

COMMISSION FOR AGRICULTURAL COSTS AND PRICES

PRICE POLICY FOR RABI CROPS OF 2007-2008

SUMMARY OF RECOMMENDATIONS

In this report, the Commission for Agricultural Costs and Prices presents its views on the Price Policy for Rabi Crops of 2007-2008 season. The Commission recommends that: the minimum support prices for the fair average quality (FAQ) of various rabi crops of 2007-2008 season be fixed at the following levels:

<u>Commodity</u>	<u>Rs/Quintal</u>	
Wheat	1000	
Barley	650	
Gram	1600	
Masur (Lentil)	1700	
Rapeseed/Mustard	1800	
Safflower	1650	(Para 4.10)

Commission further recommends that:

- i) ***the prices of other oilseeds belonging to the rapeseed/mustard group be fixed on the basis of their normal market price differentials with rapeseed/mustard;*** (Para 4.10)

- ii) ***government should either fix a sufficiently high procurement price of wheat and announce it much before the sowing season, which may encourage the farmers to produce more wheat, thereby ensuring increased market arrivals as well as adequate procurement and price stability or evolve a transparent and corruption-free institutional mechanism to procure wheat at the prevailing market rates during the peak marketing season using an appropriate network of computerized information system and the available infrastructure of FCI, NAFED and other agencies, including those of State Governments. In the absence of any such initiatives, management of food security and price stability would continue to pose problems;***

(Para 1.5)

- iii) ***the strategies of food procurement and distribution by FCI and its designated agencies should focus on expanding operations in non-traditional areas and bringing coarse cereals, as supplement, to their operations for enhancing food security. Also the State Governments will have to play an important role in this regard;***
(Para1.6)
- iv) ***Government should step up public investment and credit disbursement to agriculture substantially, along with measures for improvement in resource use efficiency;*** (Para 1.11)
- v) ***the present system of product based subsidy should be replaced by nutrient based subsidy for motivating the farmers to apply various macro and micro nutrients in a balanced manner. Besides, irrigation rates and irrigation subsidy should be fixed in such a manner that the farmers are induced to use scarce resource, like water, rationally and efficiently;***
(Para 1.13)
- vi) ***Government should set up an independent plant quarantine authority with adequate autonomy and resources to meet the growing challenges of bio-security in the wake of trade liberalization;***
(Para 1.15)
- vii) ***the Directorate of Economics and Statistics together with the State Governments should review the method of collection, tabulation and transmission of statistics on area, production and yield of crops, particularly of foodgrains, for ensuring their reliability and timely availability;*** (Para 2.4)
- viii) ***state governments should reduce statutory charges on purchase of cereals to a combined maximum of 4 percent, including all taxes and cesses,***

- mandi charges and payments to commission agents. Further, state governments should refrain from taxing primary products brought in or taken out of the states by agencies designated to undertake minimum support price operations;*** (Para 2.15)
- ix) ***a new buffer stocking policy should be designed so that surplus production in years of good crop can be stored and be made available in years when there is a shortfall in production;*** (Para 2.24)
- x) ***there should be a comprehensive review of wheat production situation in various regions by the Government for evolving short term and medium term strategies for raising wheat production to meet the growing demand;***
(Para 2.32)
- xi) ***Government should consider the idea of linking the MSP for oilseeds with oil contents in a positive way for increasing both productivity and production of oilseeds in the country, so that higher productivity in terms of factors like oil content etc. favours higher MSP to the farmers;***
(Para 2.64)
- xii) ***the Government should formulate an appropriate strategy to exploit the available potential of vegetable oils from secondary sources to augment net availability of edible oils in the country.*** (Para 2.87)

I. An Overview

Indian agriculture seems to have been trapped in a phase of stagnation since the mid -1990's. Even though about 40 per cent of the total cropped area is irrigated, the performance of Indian agriculture continues to be largely influenced, among other factors, by the vagaries of monsoon. The rainfall during the 2006 South-West monsoon season (June 1 to September 30) turned out to be close to normal, with the area weighted rainfall during the period for the country being 99 per cent of long period average (LPA), although the distribution of rainfall was uneven over time and space. The uneven distribution of the rainfall during South-West monsoon of 2006 adversely affected kharif crops in North-East India, North-West India and South Peninsula. Of the 36 meteorological sub-divisions in the country, monsoon rainfall was normal in 20, excess in 6 and deficient in the remaining 10 sub-divisions. Furthermore, it led to improvement in reservoir position at the end of the South-West monsoon season with total live water storage at 91 per cent of the Full Reservoir Level (FRL), which was higher than the previous year's position (81 per cent). The storage level at the end of September, 2006 was quite favourable for rabi crops. Cumulative rainfall during the North-East monsoon (October 1, 2006 to December 31, 2006) was, however, 21 per cent below normal. Of the 36 meteorological sub-divisions, cumulative rainfall was deficient/ scanty/ no rain in 27 sub-divisions compared with 19 sub-divisions during the previous year.

1.2 South-West monsoon of 2007 advanced over South Andaman Sea on 11th May, almost 10 days earlier than the normal date and covered the entire country on 4th July, 2007. The timely monsoon is a good news for kharif sowing operations. Out of 36 meteorological sub-divisions, rainfall during the period 1st June to 4th July, 2007 was in excess / normal in 31, deficient / scanty in 5 sub-divisions. The accumulated seasonal rainfall over the country as a whole during the period 1st June to 4th July, 2007 was 20 percent excess of the normal rainfall. Water storage of 78 major reservoirs, as on 5th July, 2007 was 28 percent of FRL and about 116 percent of last year level and 165 percent of last 10 years average level. The primary downside risk to our expectations of good agricultural performance in 2007-08 derives from uncertainties on account of the

South-West Monsoon in regard to its spatial and temporal distribution. The Long Range Forecast update of IMD for the 2007 South-West Monsoon Season (June – September) is that for the country as a whole the seasonal rainfall is likely to be 93 percent of the LPA with model error of +/- 4 percent. Over the four geographical regions of the country, rainfall for the 2007 South-West Monsoon Season is likely to be 90 percent of its LPA over North-West India, 98 percent over North-East India, 96 percent over Central India and 94 percent over South Peninsula, all with a model error of +/-8 percent.

1.3 In view of the uneven rainfall during the South-West monsoon season 2006, the area coverage under *kharif* crops in 2006 season was around 1.2 per cent lower than a year ago, mainly on account of shortfalls in the case of coarse cereals and oilseeds. In contrast, area sown under *rabi* crops has been about 2.9 per cent higher than a year ago. The higher sowing under *rabi* crops was mainly on account of increase in area covered under wheat and pulses, which more than offset some decline in area under oilseeds.

1.4 According to the Fourth Advance Estimates (19-07-2007) of Directorate of Economics & Statistics, total foodgrains production during 2006-07 is estimated at 216.13 million tonnes, about 7.5 million tonnes or 3.62 percent higher than in the previous year. The total *kharif* foodgrains production during 2006-07, estimated at 110.52 million tonnes will be about 0.59 per cent higher than the 109.87 million tonnes achieved in 2005-06. In comparison, *rabi* foodgrains in 2006-07 is estimated to record an increase of 6.99 per cent to 105.61 million tonnes from 98.73 million tonnes in 2005-06, reflecting increase of 7.99 per cent in wheat production from 69.35 million tonnes in 2005-06 to 74.89 million tonnes in 2006-07. The increase in wheat output in 2006-07 is supported by the area sown under wheat which is 6.3 per cent higher than that in 2005-06. However, the production of wheat in 2006-07 would still be much less than the earlier record production of 76.4 million tonnes in 1999-00. Similarly, the estimated production of 92.76 million tonnes of rice in 2006-07 remains below the level of rice production of 93.34 million tonnes achieved in 2001-02. The production of pulses

estimated at 14.23 million tonnes in 2006-07 would be lower than what the country achieved in 1998-99 and 2003-04 by producing 14.91 million tonnes of total pulses each year. During 1995-96 to 2005-06, the average annual growth rate of foodgrains production was only 0.66 per cent, while the population growth rate was estimated at about 1.9 per cent. Thus, increasing foodgrains production in a stable manner is still a matter of concern. Production of nine oilseeds, on the other hand, is likely to decline by 14.65 per cent to 23.88 million tonnes in 2006-07 from 27.98 million tonnes in the previous year, mainly reflecting a 38.58 per cent decline in groundnut production and about 12.72 per cent fall in the production of rapeseed & mustard. In the case of commercial crops, production of sugarcane is estimated to go up to 345.31 million tonnes during 2006-07, compared with 281.17 million tonnes in 2005-06. The production of cotton estimated at 226.96 lakh bales in 2006-07 (the highest so far) would be higher by 22.69 per cent over the 184.99 lakh bales produced in 2005-06. Production of jute and mesta is also expected to be higher by 3.85 per cent during 2006-07.

1.5 The procurement of wheat during 2007-08 (up to July 16, 2007) under the price support scheme was 11.1 million tonnes, as against the target of 15 million tonnes. The procurement in 2007-08 is, however, higher by over 20 per cent than the 9.2 million tonnes procured in 2006-07, thanks to the higher MSP. The Central Government took many measures to ensure adequate procurement of wheat in 2007-08. It raised the MSP of wheat from Rs.650 to Rs.750 per quintal and doubled the bonus from Rs.50 to Rs.100 on a quintal, thereby taking the purchase price from last year's Rs.700 to a record Rs.850 per quintal, an increase of about 21 per cent in just one year. In addition, the government also made stock declarations compulsory for purchases exceeding 50,000 tonnes by a company or individual, and empowered state governments to decide stock limit in commodities. All these measures helped to increase the share of government purchase in the total market arrival of wheat to about 75 per cent from about last year's 67 per cent. The government was constrained to buy more wheat than this as there are places (like Madhya Pradesh and Gujarat) which grow premium quality wheat and where the private sector does procurement at higher rate than the MSP.

Further, there are states where the market arrivals are less than the marketable surplus, indicating that there has been large trading outside the mandis by traders to evade taxes that are as high as Rs.100 per quintal. It is indeed a matter of concern for the government that despite reportedly good harvest of wheat crop in the country, estimated at about 74.89 million tonnes in 2006-07 (Fourth Advance Estimate) and substantial hike in the minimum support price, the government could not procure adequate quantity of the grain to meet the demand for TPDS and other welfare schemes and also to achieve price stability. Under the present circumstances, the Commission recommends that **government should either fix a sufficiently high procurement price of wheat and announce it much before the sowing season, which may encourage the farmers to produce more wheat, thereby ensuring increased market arrivals as well as adequate procurement and price stability or evolve a transparent and corruption-free institutional mechanism to procure wheat at the prevailing market rates during the peak marketing season using an appropriate network of computerized information system and the available infrastructure of FCI, NAFED and other agencies, including those of State Governments. In the absence of any such initiatives, management of food security and price stability would continue to pose problems.** Procurement of rice contributing to Central Pool during the marketing season (October to September) was 27.66 million tonnes in 2005-06 and it was 24.67 million tonnes as on 19th July 2007 during 2006-07.

1.6 The offtake of foodgrains (rice and wheat) from Central Pool during 2006-07 was lower by about 12.9 per cent compared with the offtake during 2005-06. This was mainly due to decline in offtake of wheat from 17.16 million tonnes in 2005-06 to 11.71 million tonnes in 2006-07. The total stock of foodgrains with the Food Corporation of India (FCI) and other Government agencies as on 1st April, 2007 was 17.74 million tonnes, which was higher than the stipulated buffer stock norm of 16.20 million tonnes as on that date, thanks to additions to supply of wheat through imports of 5.5 million tonnes in 2006-07. While the stocks of wheat at 4.56 million tonnes as on 1st April, 2007 were somewhat higher than the buffer stock norm of 4.00 million tonnes, those of rice at 13.17 million tonnes exceeded the buffer norm of 12.20 million tonnes.

The depletion in stock and lower procurement raised concern about the food security of the country. This led the Government to resort to imports of wheat to stem the rise in market prices of wheat, especially when the wholesale market breached the psychological barrier of Rs 10,000 per tonne in several places. Apart from the fact that the MSP of wheat being much lower than the price offered by some major private players in the market, the procurement mechanism of the official agencies tends to be largely confined to operations to traditional procurement areas. Spreading their reach to non-traditional areas could bring additional wheat to the stocks, besides extending the price benefit to wheat farmers in those areas. Further, while there have been some positive developments, the scope of procurement and distribution of coarse cereals under PDS and other welfare schemes as additional options for maintaining the food security, still remains largely unexplored. The Commission, therefore, reiterates its earlier recommendation that ***the strategies of food procurement and distribution by FCI and its designated agencies should focus on expanding operations in non-traditional areas and bringing coarse cereals, as supplement, to their operations for enhancing food security. Also the State Governments will have to play an important role in this regard.***

1.7 The Wholesale Price Indices (WPI base 1993-94) for all agricultural commodities and food articles were 204.5 and 210.5 respectively for the year 2006-07, increasing by 7.1 per cent and 7.8 per cent respectively over the previous year, compared with the overall inflation of 5.4 per cent. Since 2006-07, there has been sharp upward trend in case of prices of primary articles, both food articles, and non-food articles. The WPI of primary articles for May, 2007 at 220.5 was 9.9 per cent higher than the WPI of 200.6 for the corresponding month in 2006 and food articles rose by 8.9 per cent and non-food articles by 13.4 per cent. The WPI for rice in May, 2007 was higher by only 5.3 per cent, but in the case of wheat, the change in WPI in May, 2007 over the WPI of May, 2006 was 9.3 per cent. Within foodgrains, exceptional inflationary trend has erupted in case of pulses. The WPI of pulses rose to 277.0 in October, 2006, about 43.7 per cent higher than the corresponding WPI in October, 2005. In the subsequent period, pulses prices eased somewhat and the WPI declined to 251.0 by May, 2007, but still higher by

4.1 percent over the index a year ago. Such price buoyancy is in sharp contrast to the subdued price trend that persisted consecutively during the past three years. The WPI of nine major oilseeds remained generally depressed during April-October, 2006, but there has been a rising trend from November, 2006 onwards. By May, 2007, the index rose by 28.7 percent to 205.1 from 159.4 in May, 2006. The sharp rise in oilseeds prices and the buoyancy in prices of edible oils in the international markets reflected in the domestic prices of edible oils rising by 13.8 percent over the same period.

1.8 The most prominent feature of the global food and feed markets in 2006 has been the surge in the prices of cereals, in particular wheat and maize, which, by November, had reached levels not seen for a decade. A sharp drop in world wheat production in 2006, driven by lower outputs in nearly all major exporting countries, has resulted in one of the tightest periods for world supply and demand of wheat in more than two decades. Although the world cereal production in 2007 is forecast to reach 2125 million tonnes, up 6 percent from the reduced level in 2006. Total supplies in the new season would still be barely adequate to meet an anticipated rising demand, not only from the traditional food and feed sectors, but in particular from the fast-growing biofuels industry. As a result, international prices for most cereals are likely to remain high and volatile again in 2007-08.

1.9 The initial world wheat production in 2007 was forecast to rise by over 5 percent to 630 million tonnes. But the most recent forecast for the global wheat crop by the USDA reduces it to 610 million tonnes. In several countries of Europe, such as Romania, Hungary, Germany and Russia, the wheat production is expected to be lower this year. Total wheat utilization is expected to reach 632 million tonnes, up 1 percent from 2006-07, mostly on faster demand for feed. World wheat inventories are forecast to decline for the second consecutive season, to 148 million tonnes, resulting in the world stocks-to-use ratio reaching 23 percent, down from the previous season and the lowest level since 1980. As a result, wheat prices in 2007-08 are likely to remain strong. Global coarse grains production in 2007 is forecast at 1073 million tonnes, up 9 percent from 2006 and 3 percent above the 10-year trend. In spite of larger exportable supplies this season, world prices are likely to remain high and volatile, supported by rapid increases

in demand from the ethanol industry and uncertainties in the global petroleum sector. Although still highly tentative, the FAO forecast of global paddy production in 2007 stands at some 633 million tonnes, virtually matching the record achieved in 2005 and 4 million tonnes above the estimate for 2006. Strong import demand is expected to drive international trade in rice to a new high of 30.2 million tonnes in 2007. Thus, the rise in import demand this year will need to be balanced at higher price levels, therefore confirming the prevailing tendency for international rice prices to strengthen.

1.10 Despite a slowdown in growth in world oilseeds production, global supplies of oilmeals and oils in 2006-07 are forecast to remain adequate relative to demand owing to record opening stocks. Nonetheless, oilseeds and meal prices have continued to rise, largely under the influence of surging feed grain prices. Unusually high maize prices are dragging up soyabean prices as the two commodities are competing in both the feed and energy markets. As for vegetable oils, the firmness of prices mainly reflects poor harvests of high oil-yielding crops and a slowdown in palm oil expansion, against a backdrop of rising demand for biofuels. First forecasts for the 2007-08 marketing season suggest that the steady growth in global oilseed production could come to a halt, as maize cultivation is likely to expand at the expense of soyabeans. Given the continued rise in oil and meal demand, this would cause global ending stock levels to fall after three years of growth, which, combined with tightness in cereal markets, would point to continued price firmness in the oilseed complex for the remainder of the year. World sugar prices reached their lowest level in two years in April, 2007, when raw sugar prices averaged US cents 9.72 per pound, reflecting expectations of a much larger global surplus than previously estimated. International prices hit a 25-year high in early 2006 as global sugar markets were confronted for the third consecutive year with short supplies and increased demand for ethanol. Producers in many countries increased plantings in response to high sugar prices, with record crops in key producing nations expected to boost output to slightly more than 159 million tonnes in 2006-07, nearly 5 percent more than the previous season. The expected 2.3 percent growth in consumption would seem to provide only very limited support to the overall bearish outlook for the remainder of the 2006-07 marketing year

1.11 In view of large imbalances in the overall domestic as well as international demand-supply situation of many agricultural commodities, it is important that Government of India prepares a clear road map of agricultural development, outlining the strategies for accelerated growth of food production, agricultural diversification and poverty reduction in the country. The present low investment - GDP ratio and high incremental capital - output ratio, makes it necessary to raise the level of public investment and credit disbursement to agriculture substantially, especially for achieving the targeted 4 per cent annual growth rate in agriculture. Moreover, improvement in resource use efficiency at both government and farm levels would be crucial for producing agricultural commodity in a cost effective manner. The Commission recommends that ***Government should step up public investment and credit disbursement to agriculture substantially, along with measures for improvement in resource use efficiency.***

1.12 India needs a second green revolution to place the agriculture on a sustainable growth path to ensure complete food security of the country. Serious supply shortages in all the essential commodities, viz, cereals, pulses and edible oils make management of resources more complex. Since there is very little scope for bringing additional land under cultivation, *there is need for productivity improvement through technological innovation. While bridging the current productivity gaps in various crops through strengthening of research-extension linkages should form the major plank of agricultural growth strategy in the short run and there should be efforts to overcome the problem of technology fatigue in the long run.* The Rs.25,000 crore booster for new farm initiatives to be launched by the states in the next four years and the 14 point resolution adopted by the NDC which aims at achieving four percent growth in agriculture by the end of the 11th Five Year Plan, are regarded as well thought out and bold steps in this direction. But the Centre needs to ensure that the proposals of the state governments are well tied up with an eco-regional approach enabling a holistic view of the complex issues involved in the revival of the agricultural sector. Issues of individual crop productivity have to be viewed in the context of prevailing farming constraints and opportunities in each region.

