

The Marketing Season 2016-17

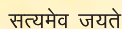
सत्यमेव जयते

कृषि लागत एवं मूल्य आयोग Commission for Agricultural Costs and Prices

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Department of Agriculture, Cooperation and Farmers Welfare

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Price Policy *for* **Kharif Crops**

The Marketing Season 2016-17



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Commission for Agricultural Costs and Prices

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Preface

The Commission for Agricultural Costs and Prices has submitted its report for “Price Policy for Kharif Crops: Marketing Season 2016-17”. The report contains the recommendations for the Minimum Support Prices (MSP) for the mandated Kharif crops and non-price recommendations. While making the price recommendations, the Commission has followed the criteria of the cost of production, price parity, domestic and international prices, expected market scenario and likely impact of MSP on the economy and natural resources. In addition, emerging trends in Indian agriculture, production and marketing constraints, policy thrusts, and input price scenario are also taken into consideration. It is hoped that these recommendations will facilitate better management of food economy, incentivise farmers to adopt improved technology and help sustain agricultural growth.

I take this opportunity to express my sincere gratitude to all the members of the Commission for their invaluable contributions and suggestions. Mr. D. S. Raghu and Mr. K. Pradhan, Members (Non-official), have provided practical insights into several issues. My special thanks to Dr. Shailja Sharma, Member Secretary, who has ably steered the efforts for preparation and timely publication of the report. Advisors, Mr. S.R. Joshi, Mr. S.N. Tobria and other senior officers Mr. R.K. Sharma, Ms. Mamta, Ms. Nidhi Satija, Dr. Harish Kumar Kallega, and Mr. Manish Bindal have done tremendous analytical work during preparation of this report. I am grateful to all of them, as well as to other staff members for providing necessary support.

Representatives of farmers, central and state governments, agencies associated with marketing and agricultural development and many others have provided useful acumens and information during preparation of this report. I am grateful to all of them. A large part of the analysis is based on data provided by the Directorate of Economics and Statistics, which is acknowledged with thanks.

Suresh Pal

30th March 2016

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Acronyms

Acronyms

A ₂	Actual paid out cost
A ₂ +FL	Actual paid out cost plus imputed value of family labour
APEDA	Agricultural and Processed Food Products Export Development Authority
APMC	Agricultural Produce Marketing Committee
C ₂	Comprehensive cost including imputed rent and interest on owned land and capital
CAB	Cotton Advisory Board
CACP	Commission for Agricultural Costs & Prices
CCI	Cotton Corporation of India
CHC	Custom Hiring Centres
CICR	Central Institute for Cotton Research
CIPI	Composite Input Price Index
CMR	Customised Milled Rice
CoP	Cost of production
CS	Comprehensive Scheme of Studying Cost of Cultivation of Principal Crops in India
CWC	Central Warehousing Corporation
DBT	Direct Benefit Transfer
DCCB	District Central Cooperative Bank
DES	Directorate of Economics and Statistics
DFPD	Department of Food and Public Distribution
DGCIS	Directorate General of Commercial Intelligence and Statistics
DGFT	Directorate General of Foreign Trade
DIPP	Department of Industrial Policy and Promotion
DTA	Domestic Tariff Area

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Acronyms

EDI	Electronic Data Interchange
EOU	Export Oriented Units
EU	European Union
FAI	Fertilizers Association of India
FAO	Food and Agriculture Organisation
FCI	Food Corporation of India
FFBs	Fresh Fruit Bunches
FPO	Farmer Producer Organisation
GDP	Gross Domestic Product
GVO	Gross Value of Output
HLC	High Level Committee
HSD	High Speed Diesel
ICAR	Indian Council of Agricultural Research
IIPR	Indian Institute of Pulses Research
IYP	International Year of Pulses
KAPC	Karnataka Agricultural Price Commission
KMS	Kharif Marketing Season
LCS	Land Custom Stations
MEP	Minimum Export Price
MoA&FW	Ministry of Agriculture & Farmers Welfare
MSP	Minimum Support Price
MSR	Marketed Surplus Ratio
NAFED	National Agricultural Cooperative Marketing Federation
NAPCC	National Action Plan on Climate Change
NCAER	National Council of Applied Economic Research
NFSM	National Food Security Mission
NGO	Non-Governmental Organization
NMR	Near Magnetic Resonance
NPOP	National Project for Organic Production
NSC	National Seeds Corporation

Price Policy for Kharif Crops

Acronyms

NSSO	National Sample Survey Office
NWRS	Negotiable Warehouse Receipt System
OGI	Open General License
PDPS	Price Deficiency Payment System
PDS	Public Distribution System
PMFBY	Pradhan Mantri Fasal Bima Yojana
P-PAS	Paddy Procurement Automation System
QR	Quantitative Restrictions
RKVY	Rashtriya Krishi Vikas Yojana
SCH	Single Cross Hybrid
SEAI	Solvent Extractors Association of India
SEZ	Special Economic Zones
SFAC	Small Farmers' Agri-business Consortium
SUR	Stock-to-Use Ratio
TE	Triennium Ending
ToT	Terms of Trade
TRQ	Tariff Rate Quota
UNO	United Nations Organisation
UPIS	Unified Package Insurance Scheme
USDA	United States Department of Agriculture
VAT	Value Added Tax
WBCIS	Weather Based Crop Insurance Scheme
WPI	Wholesale Price Index
WRDA	Warehouse Regulatory Development Authority
WTO	World Trade Organization



Summary of Recommendations

- S.1** The Commission is mandated to take into account the cost of production, overall demand–supply scenario, domestic and international prices, inter-crop price parity, terms of trade between agriculture and non-agriculture sectors, likely effect of the price policy on the rest of the economy and rational utilization of production resources like land and water while recommending Minimum Support Prices (MSPs). Based on the analyses undertaken within its mandate, the Commission has made following non-price and price recommendations for Kharif crops for the marketing season 2016-17.
- S.2** **Indian agriculture** is likely to grow at 1.1 percent in 2015-16 and the estimate of food grain production in 2015-16 is 253.2 million tonnes, with kharif food grain production at 124.2 million tonnes. Thus, the country is likely to maintain a comfortable position in terms of food stocks. The agricultural trade scenario also looks optimistic in 2015-16. The gap in supply of edible oils is likely to be lower because of area expansion under oilseeds, but import will still continue to be an instrument to balance the supply and demand.
- S.3** **Procurement of paddy** is now done even in the non-traditional states like Odisha and West Bengal. In case of paddy, nearly 30.4 percent of total production and 37.3 percent marketed surplus was procured in 2014-15. In the absence of procurement, market prices would have been much lower and thus farmers are indirectly benefited from the procurement. However, there is a need to increase the procurement of paddy in other states in the eastern region.

Non-Price Recommendations

- S.4** **Production of pulses and oilseeds** can be increased by bridging the gap between potential and actual yield, which according to ICAR, is in the range of 20-30 percent for major pulses and oilseeds and much higher for others. Besides remunerative price support, improving availability of quality seeds, cultivation on rice fallows with supplementary irrigation and introduction of pulses in cropping systems like rice-wheat can bridge the demand-supply gap in pulses. In addition to these factors, tapping potential of new source of edible oils like oil palm, efficiency of the processing sector and provision of supplementary irrigation can enhance the availability of edible oils. Since pulses and legume oilseeds fix 30-40 kg (per hectare) nitrogen in soil, it is recommended that the farmers should be provided incentive to

Price Policy for Kharif Crops

Summary of Recommendations

the extent of Rs.1050/ha as payment for this ecosystem service. If we consider the subsidy provided on nitrogenous fertilizers which are mostly used for other crops, oilseeds and pulses should also be given a subsidy of Rs. 3947/hectare.

- S.5 Edible oil imports** at 12.7 million tonnes account for more than half of total consumption in the country. About 65-70 percent of this import is of palm oil which is from Indonesia and Malaysia. Although the imports are necessary to meet the domestic needs, but excessive reliance shall have significant impact on the domestic prices, which may erode incentive for the producers. There is a need to maintain a reasonable price level and explore augmenting supply by increasing the productivity of oilseeds, improving efficiency of oil extraction and tap potential of available sources like oil palm. Therefore, addressing supply side constraints through technological interventions is essential to increase domestic supply of edible oils. The import duty on the edible oil, both crude and refined may be increased by 2 to 3 percent. Also, in case of oilseeds, number of processing units in the organised sector in the producing states is limited and there is less competition among the local extraction units for purchase of oilseeds. This reduces oil recovery and enhances the cost of processing and hence there is a need to develop market infrastructure for oilseeds.
- S.6 Market infrastructure in the eastern region** is inadequate and market prices are often less than the minimum support prices in this region. As regards paddy, the sufficiency and efficiency of rice mills in the region should be examined to create competition and link the region with other markets.
- S.7 Agricultural wages** in real terms are rising at a rate around 7 per cent during the last three years and share of human labour in the cost of cultivation of paddy varies from 21 percent in Punjab to 51 percent in Himachal Pradesh. In view of increase in agricultural wages and high share of human labour in total cost of cultivation, the Commission is of the considered view that promotion of farm mechanization through grants and credit for purchase of farm machines is important. In addition, access to small farmers to farm machines should be promoted through custom hiring basis. Farm mechanization will also be helpful in increasing input use efficiency and better product handling during harvesting operations. It may also be noted that the **Composite Input Price Index (CIPI)** of all inputs taken together for 2016-17 Kharif season has increased by 4.8 percent over the previous year. The price recommendations have taken this factor into consideration.
- S.8 Water productivity** is low in some of the water scarce regions like Semi-Arid Tropics (SAT) and continued reliance on groundwater is not sustainable. Increasing water use efficiency, using water-saving technology and rainwater harvesting should become integral part of crop planning. Incentivising farmers using water saving practices and suitable administrative measures like prohibiting early transplanting of paddy in Punjab and Haryana, should also be followed in other water scarce areas.
- S.9 National Agricultural market**, connecting APMCs through a portal, is an important

Price Policy for Kharif Crops

initiative of the Government. This effort should be supplemented with promotion of practices of product grading, wherever necessary, and dissemination of price information to farmers. This shall facilitate price discovery in the market, empower farmers and promote market integration. The Commission also recommends that statutory levies should be delinked from MSP and the states should levy the taxes at the level of MSP fixed for KMS 2015-16 (for the purpose of taxation only) and should not increase the levies with the increase in MSP for next five years.

- S.10 Pradhan Mantri Fasal Bima Yojana** is a welcome step to ensure crops and bring more and more farmers under crop insurance. Low premium rate will be attractive for farmers to opt for the scheme. This coupled with creating awareness among farmers and a transparent and simple mechanism to assess crop loss should encourage farmers to adopt the scheme.
- S.11 Information Communication Technology** should be used to connect markets, increase information flow and manage the data. Horticultural and livestock products now form more than half of the agricultural production. Although these are the non-mandated commodities, the Commission strongly feels strengthening of database on production, marketing and price of these commodities to improve access of farmers to the markets.
- S.12 Premium products like basmati rice** have greater significance as invaluable resource, contributing in a big way to the income of farmers. It is important that such premium products and varieties for other crops like jowar (maldandi), long staple cotton etc. should be promoted in the supply chains, so that farmers have incentive to grow these varieties of national importance. The Commission recommends maintenance of adequate database on production, price and trade of such products on the pattern of basmati rice.
- S.13 Direct transfer of benefits** to farmers is being considered to target beneficiaries in an efficient manner. This is possible when there are multiple ways to identify the beneficiary farmers and link them with financial institutions. To begin with, land records with ownership should be completed in all the states, and these land records should be linked with Aadhaar, bank account and mobile. Also, primary cooperatives should be roped in for financial transactions, as these institutions are close to farmers. This is particularly important for the areas where penetration of commercial banks is low.

Price Policy Recommendations

- S.14** Taking its terms of reference into consideration, the Commission recommends the MSPs for fourteen kharif crops for the KMS 2016-17 as given in Table S.1.

Price Policy for Kharif Crops

Table S.1: MSPs Recommended for KMS 2016-17

(Rs./qtl)

Sl. No.	Crops	Projected Costs Crop Season 2016-17		MSP (Marketing Season)		Recommended MSP for KMS 2016-17	Gross Margins over (A ₂ +FL) w.r.t. MSP now being recommended (percent)
		A ₂ +FL	C ₂	2014-15	2015-16		
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
1a	Paddy Common	1045	1378	1360 (3.8)	1410 (3.7)	1470 (4.3)	40.67
1b	Paddy Grade A	-	-	1400 (4.1)	1450 (3.6)	1510 (4.1)	-
2a	Jowar- Hybrid	1501	1992	1530 (2.0)	1570 (2.6)	1625 (3.5)	8.26
2b	Jowar- Maldandi	-	-	1550 (2.0)	1590 (2.9)	1650 (3.8)	-
3	Bajra	925	1218	1250 (0.0)	1275 (2.0)	1330 (4.3)	43.78
4	Ragi	1733	2150	1550 (3.3)	1650 (6.5)	1725 (4.5)	-0.46
5	Maize	966	1286	1310 (0.0)	1325 (1.1)	1365 (3.0)	41.30
6	Arhar (Tur)	3241	4314	4350 (1.2)	4425 (1.7)	4625 (4.5)	42.70
7	Moong	4065	5191	4600 (2.2)	4650 (1.1)	4800 (3.2)	18.08
8	Urad	3584	4661	4350 (1.2)	4425 (1.7)	4575 (3.4)	27.65
9	Groundnut	3371	4300	4000 (0.0)	4030 (0.8)	4120 (2.2)	22.22
10	Sunflower Seed	3479	4418	3750 (1.4)	3800 (1.3)	3850* (1.3)	10.66
11	Soybean (Yellow)	1852	2542	2560 (0.0)	2600 (1.6)	2675 (2.9)	44.44
12	Sesamum	4188	5570	4600 (2.2)	4700 (2.2)	4800 (2.1)	14.61
13	Nigerseed	3366	4320	3600 (2.9)	3650 (1.4)	3725 (2.1)	10.67
14a	Cotton (Medium Staple)	-	-	3750 (1.4)	3800 (1.3)	3860 (1.6)	-
14b	Cotton (Long Staple)	2889	3920	4050 (1.3)	4100 (1.2)	4160 (1.5)	43.99

* Corresponding to oil content of 35 percent.

Note: Figures in parentheses represent increase in MSP over previous year.

Linking MSP of Sunflower Seeds with Oil Content

S. 15 Based on efficiency consideration, the Commission recommends that MSP of sunflower be directly linked to the basic oil content of 35 percent and farmers be given an additional Rs.14.63/qtl for every 0.25 percent point increase in oil content beyond this level. This will incentivise cultivators to adopt better farming practices and processors to invest in modern technology.



Chapter 1

Overview

Performance of Crop Sector

1.1 The country has recorded 253.2 million tonnes of foodgrains production against the target of 264.1 million tonnes in 2015-16. This is a marginal increase over 252.0 million tonnes produced in 2014-15. However, kharif crops are estimated to be lower in varying magnitudes in 2015-16 due to 14 percent below average rainfall during the southwest monsoon season. The production of kharif foodgrains is 124.2 million tonnes in 2015-16, 3 percent lower than 128.1 million tonnes achieved in 2014-15. The kharif production of rice is expected to be 90.6 million tonnes, coarse cereals at 28.3 million tonnes, pulses at 5.4 million tonnes, oilseeds at 17.6 million tonnes and cotton at 30.7 million bales in 2015-16. In terms of percentage fall, the production of kharif pulses is expected to be lower by 6.5 percent, oilseeds by 8.4 percent, coarse cereals by 8.6 percent and cotton by 11.8 percent, during 2015-16 as compared to 2014-15. There is a marginal fall (0.2 percent) in area under kharif foodgrains because of drought condition for two consecutive years. Area under rice, coarse cereals and cotton decreased by 0.9 percent, 5.3 percent and 7.5 percent respectively during 2015-16. However, the government initiatives for crop diversification under the National Food Security Mission (NFSM) and the Rashtriya Krishi Vikas Yojana (RKVY) have yielded results and area under kharif pulses and oilseeds has increased by 12.1 percent and 3.1 percent respectively during 2015-16. The maximum area expansion is under moong (32.4 percent), sesamum (11.9 percent) and nigerseed (10.2 percent). Thus, decline in the production of kharif pulses and oilseeds is because of lower yields due to deficit monsoon. The production shares of kharif crops during triennium ending (TE) 2015-16 are depicted in Annex Charts 1.1 (i) to (xiv).

India's Agricultural Trade Scenario

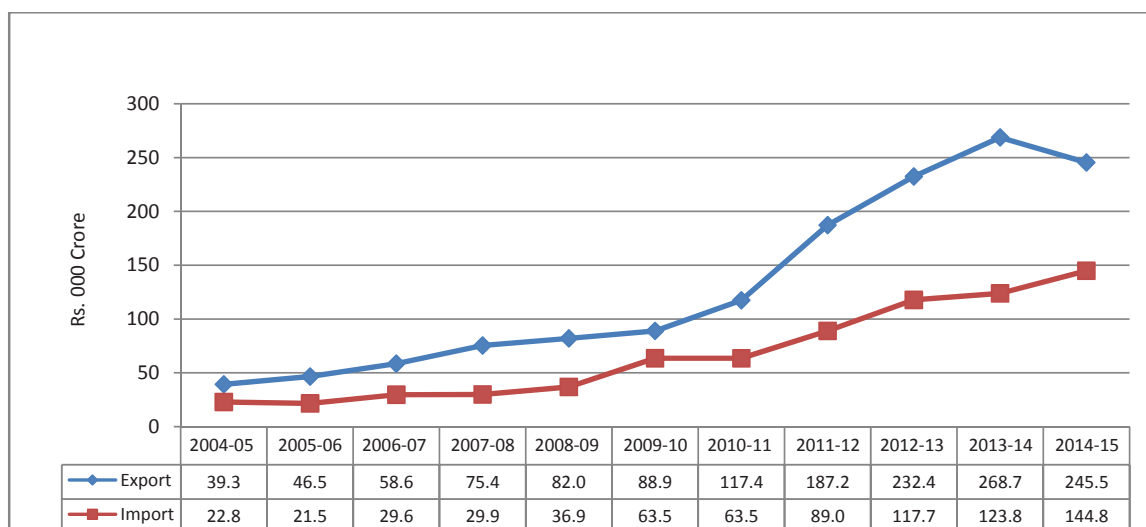
1.2 India is a net exporter of agri-commodities (Chart 1.1). In particular, there is growth in the imports and exports of agri-commodities since 2010-11 but the exports have outpaced the imports. The competitiveness of Indian agriculture can be tapped even more to the benefit of farmers by a stable and rational trade policy which has been discussed in detail in Chapter 4. There will not be much change in agricultural trade scenario of the country in 2015-16. The export of rice and import of edible oil is likely to continue to maintain a stable price regime of these commodities in the domestic

Price Policy for Kharif Crops

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market. The export of rice alongwith meat and marine products, main agri-export items, constituting 45 percent of the total export, have declined by 19.4 percent, 10.0 percent and 9.0 percent respectively in 2015, whereas spices, raw cotton and sugar constituting 16 percent of total exports have increased by 7.1 percent, 7.1 percent and 65.8 percent respectively.

Chart 1.1: India's Exports and Imports of Agri-Commodities, 2004-05 to 2014-15



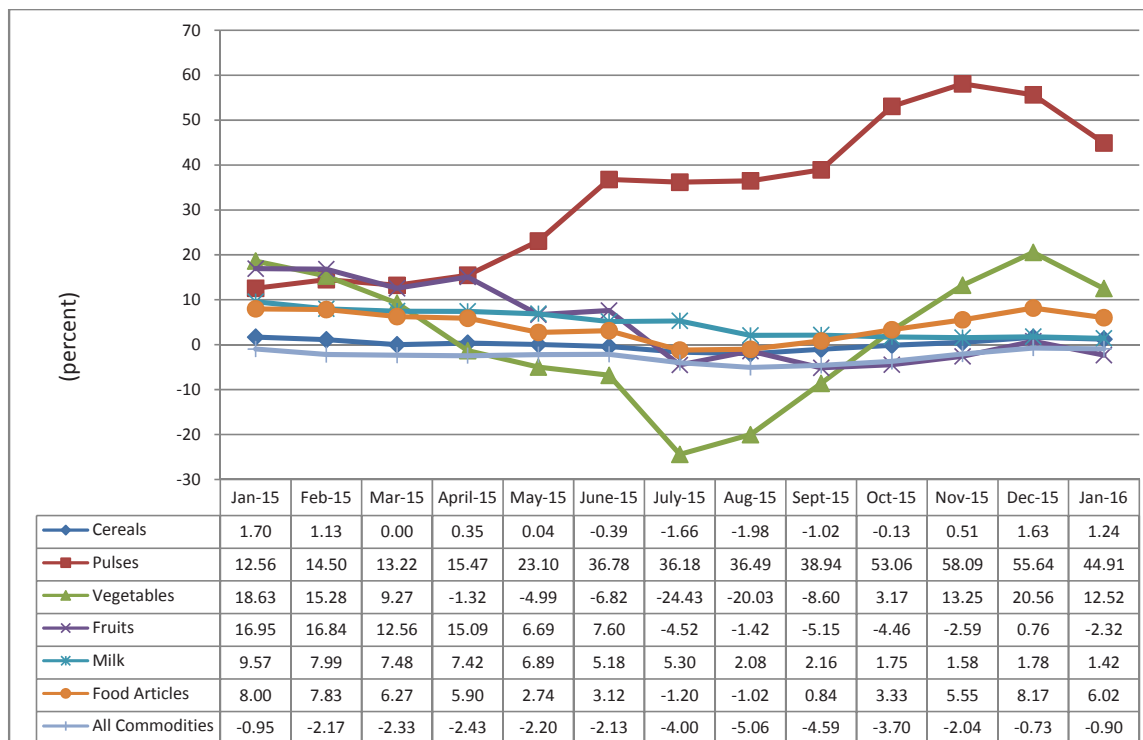
Source: DGCI, Gol

Contribution of Primary Food Articles to Inflation

- 1.3 The overall Wholesale Price Index (WPI) inflation has accelerated from a low of -5.06 in August 2015 to -0.90 in January 2016. However, food inflation rose from -1.02 percent in August 2015 to 6.02 percent in January 2016. The major contributors to this were pulses and vegetables where the rate of inflation in January 2016 was 44.9 percent and 12.5 percent, respectively. Inflation rate in milk and cereals was moderate in January 2016 with a fluctuating trend witnessed in cereals in the previous months. It may be mentioned that there is a general view that rising MSPs are responsible for food inflation but the recent trends show that major contributors to food inflation are pulses and vegetables and the contribution of cereals is negligible (Chart 1.2).

Price Policy for Kharif Crops

Chart 1.2: Monthwise WPI Inflation Rate from January 2015 to January 2016



Source: Office of the Economic Adviser, DIPP, Ministry of Commerce and Industry

Pulses

- 1.4 The country has witnessed a sharp rise in prices of pulses, especially arhar (tur) and urad, in 2015 due to shortage in their availability domestically and internationally. India being the largest producer, consumer and importer of pulses in the world, its domestic demand-supply volatility has high impact on international trade. India's imports of pulses were valued at around Rs.17,000 crores in 2014-15.
- 1.5 To enhance the availability of pulses, both long-term and short-term measures are necessary. The long-term measures include increasing productivity, bringing more area under pulses cultivation by diversifying from paddy and wheat alongside providing adequate facilities for assured procurement, creating buffer stock of pulses and their distribution through Public Distribution System (PDS). The short-term measures demand a dynamic trade policy and duty structure to balance the demand-supply with effective monitoring of the situation on day-to-day basis.
- 1.6 Crop damage from wild animals, especially blue bulls, has been reported a major constraint to area expansion under pulses. These blue bulls migrate to the agriculture

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fields due to degradation of forest cover. Suitable measures need to be adopted to spread awareness among farmers to curb the menace. Some of the indigenous measures to allay blue bulls like use of donkey excreta mixed with cow urine, rotten vegetable leaves, phenyl solution etc. should be promoted. These products produce foul smell which protects crops from attack of blue bulls. Feasibility of providing financial assistance to pulse farmers for barricading/fencing of their fields could also be explored as an alternative method of minimizing crop damage from wild animals' attack.

- 1.7 The Government under the National Food Security Mission (NFSM) has taken some measures like area expansion under pulses during rabi and kharif 2015-16, formation of Farmer-Producer Organizations (FPOs) and establishment of mini dal mills for primary processing of pulses in rural areas. Crop diversification in Punjab, Haryana and western UP (original green revolution states) as a sub-scheme of RKVY to diversify cropping pattern from paddy to pulses, oilseeds, maize and agro-forestry is other step to tackle the problem of declining soil fertility and depleting water table. To strengthen the procurement operations of pulses and oilseeds, the Government has designated Food Corporation India as a central nodal agency with NAFED, Central Warehousing Corporation (CWC) and Small Farmers Agri-business Consortium (SFAC) to play supplementary role in the procurement operations as per their capacity.
- 1.8 Pulses are generally rainfed crops, grown with minimum use of fertilizers. There is fertilizer subsidy for farmers growing other crops, and therefore to incentivize the pulse growing farmers and compensate them for fertilizer subsidy, the Commission is of the considered view that a financial assistance of Rs. 2000 may be provided to small and marginal pulse growing farmers.
- 1.9 Further, at international level, to spread the awareness about pulses as nutritious food and crops for a sustainable future, the United Nations has declared 2016 as International Year of Pulses (IYP). The Food and Agriculture Organization (FAO) has been nominated to facilitate the implementation of IYP in collaboration with the governments, relevant public and non-governmental organizations and all other relevant stakeholders. It aims to increase public awareness of nutritional benefits of pulses as part of sustainable food production aimed towards food security and nutrition. IYP 2016 intends to promote broad discussions and cooperation at regional, national and global levels to increase awareness and understanding of the challenges faced by pulse farmers.

Price Policy for Kharif Crops

Edible Oils

- 1.10 As per Solvent Extractors Association of India (SEAI), the consumption of edible oil has increased from 11.2 million tonnes in 2004-05 to 20.3 million tonnes in 2014-15. The share of palm oil in total edible oil consumption has increased from 27.5 percent to 44.6 percent during the last decade. With increasing consumption of edible oils and shortage in its domestic availability, 12.7 million tonnes of edible oils, valued at Rs.64,894 crores was imported during 2014-15 largely from Indonesia and Malaysia. Promoting oil palm in the country would benefit domestic farmers. In addition, this would be a land saving strategy as through the current mix of oilseeds, 4 million tonnes of domestic production of edible oil is being produced by using about 15.8 million hectares of land. This much quantity of palm oil could be produced from just one million hectare of area. The Commission is reiterating that its report on 'Oil Palm: Pricing for Growth, Efficiency & Equity,' suggesting a rational pricing policy for fresh fruit bunches (FFBs) and potential solution for India's burgeoning edible oil imports be implemented in the interest of the country. The policy links prices of FFBs with international prices of crude edible oil. Since the international prices are too low now, suitable safeguards may be adopted while allowing imports of palm oil, so that domestic producers have adequate incentive.
- 1.11 Further, to increase the domestic production of other oilseeds, sesamum cultivation in Bundelkhand region of UP is an example worth emulating for other such low productivity, rainfed areas. To promote sesamum cultivation in the region, an aggressive campaign was launched for increasing area under the crop. Sesamum seed was procured in large quantity and was distributed to the farmers of the area at a highly subsidised rate. This crop is safe from cattle attack and restricting unfettered grazing cattle has also resulted in the increased area coverage. In Bundelkhand, an additional 2 lakh hectares has been brought under cultivation in kharif 2015-16 as compared to last year, out of which almost 1.25 lakh hectares area is under sesamum. It may be noted that sesamum is a high value crop and provides much higher returns than other kharif crops. This affirms the belief that with initial hand holding, reasonably good returns can be assured to the farmers by crop planning even in dryland areas.

Cotton

- 1.12 In 2015-16, area under cotton has fallen because of low market prices in 2014-15 and deficit rainfall in 2015-16. The market price of cotton is again rising which may be an incentive to farmers to increase area under cotton in the next season. The Commission in its interaction with the state governments of Maharashtra,

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Gujarat and Punjab was informed about crop damage due to pest infestation like pink bollworm in Gujarat and Maharashtra and white fly in Punjab during Kharif 2015-16 season. Immediate steps by the State Governments in coordination with Central Institute for Cotton Research (CICR) need to be taken to prevent the incidence of such diseases in Kharif 2016-17 season.

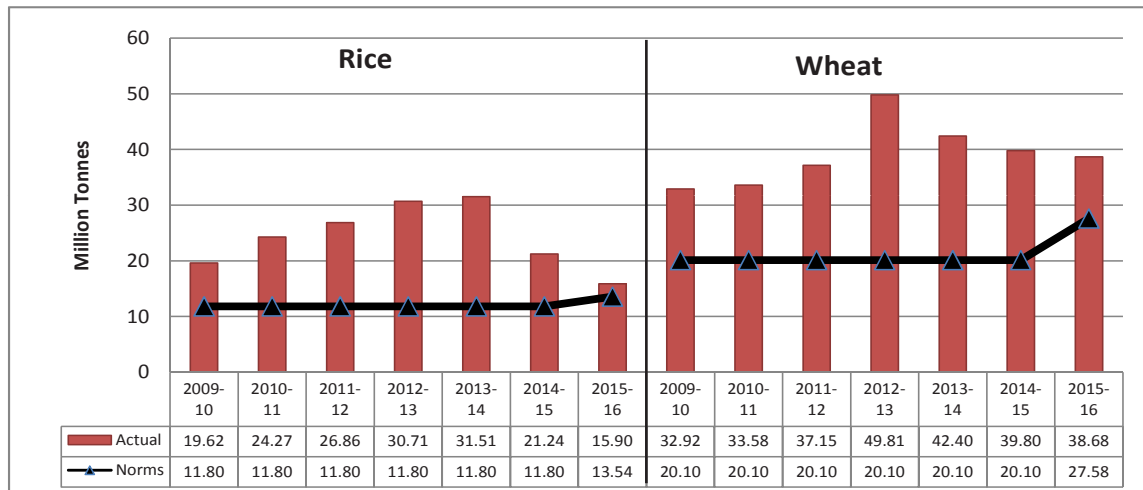
- 1.13 Price of cotton depends on its staple length. The Commission in its interaction with the stakeholders observed that currently visual method is in practice to measure staple length of cotton which is subjective in nature and it may not be in the farmers interest. Machines for measuring the length of fibre are already available. The Commission recommends that these machines should be installed in Agricultural Produce Marketing Committee (APMC) markets and Cotton Corporation of India (CCI) centres to ensure objective measurement of staple length of cotton.
- 1.14 Cotton plant can be utilized for four products, viz. lint, seed, stalk and leaves. Out of these, lint is the main product and rest are by-products. The cotton cultivators should also be compensated for value of these by-products of cotton. Currently, in the absence of sophisticated oil extraction equipment, oil extraction rate of cotton seed is much below the optimum rate. Since cotton seed oil is now widely used for human consumption and the seeds contain 20-25 percent protein, cotton is a source of fibre, oil and protein. This property of cotton seed will fetch better price, a part of which can be shared with the farmers. Cotton stalk is another by-product which needs adequate processing for value addition and increase in income of farmers.
- 1.15 Price Deficiency Payment System (PDPS) to ensure MSP to cotton farmers is under consideration for implementation. This mechanism needs a pilot testing and further study to ensure its operational feasibility. In particular, there is a need to track market prices, price realized by farmers and quality of cotton. Also, a mechanism for transfer of the deficit payment to farmers should be evolved.

Stock with the Central Pool

- 1.16 The stock of rice with the central pool was 12.7 million tonnes against revised norms of 7.61 million tonnes on 1st January 2016, which is 66.7 percent in excess of the stipulated norms. Stock position in respect of rice and wheat during 2009-10 to 2015-16 is given in Chart 1.3. From the chart, it emerges that rice stock as on 1st July has increased from 19.62 million tonnes in 2009-10 to a maximum of 31.51 million tonnes in 2013-14, after which it is declining with the lowest stock of 15.90 million tonnes in 2015-16.

Price Policy for Kharif Crops

Chart 1.3: Central Pool Stocks with FCI, 2009-10 to 2015-16



Note: Norms and actual stocks as on 1st July of each year.

Source: FCI

National Agriculture Market

1.17 In order to provide better market opportunity to Indian farmers, the Government has recently approved the creation of a pan India electronic trade portal that will integrate 585 APMC markets across the country. Out of these, 250 markets would be integrated through online platform during 2015-16, 200 in 2016-17 and the remaining 135 in 2017-18. However, the prices that the National Agriculture Portal will record are not clear at this stage. This assumes importance because commodity prices vary a great deal depending upon quality and grading of the produce. For instance, the wholesale price differential between two markets (Assam and West Bengal) for common rice in January 2016 was Rs. 457 per quintal (25 per cent). Also inter-state variation in the rates of taxes, levies and commissions add to the price differential across the states, even for a commodity of the same grade. Hence, the Commission is of the considered opinion that there is a need to improve the standardization of product grading norms according to the quality differences, so that a consistent price structure is set for a particular grade in all the markets.

Computerization

1.18 Computerization of procurement operations is necessary for their better management. It can be done on real time basis and some states have done a commendable job on computerizing the procurement operations. Chhattisgarh is an example worth emulating, where full computerization of paddy procurement and disposal process including payment to farmers has been done since

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2007-08. Odisha has also computerised its procurement operations where farmer registration and Paddy Procurement Automation System (P-PAS) has been initiated since Kharif Marketing Season (KMS) 2013-14. P-PAS uses the updated database of farmer registration module, provides system generated documents to farmers and millers, payment advice is generated by the District Central Cooperative Bank (DCCB) and it is credited into the farmer's account. So far, 1,19,188 farmers have been covered and 81 percent of kharif procurement has been done under P-PAS during KMS 2015-16 (as on 31.12.2015). Under this transparent system, farmers are assured of sale of their surplus paddy without any harassment. Also, this system reduces work substantially at mandi level, facilitates quick compilation of purchase data, easy reconciliation of paddy stocks and quick payment to farmers with effective monitoring of the entire payment process throughout the season. Orderly mandi process and direct payment to farmers' accounts under the system have increased their satisfaction level. This system also has a grievance redressal centre called 'sanjog helpline' in the state. The Commission recommends that all the states should take up full computerization of procurement operations with direct payment in the account of the farmers.

