is that it has the lowest yield rate of 2.35 quintals per hectare. Maharashtra and Chhattisgarh have shown improvement in yield performance for the year 2007-08 in respect of urad, with remaining states like Andhra Pradesh, Madhya Pradesh, Orissa, Rajasthan, Tamil Nadu and Uttar Pradesh showing substantial decline in yield within the range of (-) 5 to 45 percent.

[Table 3(D)]

3.19 For all the kharif pulses, the estimates of cost have been provided by the states of Andhra Pradesh, Maharashtra and Uttar Pradesh. The state reply of Andhra Pradesh has reported higher cost of production figure of Rs.2565 per quintal for tur(arhar) compared to Rs.2193 given in the CS estimates for the year 2007-08 due to lower yield of 6.10 quintals per hectare reported in the state reply and higher yield of 8.05 quintals per hectare in the CS estimates. The state of Madhya Pradesh has provided cost of production of Rs. 1650 per quintal for tur (arhar) for the year 2007-08, compared to which CS estimates provide Rs.1569.41 per quintal. These two cost figures for Madhya Pradesh look comparable given the yield estimates of 6.66 quintals per hectare in the state reply and 7.71 quintals per hectare in the CS estimates. In respect of Maharashtra CS estimates give Rs.1173.68 per quintal as cost of production and state reply, Rs.1570 per quintal. The wide variation in cost is largely because of difference in per hectare cost of cultivation given in the two data sets. Similar is the case of Uttar Pradesh where CS estimates give per quintal cost of production at Rs.1823.22 and state reply, at Rs.1412.00. This is due to difference in yield levels, with CS estimates giving 8.95 quintals per hectare and state reply, 10.04 quintals per hectare. For moong the state reply of Andhra Pradesh has put out the cost of production of Rs.2655 per quintal with yield level of 4.30 quintals per hectare, in contrast to which the CS estimates have given cost of production figure of Rs.1604.53 per quintal with the yield level of 7.69. For Maharashtra the cost of production for moong is higher on the side of CS estimates at Rs.2424.60 per quintal against which state reply furnishes the estimate of Rs.1856.00 per quintals. Andhra Pradesh has furnished the higher cost estimate of Rs.2754.00 per quintal for urad compared to Rs.1454.55 in the CS estimates. This variation is due to higher yield level given in the CS estimates at 8.99 quintals per hectare than given in the state reply at 4.60 quintals per hectare. In the case of Maharashtra, the cost of production given in the state reply is higher than that given in the CS estimates due to difference in the yield levels reported higher in the CS estimates. For Uttar Pradesh, the state reply provides the lower cost estimate of Rs.1872.00 per quintal than Rs.2304.17 per quintal in the CS estimates. The higher CS estimates is attributed to lower yield rate given in the CS estimates at 3.71 quintals per hectare and higher yield rate given in the state reply at 4.43 quintals per hectare. [Table 3(H)]

3.20 The projected per quintal cost of production (A_2+FL) of tur for the year 2010-11 averaged at Rs.1635.52 for Andhra Pradesh, Rs.1176.04 for Bihar, Rs.1177.03 for Gujarat, Rs. 1498.44 for Karnataka, Rs.1025.42 for Madhya Pradesh, Rs.1801.01 for Maharashtra, Rs.2227.23 for Orissa and Rs.1096.08 for Uttar Pradesh. The corresponding projected C_2 cost figures are put at Rs.2348.51, Rs.1878.06, Rs.1578.63, Rs.2002.58, Rs.1656.26, Rs.2194.89, Rs.3266.80 and Rs.1948.10 per quintal respectively. The weighted average cost for tur(arhar) for 2010-11 is projected at Rs.1693.06 and Rs. 2421.82 per quintal on A_2+FL and C_2 basis respectively. As regards moong cost A_2+FL is projected at Rs.2056.60, Rs.2409.14, Rs.3087.73, Rs.1991.13 and Rs.1976.24 per quintal for the states of Andhra Pradesh, Karnataka, Maharashtra, Orissa and Rajasthan respectively and the corresponding C_2 cost at Rs.2971.23, Rs.2975.79, Rs.3665.39, Rs.2804.64 and Rs.2729.26 per quintal respectively. The weighted average cost for moong for the year 2009-10 works out to Rs.2402.47 and Rs.3108.84 per quintal on A_2+FL and C_2 basis respectively. The A_2+FL cost for urad for the states of Andhra Pradesh, Chhattisgarh, Madhya Pradesh, Maharashtra, Orissa, Rajasthan, Tamil Nadu and Uttar Pradesh have been projected at Rs.857.77, Rs.1594.13, Rs.1896.45, Rs.2609.77, Rs.1645.18, Rs.1912.74, Rs.2270.57 and Rs1687.84. per quintal respectively. The corresponding C_2 costs of production for these states work out to Rs.1657.17, Rs.2238.55, Rs.2620.85, Rs.3180.26, Rs.2404.08, Rs.2566.15, Rs.3151.55 and Rs.2545.71 per quintal respectively, with all-India weighted average A_2+FL and C_2 cost for urad for the year 2010-11 being placed at Rs.1736.59 and Rs.2489.70 per quintal respectively. [Table 3(G)]

Oilseeds

3.21 The latest estimates of cost of cultivation/production for groundnut for the year 2007-08 have become available in respect of Andhra Pradesh, Gujarat, Karnataka, Maharashtra and Tamil Nadu. The C_2 cost of production per quintal of groundnut for 2007-08 is reported to have gone down over the previous year in all the states except in case of Tamil Nadu. The highest increase in cost of production of groundnut for the year 2007-08 is reported to have been observed for the state of Tamil Nadu and the increase is of the order 18.72 per cent. It is interesting to observe here that almost all the states have shown improvement in the performance