1.13 The role of appropriate fertilizer pricing and subsidy has been well documented in the report of the Task Force on Balanced Use of Fertilizers, Ministry of Agriculture, Government of India. The existing policy of material / product based fertilizer subsidy is not at all conducive for balanced use of nutrients. Therefore, the Commission reiterates its earlier recommendation that ***the present system of product based subsidy should be replaced by nutrient based subsidy for motivating the farmers to apply various macro and micro nutrients in a balanced manner. Besides, irrigation rates and irrigation subsidy should be fixed in such a manner that the farmers are induced to use scarce resource, like water, rationally and efficiently.***

1.14 Integrated pest management is another area which requires immediate attention of the Government. In recent years, injudicious and indiscriminate use of pesticides has caused several ill-effects like development of resistance in pests, resurgence in pests, pesticides residue in food products, environmental pollution etc. Hence promotion of integrated pest management would be crucial for sustainable agriculture. In fact, judicious use of pesticides would reduce the cost of pesticides and improve farmers' income. It is, however, felt that the public sector extension system cannot provide a personalized advisory service required to promote integrated pest management. The involvement of private sector, especially in the application of information and communication technology, will be necessary. Therefore, appropriate steps should be taken by the Government to promote public-private partnership for providing personalized guidance to farmers for integrated pest management, which is so crucial for sustainable agriculture, improvement in farmers' income and environmental protection.

1.15 Application of sanitary and phyto-sanitary measures based on scientific criteria, in the wake of WTO, has assumed great significance, because there is a growing danger of entry of invasive pests through increased international trade. In fact, coffee berry borer, eriophyid mite of coconut, lantana and parthenium weeds are some of the examples of accidental entry of invasive species due to inadequate quarantine

surveillance. The present quarantine system is highly ill-equipped to tackle these challenges and does not have the necessary autonomy and resources at its command. The Commission, therefore, reiterates its earlier recommendation that ***Government should set up an independent plant quarantine authority with adequate autonomy and resources to meet the growing challenges of bio-security in the wake of trade liberalization.***

II. PROFILE OF RABI CROPS UNDER PRICE SUPPORT

The Commission submitted its Report on Price policy for Rabi Crops of 2006-07 on 24th July, 2006 recommending, *inter alia*, that the Minimum Support Prices (MSPs) for fair average quality (FAQ) of various crops be fixed at the following levels :

(Rs. per quintal)

Crop	Variety	MSP fixed by Government for 2005-06 Season	MSP recommended by CACP for 2006-07 Season	MSP fixed by Government for 2006-07 Season
1	2	3	4	5
Wheat		650	700*	750 #
Barley		550	565	565
Gram		1435	1445	1445
Lentil (Masur)		1535	1545	1545
Rapeseed/Mustard		1715	1600	1715
Safflower		1565	1565	1565

* If necessary, Procurement Price for wheat be announced separately by the Government in early March, 2007, based on prevailing market situation and buffer needs.

Additional bonus of Rs.100 per quintal for wheat for marketing season 2007-08

2.2 The Government announced the price policy for cereals, pulses and oilseeds crops grown in Rabi season of 2006-07 on October 30, 2006, fixing MSP at levels recommended by the Commission. Subsequently, the Government announced on 22nd March, 2007, additional bonus of Rs. 100 per quintal for wheat for the marketing season 2007-08.

(Table 2.9)

WHEAT

2.3 In recent years, wheat production appears to have run out of steam and has been unable to sustain the growth performance of the past which resultantly has disturbed the system of country's food management. The production of wheat in 2006-07, estimated at 74.89 million tonnes (Fourth Advance Estimates, as on 19.07.2007, of Directorate of Economics and Statistics), is 5.54 million tonnes higher than the output of 69.35 million tonnes achieved in 2005-06. It is, nevertheless, lower than the peak

production of 76.37 million tonnes reached in 1999-2000. The crop condition during the rabi season was by and large favourable. The cumulative area weighted rainfall during the South-West Monsoon in 2006-07 was 99 per cent of the long term average. The presence of residual moisture in the soil augured well for rabi sowings. Weather during the months of November and December was conducive for sowing of rabi crops. The crop condition through the growing season was favourable and a good spell of rain in the month of February further improved crop prospects. During the months of March and April, the rainfall received in North-West India was 19 per cent higher than normal. However, in states like Punjab, Haryana and Rajasthan the rain accompanied by hail damaged the crops to some extent. (Table 2.1)

2.4 The target for wheat production in 2006-07 was set at 75.53 million tonnes which was lower than the all time record production of 76.37 million tonnes achieved in 1999-2000. The Second Advance Estimate released by the Directorate of Economics and Statistics on 05-02-2007 placed wheat output at 72.5 million tonnes which was raised by the Third Advance Estimate dated 04-04-2007 to 73.7 million tonnes and has since been further raised to 74.89 million tonnes by the Fourth Advance Estimates(dated 19.7.2007). Past experience in the degree of variations, especially in years of short crop, has raised doubts on the reliability of Government statistics. For example, the Final Estimate for 2004-05 was 7.2 percent lower than the post harvest estimate level anticipated in May, 2005. Similarly, the Final Estimate for 2005-06 was 5 percent lower than the Second Estimate of February, 2006. The Commission recommends that ***the Directorate of Economics and Statistics together with the State Governments should review the method of collection, tabulation and transmission of statistics on area, production and yield of crops, particularly of foodgrains, for ensuring their reliability and timely availability.***

2.5 The important role of wheat in the food security of the country does not require any emphasis. However, its recent growth trends have been disappointing. The fitted annual rate of growth of wheat production was a healthy 3.67 per cent between 1985-86 and 1995-96, but stagnated at 0.50 per cent during the period 1995-96 to 2005-06. Thus, production growth rate in the latter period has fallen far below the rate of increase

in population. What is particularly worrying is that the growth rate of yield has also sharply decelerated from 2.61 per cent per annum from 1985-86 to 1995-96 to just 0.38 per cent in the period from 1995-96 to 2005-06. A smoothening of the time series data on area, production and yield of wheat, based on their three years moving average, shows negligible expansion of area and moderate augmentation of production by 7.48 million tonnes with stagnation in yield during the period 1995-96 to 2005-06. The absolute increase in average wheat yield from 1995-96 to 2005-06 was only 171 kgs. per hectare, whereas the corresponding increase from 1985-86 to 1995-96 was as high as 556 kgs. per hectare. Since further expansion of area of wheat is unlikely, the future growth of wheat production will essentially depend on step up in the rate of growth of yield. (Table 2.2)

2.6 An examination of the yield profile across the major wheat growing States, in conjunction with their share in all-India acreage, brings out the constraints in stepping up yield substantially at the national level in the short to medium term. During 1995-96 to 2005-06, there has been a decline in the rate of growth of wheat yield in most of the states as compared to 1985-86 to 1995-96. The yield in 2005-06 of wheat in Punjab and Haryana stood at 4179 and 3844 kgs per hectare as compared to 4696 and 4165 kgs per hectare achieved in 1999-2000. It is imperative to raise production in these states which is well below potential. It is reported that yield in Haryana slightly improved in 2006-07 to 4002 kgs per hectare due to extension efforts in ensuring timely sowing. These efforts should be continued as it is still lower than the peak yield achieved. Considerable scope also exists for raising productivity in the states of Uttar Pradesh, Bihar and Madhya Pradesh where yield is much less than the national average. Production in these states can be increased through location specific varietal development of seed, higher replacement rate as well as improved cultural practices, such as zero tillage, raised bed cultivation, etc., apart from increased coverage of area under irrigation. The recent decision of the Government to launch a Food Security Mission is a much needed initiative to improve the production and productivity of cereals. Under the Mission, production of wheat is targeted to be increased by 8 million tonnes in the next four years.

Table – 2 (A) : Yield Profile of Wheat

State	Average Yield T.E. 2005-06 Kg. per hectare	Yield Growth Rate(%)		Percentage share in Acreage T.E. 2005-06	Percent Irrigated Area
		1985-86 to 1995-96	1995-96 to 2005-06		
1. Punjab	4202	2.07	0.47	13.08	97.94
2. Haryana	3894	2.70	0.45	8.74	99.01
3. U.P.	2609	2.41	0.28	35.87	93.70
4. M.P.	1700	4.14	-0.54	15.38	76.70
5. Rajasthan	2797	1.49	1.13	7.85	98.76
6. Bihar	1671	3.07	-2.96	7.93	90.29
All India	2645	2.61	0.38	100.00	88.35

2.7 Raising yield is also important for sustaining production beneficial for both farmers and consumers. This is best illustrated by what happened in the past in Punjab and Haryana. When the yield was increasing rapidly, the increases in cost of production of wheat in these regions were much less than that in the overall price level. So, with no reduction in the margin of profit for farmers the real price of wheat to the consumers could be reduced. But with yield growth slowing down, the cost of production of wheat in Punjab and Haryana has been increasing and it is constraining the reduction in real price of wheat for the consumers. Having reached this stage in Punjab and Haryana, efforts should be made to promote new varieties as existing varieties are showing signs of fatigue. The popular variety PBW-343 which covers 80 per cent of area in Punjab and 60 percent in Haryana is more than a decade old and has become susceptible to brown rust and yellow rust in Punjab. Newer varieties like PBW-502 and PBW-509 have better resistance to rust and other diseases, as claimed by the research institutions, but have not yet gained popularity amongst farmers.

2.8 Even with the existing average low yields, the country had become more or less self-sufficient in wheat by the turn of the century which led to complacency regarding food security. The evident weakness in domestic supply in the past three years strongly suggests that this scenario has changed. This is illustrated by the balance sheet of wheat which has been updated using the latest available data.

Table - 2(B)
Domestic Wheat Situation

(million tonnes)

Crop Year (July-June)	2004-05	2005-06	2006-07
Fiscal Year (April-March)	2005-06	2006-07	2007-08
1. Gross Production	68.64	69.35	74.89
2. Net Production (87.5 per cent of Gross Production)	60.06	60.68	65.53
3. Procurement	14.79	9.23	11.10
4. Offtake ^c	17.16	11.71	12.00
(a) Export Sale	0.00	0.00	0.00
(b) Open Sale	1.05	0.00	0.54
5. Imports	0	5.50	2.00
6. Addition to Stock (3-4+5)	-2.37	3.02	1.10
7. Supply (Gross) ^d [2-3+4-4(a)+4(b)]	62.43	68.66	68.43
8. WPI (1993-94=100)	191.5	216.5	219.6*
9. Consumption Demand ^e	60.21	61.35	62.31

c. Offtake : Figures for 2005-06 and 2006-07 are rounded off actuals as reported by the Department of Food and Public Distribution. For 2007-08 offtake has been projected at 12 million tonnes. The Commission's projections are based on the offtake trends under different categories and feasibility of doing so in future.

d. Supply : Defined as Net production (-) Procurement (+) Offtake (-) Export sale + Imports.
* WPI - Average for April and May 2007

e. Consumption demand : the consumption demand is derived as a product of average per capita consumption based on NSS 61st Survey on Consumer Expenditure (2004-2005) and projected population.

2.9 The domestic wheat situation brings out that unlike in the past when there was an excess supply of wheat in relation to its demand, a shortage scenario lurks on the horizon. In 2005-06 wheat crop was marginally higher at 69.35 million tonnes than estimated at 68.64 million tonnes in 2004-05. However, wheat procurement was significantly lower at 9.23 million tonnes in 2006-07 as against 14.79 million tonnes in 2005-06. In 2006-07 the wheat crop is estimated at 74.89 million tonnes, however procurement of wheat is estimated at 11.10 million tonnes and 11.09 million tonnes has so far been made (as on 16.07.2007). In case the production estimate for 2006-07 is reliable, sufficient grain from domestic sources would be available to meet the demand

during the remaining part of the year.

2.10 The demand situation for wheat and wheat products is likely to rise with a change in dietary habits and also with greater urbanization. From 1993-94 onwards, the per capita consumption of wheat and wheat products has been growing in spite of a decline in the per capita consumption of cereals. In 2004-05, the per capita monthly consumption of wheat and wheat products stood at 4.65 kgs. in urban areas compared to the per capita consumption of 4.29 kgs of wheat in rural areas, as brought by the data on household consumer expenditure 61st Round (July 2004-June 2005) of NSSO. While wheat accounted for 48.9 per cent of total cereal consumption in urban areas, it constituted a lesser proportion of 39.57 per cent in rural areas. Along with urbanization, the change in dietary habits in favour of wheat and wheat products in the consumption basket by including bread and biscuits and other processed wheat food items is likely to emerge stronger in the coming years. To meet the enhanced demand it is essential to ensure adequate supplies of wheat. For this to happen, renewed efforts to raise productivity and production of wheat are urgently required.

Table - 2(C)

Per Capita Consumption of Wheat in Rural and Urban Areas in 30 days

(Kg)

	50 th Rnd (July-June) 1993-94	55 th Rnd (July-June) 1999-00	56 th Rnd (July-June) 2000-01	57 th Rnd (July-Dec.) 2001-02	58 th Rnd (Jan-Dec.) 2002-03	59 th Rnd (Jan-June) 2003-04	60 th Rnd (July-June) 2004-05	61st Rnd (July-June) 2004-05
Rural	4.32	4.45	4.59	4.12	4.34	4.22	4.25	4.29
Urban	4.44	4.45	4.57	4.51	4.59	4.59	4.67	4.65

Source : NSSO

2.11 The mis-match between demand and supply of wheat culminated into a market scenario different from the past. The wheat market during 2005-06 and 2006-07 was no longer a buyers' market. This transformation was also caused by certain modifications in policies made in recent years. The Government from 2002-03 onwards, liberalized rules governing licensing, movement, stock limits and trade in grains so as to give a larger role to the private trade. This has also provided space to corporate bodies and

trading houses to enter the domestic wheat trade. In a shortage situation, the activities of corporate and private bodies contributed to destabilization of the wheat market since they sucked out supplies with the expectation of price increase.

2.12 To bring back orderliness to the market, the government had to reintroduce certain control measures in 2006-07. The Central Government in August, 2006 decided to keep in abeyance Removal of Licensing Requirements, Stock Limits and Movement Restrictions on Specified Food Stuffs Order, 2002 in respect of wheat and pulses. State Governments were requested to implement the order by issuing either a fresh control order or reviving the old orders for fixing stock limits and to take effective action using the powers vested with them under the Essential Commodities Act, 1955 to bring out hoarded stock of these items in the open market. The Government issued a notification (Wheat Stock Declaration by Companies or Firms or Individuals Order 2007) on 1st March, 2007. The order requires that any company or firm or individual which purchases wheat beyond 50,000 tonnes during 2007-08 shall furnish to the Central Government a return indicating the name/address of the company, quantity of wheat purchased and quantity of wheat held in stock. The Government also suspended futures trade in wheat and rice from 27th February, 2007 to put an end to the excessive speculation taking place on the Commodity Exchanges.

2.13 In 2007-08 arrivals of the crop to mandis were delayed as harvesting of the crop progressed slowly. Farmers in Punjab and Haryana preferred to harvest their crop manually to save the straw. In view of the buoyant market behaviour and an expectation of rise in prices, farmers held back their grain. By the end of April, 2007, only 10 million tonnes of wheat had arrived in mandis as compared to 11.8 million tonnes in 2006-07, in spite of the crop estimated to be 4.35 million tonnes higher than in the previous year. Later by the month end of June, arrivals of wheat in 2007-08 marketing season had exceeded the arrivals in the corresponding period of 2006-07 by 1.6 million tonnes to 15.3 million tonnes. By mid -July, 15.4 million tonnes of wheat had arrived in mandis. Owing to late arrivals, the Government extended the procurement period to June 15 in Punjab and Haryana, June 30 in other states except Bihar where

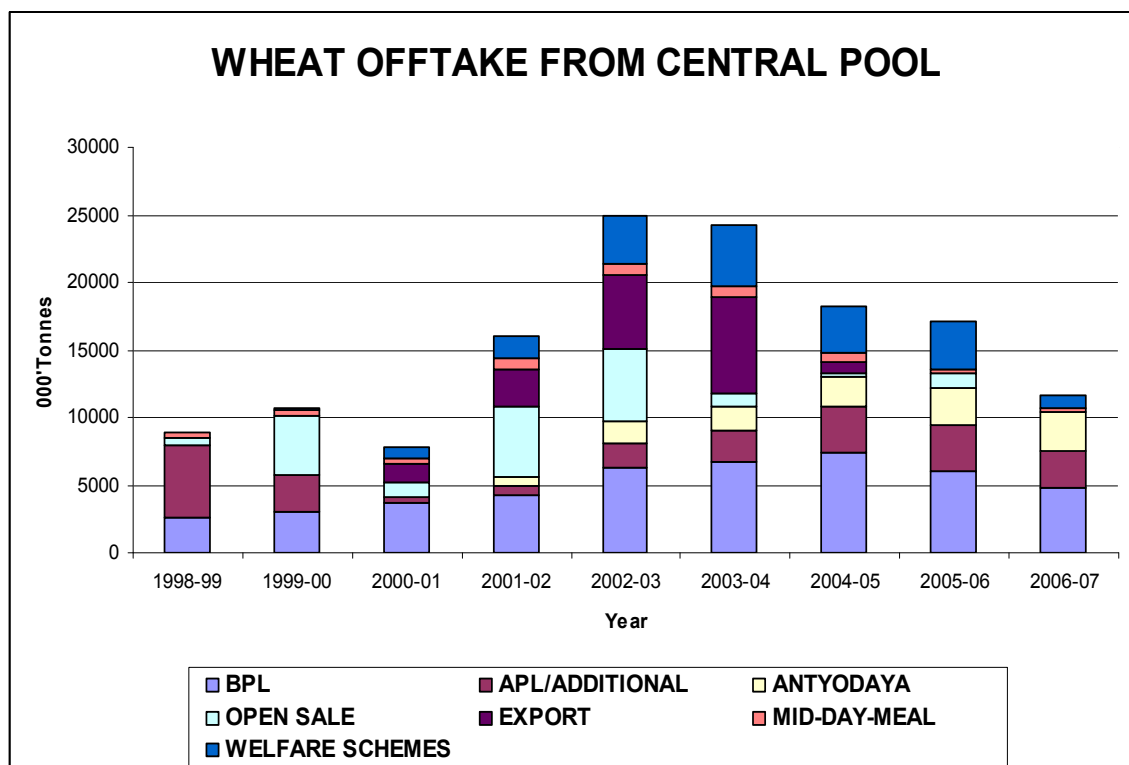
the season was extended to 15th July.

