

COMMISSION FOR AGRICULTURAL COSTS AND PRICES

REPORT ON PRICE POLICY FOR KHARIF CROPS OF 2005-2006 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 2005-2006 Season. The Commission recommends that

the minimum support prices for the kharif crops of 2005-2006 season be fixed at the following levels:

Commodity	Variety	Quality	Minimum Support Price (Rs per quintal)
Paddy	Common	FAQ	560
	Grade-A	"	600
Jowar	-	"	525
Bajra	-	"	525
Maize	-	"	540
Ragi	-	"	525
Tur (Arhar)	-	"	1400
Moong	-	"	1520
Urad	-	"	1520
Groundnut-in-shell	-	"	1520
Soyabean	Yellow	"	1010
	Black	"	900
Sunflowerseed	-	"	1500
Sesamum	-	"	1550
Nigerseed	-	"	1200
Cotton (Kapas)	F-414/H-777/J-34	"	1760
	H-4	"	1980
VFC Tobacco			
Black soil	F ₂ grade	"	3400
Light soil	L ₂ grade	"	3600

(Para 4.6)

The Commission further recommends that:

- 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;*
- the MSP recommended for F-414/H-777/J-34 variety of kapas be made applicable only for Rajasthan;*
- the prices of F-414/H-777/J-34 grown in Haryana and Punjab be fixed keeping in view the respective quality differentials vis-a-vis Rajasthan obtaining in these states;*
- the prices of varieties other than those in the group of long and superior long cotton be fixed keeping in view the normal market price differentials between F-414/H-777/J-34 and other varieties;*

- v) *the prices of varieties other than H-4 in the group of long and superior long cotton be fixed keeping in view the normal market price differentials between H-4 and other varieties;*
- vi) *the prices of grades other than F₂ VFC tobacco grown on black soils be fixed keeping in view the normal market price differentials between F₂ and other grades;*
- vii) *the prices of grades other than L₂ VFC tobacco grown on light soils be fixed keeping in view the normal market price differentials between L₂ and other grades;*
- viii) *Government should formulate an appropriate, albeit integrated policy for surplus management and trade of agricultural produce and putting in place flexible options for insulating domestic prices from international volatility, besides appropriate instrument for promoting trade of domestic surpluses;* (Para 1.6)
- ix) *decentralized procurement in newly emerging surplus states, particularly in Eastern India, needs to be made more effective, efficient and streamlined not only to reduce the transaction and distribution costs but also to bring the element of equity in safeguarding the interest of farmers;* (Para 1.7)
- x) *there should be a comprehensive review of seed management in the country covering research, seed multiplication, distribution, quality assurance and knowledge dissemination and putting in place proper seed supply system in the mode of public-private participation;* (Para 1.8)
- xi) *the issues of credit, input delivery and associated risk in farming should be addressed in a holistic manner and multiplicity of institutions involved in delivering these services at the grass root level be minimized. The delivery of these services should be streamlined so that procedural hassles do not act as de-motivator for farmers;* (Para 1.9)
- xii) *high priority be attached to address the issues of food safety and food quality. There is urgent need to bring all the dimensions of market access both of tariff and non tariff nature under unified umbrella. Further, the information on various SPS conditions on different products be consolidated and disseminated for the knowledge of all stakeholders;* (Para 1.10)
- xiii) *India should not deviate from its negotiating stand in WTO that the reform process can not be carried forward on the firm commitments of market access alone without bringing meaningful and effective disciplines on all kinds of trade distorting domestic support by developed countries. Since, for developing countries, tariff is the only means of protection from unabated domestic support given by developed countries, India's negotiating posture on market access issues should match the unrelenting posture of developed countries on domestic support. The provisions of Special and Differential treatments for developing countries should be effective and not mere expressions of best endeavour;* (Para 1.11)
- xiv) *Government should take utmost care and examine all pros and cons while considering the agricultural commodities in the FTAs and in bilateral and regional trade liberalization agreements;* (Para 1.12)

- xv) *the Central Government should take necessary steps to remove all apprehensions on the part of state governments about various marketing reforms, as contained in the Model Agriculture Produce Marketing Act and also provide institutional support to ensure that farmers are not unduly exploited in the process of implementation of any such reforms;* (Para a 2.7)
- xvi) *reiterates its recommendation made in its report for rabi crops of 2000-2001 that state governments should reduce statutory charges on purchase of cereals to a combined maximum of 4 per cent, including all taxes and cesses, mandi charges and payments to commission agents;* (Para 2.8)
- xvii) *state governments should refrain from taxing primary products brought in or taken out of the states by agencies designated to undertake minimum support operations;* (Para 2.8)
- xviii) *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 smooth operations of procurement;* (Para 2.13)
- xix) *the Government may consider announcing separate MSP for durum wheat and basmati paddy in addition to MSPs for common wheat and common variety and Grade 'A' Paddy and accordingly put in place a system to defend the same in the market;* (Para 2.14)
- xix) *the existing mechanism of price support and public distribution system should continue and be made more efficient to meet food requirements of Indian population from domestic production. Also the PDS should be strengthened in Eastern and Central regions where there is high concentration of poor people and yet the off-take is relatively low;* (Para 2.17)
- xxi) *Government should periodically review FAQ norms for all the commodities, and standardize the relaxation procedures so as to avoid ad-hocism and also give wide publicity of these norms and relaxations thereof, so that farmers take due care of the crop at various stages and reduce the incidences of rejection by the procurement agencies on quality consideration.* (Para 2.61)
- xxii) *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;* (Para 2.67)
- xxiii) *the Government may formulate an appropriate strategy to exploit the available potential of secondary sources of oil to enhance availability of edible oils in the country;* (Para 2.79)

- xxiv) *the Technology Mission on Oilseeds & Pulses may examine the suggestion of the oil industry to declare cultivation of oil palm as plantation and allow the public and private enterprisers to enter in this field and make suitable recommendations to the Government in this regard;* (Para 2.81)
- xxv) *the Government should examine the feasibility of creating a buffer stock in cotton to streamline the supply management and protect the interests of the farmers from fluctuating market prices;* (Para 2.100)
- xxvi) *both CCI and NAFED should be equipped with adequate resources and infrastructure not only for procurement of cotton but also for trading in domestic and international market;* (Para 2.100)
- xxvii) *some of the fundamental problems of cotton economy such as low productivity, high costs of production, non-availability of pest and disease resistant quality seeds and marketing bottlenecks need to be addressed on priority basis to make Indian cotton competitive in the world and to gain substantially in post MFA textiles regime;* (Para 2.104)
- xxviii) *the Government should set up a Core Group on Cotton with representation from farmers, State Government, Industry, Trade and Commercial Organization, procurement agency, etc. to meet periodically and comprehensively address the problems faced by the respective stakeholders;and* (Para 2.104)
- xxix) *the Government may examine the relevance of MSP in tobacco production vis-à-vis MGP and Auction Price and whether the tobacco production and pricing could be left to either market forces or to Tobacco Board.* (Para 2.114)

I. AN OVERVIEW

During the year 2004-05, Indian agriculture has been facing its inherent vulnerability to climatic aberrations and resultant imbalance between supply and demand. Though the year has not been free from erratic weather impinging the farm sector, it has simultaneously encountered the problem of supply management. After a normal monsoon during 2003 translating in good crop production, the year 2004 witnessed the overall monsoon rainfall deficiency of 13 per cent from the long period average (LPA). As a result, 13 out of 35 met sub-divisions were rain deficient. Out of 524 meteorological districts, 132 districts (25%) experienced moderate drought and 36 districts (7%) experienced severe drought at the end of the season. It has been further reported that the total storage level in the 73 major reservoirs across the country was only 96 per cent of the previous year's level (as on February 19, 2005), and was only 80 per cent of the average storage level during the last 10 years. Besides, unseasonal rain in Tamil Nadu in the month of February have hit the samba (winter) rice crop in many districts, while hailstorm has hit wheat and other crops in parts of Punjab, Haryana, Rajasthan, Uttaranchal and Uttar Pradesh. The emerging production scenario is turning out to be the mixed bag of high and low levels of production of different agricultural commodities.

1.2 According to the Second Advance Estimate of agricultural production (Directorate of Economics and Statistics, Department of Agriculture and Cooperation, 19th January, 2005), total foodgrain production during 2004-05 is expected to be 206.39 million tonnes, a decline of 3.3 per cent from the record production of 213.46 million tonnes achieved last year. As expected, the major impact of incremental weather is borne by Kharif crops. The Kharif foodgrains production is poised to slide by about 14 million tonnes to 102.94 million tonnes during this year. Though the estimated total rice production of 87.80 million tonnes may be close to last year's production of 88.28 million tonnes and wheat production may marginally improve to 73.03 million tonnes from 72.11 million tonnes produced last year, the production of coarse cereals and total pulses is likely to fall from record 38.12 million tonnes and 14.94 million tonnes respectively in 2003-04 to 31.88 million tonnes and 13.67 million tonnes respectively during 2004-05. This decline is mainly attributed to bajra and Kharif pulses other than tur. The production of these crops declined during 2004-05 by about 47 per cent and 27 per cent from the respective record production of 11.79 million tonnes and 3.90 million tonnes achieved during 2003-04. The overall oilseeds production is expected to be relatively less impacted and the likely production during 2004-05 is pegged at 24.82 million tonnes, marginally lower than the record production of 25.29 million tonnes in 2003-04. But the impact of weather on Kharif oilseeds production was evident as it declined to 14.76 million tonnes in 2004-05 from 16.77 million tonnes in 2003-04 mainly on account of Kharif groundnut. Like foodgrains, the performance of oilseeds in rabi season is poised to sustain the domestic supply with the production expected to breach 10 million tonnes mark for the first time. In this mixed production performance, the crop that is likely to post new landmark is cotton. Responding to the market signals of favorable price regime of previous year, the cotton farming has demonstrated its zeal to embrace BT in a big way with much larger area coverage. The official estimate of 17.07 million bales of cotton production, during 2004-05 is 23 per cent more than last year's production of 13.87 million bales and 14 per cent more than the target of 15.00 million bales set for the year. The impressive performance of cotton production, however, has brought in its wake the problem of management of surplus supply and in turn safeguarding the interest of the farmers due to sharp decline in market prices.

1.3 During 2003-04, the procurement of rice by FCI and State Agencies stood at 22.83 million tonnes. However, the procurement of wheat in the corresponding period was at the moderate level of 15.8 million tonnes. The rice procurement during 2004-05 (as on 25.02.05) remained upbeat with 17.94 million tonnes already procured as compared to 16.38 million tonnes procured in the corresponding

period in 2003-04. Nearly one-third of the total procurement of rice has come through the levy route. This channel of procurement is generally prevalent in the States opting for decentralized procurement. Since the transactions under levy procurement of rice are secondary in nature, there is a need to ensure that during their primary transactions, farmers get the MSP for paddy. The wheat procurement during the current marketing season has also improved to 16.80 million tonnes. The stock of foodgrains at the commencement of 2005 stood at 21.7 million tonnes comprising 12.8 million tonnes of rice and 8.9 million tonnes of wheat. Though, the present stock position is lowest in the past seven years but it remains more than the buffer norms of 16.8 million tonnes comprising 8.4 million tonnes each for rice and wheat. The moderate stocks is due to improvement in the off-take of foodgrains from the Central Pool in recent years. During 2003-04, the off-take of rice was 25.04 million tonnes, as against 24.85 million tonnes during 2002-03 and 15.31 million tonnes during 2001-02. The off-take of wheat during 2003-04 was 24.3 million tonnes, close to that of 25.0 million tonnes in 2002-03, but significantly higher than 16.0 million tonnes offtake during 2001-02. During the current year, about 16 million tonnes of rice and 12.8 million tonnes of wheat already have been lifted.

1.4 Owing to general ease on supply front, the market for agricultural commodities during 2003-04 and in 2004-05 remained non inflationary. The average wholesale price index (WPI – Base 1993-94) for agricultural commodities for the period April to January, 2004-05 rose by 2.6 per cent as compared to 6.7 per cent for all commodities for the corresponding period last year. In spite of bumper domestic supply of oilseeds during 2003-04 followed by normal production in 2004-05, its prices were relatively more volatile with rise of 3.2 per cent in average WPI. The prices of cereals in general remained stable with average WPI registering a modest rise of 0.6 per cent. The prices of pulses however, succumbed to supply pressure in second consecutive year and during 2004-05, average WPI dropped by 0.89 per cent for the period ending January, 2005. This trend, contrary to the inflationary trend existing prior to 2003-04, pushed the prices below MSP and in turn necessitated procurement at minimum support prices. In the case of cotton however, the declining trend in prices had assumed alarming proportion. The WPI at the end of marketing season in October, as already dived by more than 20 per cent from the previous years and setting aside the buoyancy of previous year, it is apprehended to touch its lowest level in recent years. The depressive cotton market, resulting mainly from increased supply and inadequate procurement operations by CCI, has given a wrong signal to the farmers. It is also a cause for concern to agricultural policy makers. The Commission feels that a sound policy framework and its effective operationalisation assumes as much importance for managing the surpluses, as for increasing the production. In the recent years, the pressure of supply on the market has been more intense, due to augmentation of domestic production of certain commodities and also due to liberal trade regime. Even in the case of rice and wheat, for which market support mechanism over the years had developed albeit in iniquitous manner, managing the surplus to safeguard the farmer's interest on price front was far from satisfactory. Vulnerability of producer at the receiving end of the non remunerative price is an increasingly recurring phenomenon. The farmer's plight is compounded due to his inaccessibility to correct signals on emerging supply-demand dynamics.

1.5 The softness of domestic prices are generally consistent with the trend of international prices. The year 2005 opened with recessionary note for several agricultural commodities in the international market. The moderate buoyancy in early half of 2004 that witnessed the index of international commodity prices (source IMF) for food items climbing to 105.6 from 86.6 in 2003 and 81.8 in 2002 appears to be short lived as the index has fallen to 93.3 in the last quarter of 2004. While the price index for rice in January 2005 at 89.9 tried to regain some ground from extreme low levels of 59.8 and 62.2 in 2002 and 2003 respectively, the index for wheat, maize, cotton, oilseeds and edible oils dropped sharply during 2004. Due to sharp slide by 26 per cent and 33 per cent from January 04 to

January 05, the respective price indices of palm oil and cotton at 64.5 and 52.1 were at their lowest level in recent years.

1.6 An equally disquieting trend was observed in the case of agricultural trade performance. The share of agricultural exports in total national exports has been gradually declining, while that of imports has shown a rising trend. During 2003-04 agricultural exports was only 12.65 percent of total national exports, substantially lower than 20.33 percent in 1996-97. But the share of agricultural imports in total imports remained robust at 6.19 percent. The agricultural imports in rupee terms registered an annual increase of 24.3 percent during 2003-04 over 2002-03 where as the corresponding increase in agricultural exports was only 6.8 per cent. The rice export, after touching the record 5.06 million tonnes in 2002-03, declined to 3.41 million tonnes in 2003-04. This decelerating trend persisted in the first half of 2004-05. During the current year, the basmati exports has been increased compared to last year. The wheat export trend this year marginal declined the level of 2003-04, when total export peaked at 4.61 million tonnes. The positive feature of agricultural exports is the emerging export performance of maize. During first four months of the current year, 0.7 million tonnes of maize has already been exported which is higher than total annual exports of maize in the past. On the other hand, imports of edible oil and pulses, the two commodity groups accounting for nearly two third of total agri-imports, remained large. The imports of edible oil registered a new peak of 5.3 million tonnes during 2003-04 and that of pulses also remained high at 1.7 million tonnes. The trend is sustained in the year 2004-05 (April – July) also. Given the general depression in the international prices, vulnerability of domestic market from such import surges remains high. In fact, the market scenario is far more complex now than it used to be a few years back. Although, the domestic market is integrating horizontally, but its backward linkage to production system remains antiquated. Also the forward integration of market with rest of the world is placing domestic production system at the receiving end of competition from advanced production systems empowered by huge subsidies in developed countries. The impact of strengthened rupee on the competitiveness of India agriculture is also not ruled out. What appears to be seriously lacking in the domestic agricultural system is a framework of policy with flexible options, to take care of domestic production surpluses and its trade interest. Therefore, the Commission recommends that ***Government should formulate an appropriate, albeit integrated policy for surplus management and trade of agricultural produce and putting in place flexible options for insulating domestic prices from international volatility, besides appropriate instrument for promoting trade of domestic surpluses.***

1.7 The issue of subsidies to different sectors including the farm sector has occupied central stage of current debate, as indicated in the Report on Central Government Subsidies in India (December 2004, Ministry of Finance, Government of India). Expressing the concern on Food Subsidy, which has touched the level of 0.98 per cent of GDP in 2002-03, the aforesaid report stated, “*The rapid increase in food subsidy in recent years is attributable to what is called the ‘economic cost’ of foodgrains, which include the minimum support prices paid to farmers in the procurement process.*” (Para III.1). The said report further gives an impression, albeit wrongly that the MSP is the major cause for rising food subsidies. In this context, it should be noted that the economic cost of procurement operation has three main components viz., MSP (i.e. the payment received by the farmers), procurement incidentals and distribution cost. The later two are the cash flows to individuals and institutions engaged in food management, out side the farm sector. These add on factors of economic cost are increasing over the years far more rapidly. While the MSP of wheat and paddy increased by 1.61 per cent and 1.87 per cent per annum during 2002-03 to 2004-05, the per quintal add on factors in economic costs increased by 17.4 per cent and 9.0 per cent per annum respectively for these crops in the corresponding period. Besides, the annual escalation in some of the factors of carrying cost per quintal, such as handling, storage and

administrative over heads had been rising at the rate of 26.3 per cent, 39.3 per cent, 10.7 per cent and 52.0 per cent per annum respectively. Various taxes and levies charged in market institutions in certain States on the primary transactions of agricultural commodities also were as high as 11.5 per cent, contributing to procurement incidentals in economic cost. The paradigm of efficiency in marketing and produce handling rests on reduction in transaction cost. The scope of pruning the procurement cost is evident for reducing the burden of food subsidies besides, improving efficiency and competitiveness of procured produce. Further, the decentralized procurement system also needs to be streamlined and aligned to local needs of TPDS by assigning greater flexibility and resources to the State designated agencies so that transaction costs for multiple handling of the procured produce for distribution can be saved. The Commission reiterates its recommendation that ***decentralized procurement in newly emerging surplus states, particularly in Eastern India, needs to be made more effective, efficient and streamlined not only to reduce the transaction and distribution costs but also to bring the element of equity in safeguarding the interest of farmers.***

1.8 The unabated farm subsidies in developed countries and mounted pressure on developing countries for tariff reduction have clouded the on going agricultural trade negotiations in WTO. Further, the reality of developing South and East Asian regional economic cooperation will be evolving the era of competitive coexistence. The inescapable route for agrarian development is the enhancement of competitiveness and consolidation of comparative advantage. This brings to focus the essence of market oriented research and technological development and its delivery to farmers. In this context, one important area of concern is the problem in seed sector, where gap between Lab and Land continues to persist, particularly in the case of oilseeds and pulses. Due to the gap in production of foundation seeds and subsequent seed multiplication, the problem of non availability of quality seeds remains unaddressed. Many of the newly formed States do not even have seed corporations of their own. Also in the States where seed management was established over the years, the tendency of disposing of Seed Farms on the ground of their poor performance has further eroded the capability of seed programmes in the country. Even the available seed farms are reported to be functioning inefficiently. Down the line, the system of seed delivery and back up knowledge for seed application and replacement to the farmers is reported to be functioning in a manner far from satisfactory. Considering the paramount importance of quality seeds in enhancing cost competitiveness, the Commission recommends that ***there should be a comprehensive review of seed management in the country covering research, seed multiplication, distribution, quality assurance and knowledge dissemination and putting in place proper seed supply system in the mode of public-private participation.***

1.9 In recent years, the socio economic stress on the farming community in different parts of the country have culminated into bizarre consequences. The recurring drought and other incidences like pest attacks and spurious inputs have inflicted serious crop losses and financial burden on farming community. The unbearing circumstance, have forced several farmers to take extreme steps of committing suicide. Belying the general belief that such incidences have mainly occurred in non-cereal based arid farm economies in parts of peninsular India, these disturbing phenomenon have also surfaced in the relatively developed state like Punjab. The Commission undertook a rapid appraisal of ground realities and observed that the victims were generally small and marginal farmers, having high debt burden. The main reason for indebtedness was the compulsion to improve irrigation sources by digging deep bore wells. Even after accessing the water sources, the crops had not fared well due to poor quality of inputs and lack of power to irrigate the crops in time. The high share of non institutional credit had further choked their social and economic conditions. Unsupportive market dented their debt serving capabilities. These dark aspects of Indian agriculture aptly sum up the failure of farm support delivery and markets which are crucial for accelerated and diversified agricultural growth. Though it is heartening

to note that Government has targeted to improve the flow of institutional credit to farm economy substantially in the next two years, it is important to recognize that availability of credit alone may not be a remedy. If the availability of quality inputs namely seeds, pesticides, fertilizers and irrigation is not improved, farmers may not derive lasting gains from the easy credit. Already, the current production season is witnessing dislocation in the availability of fertilizer due to uncertainty in the input market on policy guidelines. Linked to the credit and associated issues of assured availability of quality inputs, the institutional role for risk management in agriculture also remains a grey area. Though the Government has taken several initiatives to revamp the national agricultural insurance scheme in the country and the macro indicators of insurance performance suggest that claim premium ratio is as high as 4:1 but the problem of farming risk in production and in the market still remains largely un-addressed. Considering the inter-linkages between credit, input delivery and associated risk in farming, the Commission recommends that ***the issues of credit, input delivery and associated risk in farming should be addressed in a holistic manner and multiplicity of institutions involved in delivering these services at the grass root level be minimized. The delivery of these services should be streamlined so that procedural hassles do not act as de-motivator for farmers.***

