COMMISSION FOR AGRICULTURAL COSTS AND PRICES

REPORT ON PRICE POLICY FOR KHARIF CROPS OF 2007-2008 SEASON

SUMMARY OF RECOMMENDATIONS

In this report, the Commission for Agricultural Costs and Prices presents its views on the Price Policy for Kharif Crops of 2007-2008 Season. The Commission recommends that

the minimum support prices for the kharif crops of 2007-2008 season be fixed at the following levels:

Commodity	Variety	Quality	Minimum Support Price (Rs per quintal)
Paddy	Common	FAQ	645
	Grade-A	"	675
	Basmati	"	1120
Jowar Hybrid	-	"	600
Maldandi	-	"	620
Bajra	-	"	600
Maize	-	"	620
Ragi	-	"	600
Tur (Arhar)	-	"	1550
Moong	-	"	1700
Urad	-	"	1700
Groundnut-in-shell	-	"	1550
Soyabean	Black	"	910
	Yellow	"	1050
Sunflowerseed	-	"	1510
Sesamum	-	"	1580
Nigerseed	-	"	1240
Cotton (Kapas)	Medium Staple Length	"	1800
	Long Staple Length	"	2030
VFC Tobacco			
Black soil	F_2 grade	"	3400
Light soil	L_2 grade	"	3600

(Para 4.8)

The Commission further recommends that:

i) ***the prices for different varietal groups of rice be derived from the minimum support prices of paddy on the basis of hulling/milling ratios as well as the processing and incidental charges obtaining in different states***;

ii) ***the MSP recommended for Medium Staple Length relates to F-414/H-777/J-34 variety of kapas with technical parameters of Basic Staple Length (2.5% span) of 24.5 mm and Micronaire Value 3.8 – 4.8***;

iii) ***the MSP recommended for Long Staple Length relates to H-4/H–6 variety of kapas with technical parameters of Basic Staple Length (2.5% span) of 28.0 mm and Micronaire Value 3.6 – 4.5*** ;

iv) ***the prices of varieties grown in different states, other than those mentioned in (ii) and (iii) above, in the groups of Short, Medium, Long and Extra Long Cotton (Kapas) be fixed keeping in view the normal market price differentials between Medium Staple Length (F-414/ H-777/ J-34 with technical parameters of Basic Staple Length of 24.5 mm and Micronaire Value 3.8 – 4.8); Long Staple Length (H - 4 / H - 6 with technical parameters of Basic Staple Length of 28.0 mm and Micronaire Value 3.6 – 4.5) and other varieties and technical parameters;***

v) ***the prices of grades other than F_2 VFC tobacco grown on black soils be fixed keeping in view the normal market price differentials between F_2 and other grades***;

vi) ***the prices of grades other than L_2 VFC tobacco grown on light soils be fixed keeping in view the normal market price differentials between L_2 and other grades***;

vii) ***the strategies of food procurement and distribution by FCI and its designated agencies should be attuned to the emerging market scenario with the focus on expanding operations in non-traditional areas and bringing coarse cereals, as supplement, to their operations for enhancing food security***;

(Para 1.4)

viii) ***Government should step up public investment and credit disbursement to agriculture substantially, along with measures for improvement in resource use efficiency***; (Para 1.10)

ix) ***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 1.11)

x) ***Government should 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 environment protection***; (Para 1.12)

xi) ***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 1.13)

xii) **all states must be considered on equal traction while implementing relaxations in quality norms on grounds of fairness and equity;** ***(Para 2.4)***

xiii) **Government should address the issues of dissimilarity in taxes, levies, marketing laws and movement of grains among states to create a single market for agricultural produce in the country; (Para 2.5)**

xiv) ***the Department of Food and Public Distribution should make a state-wise evaluation of the working of decentralized procurement for removal of operational hitches and smoothening the procurement operations***; (Para 2.11)

xv) ***Government may consider announcing separate MSP for basmati paddy with proper geographical indications in addition to MSPs for Common and Grade 'A' varieties of Paddy and accordingly put in place a system to defend the same in the market***; (Para 2.13)

xvi) ***Government should review the existing procurement/price support operations of oilseeds and make proper marketing arrangements to ensure that the oilseeds crop of the farmers is fully protected against price uncertainty***; (Para 2.77)

xvii) ***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 2.89)

xviii) ***the Technology Mission on Oilseeds & Pulses should examine the suggestion of the oil industry to declare cultivation of oil palm as plantation and allow the public and private enterprises to enter in this field and make suitable recommendations to the Government in this regard;*** (Para 2.90)

xix) ***the Directorate of Economics and Statistics in consultation with the Textile Commissioner should reconcile the production estimates of cotton and a single series of the same be arrived at, with effect from the next kharif season 2007-08****;* and (Para 2.108)

xx) ***Government in collaboration with ICAR Institutes should make serious efforts to raise the domestic production of Extra Long Staple (ELS) cotton both through area expansion under the existing types and by developing new varieties of ELS cotton, so as to increase the income of farming communities and to achieve self-sufficiency.*** (Para 2.115)

I. An Overview

During the year 2006-07, the performance of Indian agriculture was largely influenced, among other factors, by the variations of monsoon around its long-term trend. 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 initial phase of deficiency of rainfall witnessed from the beginning of second week of June and up to July, 2006 and again in mid-September was offset by excess rainfall during the first three weeks of August, especially over Central India. The uneven distribution of the rainfall during South-West monsoon of 2006 adversely affected 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 last 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 as compared with 10 per cent above normal during the corresponding period of the previous year. Of the 36 meteorological sub-divisions, cumulative rainfall was deficient/ scanty/ no rain in 27 sub-divisions (19 sub-divisions during last year). As on January 4, 2007, the total live water storage was 66 per cent (same as last year) of the FRL.

1.2 In view of the uneven rainfall during the South-West monsoon season, the area coverage under *kharif* crops in 2006 season was around 1.9 per cent lower than a year ago, mainly on account of shortfalls in the case of rice, coarse cereals and oilseeds. In contrast, area sown under *rabi* crops so far (up to January 5, 2007) has been about 3.4 per cent higher than a year ago. The higher sowing under *rabi* crops was mainly on account of increase in area covered

under wheat, pulses and coarse cereals, which more than offset some decline in area under oilseeds.

1.3 According to the Second Advance Estimates of Directorate of Economics & Statistics (DE&S), total foodgrains production during 2006-07 is estimated at 209.2 million tonnes, marginally higher than 208.6 million tonnes in the previous year. The total *kharif* foodgrains production during 2006-07, estimated at 107.2 million tonnes will be 2.5 per cent lower than 109.9 million tonnes achieved in 2005-06, mainly on account of the likely shortfalls in the production of rice (2.0 per cent) and coarse cereals (6.0 per cent). As against this, rabi foodgrains in 2006-07 is expected to record an increase of 3.3 per cent to 102.0 miilion tonnes in 2006-07 from 98.7 million tonnes in 2005-06, largely on account of the anticipated increase of 4.5 per cent in wheat producton from 69.4 million tonnes in 2005-06 to 72.5 million tonnes in 2006-07. The area sown under wheat (up to January 5, 2007) is reported to be 6.8 per cent higher than that during the corresponding period in 2005-06. However, the production of wheat estimated at 72.5 million tonnes would still be much less than the earlier record production of 76.4 million tonnes in 1999-00, with an average yield of 27.8 quintals per hectare. Similarly, the estimated production of 90.1 million tonnes of rice in 2006-07 remains below the level of rice production of 93.3 million tonnes achieved in 2001-02. The production of pulses estimated at 14.52 million tonnes in 2006-07 would be lower than what the country achieved in 1998-99 and 2003-04 by producing 14.9 million tonnes of total pulses. Thus, increasing foodgrains production in a stable manner is still a matter of concern. 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. In the case of commercial crops, production of sugarcane is estimated to go up to 315.5 million tonnes during 2006-07, compared with 281.2 million tonnes in 2005-06. The production of cotton estimated at 209.6 lakh bales (the highest so far) in 2006-07 would be higher by 13.3 per cent over the 185 lakh bales produced in 2005-06. Production of jute and mesta is also expected to be higher

during 2006-07. Production of nine oilseeds, on the other hand, is likely to decline by 15.7 per cent to 23.6 million tonnes from 28.0 million tonnes in the previous year, mainly reflecting a 45 per cent decline in groundnut production and over 6 per cent fall in the production of rapeseed & mustard.

1.4 The procurement of foodgrains (rice and wheat) during 2006-07 (up to March 06, 2007) at 28.8 million tonnes was 18 per cent lower than that in the corresponding period of the preceding year on account of decline in procurement of wheat from 14.8 million tonnes to 9.2 million tonnes. The offtake of rice and wheat during the first nine months of 2006-07 (April to December , 2006) at 26.4 million tonnes was also lower by 15.3 per cent over the offtake during the corresponding period of the previous year, mainly due to a fall in the offtake under Other Welfare Schemes (OWS). In view of lower procurement, the total stock of foodgrains with the Food Corporation of India (FCI) and other Government agencies declined to 17.8 milliion tonnes as on January 1st, 2007 from 19.3 million tonnes a year ago, reflecting declines in the stocks of wheat to 5.7 million tonnes from 6.2 million tonnes, that of rice by 0.66 million tonnes and other foodgrains by 0.34 million tonnes. While the stocks of wheat were lower than the buffer stock norm of 8.2 million tonnes, those of rice exceeded the buffer norm of 11.8 million tonnes. The depletion in stock, viewed in the context of lower offtake, 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. 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 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 be attuned to the emerging market scenario with the focus on expanding operations in non-traditional areas and bringing coarse cereals, as supplement, to their operations for enhancing food security.***

1.5 The declines in the supply of wheat, pulses and edible oils in 2006-07 had visible impact on prices. The Wholesale Price Index (WPI base 1993-94) for agricultural commodities and food articles was 203.1 and 209.5 respectively for the year 2006-07 (Upto January, 2007), increasing by 6.3 per cent and 7.3 per cent respectively over the previous year, compared with the overall inflation of 5.1 per cent. During 2006-07, there was sharp upward trend set in case of prices of primary articles, both food articles, and non-food articles. The WPI for January, 2007 at 208.4 was 6.2 per cent higher than the WPI of 196.3 for the corresponding month in 2006. On a point to point basis, as on 20th January 2007, primary articles recorded an increase of 9.8 per cent, with food articles rising by 9.3 per cent and non-food articles by 9.8 per cent. The WPI for rice in January, 2007 was higher by only 4.7 per cent, but in the case of wheat, the change in WPI in January, 2007 over the WPI of January, 2006 was 13.9 per cent. Within foodgrains, exceptional inflationary trend has erupted in case of pulses. The WPI of pulses rose to 266 in December, 2006, about 29.3 per cent higher than the corresponding WPI in December 2005. 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 is a rising trend from November, 2006 onwards. In the case of cotton lint, the market prices improved significantly in 2006-07. In fact, the market prices of all varieties of cotton lint were higher in 2006-07 season compared to 2005-06.

1.6 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. As of mid-November, FAO's latest forecast of world output of wheat in 2006 stands at roughly 592 million tonnes, almost 33 million tonnes, or 5.3 per cent, down from 2005. The production short-falls in 2006 in many parts of the world are expected to result in a large drawdown of world wheat inventories to their lowest level since the early 1980s. Global wheat stocks for crop year ending in 2007 are currently forecast to fall to around 147 million tonnes, nearly 28 million tonnes, or 16 per cent, below their opening levels. The volatile but rising prices in October 2006 were followed by more subdued price movements in early November 2006, before rising again towards the end of the month. In November, the United States' hard wheat export price averaged US$219, up over US$52, or 31 per cent, from the previous year. Given the reported increases in winter wheat plantings and favourable growing conditions to date, world wheat production in 2007 is likely to recover, which would improve supply and contribute to lowering price levels later this season and into the next. Assuming 1995 as the base, the index of international wheat price rose from 86.1 in 2005 to 108.3 in 2006, while that of rice increased from 89.7 in 2005 to 94.6 in 2006. The index of international maize prices also increased from 79.7 in 2005 to 98.5 in 2006. The indices of cotton and groundnut prices increased marginally from 56.1 in 2005 to 59.1 in 2006 and from 94.2 in 2005 to 101.5 in 2006 respectively. But the index of international prices of sunflower oil dropped from 181.2 in 2005 to 112.9 in 2006, while that of soyabean oil improved from 84.8 in 2005 to 94.3 in 2006 (International Monetary Fund).

1.7 A series of setbacks, in the form of typhoons, drought, flooding, diseases and insect attacks, have marred prospects for rice crops in 2006. So virtually no

growth in global production is anticipated in 2006. Early indications on 2007 crops in the southern hemisphere countries are also negative. Although the arrival of supplies from newly harvested crops could bring some respite to high world prices, this is likely to be only temporary, and an expected tightening of the global supply and demand portends a continuation of relatively firm rice prices into 2007.

1.8 World markets for coarse grains are experiencing an exceptionally volatile period as a result of a sharp decline in world production and a tightening of supplies in the United States, the world's largest producer and exporter. This season's decline in production coincides with a more rapid expansion in demand for industrial use, ethanol in particular. Against this background, global stocks by the end of the 2007 seasons are likely to be drawn down significantly, fuelling price volatility and increases across the board. Looking ahead, the current strong prices are likely to encourage higher plantings and result in larger production in 2007 compared with 2006.

1.9 Growth in global oilseeds production is forecast to slow down considerably in 2006/07 due to declines in rapeseed, groundnut and sunflower production in key producing countries as well as lower increase of soybean output in Latin America. During 2006/07, the oilseed sector is expected to be increasingly affected by expectations for oilseed and cereal crops in the subsequent 2007/08 season. The tightness currently observed in feed grain markets could lead to lower plantings and higher prices in the oilseed sector.

1.10 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. It is indeed gratifying to note that the Central Government Budget Proposal for the Year 2007-08 announced

an increase in the central plan outlay for agriculture and allied sector from Rs.7391 crore last year to Rs.8558 crore this year. Besides, the target for credit disbursement to agriculture has been enhanced to Rs.2,25,000 crore which may help increase private investment in agriculture. However, in view of the present low investment - GDP ratio and high incremental capital - output ratio, it would be 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.***

1.11 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 recommends 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.***

1.12 Integrated pest management is another area which requires immediate attention of the Government. In recent years, injudicious and indiscriminate use of chemical fertilizers has caused several ill-effects like development of resistance in pests, resurgence in pests, pesticides residue in food products, environment 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, the Commission recommends that ***Government should 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 environment protection.***

1.13 Moreover, in the wake of WTO, application of sanitary and phyto-sanitary measures based on scientific criteria 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 recommends 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 . PRICE SUPPORT OPERATIONS, CROP SITUATION, MARKET BEHAVIOUR, PROCUREMENT, DISTRIBUTION AND STOCKS

Minimum Support Price

Submitting its Report on Price Policy for Kharif Crops of 2006-07 on March 31, 2006, the Commission recommended, *inter alia*, Minimum Support Prices (MSP) for fair average quality (FAQ) of various crops to be fixed at the following levels:

(Rs. per quintal)

Crop	Variety	MSP fixed by Government for 2005-06 Season	MSP recommended by CACP for 2006-07 Season	MSP fixed by Government for 2006-07 Season
1	2	3	4	5
Paddy	Common	570	570©	580®
Paddy	Grade-A	600	600©	610®
Jowar	(Hybrid)	525	540	540
Jowar	(Maldandi)		555	555
Bajra		525	540	540
Maize		540	540	540
Ragi		525	540	540
Tur(Arhar)		1400	1410	1410
Moong		1520	1520	1520
Urad		1520	1520	1520
Groundnut-in-shell		1520	1520	1520
Soyabean(Black)		900	900	900
Soyabean(Yellow)		1010	1020	1020
Sunflower-seed		1500	1500	1500
Sesamum		1550	1560	1560
Nigerseed		1200	1220	1220
Cotton (F-414/H-777)		1760	1770	1770
Cotton (H-4)		1980	1990	1990
VFC Tobacco Black soil	F2 Grade	3200	3400	3200
VFC Tobacco Light soil	L2 Grade	3400	3600	3400

© : Additional Rs. 10 per quintal for paddy may be given to farmers in Punjab and Haryana, if these states enforce a mechanism to prevent sowing/transplanting of paddy before June, 10. In that event, farmers in other states should also receive this additional price.

® : An additional incentive bonus of Rs.40/- per quintal is payable on procurement between 1.10.2006 to 31.3.2007. This will be subject to the condition that state Govts. fully exempt the bonus amount from all state taxes and levies.

2.2 The Government announced the kharif price policy for cereals, pulses, oilseeds and raw cotton on July 27, 2006, fixing MSP at levels recommended by the Commission, except for Common and Grade A varieties of paddy, where the price fixed was Rs.10 more than recommended. Also an additional incentive bonus of Rs. 40 per quintal was announced on procurement of paddy between 1.10.2006 and 31.3.2007. Subsequently, the Textile Commissioner fixed the MSPs for different varieties of raw cotton on September 26, 2006 keeping in view the normal market price differentials and other relevant factors, namely, staple length and micronaire value. The Government, in their announcement dated August 1st , 2006, announced the MSP for tobacco for 2006-07 season at Rs. 32 per kg for F2 and Rs. 34 per kg for L2 grades.

Price Support Arrangements

2.3 The Government notified uniform specifications of paddy, rice, and coarse grains for procurement for the central pool during the kharif marketing season 2006-07 on September 6, 2006. The maximum moisture limit was fixed at 17 per cent for paddy, 14 per cent for rice, jowar, bajra and maize and 12 per cent for ragi. The Central Government also notified the levy prices of rice, common as well as grade-A varieties in both raw and parboiled forms, to State Governments.

2.4 In order to improve the quality and enable smooth procurement, Government has announced uniform specification of paddy, rice and coarse grains for the central pool during the Kharif Marketing Season (KMS) 2006-07, allowing certain limits of moisture content and damaged, discoloured, sprouted and weevilled grains. In case of rice and paddy, moisture content was acceptable to a maximum limit of 17 per cent. A limit of 3 per cent was allowed for discoloured, sprouted and weevilled grains. Due to excessive rains in the months of August and September, 2006, the paddy crop got damaged in many parts of the country. Relaxations in standards of paddy as well as rice were allowed to some of the states on their request, which also entailed a value cut over the uniform norms, fuelling discontentment among cultivators of deprived states. It is,

therefore, pertinent to relax the standards uniformly for all states without discretion, either as a measure to help farmers or to build up depleting stocks. The Commission reiterates its earlier recommendation that ***all states must be considered on equal traction while implementing relaxations in quality norms on grounds of fairness and equity*.**

2.5 The promulgation of the Central Government's order 'Removal of Licensing Requirements, Stock Limits and Movement Restrictions on Special Foodstuff Order, 2002', dated 15th February, 2002 has allowed dealers to freely buy, use or consume, stock, sell, transport, distribute, dispose any quantity of paddy/rice, wheat, coarse grains, sugar, edible oilseeds and edible oils without requiring any permit or licence. Although removing restrictions has facilitated free movement of agricultural commodities, it has helped farmers only to a limited extent because marketing bye-laws in many states still require such commodities to be channellised through designated mandies. Besides, state governments like Punjab, Haryana and Andhra Pradesh impose various charges and taxes, which get added to the procurement cost and are reimbursed by the Central Government. The Commission, therefore, recommends that ***Government should address the issues of dissimilarity in taxes, levies, marketing laws and movement of grains among states to create a single market for agricultural produce in the country.***

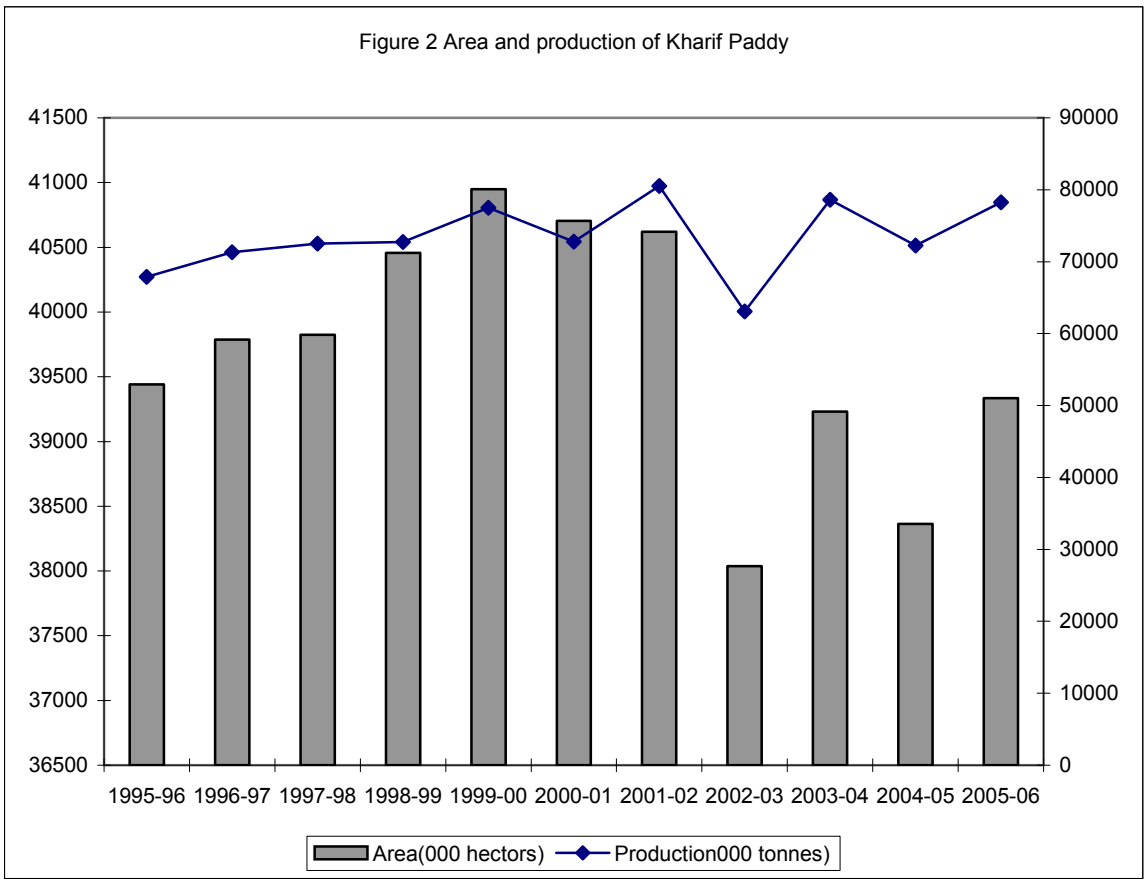
Rice*

2.6 According to the Second Advance Estimates (05/02/2007) released by the Directorate of Economics and Statistics (DES), the production of rice estimated at 90.13 million tonnes during 2006-07 is likely to show a significant increase of 2.27 million tonnes over the Second Advance Estimates of previous year's production of 87.86 million tonnes; but it marks a sizeable decline of 3.21 million tonnes against the record production of 93.34 million tonnes achieved in 2001-

* This section is focused on rice. However, for a comprehensive view of the food grains situation, wheat situation is also discussed later in the section

2002. Change in production of kharif paddy since 1995-96 to 2005-06 has generally been positively correlated to change in area coverage except in 2001-02, when production increased in spite of decline in kharif rice area compared to previous year (Figure 2). Since 2001-02 both area and production declined to reach 39.33 million hectares and 78.27 million tonnes respectively in 2005-06.