2.14 Owing to the involvement of private trade and off-market transactions, arrivals of wheat in mandis have declined from 26.6 percent of net production in 2005-06 marketing year to 22.6 percent in 2006-07 and 23.51 percent in 2007-08. The participation of private trade meant a reduction in the share that the government agencies could procure. Unlike in the period 1999-00 to 2004-05 when about 92 percent of grain arrivals was procured by government agencies, procurement as a percentage of arrivals in 2007-08 declined to about 75 per cent. Procurement of wheat during 2007-08 marketing season stood at 11.09 million tonnes (as on 16-07-2007). Procurement in the state of Punjab at 6.76 million tonnes was lower by 2.8 per cent than in the previous year. However, it was significantly higher in Haryana by 33.4 per cent at 3.35 million tonnes. The procurement made in the states of Uttar Pradesh, Madhya Pradesh and Rajasthan were of the order of 0.54, 0.06 and 0.38 million tonnes respectively.

2.15 The taxes levied on market transactions by the state governments of Punjab and Haryana at 11.5 per cent and 10.5 percent, respectively are excessive and add on to the procurement cost. The Commission recommends that ***state governments should reduce statutory charges on purchase of cereals to a combined maximum of 4 percent, including all taxes and cesses, mandi charges and payments to commission agents. Further, state governments should refrain from taxing primary products brought in or taken out of the states by agencies designated to undertake minimum support price operations.***

2.16 Fluctuations in supply arising due to climatic aberrations and the resultant strain in food management is not unprecedented. The food management system should ideally have a mechanism in place to adjust to such eventualities. Unfortunately, the surplus stock of grains built up during the years of good crops in the past was exported at very low prices. As a result, the stock levels got drastically reduced. In 2006-07, for the fifth consecutive year, the offtake of foodgrains continued to be higher than

accretion and net addition to stocks was negative.



2.17 From 2003-04 when foodgrains particularly, wheat, was liberally released in the wake of huge stocks on a yearly basis, offtake has remained higher than accretion. The increased allocation under BPL, Antyodaya, for various employment and welfare schemes, and also releases for exports till 2004-05 were responsible for the high offtake. When stocks were depleted, releases for exports were completely stopped in 2006-07.

2.18 Total offtake of foodgrains during 2006-07 was 36.77 million tonnes as compared to 42.21 million tonnes in the previous year. Of the total foodgrain offtake of 36.77 million tonnes in 2006-07, the offtake of wheat was 11.71 million tonnes as compared to 17.16 million tonnes in 2005-06. From this wheat offtake, 10.39 million tonnes were distributed through TPDS and 1.32 million tonnes under various welfare schemes. During 2005-06 and 2006-07 offtake of rice has been stepped up to compensate for less wheat particularly under TPDS. The offtake of 25.06 million tonnes of rice in 2006-07, was maintained at almost the same level as in 2005-06. (Table 2.12)

2.19 Since TPDS is supposed to ensure food security at the household level, the time has become appropriate to re-examine the need for as many as nine welfare schemes to cater to the requirements of essentially the same set of households.

2.20 Stocks are maintained by the Government to meet the prescribed minimum buffer stock requirement for the monthly releases of foodgrains for public distribution system and for welfare schemes ensuring food security. Stocks are also maintained to meet emergency situations such as crop failures, natural disasters and market intervention to keep prices stable in the open market. The total stocks of rice and wheat held by FCI on 1st April, 2007 stood at 17.73 million tones, comprising 13.17 million tonnes of rice and 4.56 million tonnes of wheat. Whereas the stock of rice was comfortably higher than the buffer norm (for the month of April) of 12.2 million tonnes, that of wheat stood barely above the norm of 4 million tonnes. (Table 2.11)

2.21 A major reason for the low level of stocks of wheat was the release of 12.4 million tonnes of wheat for exports between 2001-02 to 2004-05. This wheat was mostly exported at prices well below MSP. In fact, at one stage, the price of wheat released for exports was the same as the price for BPL releases. The unit value realization from exports was Rs. 108 per quintal, lower than the MSP of Rs. 610 in 2001-02 and Rs. 141 per quintal lower than the MSP of Rs. 620 per quintal in 2002-03.

2.22 In view of the low stocks and rising prices during 2006-07, the Government was forced to import 5.5 million tonnes of wheat after relaxing quality norms to some extent. The Government also allowed the private sector to import wheat free of customs duty.

2.23 The infrastructure at ports is reportedly inadequate and ill-equipped to check the quality of imports of wheat and other agricultural products and to maintain quarantine standards. There is shortage of manpower available with the Directorate of Plant

Protection Quarantine and Storage. About 40 percent of posts of scientists and technical personnel out of a sanctioned strength of 4500 have not been filled in the last 10 years because of the imposition of a ban on direct recruitment and annual cut in posts. *In view of the importance of Plant Protection and Bio-Safety and Security in an open and liberalizing economy and the need to implement sanitary and phyto-sanitary measures, the Commission recommends that the Directorate of Plant Protection Quarantine and Storage be treated at par with other security agencies and be allowed to recruit personnel in keeping with the sanctioned strength.*

2.24 During 2006-07 the STC finalized contracts for import of 5.5 million tonnes at an average price of US\$ 205.37 per metric tonne equivalent to Rs. 929 per quintal, which works out to be Rs. 279 per quintal higher than the then MSP of Rs. 650 per quintal (excluding bonus). The contracts were finalized in stages through 5 tenders. In each successive tender, the price of imports contracted was higher than in the previous one. The price contracted in the tender of 10.2.06 was \$178.75 per tonne. By 30.8.06 the price contracted had risen to \$228.94 per tonne. When a country of the size of India wishes to import, in a sellers' market the exporters hike prices. The availability of grain in international markets is also uncertain. This underscores the need to renew efforts to build up stocks from domestic sources. The Commission recommends that ***a new buffer stocking policy should be designed so that surplus production in years of good crop can be stored and be made available in years when there is a shortfall in production.***

Table 2 (D) : Procurement, Offtake and Stocks (Central Pool)

(Lakh tonnes)

Fiscal Year	Wheat				Rice			
	2004-05	2005-06	2006-07	2007-08*	2004-05	2005-06	2006-07	2007-08*
1. Opening Stock	69.31	40.66	20.09	45.63	130.69	133.41	136.75	131.72
2. Procurement	167.96	147.87	92.25	111.00	246.84	276.56	243.01	254.81
3. Import			55.00	@ 20.00				
4. Offtake[(a) to (f)]	182.71	171.64	117.07	120.00	232.05	250.42	250.62	244.36
a.BPL	74.23	59.62	47.68	46.60	100.29	96.80	94.70	97.26
b.APL	33.44	35.03	27.91	27.00	33.85	47.99	59.47	47.25
c.Antyodaya	22.64	27.26	28.30	28.00	32.07	47.17	58.32	46.00
d.Other welfare	41.24	39.23	13.15	13.00	64.85	58.26	38.04	53.72
e.Open Sale	2.39	10.50	0.03	5.40	0.08	0.21	0.09	0.13
f.Export	8.76	0.00	0.00	00.00	0.90	0.00	0.00	0.00
5. Carry over stock# (1+2+3-4)	54.56	16.89	50.27	56.63	145.48	159.55	129.14	142.16

@ : FCI Reply (April,2007)

: There is a discrepancy between carry over stock and the corresponding opening stock, partly due to accounting errors in data on procurement and offtake, particularly those relating to States under decentralized system.

* : Figures for the year 2007-08 are projected by taking average of last three years.

Source :- Foodgrains Bulletin, April, 2007 and Commission's estimate for 2007-08
Ministry of Consumer Affairs, Deptt. of Food & Public Distribution

2.25 The wheat balance sheet is also helpful in understanding the factors leading to the surge in prices from November, 2005 onwards. In 2005-06 and 2006-07, the annual average wholesale price index (base 1993-94=100) for wheat rose by 4 per cent and 13 per cent as compared to the rise in the average annual index number for all commodities by 4.4 and 5.4 per cent respectively.

(Table 2.23)

2.26 The wheat marketing season commences on 20th March in the states of Madhya Pradesh and Rajasthan and on 1st April in other states. The Government announced the MSP for wheat of Rs.750 per quintal on 30.10.2006. With low stocks lying with the Government and need to replenish them, the Government on 22nd March, 2007, announced an incentive bonus of Rs.100 per quintal payable over the MSP of Rs.750

per quintal, in case state governments exempt it from state tax and levies. The announcement of bonus before the commencement of the marketing season was timely in view of the prevailing price sentiment in the market.

(Table 2.9)

2.27 In April and May, 2007 at Amritsar (Punjab) wholesale prices of wheat were quoted at Rs.850-851 per quintal. Wheat prices were quoted at Rs.875-890 in Karnal (Haryana). In other states, prices were quoted much higher than the MSP. Prices were reported at Rs 910-925 per quintal at Kanpur (Uttar Pradesh). Wholesale prices crossed Rs. 1000 and were reported at Rs. 1075-1142 per quintal at Basoda (Madhya Pradesh), Rs. 1088-1125 at Jalgaon (Maharashtra) and Rs 1025-1228 per quintal at Dharwad (Karnataka). (Table 2.14)

2.28 The retail price of wheat in 2007 was substantially higher than that in 2006 in spite of indications of a relatively good crop. In April-May, 2007 (as compared with prices for April-May, 2006 given in paranthesis), retail price of wheat per kilogram was quoted at Rs.10 to Rs. 10.50 (Rs. 9 to Rs. 9.50) in Lucknow, Rs. 11.50 to Rs. 12 (Rs. 10) in Delhi, Rs. 14 (Rs.13.50) in Mumbai, Rs. 18 (Rs.16 to Rs. 16.50) in Thiruvananthapuram and Rs.16 (Rs.13.50) in Chennai.

2.29 According to FAO (Food Outlook No.1, June, 2007), production of wheat is forecast in 2007-08 at 629.6 million tonnes, 5.2 percent higher than last year. However, wheat trade in 2007-08 marketing season (July –June) is forecast at 109 million tonnes nearly unchanged from the estimated level in 2006-07. India is expected to import 3 million tonnes. Among major exporters US and EU are expected to maintain their exports at a level of 26.05 and 14 million tonnes respectively. The expected recovery in Australia's production is likely to boost sales from that country to 15 million tonnes from 11.7 million tonnes in 2006-07. Slightly higher exports are expected from the Russian Federation and Ukraine. There could be a reduction in supplies from Canada and Argentina.

2.30 International wheat prices had risen in 2006-07 due to a decline in production in a number of major producing countries, export restrictions imposed by several exporters and spill over from surging maize markets. At the outset of 2007-08, stocks in major exporting countries were low which contributed to price volatility in world markets. The United States Hard Wheat (HRW, No. 2, fob) averaged US\$ 203 per tonne in May, 2007, down US\$ 3 from April but still well above May, 2006 level of US\$ 201 per tonne. In late May, wheat futures for September, 2007 delivery at the CBOT were quoted at US\$ 186 per tonne, up US\$ 31 from the corresponding period last year.

2.31 In this scenario, Indian imports will be constrained by tight supplies and high prices. A number of shortcomings in the price support / procurement system which has surfaced in recent years need immediate correction. First and foremost, MSP should be announced well before the sowing season so that the farmers know in advance the guaranteed price for different crops and plan accordingly. The Commission has time and again emphasized the need for timely announcement of MSP. The situation in this respect improved during 2006-07 marketing season. For example, the Commission submitted its Rabi Report for 2006-07 to be marketed in 2007-08 season on 24.7.2006. The Government announced the price on 30.10.2006 which was in time for sowing. Timely announcement allows the farmers to decide on making important sowing decision and also enhances Government's ability to influence their decisions on crop pattern adjustments. The Government on 22nd March, 2007, announced an incentive bonus of Rs.100 per quintal for procurement of wheat over the MSP of Rs.750 per quintal. Secondly, the dual objectives of food management system, on one hand, to safeguard the interest of farmers, in the wake of supply pressure of peak marketing season, by triggering MSP operation and, on the other, to build adequate stocks for food security and maintaining welfare schemes-need to be addressed appropriately in different market situations. Since the wheat market was a buyer's market in the late nineties and till 2003-04, the stock building had been a corollary to MSP intervention. When the market turns into a seller's one, the state agencies may have to reposition themselves on account of prevalent market situation. Thirdly, the non-price issues should be pursued vigorously to improve productivity, enhance farm efficiency and

upgrade quality. Fourthly, excessive fiscal levies on MSP purchases in some states should be rationalized, so that levies and prices are uniform across regions. Besides, some states tax the produce brought from neighbouring states resulting in double taxation. Fifthly, there should be wider awareness amongst farmers on quality norms for public procurement and procedures for quality checks should be realistic and transparent. Sixthly, the offtake mechanism and PDS itself needs to be reformed so that requirement is properly assessed and leakages are plugged. Finally, the implementation of MSP should be broad based, rather than allowing it to remain confined to a few states. These conditions are to be followed irrespective of the aberrations that were witnessed in 2006-07.

2.32 The scenario of wheat economy in the season 2006-07 has not only exposed the vulnerability of much acclaimed sustainable food security of the country and dislocated the price stability of this essential item of mass consumption in the country. It has also demolished the premise articulated by several thinkers that India's healthy foreign exchange reserves permit imports without transaction costs and guarantees food security. The Commission, therefore, recommends that ***there should be a comprehensive review of wheat production situation in various regions by the Government for evolving short term and medium term strategies for raising wheat production to meet the growing demand.***

BARLEY

2.33 According to Fourth Advance Estimates of crop production (19.7.2007) released by the Directorate of Economics & Statistics, rabi foodgrains output is reported to be 105.61 million tonnes in 2006-07 and the production of barley, a minor constituent of rabi foodgrains would be of 1.31 million tonnes as against the target of 1.65 million tonnes. Production has been declining steadily from 1.68 million tonnes in 1997-98 to 1.41 million tonnes in 2002-03 and further to 1.22 million tonnes in 2005-06 although it picked up with the overall increase in rabi foodgrains output to 1.31 million tonnes in 2006-07. (Table 2.1)

2.34 Barley is grown mainly in Uttar Pradesh and Rajasthan, which together account for around 66 per cent of total area and 74 per cent of total production in the country. The other states where barley is cultivated on a significant scale are Madhya Pradesh, Haryana, Punjab, Bihar and Himachal Pradesh.

2.35 Barley steeply lost area at about 4.7 per cent per annum in the period 1985-86 to 1995-96. This decline had, however, slowed down to 2.96 per cent in the period from 1995-96 to 2005-06. From 1985-86 to 1995-96 there was an impressive growth in yields of barley at 3.2 percent per annum. In the period 1995-96 to 2005-06, the growth was only 1.92 percent per annum. Consequently, the production of barley declined at the rate of 1.7 per cent per annum in the period for 1985-86 to 1995-96 and at 2.5 per cent per annum in the period 1995-96 to 2005-06. The ICAR and its affiliated institutions have developed a number of high yielding varieties of barley, suitable for the malt and brew industry. (Table 2.2)

2.36 Annually about 25 varieties are taken up for breeder seed production to fulfill the demand of various indenters through the Department of Agriculture and Cooperation. The indent for 362.55 quintals of breeder seeds was received by ICAR in 2005-06. This is rather low in view of the yield potential of many of the newly released varieties. The yield potential of many of these varieties is placed at 4062 kgs per hectare in North-Western Plains Zone and 3397 kgs per hectare in Central Zone. This calls for a renewed thrust in propagating new varieties of barley. Since this crop is now increasingly catering to the raw material needs of the malt and beverage industry and is likely to do so in future, an all round cooperation of the private industrial sector should be enlisted for mutual benefits of both the cultivators and the industry.

2.37 Barley is consumed as foodgrain, feed and an intermediate product mainly as malt in the drinks and beverage industry, but detailed statistics on its diversified usages are not available. Much of barley production goes to manufacture of beer and

other industrial uses. Apart from seed and animal feed, only about 5 percent goes for direct household consumption. In recent years, there has been excess production and supply of barley vis-à-vis demand. During 2003-04, average annual index number of wholesale price (WPI base 1993-94=100) of barley declined by 7.4 per cent over 2002-03. In subsequent years, prices have risen in consonance with the rise in other cereals. The wholesale prices rose by 5.9 percent, 8.9 per cent and 7.5 per cent in 2004-05, 2005-06 and 2006-07 respectively. On a month to month comparison, the WPI for barley in May, 2007 stood at 221.3 compared to 215.7 in May, 2006, an increase of 2.6 per cent. (Table 2.23)

2.38 In some earlier reports, the Commission had reported that the open market prices of barley in major producing states have generally ruled above the MSP and that this obviated the need for any price support operations. During 2007-08 marketing season in keeping with the general increase in cereal prices, open market prices of barley in many markets of the country ruled much higher than the MSP of Rs.565 per quintal. In Jaipur (Rajasthan) prices of barley were quoted at Rs. 675-700 per quintal, in Hissar (Haryana) prices were quoted at Rs. 662-667, in Hathras (Uttar Pradesh) at Rs 705-735 per quintal and in Delhi at Rs. 800-825 per quintal respectively in April to May, 2007.

2.39 India is a marginal player in the world barley sector with less than 2 per cent share in production and acreage. According to FAO (Food Outlook No. 1, June 2007) output of barley, which is the second most important coarse grain (after maize), is forecast to increase in 2007-08 by nearly 6 per cent over the previous year to about 148 million tonnes. International trade in barley is forecast to reach 17 million tonnes, one million tonne more than in 2006-07.

2.40 Prices of coarse grains, in general, are expected to rise with increased demand particularly for maize in the US for use in the manufacture of ethanol. Although, global price quotes for barley are not available, traded prices of barley would be similar to maize or sorghum. According to FAO in May, 2007, the United

States Maize Export Price (US No.2 yellow) stood at US\$159 per tonne and sorghum at US\$ 155 per tonne as compared to US\$ 111 per tonne and US\$123 per tonne respectively in May, 2006. The FAO expects coarse grains prices to remain high during the remaining part of the year. India's presence in coarse grains trade has so far been negligible.

Rabi Pulses

2.41 India is the world's largest producer as well as importer of pulses. However, pulses continue to occupy a secondary status in the farming system of the country mainly because of (a) higher risk and low stability of production; (b) high losses in storage; and (c) higher market fluctuations. Thus, the cultivation of pulses by farmers has been confined to marginal and sub-marginal lands, mainly for meeting their own requirements. More than 78 per cent of the area under pulses remains still rainfed. The yield increases registered by the sector have been very little.

2.42 During the period 1980-81 to 2005-06, the total area under pulses in India remained virtually stagnant (22 to 24 million hectares). This stagnancy has been reflected on the production front also (12 to 14 million tonnes). In the drought year of 2002-03, the area decreased to nearly 20 million hectares and production to 11 million tonnes. The targets and actual production of pulses from 2002-03 to 2006-07 and the target for 2007-08 are shown in the table below:

Table 2(E): Target and Actual Production of Pulses

Year	(million tonnes)	
	Target	Actual Production
2002-03	14.40	11.13
2003-04	14.80	14.91
2004-05	15.30	13.13
2005-06	15.70	13.36
2006-07	15.15	14.23*
2007-08	15.60	

*Based on 4th Advance Estimates of the Directorate of Economics & Statistics, Ministry of Agriculture.