of their yield levels, i.e., all the states have shown increase in yield excepting Tamil Nadu. The CS estimates for soyabean have been received from the states of Chhattisgarh, Madhya Pradesh, Maharashtra and Rajasthan for the year 2007-08, with their respective costs of production either increasing or declining. The maximum decline in C_2 cost of production is noticed for the state of Maharashtra alongwith the increase in yield by 19.20 per cent. The states of Chhattisgarh and Rajasthan have recorded decline in yield by (-) 11.77 percent and (-) 11.75 percent respectively with their corresponding increase in cost of production by 25.69 percent and 28.53 percent respectively. The yield levels for soyabean in most of the states oscillate around 12 to 16 quintals per hectare. For sunflower C_2 cost of production has shown decline in the state of Karnataka due to increase in yield but also due to disproportionate decrease in per hectare cost of cultivation especially on account of fixed cost and human labour. Yield rates of the states of Andhra Pradesh and Maharashtra have shown a decline by (-) 16.42 percent and (-)3.99 percent respectively. Sesamum is observed to have per quintal cost of production at Rs.2900.60 in 2007-08, down from Rs.3793.81 in 2006-07 in Gujrat, thus showing percentage decline in cost by (-)23.54 percent. So is the case with Madhya Pradesh where the cost of production has gone down by (-)3.09 percent. The relative decline in cost of production of these two states of Gujarat and Madhya Pradesh is due to their respective increase in yield level. Rajasthan is reported to have improved its yield performance by 81.93 percent in the year 2007-08 thus resulting in decline in its cost of production by 24.38 percent. The yield performance of the states of Orissa, Tamil Nadu and West Bengal has moved into negative growth in the year 2007-08 in respect of sesamum. Two states are reported in CS estimates for the year 2007-08-Madhya Pradesh and Orissa. Both the states have shown improvement in their yield performance, with Madhya Pradesh showing growth of yield at 8.19 percent and Orissa, at 23.64 percent. In regard to Madhya Pradesh, it is seen that despite increase in yield for the year 2007-08, there has not taken place any decline in cost of production due mostly to the incommensurable increase in per hectare cost of cultivation by 21.73 percent mostly on account of fixed cost component. [Table 3 (E)]

3.22 The states of Andhra Pradesh, Maharashtra and Madhya Pradesh have provided their cost estimates for the year 2007-08 and succeeding years, against

which CS estimates are compared for critical assessment of the cost of production figures in different states. For groundnut Andhra Pradesh in its state reply has furnished the per quintal cost of production at Rs.2262.00 for the year 2007-08, against which Rs.2063.36 is given in the CS estimates. This variation in cost is attributable to higher yield level of 13.12 quintals per hectare in the CS estimates and lower yield level of 10.70 quintals per hectare in the state reply. Maharashtra's is a case of cost of production at Rs.1594.00 per quintal in the state reply and Rs.1801.98 per quintal in the CS estimates. The higher estimate of cost in the CS estimates is largely a result of higher yield level of 13.14 quintals per hectare in the CS estimates and lower yield level of 10.50 quintals per hectare in the state reply. For sunflower there is a greater contrast in cost of production figures in the sense that state reply gives Rs.1450.00 per quintal lower than that of Rs.2033.20 in the CS estimates. This anomalous difference in costs in two data sets results from the wider yield gap observed in both state reply and CS estimates. In regard to soyabean there is a difference in the cost of production data given in the two sources, with state reply showing Rs.1401 per quintal and CS estimates showing Rs.1159.79 per quintal in respect of Madhya Pradesh. This difference in cost can be partly explained in terms of difference in yield levels. The state reply of Maharashtra has given cost estimate of Rs.1173.00 per quintal as against Rs.1140.73 per quintal in the CS estimates. This difference arises in the difference in yield estimates, with CS estimates reporting 16.64 quintals per hectare and state reply, 11.37 quintals per hectare. CS estimates for Sesamum in respect of Madhya Pradesh has the cost at Rs.2296.09 per quintal higher than Rs.1800.00 per quintal given in the state reply. In regard to nigerseed, both the data sources more or less closely resemble in regard to cost of production per quintal for the state of Madhya Pradesh. State reply puts the cost at Rs.1700.00 per quintal and CS estimates, at Rs.1674.36 per quintal for Madhya Pradesh. [Table 3 (H)]

3.23 The estimated costs of kharif oilseeds for the latest three years ending 2007-08 have been projected for the ensuing crop season of 2010-11 and their weighted averages taken. Accordingly, the projected A_2+FL cost of production per quintal for groundnut averages at Rs.2071.73 per quintal for Andhra Pradesh, Rs.1323.68 for Gujarat, Rs.2019.29 for Karnataka, Rs.1929.61 for Maharashtra and Rs. 1484.38 for Tamil Nadu. The C_2 cost of production for these states work out to Rs.2721.54,

Rs.1711.16, Rs.2550.90, Rs.2369.79 and Rs.1909.45 per quintal respectively. The weighted average cost for groundnut works out to Rs.1627.50 per quintal on A_2+FL basis and Rs.2100.36 on C_2 basis. For soyabean, the projected A_2+FL cost works out to Rs.830.31, Rs.850.53, Rs.1161.36 and Rs.896.55 per quintal respectively for the states of Chhattisgarh, Madhya Pradesh, Maharashtra and Rajasthan while the C_2 cost works out to Rs.1148.97, Rs.1212.32, Rs.1453.11 and Rs.1140.67 per quintal respectively. The weighted average cost for soyabean works out to Rs.959.59 and Rs.1287.66 per quintal respectively on cost A_2+FL and C_2 basis. The costs for sunflower for 2010-11 for the states of Andhra Pradesh, Karnataka and Maharashtra are projected at Rs.1821.23, Rs.1669.86 and Rs.1732.04 per quintal on A_2+FL basis and Rs. 2444.28, Rs.2168.61 and Rs.2169.39 per quintal on C_2 basis. The weighted average unit cost of production for sunflower on C_2 basis is put at Rs.2257.49 per quintal for 2009-10 season. For sesamum, the average projected A_2+FL costs are Rs.2705.57, Rs.2032.29, Rs.2395.29, Rs.2517.14, Rs.2528.80 and Rs.1377.48 per quintal and the corresponding C_2 costs work out to Rs.3322.98, Rs. 3049.58, Rs.3143.80, Rs.3636.27, Rs.3100.70 and Rs.1833.91 per quintal for the states of Gujarat, Madhya Pradesh, Orissa, Rajasthan, Tamil Nadu and West Bengal respectively with the weighted average A_2+FL and C_2 cost at Rs.2098.47 and Rs. 2847.10 per quintal respectively. The C_2 costs of production of nigerseed in respect of Madhya Pradesh and Orissa have been projected to an average of Rs.1804.48 and Rs.2737.86 per quintal respectively. All India weighted average C_2 cost for nigerseed is projected at Rs.2263.92. [Table 3(G)]