1.10 Forward looking Indian agricultural needs to be geared up for newer market realities and consumer concerns. The issue that has lately assumed great significance is that of food safety. Two main dimensions that need to be addressed seriously and expeditiously are (a) the porous and poor quality regime in the domestic market which makes it vulnerable to easy flow of inferior products from rest of the world, and (b) domestic production not meeting the Sanitary and Phyto-sanitary (SPS) conditions of consumption destination which will fail to gain market access. Both these dimensions have potential to cause aberrations in country's agricultural development strategy, domestic market and farm economy. In the similar context, the issue of pesticide residue in the various domestic agricultural produce has emerged as an area of concern. Interestingly, this problem has surfaced when the pesticide use in the country is much lower than several other countries. The reasons for this paradoxical state of affairs are mainly the lack of knowledge amongst the farmers for pesticide use, wide prevalence of spurious pesticides, weakness in surveillance and quality control system, absence of proper labeling on pesticide products and non sustainability of integrated pesticide management (IPM) programme amongst the farmers. Though at apex level the concern on these food safety issues has been expressed quite appropriately, the involvement of various departments and ministries and lack of proper coordination between them have been hampering the speedy redressal of issues and in providing specific policy and implementation strategy. At the same time, farmer's awareness on food safety and food quality issue is also negligible. The Commission recommends that ***high priority be attached to address the issues of food safety and food quality. There is urgent need to bring all the dimensions of market access both of tariff and non tariff nature under unified umbrella. Further, the information on various SPS conditions on different products be consolidated and disseminated for the knowledge of all stakeholders.***

1.11 It needs to be understood that in the era of globalization, the agricultural policies would require modulation for structural adjustment of domestic agrarian systems and emerging requirements of market integration. In this context, the year 2005 may also turn out to be a watershed for agriculture world-over, if the WTO members conclude their hectic efforts of on going negotiations on Agreement on Agriculture (AoA) by the next summit scheduled to be held in December, 2005 at Hongkong. Culmination of these negotiations, on implementation over next ten years or so will have far reaching consequences on agricultural policies and development strategies of all member countries. Several asymmetries and lacunae had already got exposed since the maiden initiation of AoA in 1995. Since the on going negotiations are endeavored for furthering the process of reforms in agricultural trade enshrined in the

preamble of AoA in accordance with the Article 20 of AoA envisaging that this process should take note of the experiences of implementation of agreement, the opportunity of correcting the course should not be lost in the outcome of the negotiations. It should be appreciated that due to ambiguous provisions of AoA in 1995, there has been no meaningful reduction in subsidies given to the respective agriculture by the developed countries. Rather the subsidies in such countries have increased. Taking the advantage of so called nomenclatures of minimal and less trade distorting domestic support, the reduction commitments of the agreement were very conveniently circumvented. Resultantly, the developed countries have been able to increase the unfair competitiveness for their farm produce. At the same time, the tariffs reduction commitments exposed the domestic production of developing agrarian economies like that of India to unfair competitions, breaching the vulnerability of large farm dependent population. Therefore, if the outcome of negotiation drill is unable to address the definitional laxity in the domestic support for meaningful reduction in subsidies and bringing checks on the scope of shuffling the subsidies away from reduction commitments then the prevailing distortions will earn credibility for further accentuation. It is felt that the framework of negotiation arrived at in July 2004 is not addressing this core area adequately. The framework, is more emphatic on market access issues seeking tariff reduction for furthering the reform process. In the long term perspective, the complacency that the framework is taking care of India's defensive interest may evaporate when the agreement will come up for further negotiation and the tariffs will be under further pressure for reduction, whereas the distorting domestic support would get firmly cemented. **Since there are strong inter-linkages between the three pillars of the agreement viz. market access, domestic support and export competition, the Commission expresses its concern on the ongoing process of negotiations and recommends that *India should not deviate from its negotiating stand in WTO that the reform process can not be carried forward on the firm commitments of market access alone without bringing meaningful and effective disciplines on all kinds of trade distorting domestic support by developed countries. Since, for developing countries, tariff is the only means of protection from unabated domestic support given by developed countries, India's negotiating posture on market access issues should match the unrelenting posture of developed countries on domestic support. The provisions of Special and Differential treatments for developing countries should be effective and not mere expressions of best endeavour.***

1.12 Besides, the international trade environment is witnessing significant changes due to liberalization through bilateral and regional agreements. In this process, a few Free Trade Agreements (FTAs) have already come into existence and more are likely to be signed in the future. There is a need to adopt utmost caution in consideration of agricultural commodities in the FTAs. Already, the ripples from FTA with Sri Lanka have been felt. It is learnt that investments being made for additional edible oil refining capabilities in Sri Lanka may increase the duty free edible oil imports in India, circumventing the provisions of rules of origin. The Commission recommends that ***Government should take utmost care and examine all pros and cons while considering the agricultural commodities in the FTAs and in bilateral and regional trade liberalization agreements.***

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

Minimum Support Price

The Commission submitted its Report on Price Policy for Kharif Crops of 2004-05 on April 23, 2004 recommending, *inter alia*, that the Minimum Support Prices (MSP) for fair average quality (FAQ) of various crops be fixed at the following levels.

(Rs.per quintal)				
Crop	Variety	MSP fixed by Government for 2003-04 Season	MSP recommended by CACP for 2004-05 Season	MSP fixed by Government for 2004-05 Season
1	2	3	4	5
Paddy	Common	550	560	560
Paddy	Grade 'A'	580	590	590
Jowar		505	515	515
Bajra		505	515	515
Maize		505	525	525
Ragi		505	515	515
Tur(Arhar)		1360	1390	1390
Moong		1370	1410	1410
Urad		1370	1410	1410
Groundnut-in-shell		1400	1500	1500

Soyabean	Yellow	930	1000	1000
Soyabean	Black	840	900	900
Sunflower-seed		1250	1340	1340
Sesamum		1485	1500	1500
Nigerseed		1155	1180	1180
Raw Cotton				
(Kapas)	F-414/ H-777/J-34	1725	1760	1760
Raw Cotton				
(Kapas)	H-4	1925	1960	1960
VFC Tobacco Black soil				
	F ₂ Grade	3100	3400	3200
VFC Tobacco Light soil				
	L ₂ Grade	3300	3600	3400

2.2 The Government announced the kharif price policy for cereals, pulses, oilseeds and raw cotton on August 10, 2004 fixing the MSPs at levels recommended by the Commission. Subsequently, the Textile Commissioner fixed the MSPs for different varieties of raw cotton on August 27, 2004 keeping in view the normal market price differentials and other relevant factors, namely staple length and micronaire value. The government announced its price policy for tobacco on 7 October, 2004 and fixed the MSP at Rs.3200 per quintal for F₂ grade and at Rs.3400 per quintal for L₂ grade. These prices were, however, lower than the prices recommended by the Commission.

Price Support Arrangements

2.3 The Government notified the uniform specifications of paddy, rice and coarse grains for the kharif marketing season 2004-05 on August 31, 2004. There was no major change in paddy specifications from what were notified in 2003-04. However, with a view to improve the quality of rice supplied under Public Distribution System (PDS) the limit of 10 per cent admixture of lower class in grade 'A' paddy and rice was reduced to 8 per cent in 2004-05. The maximum moisture limit was fixed at 17 per cent for paddy, 14 per cent for jowar, bajra and maize and 12 per cent for ragi. The Central Government also announced the levy prices of rice, common as well as grade A varieties in both raw and par-boiled form. However, following the requests from State governments, the Central Government allowed relaxation in respect of quality of paddy/rice procurement with certain value cut in the case of Madhya Pradesh, Orissa and Tamil Nadu. In case of Madhya Pradesh and Orissa, the relaxation allowed in respect of dried, sprouted and weevilled grain were upto a maximum of 4 percent and 5 percent respectively of the total procured grain. The moisture content for Tamil Nadu was raised to 20 per cent with full value cut. The Haryana government while seeking relaxation in specifications sought an allowance from 2 to 3 per cent for damaged grain because of un-seasonal rains but did not pursue the matter due to fear of imposition of a value cut.

2.4 The Central Government relaxed the standard quality norms in case of maize for Andhra Pradesh by allowing upto 2.5 percent damaged and 7 per cent shrivelled and immature grain with corresponding value cut.

2.5 The grains purchased under relaxed conditions generally deteriorate faster than FAQ grain. Since the quality of paddy/rice of the Kharif marketing season mostly meet the prescribed standards, its disposal may not pose any problem. However, the state may continue to face serious problems in

disposing of the coarse cereals. These grains are generally disposed off through tenders, but have to be auctioned if their quality deteriorates beyond normal standards. The procedure involved in clearing stocks of coarse cereals is quite time consuming. The state governments may be asked to procure these grains also for distribution through PDS in their respective states. In case the procuring states find some difficulty in their disposal, these grains may be sent to the neighboring states. A beginning was reportedly made in this respect in 2004-05. Maize procured by Karnataka government was dispatched to Gujarat for public distribution in tribal pockets of the state.

2.6 As a result of 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 dealers are free to 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 license. Though laxity in restrictions has facilitated the free movement of agricultural commodities, but has not helped farmers because marketing bye-laws in many states still require grains, fruits and vegetables to be channelised through designated mandies. Consequently, the restriction on entry of buyers in the market fails to produce the desired buoyancy.

2.7 The Central Government has prepared a Model Agriculture Produce Marketing Act to free the growers from many of these obligations and the state governments are being encouraged to adopt the Act in their respective states. However, some state governments apprehend that the Model Act contains radical reforms which could belittle the importance of mandies and lead to large retail stores/chains and companies exploiting farmers after making them a party to the loaded contracts. Some states also feel that they would lose important sources of revenue due to reduction of purchase tax, market fees etc. as indicated. The Commission recommends that ***the Central Government should take necessary steps to remove all apprehensions on the part of state governments about various marketing reforms, as***

contained in the Model Agriculture Produce Marketing Act and also provide institutional support to ensure that farmers are not unduly exploited in the process of implementation of any such reforms.

2.8 Some state governments like Punjab and Haryana impose various charges and taxes, which are added to the procurement cost. These taxes and levies account for 11.5 per cent of procurement price in Punjab and 10.5 per cent in Haryana. Besides, some state governments impose entry tax when paddy is brought to their states from other states for milling. The State like Rajasthan also imposes tax when edible oil extracted from oilseeds bought under MSP operations is taken out of the state. These taxes and levies are entirely passed on to Central government agencies when they take over the grain and oilseeds bought under MSP operations. The Commission ***reiterates its recommendation made in its report for rabi crops of 2000-2001 that state governments should reduce statutory charges on purchase of cereals to a combined maximum of 4 per cent, including all taxes and cesses, mandi charges and payments to commission agents.*** The Commission also recommends that **state governments should refrain from taxing primary products brought in or taken out of the states by agencies designated to undertake minimum support operations.**

Rice*

2.9 According to the Second Advance Estimate (19.01.2005) released by the Directorate of Economics and Statistics, the production of rice estimated at 87.80 million tonnes during 2004-05 is likely to show a marginal decline of about half a

* This section is focused on rice. However, for a comprehensive view of the

foodgrains situation, wheat situation is also discussed later in the section.

million tonnes over previous year's production of 88.28 million tonnes and a substantial decline of 5.44 million tonnes over the record production of 93.3 million tonnes achieved in 2001-02. The estimates received from states, indicate that the production increased in Andhra Pradesh by 1.6 per cent to 9.10 million tonnes, Chattisgarh by 4.6 per cent to 6.2 million tonnes, Punjab by 7.7 per cent to 10.4 million tonnes and Haryana by 6.9 per cent to 2.9 million tonnes and Tamil Nadu by 68.9 per cent to 5.4 million tonnes. As against this the production declined in Madhya Pradesh by 72 per cent to 5 lakh tonnes, Orissa by 1.3 per cent to 6.6 million tonnes, Uttar Pradesh by 19.4 per cent to 10.5 million tonnes and in West Bengal by 1.6 per cent to 14.4 million tonnes. Despite regional variations, production at the aggregate level maintained its long term tempo of growth. The compound annual growth rate of rice production at All India level was 1.15 per cent due to acreage expansion of 0.12 per cent and a yield enhancement of 1.03 per cent per annum during the period between 1990-91 and 2003-04. (Table

2.1)

2.10 The productivity of rice in the states of Punjab and Haryana has reached almost a plateau with near stagnant growth rates. The growth in yield recorded between 1990-91 and 2003-04 was 0.93 per cent for Punjab and 0.19 per cent for Haryana. However, area under rice increased both in Punjab and Haryana by 2.26 per cent and 3.52 per cent per annum respectively, due to assured price and market intervention. The increase in the area under paddy in these two states has become a cause of concern because paddy-wheat crop rotation which tends to deteriorate the soil health and also deplete ground-water, may pose a serious risk to sustainability of agriculture in the long run. The Commission being concerned about the emerging environmental, land degradation and water scarcity problems in Punjab and Haryana feels that the time has come to diversify agriculture in Punjab and Haryana from the existing paddy cultivation, which is a high water consuming crop to other crops. The states of eastern India including Assam, Bihar, Chattisgarh and Orissa are emerging surplus states despite having yields

much below the all India average. Compared to national average yield of 2077 kgs per hectare in 2003-04, the respective yields recorded in these states were 1534, 1516, 1455 and 1511 kgs per hectare. In view of the favorable agro-climatic conditions prevailing in these states, the main thrust should be on raising the productivity and making suitable arrangements for purchase, storage and milling for making support price operations more effective.

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

2.11 The market prices of rice remained subdued in 2004-05. The average index number of wholesale prices of rice for ten months (April-January 2005) at 167.8 showed a fall of 1.10 per cent over the corresponding period of last year, but stood firm at 168.4 in January 2005. During the post harvest months, the wholesale prices of paddy ruled below MSP in many states. For example against MSP of Rs.560 per quintal for common variety of paddy, it was sold in January 2005 at Rs.535 per quintal at Mainpuri, Rs.545 per quintal at Attara in December 2004 in Uttar Pradesh, Rs.515 per quintal at Sainthia, and Rs.540 per quintal at Bankura (West Bengal) in January 2005. As far as defending MSP is concerned, the states that 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 minimum support price operations.

(Table 2.14 &

Annexure – I)

Procurement

2.12 Procurement of rice recorded at 17.9 million tonnes during 2004-05 (as on February 25, 2005) was higher than 16.4 million tonnes procured in the

corresponding period of 2003-04. Maximum procurement of 8.7 million tonnes was made in Punjab followed by 2.2 million tonnes in Chattisgarh, 2.1 million tonnes in Uttar Pradesh, 1.7 million tonnes in Andhra Pradesh and 1.6 million tonnes in Haryana. In addition, purchases of paddy/rice were also made in Tamil Nadu, West Bengal, Maharashtra and Uttaranchal. (Table 2.8)

2.13 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 the states of Chattisgarh, Tamil Nadu, West Bengal, Madhya Pradesh, Uttar Pradesh and Uttaranchal. The perceived advantages of decentralized procurement were that it would avoid crisscross movement of grain and minimize the cost of transportation. Besides, the state governments would be vigilant in safeguarding MSP; and also the quality of procured grains would be suitable for the local tastes. However, the working of decentralized procurement in some states has not been satisfactory. The line of credit sanctioned from Reserve Bank of India operated through the consortium of banks is released in time to state governments, but the primary cooperative societies that undertake procurement at field level often face problems of liquidity. The expenses incurred on account of milling and interest payments after the procurement are reportedly not reimbursed promptly by the central government. The state governments also do not have the 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 smooth operations of procurement.***

2.14 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 are 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. The varieties like durum wheat and basmati rice generally are grown in distinct cropping conditions and have niche market. However sometimes, market prices of these superior variety of rice and wheat tend to get depressed which may require intervention by the government. Further, with the importance of international trade, the varieties need to be harmonized with the varietal specification of traded wheat and paddy (rice) for their exports. The Commission reviewed the aspect of varietal specifications for MSP of wheat and paddy and accordingly recommends that ***the Government may consider announcing separate MSP for durum wheat and basmati paddy in addition to MSPs for common wheat and common variety and Grade 'A' Paddy and accordingly put in place a system to defend the same in the market.***

Offtake

2.15 Total offtake of foodgrains in 2004-05 (upto December, 2004) rose to a level of 28.73 million tonnes. Of this, the respective offtake of rice and wheat was 15.97 million tonnes and 12.76 million tonnes. Compared to last year, the offtake of rice was lower by 3 million tonnes and that of wheat by 5.5 million tonnes. The offtake of rice was 11.5 million tonnes under TPDS and 4.4 million tonnes under other schemes. The various measures taken by the government to monitor offtake of food grains include:-

- (a) Increase monthly scale of issue under the PDS to 35 kg per family w.e.f. April 2002;
- (b) Freeze the Central Issue Prices (CIP) of foodgrains for BPL and APL families at the levels of July 2000 and July 2002 respectively;

- (c) Implementation of the foodgrains based Sampoorna Gramin Rojgar Yojana (SGRY);
- (d) Allocation of foodgrains under the Food for Work and the special component of the SGRY programme;
- (e) Expand the scope of Antyodaya Anna Yojana to cover an additional 100 lakh BPL families; and
- (f) Discontinue the practice of permitting export of foodgrains from governments stocks.
- (g) Continue the open market sale of stock of wheat and rice.

(Table 2.11)

2.16 The current scenario of moderate procurement and relatively high offtake indicates a change in situation from the one that prevailed three years ago. The view held at that time was that the existing mechanism of announcing minimum support prices backed by government agencies undertaking procurement for government should be dismantled as it was causing excess production and procurement resulting in excess burden on Government for holding unnecessary stocks. The alternative policy prescription that followed called for disbanding the existing institutional mechanism and replacing it by a farm income insurance scheme. However, the Commission is not sure whether the alternative policy would be economically more viable and sustainable. Similarly, the prevailing public distribution system is being criticized and some wings of the Government are examining certain alternatives such as providing food stamps in place of

physical transfer of grain. The Commission **is in favour of a detailed evaluation of these alternatives before implementing them.**

2.17 As large number of persons depend on agriculture for their livelihood and can't bear the market shocks, the Commission feels that **the existing mechanism of price support and public distribution system should continue and be made more efficient to meet food requirements of Indian population from domestic production. Also the PDS should be strengthened in Eastern and Central regions where there is high concentration of poor people and yet the off-take is relatively low.**

Stocks

2.18 The stocks of rice and wheat, which reached a record high level of 64.7 million tonnes (23.4 million tonnes of rice and 41.3 million tonnes of wheat) on June 1, 2002, came down to 20.3 million tonnes on 1st October, 2004. Following procurement of paddy/rice during kharif 2004, the level of stocks went up to 21.7 million tonnes (12.8 million tonnes of rice and 8.9 million tonnes of wheat) on 1st January, 2005 as compared to 11.7 million tonnes of rice and 12.7 million tonnes of wheat as on 1st January, 2004. The likely stock of rice estimated at 16.6 million tonnes as on April 1, 2005 has been marginally higher than the stipulated buffer norm of 11.8 million tonnes. Similar is the case of wheat where the official stock estimated at 4.63 million tonnes is higher than the buffer norm of 4.0 million tonnes as on April 1, 2005, as can be seen from the table below:

Projected Stocks in the Central Pool

(Million Tonnes)

	Rice	Wheat
Official Stock as on 1 st January 2005 (Rounded off)	12.76	8.93
Likely Procurement during January-March 2005	9.10	0.00
Likely Offtake during January-March 2005	5.29	4.30
Likely Stock as on 01.04.05	16.57	4.63
Likely Procurement 2005-06	20.00	18.00
Likely Offtake 2005-06	21.29	17.00
Likely Stock as on 01.04.06	15.28	5.63

Buffer Norm requirement for 1st April, 2005

11.80 4.00

Demand and Supply

2.19 Based on data of average consumption of rice and wheat as revealed in the 55th Round of NSS (1999-2000) and using Population Census (2001) data for extrapolating growth of population with annual growth rate of 1.9 per cent, consumption demand for rice and wheat has been broadly worked out as given in the table below.

Annual consumption

(Million Tonnes)

	Per Person							* : We igh ted ave rage of rur al and urb an con sump
	Per Month		2001-02	2002-03	2003-04	2004-05	2005-06	
	Consumption (Kg.)*							
	Rural	Urban						
Population (Million)	-		1047	1066	1086	1106	1127	
Rice	6.75	5.21	80.49	81.95	83.49	85.03	86.64	
Wheat	4.49	4.76	58.16	59.21	60.33	61.44	62.60	

tion with respective population size as weights.

Source : NSS- 55th Round (1999-2000)

2.20 The above calculations seem to inflate the consumption data as the growth in demand for cereals is likely to be lower than the growth in population. At the same time, it needs to be mentioned that NSS consumption data does not account for non-household consumption. Accordingly, the demand for rice is estimated at 86.64 million tonnes and wheat at 62.60 million tonnes in 2005-06.