Farm Mechanization

- 1.19 In India, the major cost item is human labour in addition to inputs like fertilisers, seeds, insecticides etc. Agriculture workforce which constitutes 49 percent of the total work force, contributes just 14 percent to the national income (GDP). This is a reflection of large gap in labour productivity in agriculture as compared to that of non-agricultural sector. Non-availability of labour during peak agriculture operations and high labour cost, especially during harvesting period, is another issue lending support to farm mechanization.
- 1.20 High cost of farm machines is the biggest hurdle in the way of adopting large scale farm mechanization. The Commission has recommended in its earlier reports that farm mechanization should be promoted extensively among small and marginal farmers through Custom Hiring Centres (CHC). As an illustration, Karnataka has established CHCs called '*Krishi Yantradhare* Centres'. These CHCs are established on public private partnership (PPP) model in 183 centres and are managed by NGOs, farmers organizations and charitable trusts. Karnataka Agricultural Price Commission (KAPC) has conducted a study on the saving of costs by mechanization for paddy. Table 1.1 illustrates that when paddy is planted by transplanter there is an absolute saving of 28 percent on cost of labour and inputs and realization of higher crop yield, leading to an increase of 123 percent in the net profit.

Price Policy for Kharif Crops

Table 1.1: Cost and Profitability Changes in Paddy Cultivation with Mechanization

Sl. No.	Particulars	With Mechanization (Transplanter)	Without Mechanization	Difference	
				Rs.	per cent
(1)	(2)	(3)	(4)	(5)	(6)
1	Cost of Human and Machinery (Rs/hectare)	31,750.00	37,762.50	-6,013	-16
2	Cost of Inputs (Rs/hectare)	36,265.00	45,220.00	-8,955	-20
3	Total Cost (Rs/hectare) [1+2]	68,015.00	82,982.50	-14,968	-18
4	Paddy Yield (qtl/hectare)	72.50	62.50	10	16
5	Price of Paddy (Rs/qtl)	1,575.00	1,575.00	0	0
6	Value of By product (Rs.)	5,000.00	7,500.00	-2,500	-33
7	Cost of Production (Rs/qtl) [(3-6)/4]	869.17	1,207.72	-339	-28
8	Net Profit (Rs/hectare) [(4*5)+6-3]	51,172.50	22,955.00	28,218	123

*Note: Study has been done in Davanagere & Raichur districts for paddy
Source: Karnataka Agricultural Price Commission*

Organic Farming

- 1.21 Diversity of agro-climatic conditions, agricultural biodiversity and farm practices are conducive for organic agriculture in India and hence, these offer tremendous scope for cultivation of a wide range of crops using organic farm practices. Sikkim has enacted laws under Sikkim Organic Mission, 2010 and has taken a number of initiatives to make it first organic state of India. Choice of land, local variety (desi) seeds, organic fertilizers and bio-pesticides are critical ingredients to promote organic farming in which cost reduction and yield increment are gradual from year to year. The market for these products is evolving, particularly in urban India, as these products are demanded by high income group. The exports of organic products are also rising. The state governments should pay more attention to credibility and cost-effectiveness of process certification and identification of organic product in the market. Also, creating markets for organically grown crops by the state governments would be an incentive for adopting organic farming.
- 1.22 Table 1.2 illustrates that in organic farming with the fixed expenditure on inputs, crop yield increases in subsequent years and gradually goes up to 50 quintal per hectare. Assuming that the market price increases by five percent every year, income of the farmers increases over the years. Declining costs of production and corresponding

Price Policy for Kharif Crops

increase in yields over the years is the main aspect of organic farming, whereas inorganic farming uses hybrid seeds, inorganic fertilizers, insecticides and pesticides which increases the yield but at the same time the cost of cultivation increases alongwith deterioration in soil quality. Recognizing its benefits, the cultivated area under organic farming has increased from 42,000 ha in 2003-04 to 7.23 lakh ha in 2013-14. The regions already practicing low input agriculture like hills and tribal regions have natural advantage in promotion of organic farming. The Commission recommends that there has to be a sustained campaign in its favour so that farmers are sensitized about its benefits like long term yield gain and cost savings.

Table 1.2: Profitability of Organic Paddy Cultivation in Odisha

Sl. No.	Year	Expenditure (Rs/hectare)	Yield (qtl/hectare)	Price (Rs/qtl)	Gross income (Rs/hectare)	Net income (Rs/hectare)
(1)	(2)	(3)	(4)	(5)	(6)	(7)
1	1 st	32,500	30.0	1,541	46,230	13,730
2	2 nd	32,500	32.5	1,618	52,585	20,085
3	3 rd	32,500	37.5	1,699	63,713	31,213

Source: CACP's calculation on the basis of discussions with farmers of Sambalpur district of Odisha

Crop Insurance

1.23 The Commission had in its earlier reports said that for any insurance scheme to be successful, premium rates should be low so as to attract majority of the farmers which have low paying capacity. The Pradhan Mantri Fasal Bima Yojana (PMFBY) is a new crop insurance scheme which will be implemented from Kharif 2016-17 along with the pilot Unified Package Insurance Scheme (UPIS) and restructured Weather Based Crop Insurance Scheme (WBCIS). The premium rates in this scheme (PMFBY) are 2.0 percent for Kharif crops and 1.5 percent for Rabi crops. The Commission welcomes the new crop insurance scheme which is aimed to address the increasing distress in farming which is on the rise as an impact of climate change (erratic rainfall, unusual period of drought, temperature fluctuations etc.). However, to make the scheme effective and successful, wide and timely dissemination of information among farmers is necessary. Moreover, to cover the risks, appropriate technology for a transparent crop loss assessment and financial infrastructure for direct and timely payment of compensation to farmers in their accounts need to be put in place.

Price Policy for Kharif Crops

Direct Fertilizer Subsidy to Farmers

1.24 The Commission is of the opinion that farmers be given direct cash subsidy for fertilizers. This Direct Benefit Transfer (DBT) for input subsidies, particularly of fertilizers on per hectare basis, may help target the beneficiaries and ensure regional equity in distribution of the subsidy. This policy shift will go a long way to help those who take loans from money lenders at exorbitant interest rates to buy fertilizers and other inputs, thus relieving some of their distress. However, for DBT a system to identify the real beneficiary has to be put in place. As such this scheme can be effective only after complete computerization of land records in the states. In this context, Andhra Pradesh Land Licensed Cultivators Act, (2011) could be emulated. Under this Act, the concerned Department is required to maintain a record of cultivators, even if there is no ownership right on land. The main purpose of this Act is to issue landless cultivators a 'Loan Eligibility Card'. Such a provision can also be used for direct transfer of subsidy for fertilizers.

Climate Change

1.25 Food production in India is sensitive to climate change like change in temperature and rainfall. Researchers say that rise in temperature has a direct impact on the yields of Rabi crops and every 1° C rise in temperature will reduce wheat production by 4 to 5 million tonnes. Every small change in temperature and rainfall has significant effect on the quality and quantity of fruits, vegetables, tea, coffee, and aromatic and medicinal plants. The National Action Plan on Climate Change (2008) has predicted a loss of 10 to 40 percent in production by 2100 due to climate change. The Commission recommends that to deal with the adverse effect of climate change, region wise crop planning alongwith the development of varieties resistant to the adverse climate conditions may be initiated.

Structure of the Report

1.26 Rest of this report is organized as follows. Chapter 2 presents the demand-supply scenario and procurement operations for the mandated crops. Chapter 3 discusses trends in crop productivity and related aspects. Chapter 4 presents trends in domestic prices in relation to international prices and trade policies with a view to using international trade as an instrument of food security and expanding opportunity for domestic producers. Chapter 5 presents the cost of production and returns for different kharif crops. Finally, a summary of the discussion along with non-price policy and MSP recommendations is presented in Chapter 6.

Chapter 2

Demand-Supply Scenario and Procurement Operations

Production Scenario

- 2.1 The production of kharif foodgrains has fallen by three percent at 124.2 million tonnes in 2015-16 as compared to 128.1 million tonnes in 2014-15. This decline is mainly because of deficit rainfall and reduction in area under rice, coarse cereals and cotton. A positive development is the area expansion under kharif pulses and oilseeds in 2015-16. This area expansion in pulses and contraction in cotton may be attributed to high and low market prices of pulses and cotton respectively in 2014-15.
- 2.2 As per USDA estimates for January 2016, global production of rice, coarse grains, oilseeds and cotton are around 470 million tonnes, 1262 million tonnes, 527 million tonnes and 102 million tonnes respectively. In percent terms there is a decline of 1.7 percent in rice, 2.71 percent in coarse grains, 1.79 percent in oilseeds and 14.77 percent in cotton as compared to the last year. World area coverage under rice, coarse cereals and total oilseeds have marginally fallen in 2015-16 over 2014-15, whereas cotton has recorded a significant fall of 8.8 percent in area during the same period. The area under rice has reduced maximum in U.S. by 12.61 percent, whereas Egypt has recorded the maximum area expansion of 23.1 percent. The area coverage under coarse cereals has witnessed maximum fall in South Africa (25.85 percent) and maximum rise in Vietnam (10.2 percent). Total oilseeds have a maximum increase in area coverage in Bolivia (17.2 percent) and maximum decrease in South Africa (17.9 percent). Cotton area coverage has shown maximum decrease in Egypt (37.50 percent) and maximum increase in Australia (38.1 percent).

Stock-to-Use Ratio

- 2.3 The demand-supply situation of rice, arhar, pulses and cotton can be inferred from Table 2.1. These stock-to-use ratios have been taken from the balance sheet of kharif crops computed for the last three years (Annex Table 2.1). This indicates that available stocks of these crops are declining over time and the ratio has become less than half in 2015-16 over that in 2014-15 in Arhar (Tur). Any further reduction in the production may lead to volatile price trends in the near future.

Price Policy for Kharif Crops

Table 2.1: Stock-to-Use Ratios of Kharif Crops, 2013-14 to 2015-16

(Percent)

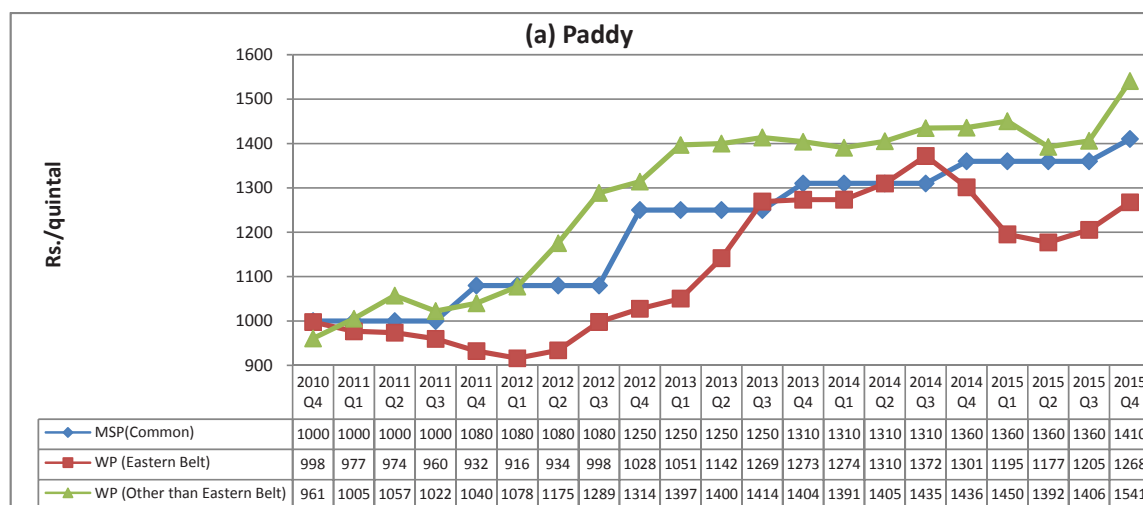
Sl. No.	Commodity	2013-14	2014-15	2015-16
(1)	(2)	(3)	(4)	(5)
1	Rice	18.16	15.05	7.79
2	Arhar	15.59	14.66	4.55
3	Total Pulses	7.37	6.65	5.05
4	Cotton	7.68	13.59	9.46

Sources: NCAER, DES, DFPD and DGCIS-Kolkata, Office of the Textile Commissioner

Wholesale Prices and MSP

2.4 Price is an indicator which reflects the demand-supply dynamics of any commodity and crops are no exception to this. Trend in price is also used to take appropriate measures to curb volatility and establish equilibrium in the market. Charts 2.1(a) to (h) present the movement of wholesale prices *vis-à-vis* MSPs of paddy, maize, arhar, moong, urad, groundnut, soybean and cotton, respectively. It can be seen from these charts that wholesale prices of kharif crops during 2010 to 2015 have been generally ruling above their respective MSPs with some exceptions in few years. Pulses have recorded exceptionally high market prices during 2015.

Chart 2.1: Wholesale Prices vis-à-vis MSP, 2010 to 2015



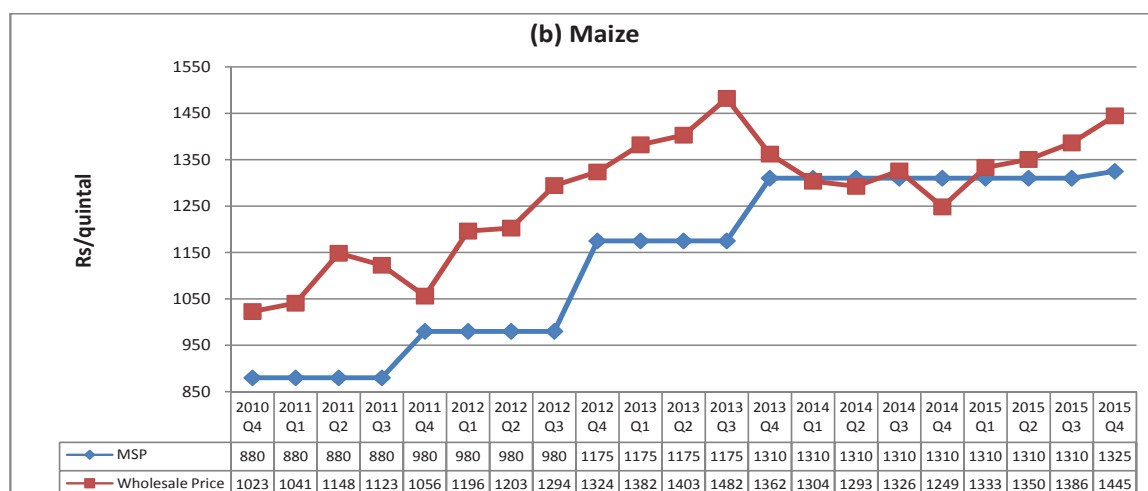
Note: i) Eastern Belt comprises Assam, Bihar, Eastern UP and WB

ii) Other than Eastern Belt comprises AP, Chhattisgarh, Haryana, Odisha, Punjab, TN, and UP (excluding eastern part)

Source: DES, Ministry of Agriculture & Farmers Welfare

Price Policy for Kharif Crops

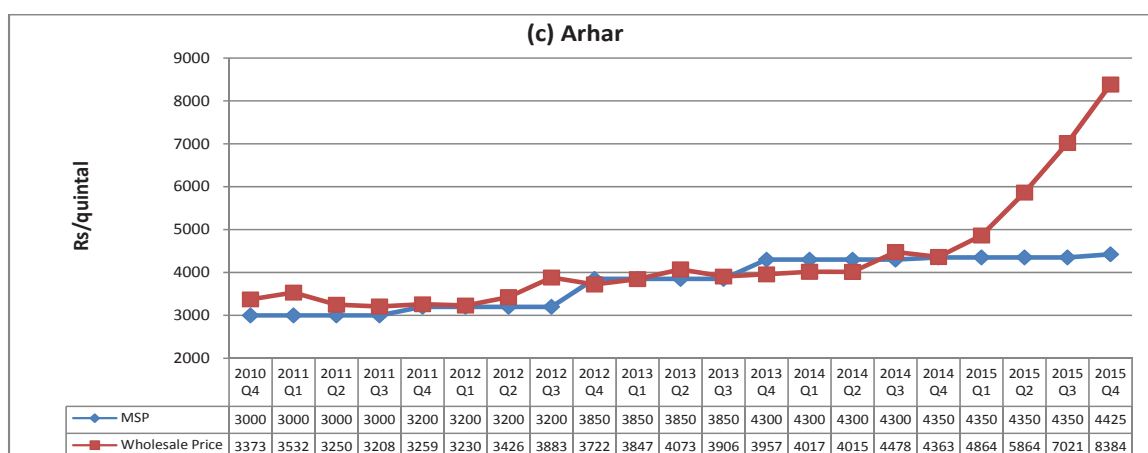
- 2.5 Chart 2.1(a) depicts low market prices of paddy in the eastern belt comprising Assam, Bihar, Eastern UP and West Bengal as compared to both MSP and prices prevailing in other states (other than the eastern belt). This is mainly due to low procurement, weak market infrastructure and perhaps varietal differences. This calls for putting in place a robust procurement system along with upgradation of supporting market infrastructure in this region.



Note: Average wholesale price of AP, Bihar, Karnataka, MP, Maharashtra, Rajasthan, TN and UP

Source: DES, Ministry of Agriculture & Farmers Welfare

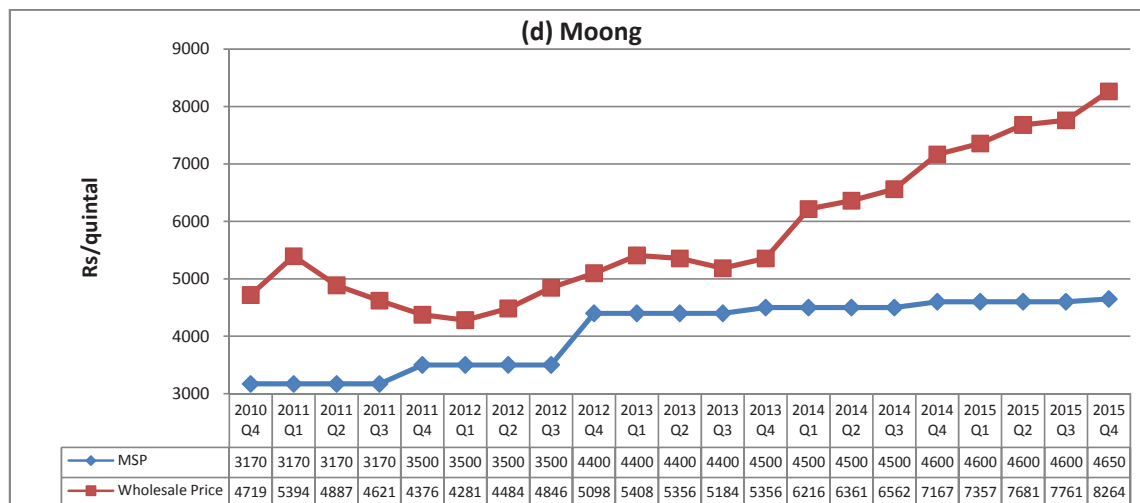
- 2.6 All India wholesale price of maize has been ruling above MSP with few exceptions and it reached a peak of Rs. 1482 per quintal in 2013(Q₃) before declining to a low of Rs. 1249 per quintal in 2014(Q₄). However, since then the prices have been continuously increasing.



Note: i) Average wholesale price of AP, Gujarat, Karnataka, MP, Maharashtra, and UP, ii) Additional Bonus of Rs 500 over MSP in 2010-11 & 2011-12 iii) Additional Bonus of Rs 200 over MSP in 2015-16

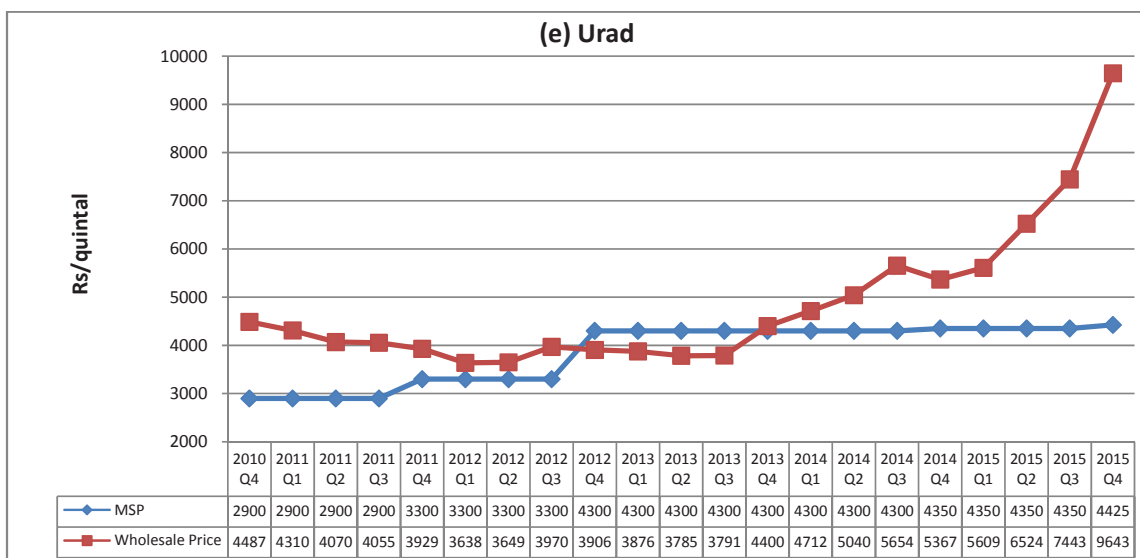
Source: DES, Ministry of Agriculture & Farmers Welfare

Price Policy for Kharif Crops



Note: i) Average wholesale price of AP, Bihar, Gujarat, Karnataka, Maharashtra, Rajasthan and TN
 ii) Additional Bonus of Rs 500 in 2010-11 & 2011-12
 iii) Additional Bonus of Rs 200 in 2015-16

Source: DES, Ministry of Agriculture & Farmers Welfare



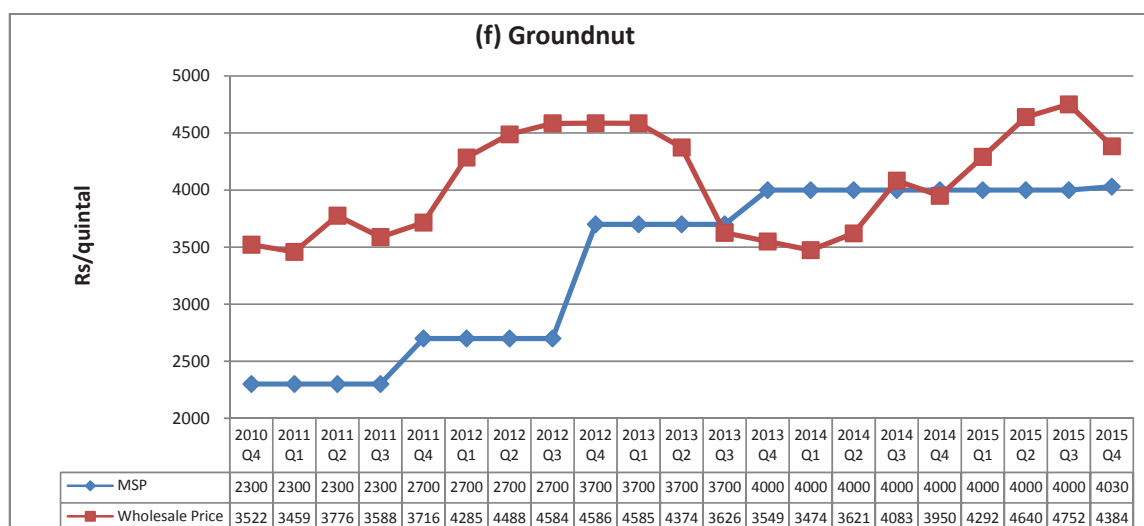
Note: i) Average wholesale price of AP, MP, Maharashtra, Rajasthan, TN and UP
 ii) Additional Bonus of Rs 500 in 2010-11 & 2011-12 iii) Additional Bonus of Rs 200 in 2015-16

Source: DES, Ministry of Agriculture & Farmers Welfare

2.7 The country has witnessed an unprecedented sharp rise in prices of pulses in 2015 due to their shortage in its availability domestically and internationally. The shortage in the availability of pulses is not only because of lower production but also because of hoarding and other man-made distortions in the domestic and international markets as well. This calls for not only increasing the production and yield of pulses in the country but also a proper monitoring of markets and trade of pulses.

Price Policy for Kharif Crops

- 2.8 As a long term measure to increase production and productivity of pulses in the country, ICAR-IIPR and the National Seeds Corporation (NSC) need to intensify their efforts for production and supply of 'certified or quality' seeds. It takes about 3 years in production of certified seed from nucleus seed, breeder seed and foundation seed being intermediate stages. These institutions have to draw a blueprint for production and distribution of adequate seeds at affordable prices, at least 3 years in advance to meet the seed demand. For this purpose, IIPR and NSC be given necessary financial support. Also efforts should be made to popularize early and stable dwarf varieties suitable for multiple cropping by adopting area-specific approach. Introduction of short duration varieties of pulses in different cropping systems with utilisation of untapped land and water will increase availability of pulses and provide high returns to the farmers.

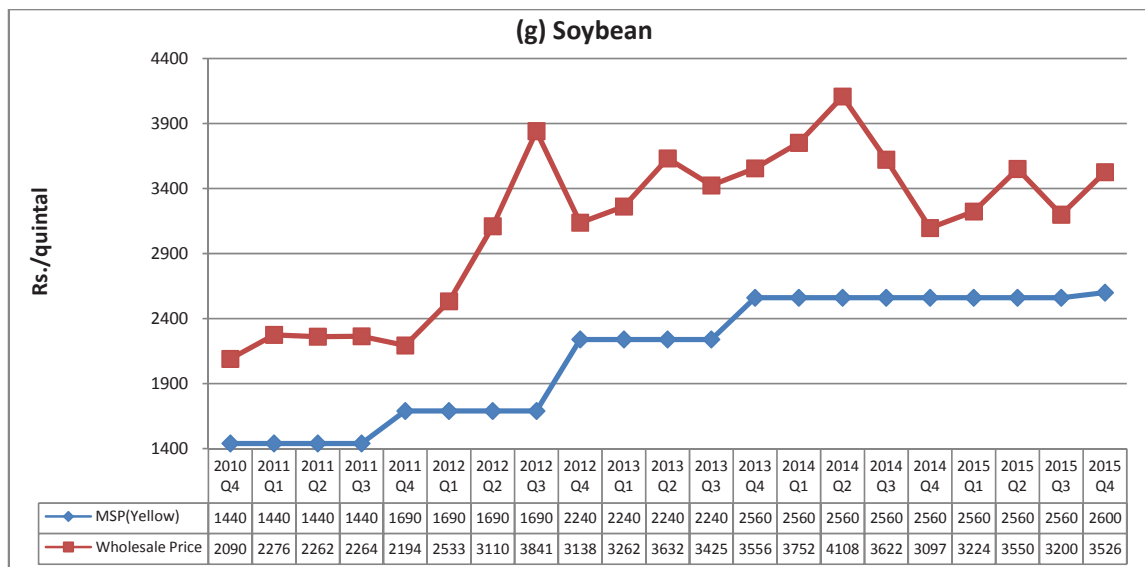


Note: Average wholesale price of AP, Gujarat, Karnataka, Rajasthan and TN.

Source: DES, Ministry of Agriculture & Farmers Welfare

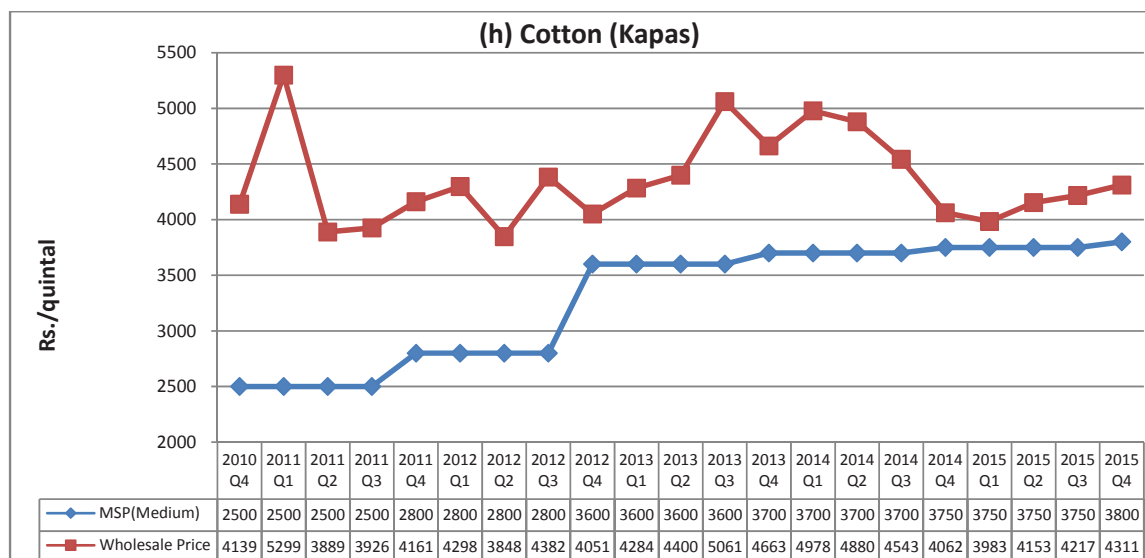
- 2.9 The price of groundnut is exhibiting a fluctuating trend over the years but it has been above MSP, except during the period of 2013(Q₃) to 2014(Q₄) when the prices fell below MSP. Prices have increased since then with a fall in 2015(Q₄) necessitating procurement by the public agencies. Soybean is another crop with fluctuating price trends over the years but the market prices have always been above MSP.

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Note: Average wholesale price of MP, Maharashtra and Rajasthan.

Source: DES, Ministry of Agriculture & Farmers Welfare



Note: Average wholesale price of AP, Gujarat, Haryana, Karnataka, MP, Maharashtra and Punjab

Source: DES, Ministry of Agriculture & Farmers Welfare

2.10 As per market reports, China is the biggest importer of cotton and it has a stock of 12.66 million tonnes which is adequate for more than one year of their requirement. As a result, import by China is expected to be lower during the current year. However, imports by other countries like Bangladesh, Indonesia, Pakistan, Thailand, Turkey, Vietnam etc are expected to increase due to increase in their requirement. Thus, at present cotton prices are steady to firm not only in India but also in the international

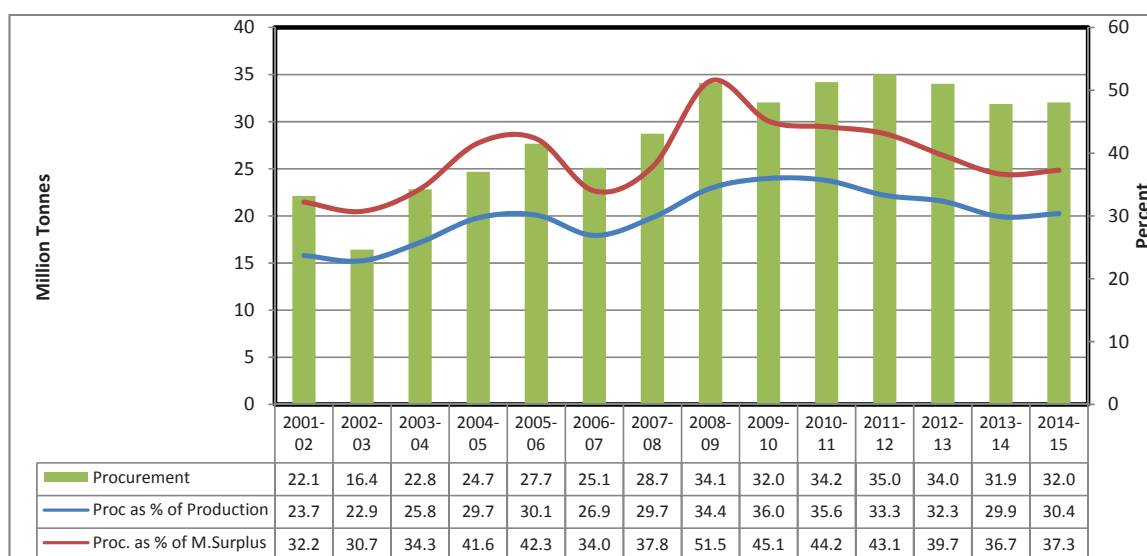
Price Policy for Kharif Crops

market. It is reported that Cotton Corporation of India (CCI) has procured around 8.21 lakh bales under MSP operation as on 18th February 2016 out of which more than 80 percent purchases are in the southern zone and remaining in the central zone.

Procurement Policy and Operations

2.11 Rice procurement has increased from 22 million tonnes in 2001-02 to 32 million tonnes in 2014-15. Procurement as percentage of the rice production is hovering between 23 percent (2002-03) to 36 percent (2009-10) with a decline to 31 percent in 2014-15. In 2015-16, 26.7 million tonnes of rice was procured as on 16th February 2016 which is 28.5 percent higher than that in 2014-15. The procurement in the eastern region comprising Assam, Bihar, Eastern UP and West Bengal is merely 6.5 percent of the total procurement which may increase in the remaining period of the current procurement season. The overall position regarding rice procurement over the years in the country as percentage of the production and marketed surplus is presented in Chart 2.2.