2.43 The target of 15.60 million tonnes set for 2007-08 is moderately higher than the previous year's target of 15.15 million tonnes, but lower than the target of 15.70 million tonnes for the year 2005-06. However, actual production, during 2002-03 to 2006-07, ranged between 11.13 and 14.23 million tonnes only. Except for the year 2003-04, the production achieved has been invariably lower than the target. Evidently, there is an imperative need for concerted efforts on the part of Government, research institutions and farmers to adopt best cultivation practices for boosting up the production and productivity of pulses.

2.44 The share of area under pulses out of the gross cropped area in the country which was 13.0 per cent in 1980-81 marginally increased to 13.3 per cent in 1990-91, but declined to 12.3 per cent in 2003-04, the year up to which data is available. This fall in area is more sharp in the states of Punjab and Haryana where there has been a shift of area in favour of rice and wheat, primarily due to increase in irrigated area, assured procurement at the declared minimum support price, less incidence of pests and diseases, thrust towards attaining self-sufficiency in cereals production and lack of technological breakthrough in pulses. Similar has been the trend in respect of the share of pulses in the total foodgrains production. It was 8.20 per cent in 1980-81, 8.09 per cent in 1990-91, but declined to 6.41 per cent in 2005-06. The yield, however, increased from 473 kgs per hectare in 1980-81 to 578 kgs in 1990-91, and attained the peak of 635 kgs in 1996-97 and 1999-2000. The performance during the subsequent years could not surpass this peak level. (Table 2.1)

2.45 Rabi pulses account for 64 per cent of total production and 52 per cent of the total area under pulses in the country. There was decline in the area under rabi pulses also, from 12.04 million hectares in 1980-81 to 11.68 million hectares in 2005-06, but the improvement in yield from 571 kgs per hectare to 727 kgs per hectare elevated the production from 6.87 million tonnes to 8.52 million tonnes in the same period. However, the picture is not encouraging as compared with that of foodgrains as a whole. The share of pulses in foodgrain area during rabi season has fallen over the years from 27.7 per cent in 1980-81 to 23.91 per cent in 2005-06 and production from 13.22 per cent to

8.96 per cent in the same period.

(Table 2.1)

2.46 The Centrally sponsored “Integrated Scheme for Oilseeds, Pulses, Oil Palm and Maize (ISOPOM)” is under implementation from April, 2004 for increasing production and productivity in 14 states of the country, viz., Andhra Pradesh, Bihar, Chhattisgarh, Gujarat, Haryana, Karnataka, Madhya Pradesh, Maharashtra, Orissa, Punjab, Rajasthan, Tamil Nadu, Uttar Pradesh and West Bengal. The Scheme intends to promote crop diversification in favour of oilseeds and pulses alongwith providing flexibility to the States in implementation of the programme based on regionally differentiated approach. Under the Scheme, assistance is generally provided on 75:25 funding pattern between Central and State Governments. In the wake of implementation of ISOPOM, the production and yield of pulses during the years 2004-05 and 2005-06 have shown signs of improvement in most of the designated states except in the states of Rajasthan, Madhya Pradesh. and Uttar Pradesh. *The Commission is of the view that there should be close monitoring of the Scheme and quick elimination of the bottlenecks for making the programme more result-oriented in terms of increasing the area, production and yield of pulses.*

Table 2(F): Demand – Supply Gap in Pulses

(in million tonnes)

Year	Production	Demand	Gap	Import
2005-06	13.39	17.38	3.99	1.70
2006-07 (4 th Advance Estt.)	14.23	17.71	3.48	1.11 (April-Oct,06)
2007-08(Target)	15.60			

(Source: TMOP, Ministry of Agriculture)

2.47 The table above reveals that the gap between production and demand of pulses has been to the tune of 3.99 million tonnes in 2005-06 and 3.48 million tonnes in 2006-07. Owing to this deficit, there have been imports of 1.70 million tonnes and 1.11 million

tonnes respectively during these years. Obviously, the entire gap between domestic production and demand has not been met by way of imports, thus, leaving more than 50 per cent of the gap unfulfilled.

Gram

2.48 Gram, a major pulse crop grown in rabi season, accounted for 30.8 per cent of the total area under pulses cultivation and 41.7 per cent of the total pulses production in 2005-06 in the country. The share of area under gram in the total area under pulses is stagnant at nearly 31 per cent since 1990-91, barring a dip to 25.5 per cent in 2000-01, whereas the healthy improvement in yield from 712 kgs. per hectare in 1990-91 to 808 kgs. per hectare in 2005-06 led to increase in production from 5.4 million tonnes to 6.6 million tonnes in the same period. The rise in yield from 690 kgs. per hectare in 1985-86(TE) and 780 kgs. per hectare in 1995-96 (TE) to 811 kgs. per hectare in 2005-06 (TE), more than neutralized the adverse effect of decrease in area from 7.29 million hectares in 1985-86 (TE) and 7.01 million hectares in 1995-96 (TE) to 6.89 million hectares in 2005-06 (TE), on production. The production of gram increased from 5.03 million tonnes in 1985-86 to 5.46 million tonnes in 1995-96 and to 5.59 million tonnes in 2005-06 . (Tables 2.1 & 2.2)

2.49 The state of Madhya Pradesh leads in the area and production of gram in the country with an area of 2.56 million hectares, out of 6.88 million hectares (37.2 per cent share) under gram and a production of 2.37 million tonnes out of 5.57 million tonnes (42.6 per cent share) in 2005-06 in the country. This is followed by Rajasthan (15.7 per cent area & 8.6 per cent production), Maharashtra (14.8 per cent area & 12.7 per cent production), Uttar Pradesh (10.7 per cent area & 11.9 per cent production), and Karnataka (6.1 per cent area & 4.1 per cent production). In terms of productivity, Andhra Pradesh enjoys the top rank in the country reporting an yield of 1591 kgs. per hectare followed by Madhya Pradesh (926 kgs), West Bengal (913 kgs.), Bihar (902 kgs.), Uttar Pradesh (893 kgs.) and Gujarat (850 kgs. per hectare). (Table 2.5)

2.50 In Andhra Pradesh the area under gram increased from 113 thousand hectares in 1995-96 to 394 thousand hectares in 2005-06 and production of gram rose from 71 thousand tonnes to 627 thousand tonnes and likewise yield increased from 630 kgs. per hectare to 1591 kgs (2.5 fold rise) in the same periods. The states of Gujarat, Maharashtra and to some extent Karnataka also improved their performance.

(Table 2.5)

2.51 The percentage of irrigated area under gram increased from 18.44 per cent in 1979-80 to 20 per cent in 1989-90, 29.63 per cent in 1999-2000 and 30.60 per cent in 2003-04. Among the major gram growing states, Madhya Pradesh has shown remarkable growth in the irrigated area. It increased from 7.27 per cent in 1979-80 to 21 per cent in 1989-90, 36.7 per cent in 1999-00 and 44.25 per cent in 2003-04. In the case of Rajasthan, it decreased from 29.04 per cent in 1979-80 to 23.78 per cent in 1989-90 but increased to 33.45 per cent in 1999-00 and 35.33 per cent in 2003-04. In Maharashtra, the third prominent state in gram production, it increased from 15.24 per cent in 1979-80 to 16.91 per cent in 1989-90 and 26.30 per cent in 1999-2000 and continued to be at that level since then.

2.52 The wholesale prices of gram have been fluctuating widely in recent years. The Wholesale Price Index (WPI) of gram (base 1993-94=100) increased from 139.2 in 2000-01 to 170.3 in 2001-02, but dropped to 149.7 in 2002-03, 142.5 in 2003-04 and 137.1 in 2004-05. It again increased to 157.0 in 2005-06 and 208.7 in 2006-07.

(Table 2.24)

Lentil (Masur)

2.53 Lentil (Masur) is grown in about 1.5 million hectares in the country. The area under lentil increased from about 1.1 million hectares in the early nineties to 1.5 million hectares during 2004-05 and 2005-06. The states of Uttar Pradesh, Madhya Pradesh and Bihar top the list in respect of the area under lentil cultivation. Nearly 9.5 lakh tonnes of lentil were produced in the year 2005-06. The production of lentil increased from about 8 lakh tonnes

in the early nineties to 10.4 million tonnes in 2003-04, 9.90 lakh tonnes in 2004-05, and 9.5 lakh tonnes in 2005-06. The yield level, however, remained static at 6 to 7 quintals per hectare, thus, correlating the increase in production mainly to the expansion in area. (Table 2.6)

2.54 The wholesale price index of lentil has shown a steady upward trend since 2001-02. It increased from 203.9 in 2001-02 to 254.0 in 2006-07. The month-end wholesale prices also ruled much above the MSP in 2006-07 leaving little room for market intervention by NAFED. The prices have been ruling above MSP right from the year 2001-02 when the crop was included in the list of crops for MSP, except in the year 2005-06. Therefore, the item has not exhibited any need for market intervention by the Government through MSP. However, during the year 2005-06 NAFED intervened in the market and procured 5454 metric tonnes under PSS as well as made commercial purchase of 4688 metric tonnes. NAFED has also made commercial purchase of 4898 metric tonnes in 2004-05, 2412 metric tonnes in 2006-07, and 1813 tonnes (up to 5.5.2007) in 2007-08.

(Tables 2.24 & 2.10)

Imports, Exports and International Prices of Pulses

2.55 Import of pulses is under Open General Licence (OGL) at zero per cent duty as against the bound rate of 100 per cent. No import/export of Urad and Moong took place from 2003-04 to 2006-07 (up to October, 2006). Tur was imported to the tune of 228.8 thousand tonnes in 2005-06 and 126.6 thousand tonnes in 2006-07 (up to October, 2006). The current year imports are not sufficient to meet the demand for pulses in the country. Tur, Moong and Urad which are integral to the food habits of Indian population, are dearer and of limited availability in the international market. About 83 thousand tonnes of lentil were exported in 2003-04, 137 thousand tonnes in 2004-05, 281 thousand tonnes in 2005-06 and 66 thousand tonnes in 2006-07 (April-July, 2006). The international prices of gram have shown a rising trend in recent years. It increased from \$280 to \$340 in 2004-05, \$300 to \$425 in 2005-06, \$440 to \$700 in 2006-07 and \$ 570 to \$580 (U S \$) per metric tonne in 2007-08 up to May, 2007 (C & F Indian Port). The prices of lentil were in the range of \$580 to \$605 (US \$) per metric tonne (C & F Indian Port) in 2007-08 up to May,

2007 as against \$400 to \$470 in 2005-06 and \$435 to \$580 in 2006-07. The shortfall in the supply of pulses and the consequent high prices stood in the way of large imports even though the item is under OGL and at zero per cent duty. The Union Government also decided to ban export of pulses from the country on 22nd June, 2006, keeping in view the lower production/supply vis-à-vis the requirements. The ban was notified on 27th June, 2006, and extended it up to 31st March, 2007.

2.56 The above discussions reveal that the state of pulses in the country is not encouraging in respect of production as well as productivity. There is a perennial shortage of pulses in India. On the whole, production of the item over the years has been a story of stagnancy. Both the area coverage as well as yield of the item has failed to look up. Taking resort to import is also ruled out, in view of the inadequate availability coupled with buoyancy of prices internationally. The option left to us in the constrained situation is to explore the possibility of enhancing productivity. This has to be attained through improved cultivation practices alongwith easy availability of essential inputs translated through region-specific initiatives. The improvements delivered by ISOPOM have not been substantial. The Scheme has to be further toned up and subjected to more effective monitoring and evaluation, so that its basic aims and objectives get reflected in better results and output.

Rabi Oilseeds

2.57 India is one of the largest producers of oilseeds in the world. During 2006-07, the total production of nine cultivated oilseeds is estimated at 238.84 lakh tonnes, with area sown at 259.85 lakh hectares. India is fortunate in having a wide range of oilseeds crops grown in its different agro climatic zones. Groundnut, rapeseed/mustard, sesamum, safflower, linseed, nigerseed, castor seed are the major traditionally cultivated oilseeds. Soyabean and sunflower have also assumed importance in recent years. India contributes about 7-8 percent of the world's oilseeds production. India's productivity is, however, quite low, around 50 percent of the world average and even less in the case of soyabean. (Table 2.1)

2.58 The area under oilseeds cultivation has been estimated at about 259.85 lakh hectares in 2006-07, down from 278.63 lakh hectares in 2005-06 and an average of 263.50 lakh hectares during T.E. 2005-06. The oilseeds area and hence production is concentrated in central and southern parts of India, mainly in Rajasthan, Madhya Pradesh, Gujarat, Maharashtra, Karnataka and Andhra Pradesh. The three oilseeds, viz, groundnut, soyabean and mustard together account for about 85 percent of the total production of oilseeds in the country. Total production of oilseeds has risen over the years, reaching an all time high of 279.78 lakh tonnes in 2005-06, contributed by expansion of area under cultivation and increase in yield, both supported by concerted policy initiatives oriented towards achieving self sufficiency in edible oils in the country. Oilseeds production witnessed a setback after 1998-99 with the production declining sharply to 148.38 lakh tonnes in 2002-03 due to failure of monsoon, as the coverage of oilseeds area under irrigation has been in the neighbourhood of 23 to 26 percent only and the crops are mostly grown under rainfed conditions. (Tables 2.1&2.2)

2.59 There was, however, a remarkable recovery in 2003-04 to 251.86 lakh tonnes due to good, timely and evenly distributed monsoon, surpassing the previous record production of 247.5 lakh tonnes achieved in 1998-99. This recovery has broadly been sustained in the following year and, as per the latest estimates for 2005-06, oilseeds production is estimated to have surged to a new peak of 279.78 lakh tonnes, showing a sharp increase of 27.92 lakh tonnes (about 11.1 percent) over the previous record level of 251.86 lakh tonnes reached in 2003-04. This was made possible because of reasonably good rainfall, though the behaviour of south-west monsoon was erratic, especially in the beginning of the kharif season 2005. Overall, the all India weighted average rainfall for the monsoon season 2005 was just 1 percent below normal. Despite the marginal deficiency in the overall seasonal rainfall, kharif 2005-06 oilseeds production is estimated to have increased by about 0.57 percent from 166.72 lakh tonnes in 2003-04 to 167.67 lakh tonnes in 2005-06, supported by higher production of groundnut and soyabean. On the other hand, rabi oilseeds production in 2005-06 is estimated to have recorded a large increase of 10.07 lakh tonnes (about 9.86 percent)

to 112.11 lakh tonnes over the previous year, largely due to increases in production of rapeseed & mustard, and rabi groundnut and sunflower seeds. (Table 2.1)

2.60 As per the 4th Advance Estimates (19-07-2007), total oilseeds production estimated at 238.84 lakh tonnes in 2006-07 show a sharp decline of 14.63 percent over the final estimate of 279.78 lakh tonnes for 2005-06. The kharif, 2006-07 oilseeds production is estimated to have nose-dived by 16.87 percent from 167.67 lakh tonnes in 2005-06 to 139.38 lakh tonnes in 2006-07, predominantly due to a decline of about 31 lakh tonnes (38.58 percent) in groundnut production. The rabi oilseeds production is also estimated to decline by 12.65 lakh tonnes or 11.28 percent to 99.46 lakh tonnes, largely reflecting declines in production of rapeseed & mustard, and rabi sunflower seeds.

Table 2(G): Production of Nine Major Oilseeds

<i>(Lakh tonnes)</i>					
Crop	Season	2003-04	2004-05	2005-06 (Final Estimates)	2006-07 (4 th Advance Estimates)
1	2	4	5	6	7
Groundnut	Kharif	68.60	52.62	62.98	32.81
	Rabi	12.67	15.12	16.95	16.28
	<i>Total</i>	<i>81.27</i>	<i>67.74</i>	<i>79.93</i>	<i>49.09</i>
Castorseed	Kharif	7.97	7.93	9.91	7.95
Sesamum	Kharif	7.82	6.74	6.41	5.86
Nigerseed	Kharif	1.09	1.12	1.08	0.71
Rapeseed & Mustard	Rabi	62.91	75.93	81.31	70.97
	Rabi	1.97	1.70	1.73	1.67
Safflower	Rabi	1.35	1.74	2.29	2.24
Sunflower	Kharif	3.06	4.31	4.56	3.48
	Rabi	6.24	7.56	9.83	8.30
	<i>Total</i>	<i>9.30</i>	<i>11.87</i>	<i>14.39</i>	<i>11.78</i>
Soyabean	Kharif	78.19	68.76	82.74	88.57
Total Nine Oilseeds	Kharif	166.72	141.49	167.67	139.38
	Rabi	85.14	102.05	112.11	99.46
Total		251.86	243.54	279.78	238.84

Source: Directorate of Economics & Statistics, Deptt. of Agri. & Co-operation, M/o Agriculture

2.61 The sharp decline in oilseeds production in 2006-07 reflects large shifts in acreage from oilseed crops to other crops, coupled with the overall deficient and uneven distribution of rains during the kharif 2006 season. Overall, the all India weighted average rainfall for the monsoon season 2006 was 2 percent below normal. The period saw some very heavy rains leading to floods in many parts of Gujarat, Maharashtra and Andhra Pradesh, while Rayalaseema region of Andhra Pradesh and South Karnataka remained parched for want of water. Besides, on account of relatively lower prices that prevailed during November, 2004 to July, 2006, acreage under oilseeds cultivation has declined in 2006-07. Area sown under nine major oilseeds recorded a decline by about 19 lakh hectares (about 6.7 percent) to 259.85 lakh hectares in 2006-07 from 278.63 lakh hectares in 2005-06, with the kharif oilseeds area coverage declining by over 8 lakh hectares (about 5.0 percent) and the rabi oilseeds area coverage being about 11 lakh hectares (10.1 percent) short compared to last year's level. Farmers had planted lower area under rabi oilseeds, especially rapeseed-mustard (9.45 lakh hectares) and rabi sunflower seeds (1.65 lakh hectares), as shown in the table below.