2.21 Based on the projections made earlier and data on gross production, the situation that emerges in respect of overall supply of rice and wheat during the fiscal year 2005-06 is presented below alongwith corresponding data for the preceding three years:

Domestic Rice Situation				
	(Million Tonnes)			
Crop Year (July-June)	2001-02	2002-03	2003-04	2004-05
Fiscal Year (April-March)	2002-03	2003-04	2004-05	2005-06
				Projected
1. Gross Production	93.34	72.66	88.28	87.80
2. Net Production	81.67	63.58	77.25	76.83
(87.5% of Gross Production)				
3. Procurement	22.13	16.42	22.83	20.00#
	24.85	25.04	21.42	21.29

4. Offtake FY of which				
(a) Export Sale	5.06	3.41	1.50#	1.00#
(b) Open Sale	0.40	0.39	0.40	0.10
5. Addition to Stock (3-4)	-2.72	-8.62	1.41	-1.29
6. Supply (Gross)				
[2-3+4-4(a)]or[2-5-4(a)]	79.33	68.79	74.34	77.12
7. Basmati Export	0.71	0.77	0.60	0.60
8. Supply (Net) [6-7]	78.62	68.02	73.74	76.52
9. Average Stock in excess of Buffer Norm*	11.32	2.10	1.12	1.50
10. Supply Potential (8+9)	89.94	70.12	74.86	78.02
11. WPI (1993-94=100)	166.00	168.80	167.80	

: Anticipated figures.

* : This is defined as an average of actual stock minus as average of buffer norms at four points of time, namely, 1st April, 1st July, 1st October and 1st January. This is perceived by the market not as a dead stock but as A source of potential supply, which tends to weigh down speculative expectations about rising prices.

Source : Food Bulletin, January, 2005, DGCIS and FCI

Domestic Wheat Situation

(Million Tonnes)

Crop Year (July-June)	2001-02	2002-03	2003-04	2004-05
Fiscal Year (April-March)	2002-03	2003-04	2004-05	2005-06
1. Gross Production	72.77	65.76	72.11	73.03
2. Net Production	63.67	57.54	63.10	63.90
(87.5% of Gross Production)				
3. Procurement	19.06	15.80	16.80	18.00
4. Offtake (FY of which	24.99	24.29	17.01	17.00
(a) Export Sale	3.67	4.07	1.50#	1.50#

(b) Open Sale	5.27	0.93	0.16	1.00
5. Addition to Stock (3-4)	-5.93	-8.49	-0.21	1.00
6. Supply (Gross)				
[2-3+4-4(a)]or[2-5-4(a)]	65.93	61.96	61.81	61.40
7. Average Stock in excess of Buffer Norm*	23.32	8.16	12.00	2.73
8. Supply Potential (6+7)	89.25	70.12	73.81	64.13
9. WPI (1993-94=100)	175.70	181.40	183.30	

: Anticipated figures.

* : This is defined as an average of actual stock minus as average of buffer norms at four points of time, namely, 1st April, 1st July, 1st October and 1st January. This is perceived by the market not as a dead stock but as a source of potential supply, which tends to weigh down speculative expectations about rising prices.

Source : Food Bulletin-January 2005, DGCIS and FCI

2.22 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 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 2005-06 but still fall short of demand. This may cause some rise in prices of rice. The scenario is entirely different for wheat. The net availability of wheat even during the drought year of 2002-03 was in excess of household consumption demand and is likely to remain so in 2004-05 and 2005-06.

Trade Prospects

2.23 Based on FAO data base (Food Outlook December 2004), the world rice production estimated at 408 million tonnes in 2004-05 is higher than previous year's production by about 18.8 million tonnes. Global trade at 26.1 million tonnes in 2004 is forecast to contract in 2005 to a level of 25.2 million tonnes. The contraction is due to supply constraints in some of the major exporting countries especially Thailand, India and Uruguay. The expected export of 1.9 million tonnes of rice from India in 2005 would consist mainly of basmati and par boiled rice. The overall increase in exports is anticipated from China, Pakistan, United States, Vietnam and Egypt.

2.24 On the demand side, export of rice is predicted to increase EU and Africa. The EU is expected to import about 1.0 million tonnes. The other importers will include Brazil, China, Iran, Philippines and USA.

2.25 FAO's forecast for global rice stocks at the close of 2004 is 99 million tonnes. However, the year end stocks being less than the opening level by 4 million tonnes would represent a decline in stocks for the fifth consecutive year.

World (Milled Situation)

(Million tonnes)

2002-03 2003-04 2004-05 forecast

1. Production @	382.0	389.4	408.2
2. Exports*	27.7	26.1	25.2
3. Utilisation	406.1	406.9	412.2
4. Carryover Stocks**	118.5	102.9	98.8

Main Exporters \$

1. Opening Stock	93.0	83.3	68.3
2. Production	172.5	163.6	180.5
3. Imports	0.9	1.4	0.9
4. Supply(1+2+3)	266.0	248.3	249.7
5. Domestic Use	162.8	159.8	162.7
6. Exports	19.9	20.1	19.7
7. Closing Stocks	83.3	68.3	67.3

@ : Data refer to the calendar year of the first year shown.

* : Trade in rice refers to the calendar year of the second
year shown 2002, 2003 (estimated) & 2004 (forecast)

** : Crop year ending in the year 2002,2003(estimated) & 2004 (forecast)

\$: Includes US, Thailand, China, Pakistan and Vietnam.

Source : FAO, Food Outlook, December, 2004.

2.26 Despite lower global supplies of rice, particularly that of the major exporting countries, prices remained depressed. There were, however, signs of a turn around at the end of the year. Based on FAO's data base, world reference price of rice (Thai 35 per cent broken) stood at \$210 per tonne in quarter October-December 2004 compared to \$159 per tonne in the

corresponding quarter of 2003. It may be recalled that the world reference price of rice showed a continuous declining trend during later half of nineties and calendar 2001. Thereafter, it had shown some recovery and the reference price in December 2004 stood at \$257.3 per tonne. The prices are likely to firm up in 2005 due to lower carry over stocks.

Coarse Cereals

2.27 According to the Second Advance Estimates (as on 19/1/05) the production of Kharif coarse cereals during 2004-05 is estimated at 24.6 million tonnes and the total production of coarse cereals of 31.88 million tonnes for the year. Production in 2004-05 was 6.25 million tonnes lower than that in 2003-04. The maximum production of 13.58 million tonnes of maize was followed by jowar 7.53 million tonnes, bajra 6.46 million tonnes and ragi 2.45 million tonnes. With less than 8 percent of area under irrigation, coarse cereals like jowar, bajra and ragi are completely dependent on the vagaries of the weather. The lower production of coarse cereals in 2004-05 kharif was due to a prolonged break in the monsoon in July. The production of jowar and ragi in 2004-05 showed a respective increase of 5.17 per cent and 21.29 per cent over the previous year. During the same period the production of bajra and maize declined by 46.70 per cent and 9.04 per cent respectively. (Table 2.1)

2.28 Among coarse cereals only maize exhibited a positive trend in growth with the acreage under irrigation also showing an increase. On the demand side, coarse cereals as a group suffer from chronic deficiency in demand vis-à-vis supplies. 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. Successive NSS surveys have shown that people are eating lesser and lesser quantities of coarse cereals. Even poor people have changed 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. There is no evidence of rising demand for coarse cereals as animal feed. Further, there is

also no export demand, except that of maize, due to their lack of price competitiveness. The future sustainability of coarse grains production lies in expanding both direct and indirect consumption in the form of fodder, processed foods and beverages as well as increased industrial consumption. The position with regard to individual coarse cereals is illustrated below:

Jowar

2.29 Production of jowar in kharif 2004-05 estimated at 3.94 million tonnes (19/1/2005) is significantly lower than the production of 4.9 million tonnes achieved in 2003-04. The total production of 7.16 million tonnes in 2003-04 was 2.22 million tonnes lower than the peak production of 9.38 million tonnes achieved in 1992-93. During the period between 1990-91 and 2003-04, production of jowar decelerated sharply by 3.55 percent per annum as compared to a slower decline of 0.87 per cent per annum observed during the eighties. The decline in production was attributed to acreage shifts which were significant in the states of Andhra Pradesh, Gujarat, Rajasthan, Tamil Nadu, Madhya Pradesh and Orissa, while in the two largest producing states of Maharashtra and Karnataka, the magnitude of decline was smaller. This could be because jowar forms a part of the staple diet of households in Maharashtra and Karnataka.

(Table 2.1)

2.30 The yield of jowar remained stagnant at around one tonne per hectare during last twenty years. The annual yield of jowar during nineties registered a growth of 4.04 per cent in Andhra Pradesh and 1.02 per cent in Madhya Pradesh. The yield recorded at 1038 and 1066 kgs per hectare respectively in these two states in TE 2003-04 was higher than 766 kg in Maharashtra and 645 kg per hectare in Karnataka.

2.31 Following the decline in production the average WPI of jowar (base 1993-94=100) stood at 232.8 in April, 2004 to January, 2005. This was higher than the index of corresponding month of the previous year by 6.7 per cent.

Among cereals, the steepest increase was observed in the price of jowar in recent years.

(Table 2.14)

2.32 In spite of the overall favourable price scenario, there were instances of prices ruling less than MSP in the post harvest months particularly in Maharashtra. During the marketing season of 2004-05, the price of jowar ruled between Rs.528 and Rs.532 per quintal at Nagpur (Maharashtra) in October-December 2004 and Rs.700 to Rs.740 per quintal at Bangalore (Karnataka) from October 2004 to January 2005. Maharashtra procured around 9 lakh tonnes of jowar under MSP.

Bajra

2.33 Bajra is grown under rainfed conditions and consequently, its production fluctuates widely from year to year. At the all-India level, the production of bajra reported at 6.46 million tonnes in 2004-05 is only half the production of 12.12 million tonnes in 2003-04. The lower production is attributed to prolonged break in monsoon in 2004-05. The production in Rajasthan plummeted to 1.2 million tonnes in 2004-05 as compared to 6.7 million tonnes in 2003-04. The other important states for bajra are Uttar Pradesh, Gujarat, Haryana and Maharashtra.

(Table

2.1)

2.34 At the all India level, acreage under bajra declined by 1.39 per cent per annum during the period 1990-91 to 2003-04. Most of the states recorded a decline in acreage. The annual decline in area was 2.26 per cent in Gujarat, 1.20 per cent in Haryana, 2.33 per cent in Maharashtra, 0.67 per cent in Rajasthan, 5.79 per cent in Tamil Nadu. However, the yield of bajra showed an annual increase of 2.70 per cent.

2.35 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 previously keeping the grain for 2 to 3 years at a time 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.

2.36 The index number of wholesale prices of bajra (base 1993-94=100) after reaching a peak of 205.2 in April 2003 declined to 163.9 in June 2004. Thereafter, prices firmed up and the index of wholesale prices stood at 195.7 in January 2005 showing an increase of 17.9 per cent over WPI of corresponding month of the previous year. (Table 2.14)

2.37 Month end wholesale prices of bajra quoted during October 2004-January 2005 were between Rs.525 per quintal and Rs.565 per quintal in Jodhpur (Rajasthan). The market prices of Rs.475-550 per quintal at Hissar (Haryana), Rs.400-460 per quintal at Morena (Madhya Pradesh) and Rs.490-590 per quintal at Pathnordi (Maharashtra) during November-December 2004 remained below MSP of Rs.515 per quintal. MSP operations for bajra were carried out in three states. Procurement of 1.3 lakh tonnes of bajra in Haryana, 4302 tonnes in Maharashtra and 320 tonnes in Madhya Pradesh were made.

Maize

2.38 There has been a significant increase in the area, production and yield of maize in the country. Area under maize increased from 5.9 million hectares in 1990-91 (TE) to 6.0 million hectares in 1995-96 and further to 6.8 million tonnes in 2003-04 (TE). The production during kharif 2004-05 is estimated to be 11.35 million tonnes as compared with 12.74 million tonnes in 2003-04. Reports received in the Commission suggest that actual production is likely to increase in coming years with acreage and productivity increases in Andhra Pradesh, Karnataka, Punjab and Orissa.

2.39 The production of maize recorded an annual growth of 3.63 per cent during the period between 1994-95 and 2003-04 which was higher than the growth rate of rice in the same period. The annual growth of production was

as high as 9.02 per cent in Andhra Pradesh, 7.84 per cent in Gujarat, 3.70 per cent in Karnataka, 8.03 per cent in Maharashtra, and 11.83 per cent in Tamil Nadu. At an all India level, the yield of maize recorded an annual growth of 2.18 per cent, while the area under this crop grew by 1.42 per cent per annum. Technology Mission on Oilseeds, Pulses and Maize has been implementing Accelerated Maize Development Programme (AMDP) since 1995 in 26 states by covering all the potential districts. Subsequently based on suggestion from Planning Commission, several programmes were merged and an Integrated Scheme of Oilseeds, Pulses, Oil Palm and Maize (ISOPOM) has been implemented from 1st April, 2004. The scheme has also been restricted to 14 states. The components of AMDP are to be continued in the Tenth Five Year Plan as well. The earlier thrust on maize research has paid dividends in the evolution of several hybrids and high yielding varieties. Thirteen single cross hybrids of early maturity and full season groups have been released for various agro-climatic zones of the country.

2.40 Although, maize is reported to have diverse uses, besides food and feed such as industrial raw material in the manufacturing of starch, glucose etc., The demand for maize could not keep pace with the increase in its supply and consequently its prices remained subdued. During 2003-04 when production touched a record level, the annual average WPI of maize declined by about 4.3 per cent from the level in 2002-03. Subsequently prices continued to decline till June 2004 when the index of wholesale prices stood at 182.3. The price picked up and the index reached at 194.9 in August 2004. With the arrival of the new crop from October onwards, prices began to decline again and the index stood at 188.8 in January 2005. (Table 2.14)

2.41 During the post harvest months of 2004-05, the MSP of Rs.525 per quintal for maize breached in several states across the country. The month end wholesale prices per quintal of maize in October 2004 were quoted below MSP at Rs.470 at Muzaffarpur (Bihar), Rs.500 at Mandi (Himachal Pradesh), Rs.400 Mandla (Madhya Pradesh), Rs.435 at Bahraich (Uttar Pradesh),

Rs.480 at Hoshiarpur (Punjab) and Rs.470 per quintal at Gokak
(Karnataka) in October
2004. (Annexure
-1)

2.42 During kharif 2004-05, about 5 lakh tonnes of maize was purchased under MSP operations. Maximum purchase of 3.1 lakh tonnes was made in Karnataka followed by 1.9 million tonnes in Andhra Pradesh. Small quantities were also purchased in Madhya Pradesh, Punjab and Maharashtra. The possibility of utilizing maize in rural employment programmes of the Ministry of Rural Development also needs to be explored as the production trends indicate the likely emergence of larger surpluses of maize.

Ragi

2.43 Ragi production has been hovering around 2.5 million tonnes for the last twenty years. During kharif 2004-05, the production is estimated to have remained stable at 2.45 million tonnes. The major ragi producing states are Karnataka, Tamil Nadu, Uttaranchal and Maharashtra. (Table 2.1)

2.44 Ragi is grown in most of the states by small and marginal farmers under dry land conditions. There has been a significant decline in the area under ragi in recent years. The compound growth rate of area under ragi declined during the period 1990-91 and 2003-04 by 2.81 per cent per annum. The annual decline of 1.67 per cent in Karnataka was relatively less. (Table 2.2)

2.45 One of the advantages of ragi crop is that it can adapt to seasonal changes and may be grown in varying soil types and temperature conditions. The average yield of ragi is less than 1.5 tonne per hectare in most of the states except in Tamil Nadu where the yields are relatively higher at about 2.04 tonnes per hectare. As a cereal food, ragi has desirable properties in terms of digestibility, slow energy release and high calcium

content. 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, entrepreneurs are not investing in this sector. Ragi processed products need to be promoted as a health food by the state government of Karnataka, Tamil Nadu and Maharashtra where a certain segment of the population is health conscious. This could translate into better returns for farmers also.

2.46 The annual average index number of wholesale prices of ragi rose by 10.4 percent in 2002-03 and by another 13 percent in 2003-2004. However the monthly index on point to point basis declined by 6.8 per cent from January 2004 to January 2005 when it stood at 182.2. With the arrival of the new crop during 2004-05, the prices fell below MSP in Karnataka. For example the price quoted at Rs.440 per quintal in Bangalore in December was lower than MSP of Rs 515 per quintal. As a consequence, Karnataka purchased about 2.7 lakh tonnes of ragi under MSP operations. However, the price ruled much above the MSP in other states. The price per quintal of ragi was quoted at Rs.681 at Salem (Tamil Nadu), Rs.590 at Nellore (Andhra Pradesh) and Rs.610 at Gomti (Maharashtra) in the month end of December 2004. Under MSP operations 2.7 lakh tonnes of ragi has been purchased in Karnataka.

(Annexure - I)

2.47 Apart from expansion of domestic demand there is a need to explore the possibility of exporting the coarse cereals particularly maize. Global production as well as external trade of coarse cereals is quite high. According to Food Outlook December 2004, of the total global production of 1013 million tonnes of coarse cereals nearly half is accounted for by a few exporting countries namely United States, Canada, Argentina, Australia and Europe. World Trade is forecast at 102.5 million tonnes. Global prices are, however, very low as compared to Indian prices. For example, according to World Bank data base world average reference price of maize (US, No2, yellow, fob, US Gulf ports) in December 2004 was 95.4 dollars per metric

tonne which is equivalent to Rs.4198 per tonne. Similarly, world reference price of Sorghum (jowar) (US No2 milo yellow, fob, Gulf ports) in December 2004 ruled at 90.7 dollar equivalent to Rs.3990 per tonne. At these prices, Indian export of coarse cereals is not globally competitive.

Pulses

2.48 Pulses occupy a prominent space both in the food production basket as well as consumption profile of the people in India, being a major protein supplement in their diet. Even in the global perspective, India is the largest producer of pulses with nearly a quarter share in the world's production of about 60 million tonnes. It is also a prime sustainer of livelihood of millions of farmers engaged in its production in arid and semi-arid zones, mostly with small and marginal holdings in Central, Western and Southern India. These leguminous crops are essential adjunct to the crop diversification strategy. Hence, the pulses has been accorded due importance in the crop development programmes of the Government. Since 1990, the National Pulses Development Programme (NPDP) has been brought under the umbrella of Technology Mission on Oilseeds and Pulses (TMOP). However, in spite of significance assigned to the development of pulses in the policy framework, the production of pulses in the country has remained stagnant, inconsistent and susceptible to climatic aberrations, often causing imbalance in its supply vis-a-vis demand. Such susceptibility is particularly high for the Kharif pulses that normally account for 37 per cent of total pulses production from nearly half of total pulses acreage in the country and are mostly grown in rainfed conditions.

2.49 The year 2003-04 was a landmark in the production of pulses in the country. The all time record production of 14.94 million tonnes achieved during 2003-04 was largely attributed to favorable weather and climatic conditions. The production in 2003-04 was a smart recovery of 34 percent over the drought impacted production of 11.13 million tonnes in 2002-03. The performance of pulses production in 2003-04 was impressive in both the seasons, but was more remarkable in Kharif season. The Kharif pulses responded to congenial climatic conditions with larger area coverage and better productivity, resulting in 6.16 million tonnes of production, 48 per cent

higher than the corresponding seasonal production of 4.15 million tonnes in the previous year. The production of tur (Pigeon Pea), the dominant Kharif pulse however remained normal at 2.37 million tonnes, but other Kharif pulses including Urad (Black Gram) and Moong (Green Gram) posted 3.79 million tonnes production, as against 1.86 million tonnes produced in the preceding year. (Table 2.1)

2.50 After the repositioned production milestone in 2003-04, the vulnerability of pulses economy to weather aberration is exposed again in the year 2004-05. Monsoon 2004 with aggregate deficiency of 13 per cent from the Long Period Average (LPA) and subdued post monsoonal rains have rendered parts of major pulses producing states of Maharashtra, Uttar Pradesh, Rajasthan and Madhya Pradesh rain deficient. According to the Second Advance Estimate of Crop Production (19.01.2005), the Kharif pulses production in 2004-05 is likely to decline by 18 per cent from the previous year to the subdued level of 5.04 million tonnes. This sharp decline is triggered again by other Kharif pulses, the production of which is likely to fall by 27 per cent from previous year to 2.78 million tonnes. The Tur production at 2.26 million tonnes is likely to fall by a much smaller margin of only 5 per cent. Such volatility in pulses production brings to focus the instability in domestic supply of pulses and also that of economic conditions of farmers engaged in its production. The current advance production estimates of 13.67 million tonnes appear to be making the pulses productions target of 15.3 million tonnes during 2004-05 a difficult one to attain.

(Table 2.1)

2.51 The emerging scenario of discomfort in the pulses production, particularly that of Kharif pulses in 2004-05 is indicating that its performance during 2003-04 was more an exception rather than an element of growth trend. The decade of nineties, though coincided with initiation of National Pulses Development Programme in the mission mode, paradoxically witnessed sharp deceleration in all the growth parameters viz area and productivity of Pulses, in both kharif and rabi seasons. Total pulses production crossed the 14 million tonnes mark way back in 1990-91 but has not yet exceeded 15 million tonnes production so far. This indicates that agricultural development strategies are by passing pluses sector. Table below sums up the annual percentage growth of area, production and productivity of

pulses in two seasons during the decade of eighties and nineties.
(Table 2.1)

Compound Growth Rate (percent/annum)

	1980-81 to 1991-92			1991-92 to 2003-2004		
	Area	Prod.	Yield	Area	Prod.	Yield
Total Kharif Pulses	0.81	2.01	1.19	-0.33	-0.03	0.30
Total Rabi Pulses	-0.59	0.94	1.54	-0.41	0.16	0.57
Total Pulses	0.06	1.34	1.28	-0.37	0.07	0.44

2.52 The growth reversal in nineties was in both the seasons but the deceleration had been sharper for Kharif pulses. The declining rate of production of kharif pulses by 0.03 per cent per annum since 1991-92 had been accounted by the declining trend of area and stagnant productivity. This deceleration clearly indicates weak preference of farmers to pulses in the alternative choices of cropping. The Commission has been expressing its concern on this aspect in the earlier reports as well and attributing the prime cause of such weak inclination to the absence of any technological break through in raising the productivity. With the expansion of irrigation, alternative crops providing better return, further wean away area from pulses to other crops. It may not be out of context to mention that per capita availability of pulses had declined from 60 gms / day in 1950-51 to only 29 gms/day in 2002-03, thus breaching the nutritional security of the masses.