Cotton (Kapas)

3.24 For cotton, the estimates of cost of cultivation/production for 2007-08 have been made available for the states of Andhra Pradesh, Gujarat, Haryana, Karnataka, Madhya Pradesh, Maharashtra, Punjab, Rajasthan and Tamil Nadu. As can be seen from the Table 3 (B) the C_2 cost of production has gone up for the year 2007-08 vis-à-vis the previous year for the state of Andhra Pradesh by 6.19 percent, Gujarat by 0.46 percent, Punjab by 12.05 percent, Rajasthan by 17.63 percent and Tamil Nadu by 13.92 percent. Only in the states of Punjab, Rajasthan and Tamil Nadu the cost of production has increased due to decline in yield in the respective states. As far as yield performance in cotton is concerned, Andhra Pradesh has recorded the highest

yield at 23.55 quintals per hectare in 2007-08, followed by Punjab at 21.08 quintals per hectare and Haryana at 18.09 quintals per hectare. Karnataka has experienced a sharp increase in yield by 30.70 percent in 2007-08 as against 2006-07.

[Tables 3 (B), 3.6 & 3.7]

3.25 Following the same methodology, the A_2+FL cost of cotton per quintal is projected for 2010-11 to an average of Rs.1786.97 for Andhra Pradesh, Rs. 1461.71 for Gujarat, Rs.1708.50 for Haryana, Rs.2106.72 for Karnataka, Rs.1774.25 for Madhya Pradesh, Rs. 2387.73 for Maharashtra, Rs.1479.29 for Punjab, Rs.1139.90 for Rajasthan and Rs.2473.41 for Tamil Nadu. The corresponding C_2 costs per quintal are projected at Rs.2411.86, Rs. 1933.65, Rs.2381.47, Rs.2658.29, Rs.2530.94, Rs.2813.01, Rs.2157.87 Rs.1562.05 and Rs.3069.37 per quintal respectively in these states. The weighted average cost of production of cotton for 2009-10 works out to Rs.1625.95 per quintal on A_2+FL basis and Rs.2128.59 per quintal on C_2 basis. [Table 3(B) &3(G)]

3.26 In addition, the estimates of cost of production of cotton for the year 2007-08 and the succeeding years have been provided by the states of Andhdra Pradesh, Haryana, Madhya Pradesh and Maharashtra. As regards Haryana, the C_2 cost of production for cotton is put at Rs.1965.00 per quintal in the state reply, which is higher than Rs.1875.80 per quintal in the CS estimates for the year 2007-08. Andhra Pradesh state reply has put C_2 cost of production at Rs.2862.00 per quintal as against Rs.1697.09 given in the CS estimates. This difference is due to higher yield level of 23.55 quintals per hectare in the CS estimates and lower yield of 11.50 quintals per hectare in the state reply. Madhya Pradesh in its state reply has the cost estimate of Rs.2375.00 per quintal against which CS estimates put the cost at Rs.2026.09 per quintal. This difference in cost is explained in terms of relatively higher yield level in CS estimates at 13.44 quintals per hectare and lower yield of 7.00 quintals per hectare in the state reply. Similar is the case of Maharashtra which has cost estimate of Rs.2334 per quintal in the state reply and Rs.2010.50 per quintal in the CS estimates. The cost difference arises from the difference in yield levels reported in the CS estimates and in the state reply.

3.27 As far as projected cost of production for 2010-11 for cotton is concerned, both the state replies and the CS estimates represent different per quintal cost of production figures due to difference in the reported yield levels. The state reply of Andhra Pradesh has reported the cost estimate at Rs.3308 per quintal as against Rs.2412 per quintal projected by CACP. Haryana, Maharashtra and Punjab have provided projected C_2 costs of cotton for 2010-11 at Rs.2193, Rs.2630 and Rs.2706, per quintal respectively compared to which the Commission's projections are Rs.2381, Rs.2813 and Rs.2158, for the corresponding states.

[(Tables 3(H) & 3(I)]

VFC (Virginia Flue Cured) Tobacco

3.28 The latest estimates of cost of cultivation/production for VFC tobacco have been made available by the Directorate of Economics & Statistics (DES), which pertains to Andhra Pradesh for the year 2007-08. Karnataka, the only other important VFC tobacco producing state, is not covered under the CS. The data presented in Table 3(F) show that both the cost of cultivation and unit cost of production between 2006-07 and 2007-08 has increased. The cost of production of tobacco in respect of Andhra Pradesh has been projected to an average of Rs.5241.17 and Rs. 6229.10 per quintal on cost A_2+FL and C_2 basis, respectively.

[Tables 3(G) 7 3(F)]

Terms of Trade

3.29 The Commission in its earlier reports made a reference to the deteriorating terms of trade between agriculture and non-agriculture sectors in recent years. The Index of Terms of Trade (ITT) with base triennium ending 1990-1991=100 stood at 105.6 in the year 1991-92 and deteriorated further until the year 1994-95 when it rose to 106.6. Since then it has dipped to around 101-103 excepting the years 1997-98 and 1998-99 – the years in which ITT recovered considerably well showing on an average 105. According to the figure released by the Directorate of Economics & Statistics, the index of terms of trade is provisionally fixed at 102.0 for the year 2006-07, up from 101.9 for the year 2005-06. This is corroborated by decline in input-output price parity index to 99.9 in 2006-07 from 102.7 in 2005-06. The drop of 2.8 basis points in input output price parity index during the period 2005-06 to 2006-07

shows that the input use efficiency has performed well relative to the value of output. (Appendix I & II)

Restructuring the cost of production

3.30 In spite of Government having given approval for including crop insurance premium paid by the farmers, marketing and transportation cost incurred by them, as part of input cost of production to arrive at the overall cost of production, a proper methodological approach to collecting data at farm holding level has not yet been formulated. However, the Directorate of Economics and Statistics has already initiated the ground work for redesigning the schedules of enquiry to capture such information and for changing the old FARMAP software to a more user friendly inclusive software. Until such time as would enable the Directorate to scientifically collect and disseminate the information on aforesaid inputs, the Commission would continue to rely on ad-hoc information being supplied by the state Governments in their replies. Based on available information received, an all India projected cost of production for kharif crops for 2010-11 has been derived and given in the Table 3(J). [Table 3(J)]