Chart -1



2.7 The estimates received from States, indicate that the total rice production increased over the previous year in Andhra Pradesh by 7.9 per cent to 12.6 million tonnes, Chattisgarh by 18.7 per cent to 6.6 million tonnes, Madhya Pradesh by 4.4 per cent to 1.7 million tonnes and Orissa by 6.6 per cent to 7.4 million tones. In contrast, the production declined in Punjab by 2.3 per cent to 9.1 million tonnes, in Haryana by 1.2 per cent to 3.2 million tonnes, and in Gujarat by

20.4 per cent to 3.3 million tonnes. Despite regional variations, production at the aggregate level maintained its long-term growth momentum. The compound annual growth rate of rice production at All India level was 1.85 per cent of which acreage expansion accounted for 0.18 per cent and yield enhancement 1.67 per cent per annum during the period between 1985-86 and 2005-06. The respectable growth over the two decades, however, conceals the sharp deceleration of growth in the latter half of this period. The growth in production of rice during 1995-96 to 2005-06 was only 0.98 per cent per annum, largely due to Stagnation in coverage of area. (Tables 2.2)

2.8 Uneven rainfall and inadequate irrigation facility damage crops both in the situation of flood and drought. International Rice Research Institute, Philippines with the help of genetic engineering has developed a flood resistant rice variety, which enables rice to survive for two weeks in water. University of Agricultural Science, Bangalore has developed a rice variety termed as “aerobic rice” that consumes 50 per cent less water than the conventional types and precludes release of methane. Since it requires less water, it can be grown in low rainfall areas and can earn carbon credit as it prevents the release of methane. Production of organic paddy has been successful in Kerala, which extends yield up to 2.5 tonnes per hectare by using the conventional method. Once the produce is certified as 100 per cent organic, it would fetch higher price than the conventional paddy. The system of rice intensification (SRI), now-a-days, has come as a great boon to farmers, who would be required to apply less water to the water intensive crops to get better yields. Rice yield has the potential to increase in the range of 7 to 15 tonnes per hectare, depending upon the region. The SRI can achieve improvement in yields and factor productivity by changing some of the plant, soil, water and nutrient management practices. It promotes greater root growth that is easily verifiable and more soil biological activity. The system is independent of purchased external inputs like chemical fertilizers and pesticides. Instead, it increases productivity of land, labour, water and capital developed to irrigate rice production by capitalizing on existing genetic potential and by biological processes, particularly in the soil. These

improved varieties of paddy cultivation should be further developed and popularized among farmers for getting better productivity

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

2.9 The market prices of rice showed an upward trend in 2006-07. The average index number of wholesale prices of rice for ten months (April 2006-January, 2007) at 178.9 showed a rise of 2.5 per cent over the corresponding period of last year. Even so, during the post harvest months, the wholesale prices of paddy ruled below MSP in many states. For example, against the MSP of Rs.580 per quintal for common variety, paddy was sold at Rs.555 per quintal at Bilashpur (Chhattisgarh) in January, 2007, Rs.497, Rs. 489 and Rs. 492 per quintal at Mysore (Karnataka) during the months November, December,2006 and January, 2007 respectively and in Katni, Balaghat, Sivani (Madhya Pradesh) ranging from Rs.425-570 during October,2006. In Lucknow (U.P.) the distress sale of rice was at Rs.570 as against the MSP of Rs.580/-. As far as defending the MSP is concerned, several states, which have opted for decentralized procurement, have not shown the required alertness that was expected from them once they had formally undertaken the task of handling MSP operations. (Table 2.14 & Annexure – I)

Procurement

2.10 Procurement of rice, recorded at 19.5 million tonnes during 2006-07 (as on 6th March, 2007), was lower than 20.2 million tonnes procured in the corresponding period of 2005-06. Maximum procurement of 7.7 million tonnes was made in Punjab, followed by 2.5 million tonnes in Chattisgarh, 2.4 million tonnes in Andhra Pradesh, 1.8 million tonnes in Haryana and 2.0 million tonnes in Uttar Pradesh. In addition, purchases of paddy/rice were also made in Assam, Bihar, Karnataka, Kerala, Madhya Pradesh, Orissa, Rajasthan, West Bengal, Maharashra, Tamil Nadu and Uttarakhand. (Table 2.8)

2.11 The Government of India took a decision in 1999 to introduce decentralized procurement of foodgrains. Under this scheme, the designated States are required to procure, store and also issue foodgrains as per allotment indicated by the Central Government under PDS. The scheme of decentralized procurement of foodgrains is presently in vogue in states of Chattisgarh, Karnataka, Kerala, Orissa, Tamil Nadu, West Bengal, Uttar Pradesh and Uttarakhand. The perceived advantages of decentralized procurement were that it would avoid criss-cross movement of grains and minimize cost of transportation. Besides, it was expected that the state governments would be vigilant in defending MSP. The quality of procured grains would be suitable for the local tastes. Barring few exceptions such as Chhattisgarh and Orissa, the operation of decentralized procurement in the states was generally tardy. The state governments reported to have experienced that the expenses incurred after procurement on account of milling, interest payments, handling and transportation are not reimbursed promptly by the Central Government. The state governments also do not have adequate storage facilities. The Commission recommends that ***the Department of Food and Public Distribution should make a state-wise evaluation of the working of decentralized procurement for removal of operational hitches and smoothening the procurement operations.***

2.12 Procurement of paddy is made either in the primary form or through levy route of rice. Paddy procurement serves a dual purpose. It is a direct support measure for farmers and the procured grain meets the PDS requirements and other commitments. A distinction is required between Minimum Support Price (MSP) and procurement price at which Government buys grains for its buffer stocking operations and for feeding the public distribution system (PDS). This means that the market intervention at the MSP may be intended only to prevent distress sale by farmers, while grain procurement for PDS and various welfare schemes be on commercial basis.

2.13 It has been brought to the notice of the Commission that the existing framework of safeguarding the interest of farmers for wheat and paddy through MSP operation is inadequate and is not tuned with emerging trade realities. The MSP for paddy is currently recommended for two varieties viz. paddy common and paddy Grade A and that of wheat without varietal specification. The High Level Committee on Long Term Grain Policy had, however, recommended for MSP fixation for only one variety of paddy. But it is also a fact that there are certain broad varietal classifications in respect of both wheat and rice, commanding differential price in the market on account of their specific demand both in domestic as well as international markets. However the market prices of these superior varieties of rice sometimes get depressed, requiring intervention by the government. Basmati rice generally is grown in distinct cropping conditions and enjoys a niche market. Farmers growing basmati rice in Haryana and Jammu & Kashmir reportedly do not get a higher price because of lack of specific MSP for superfine varieties. Basmati rice takes a longer duration of time to grow and its cost of production is also higher because of lower yield. Further, with the growing importance of international trade, the varieties need to be harmonized with the varietal specification of paddy (rice) for their exports. The Commission after reviewing the aspect of varietal specifications for MSP of paddy recommends that the ***Government may consider announcing separate MSP for basmati paddy with proper geographical indications in addition to MSPs for Common and Grade 'A' varieties of Paddy and accordingly put in place a system to defend the same in the market.***

Offtake

2.14 Total offtake of foodgrains up to December, 2006 in 2006-07 was 26.39 million tonnes. Of this, the offtake of rice and wheat was 17.82 million tonnes and 8.57 million tonnes respectively. Compared to last year, the offtake of rice was lower by 0.45 million tonnes and that of wheat was lower by 4.3 million tonnes. The offtake of rice was 15.0 million tonnes under Targetted Public Distribution System (TPDS) and 2.8 million tonnes under other schemes. The various measures taken by the government to manage offtake of foodgrains include:(a)

Implementation of foodgrains based Sampoorna Gramin Rojgar Yojana (SGRY); (b) Allocation of foodgrains under the Food for Work and the special component of the SGRY programme; (c) Expansion of the scope of Antyodaya Anna Yojana, so as to cover 2.5 crore families under below poverty line (BPL), (d) Discontinuation of the practice of permitting export of foodgrains from government's stocks, (e) Continuation with open market sale of stocks of wheat and rice. (Table 2.11)

Stock

2.15 The total stocks of rice and wheat held by the FCI and the state agencies as on 1st January, 2007 was 17.71 million tonnes, comprising 11.98 million tonnes of rice, 5.73 million tonnes of wheat and 0.09 million tonnes of other cereals. Against this scenario, the likely stock of rice is forecast at 17.66 million tonnes as on April 1, 2008, which would be 5.46 million tonnes more than the stipulated buffer norm of 12.20 million tonnes. In the case of wheat the estimated official stock at 2.73 million tonnes as on April 1, 2006 would be lower by 1.27 million tonnes than the buffer norm of 4.0 million tonnes as is illustrated in the table below:

Table.2.1: Projected Stocks in the Central Pool

(Million Tonnes)

	Rice	**Wheat**
Official Stock as on 01.01.07 (Rounded off)	11.98	5.73
Likely Procurement during Jan-March 2007	8.10	0.00
Likely Offtake during Jan-March 2007	6.00	3.50
Likely Stock as on 01.04.07	14.08	2.23
Likely Procurement during 2007-08	**27.00**	**12.00**
Likely Imports during 2007-08	0.00	2.50
Likely Offtake during 2007-08	23.42	14.00
Likely Stock as on 01.04.08	17.66	2.73
Buffer Norm requirement for Ist April	**12.20**	**4.00**

Demand and Supply

2.16 Based on data of average consumption of rice and wheat as revealed in the 61st Round of NSS (July,2004-June,2005) and using Population Census (2001) data for extrapolating growth of population with annual growth rate of 1.9 per cent upto 2006-07 and 1.6 per cent for 2007-08, consumption demand for rice and wheat for 2007-08 has been broadly worked out, as given in the table below.

Table 2.2: Annual Consumption

(Million Tonnes)

	Per Person Per Month Consumption (Kg.)*			2004-05	2005-06	2006-07	2007-08
	Rural	Urban	Average				
Population (Million)	72 %	28 %		1106	1127	1148	1166
Rice	6.55	4.85	6.074	81.73	83.29	84.87	86.19
Wheat	4.29	4.65	4.391	59.08	60.21	61.35	62.31

* : Weighted average of rural and urban consumption with respective population size as weights, i.e 72 % for rural and 28% for urban.

Source : NSS – 61 Round (July 2004- June 2005)

It needs to be mentioned that NSS consumption data do not account for non-household consumption. Accordingly, the consumption demand for rice is projected at 86.19 million tonnes and that of wheat at 62.31 million tonnes in 2007-08.

2.17 Based on the projections above and data on gross production, the situation that emerges in respect of overall supply of rice and wheat during the

fiscal year 2007-08 is presented below along with corresponding data for the preceding three years:

TABLE 2.3 : DOMESTIC RICE SITUATION

(Million Tonnes)

Crop Year (July-June)	2003-04	2004-05	2005-06	2006-07
Fiscal Year (April-March)	2004-05	2005-06	2006-07	2007-08
1. Gross Production	88.53	83.13	91.79	90.13
2. Net Production (87.5% of Gross Production)	77.46	72.74	80.32	78.86
3. Procurement	22.83	24.68	27.66	27.00
4. Offtake, of which	23.21	25.04	22.00	23.42
(a) Export Sale	4.78	4.09	3.50	3.50
(b) Open Sale	0.40	0.01	0.02	0.10
5. Addition to Stock (3-4)	-0.38	-0.36	5.66	3.58
6. Supply (Gross) [2-3+4-4(a)]or[2-5-4(a)]	73.06	69.01	71.16	71.78
7. Basmati Export	1.15	1.17	1.00	1.00
8. Supply (Net) [6-7]	71.91	67.84	70.16	70.78
9. WPI (1993-94=100)	168.20	174.50	178.90	

Source : Food Bulletin, DGCI&S.

TABLE 2.4 DOMESTIC WHEAT SITUATION (Million Tonnes)

Crop Year (July-June)	2003-04	2004-05	2005-06	2006-07
Fiscal Year (April-March)	2004-05	2005-06	2006-07	2007-08
1. Gross Production	72.15	68.64	69.35	72.50
2. Net Production (87.5% of Gross Production)	63.13	60.06	60.68	63.44
3. Procurement	16.80	14.79	9.23	15.00
4. Offtake	18.27	17.16	14.00	14.00
(a) Export	1.98	0.75	0.00	0.00
(b) Open Sale	0.24	1.05	0.01	0.01
4A. Imports	0.00	0.00	5.00	0.00
5. Addition to Stock (3-4+4A)	-1.47	-2.37	0.23	1.00
6. Supply (Gross) [2-3+4-4(a)+4A]	62.62	61.68	70.45	62.44
7. WPI (1993-94=100)	184.1	191.5	213.9	
8. Consumption Demand	59.08	60.21	61.35	62.31

Source : Food Bulletin, DGCI&S.

2.18 The supply of rice and wheat has been estimated on the assumption that the entire net production of a crop year is available in the following fiscal year. This may be true in the case of wheat but only partially true in the case of rice. Nevertheless, this procedure is useful since the purpose is not to calculate the exact quantum of supply but only to compare supplies as obtained on the same assumptions over time. On this basis, the supply of rice is likely to increase marginally in 2007-08, but may still fall short of demand. However, the supply of wheat may just meet the demand.

Trade Prospects

2.19 The world rice production estimated at 421.9 million tonnes in 2005-06 (FAO – Food Outlook December 2006) is higher than the previous year's production by about 15 million tonnes, while the production forecast for 2006-07 has been down by 0.2 per cent over the previous year. Global trade at 28.9 million tonnes in 2006-07 would be only 1.0 per cent higher than the previous year. The expected lack of substantial trade growth in 2007 would mainly reflect a relatively tight situation in exporting countries, which may push the quotations further up in the course of 2007, thereby constraining the actual level of imports.

2.20 On the demand side, increased imports by African and South American countries would compensate for a decline in shipment to Asian countries. Imports of rice are predicted to increase to Africa, Latin America, Nigeria, EU, Australia and United States. Asian countries are expected to import less than that of the previous years.

2.21 Several major exporting countries may face supply constraints during 2006-07 due to deterioration of paddy production situation. Nevertheless, large stocks available with Thailand, Cambodia, Egypt and Myanmar could help sustain a modest expansion in world exports.

2.22 The forecast by FAO is that the global rice stock would fall as the production prospects for 2006-07 have worsened. World rice inventories at the close of the crop season 2007 are now set to be cut to less than 105 million tonnes, slightly below their opening level. The expected fall in global stocks carried over into 2007 would also influence negatively the rice-stocks-to-utilization ratio, which provides an indication of the extent to which rice reserve could cover rice consumption in 2007, and hence, of food security. According to current forecast, the ratio would fall to 24.6 in 2007 compared with 25.0 in 2006.

TABLE 2.5: WORLD RICE MARKET AT A GLANCE

	2004-05	2005-06	2006-07	Change in 2006-07 over 2005-06
		Estimate	Forecast	
	Million tonnes			%
WORLD BALANCE (milled basis)				
Production	406.9	421.9	420.9	-0.2
Trade	29.8	28.6	28.9	1.1
Total Utilization	413.8	416.4	420.6	1.0
Food	361.6	367.2	372.2	1.4
Ending Stocks	99.2	105.3	104.7	-0.6
SUPPLY AND DEMAND INDICATORS				
Per capita food consumption (kg / year)				
World	56.7	56.9	56.9	0.0
LIFDC*	69.7	69.7	69.6	-0.1
World stock-to-use ratio (%)	23.8	25.0	24.6	-1.6
Major exporters' stock to disappearance ratio (%)	13.2	15.7.	15.0	-4.5

* Low-Income Food-Deficit Countries.

Source: FAO, Food Outlook, December, 2006.

Coarse Cereals

2.23 According to the Second Advance Estimates (as on *05/02/2007*) the production of Kharif coarse cereals during 2006-07 is estimated to be 24.50 million tonnes which is 2.23 million tonnes lower than the final estimates for 2005-06 and 4.19 million tonnes lower against the target of 28.69 million tonnes. The production of kharif maize is estimated to be 11.10 million tonnes as against 12.16 million tonnes in the previous year and was followed by bajra 7.54 million tonnes, kharif jowar 3.95 million tonnes and ragi 1.49 million tonnes. With less than 8 per cent of area under irrigation, coarse cereals like maize, jowar, bajra are largely dependent on the vagaries of weather. The production of maize, bajra and jowar has been affected adversely in Rajasthan because of abnormal rains and in Andhra Pradesh and Karnataka due to scanty rains and drought conditions. (Table 2.1)

2.24 There has been shortfall in production of coarse cereals in 2006-07 as compared to last year. None of the coarse cereals has shown any positive trend in production. There has been a fall of 1.51 per cent per annum in the area under coarse cereals from 1985-86 to 2005-06. Jowar and ragi grow in harsh environments where other crops do not grow well. Improvements in production, availability, storage, utilization and consumption of these food crops can significantly contribute to the household food security and nutrition requirements of the population. For most coarse cereals, the demand is also localized with jowar confined to Karnataka and Maharashtra and bajra being restricted to Gujarat, Maharashtra and Rajasthan. For the procurement of coarse grains in 2006-07 there were state agencies operating in Karnataka and Madhya Pradesh. Successive NSS surveys have shown that people are consuming lesser quantities of coarse cereals as income rises. Even poor people have been changing their food habits in favour of rice and wheat. Increased accessibility to wheat and rice through PDS and rural development schemes is also considered to be a reason for the change in dietary habits of people, particularly of those in the target groups. The future sustainability of coarse grains production lies in

expanding both direct and indirect consumption in the form of processed foods, beverages, fodder and increased industrial consumption. (Table 2.2)

2.25 The total area under coarse cereals in India is 29.3 per cent of total area under cereals in 2005-06. The state with highest area under coarse cereal is Maharashtra, with jowar and bajra accounting for largest share. The state with highest production of coarse cereals in 2005-06 is Karnataka.

2.26 The state of Maharashtra has 6.9 million hectares under coarse cereals cultivation and production of 6.08 million tonnes as against Karnataka which has 3.87 million hectares under coarse cereals and production of 6.56 million tonnes. The yield of coarse cereals in Karnataka is 1.69 tonnes per hectare as against 0.89 tonnes per hectare, in Maharashtra. The production of coarse cereals is about 17.4 per cent of total cereal production as against rice which forms 47.02 percent and wheat 35.5 per cent of total cereal production in the year 2005-06. It is obvious that productivity of coarse cereals needs to be improved through strategic planning and focused approach.

2.27 The exports of jowar, bajra, maize and ragi in the year 2005-06 were 536.93 thousand tonnes. Of which, maize exports were the highest at 419.95 thousand tonnes and ragi exports amounted to the tune of 2.52 thousand tonnes. The highest export earnings of Rs. 316.00 crore was realised from maize, followed by jowar Rs. 67.44 crore, bajra Rs. 40.81 crore and ragi Rs. 1.32 crore. The import of maize in 2005-06 was 1.63 thousand tonnes and no other coarse cereal was imported. Maize was exported at Rs 7.52 per kg and imported at Rs 19.14 per kg.

2.28 The coarse cereals are experiencing price rise due to stagnant supplies and growing demand in India and rest of the world. There is rise in demand for coarse cereals because of its variety of uses. The demand pattern is also influenced by the changing life style and demand for processed food. FAO has noted that the high price of grain market has ripple effect on the meat and dairy

sectors through feed linkages. This has serious implications for food importing developing countries. This season's decline in production coincides with a more rapid expansion in demand for industrial use, ethanol in particular. The recent upward movements in international prices of most coarse grains have been mainly set off by the prevailing supply and demand fundamentals in markets for maize, world's largest traded coarse grain. Poor harvests in key producing countries and a fast growing demand for bio-fuel production have been the main drivers of the grain markets. Coarse grain output is down by 2.1 per cent to 981 million tonnes in 2006. The high coarse cereals prices in the current year might lead to increase in acreage in the next year but it would fail to check the increase in prices because of the multiple uses that the coarse cereals are put in. The current scenario of individual coarse cereals may be described as under:-

Jowar

2.29 Production of jowar in kharif 2006-07 is estimated at 3.95 million tonnes (DES – 05/02/2007) as compared to 4.07 million tonnes in 2005-06. The total jowar production (kharif and rabi) is estimated at 7.72 million tonnes as against 7.63 million tonnes in 2005-06. During the period between 1995-96 and 2005-06, production of jowar declined sharply by 3.14 per cent per annum as compared to a slower decline of 0.68 per cent per annum observed during the period 1985-86 to 1995-96. The decline in production was attributed to significant acreage shifts in the states of Gujarat, Haryana, Madhya Pradesh, Karnataka and Andhra Pradesh. Jowar still forms a part of the staple diet of households in Maharashtra and Karnataka. (Tables 2.1 & 2.2)

2.30 Jowar is grown in arid and semi-arid regions, as it is drought resistant. It is abundantly grown in the arid tracts of Gujarat, Uttar Pradesh, Karnataka, Maharashtra and Andhra Pradesh. The nutritional value is same as maize, hence it is gaining importance as livestock feed, grain alcohol, starch production and production of adhesives and paper. Jowar is meant for both food and feed apart from the fact that it has nitrogen fixation capacity in the soil and hence can be

preferred as a rotation crop and the sugar in the stalk can be used for bio-fuel production.

2.31 The yield of jowar remained stagnant at around one tonne per hectare during the last twenty years. The yield of jowar is highest in Andhra Pradesh at 1.32 tonnes per hectare, followed by Gujarat at 1.14 tonnes, Karnataka at 1.10 tonnes and 1.09 tonnes per hectare in Madhya Pradesh. The yield of jowar has fallen significantly by 38 per cent in Rajasthan.

2.32 Following the stagnation in production, the average WPI of jowar (base 1993-94=100) rose from 252.1 in January, 2006 to 275.5 in January, 2007, a change of 9.3 per cent. The seed replacement rate for jowar in Gujarat is 100 per cent and low in other states like Chattisgarh, Rajasthan, Madhya Pradesh and Uttar Pradesh, ranging between 2.60 per cent to 12.50 per cent. (Table 2.14)

2.33 In spite of the overall favourable price scenario, there were instances of prices ruling less than MSP in the post harvest months particularly in Madhya Pradesh. Against the MSP of Rs.540 per quintal, jowar price in October,2006 ranged between Rs. 463 to 732 per quintal in Khargaon, Rs. 501 per quintal at Sheopurkala in Madhya Pradesh and Rs. 530 to Rs. 805 at Wardha in Maharashtra. Maharashtra procured 195 tonnes of jowar till 06/03/2007 under MSP operations. (Annexure-I)

Bajra

2.34 Bajra is well adapted to production systems characterized by low rainfall, low soil fertility and high temperature. Because of its tolerance to difficult growing conditions it can be grown in areas where other cereal crops such as wheat or maize would not survive. As the protein content of bajra is substantially higher than maize, its importance as feed would increase in the future. At the all-India level, the production of bajra, according to Second Advance Estimates, is reported at 7.54 million tonnes in 2006-07 which is 0.14 million tonnes lower than

in 2005-06 and 4.57 million tonnes lower than the peak production of 12.11 million tonnes achieved in 2003-04. The important states producing bajra are Rajasthan, Uttar Pradesh, Gujarat and Maharashtra. (Table 2.1)

2.35 At the all-India level, acreage under bajra declined by 0.82 per cent per annum during the period 1985-86 to 2005-06. The yield of bajra is 1.5 tonnes per hectare in Madhya Pradesh followed by 1.4 tonnes per hectare in Uttar Pradesh and 1.2 tonnes per hectare in Gujarat. (Table 2.2)

2.36 Bajra has localised demand and also has a short shelf life which makes its storage difficult, especially under the present methods followed in harvesting and storage. It has been reported that farmers using traditional methods of storage were able to store the grain for 2 to 3 years to meet household demand during lean period. The Commission feels that the traditional methods of storage should be studied for correcting the post harvest procedures and improving the shelf life of the coarse grain.

2.37 The index number of wholesale prices of bajra (base 1993-94=100) in January, 2006 was 221.0 and increased to 236.0 in January, 2007. The annual percentage change over previous year in January, 2007 was 6.8 per cent. (Table 2.14)

2.38 Month-end wholesale prices of bajra quoted during October, 2006-February, 2007 ranged between Rs.640-700 per quintal in Jaipur (Rajasthan), Rs.585-630 per quintal at Hissar (Haryana) and Rs. 630-665 per quintal at Pachora (Maharashtra).

Maize

2.39 Area under maize increased from 5.8 million hectares in 1985-86 (TE) to 6.0 million hectares in 1995-96 (TE) and further to 7.5 million hectares in 2005-06(TE). The production during 2005-06 is estimated to be the record 14.71

million tonnes, up by 0.54 million tonne or 3.8 per cent from the production in 2004-05. About 85 per cent of maize is produced in the Kharif Season and the production of Kharif maize during 2006-07 is likely to be 11.10 million tonnes, about 8.7 per cent lower than the 12.16 million tonnes produced in the kharif of 2005-06 and 1.44 million tonnes short of target. (Tables 2.1 & 2.2)

2.40 The production of maize recorded an annual growth of 3.83 per cent during the period 1985-86 to 2005-06 which is higher than rice during the same period. The annual growth rate of production was as high as 12.44 per cent in Maharashtra, 11.2 per cent in Tamil Nadu and 9.32 per cent in Andhra Pradesh. At the all India level the yield of maize recorded growth of 2.54 per cent per annum and acreage has expanded by 1.25 per cent per annum. There has been significant increase in area in the states of Karnataka, Andhra Pradesh, and Maharashtra. The yield of maize is higher than rice in states of Andhra Pradesh, Gujarat, Himachal Pradesh, Madhya Pradesh and Maharashtra.