Chart 2.2: Rice Procurement as Percent of Production and Marketed Surplus, 2001-02 to 2014-15



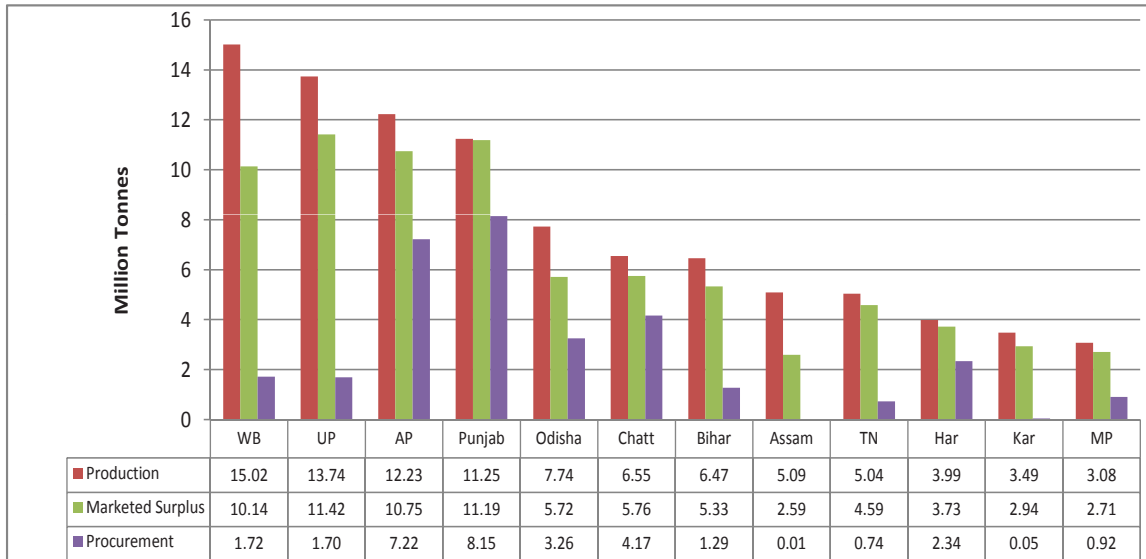
Note: MSR is available upto 2012-13

Source: DES, DFPD, Agricultural Statistics at a Glance, 2014

2.12 Out of 14 kharif crops for which the Government fixes MSPs, actual procurement is done mainly for only two crops, viz. paddy and cotton. Chart 2.3 depicts state-wise production, marketed surplus and procurement of rice.

Price Policy for Kharif Crops

Chart 2.3: State-wise Rice Production, Marketed Surplus and Procurement, TE 2014-15



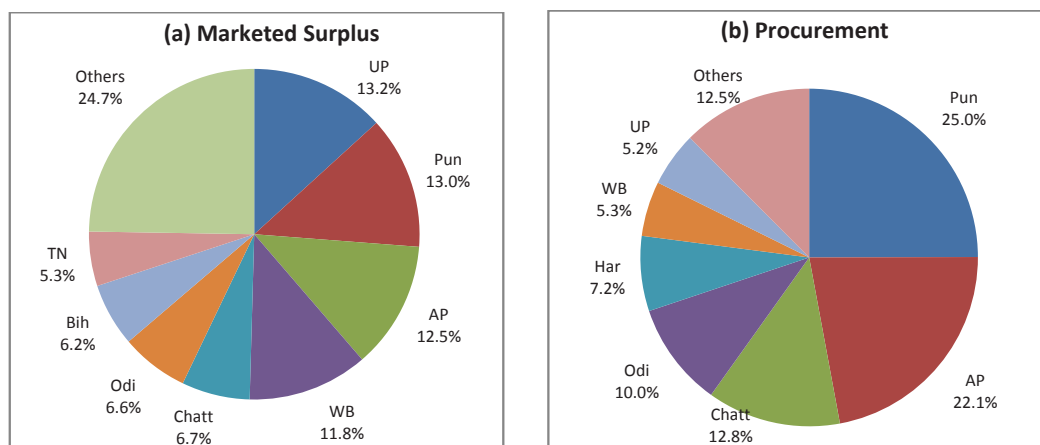
Note: Marketed Surplus for Chhattisgarh is not available therefore has been taken same as MP

Source: DES, DFPD, Agricultural Statistics at a Glance, 2014

2.13 A perpetual skewedness in the procurement in different states raises the issue of equity which needs to be addressed urgently to achieve the objective of the price policy (MSPs). For example, there was almost negligible procurement of rice in Assam during TE 2014-15, even though it contributed 4.7 percent to the total rice production. As regards West Bengal, the procurement share is only 5.3 percent though marketed surplus share is 12 percent. There is low procurement in Bihar though the marketed surplus share is 6 percent. In comparison, Punjab procured 24.9 percent of rice against its marketed surplus share of 13 percent during the corresponding period (Chart 2.4). Therefore to render the price support to farmers of the eastern region, there is a need for increasing the procurement of rice in the region.

Price Policy for Kharif Crops

Chart 2.4: Shares of Major States in Marketed Surplus and Procurement of Rice, TE 2014-15



Sources: DES, Agricultural Statistics at a Glance, 2014 and FCI

- 2.14 The High Level Committee (HLC, 2015) on restructuring of FCI has also recommended to scale up procurement operations in Assam, Bihar, Eastern Uttar Pradesh and West Bengal, dominated by small holdings, where distress sales by farmers at a price much below MSP is a normal practice rather than exception. FCI should play a pro-active role in mobilizing other agencies and providing benefits of MSP and procurement to larger number of small and marginal farmers of this region.
- 2.15 Currently, total kharif oilseeds production is 17.6 million tonnes and productivity is 9.4 quintal per hectare. To increase domestic availability, area under oilseeds needs to be expanded by diversifying from other crops alongwith raising the productivity. Based on the interaction of CACP with farmers and discussion during field visits, it emerged that farmers seek incentive in the form of reasonably strong procurement machinery to be put in place to fall back upon when the prices fall below MSP. On the contrary, there is low level of procurement of kharif oilseeds by NAFED (Table 2.2). To promote crop diversification, pulses and oilseeds deserve priority and the government must ensure robust procurement operations for them alongwith a dynamic trade policy in place.
- 2.16 Import of edible oils during 2014-15 was 12.7 million tonnes, valued at Rs.64,894 crores and the imports are largely from Indonesia and Malaysia. The share of palm oil in the total edible oil imports is 73 percent in 2014-15 and its share in total consumption of edible oil is 45 percent.

Price Policy for Kharif Crops

2.17 Attempts to involve FCI in procurement of pulses during 2015-16 have yielded moderate results (Table 2.2). In view of this, infrastructure of NAFED and SFAC need to be strengthened with administrative and financial support to take up procurement of pulses on a substantial scale throughout the country. It is reported that in the absence of assurance of reimbursement of losses, state government agencies do not come forward for procurement.

Table 2.2: Procurement of Pulses and Oilseeds, 2010-11 to 2015-16

(qty in tonnes)

Sl. No.	Season	Commodity	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Pulses								
1	Kharif	Arhar	291.00	Nil	16,004.84	43,772.24	1,543.00	40,591.61*
2		Urad	131.00	1.57	79,856.41	4,654.36	Nil	4,891.66*
3	Rabi	Gram	Nil	Nil	Nil	38,266.00	3,13,917.35	
Oilseeds								
4	Kharif	Groundnut	Nil	Nil	Nil	3,41,155.39	6,229.81	
5		Sunflower	845.00		1,499.10	4,382.78	4,153.21	4,241.89
6		Sesamum	1,885.00	Nil	Nil	Nil	Nil	
7	Rabi	Rapeseed & Mustard	Nil	Nil	Nil	Nil	1,714.82	

Note: *Total Procurement by FCI, NAFED and SFAC

Source: NAFED, FCI (as on 18.02.2016)

Negotiable Warehouse Receipt System

2.18 The Commission in its earlier reports recommended promotion of the negotiable warehouse receipt system (NWRS) as an instrument to provide leverage to the farmers against price fluctuation in the market. NWRS regulated by Warehousing Regulatory Development Authority (WRDA) allows the pledging of a commodity kept in a warehouse without its physical transfer for getting loans. In the long run, the NWRS can also supplement the procurement operations by FCI. In the absence of sufficient number of WRDA approved godowns, loan against godown receipts of the produce can be explored as an alternative mechanism to provide price support to the farmers. A mechanism involving commercial banks, co-operative banks and primary co-operative societies accepting godown receipts as collaterals may be set up which will encourage construction of rural godowns and will also enable farmers to take advantage of favourable market conditions as and when they come.

Price Policy for Kharif Crops

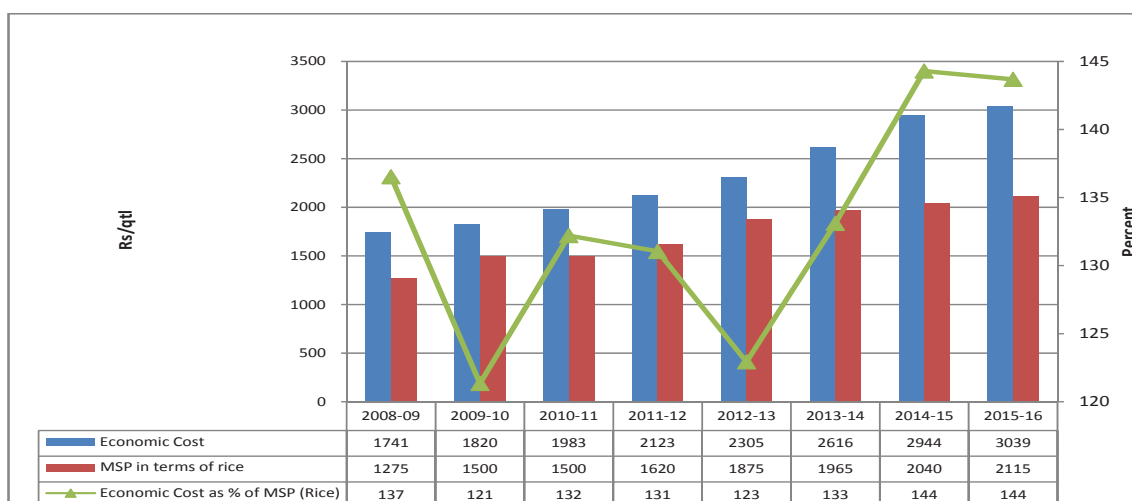
Right to Sell at MSP

2.19 The two most important procurement agencies of the Government of India, namely FCI and NAFED, were set up with the main objective of procuring notified commodities at MSP, as and when the market prices go below MSP. These agencies have been in existence for over 50 years and 30 years, respectively. Yet, the benefits of MSP bypass a large section of farmers, reducing the effectiveness of pricing policy and procurement operations. The NSSO data for 2012-13 (Situation Assessment Survey of Farmers) reveal that of all the paddy farmers who reported sale of paddy during July-December 2012, only 13.5 percent farmers sold it to any procurement agency and in case of wheat farmers (January-June, 2013), only 16.2 percent farmers sold to any procurement agency. Together they account for only 6 percent of total farmers in the country, who have gained from selling paddy and wheat directly to any procurement agency. This calls for giving wide publicity about MSP and procurement agencies in regional electronic and print media at least 15 days before the procurement starts so as to reach out to farmers in far off areas. Furthermore, to instill confidence among farmers for procurement of their produce, a legislation conferring on farmers the right to sell at MSP may be brought out.

Economic Cost of Procurement and Delinking of Statutory Levies/Taxes from MSP

2.20 Economic cost of procuring rice is 144 percent of its MSP in 2015-16 which is a sharp rise since 2012-13 when the economic cost of procurement was 123 percent of MSP (Chart 2.5). One of the main factors for this high economic cost is continuously rising statutory taxes and other incidentals levied by the state governments. These statutory levies, mandi tax, VAT etc. are a major source of market distortion (Table 2.3).

Chart 2.5: Economic Cost of Procurement of Rice, 2008-09 to 2015-16



Source: FCI

Price Policy for Kharif Crops

- 2.21 It may be noted that the statutory levies imposed by the states are linked to the MSP, which is hardly justifiable. Andhra Pradesh, Chhattisgarh, Punjab, Haryana and Odisha which together account for 80 percent of the total procurement have realized Rs.37,453 crore from levies and taxes on procurement of paddy during 2005-06 to 2015-16. Out of this Rs.19,411 crore (51.8 percent) has been realized on account of rise in MSP alone (Annex Table 2.2).

Table 2.3: Statutory Levies Imposed on Rice by States, 2013-14 to 2015-16

Sl. No.		Taxes/Levies (as % of MSP)			Price After Tax (Rs/qttl)		
		2013-14	2014-15	2015-16	2013-14	2014-15	2015-16
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	State/MSP				1310	1360	1410
1	A.P.	11.00	11.00	13.22	1454.10	1509.60	1596.40
2	Bihar	7.00	4.73	6.22	1401.70	1424.33	1497.70
3	Chhattisgarh	7.20	7.20	9.59	1404.32	1457.92	1545.22
4	Haryana	11.50	11.50	11.50	1460.65	1516.40	1572.15
5	Kerala	9.50	7.00	7.00	1434.45	1455.20	1508.70
6	M.P.	5.00	9.70	9.70	1375.50	1491.92	1546.77
7	Odisha	5.00	11.89	9.22	1375.50	1521.70	1540.00
8	Punjab	14.50	14.50	14.50	1499.95	1557.20	1614.45
9	U.P.	9.00	6.50	8.72	1427.90	1448.40	1532.95
10	W.B.	0.00	2.80	2.22	1310.00	1398.08	1441.30

Note: Bihar's data for 2014-15 is taken from DFPD

Source: FCI

- 2.22 The states assert that the amount collected by way of levies/taxes is used to augment the mandi infrastructure by way of dryers, moisture meters etc. However on visiting the mandis, it is observed that there is no significant improvement in these facilities. The Commission has earlier recommended reduction of the rates of state taxes and levies but the same appears far-fetched. In view of this, the Commission is of the considered opinion that there is no justification for increasing the taxes with the increase in MSP as such increases in MSP are for compensating the farmers for increase in their cost of production. The Commission, therefore, recommends that statutory levies should be delinked from MSP and states should levy the taxes at the level of MSP fixed for KMS 2015-16 (for the purpose of taxation only) and should not increase the levies with the increase in MSP for next five years.

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Customed Milled Rice (CMR)

2.23. CACP in its reports for kharif crops had recommended abolition of levy rice in a phased manner. With a view to ensuring remunerative prices directly to farmers and to improve outreach of the procurement system, levy system of rice procurement has been abolished from 1st October, 2015 and it has been replaced by the Customed Milled Rice (CMR) system. CMR has certain noteworthy advantages over the levy system as it facilitates direct purchase from the farmers and thereby ensures direct benefit of MSP to them.

Recapitulation

2.24. To wrap up, the following important points are noteworthy:

- i. Lower procurement and weak market infrastructure in major paddy producing eastern region have affected the market prices there which are generally lower than the MSP, which needs to be addressed.
- ii. To encourage farmers to diversify to pulses and oilseeds, a robust procurement policy needs to be put in place for these crops.
- iii. To spread the awareness among farmers about the MSP, wide publicity in vernacular language in print and electronic media should be given before the start of procurement operations. Further more, the Commission is reiterating that a legislation conferring on farmers the right to sell their produce at MSP needs to be put in place so that farmers would be empowered by assured procurement of their produce.

Chapter 3

Crop Productivity

- 3.1 In the wake of depleting natural resources, particularly cultivable land and water, the task of sustaining productivity and meeting rising food demand shall continue to be a major challenge for India. Enhancing productivity becomes important not only from the point of view of meeting the rising demands but also to make our agriculture globally competitive. Indian agriculture is reasonably remunerative and increased productivity can help contain the cost of production. In this chapter, analysis of crop productivity and its major growth drivers (inputs, water, labour etc.) have been undertaken for kharif crops. The efficiency gap indicating productivity of crops in the country in relation to global standards has also been analysed.
- 3.2 Trends in the growth of productivity of major kharif crops (cereals, pulses, oilseeds and cotton) during the last three decades are presented in Table 3.1. The main points are discussed below:

Table 3.1: Average Annual Change in Area, Production and Yield of Kharif Crops (1990s to 2010s)

(Percent)

Sl. No.	Crop	Area			Production			Land Productivity		
		1990s	2000s	2010s	1990s	2000s	2010s	1990s	2000s	2010s
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
A-Cereals		-1.0	-0.6	-0.4	0.7	0.9	3.2	1.6	1.2	3.5
1	Paddy	0.7	-0.7	0.6	2.1	0.7	2.6	1.4	1.1	2.0
2	Bajra	-1.8	1.0	-3.5	5.4	10.6	6.8	5.6	5.6	9.9
3	Maize	0.8	2.6	0.4	2.2	4.8	4.6	1.4	2.0	4.0
4	Jowar	-3.4	-2.7	-4.7	-0.9	-2.3	-4.3	1.9	0.6	0.7
5	Ragi	-3.4	-1.7	-1.5	-1.2	2.9	0.1	2.1	2.8	1.2
B-Pulses		-1.5	1.2	1.5	-0.2	1.0	7.1	1.2	-0.8	4.8
6	Arhar	-0.4	0.2	2.1	1.9	0.5	1.2	2.0	0.1	-0.5
7	Moong	-1.2	1.2	4.7	-0.6	1.9	25.9	0.7	-1.1	18.2
8	Urad	-1.2	0.4	3.5	-1.1	-0.1	7.4	0.2	-0.6	3.8
C-Oilseeds		1.1	1.7	0.8	3.4	6.9	3.2	2.5	4.7	2.3
9	Groundnut	-2.3	-1.9	-2.8	-2.4	9.2	14.0	-0.3	9.8	13.5
10	Soybean	11.0	4.7	3.2	16.4	6.4	0.0	4.7	1.6	-2.7
11	Sesamum	-3.7	2.6	0.4	-3.4	6.0	8.0	1.3	2.5	7.1
12	Sunflower	3.1	2.8	-14.6	3.2	5.1	-13.8	0.7	2.5	2.5
13	Nigerseed	-2.0	-2.5	-5.6	-1.8	-2.2	-3.3	0.1	-0.2	2.9
D-Commercial Crop										
14	Cotton	1.4	2.0	2.6	2.1	8.1	3.1	0.5	5.7	1.0

Note: 1990s, 2000s and 2010s refer to the periods from 1990-91 to 1999-2000, 2000-01 to 2009-10 and 2010-11 to 2015-16 respectively.

Source: DES, DAC&FW and CAB for cotton.

Price Policy for Kharif Crops

Cereals

- i. In kharif cereals, annual growth (year-to-year percent change) in production is continuously increasing due to productivity growth in spite of shrink in their area.
- ii. The growth in area, productivity and production of paddy is fluctuating. After low growth in the production in 2000s due to area shrink, it increased in the next decade.
- iii. In case of bajra, in spite of reduction in area growth in 2010s, the land productivity and production growth are the highest among cereals.
- iv. In case of maize, annual growth in area was negligible, but the productivity grew by 4 percent annually in 2010s as compared to the preceding decade.
- v. In spite of increased productivity growth of jowar, the production growth turned negative due to reduction in area in 2010s.

Pulses

- vi. In pulses, accelerated annual growth rates in area and productivity resulted in significant increase in the production growth in the current decade. This growth is largely attributed to yield growth of moong and urad. In these crops, growth in area has also contributed to the production growth in 2010s.
- vii. Though there is a negative growth in the productivity of arhar, the production growth rate accelerated on account of increase in growth rate in area (2.1 percent) in 2010s.
- viii. Moong has the highest growth rate in area, productivity and production in the last decade.

Oilseeds

- ix. In oilseeds, the growth in production was the highest in 2000s (6.9 percent) which slowed down to 3.2 percent in 2010s. The growth in area, productivity and production of oilseeds have however fluctuated over the decades. The decelerated growth rates in area and productivity resulted in deceleration of the production growth rate in 2010s.
- x. In case of groundnut, on account of highest productivity growth among oilseeds, highest production growth was achieved in 2010s in spite of a significant decrease in the area.
- xi. In spite of growth in area in soybean in 2010s, there was no growth in its production due to negative growth in the productivity.

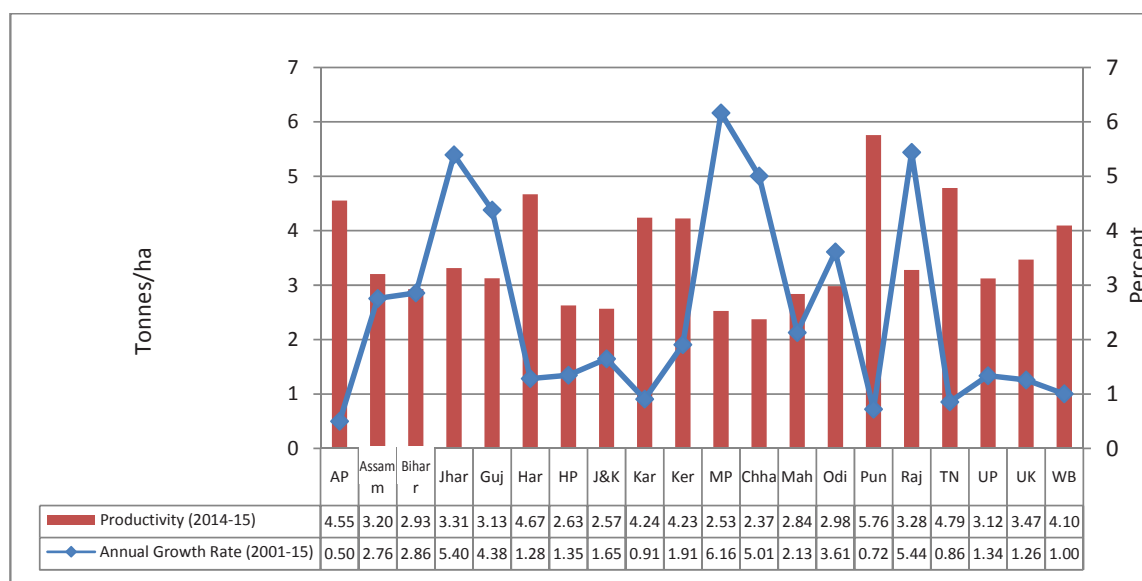
Price Policy for Kharif Crops

- xii. The growth rate of productivity and production of sesamum increased in the 2010s, in spite of a retarded growth rate in the area.
- xiii. In sunflower, productivity remaining constant, there was a fall in production due to loss in area under the crop in 2010s.

Cotton

- xiv. Due to introduction of Bt cotton, the highest growth rate in the productivity and production were achieved in 2000s. In 2010s, the area growth rate increased while the productivity and production growth rates have slowed down to one and 3.1 percent, respectively. The growth in cotton area was more than two percent during the 2000s and 2010s.
- 3.3 State-wise productivity level (2014-15) and annual growth rates (2000-01 to 2014-15) of paddy are presented in Chart 3.1. This chart depicts that high productivity states (Punjab, Tamil Nadu, Haryana and Andhra Pradesh) have low annual growth rates, while low productivity states (Chhattisgarh and Madhya Pradesh) have high growth rates. This means that there is convergence in the productivity and the states with low yields are 'catching up.' This trend is also seen in other crops.

Chart 3.1: Productivity Levels and Annual Compound Growth Rate of Paddy



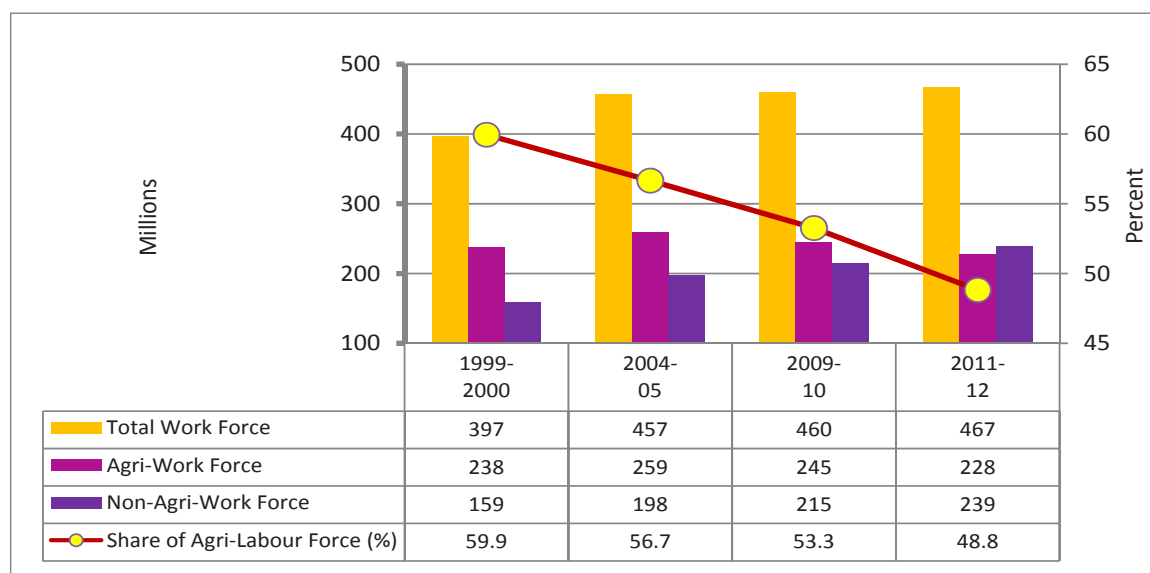
Source: Based on DES data.

Price Policy for Kharif Crops

Labour Productivity

3.4 It is observed that workforce in agriculture in 1999-2000 was 60 percent of the total workforce which declined to 49 percent in 2011-12. In absolute terms, the agriculture workforce declined by 31 million from 2004-05 to 2011-12. Also approximately 44 lakh agricultural labourers, on an average, are migrating every year from agriculture to secondary and tertiary sectors (Chart 3.2). The NSSO data also indicate that the ratio of labour productivity in agriculture to non-agriculture was 16.2 percent in 2005-06 which increased to 17.2 percent in 2011-12. The higher growth in the secondary and tertiary sectors (manufacturing and services) leads to higher incomes in these sectors as against the agriculture sector which has low income due to seasonal character and over employment. High difference in the labour productivity and growth of agriculture and non-agriculture sectors show rising income disparity between rural and urban areas. Therefore, raising crop productivity in agriculture and rural non-farm employment is essential to reduce the disparity.

Chart 3.2: Declining Workforce in Agriculture, 1999-2000 to 2011-12



Source: NSS, Various Reports

3.5 As agriculture is a labour intensive sector where human wages constitute 30 to 60 percent of total cost of cultivation depending upon crop, shortage of labour can become an insurmountable problem in the foreseeable future. This will be aggravated by faster increase in the cost of labour in relation to the cost of capital in near to medium term. To tackle this, traditional farming practices need to be replaced by

Price Policy for Kharif Crops

farm mechanization. The role of farm mechanization ought to go beyond mere use of tractors with emphasis on optimal use of inputs and more innovations in the pre and post-harvest operations. The Commission in its previous kharif report has recommended developing a co-operative based 'custom hiring model'. The states like Gujarat, Karnataka etc. are shifting to farm mechanization and it is already high in the green revolution states of Punjab and Haryana. Therefore, other states should also explore this method of farm mechanization keeping in view the domestic requirement.

Water Productivity

- 3.6 Land productivity, *i.e.* production per unit of area, reflects only one dimension and ignores natural resource like water, which is becoming scarce. Punjab has the highest rice productivity (39.29 qtl/ha), followed by Haryana (32.12 qtl/ha) and Andhra Pradesh (30.45 qtl/ha). The per hectare water use by irrigation in these states is 161.78 lakh litre in Punjab followed by Tamil Nadu (137.50 lakh litre) and Uttar Pradesh (102.00 lakh litre). As against these states, per hectare water use by irrigation in Assam, West Bengal and Bihar is 50 lakh litre, 59.86 lakh litre and 66 lakh litre, respectively. If water consumption is measured in terms of per kilogram of rice, West Bengal becomes the most efficient state which consumes 2169 litre to produce one kg of rice, followed by Assam (2432 litre) and Karnataka (2635 litre). The water use is high in Punjab (4118 litre), Tamil Nadu (4557 litre) and Uttar Pradesh (4384 litre). It shows that the most efficient state in terms of land productivity is not necessarily the most efficient if irrigation water is factored into. This is because of high rainfall in the eastern region. Given that water tables in various states are depleting very fast, there is an urgent need to improve water use efficiency.
- 3.7 The country's farm sector alone accounts for 83 percent of total water use. It is, therefore, imperative to augment the water productivity. Subsidizing electricity for agriculture in some states leads to its over use. The Commission in its previous report recommended metering electricity/water for their efficient use and reward farmers through cash incentive equivalent to unused units of water/power at the rates of their domestic resource costs. The Commission reiterates direct interventions in order to encourage the farmers to adopt water efficient practices like drip and sprinkler irrigation.

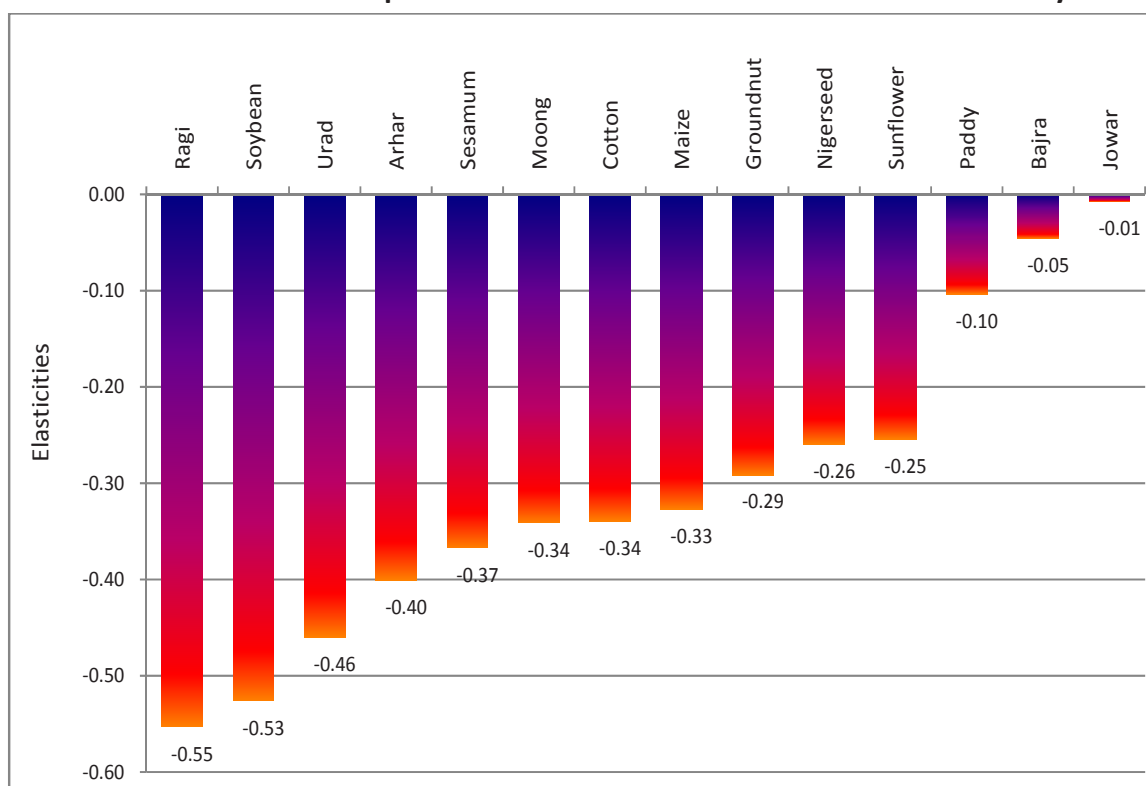
Relationship between Cost of Production (CoP) and Productivity

- 3.8 Elasticities of CoP w.r.t. yields of various kharif crops, based on regression model are estimated and presented in Chart 3.3. The negative values of elasticity in the chart

Price Policy for Kharif Crops

establish an inverse relationship between them for all kharif crops. Also it determines that real cost per unit of output could be reduced by increasing productivity through efficient use of inputs and improved technology. The inverse relationships between yield levels and real cost of production of various crops are depicted in scatter diagrams in Annex Charts 3.1(i) to (ix).