Table 2(H): Area Sown under Nine Major Oilseeds

(In Lakh Hectares)

Crops / Season	2003-04	2004-05	2005-06	2006-07	Change in 2006-07
<u>Total Oilseeds (1..9)</u>	236.63	275.23	278.63	259.85	(-)18.78
<u>Total Kharif</u>	152.11	172.48	173.68	165.46	(-)8.22
<u>Total Rabi</u>	84.52	102.76	104.94	94.39	(-)10.55
1.Rapeseed/Mustard	54.28	73.16	72.77	63.32	(-)9.45
Rabi	54.28	73.16	72.77	63.32	(-)9.45
2.Sunflower	20.04	21.61	23.40	21.31	(-)2.09
Kharif	6.11	8.73	9.19	8.76	(-)0.43
Rabi	13.93	12.88	14.20	12.55	(-)1.65
3.Safflower	3.64	3.69	3.65	3.53	(-)0.12
Rabi	3.64	3.69	3.65	3.53	(-)0.12
4.Linseed	4.77	4.49	4.37	4.41	0.04
Rabi	4.77	4.49	4.37	4.41	0.04
5.Groundnut	59.87	66.40	67.36	57.96	(-)9.40
Kharif	51.96	57.86	57.40	47.38	(-)10.08
Rabi	7.91	8.54	9.96	10.58	0.62
6.Sesamum	17.00	18.44	17.23	16.43	(-)0.80
Khari	17.00	18.44	17.23	16.43	(-)0.80
7.Soyabean	65.5 5	75.71	77.08	82.46	5.38
Kharif	65.5 5	75.71	77.08	82.46	5.38
8.Nigerseed	4.32	4.30	4.14	4.06	(-)0.08
Kharif	4.32	4.30	4.14	4.06	(-)0.08
9.Castorseed	7.17	7.43	8.64	6.37	(-)2.27
Kharii	7.17	7.43	8.64	6.37	(-)2.27

Source: Ministry of Agriculture.

It is reported that there has been diversion of rapeseed-mustard area to wheat in Rajasthan, Haryana and Uttar Pradesh, and to chana in Madhya Pradesh due to better price realization from these crops.

2.62 With a view to providing reasonable incentives to the farmers to go in for

diversification, the Commission, in its rabi / kharif reports on price policy for the last three years, had recommended significant increases in the MSP for oilseeds. The Commission's expectation that the increased MSP would help induce farmers to opt for cultivation of oilseeds did not, however, materialize, as no large scale shift in area took place in favour of oilseeds. It was borne out of the discussions that farmers, apart from being inherently risk averse, are apprehensive about marketing their produce in the absence of elaborate arrangements for procurement of oilseeds. In the case of oilseeds, there are very few procurement centres in the prospective oilseeds growing states / regions and, as such, the farmers are required to travel long distances to sell their produce. Besides, the central and state level agencies, who tend to be very active at the time of wheat/paddy marketing seasons, are believed to remain indifferent at the time of oilseeds procurement. *Government should ensure, among other things, proper marketing arrangements for procurement of oilseeds, so that farmers are encouraged to produce more oilseeds.* (Table 2.9)

2.63 Besides the marketing impediments, the low and stagnant output of oilseeds reflect the fact that India's productivity is quite low, around 50 percent of the world average and even less in the case of soyabean. The comparatively lower yields are mainly due to the fact that the quality of seed varieties is generally poor and oilseeds crops in India are mostly cultivated in un-irrigated areas. For the same reason, yields are more variable due to weather fluctuations. Other reasons include disease and pest damage, vulnerability to drought, poor dry farming practices, low access to inputs and poor soils.

2.64 In view of the limited scope for bringing more area under oilseeds cultivation, except in Madhya Pradesh, the Commission in its earlier reports had emphasized the need for increasing the productivity of oilseeds. India is currently producing about 250 to 260 lakh tonnes of oilseeds at an average yield of about 900 kgs per hectare, as compared to the world average yield of 1400 kgs and the highest yield of 3000 kgs. If we can raise our yield from the present level of 900 kgs to at least 1300 to 1400 kgs per hectare in the next 3 to 5 years, it will translate into production of about 330 – 350 lakh

tonnes of seeds, sufficient to meet the annual requirements of the country for edible oils. Since oilseeds are grown in the rainfed areas, the scientists of ICAR, SAU and other research institutions need to develop drought and disease resistant seed varieties. In view of the huge potential of genetically modified (GM) seeds for bringing a spectacular increase in productivity of oilseeds, it is often argued that GM seeds should be used extensively for bringing about a breakthrough in the production of oilseeds. The MSP has been one of the instruments to encourage farmers to grow more oilseeds. The Commission would like to reiterate its earlier recommendation that ***Government should consider the idea of linking the MSP for oilseeds with oil contents in a positive way for increasing both productivity and production of oilseeds in the country, so that higher productivity in terms of factors like oil content etc. favours higher MSP to the farmers.***

2.65 Prices of oilseeds softened significantly in December, 2005 and remained subdued till April, 2006 against the backdrop of bumper oilseeds crop in 2005-06. The wholesale price of oilseeds, as given by the index, shows a decline of about 9.45 percent during the five months between November, 2005 and April, 2006. Since May, 2006, prices started edging up gradually prompted by the news that oilseeds production in 2006-07 would be affected adversely due to large shift in area to other crops and the not so favourable weather conditions. By May, 2007, prices went up by about 31.31 percent, with the wholesale price index of total oilseeds rising from 156.2 in April, 2006 to 205.1 in May, 2007. The movements in price of total oilseeds are shared by all the major oilseeds, as given in the table below.

Table 2(I): Percent Change in Index of Wholesale Prices of Oilseeds

	Nov. 05 (Index)	April 06 (Index)	May 07 (Index)	Nov. 05 to April 06 (%)	April 06 to May 07 (%)
<i>Total Oilseeds</i>	<u>172.5</u>	<u>156.2</u>	<u>205.1</u>	<u>(-)9.45</u>	<u>31.31</u>
Rapeseed/Mustard	168.7	159.7	190.4	(-) 5.33	19.22
Safflower	152.4	143.4	152.5	(-)5.91	6.35
Groundnut	182.8	159.4	229.5	(-)12.80	43.98
Soyabean	164.2	134.8	172.5	(-)17.90	27.97
Sunflower	175.8	179.0	233.5	1.82	30.45
Sesamum	177.0	167.8	186.6	(-)5.20	11.20
Nigerseed	179.8	171.0	369.3	(-)4.89	115.96

Source: compiled from data from Office of Economic Adviser, M/o Commerce & Industry

2.66 Though the market prices of Mustard and safflower seeds ruled below in some of the mandies during the initial arrival period, the prices thereafter stabilized above MSP in most of the producing areas during Rabi-2007 season. The prices of Mustard seed have been firming up on account of decline in area under coverage for mustard seed production, besides firming up tendency in the international market for oilseeds and edible oils. Resultantly, the prices of Mustard seed, which were ruling in the range of Rs.1550 – 1800 per quintal upto 3rd week of March, 2007, have further firmed up thereafter, when the report of damage of crops due to untimely rain and hailstorm became known and by mid-April, 2007 rates further rose to around Rs.1750 to 1925 per quintal in different producing states. The rates of safflower seed ruled above MSP during current Rabi season in most of the producing areas. However, during the month of April, 2007, the market price of Safflower ruled below the MSP of Rs.1565 per quintal in some mandies of Maharashtra and Andhra Pradesh. (Tables 2.18 & 2.20)

2.67 As the prices of Mustard and Safflower seeds generally ruled above MSP, NAFAD could procure only a small quantity of about 20,565 tonnes of Mustard seed and 67 tonnes of Safflower under the PSS during 2007-08 procurement season so far, as compared to the procurement of Mustard seed of 20.93 lakh tonnes in 2005-06, and another 22.04 lakh tonnes during 2006-07. Similarly, procurement of Safflower seeds

was of the order of 31,805 tonnes in 2005-06 and 50,779 tonnes in 2006-07. In addition, commercial purchases of Mustard seed during 2007-08 as on 25-4-2007 amounted to 20,046 tonnes (Table 2.10)

International Scenario

2.68 The oilseeds price behaviour in India largely reflects the movements in the prices of the prime end-product, viz., vegetable oils in India and abroad. It should be noted that the domestic prices of vegetable oils, despite prevalence of tariffs, are very weakly insulated against the price fluctuations abroad, because import of this category is under OGL and there exists a large gap between domestic demand and indigenous supply of vegetable oils and fats for edible and non-edible purposes.

Table 2(J): Trends in International Wholesale Prices of Vegetable Oils &Fats
(US \$ / MT)

Period Average	Coconut Oil	Ground-nut Oil	Palm Oil	Soyabean Oil	Soyabeans seed
Jan.-March 2005	667.3	1152.4	413.3	521.3	270.8
Apr.-June 2005	654.9	1101.3	421.7	548.0	290.7
July-Sep. 2005	571.7	1025.0	415.0	551.7	278.3
Oct.-Dec. 2005	574.0	963.0	438.3	558.7	258.9
Jan.-March 2006	578.3	918.0	436.4	535.3	256.7
Apr.-June 2006	578.7	896.0	438.7	576.3	263.7
July-Sep. 2006	599.4	946	492.7	620.3	263.9
Oct.-Dec. 2006	671.2	1121.0	545.7	662.2	290.0
Jan-March, 2007	754.3	1170.0	608.7	709.7	317.7
March 2007	769.0	1157.0	622.0	718.0	322.0
April 2007	827.5	1196.0	707.5	760.8	319.8

Source: World Bank

2.69 The rise in international prices for oilseeds, oils and meals that started in 2005/06 (September/October) is continuing during the current season. In the second quarter of 2006-07, the FAO price indices for oilseeds and oils/fats were almost 30 points above

their corresponding values of the previous season. In April and May, 2007, prices have increased further, and have now hit 3 and 13 times high for oilseeds and oils respectively. At the beginning of this season, bleak crop production prospects gave rise to concerns of tightening supplies and falling stocks. However, global soyabean output eventually exceeded the original expectations and 2006-07 supplies of oilseeds and derived products are now considered to be ample relative to demand and the global level of stocks is high, both in absolute terms and in relation to consumption. *Therefore, the continued rise in oilseed, oil and meal prices cannot be explained by this season's own market fundamentals. Instead, prices have come under the direct influence of developments in the related feed grain markets, notably the unprecedented surge in international maize prices caused by a decline in global coarse grain (and wheat) production, which coincided with a strong increase in demand, especially for maize used as biofuel feedstock.* With soyabeans and maize both in demand in the feed and the energy market, the two commodities are competing for land. Considering the current shortage of maize, an expansion of global maize plantings at the expense of soyabean appears inevitable in 2007-08. The prospect of further tightening soyabean supplies (which traditionally satisfy two-thirds of global meal demand) constitutes the main factor behind the observed rise in prices for oilseeds and oilmeals in recent months and leads to the expectation of continued price firmness during the remainder of the season. The futures market points to the same direction: in May, 2007, the CBOT September contract for soyabeans was about US \$59 per tonne (or 26 percent) higher than the corresponding value of 2006.

2.70 Reasons behind the concomitant rise in international vegetable oil prices reside also outside the soyabean complex: a poor performance and thus tightening supplies of the key high-oil yielding oilcrops in 2006/07 coincided with a steady expansion in vegetable oil demand for human consumption and, in particular, as fuel and bio-diesel feedstock. Such a situation explains the strong reaction of the market to reports on falling palm oil stocks and to downward revisions in the 2007 forecast of global palm oil production.

Table 2(K): World production of major oilseeds

(million tonnes)

	2004-05	2005-06 <i>estim.</i>	2006-07 <i>f'cast</i>
Soyabeans	216.6	221.4	232.9
Cottonseed	44.7	42.3	44.0
Rapeseed	45.9	48.9	47.0
Groundnuts (unshelled)	34.8	35.7	34.0
Sunflower	25.4	29.9	29.3
Palm kernels	8.9	9.5	9.6
Copra	5.2	5.1	4.8
Total	381.5	392.8	401.6

Source: Food Outlook, June, 2007; FAO

2.71 Additional factors contributing to this season's price strength include the rise in ocean freight costs, resulting from a shortage of vessels complying with the new international regulations that came into force in January, 2007, and, more recently, the weakening of the United States dollar.

Table 2(L): World oilseeds and products markets at a glance

(million tonnes)

	2004/05	2005/06 <i>estim.</i>	2006/07 <i>f'cast</i>
Total oilseeds			
Production	391	403	412
Oils and fats			
Production	142	149	152
Supply	158	168	172
Utilization	138	145	153
Trade	67	72	76
<i>Stock-to-utilization ratio (%)</i>	14	14	13
Oilmeals and cakes			
Production	99	102	105
Supply	109	113	118
Utilization	95	98	102
Trade	53	56	59
<i>Stock-to-utilization ratio (%)</i>	13	15	16

Source: Food Outlook, June 2007; FAO

2.72 In 2006/07, global oilseed production is estimated to increase by 2 percent to 233 million tonnes, a slowdown compared to the last two seasons. With regard to rapeseed, global output is forecast to decline sizeably after three years of record-breaking crops, mainly due to unfavourable weather conditions. Four out of the five major producers are reporting significant declines in production: in Canada, rapeseed production has fallen due to bad weather; in China and India, plantings have decreased; and a combination of falling yields and area has hit Australia. By contrast, in the EU and Ukraine, rapeseed output has increased reflecting an expansion in plantings. The fall in world groundnut production is confirmed, with decreases concentrated in India and the United States. With regard to sunflower seed, a sharp drop in output in the United States has been offset only partly by rising production in Europe.

2.73 Current 2006/07 crop forecasts translate into an increase of global oils/fats production of about 2-3 percent to 152 million tonnes, compared to 5 percent in the previous season. Reduced growth in rapeseed and sunflower oil and falling groundnut and coconut oil production are behind this slow-down.

2.74 Global demand for oils/fats-both for food and non-food purposes - is anticipated to expand further: during 2006/07, consumption is expected to increase to 153 million tonnes, or by 5 percent, mainly on account of soyabean and palm oil. The outstanding driving force is the growing use of oils/fats as fuel and as feedstock for biodiesel production. Such utilization continues to expand in the EU and the United States, while demand is also picking up in various other countries, including Argentina, Australia, Brazil, Canada, China, Indonesia, Malaysia and the Philippines. The key oils concerned are soyabean and rapeseed oil, though palm and coconut oil as well as animal fat and used cooking oil are also gaining importance. Private sources estimate global utilization of oils/fats as biofuels to exceed 10 percent of total consumption in 2006/07. Thanks to various government incentives, the private sector has continued to invest in biodiesel production plants, irrespective of the uncertain prospects for fossil oil price. However,

the industry's growth seems to be slowing down, possibly revealing concerns about rising vegetable oil prices. *At the prevailing level of mineral and vegetable oil prices, the profitability of biodiesel production seems to be at risk and a significant portion of biodiesel plants worldwide is likely to run at less than full capacity.*

2.75 Regarding overall oils/fats consumption, limited supplies of rapeseed, groundnut, sunflower and copra oil are leading to increased reliance on soyabean and palm oil. Together the two oils are expected to account for almost 60 percent of total consumption. Although, traditionally, most of the expansion in global demand occurs in the developing countries, in 2006/07 (like in the past two seasons), developed countries also experienced sizeable growth due to the advent of biofuel production. Demand expansion continues to be led by Asia. Particularly noteworthy is China, where population and GDP growth continue to spur food oil consumption, whereas in Malaysia as well as in Brazil growth seems to be determined by rising use of vegetable oils as fuel or for conversion into biodiesel.

2.76 Compared to overall demand, global supplies of oils/fats appear to be ample given large stock availability. However, 2006/07 production *per se* is forecast to fall short of demand, which would result in *falling global inventories of oils/fats, reversing the pattern observed in the last two seasons.* The projected reduction in inventories should mainly concern rapeseed and sunflower oil in the EU, China, India and North America. The palm oil stocks in Malaysia and Indonesia are also estimated to fall. Current forecasts for 2006/07 imply a reduction in the global stock-to-utilization ratio from 14 percent to 13 percent, which explains the firmness and further strengthening of oils/fats prices observed this season.

2.77 Similar to the past few years, world trade in oils/fats (including the oil contained in oilseeds traded) is anticipated to rise by 76 million tonnes or by about 6 percent in 2006/07. Once again palm and soyabean oil are forecast to account for most of this expansion, although the interest for rapeseed oil seems to be increasing following the recent surge in palm oil prices. Most of the increase in global import requirements is

expected to originate from developing countries. China and India continue to be key buyers, with total imports forecast at 14.3 million tonnes and 5.4 million tonnes, respectively.

Prospects for 2007-08

2.78 Spring plantings of 2007/08 oilcrops are underway in the northern hemisphere and are already influencing the market. Starting with soyabeans, reported planting intentions in the United States, point to a 10 percent drop in the area sown as farmers allocate more land to maize. Assuming average yields, output could drop by 12-14 percent. Forecasts for China suggest a fall in output for the second consecutive year. In South America, where soyabeans will be planted towards the end of this year, the area sown will depend on price developments over the next six months. Continued high maize prices would encourage farmers in Argentina and Brazil to expand maize plantings, partly at the expense of soyabeans, thus constraining the crop's expansion in 2007/08. Although the effect of falling soyabean production would be cushioned by record large opening stocks, a marked fall in 2007/08 ending stocks would be inevitable, which would result in a tightening of the market and continued firm international prices of soyabeans and meals. By contrast, spurred by growing demand for biodiesel feedstock, Canada's rapeseed area is anticipated to rise by 12 percent to a new historic high, potentially resulting in a record crop of 10 million tonnes. In the EU, rapeseed plantings for the new season are reported to have increased, for the second consecutive year, by over 10 percent and, depending on weather conditions, output is expected to rise by 10-15 percent. Sizeable output increases are also expected in the Russian Federation and the Ukraine. These, along with a likely recovery of production in India and Australia, could boost global rapeseed production to a historic record in 2007/08. With regard to the new sunflower seed crop in the northern hemisphere, current estimates point toward a reduction in global output. Overall, aggregate oilseeds production in 2007/08 could fall short of the two preceding seasons' levels as the anticipated rise in rapeseed production may not be sufficient to offset the prospective soyabean decline.

2.79 As growth in demand for oilcrop products, and in particular oils, is expected to remain strong, the anticipated reduction in output would lead to a decline in global stocks, thus reversing the trend of the last three seasons. Such development, together with the anticipated tightness in global maize and wheat markets during 2007/08 (which also reduces the likelihood of a recovery in oilcrop production in the subsequent season), suggests that prices in the oilseed complex would remain firm during the remainder of this season and into the next season. As growth in global livestock production may slow down in response to persistent high prices for feedstuffs, the upward pressure on oilseed and oilmeal prices could lessen over time; by contrast, the push on vegetable oil prices could intensify given the prospects of continued tightness of global rape and palm oil supplies relative to demand for food and biofuel uses.