2.41 Maize is the most important crop after wheat and rice with a wide variety of uses as feed and in the production of alcoholic beverages and food sweeteners, starch, oil and proteins and maize based ethanol production. India produces around 2 per cent of total world produce and imports a major portion of maize for human consumption. The local produce is primarily consumed for industrial and cattle feed. In 2006-07, according to Food Outlook, the world production is estimated to be 689 million tonnes and consumption can go up to 724 million tonnes. Thus there is a demand-supply mismatch and effects can be seen in the domestic market as well. While there is fall in the production, the demand has risen as there was no avian influenza and high international prices have made exports attractive. The users of maize have requested the government to regulate exports of maize and there has been waiver in import duties. Another reason for the high prices is world wide shortage of wheat which is being substituted by demand for maize. Maize is in the category of primary articles which has a high weightage and is contributing to inflationary rise also. Due to prevailing high rates FCI was unable to procure any maize. The high

prices prevailing in the market might lead to higher acreage of corn in the next year but rise in prices might not be checked because of the buoyancy in demand emanating from the variety of uses to which maize is put in.

2.42 To enhance the production and productivity of maize it has been included in Technology Mission on Oilseeds and Pulses since 1995 and Accelerated Maize Development Programme has been merged into centrally sponsored Integrated Scheme of Oilseeds, Pulses, Oil palm and Maize for overall development of these crops.

2.43 During 2006-07, like other cereals, prices have been rising and the index of wholesale prices of maize which stood at 209.2 in May, 2006 rose to 240.5 in January, 2007 which is 15.0 per cent higher than in January, 2006. Despite rising prices, the price of maize in Khargaon (Madhya Pradesh) dipped below MSP to Rs 466 per quintal. The seed replacement rate of maize in Punjab is 70 per cent, 50 per cent in Bihar, 1.42 per cent in Orissa and as low as 1.0 per cent in Uttarkhand. (Table 2.14)

Ragi

2.44 Ragi production in 2006-07, according to Second Advance Estimates, has declined sharply to the level of 1.49 million tonnes. During kharif 2005-06, the production was 2.35 million tonnes. The major ragi producing states are Karnataka and Uttar Pradesh followed by Maharashtra. (Table 2.1)

2.45 Ragi is grown in most of the states by small and marginal farmers under dry land conditions. There had been a significant decline in the area under ragi in recent years. The area under ragi has declined during the period 1985-86 and 2005-06 by 2.44 per cent per annum. The fall in the area was contributed by declines in area in the states of Andhra Pradesh, Karnataka, Bihar and Maharashtra. (Table 2.2)

2.46 One of the advantages of ragi crop is that once harvested, the seeds keep extremely well and are seldom attacked by insects or moulds. The long storage capacity makes ragi an important crop in risk avoidance strategies for poorer farming communities. The average yield of ragi is 1.5 tonnes per hectare. As a cereal food, ragi has desirable properties. It is rich in protein, calcium and methonine, an amino acid not found in most other cereals. It is easily digestible and releases energy slowly. It is a recommended cereal diet for diabetic patients. Ragi is consumed by poor people within the producing states of India unlike in parts of Africa where it is considered as a rich man's food. There exists scope for manufacturing processed foods from ragi, but entrepreneurs are perhaps not investing in this sector because of uncertainties in supplies. Ragi processed products need to be promoted as a health food amongst segment of the population that is highly health and nutrition conscious by the state governments of Karnataka, Tamil Nadu and Maharashtra. This could translate into better returns for farmers also.

2.47 The annual average index number of wholesale prices (Base 1993-94=100) of ragi increased by 7.8 per cent in 2006-07 (Upto January, 2007) over the preceding year. The monthly index on a point to point basis rose by 3.3 per cent from January, 2006 to 13.3 per cent in January, 2007. The index stood at 213.4 in January, 2007. The yield of Ragi is highest in Karnataka at 1.8 tonnes per hectare followed by 1.3 tonnes in Tamil Nadu and 1.2 tonnes in Uttar Pradesh. The area under ragi has fallen at the rate of 2.44 per cent per annum from 1985-86 to 2005-06. The seed replacement rate of ragi is very low in Karnataka at 1.16 per cent and in Tamil Nadu it is 8 per cent. To increase productivity the seed replacement rate needs to be improved. The production of ragi has fallen by 1.51 per cent per annum during 1995-96 to 2005-06.

(Table 2.14)

2.48 The productivity of coarse cereals is low as there has been no break through in technology or innovation in storage facilities. The change has happened only in the sphere of wheat and rice. The irrigated area under coarse

cereals is small and use of fertilizers is also insignificant. Hence low productivity of most coarse cereals has led to inefficient supply. The demand for coarse cereals is expected to rise because the intake of meat and poultry is on the rise. Consequently the demand for feed increases which needs to be matched by supply. Owing to shortage of maize, duty free imports have been allowed for the year 2007. The stock position of coarse grain as on 1/12/2006 was 1.13 lakh tonnes. There was no procurement for bajra, maize and ragi and 195 tonnes of jowar were procured till 06/03/2007. It is mentioned in Food Outlook of FAO that the global stocks of foodgrains are likely to be drawn down significantly which might further lead to volatility in the prices of coarse grains. (Table 2.9 b)

2.49 The coarse cereals should be given its due importance. Too much focus on rice and wheat is leading to neglect of potential of nutritious cereals like jowar, bajra and ragi. What is needed is that concentrated efforts aimed at increasing production and productivity should be undertaken in order to ensure food security for all sections of the population. Other aspects include assured and remunerative marketing in order to boost the production. If the coarse cereals are included in PDS it would help in nutritional security and would also lead to promotion of farming in dry land areas which would solve the problem of water scarcity in farming in such areas. The production of coarse cereals has been stagnant over the years, and integrated strategy is required to increase production and promote it as a major food crop. It requires redistribution of area in favour of coarse cereals as the demand for coarse cereals is dual and with increasing demand for meat and dairy development it requires to have promotional efforts to increase production and area under coarse cereals. Another contributory factor for the rise in demand is bio-energy consumption which, in future, is expected to increase multifold. India can become a strong export market by increasing the production of maize and jowar for meeting the world's growing demand.

Pulses

2.50 Pulses are the major source of protein and occupy a prominent place in the food basket as well as consumption profile of the people in India. India is the largest producer of pulses in the world, accounting for 13.1 million tonnes in the world production of 61.4 million tonnes or nearly 21.3 per cent in the year 2004. Among the continents, highest production of pulses at 29.7 million tonnes, roughly half (48.4 per cent) of world production in 2004 was reported from Asia. This decreased by 2.69 per cent to 28.9 million tonnes in 2005.

2.51 The record production of 14.91 million tonnes of pulses in India achieved in 1998-99 was repeated for the second time in 2003-04 due to favourable weather conditions, but could not be sustained in the following years, 2004-05 and 2005-06(Final estimates of DES) as it receded to 13.13 million tonnes and 13.36 million tonnes respectively. Kharif pulses amounted to 4.86 million tonnes and Rabi pulses to 8.50 million tonnes, contributing to 36.4 per cent and 63.6 per cent respectively to the total pulses output in 2005-06. The kharif pulses production in 2005-06 shows a larger decline of 21.1 per cent than that of rabi which fell by 2.8 per cent over the production in 2003-04. This has caused a fall of 10.4 per cent in the total pulses production in this period. The production of Tur (Arhar – Pigeon pea), the major crop in kharif pulses is estimated at 2.74 million tonnes in 2005-06, reporting a modest rise of 16.6 per cent as compared with the production of 2.35 million tonnes in 2004-05. As per the final estimate of 2005-06, the production of other kharif pulses at 2.13 million tonnes is lower by 44.1 per cent over 2003-04. The Second Advance Estimates of DES (dated 5.2.2007) for 2006-07 have placed the other kharif pulses, at 2.60 million tonnes, a rise of 22.1 per cent over 2005-06. (Table 2.1)

2.52 Pulses are generally grown in rain-fed conditions, in the vast domain of arid and semi-arid regions of Central, Western and Peninsular India. The rate of growth of production, which was positive at 0.61 per cent during the period 1985-86 to 1995-96, turned negative at (-) 0.08 per cent during 1995-96 to 2005-06

due to the continuous negative growth in the area under cultivation. The rate of growth of production of kharif pulses however remained positive at 0.33 per cent during 1995-96 to 2005-06, due to moderate increase in the growth of area at 0.71 per cent, even though the growth in yield was negative at (-) 0.38 per cent. In the entire period from 1985-86 to 2005-06, the pulses production showed a growth rate of 0.23 per cent. Even though a negative growth of 0.33 per cent was experienced in area during this period, this was more than offset by the growth in yield by 0.56 per cent. The rate of growth of kharif pulses production and yield in the same period remained positive at 0.05 per cent and 0.19 per cent respectively, but a negative growth of 0.14 per cent was experienced in area under cultivation. (Table 2.2)

2.53 The production and area under pulses is determined by the weather/climatic conditions, primarily the coverage of monsoon. A look at the figures from 1990-91 up to 2005-06 reveal that production ranged between 11.07 million tonnes to 14.9 million tonnes and area under pulses cultivation between 20.34 million hectares to 24.66 million hectares. The trend in area under pulses as shown in the chart-2 reveals wide variation in rabi crops and not much deviation in kharif crops. The impact of weather is more pronounced on production of rabi pulses, causing wild variations in the total pulses production.The erratic and uncertain behaviour of monsoons affect timely sowing of crops .The pulse growers are mostly small and marginal farmers who are unable to make adequate investment on pulse development mainly due to (i) high risk and (ii) financial bottleneck.Thus poor economic condition of small and marginal farmers is another constraint on development activities relating to pulse crops. Besides, no appreciable improvement in technology has taken place since the introduction of the Technology Mission on Oilseeds and Pulses in 1986. The Mission and other specialized research institutions like Indian Institute of Pulses Development so far have not succeeded in breaking the impact of weather thereby causing vertical and horizontal improvement in production of pulses.

(Table 2.1)

Chart- 2

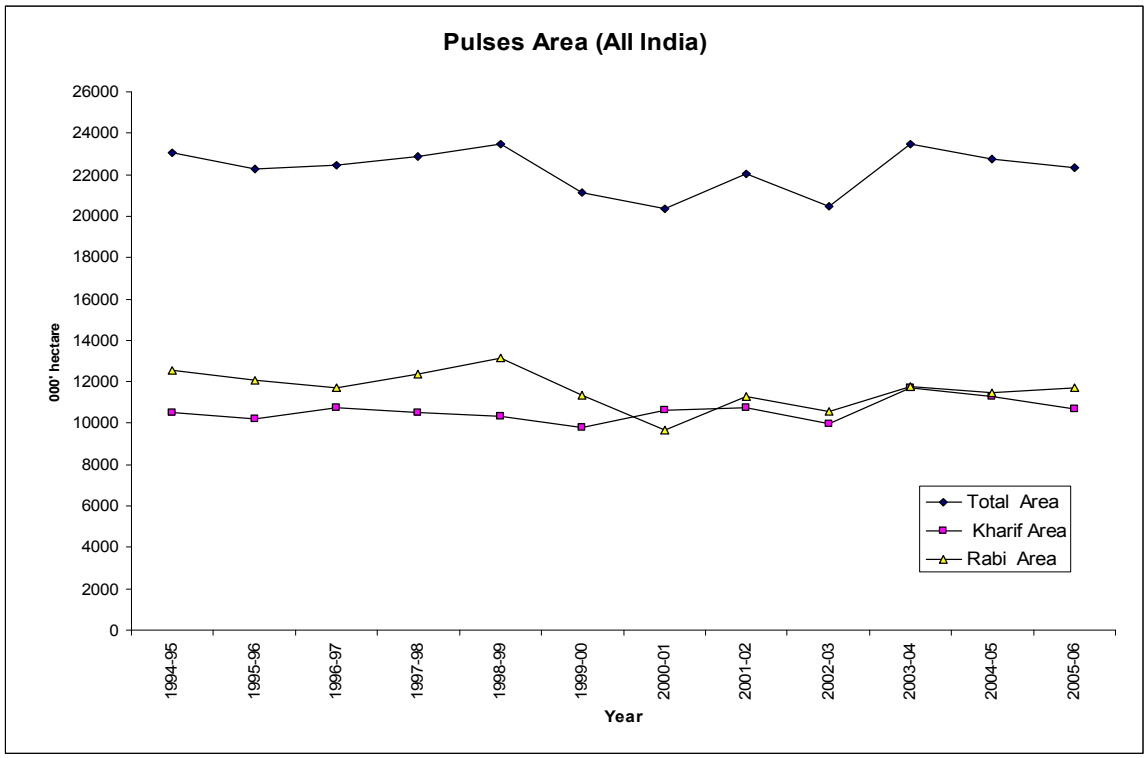
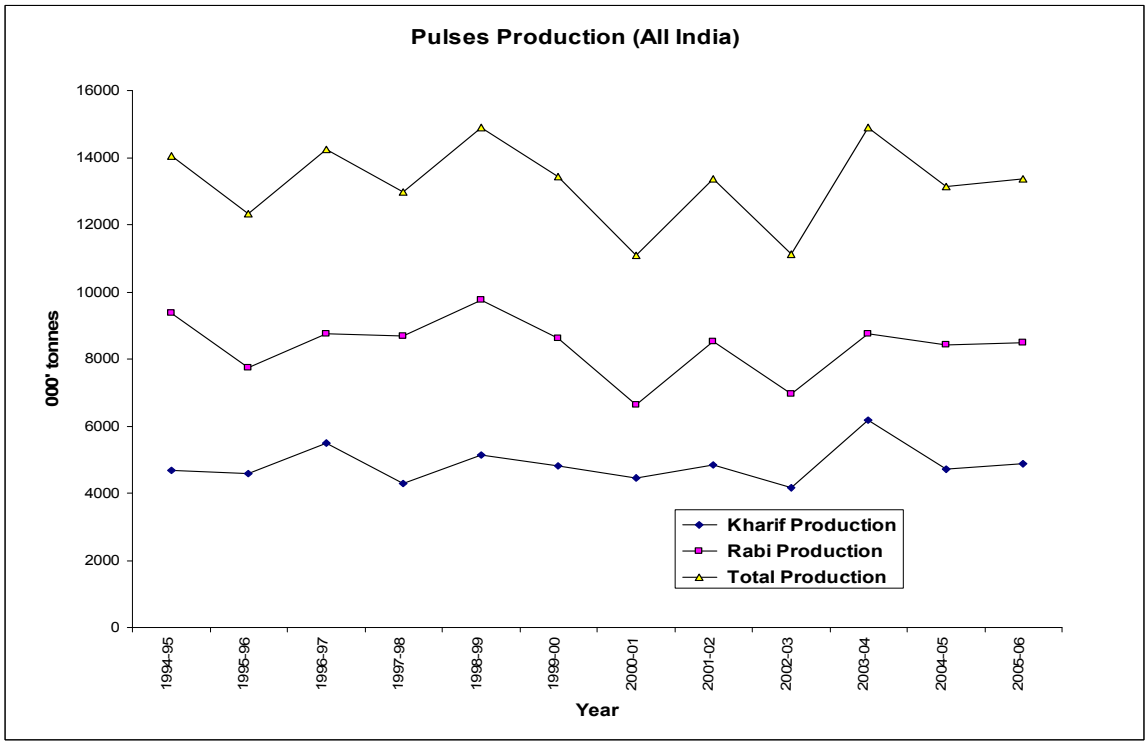


Chart-3



2.54 The Government has rightly expressed concern over the stagnation in production of pulses and suggested the adoption of bio-technology and gene transfer techniques to enhance crop productivity. The total output of pulses has remained static at around 14 million tonnes between 1985-86 (13.36 million tonnes) and 2005-06 (13.36 million tonnes) Expansion of area under pulses has also shown no improvement over the past four decades. It remains static at 20.0 to 24.0 million hectares. With regard to productivity of pulses it increased with wide fluctuations from 578 kg per hectare in 1990-91 to 635 kg per hectare in 1996-97, but again fell to 577 kg per hectare in 2004-05. Thus, area production and yield of pulses continue to face up and down swings and stagnation. Therefore, there is need for development of appropriate plant types, commercial high breeds and transgenic variety of different crops to achieve globally competitive yields. Efficient conversion of breeder seeds into foundation and certified seeds could increase the seed replacement rate which is vital for achieving production range. Inclusion of pulses in crop sequences should be made compulsory to protect soil fertility and facilitate higher crop production. Besides, effective transfer of new technology to the farmers is required for boosting crop yield. The successful standardization, stable hybrid technology in Pigeon pea (Tur) and the progress made recently on mitigating the menace of pod borer pests attack on Pigeon pea and chick pea are noteworthy.

(Table 2.1)

2.55 The yield levels of pulses are also characterized by wide regional disparity. The yield levels attained in some States are more than the national average yield of pulses. Such states include Bihar, where the yield of kharif pulses in 2005-06 is 981 kg. per hectare, Punjab 791 kg. per hectare, West Bengal 638 kg. per hectare, Haryana, 757 kg. per hectare and Uttar Pradesh. 660 kg. per hectare ,much higher than the all India average yield of 456 kg. per hectare. The area under pulses cultivation has continuously fallen over the years from 1990-91 to 2005-06. Thus, the production and area under cultivation are inelastic to market forces. That reflects the fact that the production of pulses can only be augmented by way of technological advances in input application like

seed replacement, quality of seeds, check on incidence of pests and diseases and suitable insurance coverage to compensate the loss in production within a reasonable period. These measures supported by concerted extension services, assured remunerative prices, large number of field-level demonstrations at least in such areas of the states where the yield is much below the all India average could raise production of pulses. Field visits of teams from the States making handsome contribution to total pulses production and interaction with the farmers of the highly result oriented states, will motivate the farmers and ultimately result into increase in area, production and yield under pulses cultivation. Operational efficiency of the extension machinery will have to improve to ensure adequate and timely availability of essential inputs in the identified pulse block.

2.56 In Andhra Pradesh, kharif pulses production more than doubled to 538 thousand tonnes in 2003-04 from 291 thousand tonnes in 2002-03, mainly due to increase in area from 927 thousand hectares in 2002-03 to 1.13 million hectares in 2003-04 and yield from 314 kg. per hectare to 478 kg per hectare. This level could not be sustained in 2004-05 as the area again fell to 887 thousand hectares. The production scenario of Rajasthan state is peculiar. Spectacular rise in the production of kharif pulses from 113 thousand tonnes in 2002-03 to 1.51 million tonnes in 2003-04 petered into an alarming fall to an abysmal level of 356 thousand tonnes in 2005-06, reflecting the steep rise in the productivity from 85 kg per hectare in 2002-03 to 560 kg per hectare in 2003-04 and declining to 154 kg per hectare in 2005-06. Rajasthan state enjoys the first place in area under kharif pulses. Such an upheaval in production reflects the role of the state extension machinery and specialized research institutions like agriculture universities in the state and specially the Indian Pulses Research Institute. There is a need to conduct a study aimed at ascertaining the reasons for such wild fluctuations in kharif pulses production in the state like Rajasthan and to suggest time bound result oriented measures for arresting the fall in productivity. These institutions may have to recognize the ground realities and the need for increasing the supply of pulses by way of establishing close linkages with the farmers at field levels.

2.57 The production of urad was hampered in 2005-06 due to erratic rainfall in Maharashtra and Madhya Pradesh, the main producing centres in India. The output is estimated to decline by 6.18 per cent in 2005-06 to 12.45 lakh tonnes as compared to 13.27 lakh tonnes previous year. Owing to higher demand, lower production and the deflating stocks of urad were expected to open the gates for imports to tide over the shortfall. Tur (Pigeon pea) due to early harvesting escaped the unseasonal rains in major growing areas. Therefore, the total production of Tur in 2005-06 is estimated at 2.74 million tonnes, a gain of 16.6 per cent from the output of 2.35 million tonnes last year. Production in Maharashtra and Karnataka, the major growing centres, is expected to grow by 20.4 per cent and 50.7 per cent respectively. Other major pulses like Chana and Urad are in short supply and hence the demand is expected to shift to Tur. It is believed that although the net availability of tur in India would increase this season, the prices could remain firm, because of the short supply and firmness in prices of other pulses. Another factor helping to meet the shortfall, is the imports from Tanzania and Australia. The Chana crop is reported to be good this year in Tanzania. The crop is expected to be harvested around September-October. Less weather anomalies expected in Australia this time also lends hope for a better crop during November to January, 2006-07.

(Table 2.1)

2.58 The gains from the Green Revolution reaped in case of wheat and rice were not extended to the Pulses sector. The area as well as yield of these crops has remained by and large static since 1964-65. The country attained a production level of 12.42 million tonnes from an area of 23.88 million hectares in 1964-65. There has been no significant change since then and in 2005-06, the area under cultivation was 22.36 million hectares, giving a total production of just 13.4 million tonnes. The yield in 2005-06 was only 597 Kg. per hectare and was not much different from the yield of 520 Kg. per hectare achieved in 1964-65. While there are many reasons for this dismal scenario, the absence of productive technology is one of them. Skewed Pricing Policy has transformed the food

crops, such as Wheat and Rice, to virtual cash crops for farmers due to assured marketing at remunerative prices. Pulses as a result have been pushed to more and more marginal land in rain-fed areas. Comparatively low productivity and market risks in these crops act as disincentives for cultivators to invest in yield enhancing inputs such as fertilizers and pesticides. This in turn often leads to deficiency of major, secondary and micro-nutrients in the soil. Besides, pulses crops is vulnerable to many diseases and pests namely yellow mosaic virus and powdery mildew in moong and urad, sterility mosaic in arhar and wilt and blight in gram. ICAR and state agricultural universities have developed new varieties of pulse crops, but these do not have the potential to provide spectacular boosts to crop yields as wheat and rice varieties did during the green revolution. These varieties also do not possess wide adaptability to cover large areas. In addition, the pulse growers hardly replace their old seeds with new ones. Hence the new varieties fail to show results in the farmers' fields. The extension service agencies have also not paid enough attention towards adoption of new production technologies by farmers. As a result, there is a wide gap between the crop yield at the farmers' fields and the yield sown in the front line crop production demonstrations carried out under the All India Coordinated Crop Improvement Projects of the ICAR and the Krishi Vigayan Kendras.

2.59 Urad (Black Matpe) prices started firming in June, 2006 on fears that rain in Maharashtra, Gujarat and Andhra Pradesh could have damaged the kharif crops. Fears that floods in Telengana in Andhra Pradesh and Bharuch district of Gujarat have affected the crop and reports of heavy rainfall in Maharashtra, particularly in the growing areas of Nanded, Parbhani and Latur further aided to the firm sentiment in the prices. Urad prices showed a tendency to decline after the Central Government banned exports and announced its decision to import pulses to meet the demand.

2.60 Pulses prices witnessed a rise since July, 2006 due to spurt in demand. The expectation that the gap in the supply is likely to widen in the coming months due to damage to the crops in Maharashtra and Gujarat states affected by floods

also fuelled the sentiment. The government policy to waive the nominal 10 per cent custom duty on imports, freezing the exports by putting ban on it, the decision of the state governments on the level of stocks to be held with the retail traders, and the squeeze on the requirements/demand for pulses forced on the poor section of population by the shooting pulses prices, led to a softening of prices from the months of August onwards. The supplies were further augmented through imports by NAFED and other designated agencies. In addition, arrival of the new crop also began from the early growing states.

2.61 To ease the pressure on prices, the ban on export of all types of pulses, which was to remain in force till December 26, 2006 was extended till March 31 2007. The prices of pulses plunged after the ban on exports. The decision to offload the imported pulses at ports in major consumption centres such as Mumbai, Chennai and Kolkata was taken in July. National Agricultural Cooperative Marketing Federation of India (NAFED), Projects Equipment Corporation (PEC), and Mineral and Metal Trading Corporation (MMTC), on being designated as the agencies for import floated the tenders for imports of pulses such as tur, moong and urad on June18, 2006, NAFED was awarded contracts for 25,000 tonnes of urad.