3.31 Most of the state governments have provided crop wise premium per hectare and this information proportionately reduced to premium per quintal based on crop wise yield levels of these states, is arrived at by the Commission. It is still admitted that this approach has been adopted in order to arrive at some view on the premium for each crop on per quintal basis. It is again noted that the data supplied by Agriculture Insurance Company of India Ltd. under National Agriculture Insurance Scheme throw up the actuarial premium rates for various crops and for various states. Wherever the information is lacking for certain crops in regard to premium the use has been made of the data provided by Agriculture Insurance Company of India together with the replies of the states. Table 3(J) gives an account of estimated cost of production for kharif crops for 2010-11 inclusive of marketing, transportation and crop premium at all India level. Based on the above exercise undertaken by the Commission, the table gives a broad view of what overall C_2 cost would look like for different crops after accounting for the charges of transportation, marketing and insurance premium. Since the figures as arrived at on these items are broad

aggregates both at the state and at the national level, these may contain a certain amount of deviation from if these would have been collected from the farmers like on other inputs and aggregated upwards to arrive at the state and national estimates.

3.32 While approving the Alagh Committee recommendations, the Government has indicated that the Commission would consider quality aspects of the produce in their price and non-price recommendations. In this regard, it may be noted that the Commission in its price policy reports normally takes into account quality and varietals aspects in respect of crops, such as paddy, jowar, soyabean, cotton, jute, sugarcane and tobacco. In the absence of any further details available in this respect, the Commission has continued to follow the earlier pattern of recommendations.

Table -3(J)

Estimated cost of production for Kharif Crops for 2010-11, inclusive of marketing/transportation and insurance premium (All India).

(In Rupees) per quintal

Crop	Projected C2 cost of Production (2010-11)	Estimated cost of Marketing	Estimated Cost of Transportation	Estimated Cost of Crop Premium	Modified Cost*
Paddy	742	3.5	10	9.59	766
Cotton	2129	3.5	10	110.18	2252
Jowar	965	3.5	10	16.82	995
Bajra	768	3.5	10	21.68	803
Maize	790	3.5	10	13.42	817
Ragi	1107	3.5	10	18.18	1139
Tur (Arhar)	2422	3.5	10	20.49	2456
Moong	3109	3.5	10	37.85	3160
Urad	2490	3.5	10	29.98	2533
Groundnut	2100	3.5	10	45.26	2159
Soyabean	1298	3.5	10	26.90	1338
Sunflower	2257	3.5	10	35.01	2306
Sesamum	2847	3.5	10	57.70	2918
Nigerseed	2264	3.5	10	8.73	2286
Tobacco	6229	3.5	10	NA	6243

*** Modified cost is projected cost inclusive of transportation, insurance premium and marketing charges.**

Inter-Crop Price Parity:

3.33 Minimum Support Price is one of the instruments to maintain inter-crop price parities in the sense that it helps in judicious allocation of area among different crops by farmers for the balanced development of agriculture in the country. Therefore, CACP takes care in its price policy recommendations to preserve inter-crop price parities. Towards this end, effort is made to see that the differences in MSPs across different crops have the same differences in their respective costs/returns. During the past one decade the prices of various agricultural commodities have registered movement at different rhythms. In the context of 8.5 percent increase in Wholesale Price Index (WPI) with the base year of 1993-94 during January, 2009-10, compared to the corresponding month of the preceding year, the foodgrains inflation is pegged at 17.9 percent, thus highlighting the extent to which the prices of foodgrains as a whole have considerably increased in the market. In tandem with foodgrains inflation, the WPI for rice for the month ending January, 2010 has gone up by 12.0 percent over the corresponding month of the previous year. Other foodgrain items that have recorded upward momentum in prices are jowar, bajra, ragi and maize: the rise in prices in WPI for the month ending January, 2010 over the corresponding month of the previous year was 15.4 percent for jowar, 31.6 percent for bajra, 11.4 percent for maize, 27.4 percent for ragi. The overall movement in prices for coarse cereals was in the range of 11 to 32 percent during this period. For the pulses as a whole, the price in terms of WPI was up by 45.62 percent during January, 2010 over the corresponding month of the previous year. The major contribution to inflationary expectations in pulses is from tur, moong and urad. Tur price went up by 77.14 percent in WPI during January, 2010 compared to corresponding month of the previous year, followed by moong (68.76 percent), urad (60.29 percent). Masoor (lentil) has recorded increase in price by 22.68 percent during January, 2010 as against the corresponding month of the previous year. Like foodgrains and pulses, the category of oilseeds has not recorded substantial increase in prices. In terms of WPI the price of oilseeds has increased by 10.05 percent during January, 2010, compared to the corresponding month of the previous year. Of the total oilseeds, groundnut, soyabean, sesamum seeds have recorded increase in prices by 14.21 percent, 22.3 percent, 24.24 percent respectively during the period January, 2009 to

January, 2010. Other oilseeds like rapeseed/mustard, sunflower seeds, nigerseed have either recorded decline or slight increase in prices during the same period.

3.34 There was considerable increase in minimum support prices for paddy, bajra, cotton, sunflower seed, soyabean in the last kharif season of 2009-10, in regard to their respective costs of production. The increase in MSP over cost of production was highest for paddy at 55 percent, followed by bajra at 27.65 percent, cotton at 18.40 percent, soyabean at 15.87 percent, sunflower seed at 15.68 percent. Compared to the previous year, the likely increase at all-India level in cost of production not adjusted for the charges of marketing, transportation and the crop premium, in the ensuing kharif year 2010-11 is of the order of 15.12 percent for paddy, 0.81 percent for cotton, 20.07 percent for jowar, 16.71 percent for bajra, 7.01 percent for maize, 28.63 percent for ragi, 10.23 percent for tur, 14.94 percent for moong, 10.30 percent for urad, 11.77 percent for groundnut, 7.34 percent for soyabean, 17.90 percent for sunflower. There has been marginal decline in estimated cost of production for sesamum and nigerseed, with sesamum showing a decline in cost by (-)6.18 percent and nigerseed by (-)4.41 percent. The likely decline in the estimated costs of these two crops is largely determined by year to year fluctuations in yield levels and also in per hectare cost of cultivation across the states.