2.53 Our weakness in pulses economy is turning out to be the opportunity for several other countries, which have been targeting their pulses production for exports to India, Pulses import has been consistently of the order of about 2 million tonnes since 2001-02, notching more than four fold jump from earlier

levels. India's import has lion's share in nearly 8 million tonnes in annual global trade of pulses.

Import of Pulses

(000 tonnes)

Fiscal Year (April-March)	All Pulses*	Tur	Moong	Urad	Imports 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	17.64
2004-05	429.55#	145.67	0.00	0.00	13.20*

upto July 04

* Assuring import level in 2004-05 at the level of 2003-04

* Excluding other beans

2.54 The total import of pulses galloped to 2.23 million tonnes in 2001-02, registering a phenomenal increase of 538 per cent over 0.35 million tonnes import during 2000-01. Since then, the pulses import have maintained high level Import as the percentage of net production of pulses in the country remained at 17 percent to 23 percent since fiscal year 2001-02 as compared to less than 4 per cent in earlier years. Inspite of record production of pulses in the country in 2003-04, the import substitution is likely to remain more than 13 percent in FY 2004-05 as the pulses import is unabated and in first four months of the financial year, about 0.43 million tonnes of pulses have already

landed. If the trend continues, total import during the year is expected to be at the level of previous year.

Table : Supply Situation of Pulses

(Million Tonnes)

Crop Year (July-June)	1999-2000	2000-01	2001-02	2002-03	2003-04	2004-05@
Fiscal Year (April-March)	2000-01	2001-02	2002-03	2003-04	2004-05	2005-06
<u>Gross Production</u>						
Tur	2.69	2.25	2.26	2.19	2.37	2.26
Other Kharif Pulses	2.12	2.20	2.58	1.96	3.79	2.78
Gram	5.12	3.85	5.47	4.24	5.79	5.78
Other Rabi Pulses	3.48	2.77	3.06	2.74	2.99	2.85
All Pulses	13.41	11.07	13.37	11.13	14.94	13.67
Net Production- All Pulses (85% of gross roduction)	11.73	9.69	11.7	9.74	13.07	11.96
Procurement	Negligible	Negligible	Negligible	0.02	0.15	Negligible
All Pulses(NAFED)		Procurement disposal in the same season.				
Export(FY) All Pulses	0.24	0.16	0.15	0.15	0.15#	0.15#
Import(FY) All Pulses	.035	2.23	2.00	1.73	1.73#	1.73#

Supply(FY)	11.84	11.76	13.54	11.31	14.90	13.53
Average Supply (Triennium Ending)			12.38	12.20	13.25	

@: Based on advance estimate as on 19.1.2005

#: Import/Export assured to be at the level of FY 2003-04

2.55 Nevertheless, the import of pulses had definite impact on the supply position. For calculation of supply it is assumed that the production in the crop year (July-June) is available for consumption in the following financial year. On this basis, the average annual supply of pulses for the triennium ending (TE) 2003-04 (marketing season) was 12.20 million tonnes. During 2004-05 the overall supply of pulses is likely to be 14.90 million tonnes. The substantial augmentation of supply of pulses has been reflected in the softness of prices of pulses in the current fiscal. Although, the crop available for consumption during the forthcoming FY 2005-06 may not be as good as corresponding previous year, still supply expected to be 13.53 million tonnes is likely to be better than TE 2004-05 average supplies of 13.25 million tonnes.

2.56 The normative requirement of pulses is 40 grams per consumption unit per day which equates to about 37 grams per capita per day. Thus, the current level of per capita availability is lower than normative requirement. This translates into the normative demand of about 14.5 million tonnes of pulses during 2005-06 which is exceeding the expected supply by about one million tonnes. On the other hand, the direct household consumption of pulses and pulses product according to the NSS 55th (1999-2000) round had been estimated at 11 million tonnes. Assuming the low consumption elasticity of pulses and the population growth of less than 2 per cent, the growth of behaviorist demand of consumption is taken at 2.2 per cent. The demand for pulses for the year 2005-06 is ascertained at 12.5 million tonnes. It may be noted that NSS Estimates do not take into account the non-household consumption. Even accounting for such non-household consumption, the behaviorist demand of pulses and pulses product during 2005-06 is expected to be well within the estimated supply.

2.57 The Commission in the past has observed that the Ministry of Agriculture should prepare the pulses budget every year taking into account the likely production, consumption and resultant supply. The Commission reiterates its earlier observation that there should be proper assessment of demand-supply scenario of pulses, followed by appropriate policy measures to safeguard the interest of both producers and consumers of pulses so that the domestic market is guarded against instability.

2.58 As stated above, the pressure of supply side owing to good production performance of pulses during crop year 2003-04 and liberal import of pulses has reflected on the softening of its prices in the market. The average wholesale price (WPI base 1993-94) of pulses for the FY 2003-04 stood at 176.6, which was 2.2 per cent lower than the corresponding WPI for FY 2002-03. This was in contrast to annual 5.5 per cent increase in average WPI for all commodities and 1.3 per cent increase in that of food articles in FY 2003-04. The bearish trend of prices was more pronounced for two important Kharif pulses, urad and moong. Their average WPI for FY 2003-04 at 217.4 and 195.9 was 9.3 per cent and 5.8 per cent lower than previous year respectively. However, the prices of arhar (tur) remained buoyant during 2003-04. (Table 2.15)

2.59 The pulses prices during 2004-05 remained more or less stable. The WPI of all pulses and that of tur for January 2005 was 174.5 and 172.3 respectively, deviating in the range of -0.68 and -5.02 per cent from the corresponding WPI for January, 2004. However, the WPI of moong and urad stood at 192.9 and 220.4 in January, 2005, firming by 4.38 and 3.86 percent respectively. Compared to 5.5 per cent increase in WPI for all commodities on month to month basis and 2.0 per cent for food articles, the corresponding WPI for pulses witnessed a marginal decrease. (Table 2.15)

2.60 According to the information furnished by National Agricultural Cooperative Marketing Federation of India Ltd. (NAFED), the nodal agency for intervention in the market for defending MSP, the price of tur in 2003-04 ruled

in the range of Rs.1600/Qtl to Rs.2100/Qtl, well above the MSP, in the peak marketing season (October to December) in major markets. However, deflationary trend due to supply pressure brought down the market price of moong and urad below MSP during 2003-04. The price of moong in the peak marketing season ruled in the range of Rs.1150/Qtl to Rs.1700/Qtl as compared to recommended MSP of Rs.1410/Qtl. The price depression in case of urad was much more severe as it moved in the range of Rs.720/Qtl to Rs.1675/Qtl in various markets. In such unstable market situation, the procurement of 1.5 lakh tonnes of urad and moderate quantity of moong by NAFED during 2003-04 was necessitated in several States. The Commission has noted with satisfaction that NAFED had identified 298 purchase centres in 138 districts, in consultation with state level supporters viz. State Cooperative Marketing Federations and Tribal Cooperative Marketing Development Federation (TRIFED). (Table 2.3)

2.61 However, it was brought to the notice of the Commission that the FAQ norms for procurement of pulses are very lax. The aggregated tolerance on account of foreign matter, admixture, damaged pulses, slightly damaged pulses, immature and shriveled pulses and weevilled pulses add up to 19 percent. High limits of tolerance gives the scope of dilution of quality sometime not by fair intentions. Moreover, quality is the derivative of farming practices evolved, which itself is a dynamic phenomenon. Further, the awareness of the farmers on FAQ norms is also weak. As a result they do not take proper care of the crop during its growth and after harvest to make it fit for procurement. The Commission therefore recommends that ***Government should periodically review FAQ norms for all the commodities, and standardize the relaxation procedures so as to avoid ad-hocism and also give wide publicity of these norms and relaxations thereof, so that farmers take due care of the crop at various stages and reduce the incidences of rejection by the procurement agencies on quality consideration.***

2.62 At the commencement of 2004-05 marketing season of kharif pulses, the prices of tur, moong and urad are ruling at Rs.2000/Qtl, Rs.1725/Qtl and Rs.1500/Qtl respectively. Anticipating that crop size during the year will not be as good as last year, the market price is expected to hold above MSP

(Rs.1390 and 1410/Qtl) and there may not be undue compulsions of market intervention by NAFED in ensuing months, though NAFED has entered in some markets of Uttar Pradesh to defend the MSP during the current season with the procurement of 280 MT of urad. (Table 2.3)

2.63 Owing to its low productivity, the MSP of kharif pulses, particularly that of moong and urad are just on the margins of their cost of production. The fall in prices below MSP therefore seriously breaches the economies of farmers engaged in its cultivation who are generally resource poor in less endowed region. Their livelihood concerns come in sharp focus in the regime of globalization when the global prices too fall sharply and the tariff protection is too inadequate. This phenomenon was evident during 2003-04 and its shadows are still lingering. International prices of tur during 2003-04 as well as 2004-05 (Dec, 2004) are stable in the range of 275 to 325 \$/Tns (C & F). This translates into 1237 to 1462 Rs./Qtl. After accounting for the tariff @ 10 (ten) per cent, the lower limit of landed price of imported tur is less than the MSP. Thus, on the price front, the imported tur is enjoying a competitive advantage over the domestic tur. Liberal tariff regime on pulses coupled with perpetual gap in domestic demand and supply has earned Indian pulse market a favorite destination for other producing countries, looking for the market access.

2.64 The aforesaid discussion does not augur well for sustained buoyancy either in production or in the prices of pulses. The proponents of large scale crop diversification may not derive optimism from such scenario. The main bottleneck in the endeavour to improve the economy of pulses production is the absence of any meaningful breakthrough in the seed technology and cultivation practices. In the recent studies evaluating the NPDP programme, it was revealed that not only the farmers but institutional seed development is confining itself to the old varieties even in the purchase of breeder seeds. The seed replacement rate in case of pulses is abysmally low. No doubt, the wide gap between the yield of pulses in the front line demonstration by agricultural research institutions and the actual yield derived by the farmers highlight the missing zeal of extension machinery. The limitation of crop insurance, also, does not enable farmers to minimize the risk in cultivation of pulses, particularly when these crops are sown in vulnerable economic and climatic

conditions. In nut-shell, the sorry state of pulses economy urgently needs an all round and proactive institutional involvement covering technology, support, market and trade safeguards for its sustenance and growth.

Oilseeds

2.65 The production of oilseeds, after declining from 206.62 lakh tonnes in 2001-02 to 148.40 lakh tonnes in 2002-03 due to failure of monsoon, made a remarkable recovery in 2003-04 due to good, timely and evenly distributed monsoon. In 2003-04, the production of oilseeds was provisionally estimated at a record level of 252.90 lakh tonnes breaking the previous record production of 247.5 lakh tonnes achieved in 1998-99. The increase in production in percentage terms was 70 per cent. The impact of good monsoon was more on the kharif oilseeds crop, the production of which increased by 87 per cent from 89.77 lakh tonnes in 2002-03 to 167.74 lakh tonnes against an increase of 45 per cent observed in production of rabi oilseeds from 58.63 lakh tonnes to 85.16 lakh tonnes. The second advance estimate of crop production (Directorate of Economics and Statistics (DES), Department of Agriculture and Cooperation, 19th January, 2005) put the kharif oilseeds production in 2004-05 at 147.61 lakh tonnes, which was lower than last year's production by 20.13 lakh tonnes. The estimated production of rabi oilseeds for 2004-05 season was 100.81 lakh tonnes. The overall oilseeds crop size in 2004-05 is expected to be lower by 4.5 lakh tonnes than last year's production. (Table 2.1)

2.66 The decline in production of edible oilseeds in 2004-05 might be largely attributed to the erratic monsoon in the season. The states of Madhya Pradesh, Gujarat, Rajasthan, Maharashtra and Andhra Pradesh are the major producers of oilseeds. These five states accounting for about 75 percent of total production of oilseeds lacked the assured irrigation facilities. The respective areas under irrigation (as in 2000-01) in Madhya Pradesh, Rajasthan, Gujarat, Maharashtra and Andhra Pradesh was just 3.8, 49.5,

24.8, 9.0 and 15.0 percent against the irrigated area of 23.0 per cent for the country as a whole.

2.67 The wheat-paddy cropping system in Punjab, Haryana and Western U.P. over the years caused ecological imbalances and a considerable fall in water tables in these states/region. The efforts were therefore, made in the past to induce the farmers to diversify their cultivation in favour of oilseeds. With a view to help farmers to go for diversification, the Commission in its rabi/kharif reports on price policy for 2003-04, 2004-05 and 2005-06 recommended a substantial increase in the MSP for oilseeds. The Government accepted Commission's recommendations and fixed the MSP at the recommended level. The MSP of rapeseed/mustard was raised by Rs.270 per quintal in 2004-05 and further Rs.100 per quintal in 2005-06. The MSP of groundnut was increased by Rs.45 per quintal in 2003-04 and further Rs.100 per quintal in 2004-05. Similarly, the MSP of soyabeans (yellow) was increased by Rs.45 per quintal in 2003-04 and further Rs.70 per quintal in 2004-05. The Commission's expectation that the increased MSP would induce farmers to opt for cultivation of oilseeds did not materialize as no large scale shift in area took place in favour of oilseeds. The Commission discussed this matter at length in its meetings with the officers of the State Governments, the representatives of oil industry and farmers to ascertain the main reasons for which farmers continue their preference for wheat-paddy rotation. It was borne out of discussion that farmers were apprehensive about marketing their produce in the absence of elaborate arrangements for procurement of oilseeds which refrained them from opting for diversification in favour of oilseeds. In case of oilseeds, there were very few procurement centres and the farmers were required to travel long distances to sell their produce. For example, compared to 1400 centres for procurement of wheat/paddy in Punjab there were only 14 centres for procurement of oilseeds. Further, the central and state level agencies became very active at the procurement time of wheat/paddy but remained indifferent at the time of oilseeds procurement. To modulate the wheat-paddy cropping system and encourage the farmers to diversify to oilseeds, Government will have to ensure proper marketing arrangements for procurement of oilseeds. The

Commission therefore, recommends 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.***

2.68 During the course of discussions, the NAFED informed the Commission that the prices of kharif oilseeds remained above the MSP for the third consecutive year. The prices for groundnut ruled below MSP in Karnataka, Andhra Pradesh and Uttar Pradesh, because the quality of produce was below Fair Average Quality (FAQ) particularly with respect to parameters like kernel recovery, excess moisture level and refractions. Since prices remained above MSP for FAQ oilseeds throughout the kharif season 2004, NAFED did not carry out its price support operations in 2004-05. However, it made commercial purchases (up to 25th December, 2004) of soyabean, groundnut and sesamum seeds of 80848 tonnes, 2006 tonnes and 1486 tonnes valued at Rs.98.55 crores, Rs. 3.63 crores and Rs 5.94 crores respectively. NAFED further pointed out that although the procurement/price support operations were carried out to protect the interest of farmers by enabling them to sell their produce at the MSP, the State Governments imposed taxes on such purchases, which increased the losses of the NAFED. Further, the stocks when moved from the procuring state to other states were subjected to inter-state taxes. NAFED pleaded that the State Governments should be persuaded to stop levying taxes/cess on stocks procured or moved under price support operations. The Commission finds merit in NAFED's demand that the State Governments may be asked to stop levying various types of taxes, cess, marketing fees etc. on stocks procured under price support operations and inter-state taxes imposed on movement of these stocks from one state to another state.

(Table 2.6)

2.69 Despite record production of oilseeds in 2003-04 and liberal imports of edible oils market prices of oilseeds remained quite firm. The wholesale price index (WPI) for the groundnut and soyabeans, the two major kharif oilseeds during November and December 2004, the peak marketing season for kharif oilseeds, remained higher than the corresponding months of 2003. The WPI

for all the Kharif oilseeds was higher than last year by about 8 percent. The buoyancy in the oilseeds prices in the domestic market could be attributed to the higher international prices and higher domestic demand. (Table 2.16)

2.70 In view of the limited scope for the horizontal expansion of bringing more area under oilseed cultivation except in Madhya Pradesh, the Commission in its earlier reports had impressed upon the need for increasing the productivity of oilseeds. Since oilseeds are grown in the rainfed areas, the scientists of ICAR, SAU and other research institutions need to develop drought resistant and disease resistant seed varieties. In view of the huge potential of genetically modified (GM) seeds for bringing a spectacular increase in productivity of oilseeds, it is often argued that GM seeds should be used extensively for bringing a breakthrough in production of oilseeds. The proponents of GM seeds substantiated their views by giving examples of USA and Argentina, where the use of GM seeds has not only helped these countries in rising the productivity of oilseeds but also raising the export of edible oils to a substantial level. However, there is a need for caution in the use of GM oilseeds for cultivation. Indian scientists should study the effects of GM seeds on human health and their suitability to local conditions and come out with clear recommendations in this regard.

2.71 The bumper production of oilseeds in 2003-04 was expected to scale down the import of edible oils. However, the imports of edible oils remained unabated and in 2003-04 showed an increase of about 9 lakh tonnes over the previous year. It may also be observed from the figures given in the following table that the imports of edible oils, which were merely 12.66 lakh tonnes in 1997-98, doubled to 26.22 lakh tonnes in 1998-99 and again doubled to 52.90 lakh tonnes in 2003-04.

Table : Import of Edible Oils

. No.	Year (April -March)	Quantity (In lakh tonnes)	Value (In crores)	Unit Value (In Rs/kg.)
1	2	3	4	5

1.	1997-98	12.66	2764	21.84
2,	1998-99	26.22	7588.99	28.94
3.	1999-2000	41.96	7983	19.93
4.	2000-01	41.77	5976	14.30
5.	2001-02	43.22	6464.97	14.96
6.	2002-03	43.65	8779.64	20.11
7.	2003-04	52.90	11683.24	22.09
8.	2004-05(Upto July 2004)	12.83	3321.52	25.89

2.72 Further, imports as percentage of the domestic production, increased from 23 percent in 1997-98 to more than 100 percent in 2002-03. It remained substantially high at 83 percent even in the record production year of 2003-04. The rising share of imports gave an indication of increased dependence of the country on imported edible oils over the years as indicated below: -

Table : Import substitution of Edible Oils

Sl.No.	Year	Domestic Production (Crop year) (Primary Source) (In Lakh tonnes)	Imports (Fiscal year) (In Lakh tonnes)	Imports as percentage of domestic production.
1	2	3	4	5
1.	1997-98	54.38	12.66	23.28
2.	1998-99	63.67	26.22	41.18
3.	1999-2000	53.62	41.96	78.25
4.	2000-01	47.44	41.77	88.05
5.	2001-02	54.44	43.22	79.39

6.	2002-03	41.29	43.65	105.72
7.	2003-04	64.10	52.90	82.53

2.73 The other intriguing feature of imports of edible oils was the rising cost reflected in the unit value of imports. The unit value of import after declining from Rs.28.94 per kg. in 1998-99 to Rs.14.30 per kg. in 2000-2001, increased sharply to Rs.20.11 per kg. in 2002-03, further to Rs.22.09 per kg. in 2003-04 and Rs 25.89 per kg. during April-July, 2004, for which the DGCI&S data were available. The rising cost of imports implied higher spending of foreign exchange on imported edible oils. This gives a clear signal that unless the dependence on imported edible oils is reduced in the coming years, a major chunk of foreign exchange earnings will be spent on imported edible oils. In this context, the Commission emphasized the need for bringing a technological breakthrough in productivity and regulating the import of edible oils. The increase in the MSP of oilseeds would become meaningless if it makes the imports attractive. The recent announcement by the Government of import duty hike on palm oil by 15 percent is a step in the right direction but it had been simultaneously neutralised by reducing the tariff value. 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 and also a standing committee comprising representatives of concerned Departments and Planning Commission should be constituted to monitor import of edible oils on a continuous basis keeping in view, inter alia, the requirement of the country and international prices and suggest changes in the import duty rates as and when required. (Table 2.32)

2.74 The import duty on soyabean oil (45%) and rapeseed/mustard (75%) is inflexible due to their binding rates. Tariff flexibility exists in respect of other edible oils viz., palmolein, palm oil, groundnut oil, sunflower, safflower oil and coconut oil, since binding rate of duty is 300%. The Commission feels the need for higher binding rate on soyabean and rapeseed/mustard, which according to it is too low.

2.75 According to the Solvent Extractors' Association of India (SEA) the increase in import of refined RBD Palmolein oil from 3.19 lakh tonnes in 2002-03 to 7.97 lakh tonnes in 2003-04 was not desirable. It was of the view that the palm oil should be imported in crude form so that the processing and value addition takes place in the country and the capacities already created in the country are fully utilized. The import duty rates on crude palm/RBD palmolein oil and refined palm/RBD palmolein, which were 65 percent and 75 percent respectively till recently, have now been raised to 80% and 90% respectively. Although the import duty rates have been raised, the difference between the import duty rates on crude and refined palm/RBD palmolein oil remains the same i.e. 10%.