Foreign Trade

2.80 The bumper production of oilseeds since 2003-04 was expected to scale down the imports of edible oils significantly. However,

India: Imports of Edible Oils

Year (Apr-Mar)	Quantity (In lakh tonnes)	Value (In Rs. crore)	Unit Value (Rs. / kg)
1	2	3	4
1997-98	12.66	2,764.67	21.84
1998-99	26.22	7,588.93	28.94
1999-2000	41.96	8,046.05	19.18
2000-01	41.77	5,976.53	14.31
2001-02	43.22	6,464.97	14.96
2002-03	43.65	8,779.64	20.11
2003-04	52.90	11,683.24	22.08
2004-05	45.42	10755.65	23.68
2005-06	42.88	8960.99	20.90
2006-07*	41.93	9350.91	22.30

* Provisional

Source: DGCI&S, Kolkata

Imports of edible oils continued to rise and peaked in 2003-04 to 52.90 lakh tonnes, showing an increase of about 9.25 lakh tonnes over the previous year. In 2004-05, imports of edible oils at 45.42 lakh tonnes were lower by 7.48 lakh tonnes and imports declined further by 2.54 lakh tonnes to 42.88 lakh tonnes in 2005-06. During the financial year 2006-07, imports of edible oils were about 41.93 lakh tonnes, lower by 0.95 lakh tonnes over the previous year, reflecting buoyancy in international prices and augmentation of supply of edible oils from domestic sources, viz, from the processing of nearly 15 lakh tonnes of stock of rapeseed / mustard seed with the NAFED. Imports of vegetable oils in value terms are, however, higher by about Rs.390 crore in 2006-07, because the unit value of imports rose by about 6.70 percent from Rs.20.90 per kg. in 2005-06 to Rs.22.30 per kg. in 2006-07. (Table 2.31)

2.81 The Government, effective from January 24, 2007, effected cut in import duty on edible oils by 10 to 12.5 percent, as a step to control prices. Following this reduction, import duty on crude palm oil, crude palmolein and other fractions of crude palm oil have been brought down from 70 percent to 60 percent, while that on RBD palm oil, RBD palmolein and other refined palm oils from 80 percent to 67.5 percent. Also import duty on crude sunflower oil has been slashed down from 75 percent to 65 percent and that for refined sunflower oil from 85 percent to 75 percent. It has also been decided to keep the tariff values – the base prices on which duties are computed – on palm oils frozen at their end-July 2006 levels.

2.82 With effect from March 1, 2007 import duty on crude sunflower oil has been reduced from 65 percent to 50 percent and import duty on refined sunflower oil from 75 percent to 60 percent. Also, all these oils will not attract special additional duty (SAD) of 4 percent. With effect from April 13, 2007, import duty on Crude Palm Oil / Crude Palmolein has been reduced from 60 percent to 50 percent and import duty on refined Palm Oil / RBD Palmolein has been reduced from 67.5 percent to 57.5 percent.

2.83 As part of measures to rein in the prices of essential food items, the Government on 24.7.2007 cut the import duty on edible oil by 5-10 per cent. Customs duty on crude palm oil has been reduced to 45 per cent from 50 per cent, and on refined palmolein

RBD (Refined, Bleached, Deodorised) to 52.7 per cent from 57.5 per cent. Duty on crude soyabean oil has been reduced from 45 to 40 per cent, while on crude sunflower oil it has been lowered to 40 per cent from 50 per cent. The tariff on refined sunflower oil has been reduced to 50 per cent from 60 earlier.

2.84 Imports of vegetable oils are reported to have surged since the first quarter of 2007-08. As indicated earlier, there was unabated surge in domestic prices of edible oils after October, 2006, reflecting large demand-supply gap. The supply shortage, at least initially, was artificially created by hoarders, given the prospects for substantially lower oilseeds production in 2006-07 and rising international prices. The impact of rising global edible oil prices will be blunt by the strengthening of rupee and lower duties. The rising trend in imports of edible oils, despite good harvests of oilseeds in the country during the past few years, points to the buoyancy in domestic consumption of edible oils, which is estimated to rise by about 5 to 6 percent per annum, and the policy of the Government to permit this item of mass consumption under OGL to have a rein on the domestic price situation. While there is optimism about the small and short-term ripple effects, the Commission feels that *as the customs duty cut on edible oils is unlikely to have any long-term impact on prices, as it would not change the demand-supply dynamics in the domestic market, on which prices are basically determined, the long-term vision of the government should be on increasing the yield by introducing improved seeds and providing better irrigation system and integrated use of micro and macro nutrients in a balanced manner.*

2.85 India is unique being the world's largest importer of edible oils. The trend of generally rising cost of imports signify not only higher spending of foreign exchange on imported edible oils, but also significant risk and uncertainty associated with the movements in international prices of edible oils. Imports can not be viewed as a permanent way out of the endemic shortages in this commodity. This gives a clear mandate for policy stance that the dependence on imported edible oils needs to be reduced in the coming years. As shown in the table below, imports of edible oils, as a percentage of the domestic consumption (net domestic production plus imports), increased from over 17 percent in 1997-98 to about 48 percent by 2002-03. The sharp

increase in domestic production of oilseeds and, therefore, edible oils output in the following years have helped to moderate the extent of dependence of the country on imported edible oils. The dependence ratio came down to about 42.5 percent in 2003-04 and further down sharply to about 34.0 percent in 2005-06, but rose again to 37.25 percent in 2006-07. The reversal in the rising trend of dependence after 2003-04 is a matter of great satisfaction, but gives no room for complacency in taking necessary steps towards strengthening measures to increase oilseeds production and thus production of edible oils in the country.

India's Dependence on Imports of Edible Oils

(In lakh tonnes)

S.No	Year	Domestic Production (net)*	Imports	Actual Consump. (Col. 3+4)	Imports as %age of Consumption (Col. 4/ Col. 5)
1	2	3	4	5	6
1.	1997-98	60.58	12.66	73.24	17.29
2.	1998-99	69.60	26.22	95.82	27.36
3.	1999-2000	60.15	41.96	102.11	41.09
4.	2000-01	54.99	41.77	96.76	43.17
5.	2001-02	61.46	43.22	104.68	41.29
6.	2002-03	46.64	43.65	90.29	48.34
7.	2003-04	71.40	52.90	124.30	42.56
8.	2004-05	72.47	45.42	117.89	38.53
9	2005-06	83.16	42.88	126.04	34.02
10	2006-07**	70.62	41.93	112.55	37.25

*Production is both from Primary and Secondary Sources. Figures are net of exports & for industrial use.

** Estimates

2.86 In this context, the Commission has emphasized the need for bringing a technological breakthrough in productivity and regulating the import of edible oils. The increase in the MSP for oilseeds would become meaningless if it creates enough wedge to make imports attractive. The Commission, therefore, reiterates that the import duty

on edible oils should be kept at such a level that imports remain regulated and do not affect the domestic prices and oilseeds production adversely.

2.87 According to the Solvent Extractors' Association of India (SEA), the increase in import of refined RBD Palmolein oil from 3.19 lakh tonnes in 2002-03 to 7.96 lakh tonnes in 2003-04 was a matter of concern. It was of the view that the palm oil should be imported in crude form so that the processing and value addition takes place in the country and the capacities already created in the country are fully utilized. According to the latest perception, the vegetable oil production of about 11 lakh tonnes would become available from secondary sources, viz, Rice Bran, Solvent Extracted Oil and Tree & Forest Origin. As against this, the SEA pointed out the possibility of existence of huge potential of over 25 lakh tonnes of edible oils from secondary sources by fully exploiting the available potential of rice bran, cottonseed and tree borne seeds. The Commission recommends that ***the Government should formulate an appropriate strategy to exploit the available potential of vegetable oils from secondary sources to augment net availability of edible oils in the country.***

Rapeseed & Mustard

2.88 Rapeseed has been a traditionally important oilseed crop in the country. India ranks third (after China and Canada) in the world in the production of rapeseed in 2005 (FAO). In the case of rapeseed-mustard, there is 33 percent oil recovery. Almost the entire output (97 percent) is used in oil production with only 3 percent used for seed and feed purposes. Almost 50 percent of the rapeseed output comes from the state of Rajasthan. Other major states include Uttar Pradesh (11 percent), Madhya Pradesh (10 percent) and Haryana (12 percent). Yield improvements have taken place in all the major states although Haryana shows the maximum growth in yield. However, variability in yield is also high for this state. Area under rapeseed-mustard crop gained substantially from the expansion of irrigation. During the decade 1985-86 to 1995-96, total area under rapeseed-mustard had expanded at an annual average (compound) growth of 5.10 percent from 39.80 lakh hectares in 1985-86 to 65.46 lakh hectares in 1995-96, supported

by expansion in Gujarat, Haryana, Madhya Pradesh and Rajasthan. It rose further to a peak of 73.16 lakh hectares in 2004-05, but declined to 72.77 lakh hectares in 2005-06. The expansion in area coupled with yield improvement, translate into production rising by 5.70 percent per annum from 26.81 lakh tonnes in 1985-86 to 81.31 lakh tonnes in 2005-06.

(Table 2.7)

2.89 Rapeseed-mustard production, however, dipped to 70.97 lakh tonnes in 2006-07 or a decline of 12.72 percent over the level in 2005-06, reflecting decline in area by 12.99 percent to 63.32 lakh hectares in 2006-07, implying a marginal increase of 0.36 percent in yield.

(Table 2.7)

Sunflower

2.90 Like other oilseeds crops, the area, production and yield of sunflower also increased with the setting up of the Technology Mission on Oilseeds in 1986. During the period 1985-86 to 1995-96, the area, production and yield of this crop grew at the rate of 10.66 percent, 16.68 percent and 5.43 percent per annum respectively. The growth momentum was lost after 1995-96. The growth of area and production decelerated sharply to 0.96 percent and 0.40 percent per annum respectively during the period 1995-96 and 2005-06. The yield, on the other hand, declined by 0.56 percent during the same period. Given the area and yield developments, the production of sunflower seeds increased from 6.80 lakh tonnes in 2001-02 to 14.39 lakh tonnes in 2005-06. The yield, however, declined from 577 kgs. per hectare in 2001-02 to 464 kgs. per hectare in 2003-04, but recovered to 615 kgs. per hectare in 2005-06. The Fourth Advance Estimates of the Directorate of Economics & Statistics put the production of this crop at 11.78 lakh tonnes in 2006-07, which is lower by 2.61 lakh tonnes than the previous year's production.

2.91 Sunflower is mainly grown in Karnataka, Andhra Pradesh and Maharashtra and in small areas in UP, Punjab, Haryana and Tamil Nadu. The recorded per hectare yield of the crop in 2004-05 was highest in U.P. (2049 kgs.) followed by Punjab (1826 kgs.), Haryana (1667 kgs. in 2005-06), Tamil Nadu (1288 kgs. in 2003-04), Andhra Pradesh (678 kgs.), Maharashtra (362 kgs.) and lowest in Karnataka (552 kgs.). In view of the high productivity of sunflower in Punjab, Haryana and UP, this crop can be an alternative to

paddy in these states provided proper marketing and processing arrangements are made on the same scale as being made for the procurement/price support operations of paddy.

2.92 Sunflower seed is grown both in kharif and rabi seasons. The area under rabi sunflower crop at 1.37 lakh hectares accounts for about 63 percent of the total area of 2.17 lakh hectares in both seasons during the TE 2005-06. Rabi sunflower seed output accounts for 0.79 lakh tonnes or about 66 percent of the total output of 1.19 lakh tonnes during the same period. The observed Rabi crop yield of 576 kgs. per hectare during the TE 2005-06 is about 16 percent higher than the kharif crop.

(Table 2.2)

Safflower Seeds

2.93 India ranks second in the production of safflower seeds, as per FAO statistics of 2005, next to Mexico and followed by USA and Australia. Safflower, a rabi crop, has been losing ground, in terms of all the three parameters, viz, area sown, production and yield. The area under safflower seed cultivation has shrunk to an average of 3.66 lakh hectares during the TE 2005-06 from an average of 8.87 lakh hectares during the TE 1985-86. Reflecting largely the shrinkage in area sown, production nose-dived to 1.79 lakh tonnes from 4.55 lakh tonnes during the same period. About 69 percent of the total area sown and about 68 percent of the total safflower seed production comes from the state of Maharashtra. The other major state is Karnataka, which accounts for about 25 percent of the area sown and about 27 percent of the production.

(Table 2.2)

III. BEHAVIOUR OF INPUT PRICES AND COST OF PRODUCTION

Cost of production forms an important basis for arriving at MSPs of different crops. The Commission primarily depends on the Directorate of Economics & Statistics (DES), Ministry of Agriculture for its data requirements relating to cost of cultivation/production of various agricultural commodities, generated under the Comprehensive Scheme for Studying the Cost of Cultivation of Principal Crops in India introduced in 1971. Under the Comprehensive Scheme (CS), the State Agricultural Universities collect data on inputs and outputs by cost accounting method through sample surveys. This data is analysed in the Central Analytical Unit of DES by a standardized methodology, which provides estimates of cost of cultivation per hectare, yield per hectare and cost of production per quintal as per some uniform cost concepts. The Scheme also provides data on some important inputs in physical terms such as fertilizers, seeds, manure, human labour (man-hours) and bullock labour (pair-hours). Estimates provided are at the State level for each crop. All the items of input costs that are actually incurred by the farmers for each of the crops grown by them, including the imputed value of family labour, rental value of owned land, interest on fixed capital etc. are carefully considered. The Commission also obtains extensive feedback from the state governments and other stakeholders including the farmer's organizations before formulating price policy recommendations. The data from state governments provide valuable input on state specific input prices and also the cost of cultivation estimates generated by the state government. Changes in the prices of various inputs occurred since the submissions of the last report are considered. The updated indices on prices of inputs and wage rates are obtained from the offices of Economic Adviser, Ministry of Commerce & Industry and Labour Bureau, Ministry of Labour and Employment.

3.2 Since the submission of the Commission's report on Price Policy for Rabi Crops for the 2006-07 season, as per the information available from the states, the statutory minimum wages have been revised upwards in the states of Haryana, Himachal Pradesh, Jharkhand, Madhya Pradesh and West Bengal. As per the information from Labour Bureau, Shimla, the actual wages for agricultural labourers are reported to have increased for Assam (18.8%), Bihar (5.3%), Gujarat (6%), Karnataka (2.7%), Madhya Pradesh (8.2%), Maharashtra (11.4%), Punjab (20.5%), Uttar Pradesh (5.4%) and West Bengal (11.2%) during April, 2006 and April, 2007, while it registered a decline of 11 per cent in Rajasthan during the same period. As measured by the Wholesale Price Index, the prices of High Speed Diesel (HSD) have marginally decreased during May, 2006 and April, 2007 as against the prices of Light Diesel Oil (LDO), which moved upward by 2.88 per cent. The prices of one of the petro-based input, lubricants, as measured by the Wholesale Price Index, moved up by 37.78 per cent. The prices of other inputs are reported to have increased by 2.91 per cent for fertilizer and about 4 per cent for non-electrical machinery and electricity together used for agricultural purposes, whereas the prices of tractors increased less than one per cent. The prices of cattlefeed and fodder have also increased by 1.42 and 4.93 per cent respectively. However, the prices of pesticide have recorded a noticeable decline of 22.04 per cent. (Tables 3.1 & 3.2)

Estimates of cost of cultivation and projections for 2007-08 crop season

Wheat

3.3 Fresh estimates of Cost of Cultivation/Production (COC/COP) of wheat for 2005-06 have been made available for Bihar, Chhattisgarh, Gujarat, Haryana, Himachal Pradesh, Jharkhand, Madhya Pradesh, Punjab, Rajasthan, Uttar Pradesh, Uttarakhand and West Bengal by the Directorate of Economics and Statistics. The cost estimate of wheat for West Bengal

has been received for the first time. The details of the latest available estimated costs of wheat and also those pertaining to the preceding year are presented in table 3(A). It is observed that between 2004-05 and 2005-06, the C₂ cost of cultivation per hectare have increased in Chhattisgarh, Gujarat, Haryana, Himachal Pradesh, Madhya Pradesh, Punjab, Rajasthan and Uttar Pradesh, while the same has registered a decline in the states of Jharkhand and Uttarakhand. The increase has been 12.9 per cent in Haryana, 15.5 per cent in Madhya Pradesh, 10.3 per cent in Punjab, 14.3 per cent in Rajasthan and 9.6 per cent in Uttar Pradesh. These increases are mainly due to increase in fixed cost, especially the rental value of land, which is one of the major components of the fixed cost. Moreover, human labour, machine labour and irrigation cost have also increased. For Madhya Pradesh, where most of the wheat is grown under the rainfed conditions, irrigation cost slumped by 16 per cent. The C₂ cost of production per quintal has increased in all the states except Gujarat. The C₂ cost of production in Chhattisgarh and Gujarat declined marginally, whereas it remained almost same in case of Jharkhand. The MSP fixed for wheat for the year 2005-06 at Rs.700 per quintal had sufficiently covered C₂ cost of production for all the major growing states, which contribute two-thirds of production. Further details of cost of cultivation/production of wheat pertaining to the latest period and the preceding year compiled by DES under the CS are given in Tables 3.3 & 3.4.

Table 3 (A) : Cost Estimates for Wheat**(In rupees)**

States	Years	A ₂ +F L/hect	C ₂ /he c	A ₂ +F L /qtl	C ₂ /qtl	C ₃ /qtl	Yield / qtl (hec.)	Implicit Price (qtl)	MS P (qtl)
Bihar	2005- 06	1057 7	1501 1	487.57	691.2 0	792.38	18.78	782.82	700
	2004- 05	1041 2	1545 6	398.79	591.9 4	651.13	22.70	629.71	640
Chhattisgarh	2005- 06	8416	12480	610.01	914.95	1016.86	10.78	886.84	700
	2004- 05	7987	11443	623.98	907.96	1024.44	10.61	722.29	640
Gujarat	2005- 06	1287 4	1827 7	370.18	524.8 0	577.28	33.37	796.73	700
	2004- 05	1339 8	1821 6	393.85	535.3 7	588.91	32.38	714.16	630
Haryana	2005- 06	1659 8	2731 8	350.89	577.4 1	650.53	38.65	695.39	700
	2004- 05	1528 6	2419 7	330.32	522.8 7	582.99	39.48	640.78	640
Himachal Pradesh	2005- 06	9526	1636 3	419.54	720.5 5	797.80	15.80	768.78	700
	2004- 05	8818	1360 4	439.53	678.8 4	749.19	14.96	691.89	640
Jharkhand	2005- 06	1224 9	1460 9	802.99	947.1 9	1041.9 1	12.62	793.90	700
	2004- 05	1073 1	1500 7	676.91	946.5 6	1041.4 2	13.60	624.32	640

Madhya Pradesh	2005-06	10074	16978	427.82	720.77	799.83	20.30	903.34	700
	2004-05	9275	14696	369.94	583.81	642.19	21.79	677.27	640
Punjab	2005-06	14558	26700	303.26	556.27	619.47	42.05	700.18	700
	2004-05	14909	24197	304.69	494.35	547.90	42.94	634.08	640
Rajasthan	2005-06	14771	22416	348.59	528.70	587.70	33.76	816.86	700
	2004-05	13368	19610	328.52	480.19	528.21	32.95	727.43	640
Uttar Pradesh	2005-06	14960	22822	427.77	654.22	728.49	28.59	724.14	700
	2004-05	13912	20813	399.41	597.81	661.73	29.29	620.38	640
Uttarakhand	2005-06	13804	20108	446.68	647.54	712.47	23.41	680.83	700
	2004-05	14724	20842	447.17	630.97	697.00	26.10	632.45	640
West Bengal	2005-06	16341	21981	731.65	987.41	1096.41	19.90	769.32	700

3.4 In order to derive the likely cost of production of wheat in different growing states for the ensuing season of 2007-08, the Commission has as usual used the base level CS data pertaining to different states for the latest three years ending 2005-06. The methodology for projecting the estimates remains the same as for the previous season. The per hectare variable cultivation costs are projected using input price projection and then the per quintal costs are calculated using the yields and fixed costs.