2.62 The government scrapped even the 10 per cent import duty on pulses in June, 2006 to cool-off the sustained rise in the prices of pulses in the country. Zero import duty on pulses was aimed at bringing down the landed cost of pulses leading to higher imports. The wholesale price index of pulses is presented in the Table below:

Table 2.6: Wholesale Price Index

(Base 1993-94 = 100)

	24 Jan 04	22 Jan 05	21Jan 06	16sep 06	14Oct 06	18Nov 06	16Dec 06	20Jan 07
Gram	139.9	136.5	173.0	214.3	236.8	239.5	233.6	221.8
Arhar	178.4	169.4	172.0	181.6	185.6	182.0	180.8	186.7
Moong	187.2	191.2	240.9	303.2	323.1	311.0	305.3	303.1
Masur	252.4	237.2	241.7	251.4	254.6	249.1	250.8	251.8
Urad	213.2	222.6	327.1	391.1	451.0	426.6	424.2	403.8

Source : Economic Survey 2006-2007

2.63 From the foregoing table it may be observed that 3 out of the 5 important pulses showed a significant rise over the last two years. Gram, moong and urad registered sharp increases relative to arhar and masur. The wholesale price index of gram increased by 28.2 per cent in January 2007 over its January 2006 level. Urad recorded a rise of 23.45 per cent over the same period and moong depicted a rise of 25.8 per cent. Arhar and masur showed a modest rise of 8.55 per cent and 4.18 per cent respectively in January 2007 as compared to the levels during the corresponding period a year ago.

2.64 The market for pulses is highly volatile because of the demand-supply mismatch. While the consumption demand for pulses has been steadily rising in recent years the supply of pulses have not kept pace and hence our continued dependence on imports. For the last 25 years India continues to be the major importer of pulses.

2.65 NAFED imported over 50 thousand tonnes of pulses in 2006-07 (of which 37 thousand tonnes of urad and 12 thousand tonnes of moong was on Government Account). On an average, India produces 12-13 million tonnes of pulses per year, comprising 1.3 -1.6 million tonnes of urad, 2.2 - 2.6 million tonnes of tur and 4.6 million tonnes of gram, against the domestic requirement of 15 million tonnes. The country, on an average, produces 13 lakh tonnes of urad

with 20 per cent coming from Maharashtra. The acreage under Urad in Madhya Pradesh and Karnataka seems to have declined by 20 per cent and 15 per cent respectively over the last year. Farmers in the states of Andhra Pradesh, Orissa and Tamil Nadu have shown an inclination for growing Urad because of the prevailing higher prices. The outputs of pulses are estimated to be lower partly due to drought – and partly due to floods – in the south as well in the rest of India. Floods in two major Tur producers – Gujarat and Maharashtra - were likely to adversely hit the crop which was passing through flowering season and required frequent but slow rains. Sowing of Kabuli Chana and Masur is expected to decline by more than half due to ban on exports of these two crops as these two pulses have a big share in the export basket of pulses. More than 70 percent of these pulses are exported. The country exported 4.52 lakh tonnes of pulses in 2005-06, of which kabuli chana and masoor accounted for nearly 3 lakh tonnes.

2.66 India imported a record quantity of 2.23 million tonnes in 2001-02 as against 351 thousand tonnes in 2000-01. The share of imported pulses worked out to be 23.04 per cent of net production in 2001-02, a steep hike from the previous year's level of 3 per cent. With the rise in domestic pulses production to 14.91 million tonnes in 2003-04, the dependence on imports correspondingly reduced to 10.05 per cent of the net production in 2004-05. This trend was reversed in the year 2005-06, as the imports increased from 1.31 million tonnes to 1.70 million tonnes, it is going to be still higher than the last year's level of 14.75 per cent of the net production. (Table-2.7). As no perceptible change in the level of production has occurred in the past and chances of radical improvement are hardly visible in the coming years, import dependence of the pulses will remain sizeable .

Table 2.7 : Import of Pulses

(' 000 tonnes)

Fiscal year (April-March)	All Pulses*	Tur	Moong	Urad	Import as % of net production
2000-01	350.57	43.46	18.52	11.56	2.99
2001-02	2232.29	354.18	159.08	19.30	23.04
2002-03	1995.33	320.55	262.57	35.36	17.05
2003-04	1725.51	314.92	0.00	0.00	17.72
2004-05	1312.17	238.31	0.00	0.00	10.05
2005-06	1694.52	228.54	0.00	0.00	14.75
2006-07	497.51#	39.90#	0.00	0.00	14.48**

* Excluding other beans.

** Assuming import level in 2006-07 at the level of 2005-06

Import during April- July 2006

2.67 The imports of pulses have a definite impact on the supply position. For calculating supply, it is assumed that the production in the crop year (July-June) is available for consumption in the following year. On this basis, the supply of pulses increased to a record level at 14.08 million tonnes in 2004-05 (FiscalYear) from 11.32 million tonnes in 2003-04, since the production as well increased from 11.13 million tonnes in 2002-03 crop year to 14.91 million tonnes in 2003-04 crop year (Table 2.8). This supply of pulses could not be sustained in the subsequent years. The supply decreased to 12.73 million tonnes in 2005-06 (FY) and further to 12.06 million tonnes in 2006-07 (FY) because of continuous fall in production in the relevant crop years to 13.13 million tonnes and 13.36 million tonnes. From the break up of the imports of pulses, it is observed that after 2002-03 the import of Moong and Urad was reduced to nil as against a quantity of 263 thousand tonnes and 36 thousand tonnes respectively in 2002-03. This shows that the domestic supply of Moong and Urad could not be augmented even by imports as these pulses are hardly grown in other pulses growing countries. Thus the entire demand for kharif pulses is met by imports of Tur and other varieties which are used for adulteration in processing basin (Gram Flour). The substantial fall in the supply of pulses is reflected in the wholesale prices of Tur which prevailed at a very high level in the range of Rs. 1300 per quintal in

January, 2006 at Raghuraj Nagar in Madhya Pradesh to Rs. 2900 per quintal in the month of November, 2006 at Morena in Madhya Pradesh.The wholesale prices of Moong (Whole) prevailed in the range of Rs.1800 in October, 2005 at Hapur in Uttar Pradesh to Rs. 4380 in the month of May,2006 at Bhatinda in Punjab and that of Urad (Whole) in the range of Rs.1700 in the month of October, 2005 at Hapur in Uttar Pradesh to Rs.5102 in the month of October, 2006 at Chennai in Tamil Nadu. The wholesale prices thus prevailed much higher than the minimum support prices of Rs. 1410 per quintal for tur, Rs,1520 per quintal for moong and urad in 2006-07 marketing season.

Table 2.8: Supply situation of Pulses

(lMillion tonnes)

Crop Year (July-June)	2001-02	2002-03	2003-04	2004-05	2005-06 *	2006-07 @
Fiscal Year (FY) (April-March)	2002-03	2003-04	2004-05	2005-06	2006-07	2007-08
Gross Production						
Tur	2.26	2.19	2.36	***2.35***	***2.74***	***2.64***
Other Kharif Pulses	2.58	1.96	3.81	***2.37***	***2.13***	***2.60***
Gram	5.47	4.24	5.72	***5.47***	***5.57***	***6.16***
Other Rabi Pulses	3.06	2.74	3.02	***2.94***	***2.92***	***3.12***
All Pulses	13.37	11.13	14.91	13.13	13.36	14.52
Net Production (87.5% of Gross Production)						
All Pulses	**11.70**	**9.74**	**13.05**	**11.49**	**11.69**	**12.71**
Procurement All Pulses (NAFED)	**Procurement is also disposed of in the same season Negligible**					
Export(FY) All Pulses	0.15	0.15	***0.28***	***0.45***	***0.13#***	***0.13#***
Import(FY) All Pulses	2.00	1.73	***1.31***	***1.69***	***0.50#***	***0.50#***
Supply(FY)**	**13.55**	**11.32**	**14.08**	**12.73**	**12.06**	**13.08**
Average annual supply (TE)		12.43	12.98	12.71	12.96	12.62

@ : Based on 2nd Advance Estimates 2006-07 as on 5.2.2007

* : Final Estimates 2005-06

Imports and Exports for FY 2006-07 are data for four months. For 2007-08 assumed to be at the same level as 2006-07.

** : Internal Estimate

2.68 The NAFED may not be able to procure kharif pulses (tur, moong and urad) in 2006 kharif marketing season because the MSP of kharif pulses is substantially lower than the prevailing market prices. NAFED could not procure any pulses because the market prices ruled above the MSP. However, in the 2003-04 season, NAFED had procured 1.52 lakh tonnes of Urad.

(Table 2.3)

Oilseeds

2.69 India is one of the largest producers of oilseeds in the world and this sector occupies an important position in the agricultural economy, accounting for the estimated production of about 279.79 lakh tonnes of nine cultivated oilseeds during the year 2005-06. India is fortunate in having a wide range of oilseeds crops grown in its different agro-climatic zones. Groundnut, rapeseed/mustard, seasame, safflower, linseed, nigerseed, castorseed are the major traditionally cultivated oilseeds. Soyabean and sunflower have also assumed importance in recent years. India contributes about 7-8 per cent of the world oilseeds production. Its share in world production is as high as 24 per cent for groundnut, 23 per cent for sesamum, 16 per cent for rapeseed and 66 per cent for castor seed. Groundnut in shell forms 11 per cent of world exports and sesamum forms 17 per cent. India's productivity is, however, quite low, around 50 per cent of the world average and even less in the case of soyabean.

2.70 The area under oilseeds cultivation has been estimated at about 27.52 million hectares in 2005-06, compared with 16.64 million hectares in 1970-71. 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. India produces nine major oilseeds, of which, the three oilseeds, viz, groundnut, soyabean and mustard together account for about 85 per cent of the total production. Total production of the nine oilseeds has depicted a rise over the years from 96.30 lakh tonnes in 1970-71 to an average of 213.44 lakh tonnes per annum during the decade ended 1999-2000. This is attributed to expansion of area under cultivation and increase in yield, due

to concerted policy initiatives oriented towards achieving self sufficiency in edible oils in the country. Oilseeds production witnessed a set-back 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 range of 23 to 26 per cent and the crops are mostly grown under rainfed conditions. (Table 2.1)

2.71 Production of oilseeds staged a remarkable recovery in 2003-04 to 251.86 lakh tonnes primarily due to good, timely and evenly distributed monsoon, and surpassed the previous record production of 247.5 lakh tonnes achieved in 1998-99 but fell to 243.64 lakh tonnes in the following year. As per the latest estimates for 2005-06 (as on 05-02-2007), oilseeds production is estimated to have surged to a new peak of 279.79 lakh tonnes, showing a sharp increase of 27.93 lakh tonnes (about 11.11 per cent) over the previous record level of 251.86 lakh tonnes reached in 2003-04. Despite the marginal deficiency in the overall seasonal rainfall, kharif 2005-06 oilseeds production is estimated to have increased by about 0.58 per cent from 166.72 lakh tonnes in 2003-04 to 167.68 lakh tonnes in 2005-06, supported by higher production of sunflower and soyabean. Rabi oilseeds production in 2005-06 is estimated to have recorded a large increase of 10.06 lakh tonnes (about 9.86 per cent) to 112.11 lakh tones over the previous year, largely due to increases in production of rapeseed & mustard, and rabi groundnut and sunflower seeds. (Table 2.1)

2.72 As per the Second Advance Estimates (05-02-2007), oilseeds production in 2006-07 is estimated to record a sharp decline of 15.58 per cent to 236.19 lakh tonnes from the final estimate of 279.79 lakh tonnes for 2005-06. The kharif, 2006 oilseeds production is estimated to have nose-dived by 30.54 lakh tonnes (18.21 per cent) from 167.68 lakh tonnes in 2005-06 to 137.14 lakh tonnes in 2006-07, solely due to a decline of over 31 lakh tonnes in groundnut production. The rabi oilseeds production is also estimated to decline by 13.06 lakh tonnes or 11.65 per cent to 99.05 lakh tonnes, largely reflecting anticipated declines in production of groundnut and rapeseed & mustard.

Table 2.9: Production of Nine Major Oilseeds

(Lakh tonnes)

Crop	Season	2003-04	2004-05	2005-06 (Final Estimates)	2006-07 (2nd Advance Estimates)
1	2	4	5	6	7
Groundnut	Kharif	68.50	52.62	62.98	31.82
	Rabi	12.87	15.12	16.95	12.29
	Total	81.27	67.74	79.93	44.11
Castorseed	Kharif	7.97	7.93	9.91	7.30
Sesamum	Kharif	7.82	6.74	6.41	6.28
Nigerseed	Kharif	1.09	1.12	1.08	1.04
Rapeseed & Mustard	Rabi	62.91	75.93	81.31	75.68
Linseed	Rabi	1.97	1.70	1.73	1.69
Safflower	Rabi	1.35	1.74	2.29	1.85
Sunflower	Kharif	3.06	4.31	4.56	3.88
	Rabi	6.24	7.56	9.83	7.54
	Total	9.30	11.87	14.39	11.42
Soyabeen	Kharif	78.18	68.77	82.74	86.82
Total Nine Oilseeds	**Kharif**	**166.72**	**141.49**	**167.68**	**137.14**
	Rabi	**85.14**	**102.05**	**112.11**	**99.05**
	Total	**251.86**	**243.64**	**279.79**	**236.19**

Source: Directorate of Economics & Statistics, Deptt. of Agriculture & Co-operation

2.73 The sharp decline in oilseeds production anticipated in 2006-07 reflects large shifts in acreage from oilseeds 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 per cent below normal. The period saw some very heavy rains leading to floods in many parts of Gujarat, Maharashtra and Andhra Pradesh, while Rayalseema region of Andhra Pradesh and South Karnataka remained parched for want of water. Besides, on account of relatively lower prices that prevailed during the last one year, acreage under oilseeds cultivation has declined in the current year. Area sown under nine major oilseeds recorded a decline of over 17 lakh hectares (about 6.2 per cent) to 261.45 lakh hectares in 2006-07 from 278.62 lakh

hectares in 2005-06, with the kharif oilseeds area coverage declining by over 5 lakh hectares (about 3.0 per cent) and the rabi oilseeds coverage being about 12 lakh hectares (11.4 per cent) short compared to last year's levels. Farmers have planted lower area under every single rabi oilseeds, including rapeseed-mustard, sunflower, groundnut and safflower as shown in the table below.

Table 2.10 : Area Sown under Nine Major Oilseeds (as on 04-01-07)

(In Lakh Hectares)

	2003-04	2004-05	2005-06	2006-07
Total Oilseeds	***236.63***	***275.24***	***278.62***	***261.45***
Total Kharif	***152.11***	***172.48***	***173.68***	***168.50***
Total Rabi	***84.52***	***102.76***	***104.94***	***92.95***
Rapeseed/Mustard	54.28	73.16	72.77	66.27
Rabi	54.28	73.16	72.77	66.27
Sunflower	20.04	21.61	23.40	10.84
Kharif	6.11	8.73	9.19	
Rabi	13.93	12.88	14.21	10.84
Safflower	3.64	3.69	3.65	3.41
Rabi	3.64	3.69	3.65	3.41
Linseed	4.77	4.49	4.37	5.02
Rabi	4.77	4.49	4.37	5.02
Groundnut	59.87	66.40	67.36	
Kharif	51.96	57.86	57.40	
Rabi	7.91	8.54	9.96	5.62
Sesamum	17.00	18.44	17.23	
Kharif	17.00	18.44	17.23	
Soyabean	65.5 5	75.71	77.08	
Kharif	65.5 5	75.71	77.08	
Nigerseed	4.32	4.30	4.14	
Kharif	4.32	4.30	4.14	
Castorseed	7.17	7.43	8.64	
Kharif	7.17	7.43	8.64	

Source: Ministry of Agriculture.

2.74 The lower coverage is due to diversion of area of rapeseed-mustard to wheat in Rajasthan, Haryana and Uttar Pradesh, and to gram in Madhya Pradesh due to better price realizations from these crops. The low and stagnant output of oilseeds reflect the fact that India's productivity is quite low, around 50 per cent of the world average and even less in the case of soyabean, as shown in the table below.

Table 2.11 : Productivity of Oilseeds: India and the World

***(*tonnes / hectare)**

Oilseed	India	World Average
Soyabeen	0.85	2.20
Cottonseed	0.59	1.06
Groundnut	0.59	1.02
Sunflower	0.62	1.18
Rapeseed/ Mustard	0.75	1.49

Source: Oil World, August 2001

2.75 The comparatively lower yields are mainly due to the fact the quality of the 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.

2.76 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 Government on its part accepted the Commission's recommendations and fixed the MSP as shown in the table below:

Table 2.12 : Minimum Support Price for Oilseeds
(Marketing season)

(Rs. Per Quintal)

Commodities	2000-01	2003-04	2004-05	2005-06	2006-07	2007-08
Groundnut	1,220	1,400	1,500	1,520	1520	-
Rapeseed/ Mustard	1,100	1,330	1,600	1,700	1715	1715
Sunflower	1,170	1,250	1,340	1,500	1500	-
Soyabean						
Black	775	840	900	900	900	-
Yellow	865	930	1,000	1,010	1020	-
Safflower	1,100	1,300	1,500	1,550	1565	1565
Sesamum	1,300	1,485	1,500	1,550	1560	-
Nigerseed	1,025	1,155	1,180	1,200	1220	-
Copra(milling)*	3,250	3,320	3,500	3570	3590	-
Copra (ball)*	3,500	3,570	3,750	3820	3840	-

* MSP in 2000-01 relate to the year 2000 and so on.
Source: CACP, Ministry of Agriculture

2.77 However the Commission's expectations have been belied as no significant increase in the area under oilseeds has taken place, despite the increase in MSP. As pointed out in our last season's Kharif Report, the marketing arrangements for oilseeds procurement still call for further improvement. The Commission, therefore, reiterates its earlier recommendation that the ***Government should review the existing procurement/price support operations of oilseeds and make proper marketing arrangements to ensure that the oilseeds crop of the farmers is fully protected against price uncertainty.*** The steps taken by NAFED in this direction, in consultation with the State level supporters, to identify procurement centers for oilseeds (soyabean, groundnut, sunflower, sesamum, and nigerseed) under price support scheme is however commendable. In consultation with NAFED, the procurement supporters have also been authorized to increase the procurement centers

depending upon the arrivals and market situation, so as to give market support to the growers within a distance of 10 kms from their field.

2.78 Under the Price Support Scheme, NAFED, as central nodal agency, undertakes procurement of oil seeds as and when prices of any of the oilseeds fall below the MSP fixed by the Government for a particular crop season. It was pointed out by the NAFED that price support operations are carried out to protect the interest of farmers by enabling them to sell their produce at the MSP, when market prices fall below MSP. However as was elaborated in the last Kharif Report, the issue of payment of taxes/cess on stocks procured or moved under price support operations continue to pose a financial burden on NAFED. The commission, therefore, suggests that the State Governments should consider, in the public interest, to stop levying various types of taxes, cess, marketing fees etc. on stocks procured under price support operations and refrain from imposing inter-state taxes on movement of these stocks from one state to another.

2.79 Against the backdrop of bumper oilseeds crop in 2005-06 oilseeds prices softened significantly in December, 2005 and remained subdued till April, 2006. The wholesale price of oilseeds, as given by the index, shows a decline of about 9.45 per cent during the five months between November, 2005 and April, 2006. Since May, 2006, prices started edging up gradually following reports of a likely lower oilseeds production in 2006-07 due to large shift in area to other crops and the not so conducive weather conditions. During the eight months, between April, 2006 and December, 2006, prices went up by about 16.13 per cent, with the wholesale price index of oilseeds rising from 156.2 in April, 2006 to 181.4 in December, 2006. The movements in price of oilseeds are shared by all the major oilseeds, as given in the table below:

Table 2.13 : Percentage Change in Index of Wholesale Prices of Oilseeds

	Nov. 05 (Index)	April 06 (Index)	Dec. 06 (Index)	Nov. 05 to April 06 (%)	April 06 to Dec. 06 (%)
Total Oilseeds	***172.5***	***156.2***	***181.4***	***(-)9.45***	***16.13***
Rapeseed/Mustard	168.7	159.7	181.2	(-) 5.33	13.46
Safflower	152.4	143.4	144.2	(-)5.91	0.56
Groundnut	182.8	159.4	197.1	(-)12.80	23.65
Soyabean	164.2	134.8	147.2	(-)17.90	9.20
Sunflower	175.8	179.0	200.7	1.82	12.17
Sesamum	177.0	167.8	191.8	(-)5.20	14.30
Nigerseed	179.8	171.0	221.5	(-)4.89	29.53

Source: Compiled from data from Office of Economic Adviser, Ministry of Commerce & Industry

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

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

Table 2.14: Imports of Edible Oils

Year (April -March)	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	47.51	11,076.89	23.31
2005-06	42.88	8960.99	20.90
2006-07 (April-Sept.)	21.58	4,798.57	22.24
2005-06 (April-Sept)	24.86	5168.96	20.79

Source: DGCI&S, Kolkata

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 were lower by 5.39 lakh tonnes at 47.51 lakh tonnes and imports declined further by 4.63 lakh tonnes to 42.88 lakh tonnes in 2005-06. During the first six months of the financial year 2006-07 (upto September, 2006), imports of edible oils were about 21.58 lakh tonnes, compared with 24.86 lakh tonnes in the corresponding period of previous year. Imports of vegetable oils are reported to have surged since the last quarter of 2006. 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.

2.82 With a view to control prices of oils, the Government has effected a cut in the import duty on crude and refined edible oils by 10 to 12.5 percentage points with effect from 31-01-2007. Following this reduction, import duty on crude palm oil, crude palmolein and other fractions of crude palm oil have been brought down from 70 per cent to 60 per cent, while that on RBD palm oil, RBD palmolein and other refined palm oils from 80 per cent to 67.5 per cent. Import duty on crude sunflower oil has also been slashed down from 75 per cent to 65 per cent and that for refined sunflower oil from 85 per cent to 75 per cent. It has been further decided to keep the tariff values (the base prices on which duties are computed) on palm oils frozen at their end-July, 2006 levels.

2.83 As a result, imports during the full year 2006-07 are likely to be larger by about 10 lakh tonnes compared with the level in the previous year. 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 per cent 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 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. Therefore the long-term vision of the government should be on increasing the yield by introducing genetically improved seeds and provide better irrigation system and fertilizers.

2.84 Another disconcerting aspect relating to imports of edible oils is the rising costs reflected in the unit value. As is clear from the above Table, the unit value of imports of edible oils after declining from Rs. 28.94 per kg .during 1998-99 to Rs.14.31 per kg. in 2000-2001, increased sharply to Rs.20.11 per kg . in 2002-03, and further to Rs. 23.31 per kg. during 2004-05. The softening of international prices of edible oils in 2005 has reflected in the unit value of imports declining significantly to Rs 20.90 per kg. in 2005-06. During April-Sept, 2006, unit value of imports (at Rs.22.24) had risen by about 7 per cent, with the

prospects for further rise in the second half of 2006-07. As shown in the table, the movements in quantity and unit value over the years reflect the level of edible oil imports in value terms, rising sharply from Rs.2765 crore in 1997-98 to Rs.11683 crore in 2003-04 and declining to Rs.8961 crore in 2005-06.

2.85 India is one of the world's largest importers 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 per cent in 1997-98 to about 48 per cent by 2002-03. The sharp increase in domestic production of oilseeds has helped to moderate the extent of dependence of the country on imported edible oils. The dependence ratio came down to about 42.5 per cent in 2003-04 and further down sharply to about 38.2 per cent in 2004-05 and about 35.0 per cent in 2005-06. The reversal in the rising trend of dependence after 2003-04 was 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. This is relevant in this context of recent spurt in imports of edible oil to control rising prices in the domestic market. The estimated imports of 45.00 million tonnes for 2006-07 raises import dependence to 39.5 per cent.