2.76 The other issue brought to the notice of the Commission by the edible oil industry associations related to import of edible oils under the Preferential Trade Agreements (PTAs)/Free Trade Agreements (FTAs) including import of vanaspati oil from Nepal. The associations apprehended that the PTAs/FTAs might become a route for flooding the Indian market with imports of cheap edible oils threatening the survival of the indigenous oil processing industry. They cited the example of Indo-Nepal Treaty of Trade, which allowed import of edible oils including vanaspati duty free, quantity free and licence free. The 1993 treaty was revised in 1996. The terms of the new treaty deleted the condition incorporated in 1993 treaty that the Nepalese material and labour content and Indian material content should be at least 50%. Consequently, there was surge in import of vanaspati from Nepal. The treaty was further revised in March, 2002 wherein, the import of a fixed quantity of one lakh tonne was allowed duty free from Nepal. Also the Indo-Sri Lanka Free Trade Agreement allowed import of vanaspati duty free and quantity free. After signing of the FTA with Sri Lanka in 2002, many Indian companies reported to be setting up the vanaspati processing units in Sri Lanka to take advantage of concessions allowed under the FTA. Had the treaty not been signed, such Indian companies would have set up the processing units in the country itself. The Commission is of the view that since the welfare of farmers growing oilseeds is linked with the edible oil industry,

nothing should be done which affects the interest of industry adversely that has consequential effect on farmers. It is especially important that the rules of origin content stipulation of 45 % should not be reduced and be strictly adhered to.

2.77 According to the World Bank data on international commodity prices (wholesale), the prices of palm oil and soyabean oil firmed up in 2004 (calendar year). The average price of palm oil (Malaysian, c.i.f. N.W. Europe) declined sharply from US \$671.1 per tonne in 1998 to US 285.7 per tonne in 2001 but started rising in 2002 and rose to US \$ 443.3 per tonne in 2003 and further to US \$ 471.3 per tonne in 2004. Similarly, the price of soyabean oil declined from US \$ 625.9 per tonne in 1998 to US 354 per tonne in 2001 but increased to US \$ 553.9 in 2003 and further to US \$ 615.7 per tonne in 2004. Thus, the price of soyabean oil was as hard as in 1998. The import of palm oil and soyabean oil constituted 85 percent of the total import of edible oils. The firming up of the international price of palm oil and soyabean oil was reflected in the higher unit value of imports. The increase in international price of edible may be attributed to dwindling world end stocks. The position regarding the world end stocks is indicated in the following table: -
(Table 2.20)

***Major Vegetable Oils: World Supply and Distribution**

(Million Tonnes)

	2000-01	2001-02	2002-03	2003-04	2004-05 (Jan.05, Estimated)
	90.03	92.82	94.78	100.89	106.49

Production					
Export	30.90	33.33	36.08	37.52	39.16
Import	30.13	31.74	34.97	36.13	37.82
Consumption	88.91	91.74	95.25	99.49	104.83
Ending stocks	8.77	8.25	6.67	6.68	6.99

Source: USDA,FAS, Jan.2005

* Includes Soyabean, Palm, Sunflower seed, Rapeseed, Cotton seed

It may be observed from the above table that the world production of edible oil increased from 90.03 million tonnes in 2000-01 to 100.89 million tonnes in 2003-04 and is estimated to increase to 106.49 million tonnes in 2004-05. On the other hand, the world consumption increased from 88.91 million tonnes in 2000-01 to 99.49 million tonnes in 2003-04 and is estimated to increase further to 104.83 million tonnes in 2004-05. The increase in consumption outpacing the increase in production resulted in the dwindling world end stocks and reflected in the higher international prices and unit value of imports. However, the world end stocks are estimated to have slightly improved to 6.99 million tonnes in 2004-05 from 6.68 million tonnes in 2003-04.

2.78 The availability of edible oils from domestic resources is not expected to be less than the previous year although there would be a fall in production of kharif oilseeds in 2004-05. As usual, the Commission carried out an exercise to estimate the domestic production of edible oils based on certain assumptions. As per the Commission's estimates, the production of edible

oils from domestic resources would be around 64.65 lakh tonnes in 2004-05 as indicated in the following table:

Estimated Domestic Production of Edible Oils (Lakh tonnes)

	Assump- tion		Crop-Year (July-June)							
	(a)	(b)	1997-98	1998-99	1999-00	2000-01	2001-02	2002-03	2003-04	2004-05
1.Groundnut	17.8	28	16	20.45	11.49	14.23	15.78	9.30	18.34	14.41
2. Rapeseed/ Mustard	7.3	33	14.38	17.32	17.7	12.81	15.53	11.83	18.93	23.18
3.Sesamum	22.2	40	1.31	1.29	1.11	0.88	1.22	0.90	1.74	1.26
4.Safflower	15	40	0.4	0.81	0.86	0.68	0.74	0.58	0.40	0.49
5.Nigerseed	25	28	0.26	0.24	0.27	0.15	0.21	0.08	0.18	0.09
6.Soyabean	12	18	10.22	11.31	11.21	8.22	9.44	7.37	12.02	11.84
7.Sunflower	10	40	3.17	3.39	2.49	2.32	2.44	3.13	3.57	4.46
8.Cottonseed*	-	-	4.15	4.35	4.11	3.66	4.13	3.53	4.37	4.37
9.Copra**	-	-	4.5	4.5	4.38	4.49	4.55	4.55	4.55	4.55
Total			54.38	63.67	53.62	47.44	54.04	41.27	64.10	64.65

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

Col. (b): Percentage of oil recovery

* : Actual Production reported by all India Cottonseed Crushers' Association

** : Production estimates sourced from Coconut Development Board up to 2002-03. For 2003-04 and 2004-05 production assumed at the level of 2002-03

2.79 The above estimates were based on the assumption that edible oils derived from oilseeds produced in crop year (July – June) would be available for consumption in the following fiscal year (April – March). According to the Solvent Extractors Association of India, the oil production of about 11.8 lakh

tonnes would be available from secondary sources (Rice Bran 6.8 lakh tonnes; Rapeseed, Sunflower seed and Groundnut cake 3.1 lakh tonnes; Cottonseed & others 0.7 lakh tonnes; Tree Borne Oilseeds 0.8 lakh tonnes; and domestic palm oil 0.5 lakh tonnes). Taking into account the oil production from secondary sources, the total availability of edible oils estimated at 76.45 lakh tonnes for 2004-05 would be marginally higher than last year's estimated availability of 75.6 lakh tonnes. Against present potential of 11.8 lakh tonnes, the SEA pointed out the possibility of exploiting huge potential of 27 lakh tonnes of edible oils from secondary sources by exploiting the available potential of rice bran, cottonseed and tree borne seeds. The Commission recommends that ***the Government may formulate an appropriate strategy to exploit the available potential of secondary sources of oil to enhance availability of edible oils in the country.***

2.80 To achieve self-sufficiency in edible oils, the Government set up the Technology Mission on Oilseeds & Pulses (TMOP) in 1986. The Mission included the oil palm cultivation in its programme in 1991-92 and launched the Oil Palm Development Programme (OPDP) for development of oil palm trees over 80,000 ha. area each in the eighth and ninth five year plan. As against the target of covering 1,60,000 ha. with palm oil trees in eighth and ninth plan, the actual achievement was 62,732 ha. (39.2 percent). It was decided to continue with the efforts of promoting palm oil cultivation during the tenth plan but with suitable modifications in the light of the experience gained and the impediments observed in the past. The OPDP was merged with the 'Integrated Scheme for Oilseeds, Pulses, Oil Palm & Maize (ISOPOM)' during tenth plan with the target of covering 50,000 ha. Area. In the first three years of the tenth plan, 12073 ha. area (as on 1st December, 2004) was covered against the target of 27,000 ha. (44.7 percent).

2.81 The programme, however, could not achieve the desired success. There were shortfalls in targets in the eighth, ninth and in the first three years of the tenth plan. According to the TMOP, the adverse weather conditions that prevailed in successive four years since 1998-99 and the fall in domestic prices of palm oil due to cheap edible oil imports dampened the enthusiasm of the farmers, which affected adversely the implementation of OPDP in the country compelling farmers to uproot palm trees in an area of

17,943 ha. In addition, lack of processing facility in some areas also caused uprooting of the palm oil trees. The Commission considers this matter to be serious which requires the urgent attention of the Government. The Government may either set up the processing facilities on its own or encourage the private sector in this field. The potential yield of oil from palm fruits is around 10-15 times more than the yield of edible oils obtained from traditional oil seeds. Hence, there is a need to bring more area under palm oil cultivation. The representatives of oil industry associations suggested that the area under palm oil cultivation would increase rapidly if the palm oil cultivation was declared as plantation and public and private enterprises were allowed to enter in this field. The Commission recommends that ***the Technology Mission on Oilseeds & Pulses may examine the suggestion of the oil industry to declare cultivation of oil palm as plantation and allow the public and private enterprisers to enter in this field and make suitable recommendations to the Government in this regard.***

Groundnut

2.82 The area and production under groundnut showed a decline of 2.59 percent and 2.04 percent per annum respectively during the period between 1990-91 and 2003-04. The area, production and yield recorded at 86.68 lakh hectares, 70.95 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 59.98 lakh hectares, 81.82 lakh tonnes and 1364 kg. per hectare respectively in 2003-04 due to good, timely and evenly spread monsoon in the season. The second advance estimate of the Directorate of Economics & Statistics place the groundnut production at 64.76 lakh tonnes in 2004-05, which is lower by about 17 lakhs tonnes over the last year's production mainly due to the erratic monsoon.

(Table 2.1)

2.83 Like soyabean, this crop is also grown in the rainfed areas exposing its production to the vagaries of nature. The state of Gujarat accounts for about one-third of the total cultivated area under this crop. The yield in India is

very low as compared to other groundnut growing countries and world averages mainly because India has not achieved any technological breakthrough in seed technology. Apart from the low yield, the crop often gets infected with aflatoxin that adversely affects the export prospects. The scientists have not been able to find a satisfactory solution to this problem. Despite the problem of aflatoxin, which sometimes acts as a trade barrier, a good quantity of groundnut was exported in 2003-04 as indicated below: -

Table: Export of Groundnut

Sl.No.	Year	Quantity (In tonnes)	Value (In Rs. Crores)	Unit value (In Rs./kg.)
1.	2000-01	137066	316.40	23.08
2.	2001-02	112813	250.94	22.24
3.	2002-03	67890	178.30	26.26
4.	2003-04	176110	544.30	30.91
5.	2004-05 (April-July 2004)	50890	149.49	29.38

Source: DGCI&S Kolkata

However, it may be difficult to sustain the export at present level if no satisfactory solution is found to the aflatoxin problem. Hence, there is an urgent need to address the problem of aflatoxin.

Soyabean

2.84 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 64.97 lakh hectares and production and yield reached a record level of 78.63 lakh tonnes and 1210 kg. per hectare respectively due to good, timely and evenly distributed monsoon in the season. The second advance estimates of the Directorate of Economics & Statistics put the soyabean production at 77.52 lakh tonnes in 2004-05, which is marginally lower by about 1 lakh tonnes over last year's production partly due to erratic monsoon. (Table 2.1)

2.85 The crop of soyabean, which is mainly grown in the rainfed areas of Madhya Pradesh and Maharashtra, is facing multiplicity of problems. The seed replacement is the major problem. The farmers have been using the same old varieties of seeds due to no significant breakthrough in seed technology. The Commission was informed that although the farmers well received the newly released seed variety 9305 provided to them, it failed to make any dent in production as the yield of the new variety was almost the same as that of previous varieties. The crop that used to be free from pests and diseases in the eighties and early nineties, has now become susceptible to a number of pests and diseases. The scope of bringing improvement in production and yield of this crop would remain limited until drought and pest resistant seed varieties are developed by the scientists and made available to the farmers. Till a breakthrough is achieved in seed technology, the efforts should be made to increase the production and yield of soyabean by educating and persuading the farmers to adopt improved agricultural practices. The farmers can be persuaded by giving the example of Soyabean Processors Association of India (SOPA), which could achieve 30 to 40 percent higher yield on demonstration plots with adoption of such improved agricultural practices.

Nigerseed

2.86 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 4.37 lakh hectares, 1.11 lakh tonnes and 253 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 Chattisgarh) was the highest (1.83 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 412 kg. in Andhra Pradesh. The second advance estimate of crop production put the crop size at 0.69 lakh tonnes in 2004-05, which is lower than last year's level by 0.42 lakh tonnes. In view of significance of this crop for tribal farmers, serious efforts should be made to increase its area, production and yield. (Table 2.1)

2.87 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 2003-04 and 2004-05 (Upto July, 2004) is given below: -

Table: Export of Nigerseed

Sl.No.	Year	Quantity (In tonnes)	Value (In Rs. Crores)	Unit value (In Rs./kg.
1.	2000-01	29490	80.35	27.25
2.	2001-02	22220	47.85	21.53
3.	2002-03	36130	77.99	21.59
4.	2003-04	17890	45.41	25.38
5.	2004-05 (April-July 2004)	5560	14.64	26.33

Source: DGCI&S.Kolkata

It may be observed from the above table that the exports, which were 36130 MTs in 2002-03, declined to 17890 MTs in 2003-04 though the unit value of exports improved to Rs.25.38 in 2003-04 from Rs.21.59 in 2002-03

Sesamum

2.88 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 but 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 hectares respectively in 2002-03 improved to 17.74 lakh hectares, 8.03 lakh tonnes and 453 kg. per hectares respectively in 2003-04 mainly due to favourable monsoon. During the period ranging between 1990-91 and 2003-04, the area and production declined at the compound growth rate of 3.09 percent and 1.17 percent per annum respectively, while the yield grew at a rate of 1.98 percent only. The second advance estimates of the Directorate of Economics & Statistics place its production at 6.48 lakh tones in 2004-05, which is lower by 1.55 lakh tonnes than the last year's production. The fall in production in 2004-05 may be attributed to the erratic monsoon. 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 per hectare), Tamil Nadu (521 kg. per hectare) and lowest (267 kg. per hectare) in Andhra Pradesh. (Table

2.1)

2.89 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 2004-05 (upto July 2004) is given in the following table:

Table: Export of Sesamum

Sl.No.	Year	Quantity (In MTs)	Value (In Rs. Crore)	Unit Value (In Rs. Per kg.)
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1.	2000-01	183310	517.57	28.24
2.	2001-02	218970	562.23	25.68
3.	2002-03	118380	373.00	31.51
4.	2003-04	189110	708.89	37.48
5.	2004-05 (April-July 2004)	32680	139.47	42.68

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

2.90 Like other oilseeds crops, the area, production and yield of sunflower also increased with the setting up of the Technology Mission on Oilseeds in 1986. During the period 1990-91 to 1995-96, the area, production and yield of this crop grew at the compound growth rate of 11.55 percent, 15.33 percent and 3.39 percent 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 compound growth rate of 4.19 percent, 4.97 percent and 0.81 percent per annum respectively during the period 1995-96 and 2003-04. 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 20.01 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 9.92 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 496 kg. per hectare in 2003-04. The second advance estimates of the Directorate of Economics & Statistics put the production of this crop at 12.41 lakh tonnes in 2004-05, which is higher by 2.5 lakh tonnes than last year's production. The sunflower is the only kharif oil seed crop whose production is estimated to have increased in 2004-05. (Table 2.1)

2.91 Sunflower is mainly grown in Karnataka, Andhra Pradesh and Maharashtra and in small areas in UP, Punjab, Haryana and Tamil Nadu. The recorded per hectare yield of the crop in 2003-04 was highest in U.P. (1708 kg.) followed by Punjab (1600 kg.), Haryana (1483 kg.), Tamil Nadu (1288 kg.), Andhra Pradesh (678 kg.), Maharashtra (396 kg.) and lowest in Karnataka (375 kg.). In view of the high productivity of sunflower in Punjab, Haryana and UP, 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

2.92 Cotton occupied centre stage of production, supply management and market dynamics of the agrarian economy during the year 2004-05 necessitating proactive institutional and policy intervention. Cotton production remained sluggish in recent years due to either widespread pest incidence or weather anomalies and dived down to 87 lakh bales (Official Estimates, Directorate of Economics and Statistics, 1 bale: 170 kgs) in 2002-03 compared to earlier peak level of 142.3 lakh bales achieved in 1996-97. During 2003-04, the production recovered to 138.66 lakh bales. During 2004-05, the cotton production performed exceptionally well. According to 2nd Advance Estimates (Official), the cotton production in 2004-05 is pegged at 170.7 lakh bales, accelerating by 23 per cent over previous year and surpassing the production target of 150 lakh bales by 13.8 per cent.

2.93 The impressive cotton crop during the two consecutive recent years, after a prolonged subdued spell was an outcome of multiple factors such as farmers response to the good price received in the previous year, steady inroads made by improved cropping practices with the wider use of BT Cotton seeds in conjunction with favorable weather in cropping season and generally pest free cropping conditions. The total area under cotton cultivation that had come down to 76.70 lakh hectares in 2002-03, sliding further to 76.30 lakh hectares in 2003-04 from its peak level of 93.4 lakh hectares of 1998-99, scaled new heights in 2004-05 with 99.7 lakh hectares coverage.

2.94 India is the leading country in cotton acreage with more than one-fourth of about 350 lakh hectares cotton area in the world. China and USA distantly follow with about 57 lakh hectares and 53 lakh hectares cotton acreage respectively. However, in terms of total production, China tops the world by producing about 295 lakh bales, followed by USA with production of 215 lakh bales leaving India behind at third position. The main reason for such a dichotomy of India's performance in acreage and production is its abysmally low level of productivity. The annual average yield of cotton in India (TE 2003-04) is 328 kg per hectare. The cotton yield in China and USA is reported to be about 1127 kg per hectare and about 877 kg per hectare respectively. India's cotton productivity even lags much behind Pakistan (612 kg/ha), Uzbekistan (739 kg/ha), Iran (646 kg/ha), Afghanistan (370 kg/ha), and of some of the African countries like Sudan (435 kg/ha), Mali (454 kg/ha) and Burkina (501 kg/ha). The main factors stimulating the productivity of cotton are irrigation and seed. The persisting low productivity in India over the years is mainly attributed to the fact that nearly 65 per cent of the cotton area is rain-fed. The average productivity of cotton in states of Punjab and Haryana having near complete irrigation is 428 kg/hectare and 365 kg/hectare respectively whereas Maharashtra having largest share in country's cotton acreage (28 per cent) with only 4 per cent of the cotton area under irrigation has the lowest yield of around 140 kg/hectare. The productivity of cotton in Andhra Pradesh, Karnataka and Tamil Nadu having moderate irrigation (10-30 per cent) ranges between 219 kg and 281 kg/hectare.

2.95 The cotton productivity lately has started picking up. The average yield for TE 1994-95 was 298 kg/hectare is poised to cross the milestone of 400 kg/hectare during 2004-05. In some of the states like Gujarat, productivity may match the world average of 627 kg/hectare. The sharp rise in yield may be attributed to BT cotton as well as favourable weather. Although the wider adoption of BT cotton is not confirmed officially, it is believed that the farmers have adopted these seeds through private sources and derived productivity gains. Given the fact that expansion of area under irrigation is a long-term phenomenon, the yield could possibly be increased in the short run through adoption of GM seeds which have resistance to pests and diseases. The higher productivity besides reducing the cost of production due to lower

expenses on pesticides would raise the competitiveness of cotton in the world market. The Commission feels that India, with its major share in world cotton area could considerably influence the world supply of cotton, provided its yield is enhanced to match the world average level.

2.96 With the lapse of Multi Fibre Agreement (MFA) since 1st January, 2005, and reforms in textile trade, ample opportunities for India to expand the textile trade are envisaged. This emerging transformation should create larger demand for cotton and cotton farming should benefit from it. This would require improvement in productivity, quality and specifications of cotton for meeting rising needs of industry. However, availability of quality cotton seed, BT or otherwise at affordable price should not pose a constraint. Apart from high cost, there is undue delay on the part of ICAR to release BT cotton seed in different regions such as Punjab and Haryana, the regions having potential of increasing productivity with extensive irrigation facility. Sometimes spurious GM seeds are also passed by scrupulous input suppliers to the farmers, which results into productivity loss. Such incidences call for strict implementation of Seed Act by the Government agencies.

2.97 The Commission is aware of the on going issues on divergence between the official and trade estimates of cotton production, due to inherent methodological features adopted for each estimate. However, there exists a fair degree of consistency in the trends of the time series of the two estimates. The Commission, therefore, considers both the sets of estimates appropriately while formulating the price policy. The Commission observed in its previous report about the buoyancy in the supply and resultant depression in the prices during the cotton year 2004-05. According to the domestic balance sheet of cotton for 2004-05, prepared by the Textile Commissioner, Ministry of Textile, the total import of cotton during 2004-05 is likely to be about 5 lakh bales as compared to 6.50 lakh bales imported in the previous year. This is the minimum level of import, particularly the import of long staple or extra long staple cotton, demanded by the industry on specific quality consideration. Adding to it, the opening stock of 21 lakh bales and production of 213.00 lakh bales as estimated by the Cotton Advisory Board (CAB) (trade estimates), the total supply of cotton in the country is expected to be about 239.00 lakh bales. As against this, the total demand for cotton, including both mill and non-mill consumption and export is likely to be about 205 lakh

bales. It means the year 2004-05 is going to close with a surplus stock of 34 lakh bales.