Chart 3.3: Relationship between Real Cost of Production and Productivity



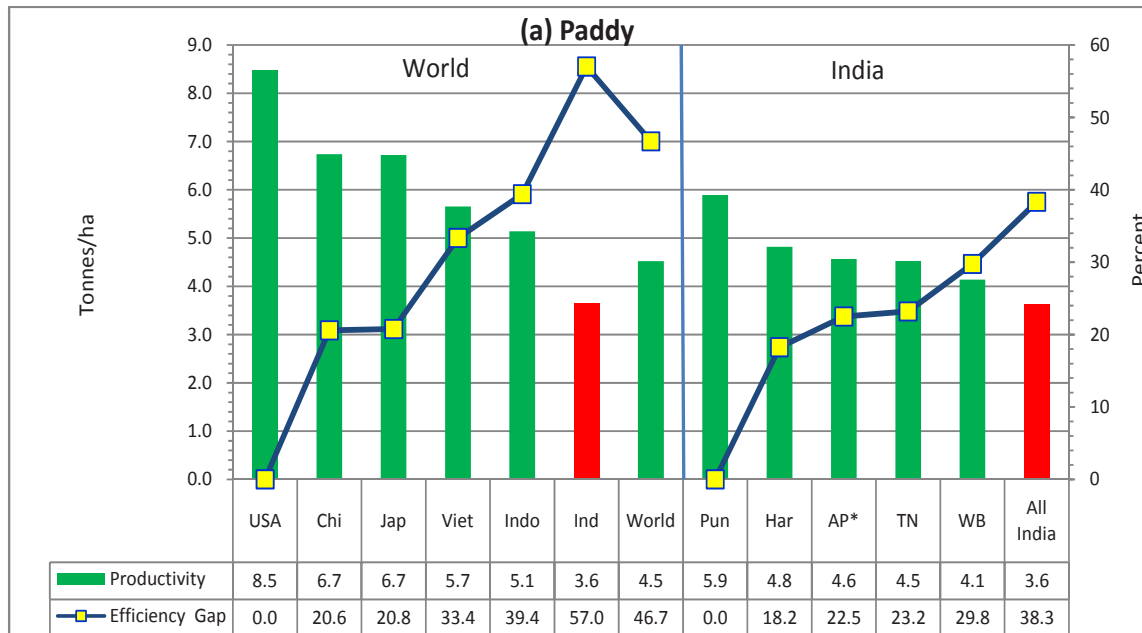
Source: Computed by CACP

Productivity in India vis-à-vis Major Producing Countries

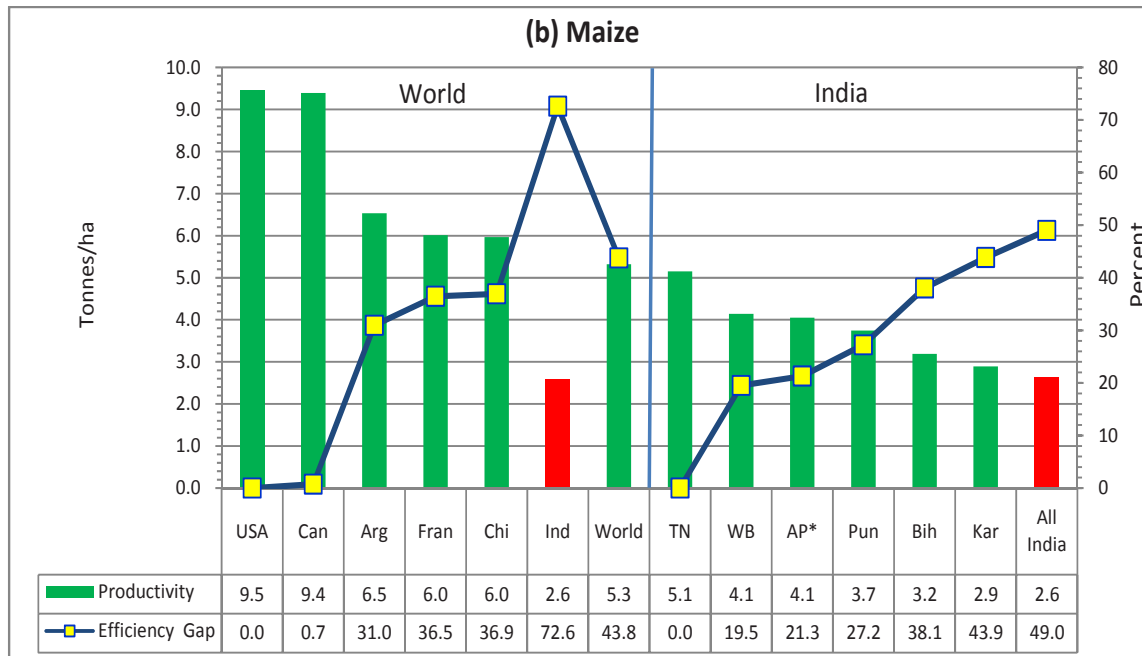
3.9 In the context of global competitiveness and rising domestic demand, productivity levels of major kharif crops in the country are compared with those of major producing countries and their yields are taken as benchmarks to envision India's position vis-à-vis other major producing countries in the world (Charts 3.4a to c).

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Chart 3.4: Benchmarking of Productivity across Countries and States in India

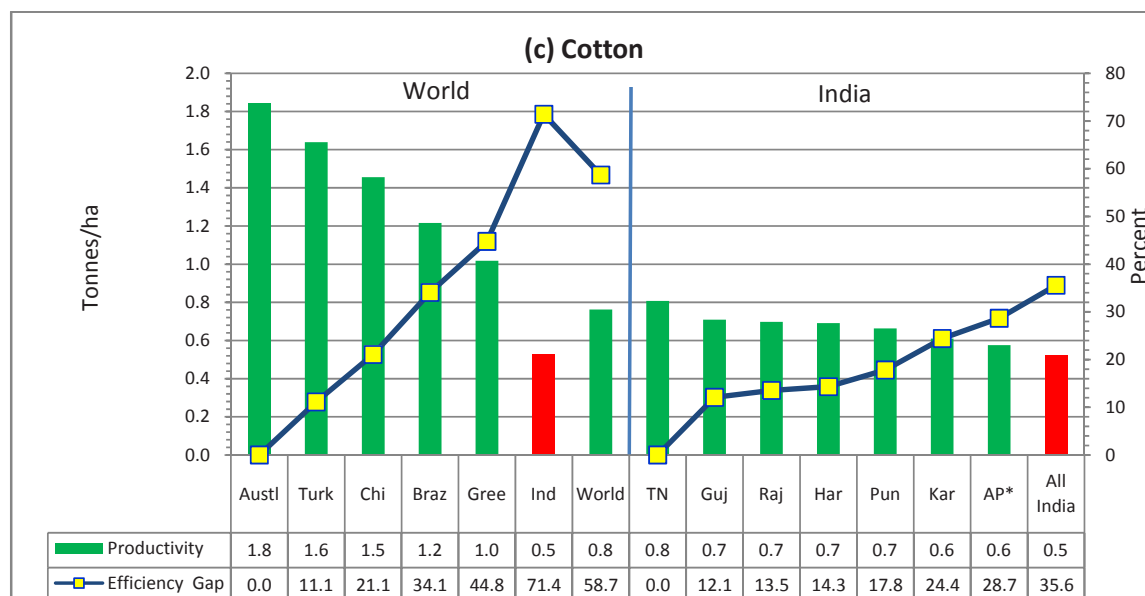


*including Telangana
Source: FAO & DES



*including Telangana
Source: FAO & DES

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*including Telangana

Source: FAO & DES

3.10 The efficiency gap in the productivity levels of India and benchmarking countries are high and range between 48 percent in arhar to 83 percent in case of jowar. The average productivity of jowar, arhar, sunflower, groundnut and soybean in comparison to the benchmarking countries is given in Annex Charts 3.2(a) to (e) and Annex Table 3.1.

Productivity Levels in the Major Producing States

3.11 With a view to appraise high performing districts in terms of productivity levels of various crops so as to enable other districts to emulate these benchmarking districts, district-wise productivity behaviour of paddy, maize and cotton has been carried out as an illustration. For this purpose, district-wise yield of these crops within the state has been arranged in ascending order using different yield bands. Subsequently, area coverage corresponding to each of the yield bands has been worked out in Tables 3.2(a) to (c).

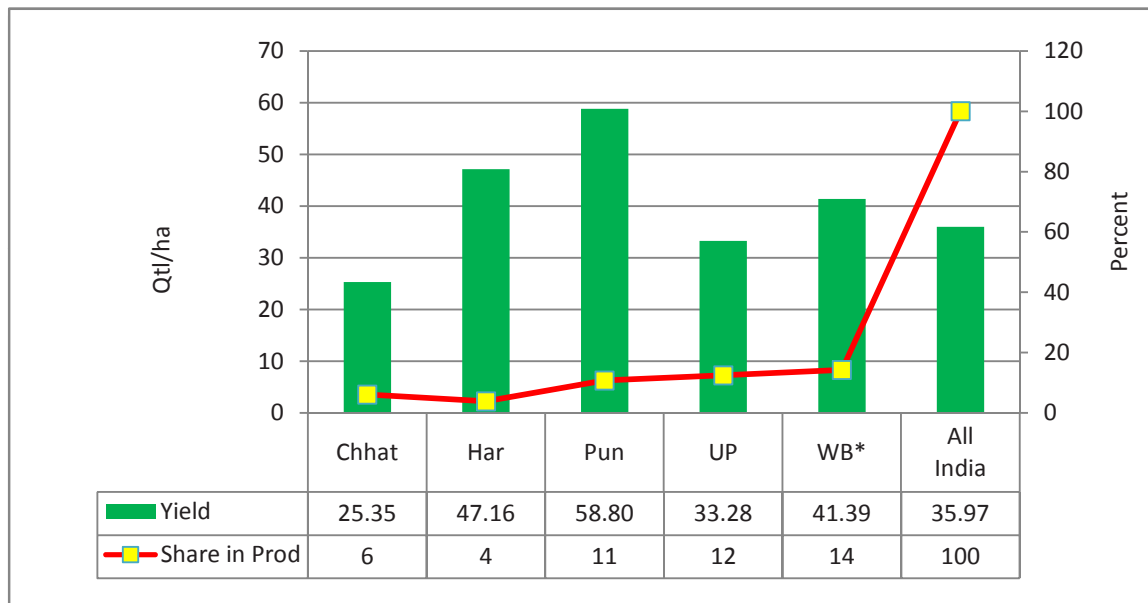
Paddy

3.12 The productivity of paddy is the highest in Punjab (58.80 qtl/ha) and this is so because 47 percent of its area is in the high yield band of above 60 qtl/ha and 34 percent area is in the yield band of 50-60 qtl/ha. Chhattisgarh has much lower productivity of 25.35 qtl/ha because its 82 percent area has the yield below 30 qtl/ha (Table 3.2a). The efficiency gap in the productivity among the states ranges

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from 17 percent in Punjab and West Bengal to 39 percent in Chhattisgarh. It may be noted here that Haryana, Punjab, Chhattisgarh and West Bengal contributed 35 percent to the country's paddy production in TE 2015-16 (Chart 3.5a).

Chart 3.5 (a): State-wise Productivity Levels of Paddy, TE 2015-16



*West Bengal data are for TE 2014-15

Source: State Governments and DES

3.13 In order to benchmark the high and low productivity districts in major producing states as per area coverage corresponding to different yield levels, yield bands have been worked out and given in Tables 3.2(a) to (c). Chhattisgarh has 82 percent paddy area with yield less than 30 qtl/ha. Similarly, most of the area in UP has low productivity though the state has largest area under crop of paddy (Chart 3.5a). Since UP and Chhattisgarh together account for 22 percent area under paddy, increasing paddy productivity in these states will go a long way to generate surplus in terms of paddy production and thereby making possible release of some area for other crops.

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Table 3.2 (a): District-wise Productivity Levels of Paddy, TE 2015-16

Sl. No	Yield Band (Qtl/ha)	Haryana		Punjab		Chhattisgarh		W. B.*	
		Area (%)	No. of Distts.	Area (%)	No. of Distts.	Area (%)	No. of Distts.	Area (%)	No. of Distts.
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
1	Below 20	-	-	-	-	8.5	2	-	-
2	20-30	-	-	-	-	73.4	20	-	-
3	30-40	28.8	5	-	-	10.6	3	48.0	8
4	40-50	32.5	4	18.5	3	6.7	1	51.4	9
5	50-60	34.8	5	33.5	10	-	-	-	-
6	Above 60	-	-	47.0	8	-	-	-	-
Summary Indicators of Land Productivity	Total Area ('000 ha)	1,291		2,892		3,814		5,445	
	Max Yield (Qtl/ha)	58.43		70.77		41.36		49.69	
	Top 3 distts. In descending order of Yields	Kurukshetra, Sirsa and Ambala		Barnala, Moga and Sangrur		Janjgir, Kanker and Sukma		Malda, Burdwan and Birbhum	
	Area under top 3 distts (%) (highest yield levels)	21.56		19.39		13.56		21.43	
	Average Yield (Qtl/ha)	47.16		58.80		25.35		41.39	
	Efficiency Gap (%)	19		17		39		17	

Note: Districts with less than 1% share in total production of the state have not been considered.

*West Bengal data are for TE 2014-15.

Efficiency Gap = $(1 - \text{Actual Yield} / \text{Maximum Yield}) \times 100$

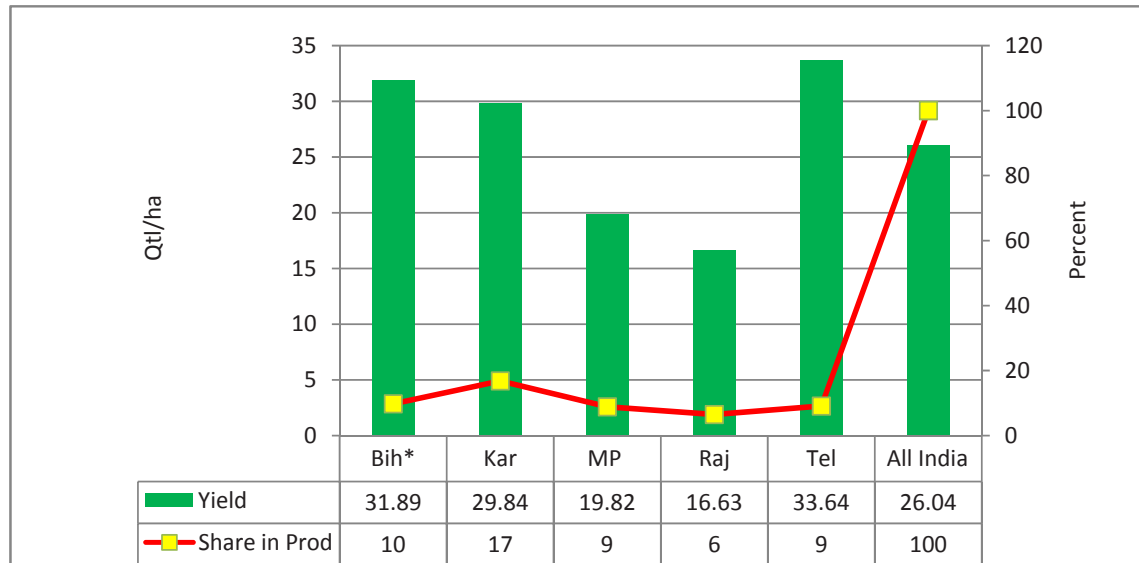
Source: State Governments and DES

Maize

3.14 Telangana has the productivity of maize (33.64 qtl/ha) and the state has nearly 23 percent area in the top yield band of above 40 qtl/ha. On the other hand, the productivity in Karnataka is 29.84 qtl/ha with 66 percent of area in yield band of 30-40 qtl/ha (Table 3.2b). The efficiency gap in terms of productivity levels within the states vary in the range from 18 percent in Karnataka to 36 percent in Bihar. Also, Bihar, Karnataka and Telangana account for 36 percent of the production of maize in TE 2015-16 (Chart 3.5b). Also, it may be noted that Madhya Pradesh and Rajasthan have together 22 percent of the maize area but the productivity levels are low in these states. Therefore, increasing maize productivity in these states shall contribute to the growth of maize production in the country.

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Chart 3.5 (b): State-wise Productivity Levels of Maize, TE 2015-16



*Bihar data are for TE 2014-15.

Source: State Governments and DES

Table 3.2 (b): District-wise Productivity Levels of Maize, TE 2015-16

Sl. No.	Yield Band (Qtl/ha)	Telangana		Karnataka		Bihar*	
		Area (%)	No. of Distts.	Area (%)	No. of Distts.	Area (%)	No. of Distts.
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
1	20-30	61.1	3	31.4	7	48.3	10
2	30-40	15.0	3	65.5	10	10.8	3
3	Above 40	23.2	2	-	-	33.2	6
Summary Indicators of Land Productivity	Total Area ('000 ha)	624		1,305		709	
	Max Yield (Qtl/ha)	50.96		36.39		49.75	
	Top 3 distts. In descending order of Yields	Karimnagar, Warangal and Adilabad		Hassan, Chamarajanagar and Bagalkot		Katihar, Madhepura and Bhagalpur	
	Area under top 3 distts (%) (highest yield levels)	25.17		12.64		20.24	
	Average Yield (Qtl/ha)	33.64		29.84		31.89	
	Efficiency Gap (%)	34		18		36	

Note: Districts with less than 1% share in total production of the state have not been considered.

*Bihar data are for TE 2014-15.

Efficiency Gap = $(1 - \text{Actual Yield} / \text{Maximum Yield}) \times 100$

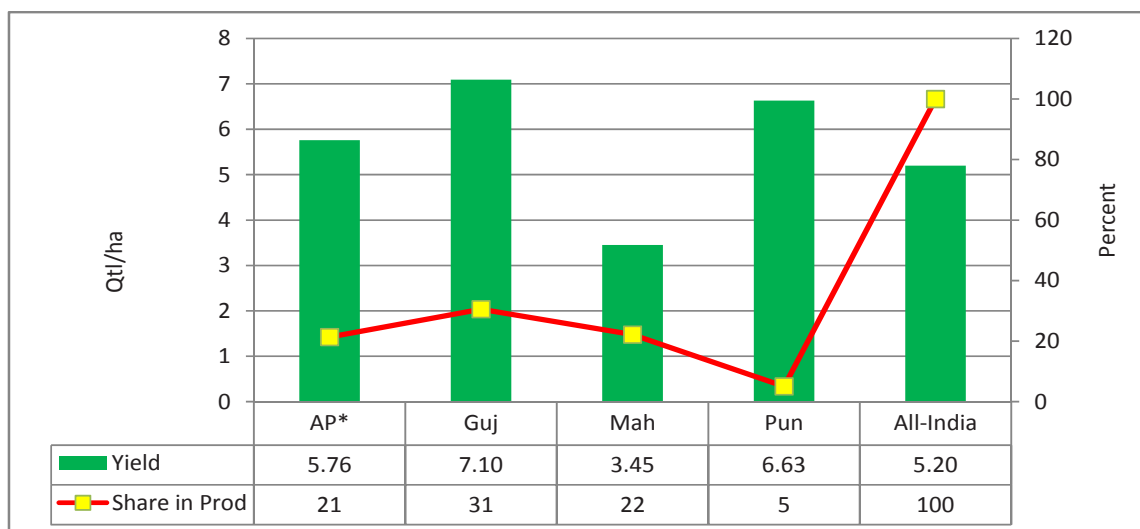
Source: State Governments and DES

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Cotton

3.15 Andhra Pradesh (including Telangana), Gujarat, Maharashtra and Punjab contribute about 79 percent of total production of cotton in TE 2014-15 (Chart 3.5c). Gujarat has the highest productivity (7.10 qtl/ha) of cotton in the country and has nearly 32 percent area in the top yield band of above 7.5 qtl/ha. Amongst major producers of the crop, Maharashtra has the lowest average productivity (3.45 qtl/ha) and its 93 percent area is in the low yield band of below 5 qtl/ha (Table 3.2c). The efficiency gap in the productivity in these states varies in the range of 18 percent in Punjab to 39 percent in Gujarat. Andhra Pradesh produces 21 percent of the total cotton in the country but the yield in the state is much below than both Gujarat and Punjab. To enhance the average yield of cotton in the country, the yield of the major producing states, i.e. AP and Maharashtra, need to be improved. A similar district-wise analysis of other important kharif crops is given in Annex Charts 3.3(a) to (c) and Annex Tables 3.2(a) to (c).

Chart 3.5 (c): State-wise Productivity Levels of Cotton, TE 2014-15



*including Telangana

Source: State Governments and CAB

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Table 3.2(c): District-wise Productivity Levels of Cotton, TE 2014-15

Sl. No.	Yield Band (Qtl/ha)	Gujarat		Maharashtra		Punjab	
		Area (%)	No. of Distts.	Area (%)	No. of Distts.	Area (%)	No. of Distts.
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
1	0-2.5	-	-	8.7	1	-	-
2	2.5-5	6.2	1	84.7	16	-	-
3	5-7.5	53.0	9	4.6	1	94.5	5
4	Above 7.5	31.8	7	-	-	4.6	2
Summary Indicators of Land Productivity	Total Area ('000 ha)	2,731		4,070		478	
	Max Yield (Qtl/ha)	11.62		5.52		8.06	
	Top 3 distts. In descending order of Yields	Kutch, Junagadh and Jamnagar		Amravati, Jalgaon and Chandrapur		Sangrur, Barnala and Bathinda	
	Area under top 3 distts (%) (highest yield levels)	11.55		19.98		36.67	
	Average Yield (Qtl/ha)	7.10		3.45		6.63	
	Efficiency Gap (%)	39		37		18	

Note: Districts with less than 1% share in total production of the state have not been considered.

Efficiency Gap = $(1 - \text{Actual Yield} / \text{Maximum Yield}) * 100$

Source: State Governments and CAB.

3.16 Based on district-wise analysis, it emerged that some districts with higher yield levels in a state are contiguous, i.e. are neighbouring districts. While these districts may have certain advantages in terms of natural resource endowment, they could be following different farming practices and applying better inputs. To increase the productivity in the low productivity districts, extension services need to be strengthened in terms of personnel, resources and technology applications. The State line departments in consultation with Krishi Vigyan Kendras (KVKs) should provide services of modern scientific cultivation practices, access to farm machinery on custom hiring basis, soil testing services and information on weather and markets. This will go a long way in narrowing down the efficiency gaps between the low and high productivity districts. It is also emphasized to provide better technology, improved seed varieties, fertilizers and manures etc. to the farmers well in time in order to enhance the productivity. The laboratories being established for soil testing help optimise usage of inputs and enhancement of crop productivity.

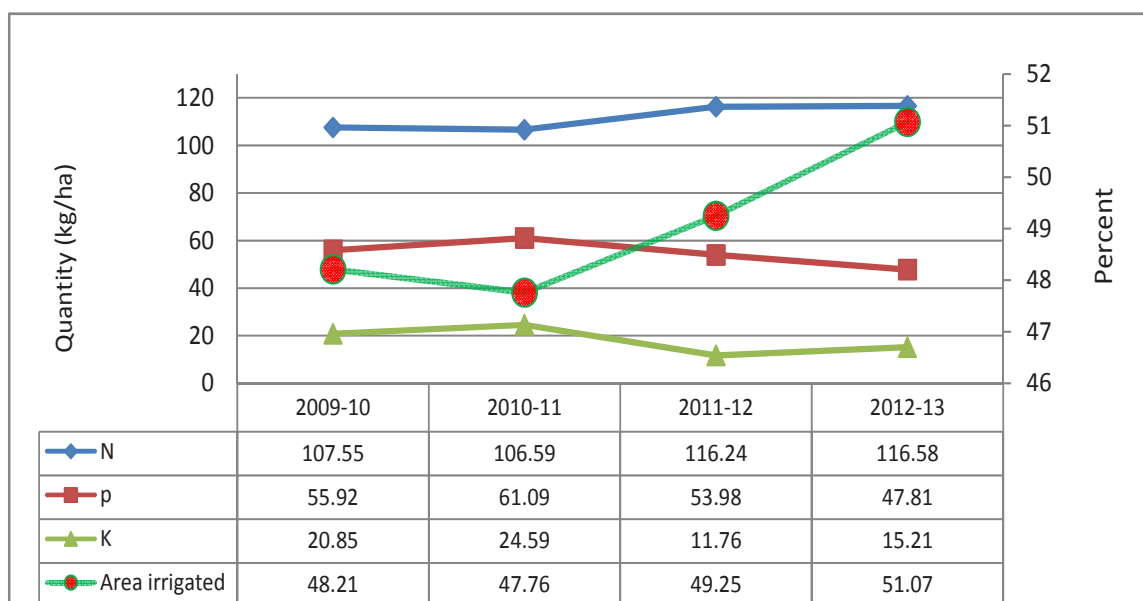
Drivers of Yield Growth

3.17 It is useful to examine the recent trends in the drivers of crop productivity growth. Important among these drivers are fertilisers, irrigation, seeds, technology, rainfall and gross returns. The trend in fertiliser use is given in Chart 3.6. This chart shows

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that there is marginal increase in N fertiliser since 2009-10. The use of P and K fertilizers has infact declined since 2010-11. As a result, there is limited impact on the productivity in spite of nearly 3 percent increase in the irrigated area. Therefore, there is a need to balance use of N, P and K fertilisers.

Chart 3.6: Fertilisers Usage and Percentage Irrigated Area under Kharif Crops



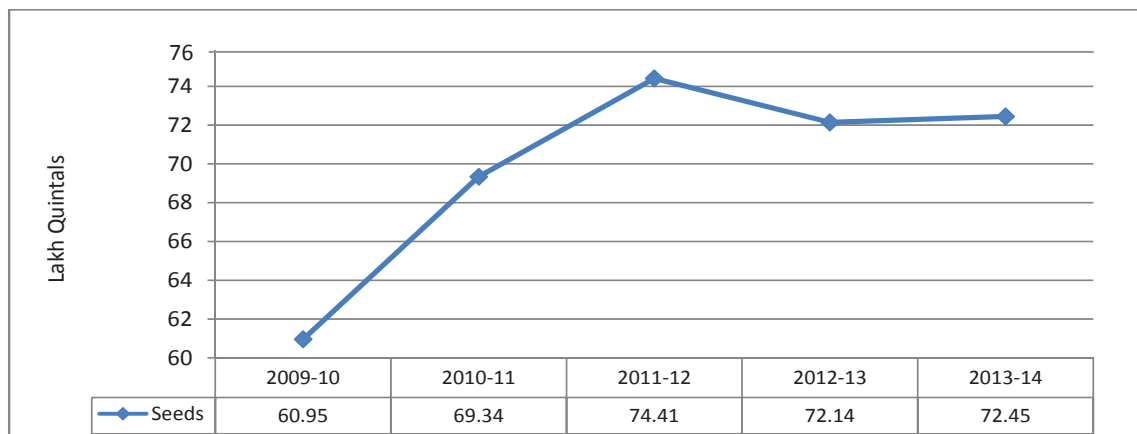
Source: Fertilizer Statistics 2012-13 and DES

Distribution of Certified Seeds

3.18 Since use of quality seeds plays an important role in enhancing the productivity, the trend in distribution of quality seeds of major kharif crops is given in Chart 3.7. It is observed that distribution of certified seeds has come down in case of paddy, arhar and cotton in 2012-13 and 2013-14. In case of maize, the distribution of certified seeds is continuously increasing in the last five years, except a marginal decrease in 2012-13. The seed distribution is fluctuating over the years in case of groundnut (Annex Chart 3.4a to d). In terms of seed replacement rate (SRR), the situation is comparatively better for maize and cotton, where a large area is under hybrids and seed needs to be replaced every year. On the other hand, SRR is dismally low in case of groundnut and pulses. Therefore, greater efforts are required for increasing availability of seeds for oilseeds and pulses. The impact of various factors on productivity is given in Annex Table 3.4. The impact was estimated using the simple linear regression for the panel data from 2000-01 to 2013-14 for different states.

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Chart 3.7: Distribution of Certified Quality Seeds of Paddy

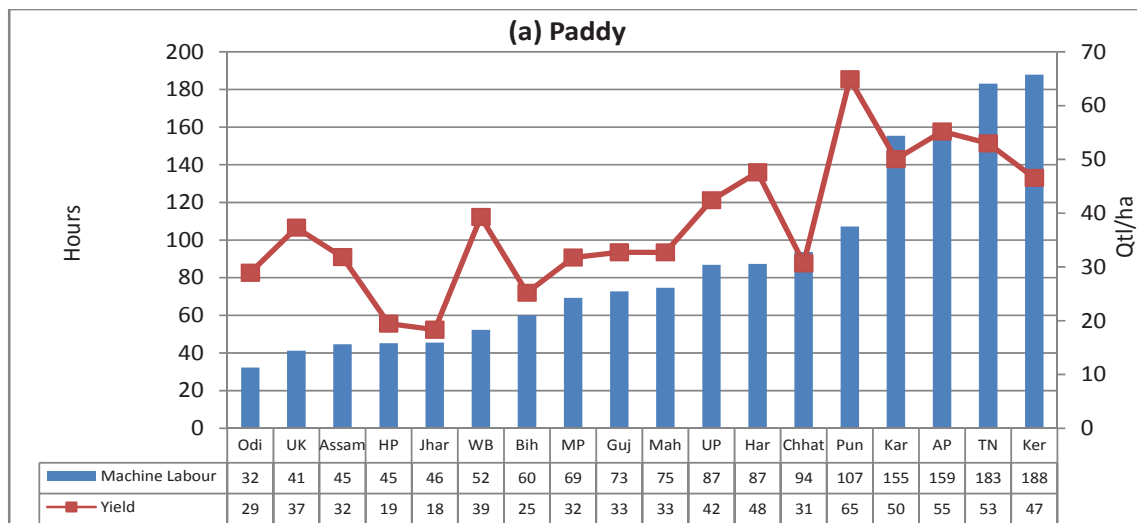


Source: DES

Farm Mechanization

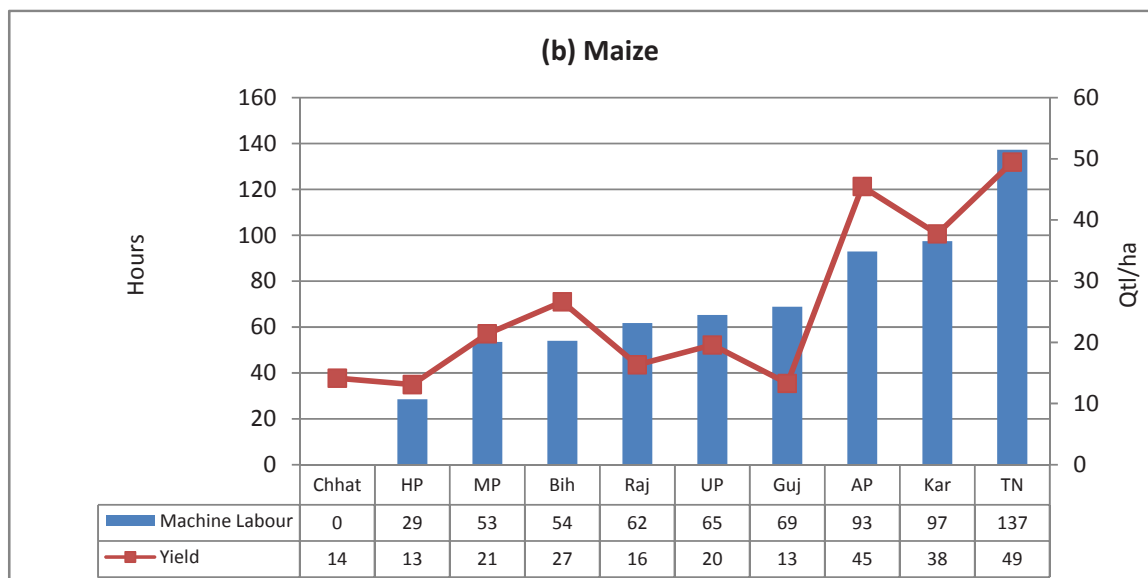
3.19 The trends in farm mechanisation and its effect on productivity in major kharif crops for the year 2013-14 is examined using the CS data. It may be seen from Chart 3.8(a) that the low productivity states like Odisha, Uttarakhand, Assam, Himachal Pradesh, Jharkhand and Bihar have less farm mechanization, while high productivity level states like Haryana and Punjab have higher mechanization. In some of the high productivity states like Kerala, Tamil Nadu, Karnataka and Andhra Pradesh, the level of mechanisation is even higher because of increasing wage rate. The use of machine hours in these states vary from 155 to 188 hours per hectare. A similar trend is observed in case of maize and cotton (Charts 3.8b & c).

Chart 3.8 : Trends of Farm Mechanization across States, 2013-14

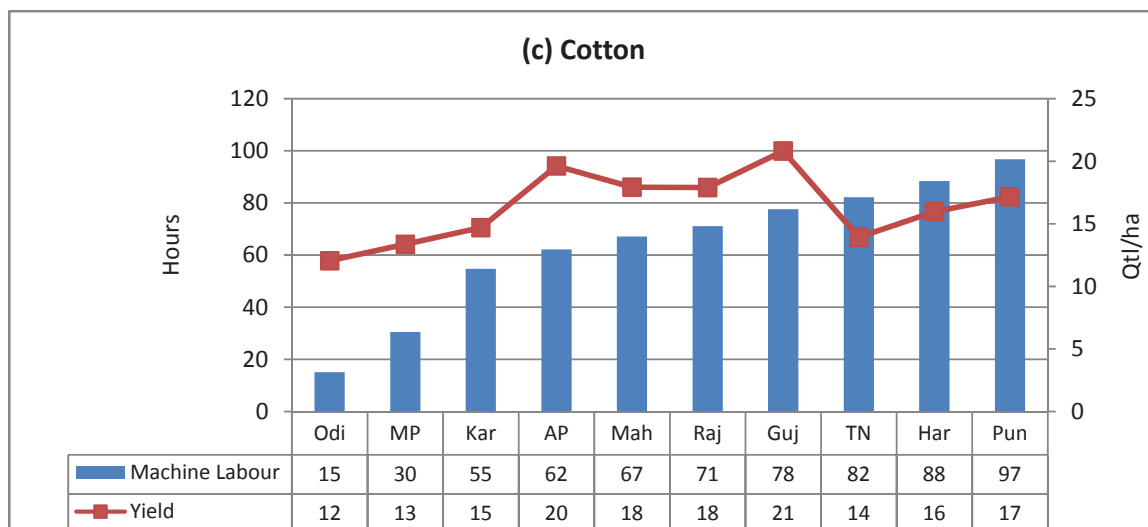


Source: Based on CS data.

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Source: Based on CS data.



Source: Based on CS data.