Table 2.15: 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.	1999-00	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	71.64	52.90	124.54	42.48
8.	2004-05	76.96	47.51	124.47	38.17
9	2005-06	79.51	42.88	122.39	35.04
10	2006-07**	68.92	45.00#	113.92	39.50

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

** Internal Estimates . # Imports for 2006-07 are estimated taking six months actual data from DGCI&S,Kolkata and estimates for later six months based on data from The Solvent Extractors' Association of India (SEA of India) .

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 edge to making 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 While on the subject of imports, one aspect which merits attention is the gross underutilization of crushing / extraction / refining capacities in the country for various reasons. In the above context, a better option would be to take serious steps necessary to augment the domestic availability of oilseeds by increasing oilseeds production within the country, which will not only help optimize utilization of edible oils processing capacity within the country and, thereby, limit or completely overcome the dependence of the country on imported vegetable oils, but will also result in increasing the prospects of the farmers engaged in oilseeds cultivation.

2.88 The net availability of edible oils from domestic sources was about 77 lakh tonnes in 2004-05 and it is estimated to be higher at 79.5 lakh tonnes in 2005-06. As indicated in the table below, net availability is estimated to decline to about 69 lakh tonnes in 2006-07, reflecting the sharp decline in domestic oilseeds production (by about 15.6 per cent).

Table 2.16: Production of Veg. Oils and Net Domestic Availability of Edible Oils

(In Lakh Tonnes)

	(a)	(b)	1999-00	2000-01	2001-02	2002-03	2003-04	2004-05	2005-06	2006-07
Groundnut	17.8	28	12.09	14.74	16.16	9.48	18.82	16.16	17.86	9.62
Rapeseed/ Mustard	7.3	33	17.94	12.99	15.76	12.03	19.21	25.90	24.85	23.12
Soyabean	12	18	11.33	8.45	9.54	7.45	12.58	12.02	13.09	13.74
Sunflower	10	40	2.29	2.15	2.24	2.88	3.27	4.04	5.17	4.10
Sesamum	22.2	40	1.49	1.61	2.16	1.37	2.49	2.20	1.20	1.16
Nigerseed	25	28	0.44	0.33	0.39	0.26	0.33	0.31	0.15	0.14
Safflower	15	40	0.78	0.60	9.66	0.54	0.38	0.50	0.75	0.60
Castor		42	3.06	3.52	2.61	1.71	3.20	3.30	3.73	3.73
Linseed		43	0.72	0.60	0.63	0.53	0.64	0.55	0.71	0.71
Sub-Total	**-**	**-**	***50.15***	***44.99***	***50.16***	***36.24***	***60.94***	***64.98***	***67.51***	***56.92***
Coconut		65	4.50	5.60	5.50	5.50	5.50	5.50	5.50	5.50
Cottonseed		11	5.00	4.60	4.70	4.30	4.30	4.30	4.30	4.30
Rice Bran	-	15	5.00	4.80	5.50	6.00	6.00	620	620	620
Solvent Extracted Oils	-	-	2.50	2.00	2.80	2.00	3.30	3.70	3.70	3.70
Tree & Forest Origin	-	-	1.00	1.00	0.80	0.80	0.80	0.80	0.80	0.80
Sub-Total	**-**	**-**	***18.00***	***18.00***	***19.30***	***18.60***	***19.90***	***20.50***	***20.50***	***20.50***
C. Total Production (A+B)	-	-	**68.15**	**62.99**	**69.46**	**54.84**	**80.84**	**85.48**	**88.01**	**77.42**
D. Less: Exp &Indus.Use	-	-	8.00	8.00	8.00	8.20	9.20	8.50	8.50	8.50
E. Net Dom. Availability (C-D)	-	-	**60.15**	**54.99**	**61.46**	**46.64**	**71.64**	**76.96**	**79.51**	**68.92**
F. Imports	-	-	41.96	41.77	43.22	43.65	52.90	45.42	42.88	45.00
G. Actual Consumption (E+F)	-	-	**102.11**	**96.76**	**104.68**	**90.29**	**124.54**	**122.38**	**122.39**	**113.92**

. (a): Human Consumption, Seed, Feed, and Wastage as percentage of total production

(b):Percentage of oil recovery.

Source: Data for 1999-2000 to 2004-05 are taken from "Agriculture Statistics At A Glance 2005", Directorate of Economics & Statistics, DAC. Data for 2005-06 & 2006-07 are internal estimates.

2.89 As per the current reckoning, 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.***

2.90 The Commission in its last Kharif Report had at length dealt with the problems and prospects of palm oil cultivation under the Oil Palm Development Programme (OPDP) of the TMOP set up in 1992, for development of oil palm trees. To augment oilseeds production and oil availability the Commission again recommends that ***the Technology Mission on Oilseeds & Pulses should examine the suggestion of the oil industry to declare cultivation of oil palm as plantation and allow the public and private enterprises to enter in this field and make suitable recommendations to the Government in this regard.***

2.91 During the second half of the 2005-06 season (October-September), international prices in the oilseed complex moved upward in response to forecasts of only modest growth in 2006-07 oilseeds crop production combined with a rise in demand to new record levels. The market reacted to the prospect of less ample supplies and reduced inventories compared with the three preceding years, when supplies were abundant relative to demand. In the last quarter of 2005-06, the FAO price indices for oils/fats and meals/cakes were respectively 10 and 30 per cent above the levels recorded during the same period of the previous season. The rise was more pronounced for meal / cake prices, which have also come under the influence of strongly rising world prices of wheat and feed grains

Table 2.17: Trends in International Wholesale Prices of Vegetable Oils &Fats

(US $ / MT)

Period Average	Coconut Oil	Ground-nut Oil	Palm Oil	Soyabean Meal	Soyabean Oil	Soyabeans
Jan.-March 2005	667.3	1152.4	413.3	213.5	521.3	270.8
Apr.-June 2005	654.9	1101.3	421.7	221.3	548	290.7
July-Sep. 2005	571.7	1025.0	415.0	218.7	551.7	278.3
Oct.-Dec. 2005	574.0	963.0	438.3	204.0	558.7	258.9
Jan.-March 2006	578.3	918.0	436.4	208.8	535.3	256.7
Apr.-June 2006	578.7	896.0	438.7	197.3	576.3	263.7
July-Sep. 2006	599.4	946	492.7	208.3	620.3	263.9
Oct.-Dec. 2006	671.2	1120.0	542.8	230.1	662.2	289.4
October, 2006	626.0	1068.0	507.0	224.0	615.0	273.0
November 2006	656	1120.0	547.0	232.0	675.0	300.0
December 2006	731.7	1173.0	574.3	234.3	696.7	295.0

Source : Commodity Price Data (Pink Sheet), Prospects, World Bank, Febuary,2007

2.92 The latest forecasts for 2006-07 confirm that production of oilseeds may not be sufficient to satisfy global demand for oils/fats, thus necessitating a sizeable reduction in stocks. Such an outlook suggests that prices for oils/fats may continue rising during the current season. By contrast, the increase in prices for meals/cakes could come to a halt as global output of meals is currently anticipated to exceed demand, causing inventories to rise further. However, the price depressing effect of large stocks could be offset by continued strength in feed grain prices, which eventually should stimulate oil-meal demand. The futures market tends to point to this direction: by late November, 2006, the Chicago Board of Trade (CBOT) March contract for soyabeans was about US$50 per tonne (or 23 per cent) higher than the corresponding value of 2005 and, since September, 2006, the development of soyabean futures prices has been strongly influenced by maize futures.

2.93 Global 2006/07 oilseed production is currently forecast to increase by less than one per cent, a considerable slow-down compared with past seasons. World soybean output is anticipated to expand by 2-3 per cent, reaching a new record, but this is expected to be offset by declining world production of rapeseed, groundnut and sunflower seed.

Table 2.18: World production of major oilseeds

(million tonnes)

	2004/05	**2005/06.**	**2006/07**
		(estimate)	*(forecast)*
Soyabeans	216.1	218.7	224.3
Cottonseed	44.6	42.3	43.4
Rapeseed	45.9	48.8	46.5
Groundnut (unshelled)	34.7	35.4	33.8
Sunflower	25.4	30.0	29.6
Palm kernels	8.9	9.5	9.6
Copra	5.2	5.2	5.4
Total	**380.8**	**389.9**	**392.6**

Source: Food outlook, FAO- December,2006

Note: The split years bring together northern hemisphere annual crops harvested in the latter part of the first year shown, with southern hemisphere annual crops harvested in the early part of the second year shown. For tree crops, which are produced throughout the year, calendar year production for the second year shown is used.

2.94 Current crop forecasts translate into a below average increase of global oils/fats production of around 2 per cent. This is due to only a modest increase in soyabean oil production and a falling rapeseed, groundnut and sunflower oil output. By contrast, global palm oil production is expected to again rise markedly in 2007. The projected 7 per cent increase in output is due to a further significant rise in the area, notably in Indonesia. However, these forecasts remain tentative as palm oil production could be negatively affected by El Niño conditions. Global supplies of oils/fats (i.e. 2005/06 ending stocks plus 2006/07 production) are forecast to augment further, though they should rise markedly less than during the last two seasons.

2.95 The global demand for oils/fats, both for food and non-food purposes, is anticipated to expand significantly during 2006-07. World consumption is expected to increase by almost 6 million tonnes or 4 per cent. An increasingly important demand factor is the fast growing use of oils/fats as fuels and as

Table 2.19: World oilseeds and products markets at a glance

(million tonnes)

	2004/05	2005/06.	2006/07
		(estimate)	*(forecast)*
Total oilseeds			
Production	391	400	403
Oils and fats [1]			
Production	142	148	151
Supply [2]	158	167	171
Utilization [3]	138	145	150
Trade [4]	67	72	76
Stock-to-utilization ratio (%)	14	14	13
Oilmeals and cakes [5]			
Production	99	101	102
Supply [2]	109	113	117
Utilization [3]	95	98	101
Trade [4]	53	55	58
Stock-to-utilization ratio (%)	13	15	15

Source: Food outlook, FAO- December,2006

[1] Includes oils and fats of vegetable and animal origin
[2] Production plus opening stocks
[3] Residual of the balance
[4] Trade data refer to exports based on a common October/September marketing season
[5] All meal figures are expressed in protein equivalent; meals include all meals and cakes derived from oilcrops as well as fish meal

feedstock for bio-diesel production. Such utilization is expected to expand further in the European Union and the United States, while production is starting in various other countries, including Argentina, Brazil, Canada, Indonesia, Malaysia and the Philippines. The key oils concerned are soyabean and rapeseed oil, but palm and coconut oil as well as animal fats are also being used. Private sector

investment into the development of bio-diesel industries continues to be strong, irrespective of the uncertain development of mineral oil prices and notwithstanding the possibility that plants may not be running at full capacity. Government incentives and other public support measures, together with existing or prospected mandatory blending requirements, explain this trend. According to private sources, global utilization of oils/fats as bio-fuels should exceed 10 per cent of total consumption in 2006/07.

2.96 As to total consumption of oils/fats, the anticipated reduction of rapeseed, groundnut and sunflower oil supplies should increase the reliance on soyabean and palm oil in 2006-07. Together the two oils should account for half of total consumption. Traditionally, the bulk of the expansion in global demand occurs in the developing world. However, in the last two years, sizeable growth has also occurred among developed nations due to bio-fuel production in these countries, a trend that is expected to continue in 2006-07.

2.97 Compared with overall demand, global supplies of oils/fats continue to be ample, thanks to the availability of large stocks. However, 2006-07 production *per se* would not be sufficient to meet demand, therefore necessitating a reduction in global inventories of about 3 per cent. Current forecasts for 2006-07 imply a reduction in the global stock-to-utilization ratio by one full percentage point and this suggests the reason for oil/fat prices to remain high or even strengthen further during the course of this season. Early projections for next season, point towards a further tightening of the supply and demand situation in 2008 and hence a firming up of prices.

The position in respect of some of the individual oilseeds is as under:

Groundnut

2.98 The area and production under groundnut showed a decline of 2.59 per cent and 2.04 per cent per annum respectively during the period between 1990-

91 and 2003-04. The area, production and yield recorded at 86.7 lakh hectares, 71.0 lakh tonnes and 818 kg. per hectare respectively in 1991-92 declined to 59.36 lakh hectares, 41.21 lakh tonnes and 694 kg. per hectare respectively in 2002-03. However, the area, production and yield improved to 59.87 lakh hectares, 81.27 lakh tonnes and 1357 kg. per hectare respectively in 2003-04 due to good, timely and evenly spread monsoon in the season. In 2005-06, while area sown rose to 67.36 lakh hectares, production declined slightly to 79.93 lakh tonnes, reflecting slightly lower yield at 1187 kg/ha. The second advance estimate of the Directorate of Economics & Statistics placed the groundnut production at only 44.11 lakh tonnes in 2006-07, which is about 36 lakh tonnes lower than the final estimate for 2005-06. (Table 2.1)

Soyabean

2.99 India ranks fifth in the world production of Soyabean. The setting up of the Technology Mission on Oilseeds in 1986 contributed substantially in raising the area, production and yield of soyabean. The area under this crop increased from 15.27 lakh hectares in 1986-87 to 31.85 lakh hectares in 1991-92 and 64.93 lakh hectares in 1998-99. The production increased by about eight times from 8.91 lakh tonnes in 1986-87 to 71.43 lakh tonnes in 1998-99. The yield also doubled to 1100 kg. per hectare in 1998-99 from 584 kg. per hectare in 1986-87. This trend lost its momentum after 1998-99 and the area, production and yield declined to 61.06 lakh hectares, 46.55 lakh tonnes and 762 kg. respectively in 2002-03. However, in 2003-04, the area coverage improved to 65.55 lakh hectares and the yield reached a record level of 1193 kg. per hectare due to good, timely and evenly distributed monsoon in the season. The year 2005-06 witnessed further improvement in area and production to 77.08 lakh hectares and 82.74 lakh tonnes respectively, but yield showed a slight decline to 1073 kg/ha. The second advance estimates of the Directorate of Economics & Statistics put the soyabean production at 86.82 lakh tonnes in 2006-07, a rise of about 4 lakh tonnes over last year's production. (Table 2.1)

Nigerseed

2.100 Nigerseed is mainly grown in the tribal areas of Madhya Pradesh, Chattisgarh, Orissa, Maharashtra and in small areas in Andhra Pradesh, Karnataka and Jharkhand. The area, production and yield recorded at 6.01 lakh hectares, 1.9 lakh tonnes and 317 kg. per hectare respectively in 1995-96 declined to 5.04 lakh hectares, 1.48 lakh tonnes and 293 kg. per hectare respectively in 1999-00 and further to 4.14 lakh hectares, 0.86 lakh tonnes and 208 kg. per hectare respectively in 2002-03. However, the area, production and yield again increased to 4.32 lakh hectares, 1.10 lakh tonnes and 252 kg. per hectare respectively in 2003-04 due to good monsoon but remained lower than the highest recorded levels of 1995-96. Although the area covered in Madhya Pradesh (including Chhattisgarh) was the highest (1.77 lakh hectares), the yield was very low. The yield level of 209 kg. per hectare in Madhya Pradesh in 2003-04 was lower than that of 315 kg. per hectare in Maharashtra and 393 kg. in Andhra Pradesh. The second advance estimate of crop production put the crop size at 1.04 lakh tonnes in 2006-07. In view of the significance of this crop for tribal farmers, serious efforts should be made to increase its area, production and yield. (Table 2.1)

2.101 Nigerseed is having a good potential for exports. NAFED, apart from being procurement agency for ensuring MSP, is also exporting sizable quantities of nigerseed. Previously, the exports were being canalized through TRIFED and associate shippers. Now, the practice of fixing the minimum export price has been done away with due to the sluggish demand of nigerseed in the international market. TRIFED is now issuing only 'No Objection Certificate (NOC)' to the registered exporters of nigerseed. The volume of nigerseed exported during 2000-01 to 2006-07 (Upto July, 2006) is given below:

Table 2.20: Export of Nigerseed

Year	Quantity (In tonnes)	Value (In Rs. Crore)	Unit value (In Rs./kg.)
2000-01	29,490	80.35	27.25
2001-02	22,220	47.85	21.53
2002-03	36,130	77.99	21.59
2003-04	17,894	45.41	25.38
2004-05	24,601	61.14	24.85
2005-06	28,420	60.25	21.20
2006-07 (April-July)	9,040	18.44	20.40
2005-06 (April-July)	9,450	20.47	21.66

Source: DGCI&S. Kolkata

It may be observed from the above table that the exports, which were 36,130 tonnes in 2002-03, declined to 17,894 tonnes in 2003-04 ,but recovered smartly in the following years to reach 28,420 tonnes in 2005-06. The unit value of exports, after improving to Rs.25.38 in 2003-04 from Rs.21.59 in 2002-03, is on the decline. During the first four months of 2006-07, it was only Rs.20.40.

Sesamum

2.102 The area, production and yield of sesamum increased from 21.64 lakh hectares, 4.48 lakh tonnes and 207 kg. per hectare respectively in 1986-87 to 26.27 lakh hectares, 7.06 lakh tonnes and 269 kg. per hectare respectively in 1991-92. Though the area decreased sharply to 21.29 lakh hectares in 1992-93 the production and yield increased to 7.58 lakh tonnes and 356 kg. per hectare. Thereafter, a continuous fall was observed in the area, production and yield. The area, production and yield after falling to 14.44 lakh hectares, 4.41 lakh tonnes and 306 kg. per hectare respectively in 2002-03, improved to 17.00 lakh hectares, 7.82 lakh tonnes and 460 kg. per hectare respectively in 2003-04

mainly due to favourable monsoon. During 2005-06, production of sesamum was not commensurate with area sown, as yield had declined to 372 kg/ha. The second advance estimates of the Directorate of Economics & Statistics place its production at 6.28 lakh tones in 2006-07, which is marginally lower than the last year's production. The crop is mainly grown in Gujarat, West Bengal and Rajasthan. It is also grown in small areas in Andhra Pradesh, Madhya Pradesh, Maharashtra and Tamil Nadu. The crop yield varied widely in different states. In 2003-04, the state of West Bengal recorded the highest yield (876 kg. per hectare) followed by Gujarat (598 Kg. per hectare), Tamil Nadu (346 kg. per hectare) and lowest (189 kg. per hectare) in Uttar Pradesh. (Table 2.1)

2.103 Like nigerseed, the international demand for sesamum seeds was quite good and the unit value of its export was much higher than MSP. The export of sesamum seed both in terms of volume and value from 2000-01 to 2006-07 (upto July, 2006) is given in the following table:

Table 2.21 : Export of Sesamum

Year	Quantity (In Tonnes)	Value (In Rs. Crore)	Unit Value (In Rs. Per kg.)
2000-01	1,83,310	517.57	28.24
2001-02	2,18,970	562.23	25.68
2002-03	1,18,376	373.01	31.51
2003-04	1,89,113	708.89	37.48
2004-05	1,56,664	662.45	42.28
2005-06	1,99,810	746.60	37.37
2006-07 (April-July)	65,070	248.26	38.15
2005-06 (April-July)	47,930	187.59	39.14

Source: DGCI&S, Kolkata

The figures given in the above table shows that this crop has a good potential for its exports; Therefore serious efforts should be made to increase its area, production and yield.

Sunflower

2.104 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 growth rate of 10.66 per cent, 16.68 per cent and 5.43 per cent per annum respectively. The area, production and yield increased from 16.33 lakh hectare, 8.73 lakh tonnes and 535 kg. per hectare in 1990-91 to 21.21 lakh hectare, 12.58 lakh tonnes and 593 kg. per hectare in 1995-96. The growth momentum was lost after 1995-96 and the area, production and yield declined at a growth rate of 0.96 per cent, 0.40 per cent and -0.56 per cent per annum respectively during the period 1995-96 and 2005-06. The area under this crop increased from 11.77 lakh hectares in 2001-02 to 16.42 lakh hectares in 2002-03 and further to 20.04 lakh hectares in 2003-04. With increase in area, the production increased from 6.8 lakh tonnes in 2001-02 to 8.73 lakh tonnes in 2002-03 and further to 9.30 lakh tonnes in 2003-04. The yield, however, declined from 577 kg. per hectare in 2001-02 to 531 kg. per hectare in 2002-03 and further to 464 kg. per hectare in 2003-04. The second advance estimates of the Directorate of Economics & Statistics put the production of this crop at 14.39 lakh tonnes in 2005-06, which is higher by 2.52 lakh tonnes than last year's production. (Tables 2.1 & 2.2)

2.105 Sunflower is mainly grown in Karnataka, Andhra Pradesh and Maharashtra and in small areas in Uttar Pradesh, Punjab, Haryana and Tamil Nadu. The recorded per hectare yield of the crop in 2003-04 was highest in Uttar Pradesh (1708 kg.) followed by Punjab (1700 kg.), Haryana (1483 kg.), Tamil Nadu (1288 kg.), Andhra Pradesh (678 kg.), Maharashtra (362 kg.) and lowest in

Karnataka (321 kg.). In view of the high productivity of sunflower in Punjab, Haryana and Uttar Pradesh, this crop can be an alternative to the paddy in these states provided the proper marketing and processing arrangements are made on the same scale as being made for the procurement/price support operations of paddy.

Cotton

2.106 Cotton and India have been bound by history for centuries. Not only was the Indian sub-continent the first to domesticate cotton and use its fibre for spinning and weaving but has been exporting cotton textiles since very early times. This tradition has endured. Today India has the world's largest cotton crop area accounting for over one fourth of the world cotton area. It also now ranks as the second largest producer of cotton and is emerging as the third largest exporter of cotton in the world.

2.107 Cotton plays a vital role in India's economy. It provides direct and indirect employment to millions of people from farmers to factory workers and in its supply chains stretching from plain clothe to garments and retailing. It sustains the Textile Industry, which constitutes arguably the single largest segment of industries in the country. This industry is labour-intensive and provides gainful employment to millions of people. The Indian textile sector contributes about 4 per cent of the GDP, 14 per cent to the total industrial production and 17 per cent of India's export earnings.

2.108 The cotton production estimates for the country are available from two sources, official estimates released by the Directorate of Economics and Statistics (DES), Ministry of Agriculture and trade estimates from Cotton Advisory Board (CAB), Ministry of Textiles. Trade estimates for 2006-07 season is much higher at 27.00 million bales as against the official estimate of 21.00 million bales. The wide variation in these two different estimates does constrain policy analysis and decision making and the Commission reiterates the need for

reconciling the differences in production estimates by these two agencies. The Commission, therefore, recommends that ***the Directorate of Economics and Statistics in consultation with the Textile Commissioner should reconcile the production estimates of cotton and a single series of the same be arrived at, with effect from the next kharif season 2007-08.***

2.109 The area under cotton in India shows fluctuations from year to year. Against the potential area for cotton estimated at around 10 million hectares in the country, the highest acreage under cotton was reported at 9.34 million hectares in 1998-99. The acreage started declining thereafter and reached a level of 8.54 million hectares in 2000-01. Though it increased to 9.13 million hectares in 2001-02, it again declined to 7.60 million hectares in 2003-04. However, during the last few years, area under cotton has shown a steady increase, supported mainly by central zone and is estimated to be at 9.13 million hectares in 2006-07.

2.110 Cotton is grown in nine major states and is grouped into three main agro-climatic zones. The North zone comprises Punjab, Haryana and north Rajasthan. The Central zone covers Gujarat, Maharashtra and Madhya Pradesh and the South zone includes the states of Andhra Pradesh, Karnataka and Tamil Nadu.