2.98 Notwithstanding the fact that the domestic supply situation was comfortable, the cotton prices remained higher than the previous year throughout 2003-04 except towards the end of the season, due to demand-supply interplay in global market. The domestic cotton sector is fairly integrated with world economy due to backward and forward linkages of textile industry with domestic and international market. Therefore, Indian cotton prices also align with world prices. Bearish international sentiments due to expected bumper crop in the forthcoming year, had an adverse impact on the domestic prices in the second half of 2004. Prices declined with a precipitous fall in September 2004. International cotton prices had also started declining with a good crop sentiment at the commencement of the international cotton year in August 2004. By the time domestic cotton year began in October 2004, the kapas prices in various markets of the country started ruling lower than that of the previous year albeit above MSP. However, it soon touched the MSP level with increased market arrivals and in some places the market could not defend the MSP by the end of the year. The spot prices of some of the common varieties of cotton in the states quoted at different points of time in the current cotton year 2004-05 are given below:

Table - I

Market Prices of Kapas during 2003-04 and 2004-05

(Rs. Per quintal)

Date	Desi		J-34		LRA		H-4	
	2004-05	2003-04	2004-05	2003-04P	2004-05	2003-04	2004-05	2003-04
MSP	Rs.1310	Rs.1285	Rs.1815	Rs.1780	Rs.1835	Rs.1800	Rs.1960	Rs.1925
1 st Oct	1900	1900	2036	2500	2035	-	2130	2700
14 th Oct	1810	1790	1918	2495	2025	2400	2090	2685
30 th Oct	1825	1940	1908	2607	-	2585	2120	2650

16 th Nov	1790	1910	1865	2556	-	-	2080	2535
30 th Nov	1760	-	1815	-	-	2485	1960	-
18 th Dec	1695	2860	1815	2546	-	-	1960	2452

(Source: Cotton Corporation of India)

The average price quotations of lint during the current season 2004-05 vis-a vis the previous season 2003-04 are as under:

Table –II

Market Prices of Lint during 2003-04 and 2004-05

(Rs/per qtl.)

Date	Desi		J-34		LRA		H-4	
	2004-05	2003-04	2004-05	2003-04	2004-05	2003-04	2004-05	2003-04
1 st Oct	4077	3712	4752	5680	5118	6186	5343	6411
14 th Oct	3993	3684	4330	5540	4780	5821	4977	6186
30 th Oct	4077	4162	4359	5990	4809	6243	4893	6383
16 th Nov	3796	3937	4077	5961	4612	6186	4837	6411
30 th Nov	3712	3712	3852	5596	4274	5708	4387	5821
13 th Dec	3543	4049	3937	5793	4218	5877	4359	6046

(Source: Cotton Corporation of India)

2.99 The Cotton Corporation of India (CCI) commenced its MSP operation initially in Andhra Pradesh and Karnataka. As kapas prices went below MSP level, CCI intervention was necessitated in Punjab, Haryana, Rajasthan, Madhya Pradesh, Gujarat. In Maharashtra, CCI resorted to commercial purchase due to the prevalence of monopoly procurement in the State. However, the total procurement of about 9.71 lakh bales by CCI till 31 December 2004 amounting to only 4.56 percent of the total production was found to be quite inadequate to hold the price. The Maharashtra State Cooperative Cotton Growers Marketing Federation, on the other hand, purchased cotton at a higher rate of Rs.2500 per quintal as against the support price of Rs.1960 per quintal for H-4/H-6 hybrid cotton with the payment offered in three instalments – the payment of first instalment of price equivalent to MSP was made at the time of procurement and the balance to be paid as bonus in two instalments in the month of June 2005 and October 2005. The State Government plans to procure about 150 lakh quintals from the farmers with an outlay of Rs1600 crores. The Maharashtra State Cooperation Cotton Growers Marketing Federation is reported to have procured about 20 lakh bales as on 31st December 2004.

2.100 While, the falling cotton prices in Maharashtra have been checked by State's monopoly procurement, CCI's intervention in other states remained inadequate to hold cotton prices at the MSP level. The farmers had expressed their disappointment as their expectations to get better income this year have been belied inspite of their good production performance. The Commission feels that the existing procurement system was not properly equipped to tackle the surplus supply and this calls for urgent attention of policy makers. One of the alternative solution is to create a mechanism of building a buffer stock. The buffer stock agencies at the end of a specified period may sell it in the market at profit or loss at Government risk. The Commission would recommend that ***the Government should examine the feasibility of creating a buffer stock in cotton to streamline the supply management and protect the interests of the farmers from fluctuating market prices.*** The Commission also acknowledges the recent initiative to allow NAFED to procure cotton at MSP. This will help in building a competitive spirit in procurement and the farmers will have more options in the market. The Commission would also recommend that ***both CCI and NAFED should be equipped with adequate resources and infrastructure not only***

for procurement of cotton but also for trading in domestic and international market.

2.101 The International Cotton Advisory Committee (ICAC) while releasing its projected demand and supply figures on January 1, 2005 stated that the estimated world cotton production of 24.87 million tonnes in 2004-05 would be higher by 20.4 per cent than the production of 20.65 million tonnes in 2003-04. The higher production was attributed to 10 per cent expansion of area over previous year and a rise in average yield of cotton pegged at 682 kg per hectare. The estimated world consumption of 22.53 million tonnes in 2004-05 was also higher than previous year's consumption figure of 21.18 million tonnes. The cotton trade however, is likely to fall from 7.27 million tonnes in 2003-04 to 6.74 million tonnes in 2004-05 due to increased production in most of the cotton producing countries. While taking into account, the opening stock, trade and consumption, the closing stock of cotton for 2004-05 is estimated at 10.14 million tonnes as against 7.79 million tonnes in the previous year. ICAC predicts that the average Cotlook 'A' index for 2004-05 may remain around 48 cents per pound as compared to 69.24 cents in 2003-04.

The Cotlook A index (staple length = 28 mm) for international cotton season (August-July) for 2001-02, 2002-03, 2003-04 and 2004-05 is given below:

International Reference Prices of Cotton

Month (Provisional)	Cotlook A index in US cents/lbs			
	2001-02	2002-03	2003-04	2004-05

August	43.48	49.62	60.49	53.56
September	41.26	49.02	64.08	56.37
October	37.12	49.58	72.56	52.60

November	37.67	52.30	76.77	49.23
December	40.49	55.24	73.62	51.03
January	43.42	56.71	76.15	
February	42.77	58.61	73.94	
March	42.02	61.04	72.23	
April	41.43	60.78	69.45	
May	39.91	57.80	70.04	
June	43.16	58.50	64.55	
July	46.57	60.21	57.02	
Average	41.61	55.78	69.24	52.56 (so far)

(Cotlook A index is the average of the five lowest quotes of the cotton=28mm)

2.102 The subdued international cotton prices mainly on account of healthy cotton crop in 2004-05 in most of the cotton producing countries is likely to affect the trade sentiments throughout the world. Besides, the production performance, policies of support and subsidies in some major cotton growing countries also affect the international prices to a great extent. China's production of 29.5 million bales in 2004-05 is expected to rise by 13.7 percent over previous season on account of both expansion in area under cotton cultivation and rise in yield. Despite harvesting a bumper crop this year, China is also expected to enter the world market for import of cotton to build its stocks and meeting its expanding textile trade commitments. USA's production of 20.9 million bales of cotton during 2004-05 is expected to rise by 24 percent over previous season. The rise in production is expected both from upland cotton and extra long staple cotton. A host of factors are responsible for the rise in production which include a record rise in national yield in 2003-04, rate of change of farm prices being above the loan rate, increased profitability and a normal planting season in 2004. Generally one third of cotton produced in USA is consumed domestically and the remaining two third is exported. USA accounts for about 20 percent of the total world

export of cotton and its major importer is China which accounts for about 35 percent of USA's total export. Although production of cotton in USA has increased manifold, its export is likely to decline because of the lower demand by major importing countries due to bumper cotton crop all over the world. World aggregate supply and demand estimates suggest that the Cotlook A index during 2004-05 may average at 48 to 50 cents per pound i.e. about 30 percent less than the last marketing season.

2.103 Continued import of large quantity of cotton by the cotton mills in recent years was facilitated by low tariff of 10 per cent applied on modest level of international prices. India's major suppliers include USA, Australia, West Africa, Egypt and CIS countries. Apart from price consideration, quality was also the prime factor particularly the need for long and extra long staple cotton, inducing import of cotton during the past three years. On an average, the annual import of cotton during the period 1999-2003 was 16 lakh bales. India's export of staple cotton in the recent years has lost some of its ground because of the tight position of domestic supply, the depleting price competitiveness and lower quality. The annual average export of cotton during the last four years remained low at about 7 lakh bales. The Government introduced recently a cotton export scheme for 2004-05, being operated by CCI, to stimulate the export and ease the supply pressure in domestic market. While export of raw cotton remained negligible, there exist possibilities for the Indian textile industry with its value added chain – i.e. fibre to finished products, to absorb the domestic surplus of production due to higher world demand resulting from removal of quota restrictions from January 2005. The textile industry appears to be upbeat in view of a substantial investment made (about \$ 14 billion) during the last five years in textile industry for its capacity expansion and modernization. The National Textile Policy 2000 that envisaged textile export at US \$ 50 billion with garment's share of US \$ 25 billion by 2010, states that India's share in the world textile trade would increase from the current rate of 3.13 per cent to 7 per cent. This in turn, should increase the demand for domestic cotton and ultimately benefit the farmers.

2.104 Still there are many problems persisting with the cotton economy: low productivity; frequent attack by pest and diseases impinging on cost of cultivation and productivity; the non availability of quality seeds that is

resistant to pests and diseases at affordable rate and marketing bottlenecks for farmers. Besides, the problems of quality due to varietal dispersion, poor post harvest management and obsolete ginning and pressing factories are the perennial constraints. To make Indian cotton competitive, all these problems need to be tackled in an integrated manner. The Commission recommends that ***some of the fundamental problems of cotton economy such as low productivity, high costs of production, non-availability of pest and disease resistant quality seeds and marketing bottlenecks need to be addressed on priority basis to make Indian cotton competitive in the world and to gain substantially in post MFA textiles regime.*** Several of these issues are encompassed in the Technology Mission on Cotton, which is now in its sixth year of operation. The elements of the mission, though have been delivering some results, have to be geared up. The progress of modernization of ginning and pressing units which is undertaken by the Mission, needs to be closely monitored and speeded up and resource constraints, if any for modernization should be overcome because the technology constraint for quality improvement of cotton is clearly acting as a development deterrent in the textile sector. Secondly, there is a continued shortage of long staple and extra long staple cotton in the country. Recently some areas like Koraput – Bolangir and Kalahandi districts of Orissa have been nurtured to produce long staple fine cotton but it lacked market support. These areas need to be supported and sustained with direct participation of cotton mills or other institutional arrangements. The Government should encourage contract farming in the new areas of potential cotton farming. The Commission recommends that ***the Government should set up a Core Group on Cotton with representation from farmers, State Government, Industry, Trade and Commercial Organization, procurement agency, etc. to meet periodically and comprehensively address the problems faced by the respective stakeholders.***

2.105 Under Mini Mission III and IV, the Govt. of India envisages to improve market yards and modernize ginning and pressing factories. Of the 400 market yards existing in the country, 171 are targeted for development on mission mode and 111 projects are being implemented to develop market yard. So far about 71 projects have been completed and the remaining 40 projects are likely to be completed by March 2005. The development programmes include *inter-alia*, cemented roads, pucca platforms, sheds,

parking places, grading laboratories, farmers information centers, rest houses, canteen and sanitary facilities etc. It is expected that improved market yards will reduce contamination of cotton, which is the major problem for the Indian cotton currently. Out of over 4000 ginning and pressing factories in India, only 700 units are composite units with both ginning and pressing facilities. The present level of cotton production requires about 800 ginning complexes. Of about 500 ginning cum pressing factories targeted for modernization, 430 projects have already been approved and 260 projects have been completed by October 2004. The remaining would be completed by 2006-07.

2.106 The Commission perceives an optimistic outlook for cotton economy during 2005-06 for two reasons: (a) although price is a dominant factor influencing the decision of the farmers for acreage, the relative price realization of cotton with certain degree of marketing arrangement vis-à-vis other crops favours cotton farming as a better option than other crops; (b) BT cotton is finding farming preference over traditional cotton. The structural changes witnessed in cotton sector in India in the past two years indicate that the acreage under cotton is sustainable. On the price front, the Commission expects that the present subdued demand will start defusing after March/April, when the mills consumption will start rising due to demand for textile. On the whole, the gross farming returns may not be substantially affected. The overall supply of domestic cotton next year, therefore may only be subjected to climatic uncertainties, that frequent the arid and semi-arid cotton production regions.

Tobacco

2.107 Virginia Flue Cured (VFC) tobacco is an important cash crop in a number of Indian states, namely Andhra Pradesh, Maharashtra, Orissa and Karnataka. In India, the tobacco sector, from farm to processing, manufacturing and marketing of product, generates total employment opportunity for over 3 million people. The annual foreign exchange earning from tobacco export is estimated to be about Rs.800 crores. Since tobacco economy provides employment to large number of persons in rural areas and fetches substantial amount of foreign exchange and a sizeable amount of revenue, emerging dynamics of tobacco consumption is poised to have the socio-economic implications on the tobacco cultivation. 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. The crop is grown both in light soils and black soils. There are seven soil regions in the country where tobacco is produced. Northern Black Soils (NBS) are located in the districts of East and West Godavari districts of Andhra Pradesh. The tobacco produced in NBS is mostly preferred by East European markets. The Central Black soils (CBS) are located in Krishna, Guntur, Karim Nagar and Warrangal districts of Andhra Pradesh and part of Maharashtra. The tobacco produced from CBS is exported to East European markets. Southern Black soils (SBS) are located in Prakasham and Nellore districts of Andhra Pradesh. The tobacco produced from SBS is generally exported to African countries, Nepal and CIS countries. Southern Light Soil (SLS) are located in Prakasham and Nellore districts of Andhra Pradesh. The crop produced from SLS is generally exported to UK and EEC countries. Northern Light Soils (NLS) are situated in East and West Godavari and parts of Khammam districts. The soils are sandy to sandy loams and irrigation is necessary to produce tobacco. The tobacco produced from here is exported to UK (British American Tobacco) and Germany. Eastern Light Soils (ELS) are located in Vijayanagram districts of Andhra Pradesh and Rayagoda district of Orissa. Tobacco cultivation is encouraged in this region as an alternative to NLS area. Karnataka Light Soils (KLS) are located in Mysore, Hassan, Shimoga, Coorg and Chitradurga districts of Karnataka. The heavy rainfall in these areas is favorable for tobacco cultivation.

2.108 The tobacco year 2003-04 opened with carry over stock of 59.19 million kg. Adding to it the production of 221.66 million kg, the total availability of tobacco was estimated at 280.85 million kg. As against this, the demand for tobacco was estimated at 175.49 million kg, on the assumption of 44.33 million kg as wastage and farm retention, 70.00 million kg for domestic consumption and 98.52 million kg for export. Thus the current tobacco year 2004-05 opened up with carry over opening stock of 68.00 million kg. The estimated production for the current year was placed at 216.56 million kg. Similarly, the consumption, export and wastage of tobacco were estimated at 70 million kg, 100 million kg and 46 million kg respectively. The year 2004-05 is expected to close with a surplus stock of 68.56 million kg to be carried forward to the next year.

2.109 The total area under tobacco cultivation in Andhra Pradesh, Maharashtra and Orissa has been rising for the last five years since 2000-01 in spite of Governmental measure to reduce demand and supply of tobacco. To manage over production of tobacco, the Tobacco Board declared 2000-01 as a crop holiday. However, subsequently, the area under tobacco increased from about 88 thousand hectares in 2001-02 to 93 thousand hectares in 2002-03, further to 109 thousand hectares in 2003-04 and finally to 113 thousand hectares in 2004-05. Similarly, in Karnataka, the area has been continuously rising from 48 thousand hectares in 2001-02 to 69 thousand hectares in 2003-04 and finally to 70 thousand hectares in 2004-05. Although, the area has increased in Andhra Pradesh, Maharashtra and Orissa in the current year, the estimated production of 137.81 is likely to be less than last year by about 10 thousand tonnes.

2.110 In its recent study, FAO has predicted a decelerated growth in consumption of tobacco in the world until the year 2010, and the expected per capita consumption of tobacco may decline to 1.4 kg per year in 2010 from 1.6 kg per year in 2000. A major part of the projected demand for tobacco is expected from Far East, particularly China, whose share in the world's total demand would be around 37 percent. India, by accounting for 21 per cent of the world's consumption becomes the second largest consumer of tobacco.

2.111 The Commission recommends MSP for F₂ grade black soil and L₂ grade of light soil VFC tobacco. For 2002-03, the Commission had recommended Rs.28 per kg for F₂ grade and Rs.30 per kg for L₂ grade VFC tobacco. The Tobacco Board fixed the prices for other varieties of tobacco based upon grade differential and recommended MSP for basic grade of F₂ and L₂VFC tobacco. The MSP recommended by Commission at Rs.31.00 per kg for F₂ grade and Rs.33 per kg for L₂ grade VFC tobacco for 2003-04 were accepted and announced by the central Government. The MSP recommended by Commission at Rs.34 per kg for F₂ grade and Rs.36 per kg for L₂ grade VFC tobacco for 2004-05 were, however, reduced by the Government to Rs 32 for F₂ grade and Rs.34 kg for L₂ grade.

2.112 The Minimum Guaranteed Price (MGP) an informal negotiated price between farmers and the traders offered by Tobacco Board, and the actual average price realized by the growers in the past remained much higher than

the MSP announced by the Government. The average price realized in Andhra Pradesh for L₂ grade in 2003 was Rs.46.35 per kg and Rs.43.12 per Kg. for F₂ grade. The average price realized for F₂ grade in Karnataka was Rs.55.92 per kg. In 2004-05, the reported price realization in Andhra Pradesh is Rs. 48.79 kg. for L₂ grade and Rs. 41.92 kg. for F₂ grade.

2.113 The Tobacco Board stated that since the cost of production, the quality and yield of tobacco widely varied in KLS, SLS and NLS, a single MSP for all regions would not be appropriate. Moreover, there was always a huge price differential between MSP and the Auction Price of different grades. With a low level of MSP compared to the MGP or Auction Price, the traders exploited the farmers, since auction price was mostly determined by MSP as the benchmark.

2.114 It is admitted that a crop like tobacco where the auction price is driven by vast export demand in comparison with MSP, which is predominantly determined by the average cost of production, may often depress the auction price and thereby price realization by the farmers. Generally MSP also acts as an instrument to modulate crop planning but in case of tobacco, the exogenous policy factors and market behaviour have a role stronger than MSP. The Commission would recommend that ***the Government may examine the relevance of MSP in tobacco production vis-à-vis MGP and Auction Price and whether the tobacco production and pricing could be left to either market forces or to Tobacco Board.***

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

The cost of production is perhaps the most important among the multiple factors that go into the formulation of price support policy. For this reason the Commission reviews comprehensively the level of cost of production of each of the crops grown in different parts of the country. Apart from paid out operational costs, 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, owned value of inputs, rental value of owned land, interest on fixed capital etc. are also considered. The usual source of cost data continues to be the Directorate of Economics & Statistics, Ministry of Agriculture who generate statewise estimates of cost of cultivation of various crops under the Comprehensive Scheme (CS). In addition, the Commission also obtains extensive feed back from state governments and other organisations, which provide valuable information on state specific input prices as also estimates of cost of cultivation generated by state governments. Besides, price indices in respect of some agricultural inputs are obtained from the office of the Economic Adviser, Ministry of Industry whereas the month-wise average wage rates for agricultural labour are obtained from Labour Bureau.

3.2 After the submission of the Commission's last report on Price Policy for Kharif Crops for 2004-05 season, the statutory minimum wages for agricultural labourers have been revised upward in the states of Haryana, Madhya Pradesh, Punjab, Uttaranchal and West Bengal. According to the data obtained from Labour Bureau, the actual average agricultural wage rates, between the Kharif seasons (April- September) of 2003 and 2004, are observed to have increased by 1 to 4 per cent in Bihar, Gujarat, Karnataka, Madhya Pradesh, Maharashtra, Punjab, Tamil Nadu and West Bengal. In the states of Andhra Pradesh, Assam, Haryana, Orissa, Rajasthan and Uttar Pradesh the increase in the wages is 5 per cent during the same period.

3.3 The prices of High Speed Diesel (HSD), one of the most significant farm input, as measured by the WPI reached the level of 388.2 in January, 2005 from 321.6 prevailing in February, 2004 registering a sharp increase of about

21 per cent. A similar increase of about 25 per cent is observed for Light Diesel Oil (LDO) also. The prices of other farm inputs as measured by WPI are observed to have increased by 2.69 per cent for pesticides, 4.62 per cent for tractors, 9.29 per cent for lubricants and 9.75 per cent for non-electrical machinery between February, 2004 and January, 2005. However, the prices of fertilizers have registered an increase of less than one per cent which is almost negligible. It may be pertinent to note in this regard that most of the state governments in their interaction with Commission, informed about the non-availability of the fertilizers and the associated rise in the prices of fertilizers. (Tables 3.1 & 3.2)

Estimates of Cost of Cultivation and Projected Costs for 2005-06 Season

3.4 After the submission of the Commission's last Report on Price Policy of Kharif crops for 2004-05 season, the Directorate of Economics & Statistics (DE&S) has provided the estimates of cost of cultivation/production for the year 2002-03 for different crops. This year was a severe drought year for the Kharif crops. As a result, 17 out of a total of 82 estimates of cost of cultivation/ production received in the Commission registered all-time low yields in the last five years. It may be mentioned in this regard that these unusually low yields and costs have been kept out of the projection regime and have not been used for framing the price policy recommendations for the Kharif season 2005-06. Interestingly, a few estimates of cost of cultivation/production for the year 2002-03 show all-time high yields in the last five years

Paddy

3.5 The Directorate of Economics & Statistics has provided the estimates of cost of cultivation/production of paddy for the year 2002-03 in respect of Andhra Pradesh, Assam, Bihar, Haryana, Karnataka, Kerala, Madhya Pradesh, Orissa, Punjab, Tamil Nadu, Uttar Pradesh and West Bengal. The cost estimates of paddy with respect to Chattisgarh, Jharkhand and Uttaranchal have become available for the first time for the year 2002-03. 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 2001-02 and 2002-03 the estimated C_2 cost of cultivation per hectare has increased in all the states except Assam, Madhya Pradesh and Orissa. The lower cost of cultivation is associated with fall in the yield levels by 20 per cent and 32 per cent respectively in the states of Orissa and Madhya Pradesh during the year. In the case of Haryana and Punjab, the increase in the C_2 cost of cultivation is high ranging between 24 to 26 per cent. The C_2 cost of production per quintal has increased in all the states for which estimates are available. The increase in C_2 cost of production is observed to be more than 24 per cent in the case of Punjab and Orissa. 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.