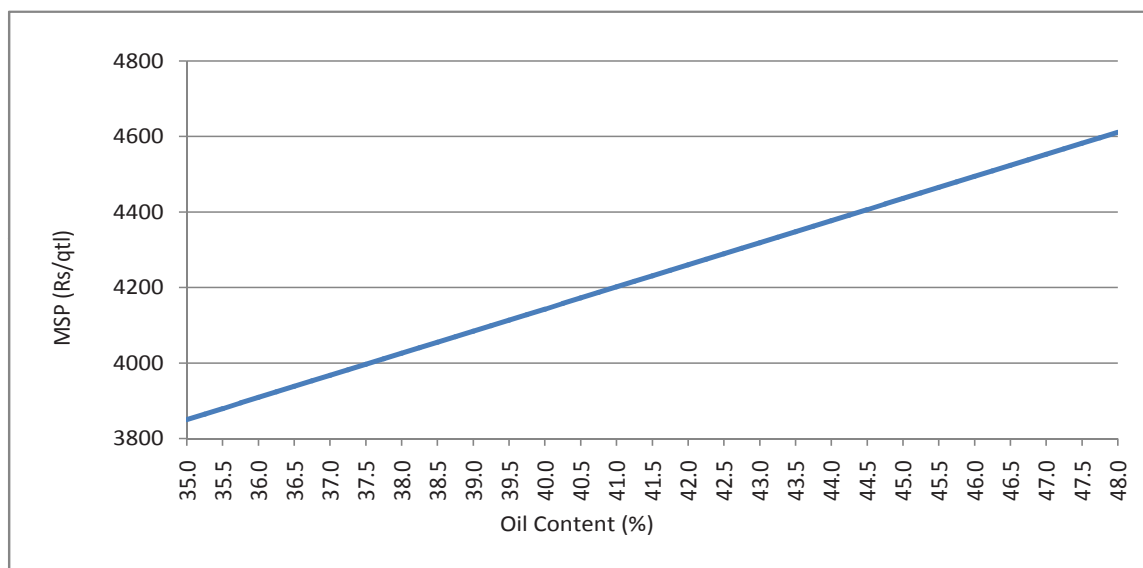
Linking MSP with Oil Content in Sunflower

3.20 There are variations in oil content of different varieties of sunflower and therefore a uniform MSP may not be desirable. Therefore, the Commission is of the opinion that farmers be incentivized for higher 'oil content'. On the basis of detailed discussions held with various stakeholders such as sunflower cultivators, processors, scientists of ICAR, the Commission recommends that MSP of sunflower be linked to the basic oil content of 35 percent in seeds and farmers be incentivized for every 0.25 percent point increase in its oil content beyond this level.

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- 3.21 To determine the incentive for higher oil content, one quintal of sunflower will give 35 kg of oil and 65 kg of oil cake. Adjusting the value of cake, the cost of sunflower seed (oil without cake) would be Rs.2257.50 (Rs.3850 - 1592.50) which will contain 35 kg of oil. Thus, the cost per kg (which is nothing but one percent) of oil will be Rs.58.53 or Rs.14.63 for every 0.25 percent point (Chart 3.9). Details may be seen in Annex Table 3.3.

Chart 3.9: MSP based on Oil Content in Sunflower



- 3.22 However, cost per unit of oil content slowly decreases with increase in oil content (Annex Table 3.3). Taking average over oil content between 35 percent and 48 percent, the average cost for every 0.25 percent point works out to Rs. 14.63/qrtl. The Commission, therefore, recommends that MSP be increased by Rs. 14.63/qrtl. for every 0.25 percent point increase in oil content over and above the base oil content of 35 percent in sunflower. It will not only incentivize farmers but also benefits processors. The Commission also recommends that such a dispensation of linking MSP with oil content in other oilseeds where variation in oil content is high, may be introduced in a phased manner to incentivize the farmers to adopt high oil content varieties and thereby increase production of edible oils in the country.
- 3.23 The above proposition can be implemented by installing Near Magnetic Resonance (NMR) apparatus or any other such suitable instrument at procurement centres/ mandis to test oil content of every consignment and arrive at the price of sunflower. This instrument takes a shorter time to give the result and measures oil content in a sample with a precision upto two decimal places. The Commission,

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therefore, recommends installation of oil content measurement apparatus in every procurement centre of NAFED/mandi. This will induce oilseeds farmers to adopt modern technology and better farming practices.

Recapitulation

3.24 The following points are noteworthy:

- i. The yield growths are particularly high for coarse cereals, moong, urad, groundnut and cotton. This growth can be attributed to inputs use and price, but for cotton and maize the high growth is mainly because of use of improved seed and high yielding hybrids. In cotton and soybean, area growth has also contributed to the production growth. The efficiency gaps in productivity levels of various crops in India and best performing states are quite substantial as compared to the benchmark countries. Similarly, the efficiency gaps are very high between the low and high productivity states in the country. Therefore, these low productivity districts mostly concentrated in the states of UP, Bihar and Chhattisgarh which have high potential, should be focused for yield gains. Similar regions can also be identified and targeted for increasing the productivity of pulses and oilseeds. In addition, pulses can also be grown on rice fallow land in eastern India and also as a summer crop in cereal cropping systems.
- ii. In order to address the scarcity of labour in agriculture, emphasis should be on farm mechanization which will reduce the cost of production and also increase income of the farmers. In view of high cost of farm machinery, a feasible way to increase farm mechanisation is promotion of 'custom hiring model' as being implemented in some states like Karnataka and practiced by private service providers in Punjab and Haryana.
- iii. Farmers should also be given additional incentives for higher oil content in sunflower over and above the MSP. In order to implement this incentive for higher oil content, the Commission recommends strengthening of NAFED, which can provide necessary support at the procurement centres.



Chapter 4

Trade Competitiveness of Indian Agriculture

Trade Performance

- 4.1 As per the World Trade Organization (WTO), there is not much change in India's share in the global agri-exports in 2014 (2.5 percent) over that in 2013 (2.6 percent), whereas its share of agri-imports has increased from 1.3 percent to 1.5 percent during the corresponding period. As per DGCIS, the share of agri-exports in the total exports of the country has declined from 14.1 percent in 2013-14 to 12.9 percent in 2014-15, whereas the share of agri-imports in the total imports has increased from 4.0 percent to 5.3 percent during this period. Our major agri-export commodities are rice, marine products, meat and processed meat, cotton, spices, oilseeds, guar gum meal and oil meals, while major agri-import commodities are edible oils, pulses, wood & wood products, fresh fruits and cashew. The imports of these five commodities account for about 80 percent of the total agri-imports in 2014-15.
- 4.2 The country is a net exporter of agricultural products, but it is a net importer in the overall trade. However, net agri-trade has declined from Rs.144.9 thousand crore in 2013-14 to Rs.100.6 thousand crore in 2014-15. India's agri-exports have declined by 9.5 percent from Rs.268.7 thousand crore in 2013-14 to Rs.245.5 thousand crore in 2014-15. This decline is mainly due to subdued commodity prices in the international market. However, agri-imports have increased from Rs.123.8 thousand crore to Rs.144.8 thousand crore with a growth rate of 17.0 percent during the corresponding period, due to enhanced imports of edible oils and pulses in 2014-15, owing to widening of the gap between domestic production and consumption in the country.

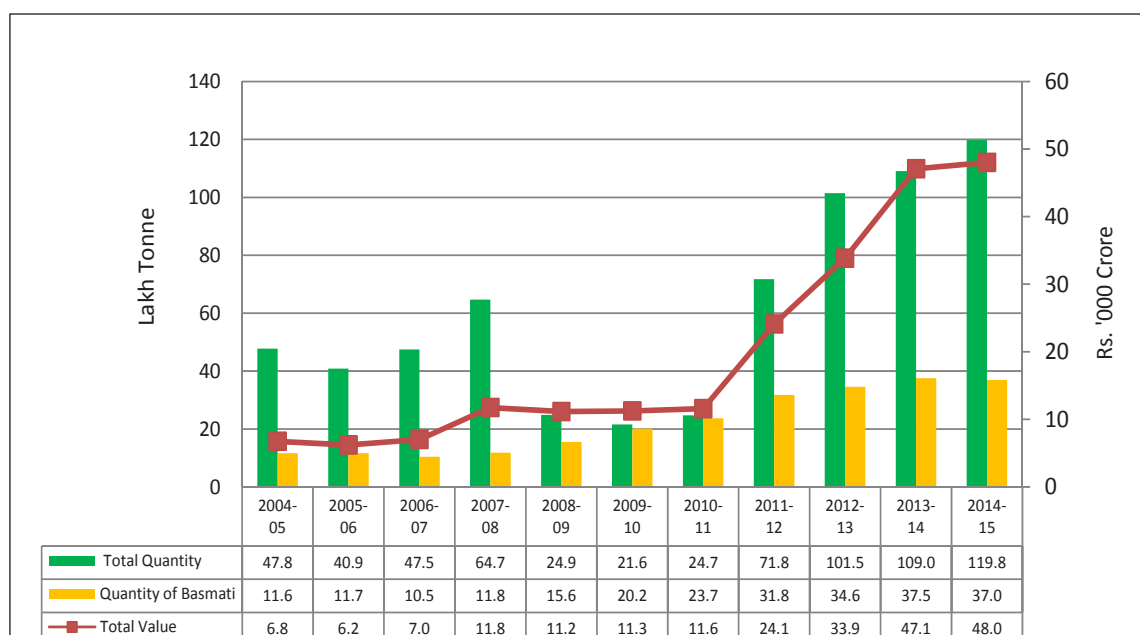
Rice

- 4.3 Global production of rice, as per USDA, was 476.5 million tonnes in triennium ending (TE) 2014-15 and about 9 percent of the production was traded. China is the largest producer with a share of 30.1 percent, followed by India (22.2 percent). Other major producers of rice are Indonesia (7.6 percent), Bangladesh (7.2 percent) and Vietnam (5.9 percent). India is the largest exporter of rice with a share of 26.3 percent closely followed by Thailand (21.3 percent). Other major exporters are Vietnam (15.4 percent), Pakistan (9.4 percent) and USA (7.8 percent). China, Nigeria, Iran, Philippines, EU and Saudi Arabia are major importers of rice, accounting for about 32 percent of global rice imports.

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- 4.4 Export of non-basmati rice was banned since April 2008 and it was opened in September 2011. Since then, India has exported 72 lakh tonnes of rice (Basmati + non-basmati) in 2011-12, 102 lakh tonnes in 2012-13, 109 lakh tonnes in 2013-14 and 120 lakh tonnes in 2014-15 (Chart 4.1). India has emerged as the largest exporter of rice since 2012-13, and this includes both basmati and non-basmati rice.

Chart 4.1: Trends in India's Exports of Rice, 2004-05 to 2014-15

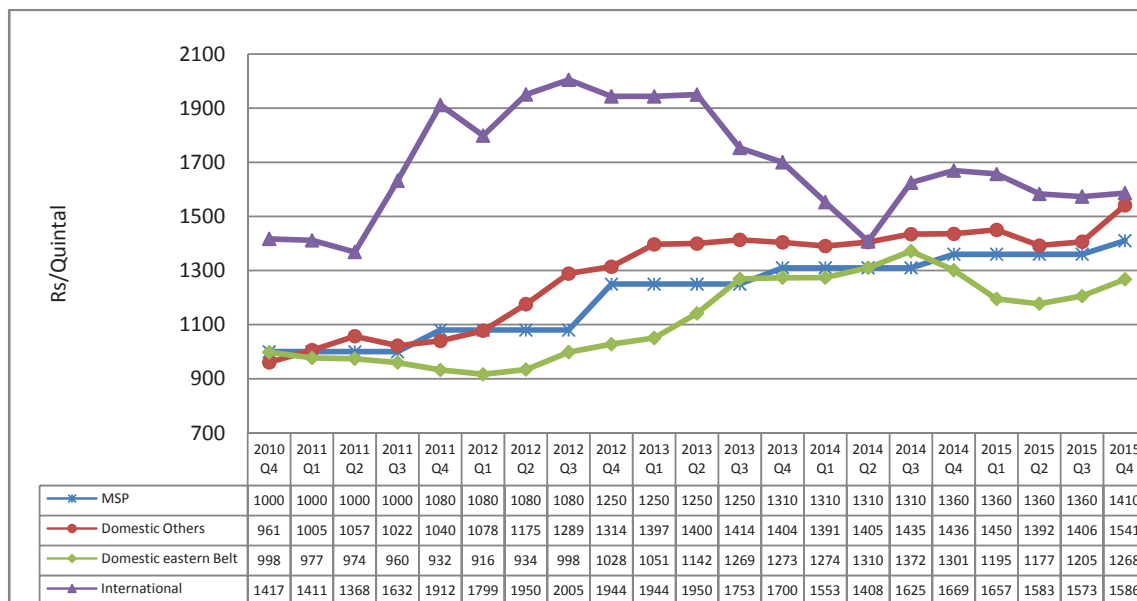


Source: DGCIS

- 4.5 Trends in the international and domestic prices of rice are shown in Chart 4.2. It may be seen from this chart that domestic wholesale prices of paddy (prices of rice converted into paddy) were continuously lower than its international prices during 2010 to 2015. This indicates that Indian rice is export competitive. MSP of paddy has been higher than the domestic wholesale prices in the Eastern Belt (which includes Bihar, Odisha, Uttar Pradesh and West Bengal), whereas it is lower in other states (Andhra Pradesh, Chhattisgarh, Gujarat, Maharashtra, Punjab and Tamil Nadu). MSP of paddy has been continuously lower than the international prices.

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Chart 4.2: MSP, Domestic and International Prices of Paddy, 2010 to 2015



Note: i) Eastern Belt comprises Assam, Bihar, Eastern UP and WB
 ii) Other than Eastern Belt comprises AP, Chhattisgarh, Haryana, Odisha, Punjab, TN, and UP (excluding eastern part)
 Source: DES for domestic prices and World Bank for international prices.

4.6 Exports of non-basmati rice were prohibited from the Central Pool in March 2008 and also on private account in April 2008 in view of the tight position of rice in the domestic market. This ban continued till July 2011 when exports of 10 lakh tonnes of non-basmati rice on private account were allowed with a Minimum Export Price (MEP) of \$425 per tonne. In September 2011, export of non-basmati rice was allowed under the Open General License (OGL) by private parties out of privately held stocks and this has continued thereafter. India has emerged as the world's largest rice exporter since then. Import duty of 80 percent on husked (brown) rice and broken rice and 70 percent on milled and semi-milled rice was imposed in April 2000. In view of tight position of rice in the domestic market, import duty on milled and semi-milled rice was allowed at zero percent from 01.03.2008 to 01.04.2009. With some intermittent relaxations, import duty on rice remains at 70-80 percent.

Maize

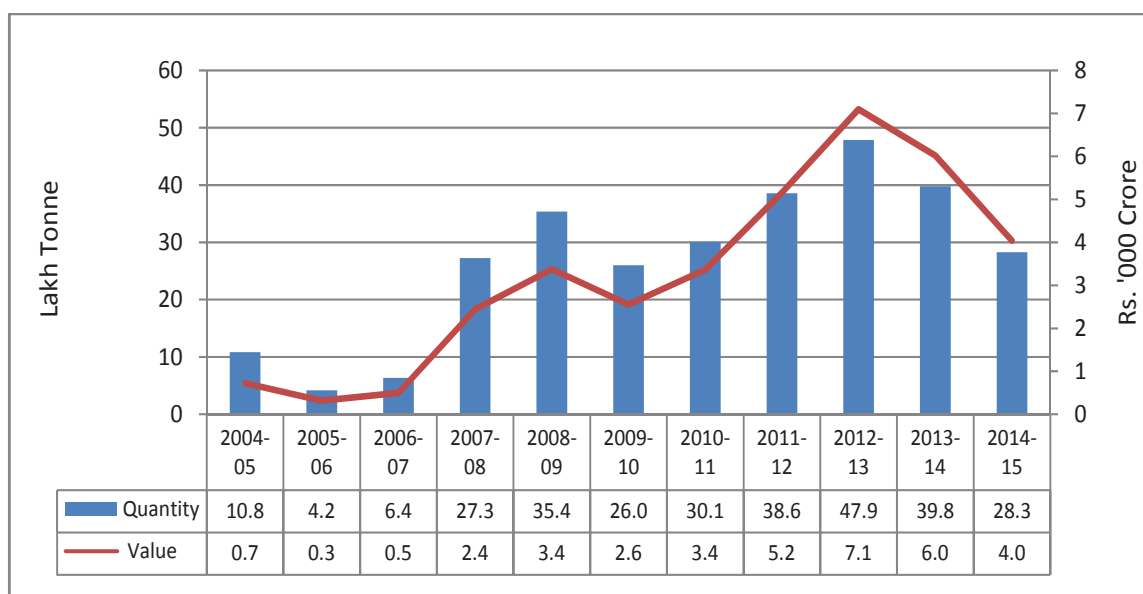
4.7 As per USDA, the global production of maize was 956.8 million tonnes in TE 2014-15, out of which about 12 percent was traded. USA is the largest producer of maize (corn) with a share of 34.3 percent followed by China (22.3 percent), Brazil (8.6 percent), EU (6.9 percent), Argentina (2.8 percent) and India (2.4 percent).

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USA is also the largest exporter with a share of 32.3 percent followed by Brazil (19.5 percent), Argentina (15.1 percent) and Ukraine (14.7 percent). Japan (12.3 percent), EU (10.1 percent), South Korea (8.0 percent), Mexico (7.8 percent) and Egypt (6.0 percent) are the major importers of maize, accounting for about 44 percent of the global imports.

- 4.8 Introduction of single cross hybrid (SCH) since 2005 has resulted in increase in yield and production of maize in India, especially after 2006-07, which led to increase in India's exports from only 4 lakh tonnes in 2005-06 to a high of 48 lakh tonnes in 2012-13 (Chart 4.3). However, exports of maize have declined to 40 lakh tonnes in 2013-14 and 28 lakh tonnes in 2014-15. It may be seen from Chart 4.4 that domestic wholesale prices of maize have been lower than the international prices from 2010(Q₄) to 2013(Q₃) but moderately higher than the international prices from 2013(Q₄) onwards. Currently, Indian maize is not export competitive and so this has resulted in decline in export of maize in 2013-14 and 2014-15. MSP of maize is currently lower than the domestic wholesale prices but it is marginally higher than the international prices.

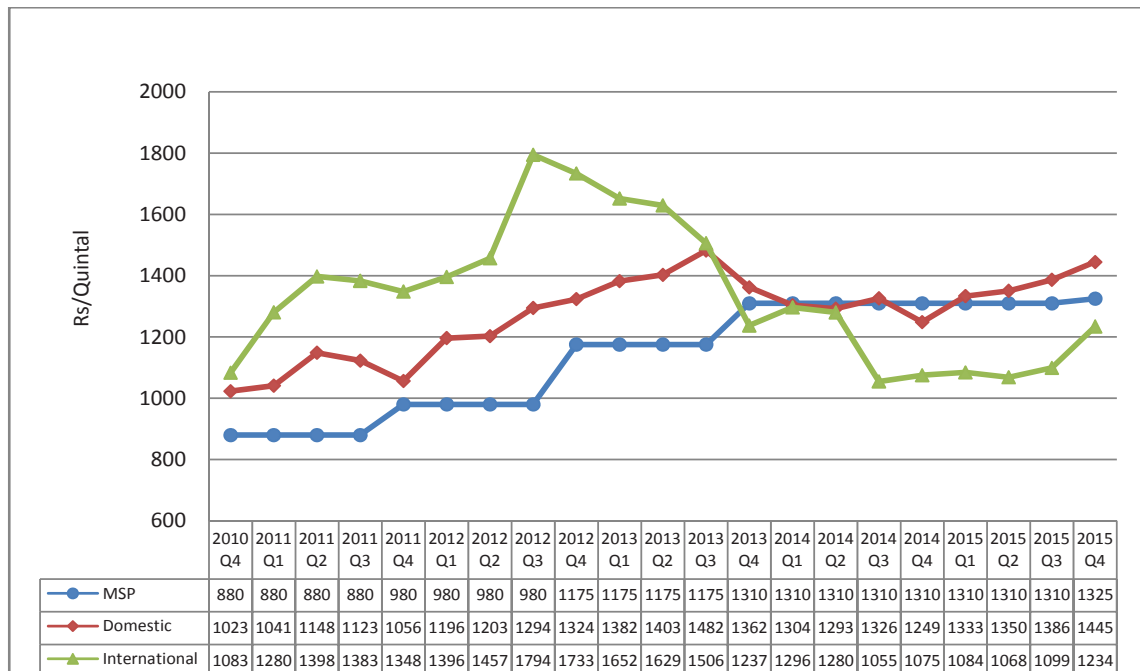
Chart 4.3: India's Exports of Maize, 2004-05 to 2014-15



Source: DGCIS

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Chart 4.4: MSP, Domestic and International Prices of Maize, 2010 to 2015



Source: DES for domestic prices and World Bank for international prices.

- 4.9 Under Tariff Rate Quota (TRQ) Scheme introduced in 2000, import of maize is allowed at zero duty from January 2007, whereas import duty continues to be 50 percent outside TRQ Scheme. Export of maize is free with effect from 16.10.2008.

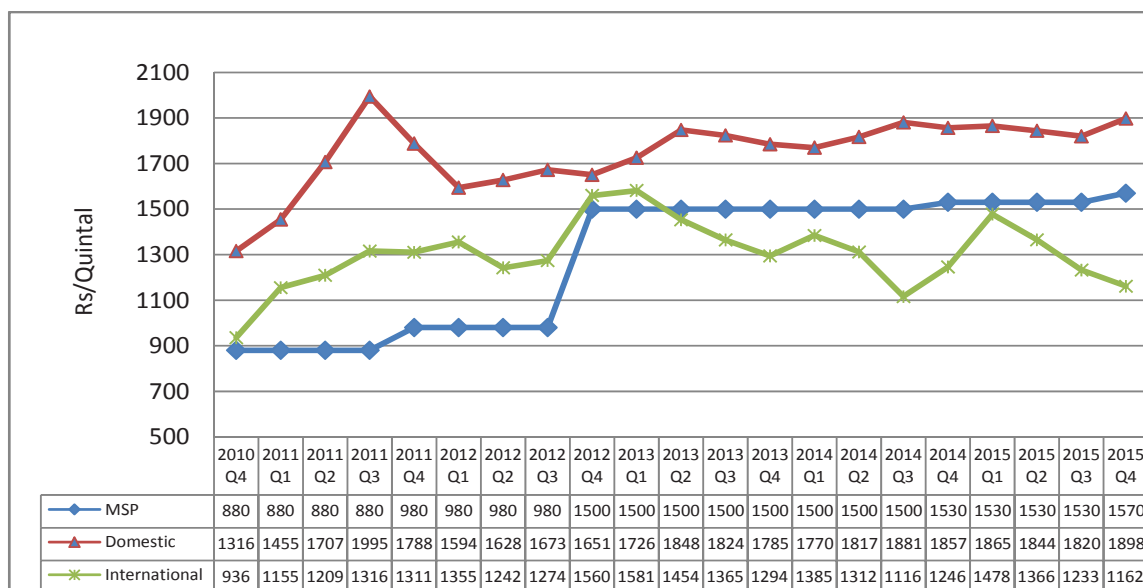
Jowar

- 4.10 As per USDA, the global production of jowar was 60.6 million tonnes in TE 2014-15, out of which about 15 percent was traded. USA is the largest producer of Jowar with a share of 15.0 percent followed by Mexico (11.5 percent), Nigeria (10.6 percent) and India (8.7 percent). USA is also the largest exporter with a share of 62.2 percent followed by Argentina (18.1 percent) and Australia (12.8 percent). China is the largest importer with a share of 54.4 percent followed by Japan (13.8 percent) and Mexico (7.2 percent).
- 4.11 The Government imposed import duty of 50 percent on Jowar in April 2000 which continues to be at the same level. Quantitative ceiling on export of jowar was removed in March 2002 and its export continues to be free. As per DGCIS, during the period from 2004-05 to 2014-15, India's exports have fluctuated between 8 thousand tonnes in 2006-07 to a high of 259 thousand tonnes in 2012-13. Exports of jowar were 98 and 135 thousand tonnes in 2013-14 and 2014-15, respectively.

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The domestic wholesale prices of jowar have been higher than international prices during 2010(Q₄) to 2015(Q₄) (Chart 4.5). But freight advantage compared to USA allows India to export small quantities to neighbouring countries like Pakistan, UAE and Saudi Arabia. MSP of jowar has been continuously lower than the domestic wholesale prices but higher than the international prices from 2013(Q₂) onwards.

Chart 4.5: MSP, Domestic and International Prices of Jowar, 2010 to 2015



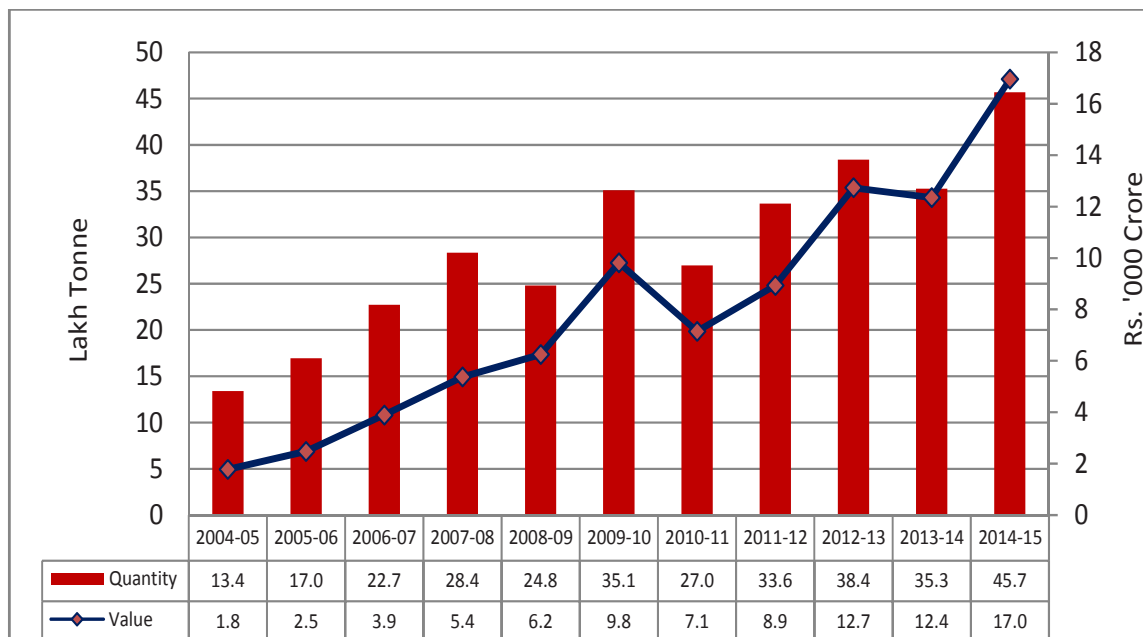
Source: DES for domestic wholesale prices and World Bank for international prices.

Pulses

4.12 As per FAO, the global production of pulses was 76.7 million tonnes in TE 2014, out of which about 19 percent was traded. India is the largest producer of pulses with a share of 23.9 percent followed by Canada (7.7 percent), Myanmar (6.5 percent), China (5.9 percent), Nigeria (5.3 percent), Australia (4.2 percent) and EU (4.1 percent). Canada is the largest exporter with a share of 33.2 percent followed by Australia (11.2 percent), Myanmar (9.4 percent), USA (8.9 percent), EU (7.4 percent) and China (5.6 percent). India is also the largest importer of pulses with a share of 30.7 percent followed by EU (11.6 percent), China (7.2 percent) and Bangladesh (5.5 percent). India is the largest producer, consumer and importer of pulses in the world. As per DGCIS, our imports have increased from a low of 13.4 lakh tonnes in 2004-05 to 45.7 lakh tonnes in 2014-15 (Chart 4.6).

Price Policy for Kharif Crops

Chart 4.6: India's Imports of Pulses, 2004-05 to 2014-15

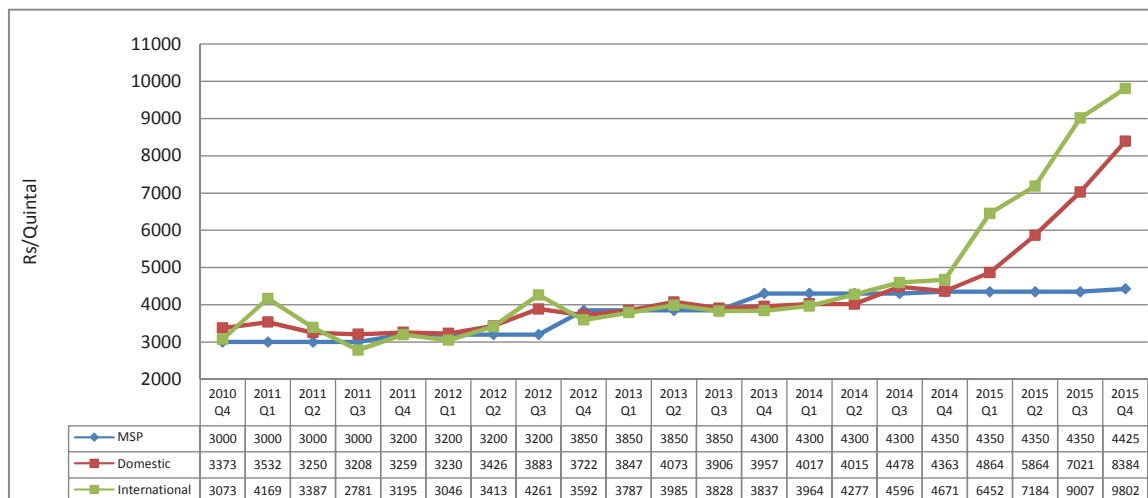


Source: DGCIS

- 4.13 Import duty on pulses was brought down from 10 percent to zero percent in June 2006, which continues to be zero percent since then. Export of pulses was prohibited in June 2006 initially for a period of six months which has been extended from time to time, latest being in March 2014. However, Kabuli Channa is exempted from this prohibition. Also, exports of organic pulses up to 10,000 tonnes per annum have been allowed since March 2011, subject to certification by Agricultural and Processed Food Products Export Development Authority (APEDA) and such exports are allowed from Customs Electronic Data Interchange (EDI) Ports only.
- 4.14 It may be observed from Charts 4.7 to 4.9 that domestic wholesale prices of Kharif pulses, viz. arhar, urad and moong have generally followed the trend of the international prices during 2010(Q₄) to 2015(Q₄). MSP of arhar, urad and moong are currently lower than the domestic as well as international prices.

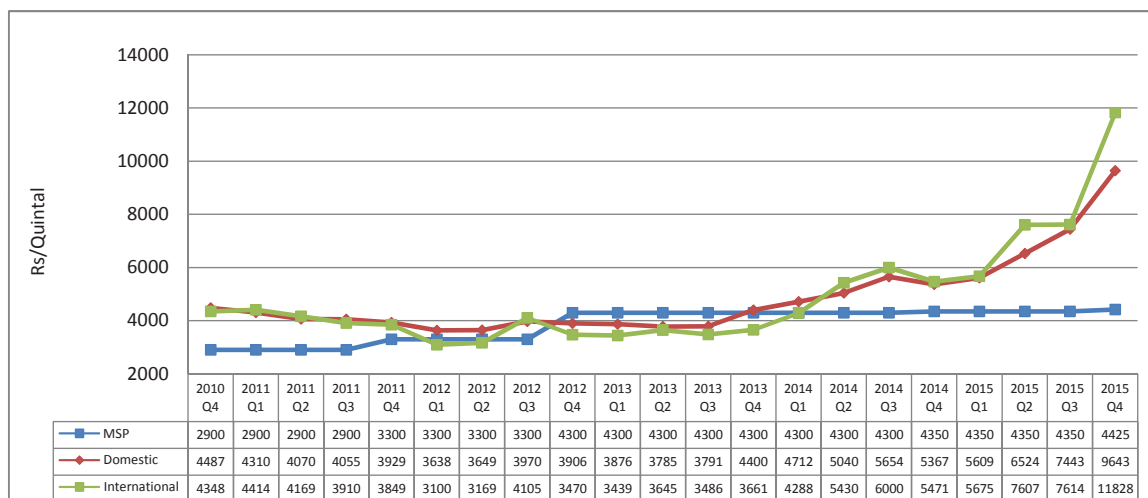
Price Policy for Kharif Crops

Chart 4.7: MSP, Domestic & International Prices of Arhar, 2010 to 2015



Source: DES for Domestic prices and NAFED for International Prices.

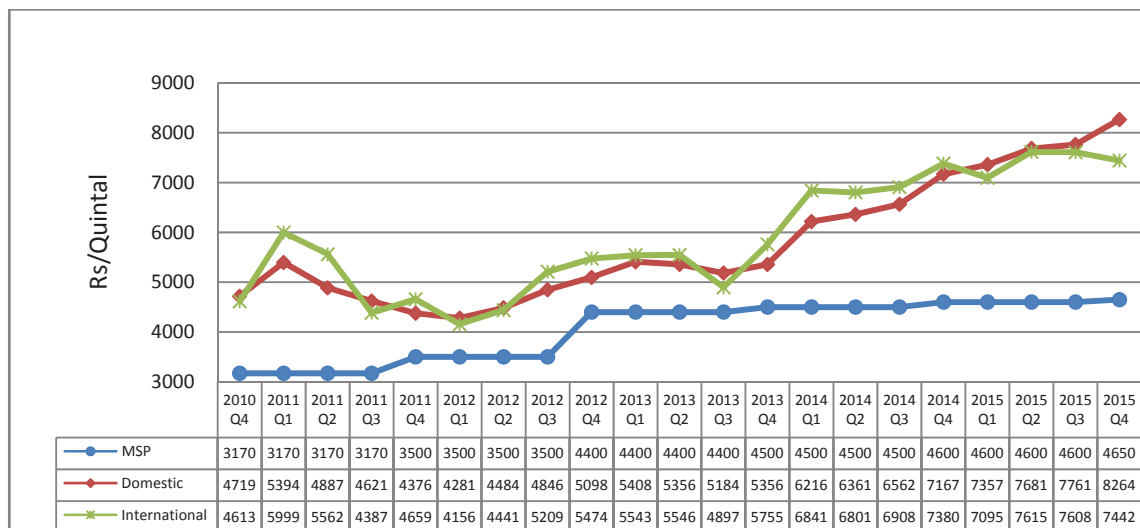
Chart 4.8: MSP, Domestic and International Prices of Urad, 2010 to 2015



Source: DES for Domestic prices and NAFED for International Prices.

Price Policy for Kharif Crops

Chart 4.9: MSP, Domestic and International Prices of Moong, 2010 to 2015



Source: DES for Domestic prices and NAFED for International Prices.