Further, in order to make the projections more consistent and realistic, each of the latest three years' estimates, provided by the Directorate of Economics and Statistics, wherever available are being projected and their averages taken.

3.5 According to the above mentioned projection methodology, and on the basis of the actual input price movements observed so far, the per quintal average paid out cost including imputed cost of family labour (i.e. A_2+FL) for wheat for 2007-08 is projected to Rs.493, Rs.650, Rs.441, Rs.363, Rs.516, Rs.741 , Rs.427, Rs.343, Rs.387, Rs.429 and Rs.508 per quintal in Bihar, Chhattisgarh, Gujarat, Haryana, Himachal Pradesh, Jharkhand, Madhya Pradesh, Punjab, Rajasthan, Uttar Pradesh and Uttarakhand respectively. The average projected unit costs of production (cost C_2) of wheat in these states works out to Rs. 693, Rs.921, Rs.590, Rs.590, Rs.817, Rs.957, Rs.720, Rs.556, Rs.548, Rs.654 and Rs.695 respectively, The weighted average projected cost of production of wheat for 2007-08 for all these states worked out to Rs.404 on $A_2 + FL$ basis, Rs.624 on cost C_2 basis. [(Table 3 (G))]

3.6 Needless to mention that the rental value of land provided by the states of Punjab and Haryana has been always an issue during the discussions with the Commission. The rental value of land provided by these states is always found on the higher side provided under CS especially in case of Punjab. Despite being the neighboring states, the rental value of land furnished by these states have a considerable amount of difference. However, CS estimates for these two states reveal that the rental value of land in both the states is almost at the same level. Consequently, the CS survey underestimates the rental value of land for these two states according to them. It is interesting to note that land rent used by the government of Punjab and Haryana in their projections for the COP of wheat for the current season is Rs. 19900 and Rs. 10000 per

hectare respectively. Considering, the land rental value of land provided by the states of Haryana and Punjab, the projected cost of wheat for the current season works out to Rs.588 and Rs.751 per quintal respectively. The weighted average C_2 cost of production of wheat for the states of Punjab and Haryana is Rs. 689 per quintal. It may be pertinent to note that considering the rental value of land as furnished under CS estimates, the Minimum Support Price (MSP) for wheat fixed at Rs.750 (plus Rs. 100 as bonus) per quintal for the 2006-07 crop season already provides a profit cushion of about 44 per cent for Haryana and 53 per cent for Punjab respectively. Similarly, the states of Punjab and Haryana have their margins of about 13 and 45 per cent respectively over their C_2 cost of production, based on the rental value of owned land reported by them.

BARLEY

3.7 The cost estimates of barley for 2005-06 became available for the states of Rajasthan and Uttar Pradesh. It may be observed from Table 3(B) that between 2004-05 and 2005-06, the C_2 cost of cultivation per hectare as well as the unit cost of production increased in both the states. This may be attributed to the deceleration in the yield level in Rajasthan and relatively higher increase in cost than yield in Uttar Pradesh.

Table 3 (B): Cost Estimates for Barley

(In rupees)

States	Years	A_2+F L/hect	C_2 /he c	A_2+F L /qtl	C_2 /qt l	C_3 /qt l	Yield/ qtl (hec.)	Implic it Price (qtl)	MS P (qtl)
Rajasthan	2005- 06	1297 9	1977 0	313.49	481.8 9	530.0 8	30.93	688.25	550
	2004- 05	1211 9	1807 3	267.27	399.3 8	439.3 2	33.90	588.41	540

Uttar Pradesh	2005-06	1455 4	2245 0	397.31	614.1 0	687.4 4	30.03	596.43	550
	2004-05	1119 2	1688 6	381.64	576.7 0	634.3 7	24.36	536.42	540

3.8 The average A_2 +FL cost of barley for 2007-08 is projected at Rs. 332 per quintal for Rajasthan and Rs.398 per quintal for Uttar Pradesh following the same methodology as used in the case of wheat. The average C_2 cost of production of barley for these states is projected at Rs 496 and Rs.614 per quintal respectively. The weighted average cost of production of barley for 2007-08 works out to Rs.555 per quintal on cost C_2 basis.

[(Tables 3.6, 3.7 &3(G))]

Gram

3.9 The latest estimates of cost of cultivation /production of gram for the year 2005-06 became available in respect of Andhra Pradesh, Bihar, Chhattisgarh, Jharkhand, Madhya Pradesh, Maharashtra, Rajasthan and Uttar Pradesh. It may be noted that the state of Andhra Pradesh first time has been selected under CS for generating cost estimates for gram. It can be observed from Table 3(C) that the MSP fixed at Rs.1435 per quintal for 2005-06 covered cost C_2 for all the states except Madhya Pradesh and Rajasthan for which estimates have been made available.

(Tables 3.9 & 3.10)

Table 3 (C): Cost Estimates for Gram

(In

rupees)

States	Years	A ₂ +F L/hect	C ₂ /hec c	A ₂ +F L /qtl	C ₂ /qtl	C ₃ /qtl	Yield/ qtl (hec.)	Implicit Price (qtl)	MS P (qtl)
Andhra Pradesh	2005-06	7706	13387	729.79	1267.54	1418.41	10.39	1681.08	1435
Bihar	2005-06	6905	11575	737.21	1235.83	1392.65	8.75	2069.79	1435
	2004-05	5011	9953	553.23	1097.08	1209.99	8.71	1630.01	1425
Chhattisgarh	2005-06	6679	14154	446.54	946.38	1072.73	14.28	1786.47	1435
	2004-05	5788	8522	878.02	1292.91	1447.03	6.24	1394.96	1425
Jharkhand	2005-06	4768	6657	818.28	1137.93	1316.06	5.59	2219.38	1435
	2004-05	5782	9179	902.75	1434.12	1577.53	6.12	1816.54	1425
Madhya Pradesh	2005-06	7921	13978	794.02	1401.57	1555.03	9.52	1861.87	1435
	2004-05	6464	11101	585.08	1004.76	1106.64	10.42	1308.27	1425
Maharashtra	2005-06	8611	12581	1061.55	1552.46	1707.71	7.92	1876.89	1435
	2004-05	8163	11143	1267.21	1728.73	1901.60	6.30	1670.13	1425
Uttar Pradesh	2005-06	8206	15093	588.54	1083.09	1191.40	13.36	1759.86	1435
	2004-05	7075	12116	649.72	1114.71	1226.18	10.38	1558.78	1425
Rajasthan	2005-06	7077	11878	886.88	1488.30	1637.16	7.18	2250.13	1435
	2004-05	4866	7038	759.71	1094.82	1226.54	5.87	1585.67	1425

3.10 The average A₂+FL costs of gram are projected for 2007-08 at Rs.702, Rs.752, Rs.824, Rs.843, Rs.1132, Rs.1021 and Rs.715 for Bihar,

Chhattisgarh, Jharkhand, Madhya Pradesh, Maharashtra, Rajasthan and Uttar Pradesh respectively. The corresponding C₂ costs are projected at Rs.1237, Rs.1263, Rs.1241, Rs.1375, Rs.1608, Rs.1475 and Rs.1227 per quintal respectively. The weighted average cost of production of gram works out to Rs.1387 per quintal on cost C₂ basis for the year 2007-08.

[(Table 3 (G))]

Masur (Lentil)

3.11 The estimates of cost of cultivation of lentil became available for 2005-06 in respect of Bihar, Jharkhand, Madhya Pradesh and Uttar Pradesh. From Table 3(D) it is observed that the MSP fixed at Rs.1535 per quintal for 2005-06 covered cost C₂ for all the above mentioned states.

(Tables 3.12 & 3.13)

Table 3(D): Cost Estimates for Masur Lentil)

(In rupees)

States	Years	A ₂ +F L/hect	C ₂ /hec c	A ₂ +F L /qtl	C ₂ /qtl	C ₃ /qtl	Yield/ qtl (hec.)	Implicit Price (qtl)	MS P (qtl)
Bihar	2005- 06	6076	1086 8	633.62	1134.6 2	1288.4 3	8.98 9	1720.9	1535
	2004- 05	5027	9893	461.06	907.55	1002.5 1	10.4 2	1436.2 5	1525
Jharkha nd	2005- 06	4296	6536	751.02	1140.7 2	1385.8 9	5.48 6	2073.7	1535
	2004- 05	2764	5027	835.53	1520.3 0	1685.1 5	3.14 4	1679.2	1525

Madhya Pradesh	2005-06	5842	10998	599.48	1127.68	1247.04	9.34	1678.63	1535
	2004-05	5905	10943	516.20	958.30	1064.18	10.91	1565.64	1525
Uttar Pradesh	2005-06	7731	14013	719.36	1302.26	1434.33	10.33	1720.33	1535
	2004-05	7004	11158	1099.20	1745.60	1965.20	6.11	1654.64	1525

3.12 The A_2 +FL cost per quintal of lentil is projected for 2007-08 at Rs.616, Rs.934, Rs.605 and Rs.916 for Bihar, Jharkhand, Madhya Pradesh and Uttar Pradesh. While the C_2 cost for these states is projected at Rs.1127, Rs.1326, Rs.1134 and Rs.1499 respectively. The weighted average cost of production of lentil works out to Rs.1334 per quintal on cost C_2 basis for the year 2007-08. [(Table 3(G))]

Rapeseed/Mustard and Safflower

3.13 For Rapeseed/Mustard, estimates have become available for the states of Assam, Gujarat, Haryana, Madhya Pradesh, Rajasthan, Uttar Pradesh and West Bengal for the year 2005-06.

Table 3 (E): Cost Estimates for Rapeseed/Mustard

(In rupees)

States	Years	A ₂ +F L/hect	C ₂ /hec c	A ₂ +F L /qtl	C ₂ /qtl	C ₃ /qtl	Yield/ qtl (hec.)	Implicit Price (qtl)	MS P (qtl)
Assam	2005-06	8581	10973	1347.10	1721.62	1909.87	6.37	1311.02	1715
	2004-05	8769	10698	1488.73	1814.90	1996.39	5.89	1351.84	1700
Gujarat	2005-06	10944	15812	645.53	932.63	1025.89	16.79	1410.66	1715
	2004-05	10803	15327	731.77	1038.51	1142.36	14.53	1498.44	1700
Haryana	2005-06	11607	19810	729.86	1245.58	1385.30	14.89	1568.14	1715
	2004-05	9393	15943	781.37	1326.11	1458.72	11.52	1603.84	1700
Madhya Pradesh	2005-06	7614	13629	635.29	1138.56	1259.83	11.37	1575.87	1715
	2004-05	6693	12907	523.41	1010.09	1111.10	12.24	1538.08	1700
Rajasthan	2005-06	8213	13506	613.42	1009.70	1110.67	12.93	1608.79	1715
	2004-05	7800	12766	561.49	917.39	1009.13	13.58	1579.98	1700
Uttar Pradesh	2005-06	9349	16604	673.94	1199.40	1319.34	13.13	1508.33	1715
	2004-05	8572	14659	724.28	1237.80	1361.58	11.37	1419.68	1700
West Bengal	2005-06	12848	18185	1205.47	1704.21	1888.58	10.16	1674.63	1715
	2004-05	11385	16959	944.11	1408.15	1563.50	11.70	1662.22	1700

3.14 The estimated costs of production of Rapeseed/Mustard for states for which latest estimates are available have been projected for 2007-08. It may be observed from Table 3(G) that projected cost $A_2 + FL$ for the year 2007-08 ranges between Rs.618 to Rs.1632 per quintal, Madhya Pradesh with least cost at Rs.618 and Assam with the highest cost at Rs.1632. The projected cost C_2 for 2007-08 varies between Rajasthan and Assam at Rs. 1060 and Rs.1990 per quintal. The weighted average cost of Rapeseed/Mustard works out to Rs.1198 on cost C_2 basis.

(Tables 3.15 & 3.16)

3.15 The latest cost estimate for Safflower pertaining to 2005-06 is available for Maharashtra.

Table 3 (F): Cost Estimates for Safflower

(In

rupees)

States	Years	A_2+FL /hec	C_2 /hec	A_2+FL /qtl	C_2 /qtl	C_3 /qtl	Yield/qtl (hec.)	Implicit Price (qtl)	MS P (qtl)
Maharashtra	2005-06	5715	7823	1172.90	1605.91	1766.50	4.87	1478.48	1565
	2004-05	3184	5175	634.27	1030.69	1147.65	5.02	1210.69	1550

3.16 The estimated cost of production for Safflower has been projected for 2007-08 to an average of Rs.1206 and Rs.1605 per quintal on cost $A_2 + FL$ and C_2 basis respectively. The cost of production projected by the state for the year 2007-08 after adjustment work out to Rs. 1322 which is fully

covered by the MSP announced for the year 2006-07. (Tables 3.18 & 3.19)

Comparison of Cost Estimates generated under CS and those provided by the State Governments.

3.17 In addition to the data obtained from CS, the Commission received data on cost of cultivation and input usage from various state governments based on their own surveys. These two sets of data are not strictly comparable to the corresponding CS estimates due to some conceptual and methodological differences. Nevertheless, the cost estimates provided by the different state governments have been proved very useful as most of them pertain to the more recent years and sometimes the data for the states not covered under CS are also made available. These have been tabulated and presented in Table 3 (H) for comparison.

3.18 For wheat, the states of Chhattisgarh, Gujarat and Madhya Pradesh have provided the cost estimates for the years 2005-06 and 2006-07, whereas the estimates provided by the states of Maharashtra, Uttar Pradesh, Uttarakhand and West Bengal pertain to the year 2005-06. The estimates made available by these states for the year 2005-06 have been compared with the corresponding CS estimates wherever available. It is observed that the estimates provided by the states of Chhattisgarh, Gujarat and Madhya Pradesh are on the higher side due to the low productivity considered by them. The estimates provided by Maharashtra could not be compared as it has not covered under CS. In case of Barley, the cost per quintal for the year 2005-06 estimated by Uttar Pradesh is on lower side than the CS estimates.

3.19 For gram, the estimates have been received from Chhattisgarh,

Gujarat and Madhya Pradesh for the years 2005-06 and 2006-07, whereas Maharashtra and Uttar Pradesh provided the same for 2005-06. The separate cost estimates for irrigated and un-irrigated crop have been generated by Gujarat and Madhya Pradesh. Accordingly, the weighted average costs for these two states have been worked out for comparison. The estimates for Chhattisgarh and Madhya Pradesh are on the higher side due to low level of yield, while the per quintal costs for Maharashtra and Uttar Pradesh are on the lower side. A comparison could not be made for Gujarat because of non-availability of data under CS. For lentil, the state estimates are available for Uttar Pradesh and Uttarakhand. The estimated cost for 2005-06 by Uttar Pradesh is lower in comparison to the CS estimates.

3.20 In case of Rapeseed/Mustard, Chhattisgarh, Gujarat and Madhya Pradesh have provided the cost estimates for the years 2005-06 and 2006-07, whereas the same has been received for 2005-06 from Uttar Pradesh, Uttarakhand and West Bengal. The estimates of cost of production provided by Gujarat, Madhya Pradesh, Uttar Pradesh and West Bengal for 2005-06 are higher than the corresponding CS estimate on account of lower yield rates reported by these states. The projected cost provided by the states of Chhattisgrah, Gujarat and Madhya Pradesh for the year 2006-07 after due adjustment, works out to Rs.1038, Rs.1211 and Rs.1391 per quintal respectively, which is higher than the Commission's projection. The reasons may be attributed to lower yield rates considered by these states.

3.21 For safflower, the state estimates have been available for Chhattisgarh and Maharashtra and it is observed that the estimated cost by the state of Maharashtra is on the lower side compared to the CS estimate because of higher yield reported by the state.

Comparison of Projections made by CACP and those made available by the State Governments.

3.22 The Commission has also received the projection of costs for rabi crops from Bihar, Haryana, Orissa, Maharashtra and Punjab for the year 2007-08. In order to make a meaningful comparison between the projections made by CACP and those provided by the states, certain additional items of costs considered by the states such as management costs, transportation cost, weather risks, marketing charges and other incidental costs have been excluded as these are a part of C_2 cost of production as per recommendation of the Special Expert Committee/s. Thus, the projections received from these states were adjusted accordingly to make it meaningful to compare with the projection carried out by CACP [(Table 3(I)]. It is observed that after the adjustments, the projected C_2 cost of production for Maharashtra for gram and safflower is lower than the CACP's projection. The higher rental value of owned land considered both by Punjab and Haryana is the reason for their higher projections made for wheat and rapeseed/mustard. The projected costs provided by Bihar are higher than the usual costs due to the fact that its cost estimates are based on demonstration plots. It is added that projections for Orissa in respect of the crops of gram and rapeseed/ mustard have not been carried out by the Commission due to non-availability of base year data under CS and as a result the comparison of projections cannot be made.

Cost of Production and Minimum Support Prices

3.23 Since one of the major considerations in setting Minimum Support Price (MSPs) is the cost of production, the Commission is concerned about the views sometimes expressed that the MSP for various crops, whether

recommended by the Commission or fixed by the Government, do not adequately cover the cost of production of the crops in many states and therefore farmers are forced to incur losses. It must be stated at the outset that the cost of production is not the only consideration in setting the MSP. While using the cost of production data for setting the MSP, generally three considerations are kept in mind. First, the MSP should not normally be below the paid out costs (Cost A_2 + the cost of family labour). Second, farmers should normally have a price realization that gives them a reasonable margin over their full cost of production including the imputed rental value of owned land and capital (i.e. cost C_2). To ensure this, the MSP is usually set to offer a reasonable margin above the C_2 cost of production in states, which are efficient in terms of their cost of production. Third, in doing so it is kept in mind that MSP should normally be at a level above the paid-out costs (A_2 + the cost of family labour) in every state and thus provides a floor, which protects farmers against actual loss.