IV PRICE POLICY FOR 2010-11 SEASON

This report made a detailed examination of the recent trends in agricultural production and prices in general and kharif crops in particular. In arriving at the price policy for Kharif crops of 2010-11 season, the Commission has considered various relevant factors such as cost of production, market price trends—both domestic and international, demand situation, inter-sectoral terms of trade, input-output price parity, inter-crop price parity and food security situation. In order to ascertain the views of the stakeholders on kharif crops, the Commission had wide consultations with farmers and their organizations, officials of Central and State Governments, agricultural research organizations, millers, exporters. The Commission has as usual carried out a study on the cost of production of kharif crops and made projections regarding their likely levels during 2010-11.

4.2. The country has witnessed a major drought during 2009 kharif season. The cumulative seasonal rainfall for the country as a whole during South-West monsoon season (1st June to 30th September) was 23 per cent below the long period average (LPA). The Second Advance Estimates of crop production released by the DES indicate that the total foodgrain production during the year 2009-10 would be 216.9 million tonnes. This would be 7.5 per cent lower than the record foodgrains production of 234.5 million tonnes in the year 2008-09. Due to severe drought, Kharif foodgrains production is likely to decline from 118.1 million tonnes in 2008-09 to 99.85 million tonnes in 2009-10 – a decline of around 18 million tonnes. On the other hand, rabi foodgrains production is likely to increase marginally from 116.3 million tonnes in 2008-09 to 117 million tonnes in 2009-10. The projected demand for foodgrains production for the year 2011-12 is around 234 million tonnes. The country is, therefore, in a relatively comfortable position as India has already achieved 234 million tonnes in 2008-09 although it declined significantly in 2009-10 due to drought. However, the long term fitted trend growth rate of foodgrains production was around 1.35 per cent per annum during the period 1997-98 to 2008-09. This growth rate was much less than that of 2.42 per cent per annum growth recorded during the decade 1987-88 to 1997-98.

4.3. The situation of rice is not satisfactory in the year 2009-10 as the severe drought affected this crop adversely in many parts of the country. Rice production

has increased during the period 2005-06 to 2008-09 and this performance was much better than the first five years of this decade. The production of rice rose from 91.8 million tonnes in 2005-06 to 93.4 million tonnes in 2006-07 to 96.7 million tonnes in 2007-08 and to 99.2 million tonnes in 2008-09. However, it is likely to decline to 87.6 million tonnes in 2009-10 – a decline of 11.6 million tonnes as compared to the previous year. Kharif rice production is estimated to decline around 12 million tonnes during the same period. In the case of other kharif crops such as coarse cereals, pulses and oilseeds there would be decline in production in 2009-10 as compared to 2008-09 – the biggest decline being in groundnut. The production of groundnut is likely to decline from 7.2 million tonnes (kharif and rabi) in 2008-09 to 5.5 million tonnes in 2009-10. It may be noted that groundnut production already declined from 9.18 million tonnes in 2007-08 to 7.2 million tonnes in 2008-09.

4.4. The global food prices increased significantly in 2007 and first half of 2008. In contrast to the tight situation during this period, prices started easing since July 2008. The FAO cereal price index was 29 per cent less during January-November, 2009 as compared to corresponding period last year. The index was 40 per cent lower than its peak in April, 2008. However, there could be upward pressure on cereal prices due to factors such as increase in oil prices, changes in exchange rate and recovery in global liquidity situation. The FAO all rice price index declined by 15 per cent during January-November period compared to corresponding period in the previous year. Global rice prices started increasing in November 2009. However, the world rice prices in November 2009 were around 12 per cent lower than one year ago. The world paddy production is expected to decline from 459.6 million tonnes in 2008 to 451 million tonnes in 2009 – a decline of 1.9 per cent. The ending stock of rice is likely to decline from 124.4 million tonnes to 121.1 million tonnes – a decline of 2.7 per cent during the same period.

4.5. The wholesale price index (WPI) for most of the food articles rose significantly during 2009-10. It showed an increase of 13.6 per cent during 2009-10 (upto January, 2010) as compared to that of 2008-09. WPI for rice has increased by 13.5 per cent during the same period. The index for rice was around 17 per cent higher in January, 2010 as compared to January 2009. For cereals as a whole, the increase was around 12 per cent in 2009-10 (upto January, 2010) as compared to 2008-09.

The wholesale prices for total pulses in January, 2010 were 47 per cent higher than that in January, 2009. There has been an unprecedented increase in the prices of pulses during 2009-10 due to supply shortages. In contrast to cereals and pulses, the WPI for oilseeds rose only 2.7 per cent in 2009-10 (upto January) compared to 2008-09. It may be noted that WPI for oilseeds increased by 24.1 per cent in 2007-08 and 13.3 per cent in 2008-09. The higher inflation for oilseeds in 2007-08 could be due to higher global prices during that year. On the whole, the food price inflation was much higher for the groups of agricultural commodities, food articles and foodgrains in 2009-10 as compared to 2008-09. Since November 2009, food price inflation has been between 16 to 19 per cent for several weeks. The high food inflation of more than 15 per cent hurt the consumers particularly the poor. The Government has taken several steps to contain food price inflation. It is expected to come down in the next few months.

4.6. Procurement of both rice and wheat has been at record levels in 2008-09. The rice procurement during the marketing year (2008-09) has been a record 24.83 million tonnes till the middle of March, 2009. This is much higher than the procurement of 20.92 million tonnes of rice during the corresponding period in 2007-08. There was a marginal decline in rice procurement during kharif marketing season (October-September) from 24.93 million tonnes in 2008-09 to 24.34 million tonnes in 2009-10 (upto mid-March, 2010). The procurement of wheat is expected to be around the same level in 2010 as compared to that of 2009. The total foodgrain stock as on 1st January 2010, was 47.44 million tonnes as against the buffer stock norm of 20.0 million tonnes. In other words, there is an excess stock of around 27.44 million tonnes of foodgrains with the government as on 1st January, 2009. In fact, there is going to be a problem for storage for wheat stocks in the next few months after procurement of wheat in 2010. There is a need for better food management and storage policies to help both farmers and consumers.