Data pertaining to Zone-wise area under cotton during the last five years are presented below:

Table 2.22: Indian Cotton Area Zone-wise

(in lakh ha)

Season	North Zone	Central Zone	South Zone	Total (All India)
2002-03	13.54	49.79	12.81	76.67
2003-04	13.22	50.04	12.53	76.30
2004-05	15.68	53.22	18.28	87.86
2005-06	16.12	55.66	16.23	88.73
2006-07 (As on 22.12.2006)	14.59	61.80	13.98	91.32

Source: CAB, Ministry of Textiles, Mumbai

2.111 It may be noticed that area increases have taken place during 2006-07, in the Central zone, particularly in Gujarat, due to good yields and returns obtained by the farmers. In the North zone, the increase was in Punjab and Rajasthan while in Haryana the area decline was attributed to inadequacy of canal water. The three Southern States witnessed declines mainly due to lack of timely onset of monsoons during sowings and failure of BT cotton in parts of Andhra Pradesh and Tamil Nadu. Compared to 2004-05, there was a marginal increase of about one percent in total cotton area in 2005-06. Due to promotion efforts for BT cotton by seed suppliers, the area under cotton during 2006-07 is higher at 9.13 million ha, an increase of 2.92 per cent over the previous year. As per reports, 6.3 million ha of area was under hybrid cotton in 2006, i.e. 70 per cent of the total area under cotton in the country and the area under BT cotton alone was 3.5 million ha. BT cotton also occupied larger area in some states, as may be seen from the table below:

Table 2.23: Area and Coverage under BT Cotton during 2006-07

(in lakh hectares)

State	Area	BT Area *	Area under BT cotton (in percentage)
Punjab	6.18	2.81	45
Gujarat	23.90	4.07	17
Maharashtra	31.24	16.55	53
Madhya Pradesh	6.66	3.02	45
Andhra Pradesh	9.48	6.57	69
Total	91.48	34.61	38

Source: Directorate of Cotton Development, Mumbai

Note: * BT Area coverage as per official estimates

2.112 Coincidental to the steep increase in the adoption of BT cotton between 2002-2006, the average yield has increased from 302 kg per hectare in 2002-03 to an estimated yield of 503 kg. per hectare in 2006-07, with almost 50 per cent

of the increase in yield attributed to BT cotton. There exists wide inter-state variation in the average yields amongst the different production regions of the country. This is largely due to the diverse agro-climatic zones from arid to semi-arid to high rainfall zones, inadequate to lack of irrigation facilities in some of the cotton growing areas and small size of holdings. The largest concentration of crop acreage is in Maharashtra with nearly a one-third share. But the State contributes only one-fifth of the total production and happens to be at the bottom in productivity which, according to trade estimate, is expected to be only 299 kg lint/hectare during 2006-07, but 10 per cent higher than the 212 kg. lint/hectare during 2005-06. The neighbouring state of Gujarat, having about one-fourth of the country's total cotton area, contributes one-third of the total production of the country, achieved the highest yield in the country estimated at 728 kg. lint/hectare in 2005-06 which slipped to third place with the yield of 640 kg. lint/ hectare after Tamil Nadu and Punjab during 2006-07. Tamil Nadu, which occupied the second position with the yield of 688 kg. lint/hectare in 2005-06, climbed to first position with the yield of 904 kg lint/hectare in 2006-07. However, the acreage is too low at only 94,000 hectares to make a significant contribution to supply of the cotton. The cotton productivity in Punjab, which remained depressed during the past few years, improved to 610 kg lint/hectare in 2005-06 and reached to second highest in the country, after Tamil Nadu, to 743 kg lint / hectare in 2006-07 due to increasing use of BT cotton seed and better farm practices. Table below provides the distribution of cotton acreage and production over major producing states and the inter-state variations in the productivity.

Table 2.24: Estimated Area, Production and Yield of Cotton during 2006-07

(Area in lakh hectares)

(Production in lakh bales of 170 kg. each)

Sl. No.	Name of the State	Area estimated as on 22.12.2006	Production Estimated as on 22.12.2006	Yield Kg/ha.
1	Punjab	6.18	27.00	743
2	Haryana	5.33	15.00	478
3	Rajasthan	3.08	8.00	442
	NORTHERN ZONE	**14.59**	**50.00**	**583**
4	Gujarat	23.90	90.00	640
5	Maharashtra	31.24	55.00	299
6	Madhya Pradesh	6.66	18.00	459
	CENTRAL ZONE	**61.80**	**163.00**	**448**
7	Andhra Pradesh	9.48	32.00	574
8	Karnataka	3.56	7.00	334
9	Tamil Nadu	0.94	5.00	904
	SOUTHERN ZONE	**13.98**	**44.00**	**535**
10	Others	0.35	1.00	
11	Loose cotton consumed but not accounted for in state-wise production	…	12.00	
	TOTAL	**91.32**	**270.00**	**503**

Source: Office of the Textile Commissioner, Government of India.

2.113 The phenomenal spread of hybrid and BT cotton, adoption of scientific practices, increased area under irrigated cotton, particularly in Gujarat, availability of quality seeds and several initiatives like launching of Technology Mission in cotton and developmental efforts and programmes sponsored by some State Governments and industry organizations, improvement in yield per hectare, lower contamination and price competitiveness have led to rising production levels in the last few years. The production of cotton which stood at

158 lakh bales in 2001-02 is estimated to go up to 270 lakh bales in 2006-07. The State-wise production details are given below;

Table 2.25: State-wise Production of Cotton

(in lakh bales of 170 kgs)

State	2004-05	2005-06	2006-07
Punjab	16.50	20.00	27.00
Haryana	16.50	13.00	15.00
Rajasthan	10.00	11.00	8.00
North Zone	**43.00**	**44.00**	**50.00**
Gujarat	73.00	89.00	90.00
Maharashtra	52.00	36.00	55.00
Madhya Pradesh	16.00	18.00	18.00
Central Zone	**141.00**	**143.00**	**163.00**
Andhra Pradesh	33.00	32.00	32.00
Karnataka	8.00	6.50	7.00
Tamil Nadu	5.00	5.50	5.00
South Zone	**46.00**	**44.00**	**44.00**
Other States	1.00	1.00	1.00
Loose cotton	12.00	12.00	12.00
Total (All India)	**243.00**	**244.00**	**270.00**

Source: Office of the Textile Commissioner, Ministry of Textiles, Mumbai.

2.114 Though the cotton area, production and productivity has recorded a rise over the years, the productivity is yet abysmally low when compared to the world average, as seen from the table below:

Table 2.26: Trend in Average Yield

Year	Average Yield (Kg Lint/ha)			
	China	USA	India	World
1980-81	550	453	169	411
1990-91	807	711	267	574
2000-01	1093	1008	278	612
2006-07	1245	894	502	733

Source: EICA (Cotton Statistics and News dated 6th Feb., 2007).

2.115 While the overall production of cotton has substantially improved during the last three years from 179 lakh bales in 2003-04 to an estimated 270 lakh bales in 2006-07, the country's production of Extra Long Staple cotton (2.5 % span length and 32.5 mm and above) has shown a decline from 3.13 lakh bales to 2.61 lakh bales in 2005-06. As per trade estimates, the requirement of ELS cotton is about 10 lakh bales as against the present availability of 4-5 lakh bales. The requirement for ELS cotton is expected to increase further to 15 lakh bales by end of 2010 and 20 lakh bales by 2015. The current shortage of ELS cotton is met by imports of about 5 lakh bales annually from Egypt, Sudan and USA. The Commission, therefore, recommends that ***Government in collaboration with ICAR Institutes should make serious efforts to raise the domestic production of Extra Long Staple (ELS) cotton both through area expansion under the existing types and by developing new varieties of ELS cotton, so as to increase the income of farming communities and to achieve self-sufficiency*.**

2.116 With strident increase in production and productivity and good prospects of crop in the year 2006-07 season, despite surging domestic and international consumption, the carry over stock at the end of 2006-07 has been estimated at 45 lakh bales by the Cotton Advisory Board. The domestic demand-supply

balance sheet of cotton for 2006-07 prepared by the Textile Commissioner, Ministry of Textiles, Mumbai indicates that the current cotton year began with an opening stock of 56 lakh bales. Adding to it, the estimated production of 270 lakh bales in the year, and a nominal import of 4 lakh bales of specific quality cotton, the total domestic supply of cotton would be 330 lakh bales, the highest ever so far. Against this, the estimated demand for cotton at 285 lakh bales during 2006-07, comprising of 220 lakh bales of consumption by mills, 15 lakh bales of non-mill consumption and 50 lakh bales of exports, would leave a closing stock of 45 lakh bales, which would be sufficient to meet the factory demand for 3 months beginning October, 2007. As such, the supply and demand scenario of cotton for 2006-07 in the country is expected to remain comfortable.

Table 2.27: Cotton Balance Sheet (as on 22-12-06) in lakh bales of 170 kg

	2004-05 (final)	**2005-06**	**2006-07**
Supply			
Opening Stock	21.00	72.00	56.00
Crop	243.00	244.00	270.00
Imports	12.17	4.00	4.00
Total Supply	276.17	320.00	330.00
Demand			
Mill Consumption	163.98	182.00	200.00
SSI consumption	16.57	20.00	20.0
Non-mill Consumption	14.48	15.00	15.00
Exports	9.14	47.00	50.00
Total Demand	204.17	264.00	285.00
Closing Stock	72.00	56.00	45.00

Source: CAB, Ministry of Textiles, Mumbai.

2.117 The consumption by the mills, including small mills, is expected to increase significantly by around 9 per cent to 220 lakh bales in 2006-07 compared to the previous year, in view of the expansion in the capacity creation of about 2.5 million spindles in the spinning sector and 10 per cent growth in the

overall textile sector. The exports of cotton is under OGL since July, 2001. Due to easy supply situation and rising import demand, especially from China (mainland), there was a quantum jump in the exports in 2005-06. The prospects for 2006-07 is expected to be bright and exports from the country are estimated to be 50.00 lakh bales.

2.118 Among the agricultural commodities, cotton has shown some promising signs during the last few years and the developmental efforts and initiatives, like the Technology Mission have shown remarkable results. In spite of this, one disconcerting factor which is a subject of major concern and can hardly be overlooked is the reports of agrarian distress in the country associated with cotton farming. The cause and effect relationships are drawn from the vulnerability of cotton crop to the vagaries of nature and pest infestation, particularly in the low productivity regions. The Commission's Kharif report for 2006-07 had brought out in some detail the problems faced by cotton farmers in Vidarbha and the low returns they reaped during the last season which led to an agrarian crisis and the resulting mounting indebtedness of the farmers in the region. The water logging caused by heavy rains during the season 2005-06 and lack of assured irrigation facilities in the region led to crop failure as the hybrid cotton seeds purchased at a high price of Rs.1600-1750 per 450 gms proved ill-suited to such rainfed conditions. Though there has been some shift in acreage from cotton to soyabean in the region, yet large area is brought under BT cotton this season due to the availability of seeds at a very cheap rate of Rs. 650- Rs. 750 per 450 gms, promise of higher yield and lower input costs due to reduced consumption of pesticides and insecticides.

2.119 Though the prospects of the cotton crop augur well for the season, the Commission feels that considering the topography of the region, abysmally low irrigation potential, high run-off in the region due to inadequate water conservation programmes, light black rocky soil with low moisture retention

capacity, the farmers' adoption of BT cotton without requisite farm practices may trigger another crisis. There are already some reports of the crisis setting in even during the season. Therefore the Commission suggests that Research Institutions and the TMC should come out with drought tolerant varieties of cotton seeds that can be recycled to sustain the production and productivity in the Vidarbha region. The problem of indebtedness of the farmers in the area should also be addressed through provision of appropriate institutional credit and its timely disbursement direct to farmers, for purchase of good quality seeds, fertilizers, pesticides and fungicides. Since most of cotton grown in the area is rainfed, irrigation potential should be increased by completing ongoing projects besides taking up lift irrigation through wells, pumps sets and creating water reservoirs. The coverage of crop insurance scheme should also be expanded.

2.120 Since the commencement of the current season, cotton prices have been ruling easy in the domestic market. The sentiment continued to be bearish in January, 2007 also and the price behaviour was in line with market fundamentals. The supplies were comfortable with sufficient carryover of 56 lakh bales and arrivals placed at 216 lakh bales by end of February, 2007. Lower demand from mills and exports-mainly confined to South East Asian countries, Pakistan and Bangladesh also contributed to the easy trend. The opening price of J-34 in Punjab and Haryana as also that of S-6 in Gujarat in the current cotton season ruled above the MSP level, while that of long staple cotton DCH-32 ruled well above the MSP level in various markets of the country. Cotton prices surged across all varieties by the end of February, 2007, due to exponential growth in export demand and reports of a likely lower crop in Maharashtra and Gujarat. With likely tapering of cotton arrivals in the coming months, forecast of lower world cotton stock level and the prospects for rising trade, the price prospects for next season are expected to provide encouragement to the cotton growers in the country.

Table 2.28: Market Prices of Kapas during 2006-07 and 2005-06

(in Rs per quintal)

Date	Desi		J 34		H4		DCH 32	
	2006-07	2005-06	2006-07	2005-06	2006-07	2005-06	2006-07	2005-06
03-10	----	1635	1950	1835	------	----	----	----
10-10	-----	1655	1915	1835	-----	------	----	-----
17-10	1860	1650	1930	1835	2050	-----	3300	----
25-10	1840	1655	1925	1835	2050	-----	3300	-----
31-10	1890	1690	1940	1835	2150	-----	3150	-----
08-11	1820	1785	1950	1835	2120	----	3100	----
13-11	1890	1800	1955	1935	2080	1980	3100	-----
30-11	1860	1830	2055	2015	1990	1980	3250	4000
08-12	1850	1830	2050	2130	1990	1980	3050	4400
15-12	1830	1820	2035	2065	1990	1980	3000	4400
29-12	1780	1760	2022	2075	1990	1980	2900	4500
04-01	1710	1760	2006	2090	1990	1980	2900	4100
11-01	1760	1775	2011	2080	1990	2100	2900	4300
18-01	1740	1775	2001	2075	1990	2100	2910	4300
25-01	1735	1765	1976	2050	1990	1980	2800	4100
01-02	1780	1700	2065	1990	2100	1980	2900	4100
08-02	1900	1705	2130	2000	2175	1980	2950	4100
17-02	1920	1725	2180	2038	2275	1980	2950	4100
28-02	1900	1695	2180	2020	2300	1980	2975	4100
MSP	**1320**	**1310**	**1890**	**1835**	**1990**	**1980**	**2430**	**2200**

Source: Cotton Corporation of India.

The price quotations of lint during the current season 2006-07 vis-a-vis the previous season 2005-06 are as under:

Table 2.29: Market Prices of Lint during 2006-07 and 2005-06

(Rs./per qtl.)

Date	Desi		J-34		H-4		DCH-32	
	2006-07	2005-06	2006-07	2005-06	2006-07	2005-06	2006-07	2005-06
03-10	4190	3515	4528	4162	5062	4443	10827	8858
13-10	4106	3628	4443	4162	4949	4556	9561	8858
26-10	4134	3684	4499	4106	4893	4584	9702	8858
10-11	4134	3881	4387	4246	4893	4640	10124	8858
24-11	4078	4021	4387	4246	4865	4724	9280	10546
8-12	4078	4078	4331	4499	4809	4921	8999	11670
22-12	3993	3937	4387	4243	4809	4865	8999	12655
05-01	3993	3909	4274	4359	4724	4865	8999	12936
18-01	4021	3796	4359	4387	4781	4837	8999	12936
25-01	3768	3740	4246	4303	4781	4837	8999	12373
01-02	3768	3740	4330	4246	4865	4752	8998	12232
08-02	3852	3684	4499	4218	4949	4780	8998	12232
17-02	3881	3599	4612	4218	4949	4696	9280	12092
28-02	4106	3656	4809	4274	5174	4668	9280	11248

Source: Cotton Corporation of India

2.121 Cotton Corporation of India (CCI) commenced operations in Andhra Pradesh right from the start of the season as prices of kapas in the State were ruling at MSP levels. The kapas prices subsequently started ruling at MSP levels in Maharashtra, Madhya Pradesh, parts of Karnataka and Orissa and CCI extended its MSP operations in these States. The kapas price in Punjab, Haryana, Rajasthan and Gujarat have been ruling above MSP levels and hence till date there has been no procurement from these States under MSP. As on 3rd March, 2007, CCI has purchased 11.71 lakh bales of kapas comprising of different varieties under MSP operations and 2.65 lakh bales under commercial operations.

Table 2.30: Procurement by CCI (Upto 3rd March, 2007)

States	Branch	Equivalent Bales
Punjab	Bhatinda	0
Haryana	Sirsa	0
Rajasthan	Sriganganagar and Bhilwara	0
Gujarat	Ahmedabad and Rajkot	0
Madhya Pradesh	Indore	89450
Maharashtra	Akola and Aurangabad	534680
Andhra Pradesh	Adilabad, Warangal and Guntur	525604
Karnataka	Raichur(KRK) and Hubli	4959
Tamil Nadu	Coimbatore	0
Others		16214
Total		1170907

Source: Cotton Corporation of India.

2.122 Maharashtra State Cooperative Cotton Growers Marketing Federation under monopoly procurement scheme of the State Government is reported to have purchased more than 6.38 lakh bales of cotton at MSP in Maharashtra till January, 2007. The Maharashtra Raw Cotton Monopoly Procurement Scheme, which had become defunct with effect from May, 2001 is deemed to have been discontinued from end of June, 2006. The Commission feels that competition in the market offers better prices to the cotton growers in the long run and the policy of the Government should therefore be designed to encourage the competition. In this connection, it is pertinent to mention about the availability of hedge instrument in the form of futures trading in cotton. Due to globalization, removal of quantitative restrictions on foreign trade (imports and exports) under WTO regime, Indian cotton producers and users are subject to both domestic and global influences. While MSP and market intervention protect the primary producers against falling prices, cotton users whether the ginners or textile mills do not have any external support systems to protect against adverse price movements in the market. Futures trading in cotton provides a mechanism by

which the user industry can manage their price risk as futures trading enables price discovery. The advance price signals which the futures emit also can assist the producers in their crop planning decisions.

2.123 With globalization and increasing international trade in cotton by India, global prices are now exerting greater influence on domestic prices and the domestic cotton sector is getting integrated with the world cotton economy. The domestic price behaviour during 2005-06, therefore, remained in close harmony with the price behaviour in the international market. The international prices of Cotlook-A and Cotlook-B index for the past few years are given below:

Table 2.31: International Reference Price of Cotton (in cents per pound)

	Cotlook-A ($)					Cotlook-B (#)				
Month	2002-03	2003-04	2004-05	2005-06	2006-07P	2002-03	2003-04	2004-05	2005-06	2006-07P
1	2	3	4	5	6	7	8	9	10	11
August	49.45	60.50	51.80	53.55	59.90	46.10	60.00	52.20	52.45	NQ
September	49.05	64.20	55.05	53.95	58.85	46.35	62.90	54.45	52.65	NQ
October	49.55	72.55	50.85	57.75	57.05	45.90	70.65	50.35	55.70	NQ
November	52.25	76.75	47.70	55.85	57.40	47.95	74.45	47.80	54.70	54.55
December	55.15	73.60	47.50	56.10	59.45	49.30	71.40	46.90	55.30	56.95
January	56.70	76.15	50.25	58.35	59.05	52.05	74.30	48.95	57.30	57.45
February	58.60	73.90	51.30	59.65	57.90	54.60	71.75	49.15	58.10	56.80
March	61.05	72.25	55.35	57.60		57.00	69.95	54.55	56.45	
April	60.80	69.45	56.00	56.25		57.95	66.40	55.20	55.10	
May	57.80	70.05	54.75	54.35		55.75	67.00	53.25	52.85	
June	58.60	64.55	52.65	55.15		56.85	60.45	50.30	53.90	
July	60.21	57.00	53.20	55.40		59.30	52.45	51.15	54.90	
Average	**55.77**	**69.25**	**52.20**	**56.15**	**58.51**	**52.43**	**66.81**	**51.19**	**54.95**	**56.44**

P: Provisional
$: Index based upon the average of the five lowest quotes of 27.78 mm.
: Index based upon the average of the cheapest three quotes of 26.98 mm.
NQ: Not Quoted.
Source: Office of the Textiles Commissioner, Ministry of Textiles, Mumbai.

2.124 In terms of Cotlook 'A' index, 2003-04 cotton season was one of the best years for the farmers. The index reached a peak level of 76.75 cents per pound in November, 2003. However, by the close of the season of the year in July, it sunk to a level of 57 cents. The downward trend continued till December, 2004 when it reached a bottom level of 47.50 cents per pound. Thereafter, the price index showed signs of improvement, although considerable volatility was seen in the price behaviour during 2005-06. During 2006-07 the price rose to 59.45 cents per pound in December, but declined to 57.90 cents in February, 2007. The seasons average index as of 28th February, 2007 was 58.51 cents per pound or over 4 per cent higher than the same last season. The improvement in the price front in the current season is seen mainly due to rising aggregate demand from China for cotton that far exceeds their domestic supply. In addition, the elimination of quota on textile trade induced different players in the market to increase their market share of textiles and put pressure on prices of cotton. Market analysts suggest that Cotlook A index may average at 66 cents per pound in 2007-08 as against the annual average of 59 cents in 2006-07, mainly due to unchanged output, rising consumption and lower ending stocks.

2.125 World demand and supply of cotton reached its historic high in 2004-05. The high price realization in 2003-04 helped to enhance the area under cotton by about 11 per cent in 2004 which was reported to be the highest during the past 9 seasons. Favourable weather conditions and expansion of BT cotton technology boosted the world yield considerably, and as a result, world production reached an historic peak level of 26.30 million metric tonnes in 2004-05, but came down to 24.67 in 2005-06. World consumption also increased substantially to 24.97 million metric tonnes in 2005-06 from 23.36 million metric tonnes in 2004-05 mainly due to higher consumption by mills in anticipation of increasing export of textiles, following abolition of quotas in textile trade. Export of cotton increased significantly over 25 per cent from 7.74 million metric tonnes in 2004-05 to 9.80 million metric tonnes in 2005-06. The closing stock reached a level of 11.91 million metric tonnes marginally lower by 0.06 million tonnes from the level at the end of 2004-05. The current season 2006-07 is likely to register a marginal

increase in production to 25.34 million metric tonnes, as compared to 2005-06. The area is estimated to be higher at 34.2 million ha. while average yield is projected to be slightly up at 733 kgs per hectare. Both China and India are forecast to reap record crops with production in India higher than that in the US, making it the second largest cotton producing country in the world. World consumption, however, is estimated to rise to 26.00 million metric tonnes in 2006-07, about 4 per cent higher than in 2005-06 season. Export is estimated to remain slightly lower than 2005-06 level due to expected drop in Chinese imports. On the basis of these calculations, International Cotton Advisory Committee (ICAC) estimates that 2006-07 is going to end with a closing stock of 11.56 million metric tonnes as against 11.91 million tonnes last year. For the season 2007-08, world cotton production is forecasted to remain stable at 25.4 million tonnes whereas consumption is expected to go up to 26.6 million tonnes and cotton export to 9.2 million tonnes and lower carry over stock of 10.7 million tonnes. Chinese mill use is expected to continue to drive world mill use and imports in 2007-08 as per ICAC Press release dated March 1st , 2007. The global cotton prices in 2007-08 is likely to move up by 10 per cent from the current levels. .

Table 2.31: World Demand & Supply of Cotton

(Quantity in million metric tonnes)

Year Beginning August	2002-03	2003-04	2004-05	2005-06	2006-07	2007-08
World Beginning Stock	11.88	9.96	9.23	11.97	11.91	11.56
World Cotton Production	19.30	20.71	26.30	24.67	25.34	25.41
World Cotton Consumption	21.33	21.59	23.36	24.97	26.00	26.59
World Cotton Exports	6.65	7.24	7.74	9.80	8.65	9.22
World Ending Stocks	9.96	9.23	11.97	11.91	11.56	10.70

(As per latest ICAC release dated 1st March, 2007)

2.126 With the lapse of Multi Fibre Agreement, Indian textile sector has performed well by increasing its textiles and garment deliveries to the US and the EU. Government had also announced number of incentives for the development of textile sector. These incentives for promotion and growth need to be dovetailed with the development of cotton economy of the country for its repositioning in the global arena. This augurs well for enhancing competitiveness of Indian cotton, which is bestowed with comparative advantages. In order to manage globalization, costs have to be minimized to effectively compete in the international market, the productivity of cotton need to improve further and the major inputs essential for raising productivity of cotton, viz, seed, fertilizer, pesticide and credit made available at reasonable rates to the farmers. Measures for production of certified seeds of all commercial varieties need to be intensified and proper coordination between various agencies engaged in the work be ensured so that the production is balanced and attuned to the needs of the industry. To step up growth and sustain production, there is a need to improve both forward and backward linkages. Better credit delivery, improvement in irrigation and rural infrastructure, improved farming techniques and development of market yards and mandis are imperative. Labour accounts for a major portion of the input cost and loan facility from banks is not available to farmers to finance this cost unlike other inputs like seeds, fertilizers and pesticides. The cost of hiring labour is not uniform across the States. While the minimum labour charges fixed by Maharashtra State is Rs.65 per day, it is as high as Rs. 96 in Tamil Nadu and Rs.120 in Kerala. Commission, therefore, feels there is need for some rationalization of labour charges across states. With steady increase in the production of cotton and projected increase to 400 lakh bales by 2012, the rising labour costs could upset the growth in production, since at present no real breakthrough has been achieved to mechanise cotton pickings. Mechanisation is still not a viable proposition as number of pickings are spread to more than three and as many as eight in some areas. Besides, mechanized picking involves synchronized pickings for maximum efficiency. **Commission considers that there is an urgent need to address this issue as rising labour costs and skilled labour could pose serious challenges in coming years. Farmers**

need to be educated on proper methods of cotton picking through extension activity.