3.6 In order to derive the likely cost of production of paddy for the ensuing crop season (2005-06), the Commission has, as usual, used the base level CS data pertaining to different states for the latest three years ending 2002-03. In other words, each of the estimated costs for 2000-01, 2001-02 and 2002-03 have been projected to 2005-06 and their average taken. For projections, a state-specific Variable Input Price Index has been constructed to capture the actual movements of input prices between the base year and the year of projection (2005-06). No projections have been made in respect of Chattisgarh, Jharkhand and Uttaranchal in the absence of time series data for the states. (Table 3.5)

3.7 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 2005-06 works out to an average of Rs. 399 for Andhra Pradesh, Rs. 436 for Assam, Rs.365 for Bihar, Rs.478 for Haryana, Rs.456 for Karnataka, Rs. 633 for Kerala, Rs.495 for Madhya Pradesh, Rs.426 for Orissa, Rs.324 for Punjab, Rs. 426 for Tamil Nadu, Rs.371 for Uttar Pradesh and Rs. 445 for West Bengal. As against this, the projected C_2 cost of production of paddy for these states average at Rs. 578, Rs.564, Rs.512, Rs. 685, Rs.602, Rs.765, Rs.682, Rs.558, Rs.481, Rs.620, Rs. 511 and Rs. 573 per quintal respectively for 2005-06. The weighted average cost of production of paddy for all these states works out to Rs. 407 on cost A_2+FL basis and Rs. 558 on cost C_2 basis. [Table 3(G)]

3.8 It is observed from the above that the average C_2 cost of production of paddy is the lowest in Punjab followed by Uttar Pradesh. Based on the MSP fixed for paddy (Common) for 2004-05 at Rs.560 per quintal, both these states command a margin of about 17 per cent and 10 per cent over C_2 costs of production currently being projected. On the other hand, the costs of production of paddy are much on the higher side in Haryana, Kerala and Madhya Pradesh. 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. 27808 is very close to that of its neighbour, Punjab. However, Haryana produces finer quality of paddy of basmati variety in a large area which results in much lower yield levels averaging around 40 quintals per hectare as against 59 quintals obtained in Punjab for common variety.

3.9 The Commission regularly examines the cost data received from some of the state governments and compares them with those made available by the DES for the latest year 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 is useful for the purpose of cross-checking 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.

3.10 From Table 3(H) it is observed that the cost of production of paddy estimated by Madhya Pradesh, Uttaranchal and West Bengal at Rs 610, Rs. 378 and Rs. 455 per quintal for 2002-03 are lower than those given under CS at Rs.690, Rs. 529 and Rs.549 per quintal respectively. In the case of Uttar Pradesh, however, the unit cost estimated by the state at Rs.589 per quintal is higher than the CS estimate mainly because of higher human labour cost considered by the state. As regards Bihar the per quintal cost estimated by the state for 2002-03 at Rs. 727 per quintal is much higher than the CS estimate for the year. This state estimate is inclusive of 25 per cent profit to the farmers, farmer's risk, management charges etc. The estimated cost of production of paddy provided by Andhra Pradesh and Gujarat for the year 2004-05 is Rs. 770 and Rs. 546 per quintal. The estimate of Andhra Pradesh

includes 10 per cent on account of managerial cost. However, no comparison is possible due to non-availability of CS data for 2004-05.

3.11 Punjab has given the projected cost of paddy for 2005-06 at Rs. 742 per quintal. This is inclusive of the weather risk, management charges etc. After making necessary adjustments for these, the projection works out to Rs.589 for 2005-06 which is higher than the Commission's projection at Rs.481 per quintal. This difference is mainly attributed to the much higher rental value of land considered by the state. This has been mentioned in the Commission's earlier reports and the issue has been repeatedly discussed during the meetings of the Commission with the state government officials. Bihar and Maharashtra have provided the projected cost at Rs.953 and Rs. 928 per quintal. In the case of Bihar the estimate is inclusive of 25 percent profit to the farmers whereas for Maharashtra it is inclusive of the 15 per cent profit to the farmers and also transport and marketing charges. After making similar 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 at Rs. 692 and Rs.682 per quintal respectively. It is observed that this adjusted projected cost for Bihar is still higher than the Commission's projection at Rs.512 per quintal for 2005-06 mainly on account of higher human labour cost and also higher fixed cost components considered in the state estimate. The state of Haryana has provided the projected cost at Rs.746 per quintal which is inclusive of management charges, weather risk, transportation charges etc. However, the adjusted projected cost works out to Rs.631 per quintal which is lower than the Commission's projection for the state. In the case of Maharashtra no comparison is possible due to non-availability of data under CS. [Table 3(I)]

Cotton (Kapas)

3.12 For cotton, the estimates of cost of cultivation/production for 2002-03 have become available in respect of Andhra Pradesh, Gujarat, Haryana, Karnataka, Madhya Pradesh Maharashtra, Punjab and Tamil Nadu. The data presented in Table 3(B) show that the C₂ cost of cultivation per hectare is estimated to have increased as compared to the preceding year in the states of Andhra Pradesh, Haryana, Karnataka, Madhya Pradesh, Maharashtra and

Punjab while in Gujarat and Tamil Nadu it has declined. This increase is higher in the case of Haryana and Madhya Pradesh as compared to other states. The unit C_2 cost of production of cotton has gone up in the states of Madhya Pradesh, Maharashtra and Tamil Nadu. It may be noted that yield levels of cotton have substantially increased in the states of Andhra Pradesh, Haryana and Madhya Pradesh in 2002-03 over the previous year. (Tables 3.6 & 3.7)

3.13 Following the same methodology as used in the case of paddy, the cost A_2+FL of cotton is projected for 2005-06 to an average of Rs.1200 for Andhra Pradesh, Rs.1425 for Gujarat, Rs.1252 for Haryana, Rs. 1677 for Karnataka, Rs.1500 for Madhya Pradesh, Rs.1813 for Maharashtra, Rs.1834 for Punjab and Rs. 1809 per quintal for Tamil Nadu. The corresponding cost C_2 per quintal is projected at Rs.1815, Rs.1761, Rs.1802, Rs.2318, Rs.2550, Rs.2303, Rs.2415 and Rs.2586 per quintal respectively. The weighted average cost of production of cotton for 2005-06 is placed at Rs.2077 per quintal on cost C_2 basis.

[Table 3(G)]

3.14 In addition, the estimates of cost of production of cotton for 2002-03 provided by the states of Gujarat, Madhya Pradesh and Maharashtra at Rs. 1391, Rs. 2009 and Rs. 2148 per quintal respectively are much lower than the corresponding CS estimates. The states of Haryana, Maharashtra and Punjab have given the projected costs of cotton for the year 2005-06. The projected costs provided by Haryana and Maharashtra are on the higher side as compared to the Commission's projections for these states. However, after similar adjustments as explained earlier, the projected costs in the case of these states work out much lower than the Commission's projected costs. In the case of Punjab, the two projections are almost the same after adjustment.

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

Coarse Cereals

3.15 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 2002-03 in respect of Andhra Pradesh,

Karnataka, Madhya Pradesh, Maharashtra and Tamil Nadu. It may be observed from Table 3(C) that between 2001-02 and 2002-03, the C_2 cost of cultivation for jowar per hectare is estimated to have increased with respect to Madhya Pradesh and Tamil Nadu. The yield level has increased by 13.89 per cent in the state of Maharashtra while in Madhya Pradesh it has increased by a lower margin of 3.43 per cent. However it has declined for the remaining states. The cost estimates for bajra have been received with respect to Gujarat, Haryana, Maharashtra and Uttar Pradesh. For bajra, the C_2 cost of cultivation is estimated to have increased in all the states for which data have been made available while the yield has registered a decline except in the case of Maharashtra. In case of maize, cost estimates have become available for Andhra Pradesh, Himachal Pradesh, Karnataka, Madhya Pradesh, Rajasthan and Uttar Pradesh. For the first time, cost estimates of maize have been made available for the states of Jharkhand and Uttaranchal. The yield levels have gone up in Andhra Pradesh and Himachal Pradesh while declined substantially in Uttar Pradesh and Karnataka. The cost estimates with respect to Karnataka and Tamil Nadu have been made available for Ragi. It is observed that C_2 cost of cultivation has declined by a big margin of 28 and 18 per cent respectively in the states of Karnataka and Tamil Nadu. This decline is associated with a substantial fall in the yield levels from 16.02 to 9.42 quintal per hectare in Karnataka and from 18.89 to 8.77 quintal per hectare in Tamil Nadu.

3.16 The projected cost of production (A_2+FL) for jowar for 2005-06 in respect of Andhra Pradesh, Karnataka, Madhya Pradesh, Maharashtra and Tamil Nadu are Rs.533, Rs.566, Rs.460, Rs.502 and Rs.466 per quintal respectively while the projected cost of production per quintal on C_2 basis for these states are Rs.866, Rs.732, Rs.635, Rs.642 and Rs.577 respectively. The weighted average A_2+FL and C_2 cost of production for jowar work out to Rs. 510 and Rs.677 per quintal respectively. The projected cost of production for bajra for the year 2005-06 with respect to the states of Gujarat, Haryana, Maharashtra and Uttar Pradesh on A_2+FL basis work out to Rs.467 Rs.507, Rs.548 and Rs.412 per quintal while the C_2 cost of production per quintal for these states are Rs. 563, Rs.674, Rs.666 and Rs.545 respectively. The weighted average A_2+FL and C_2 costs of production for the year 2005-06 work out to Rs.479 and Rs. 604 per quintal respectively. The A_2+FL projected cost

of production of maize for the states of Andhra Pradesh, Himachal Pradesh, Karnataka, Madhya Pradesh, Rajasthan and Uttar Pradesh are Rs.374, Rs 438, Rs. 343, Rs. 402, Rs. 548 and Rs.543 per quintal respectively, while the projected C_2 cost of production for these states works out to Rs.528, Rs.607, Rs.456, Rs.534, Rs.684 and Rs.687 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.436 and Rs.575 per quintal respectively. The projected A_2+FL cost of production for ragi for the year 2005-06 for the states of Karnataka and Tamil Nadu work out to Rs.557 and Rs. 727 respectively while the C_2 cost of production for these states are Rs.679 and Rs. 954 per quintal. The weighted average cost of production of ragi works out to Rs. 584 on cost A_2+FL basis and Rs.723 on cost C_2 basis respectively. [Table 3(G)]

3.17 The cost estimates for jowar have been made available by the states of Gujarat and Uttar Pradesh for the year 2004-05 while Maharashtra has provided the same for the year 2002-03. The state of Madhya Pradesh has provided cost estimates for three years 2002-03, 2003-04 and 2004-05. The estimate provided by Madhya Pradesh and Maharashtra at Rs. 573 and Rs. 418 for 2002-03 is much lower than the corresponding CS estimates. The cost estimates of bajra provided by Gujarat, Maharashtra and Uttar Pradesh for 2002-03 are on the lower side as compared to the corresponding CS estimates. For maize, cost estimates have been provided by the states of Andhra Pradesh, Bihar, Gujarat, Madhya Pradesh, Uttaranchal and Uttar Pradesh. The estimates of cost provided by Madhya Pradesh and Uttar Pradesh at Rs. 553 and Rs. 566 per quintal are much lower than the corresponding CS estimates. Maharashtra has also given the projected cost figures for jowar and bajra for the year 2005-06 at Rs.851 per quintal and Rs. 962 quintal respectively. However, when these have been adjusted using the Commission's concepts and methodologies, they worked out to Rs. 608 and Rs. 698 per quintal respectively. The Commission's projections for jowar and bajra for the state are Rs. 642 and Rs.666 per quintal respectively. Haryana has provided the projected costs of bajra and maize at Rs.664 per quintal. However, the adjusted projected cost works out to Rs.560 for both these crops. Bihar has projected the cost of production of maize for 2005-06 at Rs. 689 per quintal. When this projected cost is adjusted, it works out to Rs.627 per quintal. However no comparison is possible in the absence of cost estimates for Bihar under CS for the crop.

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

Pulses

3.18 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). The cost estimates of tur and urad with respect to Chattisgarh have been made available for the first time for 2002-03. It may be observed that the cost of cultivation per hectare for tur is estimated to be higher in the range of 10 to 20 per cent during 2002-03 with respect to Andhra Pradesh, Gujarat, Karnataka, Maharashtra and Orissa over the preceding year. The yield has increased in the states of Andhra Pradesh, Karnataka and Maharashtra while it has declined substantially in the case of Madhya Pradesh and Uttar Pradesh. The projected per quintal cost of production (A_2+FL) of tur for 2005-06 averaged at Rs.1242 for Andhra Pradesh, Rs.1001 for Gujarat, Rs.1327 for Karnataka, Rs.876 for Madhya Pradesh, Rs.817 for Maharashtra, Rs.1039 for Orissa and Rs.615 for Uttar Pradesh. The corresponding C_2 costs work out to Rs. 1812, Rs.1450, Rs.1773, Rs.1286, Rs.1190, Rs.1529 and Rs.1132 per quintal respectively. The weighted average cost works out to at Rs.899 and Rs.1342 per quintal on A_2+FL and C_2 basis respectively. As regards moong cost A_2+FL is projected at Rs.1359, Rs.1364, Rs.1504 and Rs.1354 per quintal for the states of Andhra Pradesh, Maharashtra, Orissa and Rajasthan respectively and cost C_2 at Rs.1964, Rs. 1734, Rs.2036 and Rs.1805 per quintal for these states respectively. The weighted average cost for moong for the same year works out to Rs. 1368 and Rs.1825 per quintal respectively for cost A_2+FL and C_2 . The A_2+FL cost for urad for the states of Andhra Pradesh, Madhya Pradesh, Maharashtra, Orissa, Rajasthan, Tamil Nadu and Uttar Pradesh have been projected at Rs.790, Rs. 1429, Rs. 1472, Rs.1222, Rs.1818, Rs. 1447 and Rs.792 per quintal respectively. The corresponding C_2 cost of production for these states works out to Rs.1315, Rs.1980, Rs.1857, Rs.1736, Rs.2359, Rs. 2188 and Rs.1221 per quintal respectively with weighted average A_2+FL and C_2 cost being placed at Rs.1202 and Rs. 1696 per quintal respectively.

[Table 3(G)]

3.19 For all the kharif pulses, the estimates of costs have been provided by the states of Andhra Pradesh, Gujarat, Maharashtra and Uttar Pradesh while Madhya Pradesh has provided cost estimates for tur only. In the case of tur,

the cost estimates provided by all these four states are lower than the corresponding CS estimates for the year 2002-03. The cost estimate for moong, as reported by the state of Maharashtra for 2002-03, is also lower than the CS estimate while no comparison is possible for Gujarat and Uttar Pradesh in the absence of CS data for the year 2004-05. The cost as projected by Maharashtra for tur is higher than the projection made by the Commission mainly due to a very high cost considered on account of human labour as compared to the CS estimate.

[Ta

bles 3(H) & (I)]

Oilseeds

3.20 The latest estimates of cost of cultivation/production for groundnut for the year 2002-03 have become available in respect of Andhra Pradesh, Gujarat, Karnataka, Maharashtra and Tamil Nadu. (Table-3(E)). The C₂ cost of cultivation per hectare for 2002-03 is estimated to be higher than that for the previous year in the states of Gujarat, Karnataka and Tamil Nadu. Although C₂ cost of production has registered an increase for all the states for which estimates have become available, the increase is much higher in the case of Gujarat due to significant decline in yield from 16.67 to 8.75 quintal per hectare. In the case of soyabean, cost estimates have become available for Madhya Pradesh, Maharashtra and Rajasthan. For the first time cost estimates of soyabean have become available for Chattisgarh for the year 02-03. The yield levels have declined in all the three states. In Madhya Pradesh the decline is substantial from 11.27 to 6.50 quintal per hectare. Cost estimates for sunflower are available with respect to Andhra Pradesh, Karnataka and Maharashtra. It is observed that the yield has declined in the states of Andhra Pradesh and Karnataka. Interestingly, the yield of sunflower in Maharashtra is an all-time high at 10.15 quintal per hectare since 1990-91.

3.21 The estimated costs of kharif oilseeds for the latest three years ending 2002-03 have been projected for the ensuing crop season of 2005-06 and their averages taken. Accordingly, the projected A₂+FL cost of production for groundnut averages at Rs.1324 per quintal for Andhra Pradesh, Rs.983 for

Gujarat, Rs.1349 for Karnataka, Rs.1494 for Maharashtra and Rs.1333 per quintal for Tamil Nadu. The C_2 cost of production for these states work out to Rs.1754, Rs.1256, Rs.1746, Rs.1795 and Rs.1697 per quintal respectively. The weighted average cost for groundnut works out to Rs. 1178 per quintal on A_2+FL basis and Rs. 1509 on cost C_2 basis. For soyabean, the projected A_2+FL cost works out to Rs. 690, Rs.719 and Rs.809 per quintal respectively for the states of Madhya Pradesh, Maharashtra and Rajasthan while the C_2 cost works out to Rs.978, Rs.913 and Rs.1004 per quintal respectively. The weighted average cost is Rs.709 and Rs.962 per quintal respectively on cost A_2+FL and C_2 basis. The projected costs for sunflower for 2005-06 for states of Andhra Pradesh, Karnataka and Maharashtra are placed at Rs.1918, Rs.1609 and Rs.1797 per quintal on C_2 basis. The weighted average cost on A_2+FL and C_2 basis work out to Rs.1343 and Rs.1754 per quintal respectively. For sesamum, the average projected A_2+FL costs are Rs.1413, Rs.1164, Rs.1585, Rs.1399, Rs.1440 and Rs.1525 per quintal and the corresponding C_2 costs work out to Rs.1844, Rs.1705, Rs.2283, Rs.2391, Rs.2417 and Rs.2314 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.1402 and Rs.2055 per quintal respectively. The C_2 cost of production of nigerseed in respect of Orissa has been projected to an average of Rs.1255 per quintal.

[Table

3(G)]

3.22 As against the estimated costs provided under CS, the estimates provided by the state governments of Gujarat and Maharashtra for the year 2002-03 are observed to be lower for groundnut. In the case of soyabean, the cost estimates given by the states of Madhya Pradesh and Maharashtra for 2002-03 are much lower than the corresponding CS estimates. In the case of sesamum, the cost estimates given by Gujarat and Madhya Pradesh are lower than the corresponding CS estimates for 2002-03. The projected cost provided by Maharashtra for soyabean, after adjustment is higher as compared to CACP's projection mainly due to higher yield considered under CS. The projected cost provided by Uttaranchal for soyabean is Rs.1471 per quintal, which after adjustment works out to Rs. 1040 per quintal. Projection for the year 2005-06 received for sunflower in respect of Maharashtra is Rs. 2352 per quintal which after adjustment works out to Rs. 1798 per quintal.

This is same as that projected by the Commission for the crop in the state.

[Tables 3(H) &

3(I)]

VFC Tobacco

3.23 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 2002-03. Karnataka, the only other important VFC tobacco producing state, is not covered under the C.S. The data presented in Table 3(F) show that between 2001-02 and 2002-03 the C₂ cost of cultivation has increased. The cost of production of tobacco in respect of Andhra Pradesh has been projected to an average of Rs.2998 and Rs. 3797 per quintal on cost A₂+FL and C₂ basis, respectively. [Table

3(G)]

Terms of Trade

3.24 Inter-sectoral terms of trade play an important role in the determination of minimum support prices. The Commission has expressed its concern from time to time, about deteriorating agricultural terms of trade over time. The index of Terms of Trade (ITT) with base TE 1990-91 (TE 1990-91 = 100) deteriorated from 106.6 in 1994-95 to 102.7 in 1999-2000 and 100.9 in 2000-01. The ITT marginally recovered to 102.6 in 2001-02 and 103.6 in 2002-03, but slid again to 102.5 in 2003-04. The index of Intermediate Consumption alone has risen to 259.1 as against the index of 254.9 for prices received by the farmers in 2003-04. In fact, deteriorating terms of trade, in conjunction with declining trend in farm profitability do not augur well for accelerated agricultural growth. Therefore, Government should pay due attention to rationalization of input-output price structure and make conscious efforts to reverse the existing trend of deteriorating terms of trade.

Inter-crop price parity

3.25 Prices provide incentive to farmers to make investments, adopt newer technology and take farming decisions. This aspect assumes greater significance in the context of recent policy initiative for diversification of agriculture, which will necessitate reallocation of resources from one crop to

another with appropriate policy measures, including price policy. Therefore, it has been the endeavour of the price policy formulated by the Commission to analyse inter-crop price parity which is basically a measure of relative prices of competing crops and give appropriate price signal for accelerated and diversified agricultural growth.

3.26 Amongst the several methods to track the movement of relative prices, one is to calculate the percentage change in MSP over two points of time and compare such changes across different crops. An alternative way is to compare real MSPs (MSP deflated by All Commodities WPI) over time and across crops. Since MSPs are not what the farmers usually receive, it is also desirable to look at the movement of real prices of crops as determined in the market (WPI of a commodity deflated by All Commodities WPI). This comparison is made more meaningful by examining the MSPs in conjunction with productivity of each crop. The Commission has tried to look at price parity from different angles as mentioned above. The broad findings are as below.