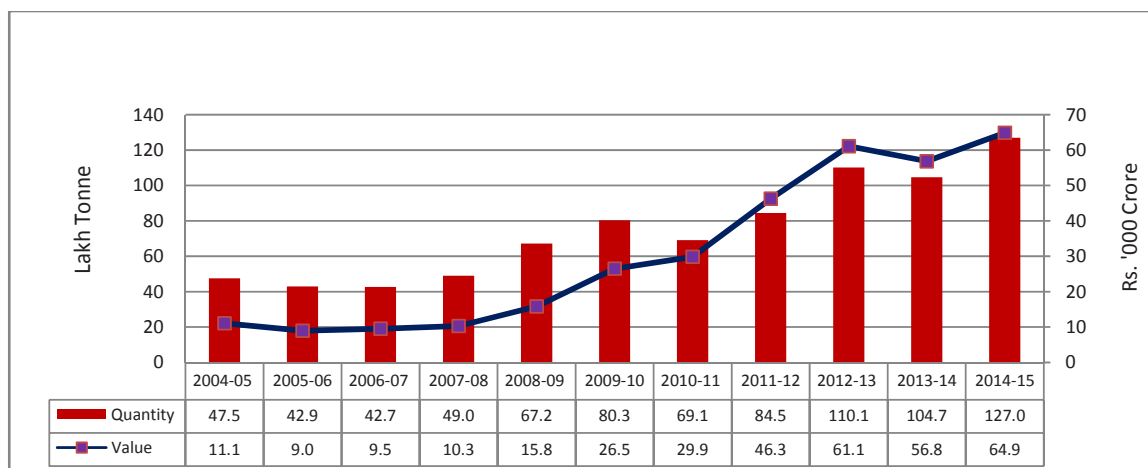
Oilseeds/Edible Oils

- 4.15 As per USDA, the global production of major oilseeds was 505.6 million tonnes in TE 2014-15, out of which 26 percent was traded. USA is the largest producer with a share of 20.3 percent closely followed by Brazil (18.0 percent). Other major producers are Argentina (11.7 percent), China (11.6 percent) and India (7.1 percent). Brazil and USA export more than two-thirds of the global exports, with a share of 35.1 percent and 33.6 percent, respectively. Other major exporters are Canada (9.1 percent) and Argentina (7.1 percent). China is the single largest importer of oilseeds with a share of 57.6 percent. Other major importers are EU (13.4 percent), Japan (4.4 percent) and Mexico (4.2 percent).
- 4.16 As per USDA, the global production of edible oils was 169.4 million tonnes during 2014-15, out of which about 42 percent was traded. Indonesia is the largest producer with a share of 20.8 percent followed by China (13.9 percent), Malaysia (13.1 percent) and EU (10.3 percent). Indonesia and Malaysia export about two-third of global exports with a share of 34.8 percent and 26.9 percent, respectively. India is the largest importer with a share of 18.1 percent followed by EU (14.6 percent), China (14.1 percent) and USA (6.0 percent).
- 4.17 DGCIS data also show that India's imports of edible oils have increased from 47.5 lakh tonnes valued at Rs.11.1 thousand crore in 2004-05 to 110 lakh tonnes valued at Rs.61.1 thousand crore in 2012-13 before declining to 104.7 lakh tonnes

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valued at Rs.56.8 thousand crore in 2013-14 (Chart 4.10). However, import of edible oils have increased to 127 lakh tonnes valued at Rs.64.9 thousand crore in 2014-15 which is due to decline in the domestic production coupled with decline in international prices of edible oils particularly that of Palm oil.

Chart 4.10: India's Imports of Edible Oils, 2004-05 to 2014-15



Source: DGCIS

Soybean including Oil and Meal

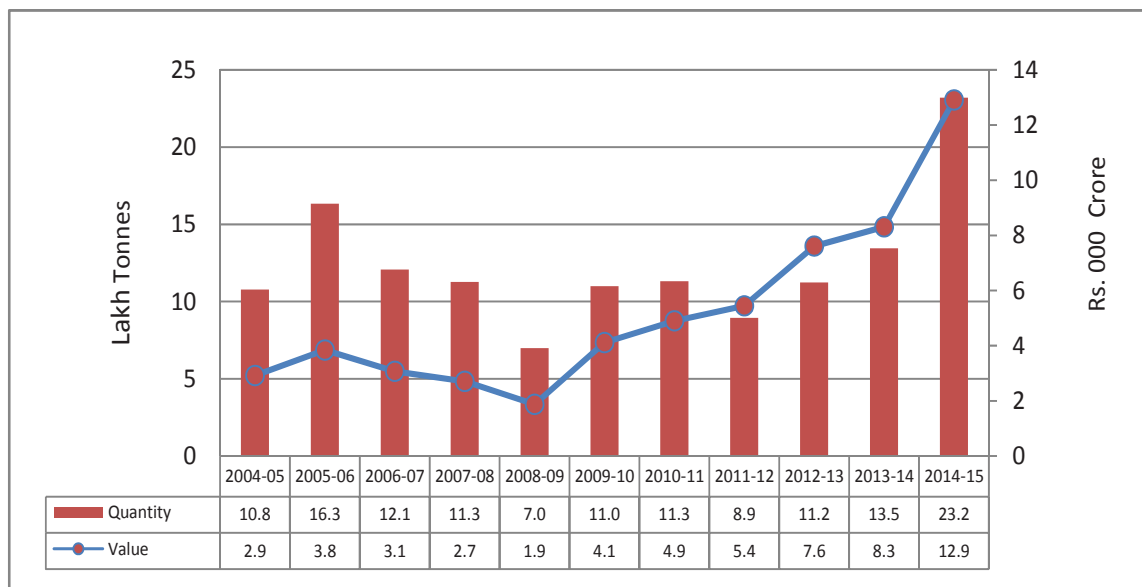
- 4.18 As per USDA, the global production of soybean was 290.3 million tonnes during TE 2014-15, out of which about 39 percent was traded. USA is the largest producer of soybean with a share of 32.3 percent closely followed by Brazil (30.4 percent). Other major producers are Argentina (18.9 percent), China (4.3 percent) and India (3.5 percent). Brazil is the largest exporter with a share of 41.0 percent closely followed by USA (38.5 percent). Brazil and USA export about four-fifth of total world exports of soybean. China is the single largest importer with a share of 63.3 percent followed by EU (11.8 percent).
- 4.19 The global production of soybean oil was 45.7 million tonnes in TE 2014-15, out of which about 22 percent was traded. China is the largest producer of soybean oil with a share of 27.2 percent, followed by USA (20.3 percent), Brazil (15.7 percent) and Argentina (15.2 percent). Argentina is the largest exporter with a share of 45.1 percent followed by Brazil (13.9 percent), EU (9.4 percent), USA (9.2 percent) and Paraguay (6.3 percent). India is the largest importer with a share of 20.6 percent followed by China (12.7 percent), Algeria (6.6 percent) and Iran (5.5 percent).
- 4.20 The global production of soybean meal was 192.7 million tonnes in TE 2014-15, out of which about 31 percent was traded. China is the largest producer of soybean meal

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with a share of 28.6 percent followed by USA (19.7 percent), Brazil (15.0 percent) and Argentina (14.7 percent). India's share in global production of soybean meal is 3.5 percent. Argentina is the largest exporter with a share of 42.5 percent followed by Brazil (22.9 percent) and USA (17.9 percent). EU is the largest importer with a share of 31.6 percent followed by Indonesia (6.5 percent), Vietnam (6.1 percent) and Thailand (5.0 percent).

- 4.21 India exports small quantities of soybean. However, the country imports soybean oil to meet domestic demand. Imports of soybean oil have increased from 10.8 lakh tonnes in 2004-05 to 23.2 lakh tonnes in 2014-15, albeit with fluctuations (Chart 4.11).

Chart 4.11: India's Imports of Soybean Oil, 2004-05 to 2014-15

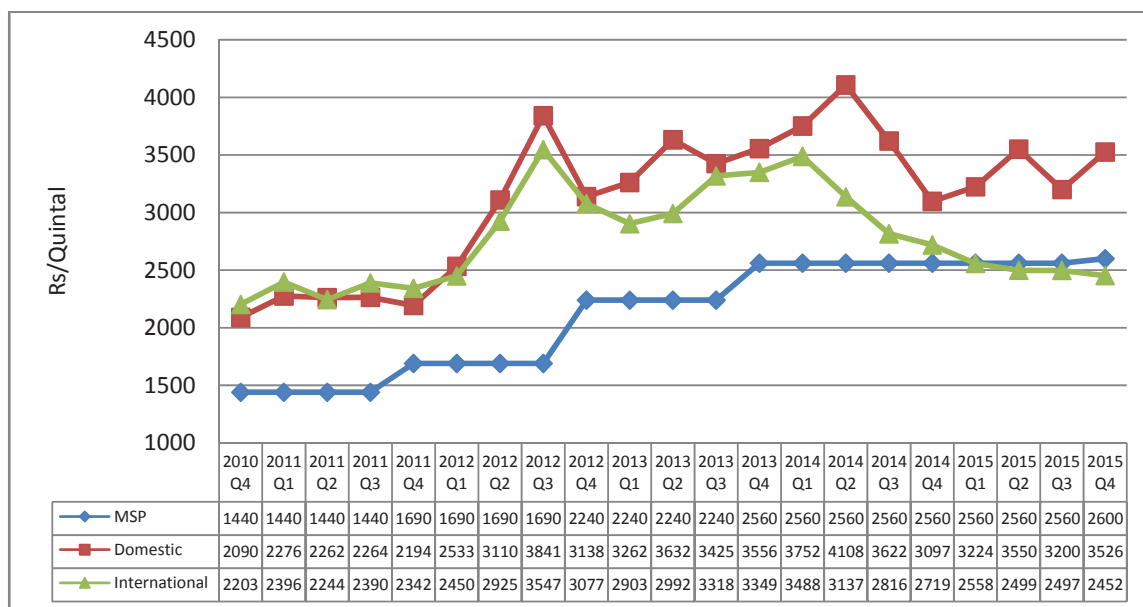


Source: DGCIIS

- 4.22 Domestic wholesale prices of soybean have been continuously higher than the international prices from 2012(Q₁) to 2015(Q₄). MSP of soybean has been continuously lower than domestic wholesale prices, whereas it is currently higher than the international prices (Chart 4.12). Domestic wholesale prices of soybean oil have been continuously higher than the international prices (Chart 4.13). However, there is a broad consistency in the trends of domestic and international prices.

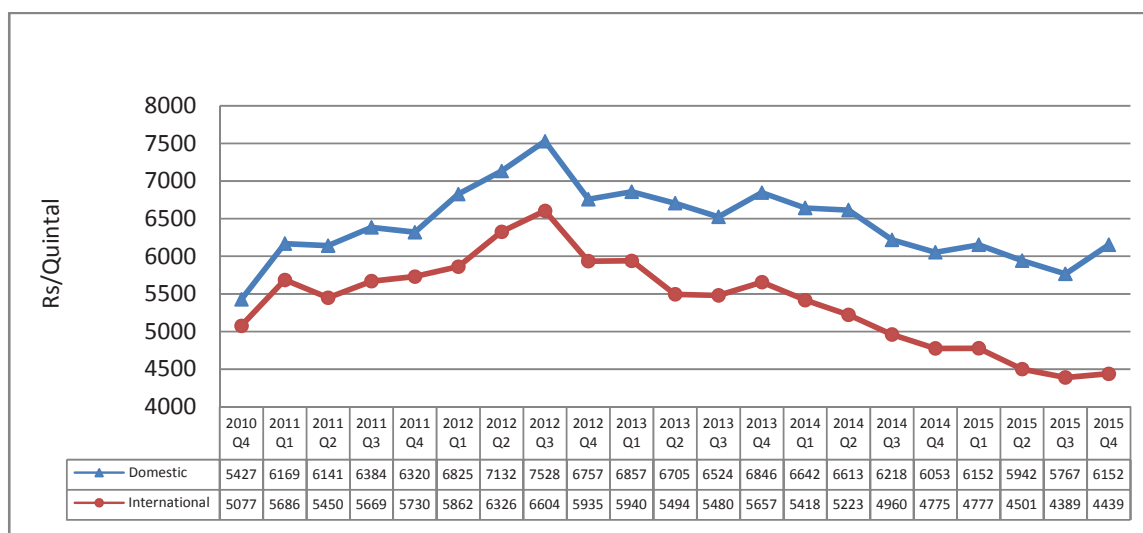
Price Policy for Kharif Crops

Chart 4.12: MSP, Domestic and International Prices of Soybean, 2010 to 2015



Source: DES for domestic wholesale prices and USDA for international prices.

Chart 4.13: Domestic and International Prices of Soybean Oil, 2010 to 2015



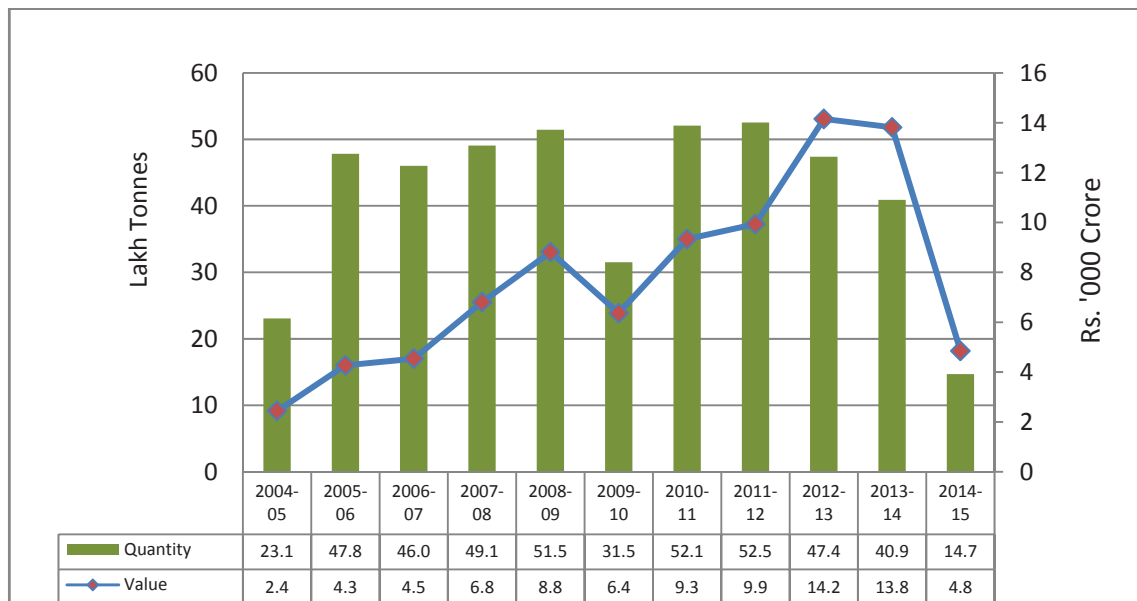
Source: DES for domestic wholesale prices and USDA for international prices.

4.23 India exports soybean meal mainly to neighbouring countries like Pakistan, Bangladesh, Iran, Nepal, Myanmar and Sri Lanka. India's exports of soybean meal have increased from 23.1 lakh tonnes in 2004-05 to a high of 52.5 lakh tonnes in 2011-12 but it declined to only 14.7 lakh tonnes in 2014-15 (Chart 4.14). Domestic

Price Policy for Kharif Crops

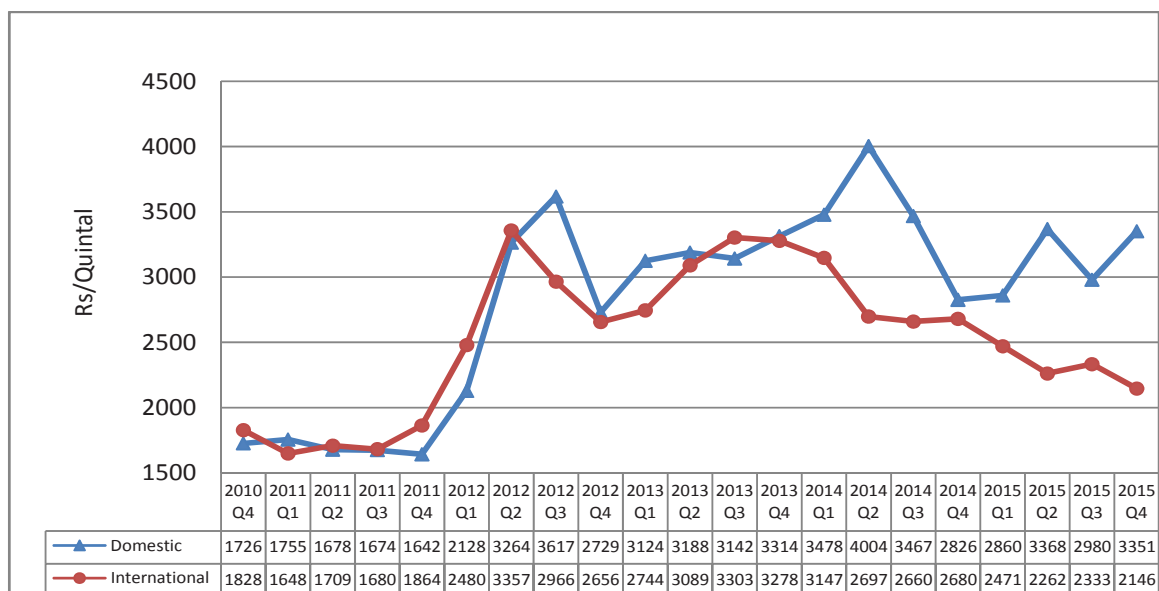
wholesale prices of soybean meal have been continuously higher than international prices from 2013(Q₄) to 2015 (Q₄) (Chart 4.15).

Chart 4.14: India's Exports of Soybean Meal, 2004-05 to 2014-15



Source: DGCIS

Chart 4.15: Domestic and International Prices of Soybean Meal, 2010 to 2015



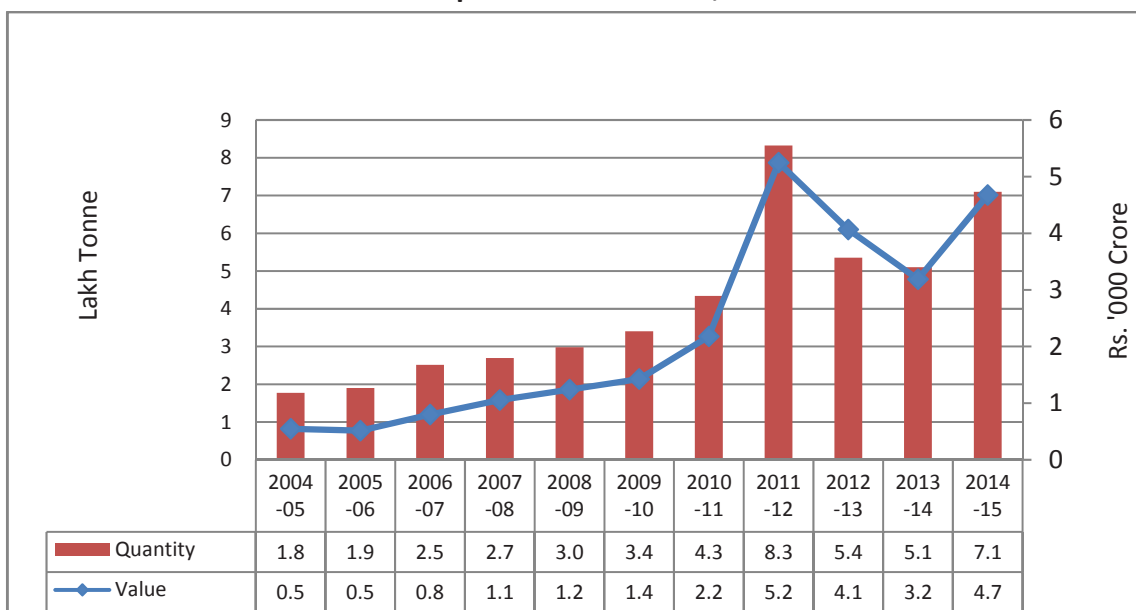
Source: Solvent Extractors Association of India for domestic prices and USDA for international prices.

Price Policy for Kharif Crops

Groundnut and its Oil

4.24 As per USDA, global production of groundnut was 40.3 million tonnes in TE 2014-15, out of which only about 7 percent was traded. China is the largest producer of groundnut with a share of 42.4 percent followed by India (13.1 percent), Nigeria (7.7 percent) and USA (6.2 percent). Argentina is the largest exporter with a share of 21.1 percent closely followed by India (21.0 percent), China (18.1 percent) and USA (17.8 percent). EU is the largest importer with a share of 34.4 percent, followed by Indonesia (14.4 percent), Vietnam (7.9 percent) and Mexico (6.2 percent). Global production of groundnut oil was 5.5 million tonnes in TE 2014-15, out of which only about 4.0 percent was traded. China is the largest producer of groundnut oil with a share of 49.0 percent followed by India (21.4 percent). China, EU and USA are the main importers of groundnut oil, whereas India along with these three countries exports it in small quantities. India's exports of groundnut from 2004-05 to 2014-15 have been fluctuating between 4.3 to 8.3 million tonnes since 2010-11 (Chart 4.16).

Chart 4.16: India's Exports of Groundnut, 2004-05 to 2014-15



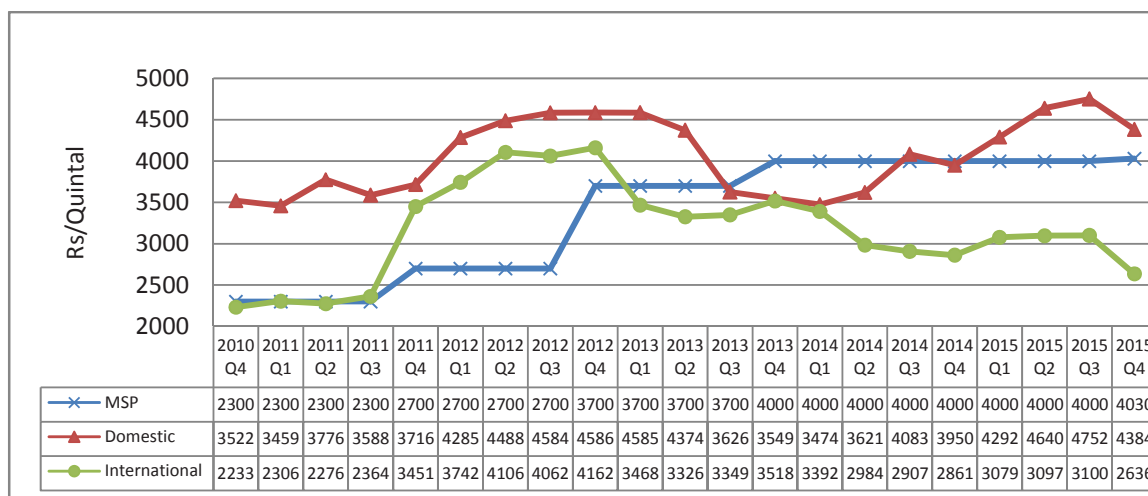
Source: DGCIS

4.25 Domestic prices of groundnut have been continuously higher than the international prices during 2010(Q_4) to 2015(Q_4) (Chart 4.17). However, India's exports of groundnut are mainly to South-East Asian countries, Gulf countries and to neighbouring countries like Pakistan and Sri Lanka where it gets freight advantage in

Price Policy for Kharif Crops

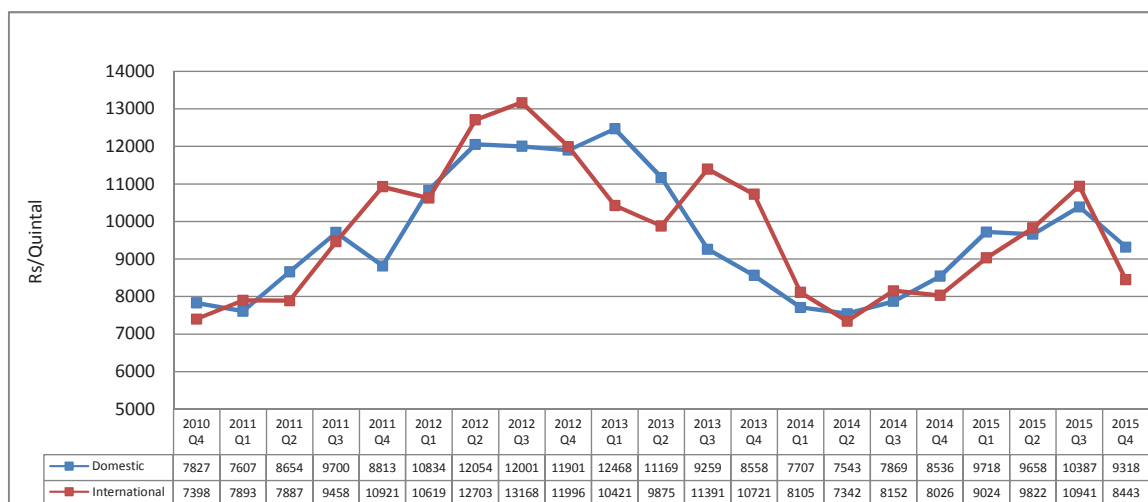
comparison to its competitors like Argentina and USA. Currently, MSP of groundnut is lower than the domestic prices but higher than the international prices. Domestic prices of groundnut oil have followed the trend of the international prices (Chart 4.18).

Chart 4.17: MSP, Domestic and International Prices of Groundnut, 2010 to 2015



Source: DES for domestic prices and USDA for international prices.

Chart 4.18: Domestic and International Prices of Groundnut Oil, 2010 to 2015



Source: Solvent Extractors Association of India for domestic prices and USDA for international prices.

Sunflower Seed and Oil

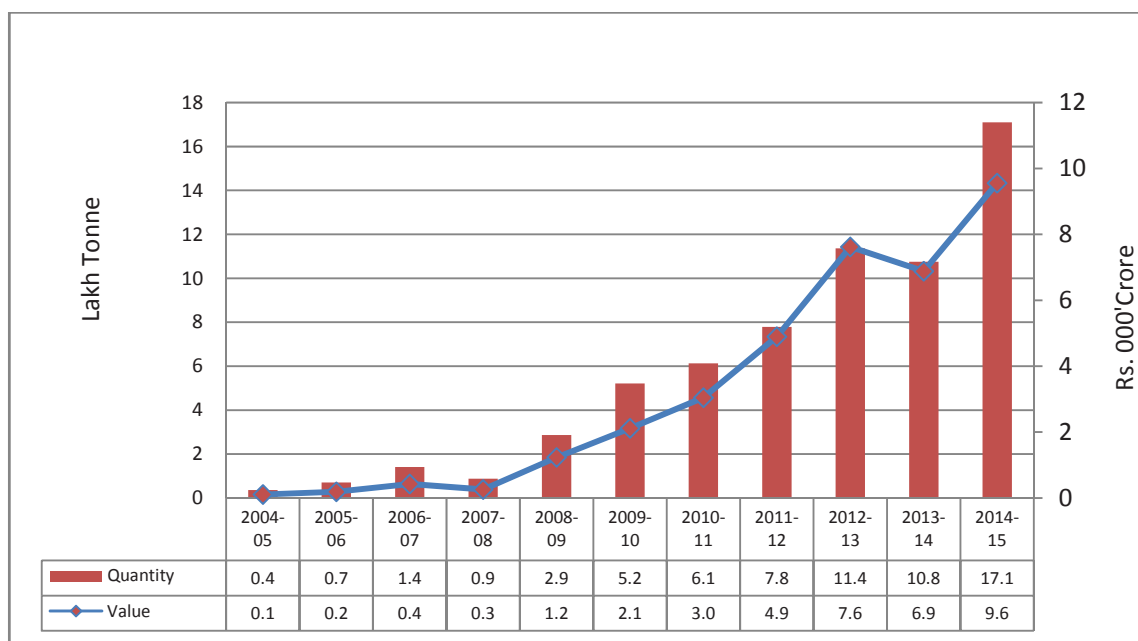
4.26 As per USDA, global production of sunflower seed was 39.3 million tonnes in TE 2014-15, out of which about 4.0 percent was traded. Ukraine is the largest producer

Price Policy for Kharif Crops

of sunflower seed with a share of 26.0 percent followed by Russia (23.2 percent), EU (21.2 percent) and Argentina (7.0 percent). EU is the largest exporter with a share of 34.7 percent followed by Ukraine (4.8 percent), Russia (4.5 percent) and Argentina (4.5 percent). Turkey is the largest importer with a share of 39.7 percent followed by EU (18.8 percent). Global production of sunflower oil was 14.7 million tonnes, out of which about 47 percent was traded. Ukraine is the largest producer of sunflower oil with a share of 28.7 percent followed by Russia (23.9 percent), EU (20.2 percent) and Argentina (7.2 percent). Ukraine and Russia export more than three-fourths of the global exports, with a share of 54.8 percent and 20.3 percent, respectively. EU and Turkey are the main importers.

- 4.27 India exports small quantities of sunflower seed, whereas its imports are nil. India's imports of sunflower oil have increased from a small quantity of 0.4 lakh tonnes in 2004-05 to 17.1 lakh tonnes in 2014-15 (Chart 4.19).

Chart 4.19: India's Imports of Sunflower Oil, 2004-05 to 2014-15



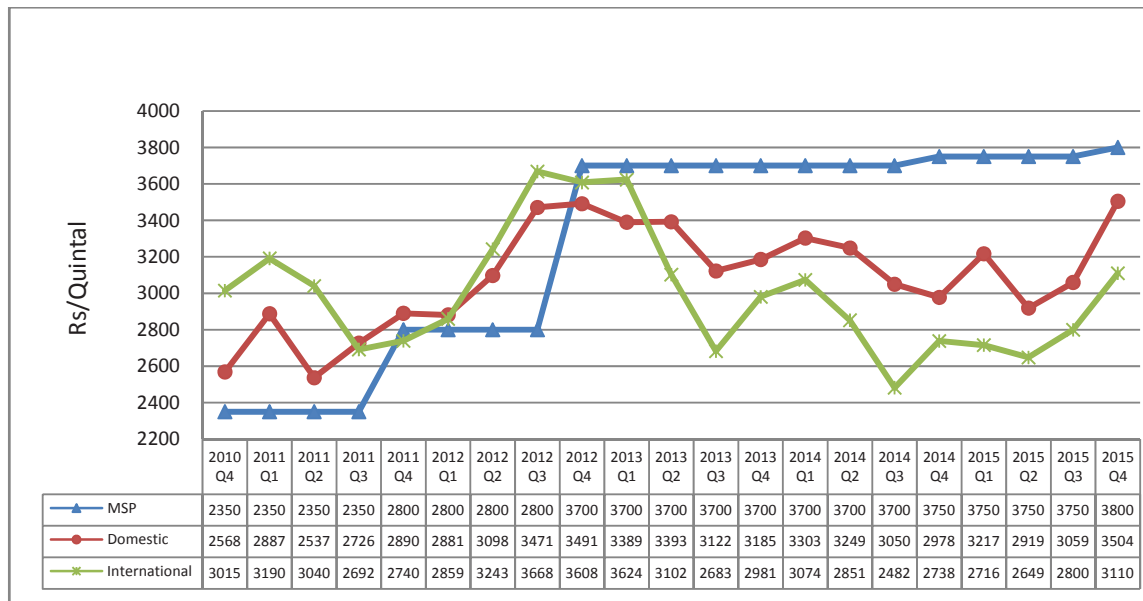
Source: DGCIIS

- 4.28 Domestic wholesale prices of sunflower seed have been continuously higher than the international prices from 2013(Q₂) to 2015(Q₄) (Chart 4.20). Currently, MSP of sunflower seed is higher than the domestic as well as international prices. Also, domestic wholesale prices of sunflower oil have been continuously higher than the international prices from 2012(Q₄) to 2015(Q₄) (Chart 4.21). Production of sunflower

Price Policy for Kharif Crops

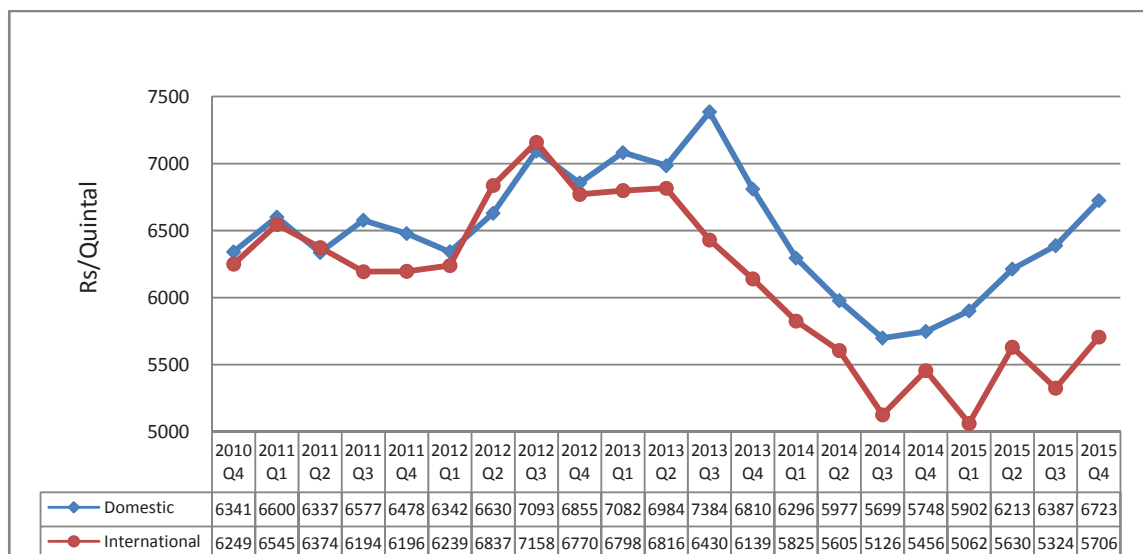
seed/oil increased by about 20 percent in 2013-14 mainly in the major producing countries, viz. Ukraine, Russia and EU countries due to favourable weather conditions which led to decline in prices of these commodities during this period.

Chart 4.20: MSP, Domestic and International Prices of Sunflower Seed, 2010 to 2015



Source: DES for domestic prices and USDA for international prices.