4.7. As mentioned in the report for kharif 2009-10 season, there has been an unprecedented increase of minimum support prices (MSP) for Kharif crops by the Government in 2008-09 as compared to those of 2007-08. MSP increase ranged from 21 per cent for rice to 94 per cent for nigerseed in 2008-09 as compared to those of 2007-08. Apart from increase in rice, pulses and oilseeds, there has been

remarkable increase of 39 to 48 per cent in MSP for cotton. Because of this unprecedented increase of MSP in 2008-09, the Commission recommended rise in MSP only for four crops viz., paddy, tur, moong and sesamum for the year 2009-10.

4.8. Cost of production is generally considered the most important factor in the determination of minimum support prices. The Commission's approach to cost has been that MSPs should be fixed on the basis of an adequate margin over C2 in the relatively low cost states, but paying full attention to the A2+FL cost in the high cost states. The all India weighted average modified C2 cost of production of paddy for 2009-10 was Rs.670 per quintal. It may be noted that the MSP of Rs.1000 (which includes bonus of Rs.50) for common variety of paddy fixed by the government was 49 per cent higher than C2 cost in 2009-10 (Table 4.1). The projected all India weighted average C2 cost of production of paddy in 2010-11 is Rs.742 and the modified C2 cost including insurance premium, marketing and transportation is Rs.766. Even if we keep the MSP at last year's level of Rs.1000, MSP would be higher by 34 per cent over C2 cost and 31 per cent over modified C2 cost in 2010-11. It covers A2+FL for all states and C2 cost for 16 out of 18 states. However, there is a case for some increase in MSP for paddy due to rise in cost of production.

Table 4.1. MSP over C2 Cost for Kharif Crops: 2009-10 (%)

Crops	MSP (Rs.)	C2 cost (Rs.)	MSP over C2 (percent)
Paddy	1000*	670	49.3
Jowar	840	824	1.9
Bajra	840	695	20.9
Maize	840	767	9.5
Ragi	915	877	4.3
Tur (arhar)	2300	2231	3.1
Moong	2760	2759	0.0
Urad	2520	2294	9.9
Groundnut	2100	1919	9.4
Soyabean	1350	1233	9.5

Sunflower	2215	1934	14.5
Sesamum	2850	3107	-8.3
Nigerseed	2405	2389	0.7
Cotton	2500 and 3000	2135	17.1 and 40.5

*Includes Bonus

4.9. In the case of other kharif crops, the MSP fixed was higher than modified C2 cost of production in 2009-10 except for Sesamum (Table 4.1). It may be noted that the projected modified C2 cost increased substantially in 2010-11 for some of the crops. A comparison of last year's MSP and projected cost for 2010-11 shows that the present MSP would not cover C2 cost for some crops. In the case of coarse cereals, there was a significant rise in projected cost for ragi and jowar in 2010-11 as compared to those of 2009-10. For example, the cost of production for ragi and jowar increased by around 30 per cent and 21 per cent respectively in 2010-11 as compared to previous year. A2+FL cost is very high for one or two states in jowar and ragi. These aberrations in cost of production may have to be ignored while recommending MSP. However, MSP has to be increased for coarse cereals to cover A2+FL for all but states with aberrations and C2 for least cost states.

4.10. In the case of pulses, there has been significant rise in wholesale and retail prices in the year 2009-10 as compared to previous year due to supply shortages. There is a need for giving incentives for pulses particularly for tur in order to increase area and production for this group of crops. In order to provide incentives for farmers, there is a case for significant enhancement in MSP for pulses. Similarly, there is a case for increasing MSP for oilseeds to enhance production as India has 40 to 50 per cent shortage of edible oils. The MSP for cotton rose by nearly 40 per cent in 2008-09 as compared to the previous year. The MSP 2009-10 for cotton covers projected A2+FL costs for all states and C2 for least cost states in 2010-11. It also has some margin over the modified C2 cost for the same year and therefore, a case for increasing cotton MSP is limited in the present context.

Table 4.2. Summary of Cost Projections for Kharif Crops 2010-11

(Rs. Per quintal)

Crops	C_2 Cost & state with least C2 cost*		A_2 +FL Cost & state with highest A2+FL cost**	
	Overall C_2 cost (all India)	C_2 cost upto 75% of output	Overall A_2 +FL cost (all India)	A_2 +FL cost upto 25% of output
Paddy	742.43	711.72	550.78	652.76
Cotton	2128.59	1965.49	1625.95	2076.87
Jowar	965.00	946.85	760.85	929.51
Bajra	767.99	700.94	578.80	773.76
Maize	789.66	695.16	604.18	859.44
Ragi	1107.18	1004.42	922.12	944.28
Tur	2421.82	2258.57	1693.06	1966.98
Moong	3108.84	2992.14	2402.47	2680.03
Urad	2489.70	2269.90	1736.59	2505.74
Groundnut	2100.36	1895.90	1627.50	2038.58
Soyabean	1287.66	1246.81	959.59	1003.25
Sunflower	2257.49	2213.24	1728.83	1761.55
Sesamum	2847.10	2595.62	2098.47	2665.88

* : C2 cost as weighted average of states in ascending order of C2 cost upto 75% of total output.
** : A2+FL cost as weighted average of states in descending order of A2+FL cost upto 25% of total output.

4.11. Table 4.2. provides summary of cost projections for kharif crops in the year 2010-11 . The Table gives : (a) the weighted average C2 cost of states ranked in ascending order of C2 upto 75 per cent of total output and (b) weighted average A2+FL in states ranked in descending order of cost upto 25 per cent of output. It may be observed that the present MSPs for most of the crops meet both these criteria adequately. In the case of jowar, ragi and moog, the MSPs are lower than the C2 cost upto 75 per cent of output. For crops such as jowar, maize, ragi, the present MSPs are lower than the A2+FL cost upto 25 per cent of output. It may be noted that, as mentioned above, there were some aberrations in projected costs for crops like jowar and ragi.