2.127 In order that farmers get their rightful dues in selling to the procurement agencies, infrastructure needs to be developed by the States such that farmers are encouraged to sell their produce from the market yards and not from the farm gates. CCI, the procurement agency, operates its purchases from the market yards and the presence of other traders enables competitive bidding and this process would ensure better price discovery and transparency. Secondly, the middlemen in the form of commission agents need to be reduced and the system of direct sales by farmers should be encouraged so as to ensure that farmers realize full price for their produce. The commission agents' charges are also fairly high and not uniform.

2.128 In short, the need of the hour to sustain production and productivity in cotton is timely provision of sufficient and efficient seeds, better water management, proper institutional credit, extension services and a proper coordination among all the agencies associated with the various segments of the cotton industry viz, cotton growing, input supply, raw cotton processing, trade, warehouse and research and oil crushing.

TOBACCO

2.129 India has a prominent place in the production of tobacco in the world due to varied agro-climatic conditions. India produces different kinds of tobacco, important among them, in terms of exports, is the Flue Cured Virginia (FCV) tobacco. FCV Tobacco has a fairly diversified base of production, which vary in their physical and chemical characteristics, enabling the country to export to over 80 countries across the globe. India ranks third in the world production of tobacco with China and Brazil occupying the first and second positions. However, five countries namely China, Brazil, India, the USA and Turkey account for almost two-thirds of the world production. India is the twelfth largest producer of

cigarettes and fifth largest exporter of tobacco in the world. In the past, the Food & Agriculture Organisation (FAO), the World Bank and Government Agencies supported tobacco as a cash crop. However, adverse impact of tobacco on the health realized in the recent years has been widely publicized all over the world. Accordingly, most of the countries including India have been discouraging the consumption of tobacco and exposure to its smoke in their countries, by initiating requisite measures to reduce demand and supply of tobacco in the country.

2.130 FAO, in its study, has predicted an increase in consumption of tobacco in the world until the year 2010 due to growth of population and income. However, the rate of increase would be less than that recorded in the past. According to the findings of the study, the smoking in developed countries would continue to decline while the tobacco consumption in developing countries would increase. A major part of the projected increase in demand for tobacco is expected to come from Far East, particularly China, followed by India and Africa.

2.131 The economic implications of the tobacco cultivation in poor and developing countries are manifold. It provides employment to a large number of persons in rural areas, substantial amount of foreign exchange to the country and a sizeable amount of revenue to the state for development works. In the case of India, the total employment generated in tobacco sector, right from farm sector to processing, manufacturing and marketing of product is more than 3 million and the annual foreign exchange earnings from tobacco exports are estimated to be over Rs.1400 crore.

2.132 Virginia Flue Cured (VFC) tobacco is grown in the states of Andhra Pradesh, Maharashtra, Orissa and Karnataka. The crop is grown both in light and black soils. Cultivation of tobacco is regulated by Tobacco Board under the power vested with it, vide Tobacco Board Act, 1975. The Board, after assessing both domestic and international demand, assigns crop size to each tobacco region. There are seven soil regions in the country where tobacco is produced. The tobacco produced in different types of soils is exported to different countries.

Tobacco Board has been instrumental in undertaking extension and developmental programmes assisting growers in supply of inputs for improving quality and productivity, auctions for sale and export promotion activities of tobacco.

The balance sheet of VFC tobacco showing supply-demand is given in table below:

Table 2.32: VFC Tobacco – Balance Sheet

(Quantity in Million Kgs.)

	2005-06	**2006-07**
Opening Stock	84.60	82.65
Production	228.27	243.00
Total Supply (A)	312.87	325.65
Domestic Consumption	75.00	78.00
Export	109.57	120.00
Farm Wastage	45.65	48.60
Total Demand (B)	230.22	246.60
Closing Stock (A-B)	82.65	79.05

Source: Tobacco Board.

2.133 From the above table it may be seen that the year 2006-07 is expected to close with a surplus stock of 79.05 million kg, out of which around 70-75 million kg. are the inventory of manufacturers for future usage and the remaining 4-9 million kg. will be surplus in the market.

2.134 The total area under tobacco cultivation in Andhra Pradesh, Maharashtra and Orissa (except the NBS/CBS areas of A.P) during the last five years since 2000-01 has been rising despite various measures taken by Government to reduce its demand and supply. To manage over production of tobacco, the Tobacco Board declared 2000-01 as a crop holiday. However, the

area under tobacco increased subsequently from about 88 thousand hectares in 2001-02 to 93 thousand hectares in 2002-03, 109 thousand hectares in 2003-04, 113 thousand hectares in 2004-05 and 115 thousand hectares in 2005-06. Similarly, in Karnataka, the area had been rising continuously from 48 thousand hectares in 2001-02 to 56 thousand hectares in 2002-03, 69 thousand hectares in 2003-04, 70 thousand hectares in 2004-05, but declined to 65 thousand hectares in 2005-06. Although, the area has increased in Andhra Pradesh, Maharashtra and Orissa in 2005-06, the estimated production of about 144 thousand tonnes is likely to be less than that of the past two years. The production in Karnataka is also likely to decline by about 5 thousand tonnes. Similarly, the average yield in Andhra Pradesh, Maharashtra and Orissa taken together at 1244 kg per hectare is reported to be less than that of Karnataka, whose yield is marginally higher by 61 kg per hectare over the average yield of aforesaid three states.

2.135 The Commission recommends MSP only for F2 and L2 grade of VFC tobacco. The Tobacco Board thereafter fixes the prices for other varieties of tobacco based upon grade differential taking the MSP recommended for basic grades of F2 and L2 VFC tobacco. The Commission recommended MSP for two basic grades of Tobacco F2 and L2 at Rs.34 and Rs.36 per kg for 2004-05 and for 2005-06 season and the same continued for 2006-07 season also. The Government, however, reduced the MSP recommended by the Commission slightly and announced it at Rs.32 and Rs.34 per kg for F2 and L2 grades respectively for 2004-05. The same rates continued for next two years. The monthly average prices of VFC tobacco in the country were much higher than the MSP as the tobacco price is driven by high demand. The low level of MSP compared to the auction price, at times poses a serious problem for the farmers in getting better price for their produce, as low MSP sets the benchmark price for the auction. Tobacco Board in its presentation before the Commission mentioned that soil region-wise average prices in terms of MSP are far below compared to the respective unit costs of production and actual average prices realized, as shown in table below:

Table 2.33: Cost of Production and Price Realization

(Rs.kg)

Sl. No.	Soil Region	Cost of Production	In terms of MSP	Actual Average Price Realization
1	Northern Light Soil	43.71	29.39	56.84
2	Southern Light Soil	37.09	29.16	42.05
3	Black Cotton Soil	36.04	26.62	42.31
4	Karnataka Light Soil	44.43	31.34	48.06

Source: Tobacco Board.

2.136 The Board urged before the Commission to increase MSP for 2007-08 at least by 30% over the ruling MSP to enable the growers to get remunerative prices for their produce. Considering the fact that tobacco cultivation, its marketing and exports are well organized under the aegis of Tobacco Board and that the low level of MSP may often depress the auction price and therby price realization by the farmers, the Commission would like to reiterate its earlier recommendation that the government may examine the relevance of fixing MSP for tobacco and its pricing be left to the Tobacco Board or to the market forces.

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

Cost of Production is one of the important factors which are taken into account by CACP in formulating the Minimum Support Price Policy. For this reason, the Commission reviews comprehensively the levels of cost of production of each of the mandated crops in the major producing states of the country. The data source for this vital information is the statistically designed Comprehensive Scheme (CS) operated by the Directorate of Economics and Statistics, Ministry of Agriculture. Under the CS, estimates of cost of cultivation/production are generated state-wise for each crop. Apart from paid out operational costs which include the items of input costs that are actually incurred by the farmers for each of the crops grown by them, the imputed value of family labour, rental value of owned land, interest on fixed capital etc. are also considered. The Commission in its interaction with the state governments obtains detailed feed-back from them, which provide data on state specific input prices as also estimates of cost of cultivation generated by state governments. Besides, the updated price indices in respect of some agricultural inputs are obtained from the office of the Economic Adviser, Ministry of Commerce & Industry, whereas the month-wise average wage rates for agricultural labour are obtained from Labour Bureau. It may be pertinent to note that the Commission also interacts with the farmers and other stake holders for their views on the price support policy.

3.2 Since the submission of the Commission's last report on Price Policy for Kharif Crops for 2006-07 season, the prices of all inputs as measured by WPI have registered an increase during February, 2006 and January, 2007, except pesticides and fodder. The prices of lubricants as measured by WPI have reportedly been substantially increased by 38 per cent, whereas a significant decline of 22 per cent in the prices of pesticides has been observed. The prices of electricity for irrigation, non-electrical machinery and diesel as measured by the corresponding WPI are observed to have increased between 3 to 6 per cent, while marginal increases in the prices of fertilizers and cattle feed at 2 per cent

and 1 per cent respectively have been registered during the same period. The price of tractors, which is one of the important inputs of machine labour, has increased less than a per cent.

3.3 The statutory minimum wages for agricultural labourers have been revised upward in the states of Chhattisgarh, Haryana, Karnataka, Madhya Pradesh and Orissa. As per data obtained from Labour Bureau, the actual average agricultural wage rates, between the Kharif seasons (April- September) of 2005 and 2006 are observed to have increased by 1 to 4 per cent in Andhra Pradesh, Bihar, Gujarat, Haryana, Kerala, Madhya Pradesh, Punjab, Uttar Pradesh and West Bengal, except in Tamil Nadu where the wages have almost remained at the same level. However in the states of Orissa and West Bengal, the increase in the wages is higher at 6 per cent during the same period. (Tables 3.1 & 3.2)

Estimates of Cost of Cultivation and Projected Costs for 2007-08 Season

After the submission of the Commission's last Report on Price Policy for Kharif crops for 2006-2007 seasons, the Directorate of Economics & Statistics (DES) provided the estimates of cost of cultivation/production for the year 2004-2005 for different crops.

Paddy

3.4 The DES has provided the estimates of cost of cultivation/production of paddy for the year 2004-05 in respect of Andhra Pradesh, Assam, Bihar, Chhattisgarh, Haryana, Jharkhand, Karnataka, Kerala, Madhya Pradesh, Orissa, Punjab, Tamil Nadu, Uttar Pradesh, Uttarakhand and West Bengal. The details of the latest available cost estimates of paddy and also those pertaining to the preceding year are presented in Table 3(A). It is observed that between 2003-04 and 2004-05, the C_2 cost of production per quintal has moved upward in majority of the rice producing states. However, it has declined in the states of Uttarakhand, Karnataka and Kerala due to increase in the yield levels in most of these states.

Further details of cost of cultivation/production of paddy pertaining to the latest period and for the preceding year are given in Tables 3.3 and 3.4.

3.5 The Commission has arrived at the likely levels of cost of production of paddy in different growing states for the ensuing season of 2007-08 based on the cost of production/cultivation available for the latest year 2004-05. In order to make the projections consistent and realistic, each of the latest three years data provided by the DES, wherever available, are being projected and their averages taken. For projections, a state-specific Variable Input Price Index for each crop has been constructed to capture the movements of input prices between the base year and the year of projection (2007-08). (Table 3.5)

3.6 As per the above methodology, the projected per quintal paid-out cost of production of paddy plus imputed cost of family labour (i.e. cost A_2+FL) for 2007-08 works out to an average of Rs.403 for Andhra Pradesh, Rs.462 for Assam, Rs.401 for Bihar, Rs.394 for Chhattisgarh, Rs.528 for Haryana, Rs.514 for Jharkhand, Rs.509 for Karnataka, Rs.644 for Kerala, Rs.540 for Madhya Pradesh, Rs.426 for Orissa, Rs.367 for Punjab, Rs.509 for Tamil Nadu, Rs.424 for Uttar Pradesh, Rs.462 for Uttarakhand and Rs.460 for West Bengal. As against this, the projected C_2 cost of production of paddy for these states average at Rs.587, Rs.601, Rs.559, Rs.575, Rs.756, Rs.666, Rs.663, Rs.784, Rs.713, Rs.562, Rs.520, Rs.635, Rs.579, Rs.598 and Rs.599 per quintal respectively for 2007-08. The weighted average cost of production of paddy for all these states works out to Rs.439 on cost A_2+FL basis and Rs.595 on cost C_2 basis.

[Table 3(G)]

3.7 It is observed from the above that the average C_2 cost of production of paddy is lowest (Rs.520) in Punjab followed by Bihar (Rs.559). Projected C_2 cost of production for the year 2007-08 for both these states command a margin of about 12 per cent and 4 per cent respectively over the MSP fixed for paddy

(common) for 2006-07 at Rs.580 per quintal. On the other hand, the projected costs of production of paddy are much higher as compared to MSP in Haryana, Jharkhand, Karnataka, Kerala, Madhya Pradesh and Tamil Nadu. While Madhya Pradesh suffers from extremely low productivity, Kerala's high cost is explained mainly by the higher human labour cost. In the case of Haryana, the total cost of cultivation of paddy per hectare at Rs.33,389 is close to that of its neighbour, Punjab. However, Haryana produces finer quality of paddy of basmati variety in a large area which results in lower yield levels averaging around 43 quintals per hectare as against 65 quintals obtained in Punjab for common variety.

3.8 The Commission also receives cost of cultivation estimates from various state governments. These are examined in detail in the Commission and compared with the corresponding CS data and also with the projected costs of production of various crops for the ensuing kharif season. Although these estimates are not strictly comparable with the CS estimates because of certain conceptual and methodological differences, the comparison exercise serves useful purpose of cross-validation of the cost data. In some cases these state estimates pertain to more recent years and information therein is used for the purpose of projections.

3.9 From Table 3(H) it is observed that the cost of production of paddy estimated by Andhra Pradesh, Bihar, Haryana and Uttar Pradesh at Rs.770, Rs.750, Rs.725 and Rs.630 per quintal for 2004-05 are higher than those given under CS at Rs.504, Rs.552, Rs.705 and Rs.571 per quintal respectively, mainly due to the consideration of higher human labour cost by the state of Bihar and lower yield levels by Andhra Pradesh and Uttar Pradesh. In the case of West Bengal, however, the unit cost estimated by the state at Rs.502 per quintal is much lower than the CS estimate. The estimates provided by the states of Bihar, Gujarat, Uttar Pradesh and West Bengal for the year 2005-06 are Rs.953, Rs.570, Rs.648 and Rs.537 per quintal respectively. The states of Haryana and Madhya Pradesh have provided the estimates for the same season at Rs.746 per

quintal each. However, no comparison is possible due to non- availability of CS data for these years.

3.10 The projected cost of production of paddy for the year 2007-08 has been received from the states of Andhra Pradesh, Bihar, Haryana, Orissa, Punjab, Tamil Nadu and West Bengal. It is observed that the cost of production of paddy projected by the state of Punjab at Rs.830 per quintal is inclusive of the weather risk, management charges etc. After excluding these, the projection works out to Rs.653 for 2007-08, which is higher than the Commission's projection at Rs.520 per quintal. This difference is mainly attributed to the much higher rental value of land and lower yield level considered by the state. Andhra Pradesh, Bihar, Haryana and Orissa have provided the projected C_2 cost of production at Rs.660, Rs.806, Rs.759 and Rs.597 per quintal respectively. These are inclusive of managerial cost, profit margin to the farmers and also transport charges etc. After making necessary adjustments to the projected costs to make them comparable with the Commission's concepts and methodologies, it is observed that the projected costs work out to Rs.660 per quintal for Andhra Pradesh, Rs.733 per quintal for Bihar, Rs.643 per quintal for Haryana, Rs.597 per quintal for Orissa respectively. The adjusted projected cost for Bihar and Orissa is higher than the Commission's projection at Rs.559 and Rs.562 per quintal respectively for 2007-08. In the state of Orissa a lower yield has been considered by the state, where as higher charges on account of interest on fixed capital and depreciation accounted by the state of Bihar. However, the projected cost obtained from West Bengal is very close to the Commission's projection.

[Table 3(I)]

Coarse Cereals

3.11 Jowar, bajra, maize and ragi are the major kharif coarse cereals for which cost estimates are available under CS. For jowar, estimates of cost of cultivation/production are available for 2004-05 in respect of Andhra Pradesh, Karnataka, Madhya Pradesh, Maharashtra, Rajasthan and Tamil Nadu. It may be

observed from Table 3(C) that between 2003-04 and 2004-05, the C_2 cost of cultivation for jowar per hectare is estimated to have decreased in all the major growing states except Maharashtra and Tamil Nadu. The yield level has increased by 13 per cent in Rajasthan. In case of Andhra Pradesh and Karnataka, a considerable increase of 44 per cent and 88 per cent respectively has been observed. However, it has declined in the remaining states. The cost estimates for bajra have been received from the states of Gujarat, Haryana, Rajasthan, Uttar Pradesh and Maharashtra. For bajra, the C_2 cost of production is estimated to have increased in all the states except for Maharashtra, where the same has declined. It may be noted that the yield levels in most of the states have increased, whereas the same in the states of Rajasthan and Haryana has declined. The state of Rajasthan has registered a significant decline of 27 per cent as against Haryana, where it has declined by 3 per cent. In case of maize, cost estimates have become available for Andhra Pradesh, Bihar, Chhattisgarh, Himachal Pradesh, Jharkhand, Karnataka, Madhya Pradesh, Rajasthan, Uttar Pradesh and Uttarakhand. The C_2 cost of cultivation has come down in all the above mentioned states except Jharkhand and Chhattisgarh. The cost estimates with respect to Karnataka and Tamil Nadu for the year 2004-05 are available for Ragi. It is observed that C_2 cost of production has declined in these states by 2 per cent and 11 per cent respectively. There is a rise in the yield level from 11 to 11.69 quintals per hectare in Karnataka as against Tamil Nadu, where it has marginally come down from 15.85 to 15.80 quintals per hectare.

3.12 The projected cost of production (A_2+FL) for jowar for 2007-08 in respect of Andhra Pradesh, Karnataka, Madhya Pradesh, Maharashtra, Rajasthan and Tamil Nadu are Rs.690, Rs.622, Rs.600, Rs.495, Rs.443 and Rs.488 per quintal respectively while the projected cost of production per quintal on C_2 basis for these states are Rs.951, Rs.802, Rs.779, Rs.652, Rs.647 and Rs.706 respectively. The weighted average A_2+FL and C_2 cost of production for jowar works out to Rs.546 and Rs.724 per quintal respectively. The projected cost of production for bajra for the year 2007-08 for the states of Gujarat, Haryana, Rajasthan, Uttar Pradesh and Maharashtra on A_2+FL basis works out to Rs.501,

Rs.522, Rs.380, Rs.415 and Rs.607 per quintal respectively, while the C_2 cost of production per quintal for these states are Rs.605, Rs.704, Rs.540, Rs.602 and Rs.738 respectively. The weighted average A_2+FL and C_2 costs of production of bajra for the year 2007-08 works out to Rs.444 and Rs.598 per quintal respectively. The A_2+FL projected cost of production of maize for the states of Andhra Pradesh, Bihar, Chhattisgarh, Himachal Pradesh, Jharkhand, Karnataka, Madhya Pradesh, Rajasthan, Uttar Pradesh and Uttarakhand are Rs.434, Rs.298, Rs.565, Rs.417, Rs.542, Rs.383, Rs.465, Rs.557, Rs.598 and Rs.709 per quintal respectively, while the projected C_2 cost of production for these states works out to Rs.612, Rs.421, Rs.718, Rs.585, Rs.745, Rs.507, Rs.605, Rs.700, Rs.789 and Rs.952 per quintal respectively. The weighted average A_2+FL and C_2 costs of production of maize on the basis of these costs work out to Rs.449 and Rs.601 per quintal respectively. The projected A_2+FL cost of production for ragi for the year 2007-08 for the states of Andhra Pradesh, Karnataka and Tamil Nadu works out to Rs.814, Rs.666 and Rs.664 per quintal respectively while the C_2 cost of production for these states are Rs.987, Rs.779 and Rs.929 per quintal. The weighted average cost of production of ragi works out to Rs.673 on cost A_2+FL basis and Rs.805 on cost C_2 basis respectively.

[Table 3(G)]

3.13 The cost estimates for jowar have been made available by the states of Andhra Pradesh and Uttar Pradesh for the years 2004-05 and 2005-06 while Gujarat and Madhya Pradesh have provided the same for the years 2004-05, 2005-06 and 2006-07. The estimate provided by Madhya Pradesh for 2004-05 at Rs.625 is lower than the corresponding CS estimate. The state of Andhra Pradesh has provided cost projections for jowar for the year 2007-08. As regards bajra, the states of Gujarat and Haryana have provided cost estimates for the years 2004-05, 2005-06 and 2006-07, whereas the states of Andhra Pradesh has provided estimates only for the year 2004-05 and Uttar Pradesh has provided

the same for the years 2004-05 and 2005-06. The cost per quintal as per the state and CS estimates in the case of Gujarat and Haryana are lower than the CS estimates, while the state estimate in case of Uttar Pradesh is on the higher side due to the consideration of lower yield level by the state. The states of Andhra Pradesh and Haryana have provided projected cost for bajra for the year 2007-08. CACP's projection for the Haryana is higher than the state government's projections. For maize, cost estimates have been provided for the years 2004-05, 2005-06 and 2006-07 by the states of Bihar, Gujarat, Haryana and Madhya Pradesh as against the Andhra Pradesh for which the same has been received for 2004-05 only. The state of Uttar Pradesh has provided the same for 2004-05 and 2005-06. The estimate of cost provided by Andhra Pradesh at Rs.580 per quintal is almost at the same level to the CS estimate. The cost projections for maize for the year 2007-08 have been received from the states of Andhra Pradesh, Bihar, Haryana, Orissa and Tamil Nadu. CACP's projection for Andhra Pradesh is very close to the projected cost obtained from the state. However, the Commission received the projected cost for ragi from Andhra Pradesh only. These have been adjusted using the Commission's concepts and methodologies. The Andhra Pradesh estimate after adjustment works out to Rs.726 per quintal. [Tables 3(H) & 3(I)]

Pulses

3.14 The latest available estimates of cost of cultivation/production for major kharif pulses of tur (arhar), moong and urad are presented in Table 3 (D). It may be observed that the cost of cultivation per quintal for tur is estimated to have declined significantly in 2004-05 in Gujarat, whereas it has increased in the case

of Andhra Pradesh, Karnataka, Madhya Pradesh, Maharashtra, Orissa and Uttar Pradesh over the preceding year. The projected per quintal cost of production (A_2+FL) of tur for the year 2007-08 averaged at Rs.963 for Andhra Pradesh, Rs.1239 for Gujarat, Rs.1553 for Karnataka, Rs.949 for Madhya Pradesh, Rs.999 for Maharashtra, Rs.1170 for Orissa and Rs.649 for Uttar Pradesh .The corresponding C_2 costs work out to Rs.1506, Rs.1620, Rs.2025, Rs.1418, Rs.1393, Rs.1639 and Rs.1295 per quintal respectively. The weighted average projected cost for tur for 2007-08 works out to Rs.1040 and Rs.1514 per quintal on A_2+FL and C_2 basis respectively. As regards moong cost A_2+FL is projected at Rs.1283, Rs.1583, Rs.1678 and Rs.1441 per quintal for the states of Andhra Pradesh, Maharashtra, Orissa and Rajasthan respectively and the corresponding cost C_2 at Rs.1900, Rs.1978, Rs.2268 and Rs.1987 per quintal respectively. The weighted average cost for moong for the year 2007-08 works out to Rs.1464 and Rs.1981 per quintal respectively on cost A_2+FL and C_2 basis. The A_2+FL cost for urad for the states of Andhra Pradesh, Madhya Pradesh, Chhattisgarh, Maharashtra, Orissa, Rajasthan, Tamil Nadu and Uttar Pradesh have been projected at Rs.865, Rs.1693, Rs.563, Rs.1543, Rs.1366, Rs.1707, Rs.1377 and Rs.868 per quintal respectively. The corresponding C_2 cost of production for these states works out to Rs.1322, Rs.2198, Rs.1042, Rs.1915, Rs.1837, Rs.2194, Rs.2232 and Rs.1293 per quintal respectively with weighted average A_2+FL and C_2 cost for urad for the year 2007-08 being placed at Rs.1269 and Rs.1741 per quintal respectively. [Table 3(G)]

3.15 For all the kharif pulses, the estimates of costs have been provided by the states of Andhra Pradesh, Gujarat, and Uttar Pradesh. The state cost estimates in case of pulses are invariably higher than the CS estimates except in the case of moong in Andhra Pradesh and urad in Uttar Pradesh for the year 2004-05. The projections for kharif pulses have been received from the states of Andhra Pradesh, Orissa and Tamil Nadu. The projections as provided by the states for kharif pulses are lower than the corresponding projections made by the Commission for the crop except for Andhra Pradesh due to lower yields

considered by the states as compared to the projected yield levels by CACP.