Chart 4.21: Domestic and International Prices of Sunflower Oil, 2010 to 2015



Source: The Solvent Extractors of India for domestic prices and USDA for international prices.

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Trade Policy – Oilseeds/Edible Oils

- 4.29 Exports of oilseeds are free while the imports are allowed under OGL with an import duty of 30 percent since January 2003. Edible oils were under negative list of imports till April 1994 when import of palmolein was placed under OGL subject to 65 percent import duty. Subsequently, import of other edible oils were also placed under OGL and import duty was high up to 80 percent on crude and 92.2 percent on refined oils during early 2000s but was reduced to zero percent on crude and 7.5 percent on refined edible oils in April 2008. Import duty on crude edible oil was increased to 2.5 percent in January 2013 which has been further increased to 7.5 percent in December 2014 and to 12.5 percent in September 2015. Import duty on refined edible oil was also increased to 10 percent in January 2014 which has been further increased to 15 percent in December 2014 and to 20.0 percent in September 2015.
- 4.30 Exports of edible oils were initially prohibited for a period of one year in March 2008 which was extended from time to time. However, there are certain exemptions, namely (a) castor oil, (b) coconut oil from all Electronic Data Interchange (EDI) Ports and through all Land Custom Stations (LCS), (c) Deemed export of edible oils (as input raw material) from Domestic Tariff Area (DTA) to 100 percent Export-Oriented Units (EOUs) for production of non-edible goods to be exported, (d) Edible oils from DTA to Special Economic Zones (SEZs) to be consumed by SEZ units for manufacture of processed food products, subject to applicable value addition norms, (e) edible oils produced out of minor forest produce, and (f) 10,000 tonnes of organic edible oils per annum. In addition, exports of edible oils in branded consumer packs of up to 5 kg are permitted with a MEP of US \$ 900 per MT. India's trade policy for major Kharif crops is summarized in Table 4.1.

Price Policy for Kharif Crops

Table 4.1: India's Trade Policy for Kharif Crops

Sl. No.	Crop/Commodity	Trade Policy				
		Import Policy			Export Policy	
		OGL/ Import ban	Import duty (%)	Bound Duty (%)	OGL/ Export ban	Export duty (%)
(1)	(2)	(3)	(4)	(5)	(6)	(7)
A-Cereals						
1	Rice	OGL	(Rice in husk, Husked brown rice; Broken rice) – 80 (Semi-milled or Wholly milled rice) - 70	80 70	OGL	Zero
2	Maize	OGL	50	70	OGL	Zero
3	Jowar	OGL	80	80	OGL	Zero
B-Pulses						
4	Arhar	OGL	Zero	100	Export ban (except (i) Kabuli chana (ii) 10000 tonnes per annum of organic pulses and Lentils)	
5	Urad	OGL	Zero	100		
6	Moong	OGL	Zero	100		
C-Oilseeds/Edible Oils						
7	Soybean	OGL	30	100	OGL	Zero
8	Groundnut	OGL	30	100	OGL	Zero
9	Sunflower seed	OGL	30	100	OGL	Zero
10	Soybean oil (crude)	OGL	12.5	45	Export ban*	
11	Groundnut oil (crude)	OGL	12.5	300	Export ban*	
12	Sunflower oil (crude)	OGL	12.5	300	Export ban*	
13	Soybean Oil (refined)	OGL	20.0	45	Export ban*	
14	Groundnut oil (refined)	OGL	20.0	300	Export ban*	
15	Sunflower oil (refined)	OGL	20.0	300	Export ban*	
16	Soybean meal	OGL	Zero	100	OGL	Zero
D-Commercial Crop						
17	Cotton	OGL	Zero	100	OGL	Zero

*Export of edible oils in branded consumer packs up to 5 kg is permitted with MEP of US\$ 900 per MT.

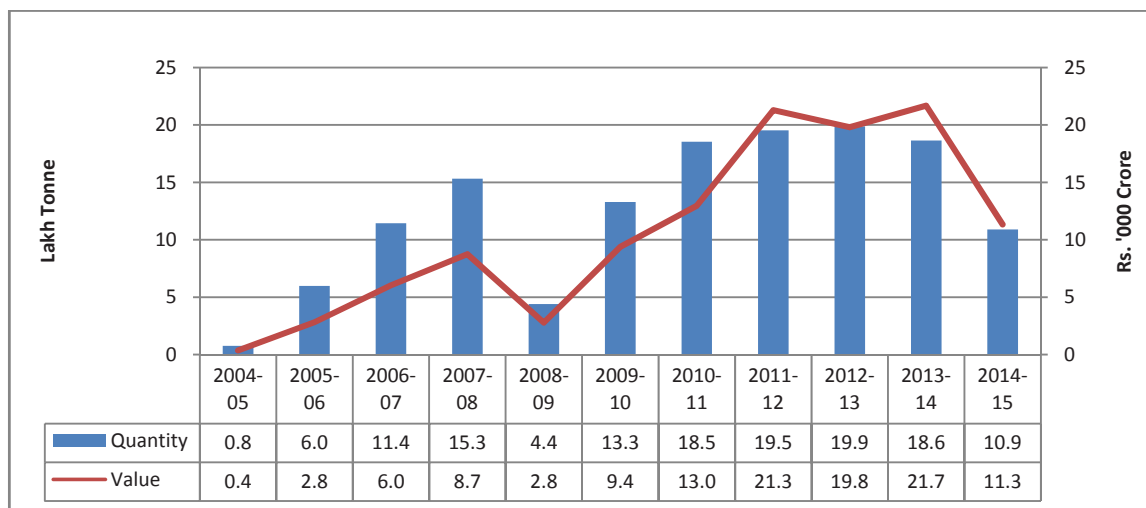
Cotton

4.31 The global production of cotton was 26.4 million tonnes in TE 2014-15, out of which about 34 percent was traded. China is the largest producer of cotton with a share of 27.7 percent followed by India (24.4 percent), USA (12.4 percent), Pakistan (7.7 percent) and Brazil (5.7 percent). USA is the largest exporter with a share of

Price Policy for Kharif Crops

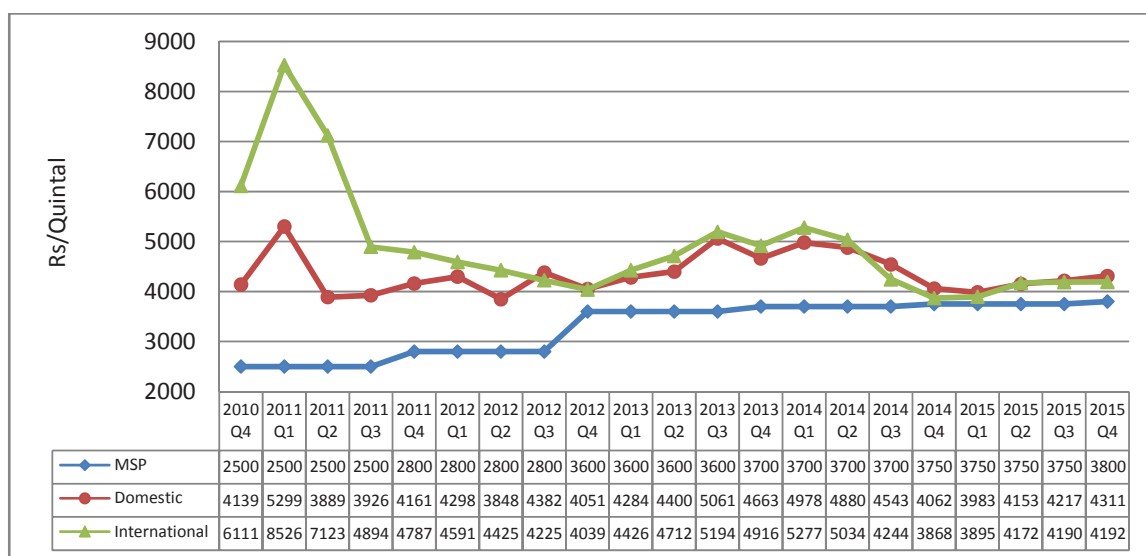
27.0 percent followed by India (19.5 percent), Australia (12.6 percent) and Brazil (7.5 percent). China is the largest importer with a share of 37.0 percent followed by Bangladesh (11.1 percent), Turkey (8.5 percent), Indonesia (7.0 percent) and Vietnam (6.5 percent).

Chart 4.22: India's Exports of Cotton, 2004-05 to 2014-15



Source: DGCI

Chart 4.23 : MSP, Domestic and International Prices of Cotton (Raw), 2010 to 2015



Source: DES for domestic wholesale prices and World Bank for International Prices.

Price Policy for Kharif Crops

- 4.32 India's exports of cotton have increased from a low of 0.8 lakh tonnes in 2004-05 to a high of 19.9 lakh tonnes in 2012-13 (Chart 4.22) before declining to 18.6 lakh tonnes in 2013-14. Exports of cotton have further declined to 10.9 lakh tonnes in 2014-15 mainly due to subdued demand from China which is a major export destination for Indian cotton. It may be seen from Chart 4.23 that currently the domestic wholesale prices of cotton have followed the trend of international prices. MSP of cotton has been continuously lower than the domestic as well as international prices.
- 4.33 Quantitative Restrictions (QRs) on export of cotton were removed by the Government in July 2001 and its exports were placed under OGL. To curb the rising price trend in the domestic market, the Government imposed export duty of Rs.2500 per tonne on raw cotton in April 2010 to avoid disruption in supply chain of cotton in the country till the end of cotton season 2009-10. Cotton exports were placed in restricted category in May 2010. However, its exports were allowed at zero export duty in August 2010 with the restriction that the contracts for exports be registered with the DGFT prior to shipment. Exports of cotton are currently free and the registration requirement for export of cotton has been dispensed with vide Notification dated 08.12.2014. Import of cotton was placed under OGL in April 1994. Import duty of 5 percent was levied on import of cotton in March 1999 which was increased to 10 percent in January 2002 in order to avoid imports of cheaper cotton. However, the import duty was reduced to zero in July 2008 which continues to be at the same level.

Trade Outlook

- 4.34 India's agri-exports have declined by 11.9 percent from Rs.186.7 thousand crore in 2014-15 (April-December) to Rs.164.5 thousand crore in 2015-16 (April-December) due to continued subdued commodity prices in the international market. The agri-imports have however increased from Rs.112.9 thousand crore to Rs.124.7 thousand crore with a growth rate of 10.5 percent during the corresponding period due to enhanced imports of pulses, cashew, fresh fruits and edible oils. India is a big importer of edible oils and pulses. More than 55 percent demand of edible oils is met by imports. Imports of pulses and edible oils have increased due to widening gap between domestic production and consumption in the country, whereas imports of cashew and fresh fruits have increased due to liking for exotic varieties by better off sections of society. Exports of most of the major agri-commodities have declined in 2015-16 (April-December), except cotton (raw) and spices which have increased with a growth rate of 7.1 percent each. The major export declines are for oilseeds (27.6 percent), rice (19.4 percent), meat & processed meat

Price Policy *for* Kharif Crops

(10.0 percent) and marine products (9.0 percent). Imports of major agri-commodities have increased in 2015-16 (April-December), viz. pulses (44.3 percent), cashew (35.4 percent), fresh fruits (18.0 percent) and edible oils (4.5 percent), whereas import of wood & wood products have slightly declined by 2.3 percent. India's agri-exports in 2015-16 are likely to be lower than 2014-15 due to subdued demand and prices in the international market, whereas agri-imports are likely to increase mainly due to widening gap between production and consumption of edible oils and pulses, the latter more because of rise in prices in the international market. International prices of cereals, oilseeds, edible oils and cotton are likely to remain subdued in the near future, whereas pulses are likely to remain on the higher side than the trend mainly due to higher demand from India which is the largest importer of pulses in the world.

Chapter 5

Costs, Returns and Inter-Crop Price Parity

- 5.1 Cost of production (CoP) is one of the important factors in the determination of MSP of the mandated crops. Besides cost, the Commission considers other important factors, namely demand and supply scenario, price trends in the domestic and international markets, inter-crop price parity, terms of trade between agricultural and non-agricultural sectors, likely impact of MSP on consumers, and rational utilization of natural resources like land and water. Thus, pricing policy is not rooted only in the cost plus approach though cost is one of the important factors.
- 5.2 The Commission uses the cost estimates furnished by the Directorate of Economics & Statistics (DES), Ministry of Agriculture and Farmers Welfare, under the Comprehensive Scheme for Studying the Cost of Cultivation of Principal Crops in India (CS). Since CS data are generally available with a time lag of three years in case of kharif crops, these need to be projected for the ensuing season, i.e. 2016-17. These projected cost estimates are factored into formulation of price policy recommendations.
- 5.3 The Commission has projected CoP estimates for kharif season 2016-17 based on the actual estimates for the latest three years, viz. 2011-12 to 2013-14 in respect of 14 kharif crops. These projections capture movement in overall input cost separately for the season 2016-17 over each of the past three years, viz. 2011-12, 2012-13 and 2013-14. An assessment of overall movement in input cost likely for the season 2016-17 with reference to each of the three consecutive years ending 2013-14, is also made by constructing the Composite Input Price Index (CIPI) based on the latest prices of different inputs like human labour, bullock labour, machine labour, seeds, fertilizers, manures, insecticides and irrigation charges sourced from the Labour Bureau, State Governments, Department of Industrial Policy & Promotion (DIPP), Ministry of Commerce and Industry, Fertilizers Association of India (FAI) etc. Based on CIPI thus constructed, the Commission then projected CoP for Kharif Marketing Season (KMS) 2016-17.

Costs and Returns of Kharif Crops during 2011-12 to 2013-14

- 5.4 Profitability of crops can be seen from three perspectives. The first is gross returns over A_2 which is defined as Gross Value of Output (GVO) less cost A_2 . The GVO is estimated at the prevailing market prices during harvest season in the village/

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cluster of villages where crops are grown and harvested. The second is gross returns over A_2 +FL which is defined as GVO less cost A_2 +FL and third is net returns which represent gross value of output less cost C_2 . The average returns (both gross and net) during 2011-12 to 2013-14 for various kharif crops are presented in Table 5.1 and Chart 5.1. It may be seen from Table 5.1 that the gross rate of returns over A_2 and A_2 +FL are positive and significant for all kharif crops while the net rate of returns over C_2 are positive in all kharif crops, except jowar, bajra, ragi, sunflower and nigerseed. The average gross returns over A_2 varied in the range of 53 percent in ragi to 193 percent in sesamum. Likewise, average gross returns over A_2 +FL varied in the range of 7 percent in ragi to 88 percent in sesamum. The state-wise details of average returns are given in Annex Table 5.1.

Table 5.1: Gross and Net Returns of Kharif Crops, TE 2013-14

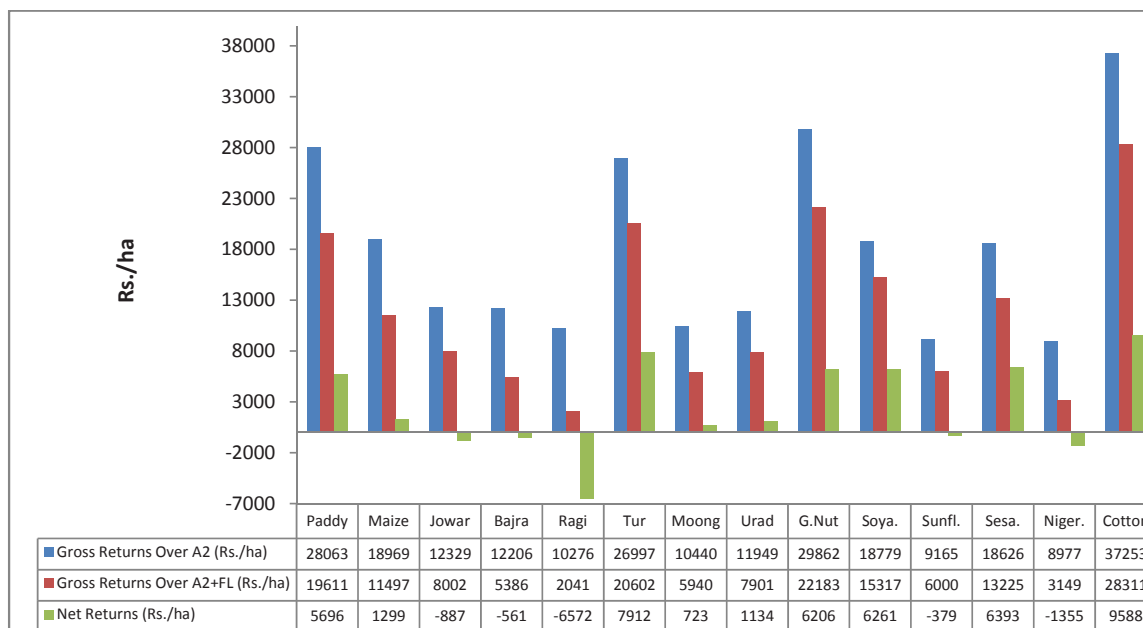
(Rs./ha., Percent)

Sl. No.	Crop	Cost A_2	Cost A_2 +FL	Cost C_2	GVO	Gross Returns over A_2		Gross Returns over A_2 +FL		Net Returns	
		Rs./ha.				Rs./ha. (Col.6-Col.3)	Percent (Col.7/Col.3*100)	Rs./ha. (Col.6-Col.4)	Percent (Col.9/Col.4*100)	Rs./ha. (Col.6-Col.5)	Percent (Col.11/Col.5*100)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
A. Cereals											
1	Paddy	25,179	33,631	47,547	53,242	28,063	111	19,611	58	5,696	12
2	Maize	18,989	26,462	36,659	37,958	18,969	100	11,497	43	1,299	4
3	Jowar	17,330	21,657	30,546	29,659	12,329	71	8,002	37	-887	-3
4	Bajra	10,399	17,219	23,166	22,605	12,206	117	5,386	31	-561	-2
5	Ragi	19,340	27,575	36,188	29,616	10,276	53	2,041	7	-6572	-18
B. Pulses											
6	Arhar (Tur)	19,508	25,902	38,593	46,505	26,997	138	20,602	80	7,912	21
7	Moong	10,882	15,381	20,598	21,321	10,440	96	5,940	39	723	4
8	Urad	11,901	15,950	22,716	23,850	11,949	100	7,901	50	1,134	5
C. Oilseeds											
9	Groundnut	33,257	40,935	56,913	63,119	29,862	90	22,183	54	6,206	11
10	Soybean	17,299	20,762	29,818	36,078	18,779	109	15,317	74	6,261	21
11	Sunflower	14,415	17,579	23,958	23,579	9,165	64	6,000	34	-379	-2
12	Sesamum	9,647	15,048	21,880	28,273	18,626	193	13,225	88	6,393	29
13	Nigerseed	5,483	11,311	15,815	14,460	8,977	164	3,149	28	-1355	-9
D. Commercial Crop											
14	Cotton	37,266	46,208	64,931	74,519	37,253	100	28,311	61	9,588	15

Source: CACP using DES data.

Price Policy for Kharif Crops

Chart 5.1: Gross and Net Returns of Kharif Crops, TE 2013-14



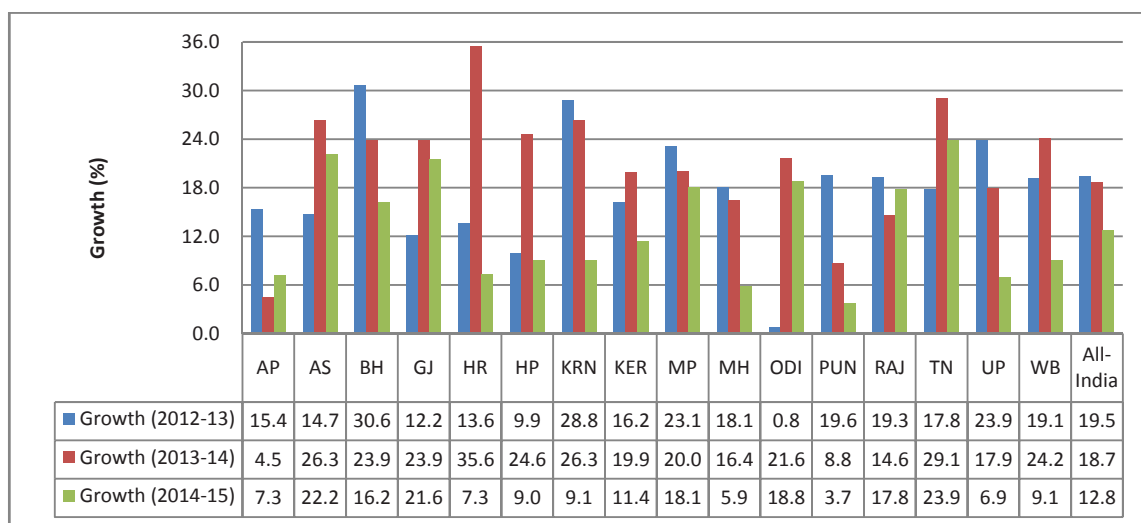
Source: CACP Calculations

Wages and Input Price Movement

5.5 Charts 5.2(a) & (b) present annual average growth in agricultural labour wages in nominal and real terms, respectively, in major states and at all-India level during 2012-13 to 2014-15. At all-India level, increase in agricultural labour wage was 19.5 percent in 2012-13, 18.7 percent in 2013-14 and it slowed down to 12.8 percent in 2014-15 at current prices. The increase in real wages was 7.3, 8.0 and 6.9 percent in respective years. The annual average for a particular year is from July to June. However, on comparing the latest months (July-November) average of 2015 year with corresponding 2014 year average, it has been observed that there is an increase of 4.4 percent in all-India agricultural labour wage at current prices. The state-wise and all India details of month-wise average daily wage rates of agricultural labour in nominal terms for major states are given in Annex Table 5.2.

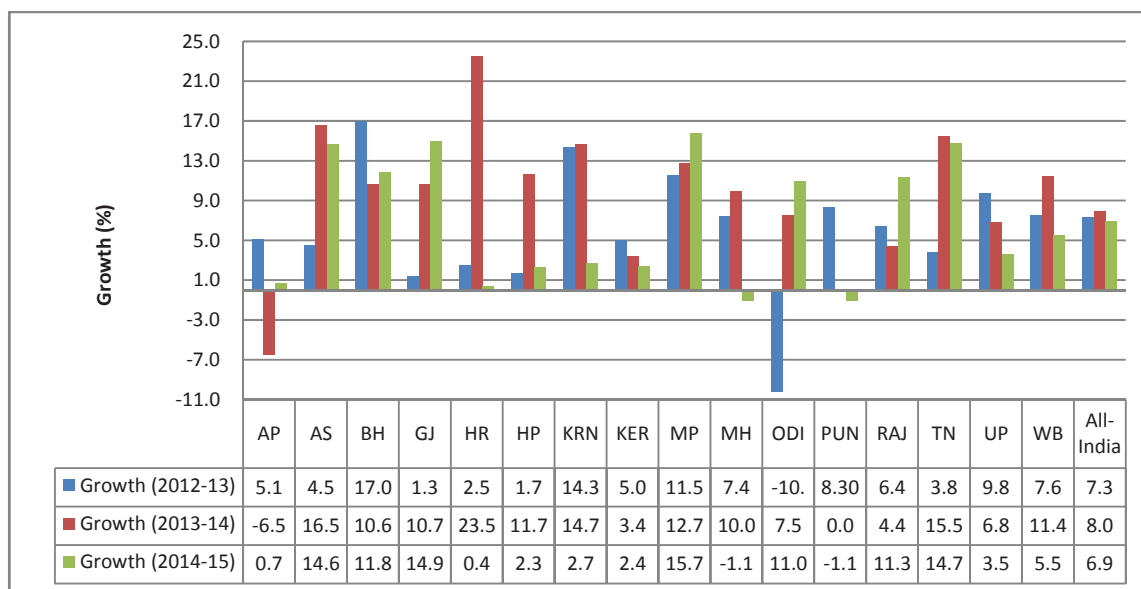
Price Policy for Kharif Crops

Chart 5.2 (a): Annual Average Growth in Wages of Agricultural Labour, 2012-13 to 2014-15 (At Current Prices)



Source: CACP calculations based on Labour Bureau (Simla) data.

Chart 5.2 (b): Annual Average Growth in Wages of Agricultural Labour, 2012-13 to 2014-15 (At Constant Prices, 2014-15=100)

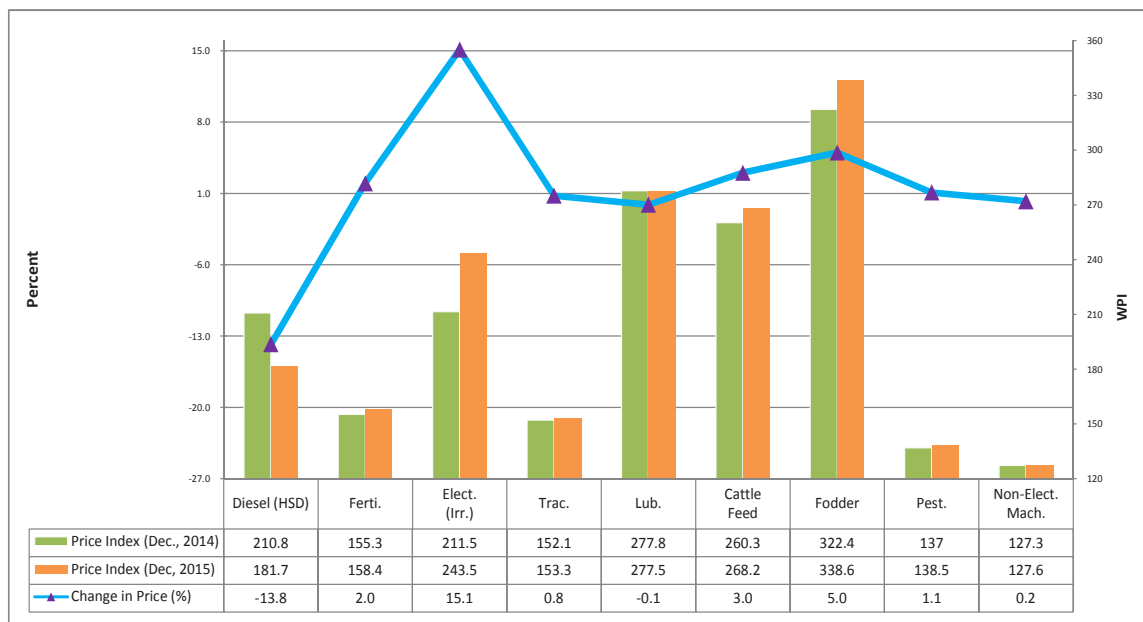


Source: CACP calculations based on Labour Bureau (Simla) data.

Price Policy for Kharif Crops

- 5.6 The prices of fertilizers, electricity for irrigation, tractors, fodder, cattle feed, pesticides and non-electrical machinery have increased in the range of 0.2 percent for non-electrical machinery to 15.1 percent for electricity for irrigation (Chart 5.3) in December 2015 over December 2014. However, the price of HSD has declined by 13.8 percent in the corresponding period. The details of price indices of major farm inputs are given in Annex Table 5.3.

Chart 5.3: Movements in Prices of Farm Inputs
(December 2015 over December 2014)



Source: DIPP, Ministry of Commerce and Industry

Cost Projections for KMS 2016-17

- 5.7 Based on the state-wise costs and CIPI, crop-wise all India weighted average cost of production, with weights being shares of states in the national production in TE 2014-15, has been projected for KMS 2016-17 (Table 5.2).

Price Policy for Kharif Crops

Table 5.2: Projected Costs of Kharif Marketing Season, 2016-17

(Rs/qttl)

Sl. No.	Crops	Cost of Production		
		A_2	A_2+FL	C_2
(1)	(2)	(3)	(4)	(5)
1	Paddy	791	1045	1378
2	Jowar	1171	1501	1992
3	Bajra	549	925	1218
4	Maize	709	966	1286
5	Ragi	1211	1733	2150
6	Arhar (Tur)	2405	3241	4314
7	Moong	2821	4065	5191
8	Urad	2624	3584	4661
9	Groundnut	2695	3371	4300
10	Soybean	1543	1852	2542
11	Sunflower	2912	3479	4418
12	Sesamum	2705	4188	5570
13	Nigerseed	1629	3366	4320
14	Cotton	2305	2889	3920

Source: CACP Calculations.

The state-wise and all India projected costs of 14 kharif crops under the domain of MSP for KMS 2016-17 are given in Annex Table 5.4. Also state-wise actual costs for 2011-12 to 2013-14 are given in Annex Tables 5.5 (a) to (n).

Comparison of Projected Cost Estimates

- 5.8 The Commission has made a comparison of its projected costs of mandated kharif crops with those provided by few states, viz. Andhra Pradesh, Bihar, Haryana, Maharashtra, Punjab and Telangana for KMS 2016-17. As per practice followed, the Commission takes a close look at the projected cost estimates for various kharif crops generated by some of the states through their own surveys and compares them with the corresponding CACP estimates projected on the basis of actual cost estimates made available by DES under the Comprehensive Scheme (CS). Since the concepts and methodologies used by the states are at variance with those under CS, the Commission sometimes finds it difficult to reconcile two sets of data. The projected cost estimates of states and CACP for various kharif crops are given in Annex Table 5.6. It may be noted that the states projections are higher than that of CACP's projected cost mainly due to high land rent, lower average yield, high seed

Price Policy for Kharif Crops

cost and additional “After Care” cost which includes weeding, spraying, harvesting, threshing, inter-cultivation, plant protection, picking of kapas, etc. considered by the states in their cost calculations. However, in few crops, viz. jowar, ragi, arhar, urad, sesamum in some states, the state estimates are lower than the corresponding CACP projections. It may also be mentioned here that State Governments have also considered higher cost which includes various other charges viz. 15 percent managerial cost, 50 percent margin over cost, 10 percent weather risk, and 25 percent profit over and above the projected cost of production (C_2) while recommending MSP for different crops.

- 5.9 The Commission computes the all India weighted average and composite input price index for all the crops for the years 2013-14 to 2016-17. For this, on the basis of state-wise indices, an all India crop-wise weighted average input price index for all inputs, with weights being relative shares of the states in total crop area in TE 2014-15 has been calculated. These indices are used to compute all India weighted average kharif crops composite input price index, with weights being relative shares of the crops in the total production in TE 2014-15. It may be observed from Table 5.3 that the all India kharif crops CIPI is showing an upward trend with an increase of 4.8 percent in 2016-17 over 2015-16.

Table 5.3: All India Kharif Crops Input Price Index (Base 2004-05 = 100)

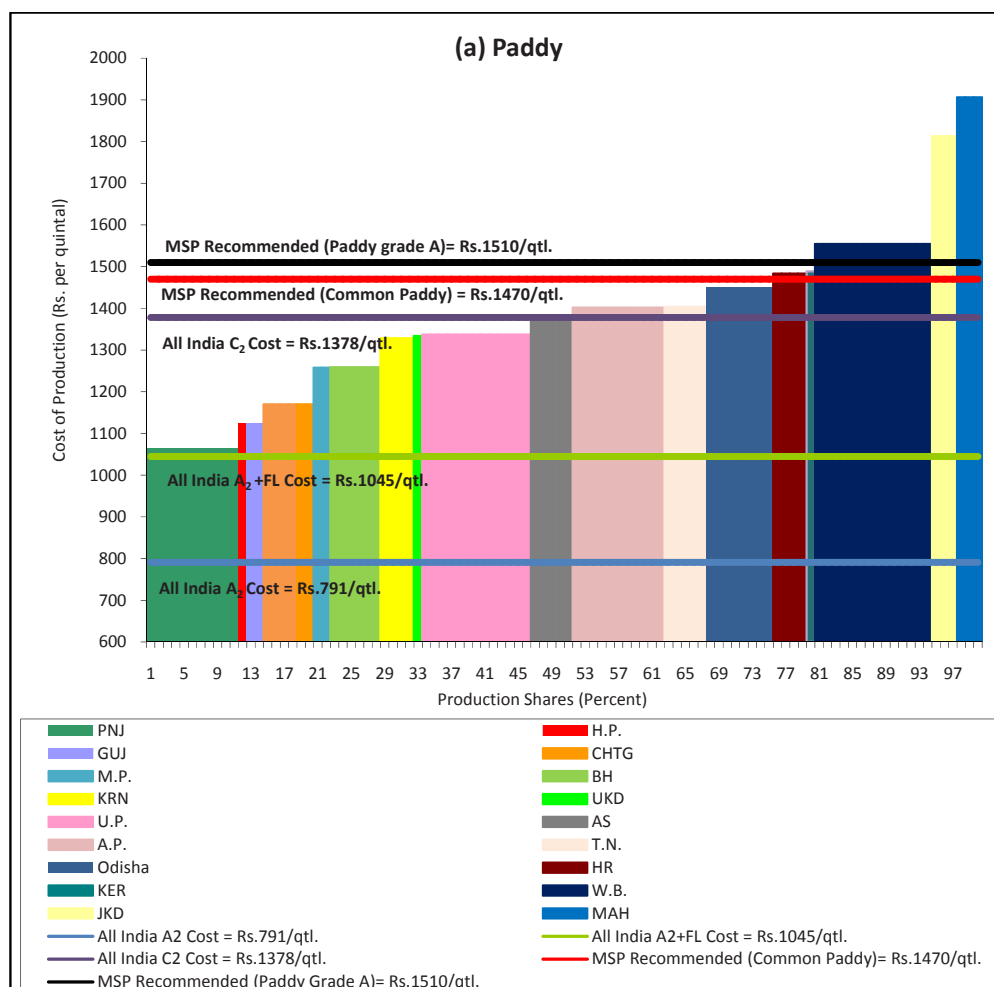
Sl. No.	Inputs	Weights (2013-14)	Kharif Crops Input Price Index				Percentage Change in Input Price Index 2016-17 over 2015-16
			2013-14	2014-15	2015-16	2016-17	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
1	Human Labour (HL)	0.53	355.42	377.55	396.14	414.41	4.6
2	Bullock Labour (BL)	0.07	288.69	307.38	327.54	349.16	6.6
3	Machine Labour (ML)	0.13	217.06	210.52	180.91	189.96	5.0
4	Seeds	0.08	295.68	318.53	336.76	354.10	5.1
5	Fertilizers	0.11	159.69	160.61	166.42	173.12	4.0
6	Manures	0.03	263.97	282.37	302.46	324.16	7.2
7	Insecticides	0.03	127.67	136.22	136.61	142.33	4.2
8	Irrigation Charges	0.03	149.92	153.43	156.94	160.54	2.3
9	Composite Input Price Index (CIPI)		291.78	306.77	317.07	332.40	4.8

Source: CACP Calculations.