(Annexures II, III & IV)

3.27 The MSPs of paddy, wheat, coarse cereals, and cotton have increased by 173, 193, 186 and 172 percent respectively between 1990-91 and 2004-05. For pulses, the increase ranged from 190 to 230 percent and that for oilseeds from 123 percent (sunflower seeds) to 178 percent (rapeseed/mustard) in the corresponding period. As compared to the position obtained in the period covering the decade of nineties (1990-91 to 1999-2000), inter-crop price parity based on MSP is now much more balanced. The imbalance against coarse cereals and pulses has been reversed although the imbalance favouring wheat and disfavours certain oilseeds such as groundnut, soyabean and sunflower still persists.

3.28 Between 1990-91 and 2004-05, real MSPs of paddy, wheat, coarse cereals, pulses, oilseeds and cotton have on average increased by about 14, 21, 24, 26, 8 and 18 percent respectively. Thus, barring oilseeds, all other crops have witnessed significant increases in their real MSPs. It is noteworthy to compare this increase of real MSP with the increase in the decade of nineties (1990-91 to 1999-2000), the corresponding escalations were 26, 34, 21, 18, 1 and 27 percent. It is evident that price policy in the recent years has resulted

into more harmonious increase in real prices. Even in case of oilseeds, there has been significant improvement in the rate of increase in the real prices. The percentage change in the real MSP of some of the oilseeds such as rapeseed/ mustard and safflower were negative for the period 1990-91 to 1999-2000 which have become positive for the period 1990-91 to 2004-05. However, it needs to be noted that due to persistent large yield differentials, absolute levels of gross revenues continue to be much higher in the case of paddy and wheat as compared to several oilseeds and pulses. This underlines the fact that, in the absence of any breakthrough in yield raising technologies, there is a limit beyond which MSP cannot be of much help in raising the attractiveness of pulses, oilseeds and coarse cereals vis-à-vis paddy/wheat rotation.

Table 3(A): Cost Estimates for Paddy

Paddy		Rupees							
States	Year	A2+FL /Hect	C2 /Hect	A2+FL /Qtl.	C2 /Qtl.	C3 /Qtl.	Yield (Qtl.)/Hect..	Implicit Price(Qtl.)	MSP /Qtl.
Andhra Pradesh	2002-03	18829.37	29311.08	349.86	543.71	602.39	49.70	607.74	530(C)
	2001-02	18190.80	27043.45	364.30	538.35	595.42	46.67	544.42	530(C)
Assam	2002-03	9529.55	13106.89	367.47	504.89	555.38	24.57	474.34	530(C)
	2001-02	10006.90	13444.19	368.69	495.29	544.82	25.65	471.13	530(C)
Bihar	2002-03	9122.33	13231.03	332.61	484.08	534.95	22.91	434.10	530(C)
	2001-02	7906.35	12304.27	276.52	430.33	473.37	24.56	399.67	530(C)
Chattisgarh	2002-03	7909.85	11931.78	363.49	547.71	653.77	19.29	538.22	530(C)
Haryana	2002-03	20046.14	29429.62	465.74	682.86	751.15	42.07	720.68	530(C)
	2001-02	15061.80	23422.17	383.41	596.03	613.87	38.71	714.38	530(C)
Jharkhand	2002-03	9552.09	13364.43	381.54	533.95	587.77	21.71	381.87	530(C)
Karnataka	2002-03	22563.74	31128.03	445.15	603.57	664.66	45.73	711.97	530(C)
	2001-02	20406.97	27563.44	451.30	590.41	649.45	40.20	652.69	530(C)
Kerala	2002-03	20585.86	26198.32	499.62	630.19	693.21	34.51	671.11	530(C)
	2001-02	19211.50	24338.38	475.05	597.91	657.70	34.17	637.72	530(C)
Madhya Pradesh	2002-03	7908.59	10484.10	522.35	690.26	804.54	12.93	503.85	530(C)
	2001-02	9318.85	13188.46	420.51	592.74	676.42	18.92	518.04	530(C)
Orissa	2002-03	12222.31	16447.23	401.19	539.53	608.02	25.52	427.57	530(C)
	2001-02	12176.91	16803.45	314.09	433.05	476.36	31.89	423.75	530(C)
Punjab	2002-03	19782.49	29348.70	335.73	498.12	549.28	58.68	572.71	530(C)
	2001-02	14379.72	23577.39	239.61	392.91	507.82	59.48	563.48	530(C)
Tamil Nadu	2002-03	21974.37	31656.12	426.66	615.10	682.30	45.67	681.44	530(C)

	2001-02	21144.86	28696.19	418.41	567.74	624.51	45.20	574.10	530(C)
Uttar Pradesh	2002-03	12398.54	17490.18	375.54	528.88	613.31	30.91	498.38	530(C)
	2001-02	10910.71	15844.29	307.63	447.37	492.11	32.99	441.00	530(C)
Uttaranchal	2002-03	12996.94	17012.31	402.02	529.15	605.19	28.14	532.05	530(C)
West Bengal	2002-03	18069.80	23916.76	415.75	549.06	613.70	35.59	431.74	530(C)
	2001-02	16366.11	21579.37	379.07	499.67	555.33	35.34	428.53	530(C)

Table 3(B): Cost Estimates for Cotton(Kapas)

Cotton							Rupees		
States	Year	A2+FL /Hect	C2 /Hect	A2+FL /Qtl.	C2 /Qtl.	C3 /Qtl.	Yield (Qtl.)/Hect..	Implicit Price(Qtl.)	MSP /Qtl.
Andhra Pradesh	2002-03	16703.24	28562.63	945.82	1617.76	1796.88	17.66	2000.55	1875(H4)
	2001-02	15510.56	23401.12	1156.63	1744.76	1926.36	13.41	1848.38	1875(H4)
Gujarat	2002-03	11514.07	15474.92	1452.74	1954.30	2151.39	7.78	2192.15	1875(H4)
	2001-02	13516.37	16768.25	1840.48	2282.46	2880.00	7.20	1963.12	1875(H4)
Haryana	2002-03	12589.42	18877.88	1252.85	1874.42	2061.86	9.79	1960.93	1875(H4)
	2001-02	12069.93	14759.92	3839.37	4095.79	5165.37	2.62	1964.94	1875(H4)
Karnataka	2002-03	7416.15	11914.64	1238.27	1987.79	2462.60	5.88	3073.66	1875(H4)
	2001-02	8131.23	11006.38	1516.15	2054.97	2515.30	5.19	1806.17	1875(H4)
Madhya Pradesh	2002-03	14968.79	19967.52	2260.91	3015.02	3316.52	6.36	1950.68	1875(H4)
	2001-02	7953.43	11008.82	1947.46	2688.28	2957.11	3.81	2244.42	1875(H4)
Maharashtra	2002-03	15434.52	20859.66	1750.87	2365.52	2630.96	8.62	2032.79	1875(H4)
	2001-02	13722.10	17234.10	1755.36	2204.61	2425.07	7.62	1807.73	1875(H4)
Punjab	2002-03	19758.71	27683.50	1750.90	2447.74	2866.36	10.88	2105.30	1875(H4)
	2001-02	19949.05	25813.71	2029.33	2621.82	2883.78	9.27	1850.00	1875(H4)
Tamil Nadu	2002-03	22927.94	31062.32	1912.78	2592.19	2851.41	11.78	2070.37	1875(H4)
	2001-02	21097.76	31845.24	1585.51	2380.59	2618.65	13.05	2083.97	1875(H4)

Table 3(C): Cost Estimates for Coarse Cereals

Jowar

States	Year	Rupees							
		A2+FL /Hect	C2 /Hect	A2+FL /Qtl.	C2 /Qtl.	C3 /Qtl.	Yield (Qtl.)/Hect.	Implicit Price(Qtl.)	MSP /Qtl.
Andhra Pradesh	2002-03	7026.12	10339.07	575.99	844.70	930.04	10.40	663.03	485.00
	2001-02	9184.79	12486.22	708.98	935.77	1031.20	11.43	547.28	485.00
Karnataka	2002-03	4917.68	6512.92	638.14	845.34	987.89	6.46	636.57	485.00
	2001-02	5570.84	7297.99	626.42	819.60	958.89	7.48	603.26	485.00
Madhya Pradesh	2002-03	5634.60	7801.23	519.05	718.68	790.55	8.14	583.73	485.00
	2001-02	5488.92	7467.59	548.29	744.28	818.71	7.87	545.42	485.00
Maharashtra	2002-03	8142.56	11700.79	361.58	528.57	582.24	14.43	571.43	485.00
	2001-02	10379.70	13225.02	490.89	629.08	691.99	12.67	491.19	485.00
Tamil Nadu	2002-03	9100.89	14054.35	520.40	797.58	877.34	10.29	659.21	485.00
	2001-02	7784.02	12752.01	310.01	503.38	553.72	14.52	573.78	485.00

Bajra

Gujarat	2002-03	10542.12	12954.39	484.71	590.06	649.07	15.67	568.54	485.00
	2001-02	7984.10	10149.56	303.75	387.96	509.89	17.90	443.29	485.00
Haryana	2002-03	8409.46	11659.89	566.85	777.78	855.56	10.48	599.52	485.00
	2001-02	7315.20	10043.75	344.00	472.77	520.05	15.74	295.43	485.00
Maharashtra	2002-03	11599.85	14577.21	490.67	616.57	678.23	18.32	538.48	485.00
	2001-02	10087.27	12080.39	531.14	635.70	699.27	14.10	432.13	485.00
Uttar Pradesh	2002-03	7018.02	10708.95	439.73	662.35	728.59	12.09	518.91	485.00
	2001-02	6439.60	9218.35	310.52	446.95	491.65	15.98	326.82	485.00

Maize

Andhra Pradesh	2002-03	11456.96	17228.33	394.29	591.97	651.17	26.77	495.88	485.00
	2001-02	8086.06	11983.11	320.07	470.32	518.54	22.73	462.21	485.00
Himachal Pradesh	2002-03	7373.77	10912.31	373.95	551.00	609.25	14.03	535.90	485.00
	2001-02	6554.61	9329.25	373.88	530.81	585.96	12.79	486.33	485.00
Jharkhand	2002-03	7806.20	11225.34	469.98	674.95	742.45	15.40	561.44	485.00
Karnataka	2002-03	8004.43	11267.81	405.19	573.70	667.21	17.57	562.61	485.00
	2001-02	9929.87	13484.35	390.57	530.81	628.17	22.83	488.65	485.00
Madhya Pradesh	2002-03	5425.52	7357.29	598.97	818.63	916.42	7.49	588.38	485.00
	2001-02	5297.96	6933.62	499.44	658.76	735.75	8.22	484.48	485.00
Rajasthan	2002-03	9766.16	13795.56	468.65	673.04	743.34	11.19	585.89	485.00
	2001-02	11055.34	13300.99	558.81	671.27	738.40	13.56	443.79	485.00
Uttar Pradesh	2002-03	8276.05	11108.97	870.06	1170.29	1287.32	8.19	684.30	485.00
	2001-02	8573.33	11239.72	476.58	622.83	685.11	16.57	424.92	485.00
Uttaranchal	2002-03	10361.44	13714.44	665.42	868.85	955.74	13.39	451.68	485.00

Ragi

Karnataka	2002-03	7035.33	9417.69	513.02	703.08	778.15	9.42	530.85	485.00
	2001-02	10559.07	13125.17	522.86	640.42	704.46	16.02	390.53	485.00
Tamil Nadu	2002-03	11301.24	16018.15	1203.02	1687.91	1856.70	8.77	893.77	485.00
	2001-02	11819.66	19471.02	556.74	918.51	1010.36	18.89	626.44	485.00

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Table 3(D): Cost Estimates for Pulses

Tur (Arhar)

States	Year	Rupees							
		A2+FL /Hect	C2 /Hect	A2+FL /Qtl.	C2 /Qtl.	C3 /Qtl.	Yield (Qtl.)/Hect..	Implicit Price(Qtl.)	MSP /Qtl.

Andhra Pradesh	2002-03	8007.23	15378.22	737.89	1407.89	1581.88	10.56	1656.12	1320.00	174
	2001-02	8472.98	12768.15	1148.94	1748.76	1975.68	6.95	1558.73	1320.00	
Chattisgarh	2002-03	4495.08	6608.69	1355.02	1992.93	2478.45	2.80	1470.74	1320.00	4
Gujarat	2002-03	9450.61	13450.42	1112.81	1555.46	1791.74	7.76	1853.36	1320.00	143
	2001-02	7113.98	11319.32	736.99	1152.74	1670.38	8.77	1665.83	1320.00	
Karnataka	2002-03	7186.51	9893.31	1257.16	1727.38	1988.93	5.60	1771.94	1320.00	99
	2001-02	5814.79	8458.44	1350.69	1954.33	2253.36	4.19	1983.95	1320.00	
Madhya Pradesh	2002-03	6800.08	9802.93	1306.88	1888.55	2138.72	4.63	1674.69	1320.00	77
	2001-02	6062.10	10020.39	626.97	1039.60	1157.95	9.03	1420.69	1320.00	
Maharashtra	2002-03	8290.31	12491.63	770.27	1156.94	1276.80	9.94	1454.10	1320.00	144
	2001-02	7263.02	11264.97	697.99	1100.05	1210.06	9.29	1470.16	1320.00	
Orissa	2002-03	4408.09	6762.97	1133.53	1736.77	2024.22	3.71	1527.78	1320.00	56
	2001-02	3806.58	6146.85	701.94	1134.70	1292.90	5.08	1357.89	1320.00	
Uttar Pradesh	2002-03	5014.56	11264.64	617.51	1376.88	1562.53	6.98	1653.36	1320.00	
	2001-02	6181.84	11979.83	540.39	1048.87	1153.76	10.17	1422.63	1320.00	

Moong

Andhra Pradesh	2002-03	6189.80	9835.10	1237.34	1969.59	2195.55	4.88	2188.69	1330.00	
	2001-02	7815.64	11078.35	1349.81	1914.21	2213.12	5.58	1463.36	1320.00	
Maharashtra	2002-03	5516.22	7384.69	1426.81	1910.57	2140.13	3.82	1539.68	1330.00	
	2001-02	7774.07	9724.82	1352.78	1689.93	1858.92	5.57	1672.35	1320.00	
Orissa	2002-03	4670.74	6413.00	1765.15	2420.30	2755.26	2.53	1894.81	1330.00	47
	2001-02	4268.60	6051.57	1349.83	1913.93	2105.32	3.03	1966.97	1320.00	
Rajasthan	2002-03	3933.24	5949.56	2832.30	4191.88	4721.84	0.94	2593.85	1330.00	
	2001-02	4628.91	5942.78	1339.35	1703.93	1897.05	3.02	1744.56	1320.00	

Urad

Andhra Pradesh	2002-03	5118.82	8796.37	575.63	988.90	1093.83	8.84	1386.54	1330.00
	2001-02	5244.91	9398.31	702.12	1257.66	1383.43	7.37	1721.66	1320.00
Chattisgarh	2002-03	3771.25	5158.61	1743.95	2400.90	2920.53	1.96	1451.32	1330.00
Madhya Pradesh	2002-03	4913.09	6940.80	1498.72	2110.21	2321.23	3.16	1612.06	1330.00
Maharashtra	2002-03	6943.28	9313.73	1162.61	1560.76	1748.14	5.93	1290.44	1330.00
	2001-02	7343.66	9491.92	1472.42	1899.31	2089.24	4.95	2082.58	1320.00
Orissa	2002-03	4965.13	6878.84	1230.78	1703.88	1958.62	3.77	1503.66	1330.00
	2001-02	3986.58	6388.39	821.13	1316.10	1447.71	4.51	1593.91	1320.00
Rajasthan	2002-03	5476.53	7076.20	2163.38	2842.40	3301.16	1.91	2231.82	1330.00
	2001-02	6122.65	8459.34	1663.57	2257.59	2529.73	3.23	2143.55	1320.00
Tamil Nadu	2002-03	7951.40	14242.82	1335.21	2391.74	2630.91	5.86	1682.23	1330.00
	2001-02	5602.24	7508.63	1393.49	1865.91	2052.50	3.96	2061.37	1320.00
Uttar Pradesh	2002-03	3880.44	6193.17	1075.52	1715.18	1912.14	3.47	1743.10	1330.00
	2001-02	4817.15	8066.90	638.06	1068.97	1175.87	7.30	1774.90	1320.00

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Table 3(E): Cost Estimates for Oilseeds

								Rupees	
States	Year	A2+FL	C2	A2+FL	C2	C3	Yield	Implicit	MSP
		/Hect	/Hect	/Qtl.	/Qtl.	/Qtl.	(Qtl.)/Hect..	Price(Qtl.)	/Qtl.
Groundnut									
Andhra Pradesh	2002-03	9984.30	13828.16	1302.10	1797.67	1977.44	7.11	1564.96	1355.00
	2001-02	11115.92	14841.84	1261.14	1674.88	1842.58	8.09	1245.07	1340.00

Gujarat	2002-03	12176.10	15989.87	1143.13	1501.62	1651.78	8.75	1657.03	1355.00	
	2001-02	11316.96	15974.20	559.21	789.14	914.28	16.67	1227.58	1340.00	
Karnataka	2002-03	8943.83	12272.45	1467.10	2006.34	2396.04	5.82	1970.20	1355.00	114
	2001-02	6753.28	8765.53	1143.83	1483.79	1846.12	5.56	1107.48	1340.00	
Maharashtra	2002-03	15845.59	19649.23	1625.22	2013.15	2214.47	8.95	1541.12	1355.00	137
	2001-02	19252.70	23627.72	1257.22	1544.42	1722.95	14.19	1347.42	1340.00	
Tamil Nadu	2002-03	22785.63	32509.90	1239.23	1764.58	1941.04	17.45	1325.52	1355.00	237
	2001-02	15626.02	21463.14	1162.35	1592.37	1751.61	12.81	1089.09	1340.00	

Soyabean

Chhattisgarh	2002-03	6707.89	9130.91	857.16	1166.22	1386.45	6.85	1013.02	885(Y)	69
Madhya Pradesh	2002-03	7320.42	10551.17	1066.10	1537.06	1693.14	6.50	1266.04	885(Y)	
	2001-02	6942.25	10457.60	573.77	861.79	947.97	11.27	929.00	885(Y)	
Maharashtra	2002-03	9938.15	13588.82	746.66	1023.51	1137.73	12.99	1078.68	885(Y)	140
	2001-02	10584.29	13864.22	632.72	832.19	915.41	15.98	945.47	885(Y)	
Rajasthan	2002-03	7354.64	9792.52	1142.99	1505.51	1672.81	5.65	1228.54	885(Y)	69
	2001-02	6768.20	8355.86	748.11	908.01	1033.11	8.11	950.90	885(Y)	

Sunflower

Andhra Pradesh	2002-03	12277.66	16693.50	1629.58	2215.94	2437.53	7.46	1699.69	1195.00	
	2001-02	12550.13	16895.56	1260.57	1696.65	1866.32	9.92	1322.09	1185.00	
Karnataka	2002-03	6225.17	8739.10	1236.81	1734.88	2052.67	4.98	1692.18	1195.00	84
	2001-02	5343.53	7752.27	890.19	1290.50	1496.23	5.97	1408.00	1185.00	
Maharashtra	2002-03	11924.53	15037.54	1174.72	1481.23	1629.35	10.15	1413.31	1195.00	143
	2001-02	6526.76	7624.72	1990.17	2336.11	2569.72	3.22	1544.17	1185.00	

Sesamum

Gujarat	2002-03	5603.94	7567.21	1318.40	1778.21	1956.03	4.20	2276.29	1450.00
	2001-02	5623.42	7241.17	1182.41	1523.28	1848.02	4.71	1814.08	1400.00
Madhya Pradesh	2002-03	5035.19	7180.42	1080.26	1553.14	1831.97	4.52	1697.65	1450.00
	2001-02	4707.78	7601.51	883.35	1427.24	1581.29	5.14	1727.49	1400.00
Orissa	2002-03	4221.83	6169.21	1633.76	2386.23	2761.70	2.47	1979.07	1450.00
	2001-02	3406.15	5041.78	1192.41	1764.46	1940.90	2.72	1918.13	1400.00
Rajasthan	2002-03	3305.38	5023.78	2753.28	4085.97	4775.50	1.15	2476.35	1450.00
	2001-02	3748.30	5146.82	1452.20	1997.58	2197.34	2.52	2033.03	1400.00
Tamil Nadu	2002-03	6530.34	12161.50	1359.42	2528.70	2781.57	4.79	2480.49	1450.00
	2001-02	7659.32	11327.63	1416.73	2090.63	2313.10	5.34	1973.89	1400.00
Uttar Pradesh	2002-03	3926.14	6061.43	1738.11	2682.29	2950.52	2.21	2396.04	1450.00
	2001-02	3349.82	5630.08	1207.44	2016.89	2218.58	2.65	1945.83	1400.00

Nigerseed

Orissa	2002-03	3898.09	5253.19	1354.87	1823.33	2047.06	2.84	1397.79	1120.00
	2001-02	3217.61	4751.43	679.95	1004.89	1105.38	4.68	1199.03	1100.00

Table 3(F): Cost Estimates for VFC Tobacco

VFC Tobacco							Rupees		
States	Year	A2+FL /Hect	C2 /Hect	A2+FL /Qtl.	C2 /Qtl.	C3 /Qtl.	Yield (Qtl.)/Hect..	Implicit Price(Qtl.)	MSP /Qtl.
Andhra Pradesh	2002-03	35610.39	45796.66	2816.21	3621.78	4004.35	12.63	3583.00	3000(L2)
	2001-02	32758.70	42523.69	2746.06	3564.63	3939.64	11.89	3381.03	2900(L2)