4.12. The Commission made comparisons between the projections of costs made by CACP and those provided by the states. The comparable estimates show that the projected C2 costs of production per quintal for paddy given by the states are higher

than those of CS estimates in respect of Andhra Pradesh and Haryana. The C2 costs provided by Maharashtra, Uttarakhand and West Bengal were closer to those of CACP estimates. In the case of jowar, the C2 cost per quintal provided by states is lower than those of CS estimates for Andhra Pradesh and Maharashtra. Similarly, the C2 cost per quintal provided by states is higher than CS estimates for tur in Andhra Pradesh and Maharashtra and lower for Uttar Pradesh. In the case of cotton, the projected C2 costs provided by states are higher than CS estimates for Andhra Pradesh, Haryana, Maharashtra and lower for Madhya Pradesh.

4.13 In Table 4.3, certain summary parameters are presented for MSP, long run farm harvest prices and implicit prices for each crop. It shows for each crop what the actual national average farm price would be if the real farm price (the farm price divided by the WPI of all commodities) was maintained at its average for the past five years with overall inflation upto 2008-09 marketing season being used. The data for farm harvest prices have been obtained from official sources while the data on implicit prices have been obtained from the Comprehensive Scheme. The Table shows the MSP is higher than farm harvest prices for paddy, bajra, and maize whereas it is lower for other crops. In the case of jowar, the prices are similar. The Table also gives the coefficient of variation of these real farm harvest prices and an indicative price which is less than the weighted average farm price by 1.5 standard deviation. There is a significant probability that MSP operations will be required if the MSP is higher than the indicative price. The Table shows that MSP was much higher than the indicative price for all the crops. The five year average of implicit prices are lower than current MSP for all the crops.

Table 4.3.Long run Farm Prices and their Coefficient of Variation

Crops	MSP (Rs./qtl.) (2009-10)	Farm Harvest Prices (Rs./qtl.)			Implicit Price from Comprehensive Scheme(Rs./qtl.)		
		5 years average	CV	1.5 Standard Deviation below 5 years average	5 years average	CV	1.5 Standard Deviation below 5 years Average
		X	Y	Z	X	Y	Z
Paddy	1000	808.66	10.35	683.12	645.93	15.24	498.27
Cotton	2500	3468.22	39.14	1432.03	2194.47	3.92	2065.47
Jowar	840	841.38	12.99	677.44	739.17	9.53	633.47
Bajra	840	812.63	16.01	617.48	600.91	9.59	514.50
Maize	840	730.53	20.91	501.40	605.37	6.50	546.36
Ragi	915	1046.51	37.58	456.59	645.15	13.94	510.28
Tur(Arhar)	2300	2756.24	20.11	1924.82	1960.47	34.11	957.27
Moong					2273.10	4.86	2107.39
Urad					2252.03	11.05	1878.76
Groundnut	2100	2389.59	12.06	1957.31	1824.42	12.23	1489.84
Soyabean					1256.91	4.46	1172.82
Sunflower					1857.87	4.52	1731.91
Sesamum	2850	3669.62	36.21	1676.47	2745.95	23.93	1760.18

Explanations:

(X) 5 years average (ending 2008-09) real price multiplied by assumed WPI (All Commodities) for 2009-10, where real price is farm price divided by WPI for All Commodities.

(Y) Coefficient of variation (CV) of real prices for 5 years data.

(Z) Z = X* (1-0.015*Y)

4.14. In the present globalized context, the Commission also considers the world price situation and this needs to be done in a long run context taking into account the weighted average global price over a few years as also their coefficient of variation. Table 4.4 accordingly presents both the 5 year and 3 year dollar price averages ending 2009-10, as well as the actual for the latest available quarter. The coefficients of variation of these dollar prices are also presented. Figures are also given for the rupee equivalent of these, applying the exchange rate of last week of every month for different years. It may be noted that the comparisons should be made with caution since any valid comparison would require taking into account costs such as insurance, freight, trade and transport margin as well as tariffs. Table 4.4. shows that the variations in global prices are much larger than the domestic prices for all the crops. Also, the latest international price was considerably higher than its five or

three year average for soyabeans, maize, sorgum and groundnut. For paddy, the international price was lower than the MSP and FCI's current economic cost. The international prices were higher than domestic MSP for soyabeans, cotton, groundnut and sesamum and lower for maize and sorghum.

Table 4.4. International Price Parameters

Crops	US Dollar per tonne				Rupee per quintal**				1.5 SD below 5 years average
	5 years* average	3 years* average	Quarter ending Dec., 2009	CV	5 years* average	3 years* average	Quarter ending Dec., 2009	CV	
Soybeans	377.45	447.96	439.33	28.76	1679.77	1989.86	2038.17	29.43	938.26
Maize	154.57	184.10	167.84	30.85	686.61	815.14	778.57	30.41	373.41
Rice, Thailand, 35%	277.95	300.09	NA	30.85	1209.44	1240.85	NA	3.94	1137.87
Sorghum	148.14	173.86	163.80	30.85	657.35	768.40	759.92	27.48	386.38
Cotton A Index	1367.17	1450.62	1580.11	30.85	6078.77	6427.75	7331.76	10.57	5114.85
Groundnut Kernel	1105.91	1319.58	1150.00	28.15	5011.44	6005.29	5426.85	25.77	3074.62
Sunflower seed	1507.17	1534.54	1544.59	5.89	6727.55	6810.01	7237.69	5.58	6164.64
Sesamum seed	1400.00	1400.00	NA	0.00	6101.05	5750.70	NA	5.37	5609.86

Note:

(i) * 5 years average refers to 2005-06 to 2009-10, 3 years average refers to 2007-08 to 2009-10.

(ii) ** Rupee conversion as given from Reserve Bank of India for different years.

(iii) Coefficient of Variation (CV)

(iv) Standard Deviation (SD)

4.15. In determination of MSP, the Commission also considers the issue of price parity across crops in terms of increase in MSP over time. Table 4.5 shows that the MSP for paddy increased 96 per cent between 2000-01 and 2009-10. The corresponding increase for other crops ranged between 54 per cent for cotton to 130 per cent for moong. For majority of the crops, the rate of increase is lower than paddy. The MSP for ragi, moong, urad, sesamum and nigerseed have increased faster than paddy. This should give incentives to grow these crops. It is, however, known that non-price factors like technology, irrigation are equally important as price alone can not improve productivity in pulses and oilseeds.