Table – 3(G) Projected Cost of Production of Rabi Crops (Rs/Qtl)

Crops/ States	Base Year	Variable Input Price Indices			Projections for 2007-08		
		2005- 06	2006-07	2007- 08	(Revised Method – Using three years averages)		
					Yield (Qtl/Hect)	A ₂ +FL	C ₂
1	2	3	4	5	6	7	8
Wheat							
Bihar	01-02	119.16	122.38	124.15	20.01	493.41	693.48
Chhattisgarh	02-03	112.30	114.75	116.57	11.27	650.02	921.19
Gujarat	01-02	117.69	121.73	124.59	32.45	441.10	590.36
Haryana	01-02	117.30	120.27	121.23	39.35	363.49	590.10
Himachal Pradesh	01-02	121.84	126.33	129.95	14.44	515.69	816.81
Jharkhand	02-03	115.38	119.49	122.66	13.78	741.00	957.00
Madhya Pradesh	01-02	130.54	135.77	139.58	21.66	426.88	720.09
Punjab	01-02	122.13	125.97	128.48	41.66	342.85	555.67
Rajasthan	01-02	122.90	127.87	131.69	33.23	386.86	547.54
Uttar Pradesh	01-02	128.45	133.10	135.71	30.63	428.97	653.77
Uttarakhand	02-03	113.38	118.04	122.24	24.34	508.35	695.22
Weighted Average						403.87	624.46
Barley							
Rajasthan	01-02	132.43	137.08	140.46	32.38	331.69	495.72
Uttar Pradesh	01-02	124.25	128.76	131.02	27.63	398.17	613.71
Weighted Average						364.82	554.51
Gram							
Bihar	01-02	128.63	136.58	143.20	8.89	701.83	1236.57
Chhattisgarh	02-03	115.49	119.66	123.47	8.34	752.43	1262.83
Jharkhand	02-03	111.17	115.11	118.91	5.92	823.99	1241.31
Madhya Pradesh	01-02	127.78	135.35	142.44	9.27	843.41	1375.18
Maharashtra	02-03	114.43	118.88	122.40	8.13	1131.52	1607.64
Rajasthan	01-02	122.59	129.68	136.22	6.04	1021.18	1475.29
Uttar Pradesh	02-03	117.60	126.79	121.93	10.70	714.57	1227.24
Weighted Average						876.52	1386.69

Contd....

Table – 3(G) (Concluded)
Projected Cost of Production of Rabi Crops (Rs/Qtl)

Crops/ States	Base Year	Variable Input Price Indices			Projections for 2007-08		
		2005- 06	2005-06	2005- 06	(Revised Method – Using three years averages)		
					Yield (Qtl/Hect)	A ₂ +FL	C ₂
1	2	3	4	5	6	7	8
Lentil							
Bihar	01- 02	125.04	129.72	134.4 8	9.53	616.24	1126.75
Jharkhand	02- 03	123.53	129.59	135.9 7	3.79	934.13	1325.93
Madhya Pradesh	01- 02	126.54	129.74	132.4 8	9.99	604.98	1133.99
Uttar Pradesh	01- 02	122.01	126.79	130.7 3	8.45	915.80	1498.86
Weighted Average						780.15	1333.51
Rapeseed & Mustard							
Assam	01- 02	122.00	126.92	132.2 8	5.84	1631.76	1989.97
Gujarat	01- 02	126.47	131.00	133.9 6	15.90	763.31	1090.20
Haryana	01- 02	130.06	134.79	138.3 2	13.48	797.72	1331.51
Madhya Pradesh	01- 02	120.86	124.14	126.8 5	12.77	617.76	1153.04
Punjab	01- 02	119.87	124.61	128.8 6	10.28	739.27	1307.99
Rajasthan	01- 02	129.48	134.08	137.3 6	13.26	661.74	1060.27
Uttar Pradesh	01- 02	120.01	124.48	126.9 1	11.02	829.98	1385.66
West Bengal	01- 02	122.99	130.56	132.3 6	10.50	1210.53	1711.98
Weighted Average						748.34	1197.54
Safflower							
Maharashtr a	01- 02	128.07	132.86	138.4 1	4.79	1206.11	1605.21

Table – 3(H) Comparative Statement of Cost estimates of Rabi Crops provided under Comprehensive Scheme (C.S.) and those provided by the State Government

Crop/State	Year	Cost of Cultivation (Rs/Hect)		Yield (Qtl/Hect)		Cost of Production (Rs/Qtl)	
		C.S. Survey	State Reply	C.S. Survey	State Reply	C.S. Survey	State Reply
1	2	3	4	5	6	7	8
Wheat							
Chhattisgarh	05-06	12480	13120	10.78	9.21	915	1425
	06-07	NA	13776	NA	12.40	NA	1111
Gujarat	05-06	18277	20579	33.37	30.01	525	686
	06-07	NA	22413	NA	31.83	NA	704
Madhya Pradesh	05-06	16978	15168	20.30	17.10	721	887
	06-07	NA	17108	NA	18.00	NA	950
Uttar Pradesh	05-06	22822	19315	28.59	27.49	654	589
Uttarakhand	05-06	20108	21157	23.41	37.83	648	510
West Bengal	05-06	21981	20368	19.90	22.21	987	798
Maharashtra	05-06	NA	16920	NA	18.37	NA	890
Barley							
Uttar Pradesh	05-06	22450	15488	30.03	22.91	614	548
Gram							
Chhattisgarh	05-06	14154	10987	14.28	7.05	946	1558
	06-07	NA	11536	NA	8.35	NA	1382
Gujarat	05-06	NA	10654	NA	7.77	NA	1315
	06-07	NA	12651	NA	8.66	NA	1390
Madhya Pradesh	05-06	13978	15392	9.52	9.37	1402	1643
	06-07	NA	16313	NA	10.00	NA	1631
Uttar Pradesh	05-06	15093	11656	13.36	10.75	1083	1060

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Table – 3(H) (Concluded) Comparative Statement of Cost estimates of Rabi Crops provided under Comprehensive Scheme (C.S.) and those provided by the State Government

Crop/State	Year	Cost of Cultivation (Rs/Hect)		Yield (Qtl/Hect)		Cost of Production (Rs/Qtl)	
		C.S. Survey	State Reply	C.S. Survey	State Reply	C.S. Survey	State Reply
1	2	3	4	5	6	7	8
Maharashtra	05-06	12581	10171	7.92	7.94	1552	1231
Lentil							
Uttar Pradesh	05-06	14013	10640	10.33	8.96	1302	1153
Uttarakhand	05-06	NA	14501	NA	9.97	NA	1454
Rapeseed & Mustard							
Chhattisgarh	05-06	NA	7166	NA	3.27	NA	2191
	06-07	NA	7524	NA	7.25	NA	1038
Gujarat	05-06	15812	16746	16.79	14.58	933	1123
	06-07	NA	18849	NA	15.25	NA	1211
Madhya Pradesh	05-06	13629	15382	11.37	10.32	1139	1490
	06-07	NA	15298	NA	11.00	NA	1391
Uttar Pradesh	05-06	16604	13280	13.13	10.44	1199	1230
Uttarakhand	05-06	NA	14301	NA	12.40	NA	1154
West Bengal	05-06	18185	17053	10.16	9.37	1704	1798
Safflower							
Chhattisgarh	05-06	NA	6615	NA	2.37	NA	2791
	06-07	NA	6949	NA	4.75	NA	1463
Maharashtra	05-06	7823	8509	4.87	7.76	1606	1094

Source: 1. Directorate of Economics and Statistics, 2. State Replies for 2007-08 Season.

Table – 3(I) Comparison of Projection*

(In rupees)

Crop/State	Year	State Yield (Qtl/Hect)	State Projections		Comparable Estimates (Using state data)		Yield (C.S.) (Qtl/Hect)	Projections for 07-08 (As done by CACP)	
			Cost/Hect	Cost/Qtl	Cost/Hect	Cost/Qtl		Cost/Hect	Cost/Qtl
1	2	3	4	5	6	7	8	9	10
Wheat									
Bihar	07-08	35.00	31358	1119	28508	815	20.08	15956	693
Haryana	07-08	39.48	30965	807	30965	684	39.35	27560	590
Punjab	07-08	41.00	37575	1015	37575	799	41.66	26178	556
Maharashtra	07-08	16.86	19355	1415	17876	1026	NP	NP	NP
Gram									
Bihar	07-08	18.00	26358	1830	23962	1331	8.89	11587	1237
Haryana	07-08	7.99	11848	1610	11848	1383	NP	NP	NP
Maharashtra	07-08	6.24	10905	2112	9860	1530	8.13	13584	1608
Orissa	07-08	6.60	8796	1333	8796	1333	NP	NP	NP
Barley									
Haryana	07-08	28.17	18242	696	18242	588	NP	NP	NP
Rapeseed & Mustard									
Bihar	07-08	15.00	25174	2097	22886	1526	NP	NP	NP
Haryana	07-08	12.85	18218	1650	18218	1418	13.48	18848	1332
Orissa	07-08	4.50	7229	1606	7229	1606	NP	NP	NP
Lentil									
Bihar	07-08	15.00	21917	1826	19925	1328	9.53	11310	1127
Safflower									
Maharashtra	07-08	8.19	11976	1855	10836	1322	4.79	7689	1605

Note: *Data supplied by the states have been recalculated to correspond to the current CACP concepts and methodologies. NP – Not Projected due to non-availability of CS estimates

IV. PRICE POLICY FOR RABI CROPS OF 2007- 08 SEASON

While formulating the price policy for rabi crops of 2007-08, the Commission has considered all the relevant factors, namely demand-supply situation, domestic as well as international, trends in market prices, both domestic and international, food security situation, costs of production, inter-crop price parity, inter-sectoral terms of trade and such other factors that influence domestic prices and production.

4.2 According to Fourth Advance Estimates by the Directorate of Economics and Statistics, the production of foodgrains in 2006-07 is about 216.13 million tonnes, i.e., 7.5 million tonnes higher than that of last year. Although this may meet the current estimated demand of about 214 million tonnes, the overall demand-supply situation still looks quite precarious in view of stagnation in the annual growth rate of foodgrains production during the past one decade and no signs of improvement in the near future against the projected demand of 234 million tonnes of foodgrains by 2011-12. The estimated demand for wheat (including both household and non-household consumption) in 2011-12 would be above 77 million tonnes, while the average level of production in the country during the past 3 years was only about 71 million tonnes per year, assuming that advance estimate of 74.9 million tonnes for the year 2006-07 is correct. Thus, there is need to increase the production of foodgrains, especially wheat through appropriate yield augmenting technological innovations as well as price incentives.

4.3 During 2006, the country imported about 5.5 million tonnes of wheat and in the current year too, the Government is considering to import about 5 million tonnes of wheat from abroad, especially to build adequate buffer stocks to check the spiralling market prices of wheat. Based on FAO's latest analysis (Food Outlook, June, 2007), World wheat inventories are likely to decline to the lowest level since 1980. At the onset of the new season, stocks in major exporting countries are small which is contributing to price volatility in world markets. The international prices of wheat (USHRW) increased

from \$173.8 per metric tonne in January-March, 2006 to \$ 198.4 in January-March, 2007 and \$223.0 in June, 2007. The US wheat prices rose to an 11 year high in response to anticipated reductions in world output. Recent forecasts for the global wheat crop by the USDA are reduced by 6.7 million tonnes, bringing the expected world wheat production back to 610 million tonnes. The European Union wheat crop was revised downwards by about 2.7 million tonnes due mainly to lower production estimates for Romania, Hungary and Germany (Farmers Journal, June 23, 2007). In Russia too, the wheat output is anticipated to be lower by 2.4 million tonnes. (Kammer Sant, July 10, 2007). However, Spain is expected to have an extra one million tonnes of wheat and crop prospect in Australia is reported to be better. Nevertheless, the results of all available price forecasts including futures prices show that the world prices of wheat will remain volatile, but high. Therefore, India may have to drain out huge amount of money, if it decides to import 5 million tonnes of wheat this year. In other words, the country should devise various ways and means to improve its wheat production and productivity.

4.4 Despite the report of increased production of wheat in the country in 2006-07, the wholesale price index (WPI) of wheat (Base: 1993-94=100) rose from 180.9 in April, 2005 to 198.9 in April, 2006 and 221.3 in April, 2007. In fact, there has been a rising trend in the market prices of all the rabi crops under consideration. The WPI of barley increased from 190.1 in April, 2005 to 204.3 in April, 2006 and 227.1 in April, 2007. The WPI of lentil rose from 231.5 in April, 2005 to 248.8 in April, 2006 and 275.0 in April, 2007 and that of gram rose from 136.9 in April, 2005 to 174.4 in April, 2006 and 199.1 in April, 2007. The WPI's of rapeseed & mustard as well as safflower seed also increased marginally. The rising prices were mainly due to their short supplies. The domestic production of barley in the past four years were lower by 0.2 million tonnes than in the previous four years. The production of pulses slightly improved, but still fell short of demand. The production of both rapeseed and mustard and safflower seed was reported to be lower in 2006-07 as compared to that in 2005-06. While the domestic supply of pulses was short of demand by 2 to 3 million tonnes, the deficit in the case of edible oilseeds could be as high as 22 million tonnes.

4.5 Thus, considering both demand-supply situation and market prices, there is a strong case for increase in the MSPs of wheat, barley, gram, lentil, rapeseed & mustard and safflower seed. There is a special case for substantial hike in the MSP of wheat for ensuring its adequate production and procurement as well as price stability to sustain the TPDS and other welfare schemes for food security of the country's vulnerable people.

4.6 During 2006-07, the government could procure only about 11 million tonnes of wheat at MSP of Rs. 750 per quintal plus bonus of Rs. 100 per quintal. Since the market prices ruled higher than the procurement price in most places, farmers sold sizeable quantities of wheat to private traders and millers and in some cases, they also stored it for disposal in future. The point is that in an open framework of the economy to-day, it seems that government would have to pay reasonably higher procurement price of wheat at least with a view to purchasing adequate quantity of the grain for TPDS and other welfare schemes, till the production situation improves significantly and market/price situation stabilizes. While MSP would continue to be the floor price for barley, gram, lentil, rapeseed & mustard and safflower, the concern for food security would make it necessary to fix procurement price of wheat based on actual market trends and ground realities.

4.7 Costs of production are generally given greater weightage in the determination of minimum support prices. While this is the right approach, there would be deviation this year in the case of wheat, especially because of greater weightage being assigned to food security and price stability, in view of high domestic and international prices. The all India weighted C₂ Cost of Production of wheat for 2007-08 is projected at Rs 624.46 per quintal as against the current MSP of Rs. 750 and therefore, based on cost consideration, there would be no justification for increasing the MSP of wheat. If we consider the actual rental value of leased in land at market prices, then the projected cost of wheat works out to Rs. 745 per quintal. In the case of other rabi crops such as barley, gram, lentil and rapeseed and mustard, their existing MSPs cover the projected

C₂ Costs of Production and therefore on consideration of cost, there would be no justification to increase the MSPs. However, the existing MSP of Safflower seed continue to be lower than its projected C₂ cost for 2007-08.

4.8 Several State Governments have submitted to the Commission that Costs of Production data as supplied by the Directorate of Economics & Statistics and used by the Commission for determining the minimum support prices are unrealistically low. More particularly, the Government of Punjab has asked for upward revision of cost estimates as the cost data used do not include (i) cost of transportation to market yard, actual landlease rent and interest paid on working capital for the whole crop period. It may be mentioned in this context that currently the cost of production data being made available to the Commission does not include actual rate of interest for the whole crop period and also it does not include the cost of transportation from farm to market yard, despite recommendations of the Alagh Committee to this effect. If these costs are added and the rental value of land are recalculated based on market land lease rent, the cost of production per quintal of all the crops under consideration would require upward revision. However, the Directorate of Economics & Statistics, Ministry of Agriculture has yet to implement the recommendations of Alagh Committee and supply the cost data to the Commission accordingly.

4.9 Besides, the inter-crop parity is sought to be changed this year in favour of wheat so as to help the Food Security Mission achieve its objective of increasing additional 8 million tonnes of wheat in the 11th five year plan. Moreover, in view of the deteriorating economic condition of farmers, as revealed in the reports of National Commission on Farmers and other research studies, the Commission would like to recommend the minimum support prices of rabi crops somewhat liberally. This may help improve not only farm income and savings, but also investment in agriculture, thereby accelerating the pace of agricultural growth.

4.10 Thus, considering various relevant factors, as indicated above and after consultation with all stakeholders, including state governments, central government, ICAR-SAU scientists, farmers, millers and traders, the Commission recommends that the minimum support prices of various rabi crops for 2007-08 season be fixed as under:

<u>Commodity</u>	<u>Rs/Quintal</u>
Wheat	1000
Barley	650
Gram	1600
Masur (Lentil)	1700
Rapeseed/Mustard	1800
Safflower	1650

Commission further recommends that:

- i) ***the prices of other oilseeds belonging to the rapeseed/mustard group be fixed on the basis of their normal market price differentials with rapeseed/mustard;***
- ii) ***government should either fix a sufficiently high procurement price of wheat and announce it much before the sowing season, which may encourage the farmers to produce more wheat, thereby ensuring increased market arrivals as well as adequate procurement and price stability or evolve a transparent and corruption-free institutional mechanism to procure wheat at the prevailing market rates during the peak marketing season using an appropriate network of computerized information system and the available infrastructure of FCI, NAFED and other agencies, including those of State Governments. In the absence of any such initiatives, management of food security and price stability would continue to pose problems;***
(Para 1.5)
- iii) ***the strategies of food procurement and distribution by FCI and its designated agencies should focus on expanding operations in non-traditional areas and bringing coarse cereals, as supplement, to their operations for enhancing food security. Also the State Governments will have to play an important role in this regard;***
(Para1.6)

- iv) **Government should step up public investment and credit disbursement to agriculture substantially, along with measures for improvement in resource use efficiency;**
(Para 1.11)
- v) **the present system of product based subsidy should be replaced by nutrient based subsidy for motivating the farmers to apply various macro and micro nutrients in a balanced manner. Besides, irrigation rates and irrigation subsidy should be fixed in such a manner that the farmers are induced to use scarce resource, like water, rationally and efficiently;**
(Para 1.13)
- vi) **Government should set up an independent plant quarantine authority with adequate autonomy and resources to meet the growing challenges of bio-security in the wake of trade liberalization;**
(Para 1.15)
- vii) **the Directorate of Economics and Statistics together with the State Governments should review the method of collection, tabulation and transmission of statistics on area, production and yield of crops, particularly of foodgrains, for ensuring their reliability and timely availability;**
(Para 2.4)
- viii) **state governments should reduce statutory charges on purchase of cereals to a combined maximum of 4 percent, including all taxes and cesses, mandi charges and payments to commission agents. Further, state governments should refrain from taxing primary products brought in or taken out of the states by agencies designated to undertake minimum support price operations;**
(Para 2.15)
- ix) **a new buffer stocking policy should be designed so that surplus production in years of good crop can be stored and be made available in years when there is a shortfall in production;**
(Para 2.24)
- x) **there should be a comprehensive review of wheat production situation in various regions by the Government for evolving short term and medium term strategies for raising wheat production to meet the growing demand;**
(Para 2.32)
- xi) **Government should consider the idea of linking the MSP for oilseeds with oil contents in a positive way for increasing both productivity and production of oilseeds in the country, so that higher productivity in terms of factors like oil content etc. favours higher MSP to the farmers;**
(Para 2.64)

- xii) ***the Government should formulate an appropriate strategy to exploit the available potential of vegetable oils from secondary sources to augment net availability of edible oils in the country.*** (Para 2.87)

(T. HAQUE)
CHAIRMAN

(K. PONNUKANNU)
MEMBER

(M.S. GREWAL)
MEMBER

(V.M. JADHAV)
MEMBER

(K.G.RADHAKRISHNAN)
MEMBER SECRETARY

JULY 25, 2007