[Tables 3(H) & (I)]

Oilseeds

3.16 The latest estimates of cost of cultivation/production for groundnut for the year 2004-05 have become available in respect of Andhra Pradesh, Gujarat, Karnataka, Maharashtra and Tamil Nadu. (Table-3(E)). The C_2 cost of *cultivation* per hectare for groundnut for 2004-05 is estimated to be marginally higher than that for the previous year in the states of Karnataka and Tamil Nadu, whereas there has been a decline in the state of Andhra Pradesh, Gujarat and Maharashtra. However, C_2 cost of *production* has registered a decline in Andhra Pradesh, Karnataka and Tamil Nadu. In the case of soyabean, cost estimates have become available for Chhattisgarh, Madhya Pradesh, Maharashtra and Rajasthan for the year 2004-05. The yield levels have decreased over the preceding year in Madhya Pradesh and Maharashtra except Rajasthan and Chhattisgarh, where the same has been increased by 23 per cent each. Cost estimates for sunflower are available for Andhra Pradesh, Karnataka and Maharashtra. It is observed that the yield has increased in both the states as compared to the previous year. The cost estimates for nigerseed are available for Orissa and Chhattisgarh.

3.17 The estimated costs of kharif oilseeds for the latest three years ending 2004-05 have been projected for the ensuing crop season of 2007-08 and their weighted averages taken. Accordingly, the projected A_2+FL cost of production for groundnut averages at Rs.1350 per quintal for Andhra Pradesh, Rs.825 for Gujarat, Rs.1517 for Karnataka, Rs.1612 for Maharashtra and Rs.1302 per quintal for Tamil Nadu. The C_2 cost of production for these states work out to Rs.1885, Rs.1084, Rs.1946, Rs.1998 and Rs.1730 per quintal respectively. The weighted average cost for groundnut works out to Rs.1120 per quintal on A_2+FL basis and Rs.1484 on cost C_2 basis. For soyabean, the projected A_2+FL cost works out to Rs.1009, Rs.717 , Rs.821 and Rs.793 per quintal respectively for

the states of Chhattisgarh, Madhya Pradesh, Maharashtra and Rajasthan while the C_2 cost works out to Rs.1273, Rs.1049, Rs.1067 and Rs.1037 per quintal respectively. The weighted average cost for soyabean works out to Rs.761 and Rs.1058 per quintal respectively on cost A_2+FL and C_2 basis. The costs for sunflower for 2007-08 for the states of Andhra Pradesh, Karnataka and Maharashtra are projected at Rs.2093, Rs.2007 and Rs1823 per quintal respectively on C_2 basis. The weighted average cost on A_2+FL and C_2 basis work out to Rs.1440 and Rs.2004 per quintal respectively. For sesamum, the average projected A_2+FL costs are Rs.1569, Rs.1205, Rs.2032, Rs.1373, Rs.1690 and Rs.1546 per quintal and the corresponding C_2 costs work out to Rs.2024, Rs.1728, Rs.2871, Rs.2333, Rs.2679 and Rs.2482 per quintal for the states for Gujarat, Madhya Pradesh, Orissa, Rajasthan, Tamil Nadu and Uttar Pradesh respectively with the weighted average A_2+FL and C_2 cost at Rs.1484 and Rs.2176 per quintal respectively. The C_2 cost of production of nigerseed in respect of Orissa has been projected to an average of Rs.1661 per quintal, whereas, the same has been estimated to an average of Rs.1498 per quintal. The weighted average cost on A_2+FL and C_2 cost basis work out to Rs.1188 and Rs.1618 per quintal respectively. [Table 3(G)]

3.18 The cost estimates for groundnut have been provided by the states of Andhra Pradesh, Gujarat, Madhya Pradesh and Uttar Pradesh. The state estimate in respect of Gujarat is lower than the corresponding CS estimate for the year 2004-05. In the case of soyabean, the cost estimates have been received from Madhya Pradesh and Uttar Pradesh. The estimate reported by the state of Madhya Pradesh is higher for 2004-05 than the corresponding CS estimate. In the case of sesamum, the estimate provided by Gujarat and Madhya Pradesh are lower as compared to the corresponding CS estimates for 2004-05. Cost projections for the year 2007-08 in respect of oilseeds have been received from the states of Andhra Pradesh, Orissa and Tamil Nadu. These are invariably lower than CACP's projections for oilseeds. [Tables 3(H) & 3(I)]

Cotton (Kapas)

3.19 For cotton, the estimates of cost of cultivation/production for 2004-05 have become available in respect of Andhra Pradesh, Gujarat, Haryana, Karnataka, Madhya Pradesh, Maharashtra, Punjab, Rajasthan and Tamil Nadu. The data presented in Table 3(B) show that the C_2 cost of cultivation per hectare is estimated to have increased over the preceding year in all the states except Andhra Pradesh and Tamil Nadu, where it has declined by 10 and 20 per cent respectively. However, the unit C_2 cost of production of cotton has declined in all the states except in Andhra Pradesh. There is a substantial decrease in cost of production in the range of 20 to 26 per cent in the states of Haryana, Karnataka, Punjab and Rajasthan, while it has declined marginally in Gujarat, Madhya Pradesh, Maharashtra and Tamil Nadu. This may be attributed to a considerable increase in yield levels in most of these states.

(Tables 3.6 & 3.7)

3.20 Following the same methodology, the cost A_2+FL of cotton per quintal is projected for 2007-08 to an average of Rs.1163 for Andhra Pradesh, Rs.1421 for Gujarat, Rs.1350 for Haryana, Rs.1501 for Karnataka, Rs.1946 for Madhya Pradesh, Rs.1842 for Maharashtra, Rs.1741 for Punjab, Rs.1362 for Rajasthan and Rs.2010 for Tamil Nadu per quintal. The corresponding cost C_2 per quintal is projected at Rs.1856, Rs.1878, Rs.1979, Rs.2178, Rs.2907, Rs.2412, Rs.2367, and Rs.1911 and Rs.2686 per quintal respectively in these states. The weighted average cost of production of cotton for 2007-08 works out to Rs.1528 per quintal and Rs.2111 per quintal on cost A_2+FL and C_2 basis respectively.

[Table 3(G)]

3.21 In addition, the estimates of cost of production of cotton for the year 2004-05, 2005-06 and 2006-07 have been provided by the states of Gujarat, Haryana and Madhya Pradesh, whereas the same have been received for Andhra Pradesh for 2004-05 only. The estimated cost of production is lower in Gujarat and Madhya Pradesh, whereas it is on the higher side in Haryana as compared

to corresponding CS estimates. The states of Andhra Pradesh, Haryana, Orissa and Punjab have given the projected costs of cotton for the year 2007-08. After making necessary adjustments, the projections in the states of Haryana, and Punjab are lower than the Commission's projection for the crop.

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

VFC Tobacco

3.22 The latest estimates of cost of cultivation/production for VFC tobacco have been made available by the DES which pertains to Andhra Pradesh for the year 2004-05. Karnataka, the only other important VFC tobacco producing state, is not covered under the CS. The data presented in Table 3(F) show that between 2003-04 and 2004-05 the C_2 cost of cultivation has increased. The cost of production of tobacco in respect of Andhra Pradesh has been projected to an average of Rs.3193 and Rs.4001 per quintal on cost A_2+FL and C_2 basis, respectively. [Table 3(G)]

Terms of Trade

3.23 The Commission in its earlier reports mentioned about the deteriorating agricultural terms of trade in recent years. The index of terms of trade (ITT) with base TE 1990-91 (TE 1990-91=100) deteriorated from 106.6 in 1994-95 to 100.9 in 2000-01. It marginally recovered in the years 2001-02 and 2002-03, but deteriorated again in 2003-04 and 2004-05. However, during 2005-06, there was a marginal improvement in the ITT over the previous year, while the index of input price parity dropped from 105.3 in 2004-05 to 103.2 in 2005-06.

(Appendix II)

Inter-Crop Price Parity

3.24 The Commission undertakes analysis of inter-crop price policy mainly with a view to ensure that the minimum support price policy gives appropriate price signals for sustainable and diversified growth of agriculture. During the past one

decade or so, the market prices of various agricultural commodities moved at different rates. Assuming 1993-94 as the base (1993-94=100), the wholesale price index (WPI) of rice increased to 178.92 in 2006-07, while that of wheat rose to 213.94 and the WPI of pulses increased to 253.53 in 2006-07. The WPI of coarse cereals like jowar, bajra, maize, ragi and barley also increased at a higher pace than that of rice. In fact, the WPI of jowar was as high as 270.33 in 2006-07. The WPI of raw cotton increased only to 151.05 and that of oilseeds rose to 170.03 in 2006-07. Thus there was upward movement in the market prices of different commodities at different rates.

3.25 As regards the minimum support prices, during 1990-91 to 2006-07, there was relatively high rate of increase in commodities like gram, moong, urad and wheat, considering the food security situation in the country and also the need for addressing sustainability issues through improved production of pulses. The relative price increase in paddy was lower vis-à-vis pulses. Even though the MSPs of oilseed crops were hiked substantially in recent years, the overall percentage change in the MSPs of oilseed crops during 1990-91 to 2006-07 remained lower than those of cereals and pulses. In the case of cotton, the hike in MSP was smaller as compared to those of cereals and pulses. However, despite relatively higher increase in the MSPs of pulses, the area, production and yield of pulses continue to stagnate, as the relative returns from competitive crops are still higher. In fact, improved production of pulses would depend not only on increased price and marketing support, but also on availability and adoption of high yielding varieties of seeds. The role of research and extension support appears crucial for raising the production of pulses in the country.

IV PRICE POLICY FOR 2007-08 KHARIF SEASON

In formulating the price policy for kharif crops of 2007-08, the Commission considered all the relevant factors such as costs of production, demand-supply situation-both domestic and international, market prices - both domestic and international, agricultural terms of trade, input output price parity and inter-crop price parity. Besides, issues like food security, resource use efficiency, agricultural diversification and reversal of the decelerating trend in agricultural growth and farm income were considered.

4.1 The overall demand-supply balance of foodgrains in the current year seems to be precarious, both domestically and internationally. The domestic supply of rice in 2007-08 would hardly meet the demand, while that of wheat would just meet the demand. The average stocks of rice would be marginally above the buffer norm, but that of wheat would remain below the buffer norm. At the international level, the stocks of foodgrains have shown a declining trend. Under the circumstances, it may be necessary to increase the minimum support prices of paddy, coarse cereals and pulses. However, the relative increase in the minimum support prices should be such that there is a tilt in favour of coarse cereals and pulses. At the same time, states like Punjab and Haryana, where the ground water table is depleting day by day under the impact of intensive cultivation of common and fine varieties of rice, should be persuaded to shift area in favour of basmati rice, hybrid rice and maize which will have either water saving or land saving effects. In fact, these states can continue to produce same or higher level of output with less area by adopting hybrid rice. Increased production of rice and coarse cereals would be necessary for maintaining the country's macro level food security, especially when the international supply situation of rice remains constrained. According to the forecast by Food and Agriculture Organisation of the UN, the global rice stock would fall and the tight supply situation in exporting countries is likely to push up the international prices in 2007, thereby restraining the possibility of high imports at reasonable prices.

Similarly, reasonable hike in the minimum support prices of tur, moong and urad would be required to encourage the farmers to produce more pulses, especially at a time when the domestic supply of pulses falls short of demand and the international supply situation is constrained and uncertain. In fact, the supply of moong and urad cannot be augmented by imports, as these pulses are not produced in adequate quantities in other pulses growing countries.

4.2 As regards nine major edible oilseeds, nearly 35 to 40 per cent of the domestic demand was met from imports during the past 3 years. Imports of edible oils in such large magnitude have depressed the domestic prices of edible oils and oilseeds, thereby affecting the income and livelihood of millions of farmers. Therefore, based on demand-supply situation, some increase in the minimum support prices of oilseeds like groundnut, soyabean and sunflower oil produced in the kharif season would be justified, even though the Commission feels that there should be proper co-ordination between price policy, exim policy and technology support to make the desired impact in terms of increased production of oilseeds in the country.

4.3 In the case of cotton, there has been significant increase in the production in recent years. The prospect for 2007-08 is also bright. However, the domestic production of long and extra long staple cotton varieties are inadequate at present to meet the industrial demand. Hence, it may be desirable to increase the production of long and extra long staple cotton, for which appropriate technology and price support would be necessary. The production of tobacco has been estimated at 243 million kg. in 2006-07, with a closing stock of 79.05 million kg. Despite the fact that Government of India has adopted a policy of discouraging the production and consumption of tobacco, on account of its health hazard, the production has increased and thousands of farmers cultivate tobacco for livelihood.

4.4 During 2006-07 the overall market prices of rice, coarse cereals, pulses, cotton and tobacco in the country remained much higher than their MSPs fixed. Therefore, the sustainability of some increase in their minimum support prices in the market may not pose any problem. The global price situations of these commodities look quite buoyant. During January, 2006 to January, 2007, there was an increase of 60.8 per cent in the international prices of maize and 10.2 per cent in that of rice. In the case of cotton, although the domestic prices during 2006-07 were higher as compared to 2005-06, the index of WPI of cotton in 2006-07 still remained lower than that in 2003-04 and 2004-05, especially during April to October. Also during January, 2006 to January 2007, the international prices of cotton were higher only by 0.1 per cent. The domestic prices of most of the kharif edible oilseeds remained depressed during October/November, 2006, but moved up a little since then. However, during January, 2006 to January, 2007 international prices of soyabean were higher by 16.6 per cent, while the groundnut prices went up by 40.3 per cent. The domestic prices of sesamum, however, started firming up from May, 2006 and that of nigerseed from August, 2006. The international sunflower prices were lower by about 38.3 per cent. Thus, based on market prices, there is scope for a moderate increase in the minimum support prices of groundnut and soyabean only, while the MSP of sunflower seed may not merit any hike and MSPs of sesamum and nigerseed would merit only a marginal increase. The domestic and international prices of tobacco remained firm in recent months and hence, there may be justification for a marginal increase in the MSP of VFC tobacco. In fact, the domestic market prices of tobacco ruled much above the current level of minimum support price of VFC tobacco. (Tables 2.16 & 2.19)

4.5 The index of agricultural terms of trade has shown a deteriorating trend since 1998-99. It dropped from 105.6 in 1998-99 to 105.2 in 1997-98 and 101.3 in 2005-06. In fact, the index of output price received by farmers in 2005-06 was 273.3, while the index of prices paid for intermediate consumption and capital formation were 275.6 and 310.5 respectively. This has caused overall depression

in the minds of farmers and consequently they are not taking so much interest in farming as would be necessary to step up agricultural growth. The Commission is indeed concerned about the deteriorating socio-economic conditions of Indian farmers. The high incidence of poverty, and indebtedness among farm households are reported to have resulted in increase in the number of farmers committing suicides in recent years. (Appendix-I)

4.6 Government of India hiked the minimum support prices of pulses and edible oilseeds quite considerably in recent years. This was intended to induce the farmers to diversify their cropping patterns in favour of these crops. However, due to inadequate technology and marketing support, there was no noticeable improvement in the production of pulses, although oilseeds production responded quite positively to price variations. The Commission believes that any increase in the minimum support prices of pulses and oilseeds in future should be integrated with adequate technology and marketing support and an appropriate exim policy to prevent unduly high import of these commodities. Besides, the current situation demands that inter-crop price parity should be fixed in such a manner that farmers are induced to produce more coarse cereals, pulses and cotton in place of high water consuming traditional rice varieties.

4.7 The Commission gives due importance to cost of production as one of the determinants of minimum support prices. The all India weighted average cost of production of paddy for 2007-08 has been projected at Rs.439 on A_2+F_L basis and Rs.595 on C_2 basis. This means that the current level of MSP of fine variety of paddy fixed at Rs 610 per quintal covers the C_2 cost. Besides, the Government gave a bonus of Rs.40 per quintal. The existing MSP of maldandi jowar covers the all India weighted average A_2+F_L cost, but not the C_2 cost. Similarly, in the case of maize, bajra and ragi, the existing MSP does not cover their C_2 costs of production. The weighted average A_2+F_L cost of production of cotton projected at Rs.1528 is much lower than the current level of MSP of Rs.1990 for H4 variety, but C_2 cost is projected to be higher than the existing

MSP. As a matter of fact, the cost of production of cotton has come down in recent years in some states due to higher yields. But states like Maharashtra, Madhya Pradesh and Tamil Nadu continue to produce cotton at relatively very high costs. The costs of production of cotton in these states should be brought down through improved technology and management practices. In the case of kharif pulses, the existing MSPs do not cover their C_2 costs of production. The existing MSP of groundnut covers the weighted average C_2 cost. But in the case of other oilseed crops like soyabean, sunflower, sesamum, and nigerseed, their existing MSPs cover only A_2+F_L costs and not the C_2 costs. Similar is the situation with VFC tobacco. The C_2 cost of production of Rs.4001 per quintal of tobacco is much higher than the existing levels of MSP of Rs.3200 per quintal for black soil F_2 grade VFC tobacco and Rs.3400 per quintal for light soil L_2 grade VFC tobacco. Thus, based on C_2 cost-price comparison, there is no scope for increase in the MSP of paddy, but the weighted average C_2 cost of production of paddy has been projected to increase by Rs 26 per quintal this year and therefore, the MSP of paddy may have to be increased to cover this increase in cost. Besides, a bonus of Rs. 40 per quintal of paddy given last year would have to be absorbed so that the farmers are induced to adopt new technology and produce more rice, especially when the country's food security situation is precarious at present. Considering both costs of production and food security situation, the MSPs of coarse cereals and pulses would need to be substantially increased. Also, moderate increase in the MSPs of cotton, oilseeds and tobacco may be justified by their high costs of production. However, while suggesting increases in the minimum support prices of coarse cereals, pulses, oilseeds and cotton, the Commission would also make a point that government should give top priority to production of these crops in a cost effective manner through appropriate research and extension support.

4.8 Thus, considering all the 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 the minimum support prices for various kharif crops for 2007-08 season be fixed as under:

Commodity	**Variety**	**Quality**	**Minimum Support Price (Rs per quintal)**
Paddy	Common	FAQ	645
	Grade-A	"	675
	Basmati	"	1120
Jowar	Hybrid	-	"	600
	Maldandi	-	"	620
Bajra		-	"	600
Maize		-	"	620
Ragi		-	"	600
Tur (Arhar)		-	"	1550
Moong		-	"	1700
Urad		-	"	1700
Groundnut-in-shell		-	"	1550
Soyabean	Black		"	910
	Yellow		"	1050
Sunflowerseed		-	"	1510
Sesamum		-	"	1580
Nigerseed		-	"	1240
Cotton (Kapas)	Medium Staple Length		"	1800
	Long Staple Length		"	2030
VFC Tobacco				
Black soil	F_2 grade		"	3400
Light soil	L_2 grade		"	3600

The Commission further recommends that:

i) ***the prices for different varietal groups of rice be derived from the minimum support prices of paddy on the basis of hulling/milling ratios as well as the processing and incidental charges obtaining in different states***;

ii) ***the MSP recommended for Medium Staple Length relates to F-414/H-777/J-34 variety of kapas with technical parameters of Basic Staple Length (2.5% span) of 24.5 mm and Micronaire Value 3.8 – 4.8***;

iii) ***the MSP recommended for Long Staple Length relates to H-4/H–6 variety of kapas with technical parameters of Basic Staple Length (2.5% span) of 28.0 mm and Micronaire Value 3.6 – 4.5*** ;

iv) ***the prices of varieties grown in different states, other than those mentioned in (ii) and (iii) above, in the groups of Short, Medium, Long and Extra Long Cotton (Kapas) be fixed keeping in view the normal market price differentials between Medium Staple Length (F-414/ H-777/ J-34 with technical parameters of Basic Staple Length of 24.5 mm and Micronaire Value 3.8 – 4.8); Long Staple Length (H - 4 / H - 6 with technical parameters of Basic Staple Length of 28.0 mm and Micronaire Value 3.6 – 4.5) and other varieties and technical parameters;***

v) ***the prices of grades other than F_2 VFC tobacco grown on black soils be fixed keeping in view the normal market price differentials between F_2 and other grades***;

vi) ***the prices of grades other than L_2 VFC tobacco grown on light soils be fixed keeping in view the normal market price differentials between L_2 and other grades***;

vii) ***the strategies of food procurement and distribution by FCI and its designated agencies should be attuned to the emerging market scenario with the focus on expanding operations in non-traditional areas and bringing coarse cereals, as supplement, to their operations for enhancing food security***;
(Para 1.4)

viii) ***Government should step up public investment and credit disbursement to agriculture substantially, along with measures for improvement in resource use efficiency***;
(Para 1.10)

ix) ***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 1.11)

x) ***Government should 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 environment protection***; (Para 1.12)

xi) ***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 1.13)

xii) ***all states must be considered on equal traction while implementing relaxations in quality norms on grounds of fairness and equity;*** (Para 2.4)

xiii) ***Government should address the issues of dissimilarity in taxes, levies, marketing laws and movement of grains among states to create a single market for agricultural produce in the country;*** (Para 2.5)

xv) ***the Department of Food and Public Distribution should make a state-wise evaluation of the working of decentralized procurement for removal of operational hitches and smoothening the procurement operations***; (Para 2.11)

xv) ***Government may consider announcing separate MSP for basmati paddy with proper geographical indications in addition to MSPs for Common and Grade 'A' varieties of Paddy and accordingly put in place a system to defend the same in the market***; (Para 2.13)

xvi) ***Government should review the existing procurement/price support operations of oilseeds and make proper marketing arrangements to ensure that the oilseeds crop of the farmers is fully protected against price uncertainty***; (Para 2.77)

xvii) ***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 2.89)

xviii) ***the Technology Mission on Oilseeds & Pulses should examine the suggestion of the oil industry to declare cultivation of oil palm as plantation and allow the public and private enterprises to enter in this field and make suitable recommendations to the Government in this regard;*** (Para 2.90)

xix) ***the Directorate of Economics and Statistics in consultation with the Textile Commissioner should reconcile the production estimates of cotton and a single series of the same be arrived at, with effect from the next kharif season 2007-08****;* and (Para 2.108)

xx) ***Government in collaboration with ICAR Institutes should make serious efforts to raise the domestic production of Extra Long Staple (ELS) cotton both through area expansion under the existing types and by developing new varieties of ELS cotton, so as to increase the income of farming communities and to achieve self-sufficiency.*** (Para 2.115)

(T. HAQUE)
CHAIRMAN

(K. PONNUKANNU)	**(M.S. GREWAL)**	**(V.M. JADHAV)**
MEMBER	**MEMBER**	**MEMBER**

(K.G. RADHAKRISHNAN)
MEMBER SECRETARY

MARCH 13, 2007