Table 4.5: Inter-crop Price Parity in terms of Change of MSP during 2000-01 to 2009-10

Crops	MSP 2000-01	MSP 2009-10	Per cent Change
Paddy	510	1000*	96.1
Jowar	445	840	88.8
Bajra	445	840	88.8
Maize	445	840	88.8
Ragi	445	915	105.6
Tur (arhar)	1200	2300	91.7
Moong	1200	2760	130.0
Urad	1200	2520	110.0
Groundnut	1220	2100	72.1
Soyabean	775	1350	74.2
Sunflower	1170	2215	89.3
Sesamum	1300	2850	119.2
Nigerseed	1025	2405	134.6
Cotton	1625	2500	53.8

*Includes Bonus

4.16. Considering all the relevant factors, as indicated above, and after consultations with all the stakeholders, the Commission recommends that the minimum support prices of various kharif crops be fixed as under.

Commodity	Variety	Quality	Minimum Support Price (Rs per quintal)
Paddy	Common	FAQ	1000/-
	Grade-A	"	1030/-
Jowar	Hybrid	"	880/-
	Maldandi	"	900/-
Bajra	-	"	880/-
Maize	-	"	880/-
Ragi	-	"	965/-
Tur (Arhar)	-	"	2800/-
Moong	-	"	3170/-
Urad	-	"	2900/-
Groundnut-in-shell	-	"	2300/-
Soyabean	Black	"	1400/-
	Yellow	"	1440/-
Sunflowerseed	-	"	2350/-
Sesamum	-	"	2900/-
Nigerseed	-	"	2450/-
Cotton (Kapas):			
(iii) Staple length (mm) of 24.5 -25.5 and Micronaire value of 4.3 - 5.1		"	2500/-
(iv) Staple length (mm) of 29.5 -30.5 and Micronaire value of 3.5 – 4.3		"	3000/-
VFC Tobacco			
Black soil	F_2 grade	"	5000/-
Light soil	L_2 grade	"	5200/-

The Commission further recommends that:

i) **alongwith the thrust on strategies for accelerated growth of food production, there should be greater focus on research efforts and the requisite research-extension-farmer linkages for achieving higher yields per hectare as well as efficient use of the available resources.**

(para 1.8)

ii) **the Government should on priority carry out a review of the state of procurement operations in the non-traditional areas of the country aimed at initiating corrective measures. Associating various appropriate agencies available in the States other than the usually enlisted organizations (ex: cooperative organizations, SHGs) for procurement operations, needs to be given serious consideration.**

(para 1.10)

iii) **the Government should consider to provide food items for daily use including coarse grains, through authorized outlets at reasonable prices alongwith the traditional public distribution system, so that their availability across the country is assured to the public and price rise could be kept under check.**

(para 1.15)

iv) **any sound strategy for agriculture development should have an integral component for adaptation to the impact of climatic change through action plans in areas such as agricultural research to evolve varieties that are climate resilient as well as cope with the likely increase in water stress.**

(para 1.23)

v) **the plan priorities and related schemes/programmes for irrigation development should follow a balanced approach, with greater thrust on micro irrigation and enhanced efficiency in water utilisation as well as limited extraction of groundwater in over-exploited regions alongwith its increased utilisation in under-exploited regions.**

(para 1.26)

vi) the Government should follow a two-pronged strategy in the seeds sector: increase SRR to the advisable levels in respect of various crops, and lay equal emphasis on the production of quality/hybrid seeds.

(para 1.28)

vii) alongwith the thrust on increased availability of farm credit, there should be emphasis on the greater inclusion of new farmers, especially small and marginal, under institutional coverage as well as the increased outreach of cooperative credit societies.

(para 1.31)

viii) the monitoring and evaluation aspects of NREGA have to be adequately strengthened with greater role for social audit, and the implementation may be focussed towards off-season times when the agricultural operations are not in peak, laying emphasis on agriculture-related activities, with appropriate regional variations, through requisite amendments in the operational guidelines, so that the usual agricultural work in the areas may not face problems in obtaining sufficient farm labour.

(para 1.33)

ix) urgent steps are to be taken to notify the rules that are pending under the new/amended statutes pertaining to agricultural markets as well as bring in or improve the basic infrastructure and facilities in these markets, so that the mandis facilitate and not frustrate the production and other related activities on the farm front.

(para 1.34)

x) greater emphasis should be laid on the post-harvest management of agricultural commodities through development of appropriate technologies and facilities as well as development of small and medium scale food processing units.

(para 1.36)

xi) concerted efforts have to be made through effective extension services for immediately spreading about the pulses varieties and technologies developed in the research organizations to the farmers field.

(para 2.65)

xii) in order to bring level-playing field for the benefit of farmers and also domestic oil sector, Government needs to review the present import duty structure on edible oils.

(para 2.78)

xiii) keeping in view the urgent need to augment domestic availability of edible oils, the productivity of all the oilseed crops especially of oil palm and tree borne oilseeds should be given special attention by replacing the existing Integrated Scheme of Oilseeds, Pulses, Oil palm and Maize (ISOPOM) to a newly constituted Technology Mission for Oilseeds.

(para 2.80)

xiv) Ministry of Textiles should look into the limitations in the capacity expansion of the domestic textile mills with a view to increasing the export of value added cotton products like yarn, fabrics and textiles.

(para 2.107)

xv) Ministry of Textiles may look into the grievance of the Cotton Industry regarding low priority being given to by-products of cotton, which suffer from faulty processing, traditional crushing techniques, lack of extension education etc. and may take appropriate remedial measures, either through a new scheme or through the existing Technology Mission on Cotton.

(para 2.108)

xvi) DES and Tobacco Board need to sort out the discrepancy in the cost of cultivation data collected by Directorate of Tobacco Development and Central Tobacco Research Institute and consider extension of coverage for collection of cost of cultivation data to Karnataka also.

(para 2.123)

(S. MAHENDRA DEV)

CHAIRMAN

(R. VISWANATHAN)

MEMBER

(RAJ VIR SINGH)

MEMBER

(K. G. RADHAKRISHNAN)

MEMBER SECRETARY

April 12, 2010