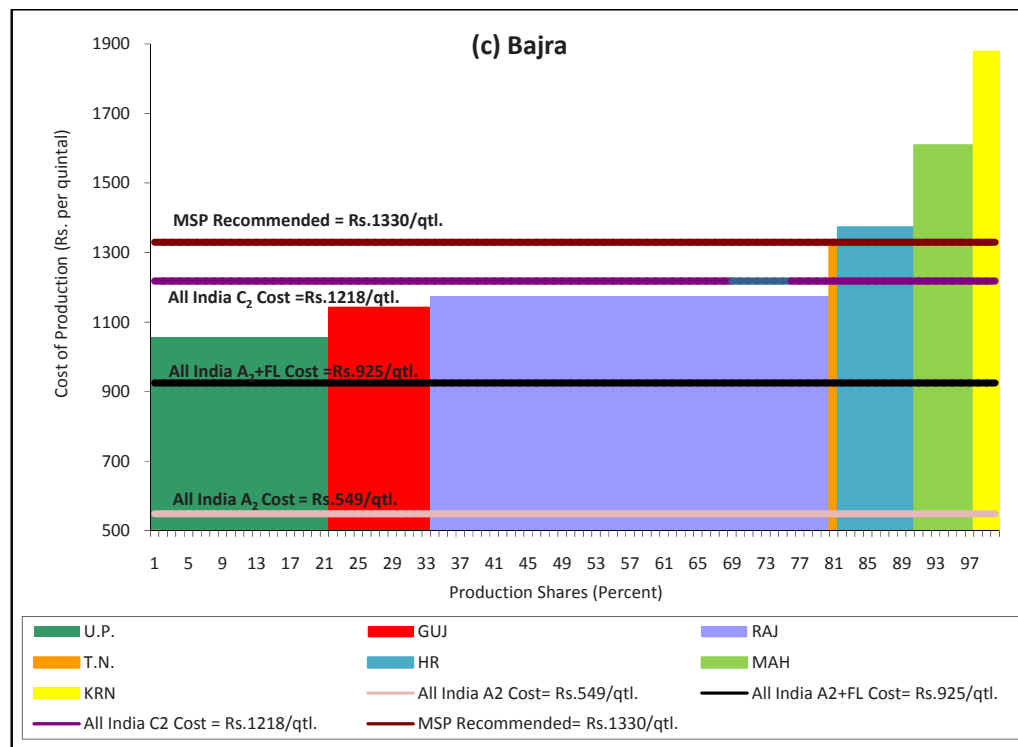
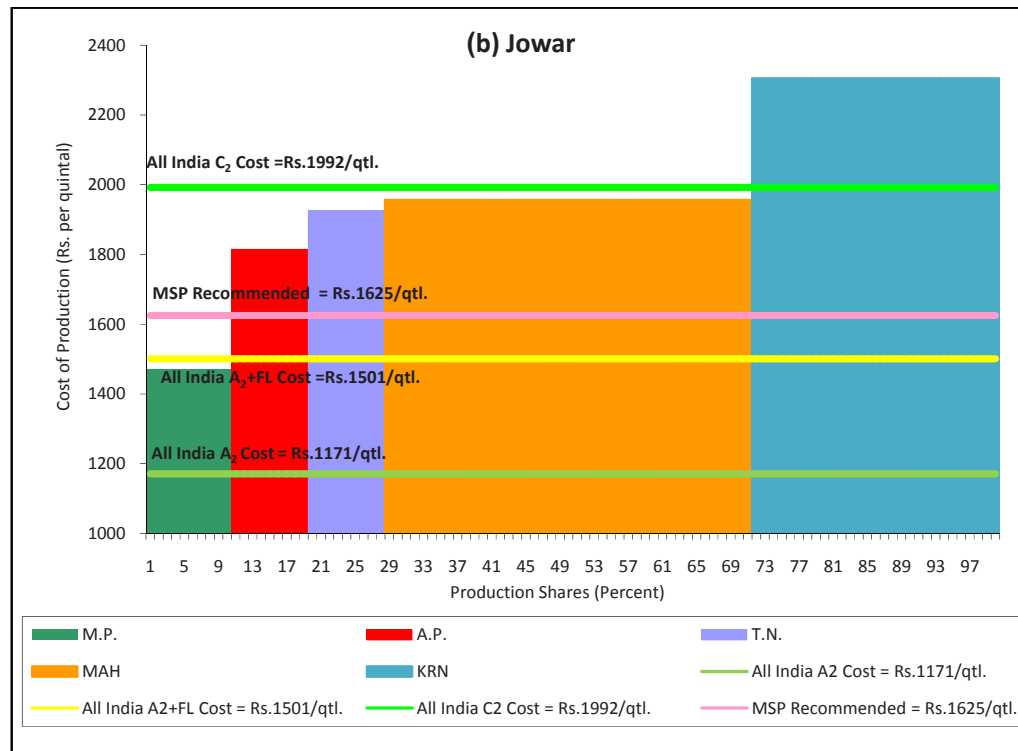
Price Policy for Kharif Crops

5.10 Charts 5.4 (a) to (m) depict the cost of production (C_2) by states in ascending order of the cost with their corresponding relative shares in total production of respective crops. It may be noted that percent of the production covered by the all India weighted average cost of production and also MSP vary from crop to crop. For instance, the production covered at C_2 cost is 51 percent in case of paddy, 65 percent in case of cotton, 75 percent in case of maize, 44 percent in case of arhar (tur), 74 percent in case of groundnut and 56 percent in case of soybean. It may be noted that the production covered at MSP over C_2 cost are 75 percent in case of paddy common, 80 percent in case of paddy grade A, 70 percent in case of cotton (long staple), 45 percent in case of cotton (medium staple), 76 percent in case of maize, 85 percent in case of arhar (tur), 55 percent in case of groundnut and 56 percent in case of soybean.

Chart 5.4: Supply Curve and Projected Cost, KMS 2016-17



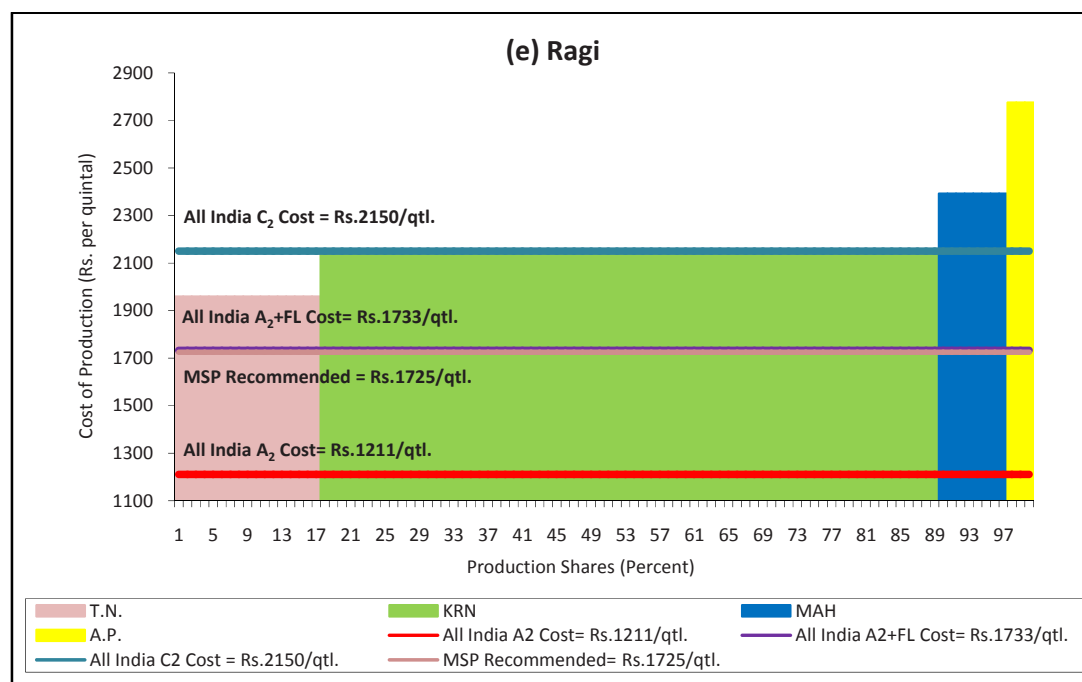
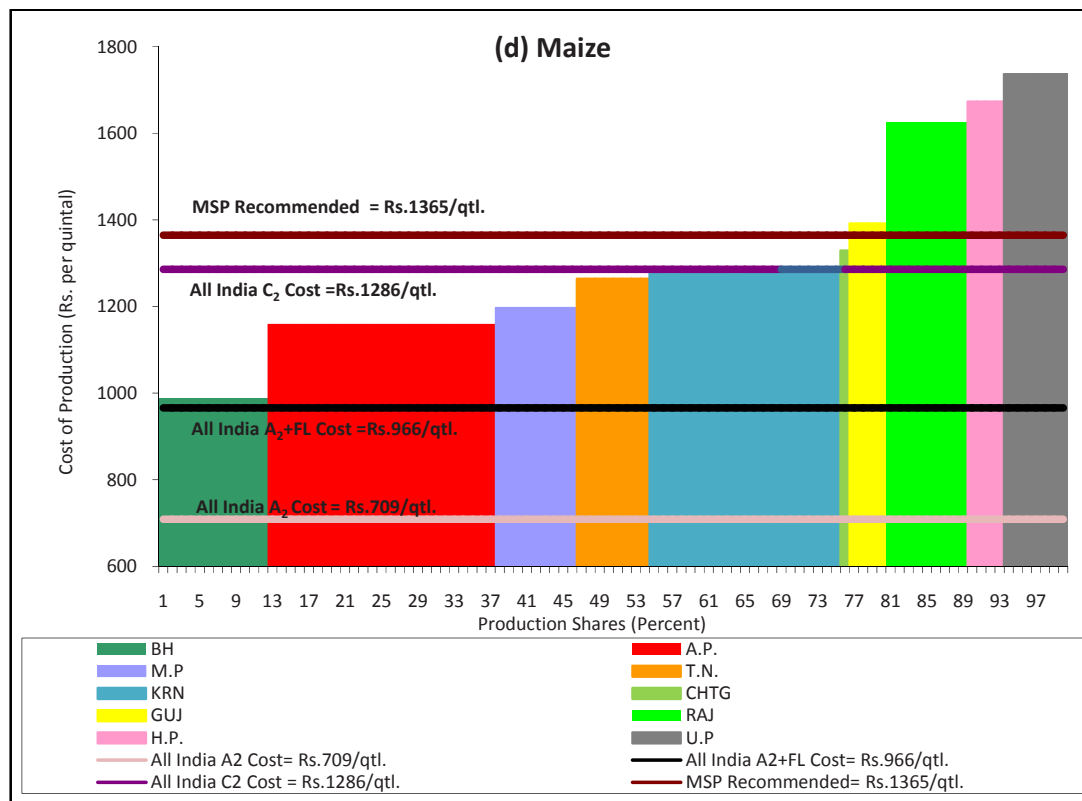
Price Policy for Kharif Crops



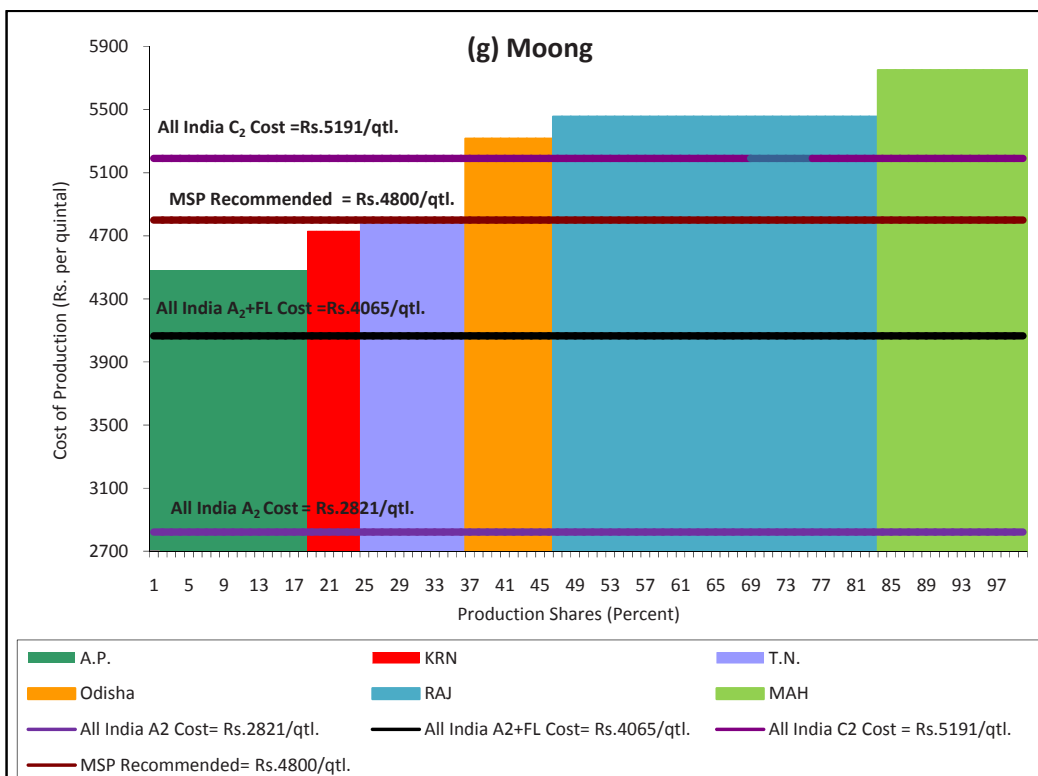
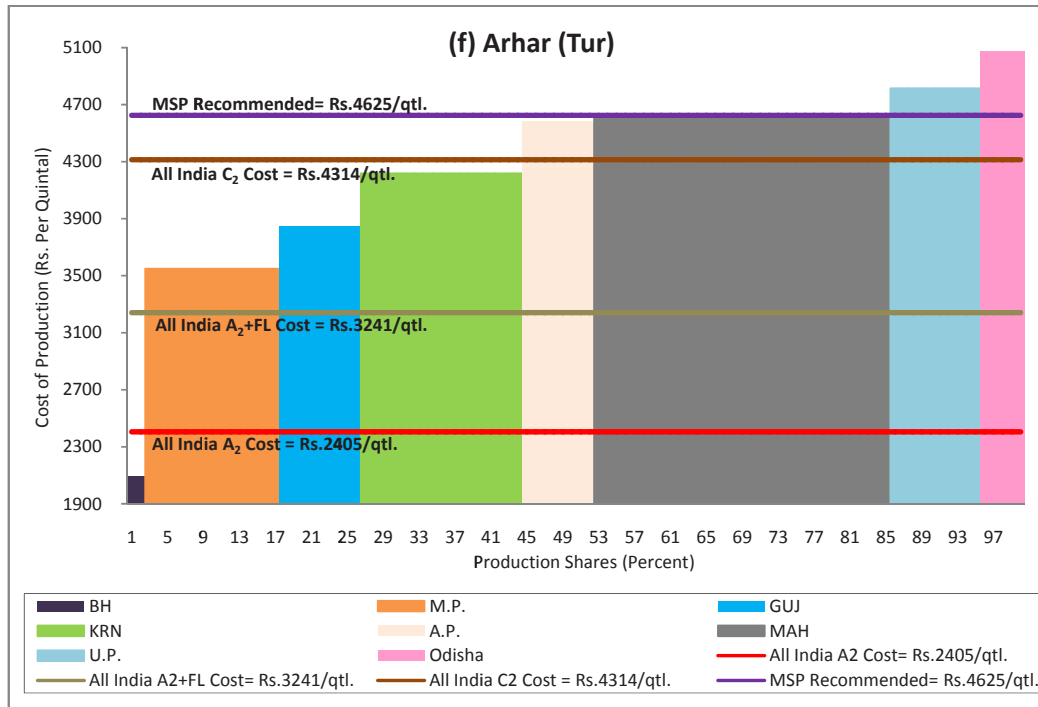
Costs, Returns and Inter-Crop Price Parity

Price Policy for Kharif Crops

Costs, Returns and Inter-Crop Price Parity



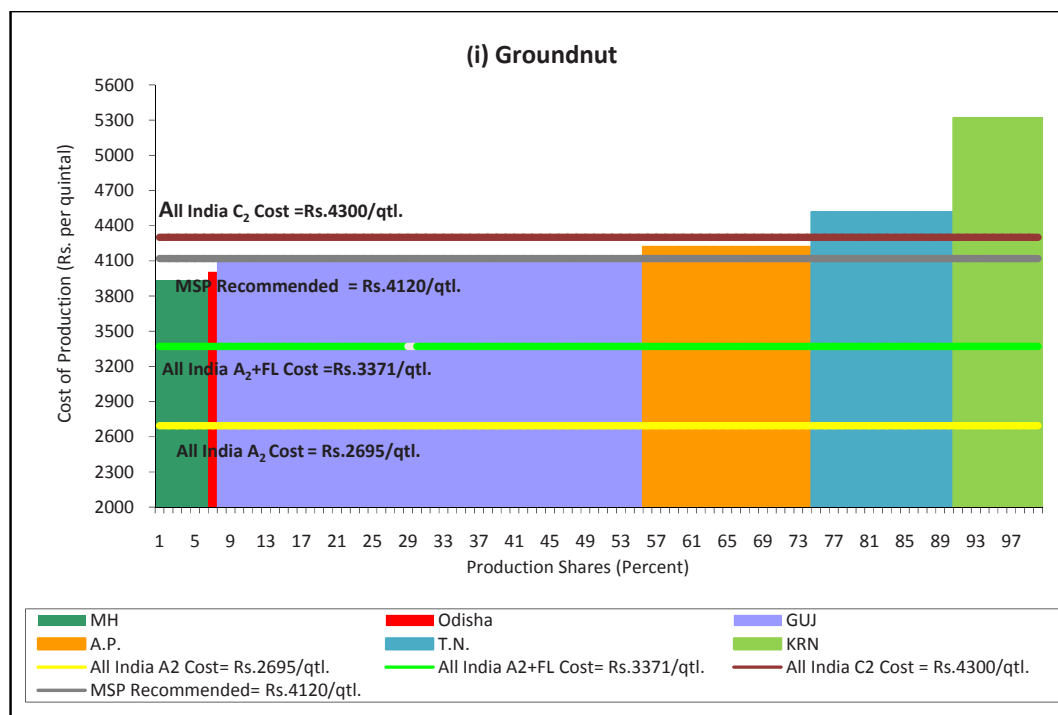
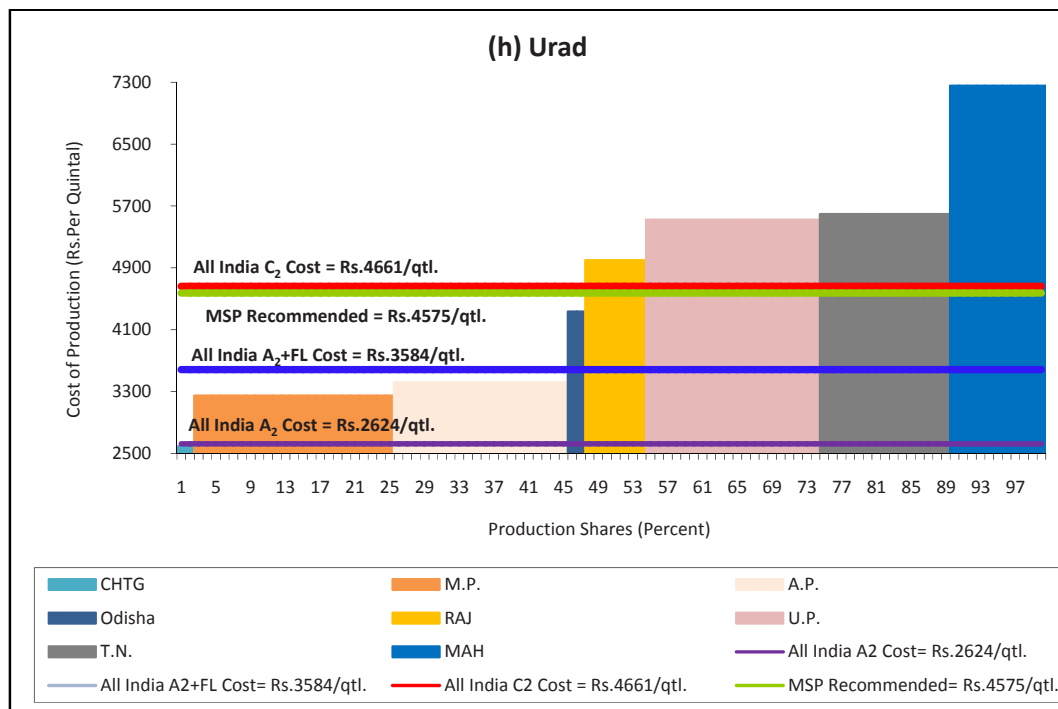
Price Policy for Kharif Crops



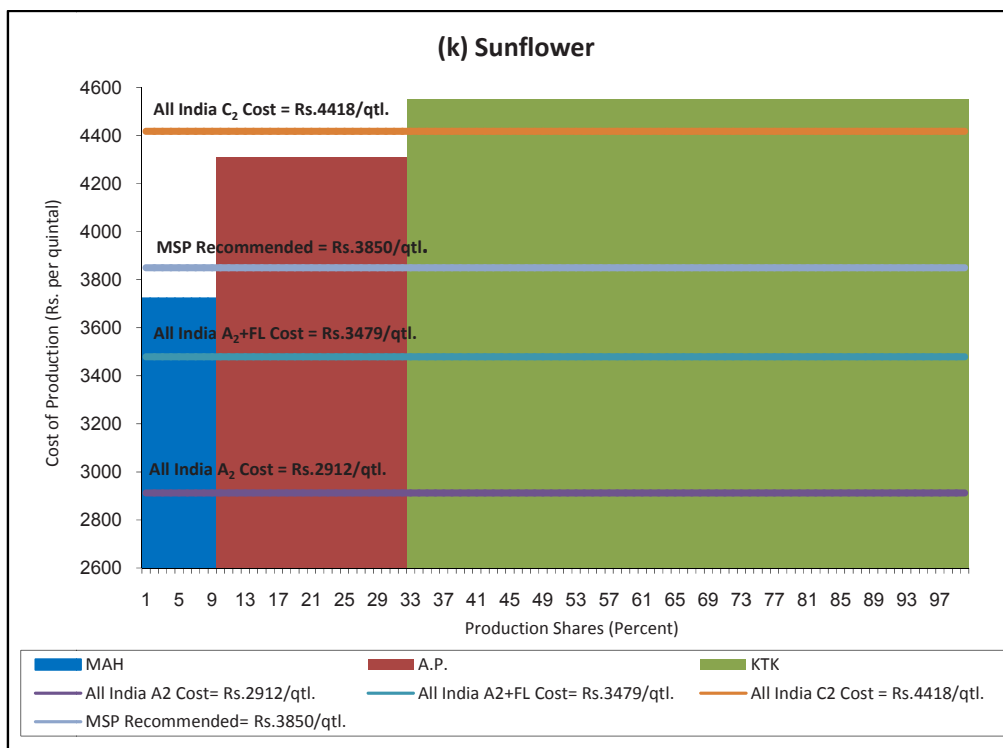
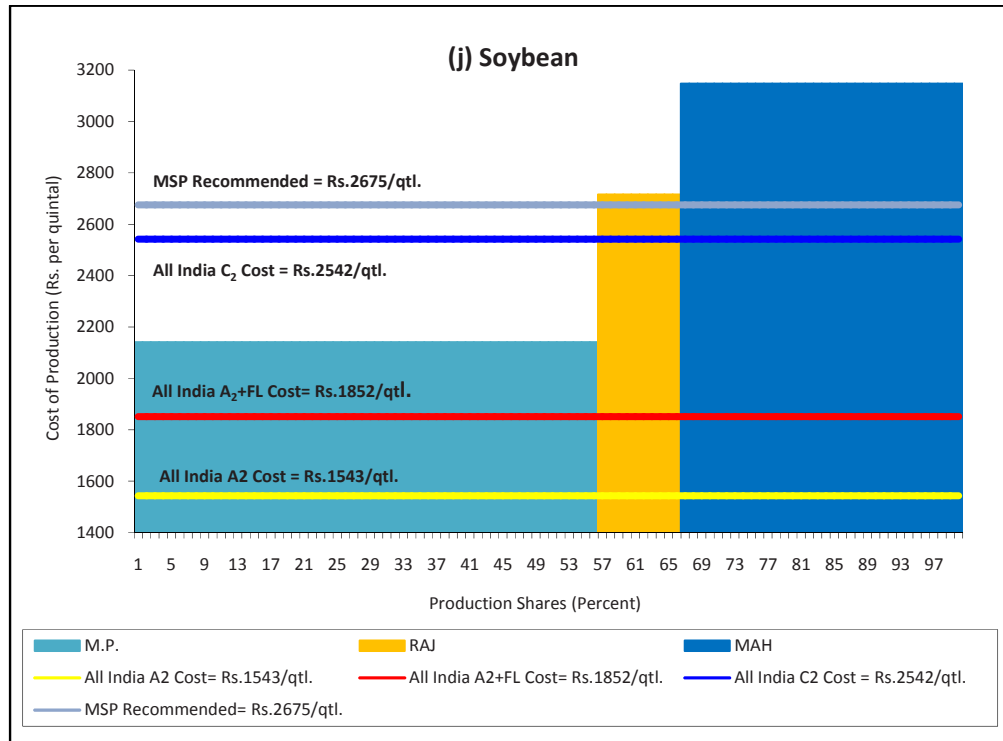
Costs, Returns and Inter-Crop Price Parity

Price Policy for Kharif Crops

Costs, Returns and Inter-Crop Price Parity



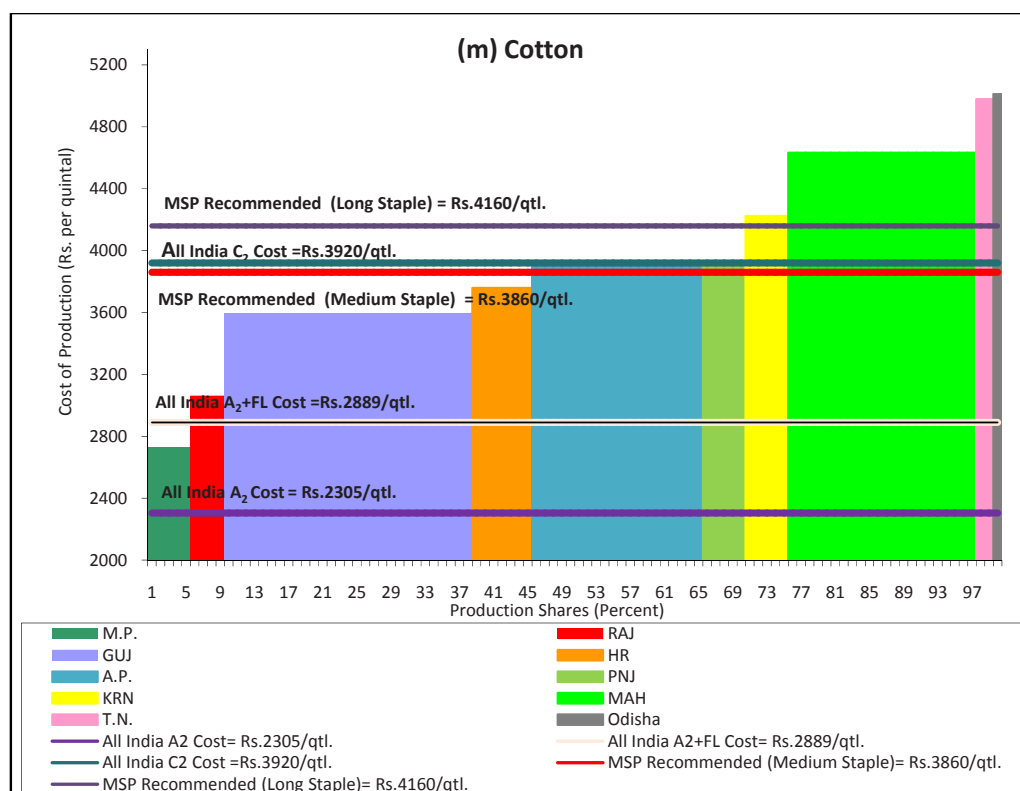
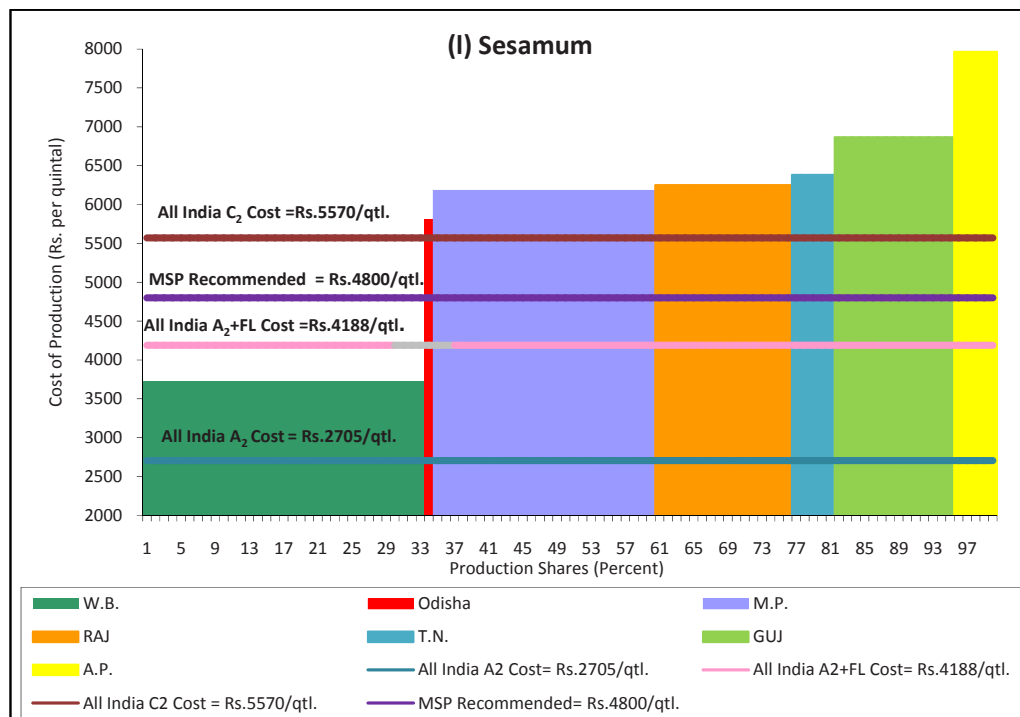
Price Policy for Kharif Crops



Costs, Returns and Inter-Crop Price Parity

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Costs, Returns and Inter-Crop Price Parity



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Inter-Crop Price Parity

5.11 Inter-crop price parity being one of the factors for determination of MSP, per hectare returns of different kharif crops that are substitutes for each other are computed. Table 5.4 outlines relative returns over A_2 , A_2+FL and C_2 in percent terms for various kharif crops in reference to that of paddy. It is observed that relative gross returns over cost A_2 for all kharif crops vary in the range of 32 percent in nigerseed to 133 percent in cotton. It is found that the relative gross returns over A_2+FL for all crops except arhar (tur), groundnut and cotton are low as compared to paddy. Out of all the kharif crops, the ratio of net returns is maximum for cotton at 168, whereas it is minimum for ragi at (-)115.

Table 5.4: Crop-wise Relative Returns (Percent), TE 2013-14

Sl. No.	Crops	Relative Gross Returns over A_2 with respect to paddy	Relative Gross Returns over A_2+FL with respect to paddy	Relative Net Returns with respect to paddy
(1)	(2)	(3)	(4)	(5)
A. Cereals:				
1	Paddy	100	100	100
2	Maize	68	59	23
3	Jowar	44	41	-16
4	Bajra	43	27	-10
5	Ragi	37	10	-115
B. Pulses:				
6	Arhar (Tur)	96	105	139
7	Moong	37	30	13
8	Urad	43	40	20
C. Oilseeds:				
9	Groundnut	106	113	109
10	Soybean	67	78	110
11	Sunflower	33	31	-7
12	Sesamum	66	67	112
13	Nigerseed	32	16	-24
D. Commercial Crop:				
14	Cotton	133	144	168

Source: CACP Calculations.

Terms of Trade

5.12 The Terms of Trade (ToT) between agricultural and non-agricultural sectors refers to the ratio of prices farmers receive for their produce to what they pay for goods and services purchased. A Working Group on ToT, set up by the Ministry of

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Agriculture & Farmers Welfare (MoA&FW), has submitted its report on 29th Jan., 2015. The recommendations given by the Working Group are under consideration. ToT movements are considerably influenced by global agri-commodity prices. As global prices rose, MSPs were raised to align with them. This led to improvement in ToT. The ratio of agricultural prices to non-agricultural prices as calculated from the WPI improved substantially from 100.8 in 2005-06 to 164 in 2015-16 (with base year 2004-05=100). However, the estimates computed by the Working Group indicates that the ToT have not improved much during the time period 2008-09 to 2010-11. In fact, it has deteriorated moderately after the year 2010-11 (Economic Survey 2014-15, p.18).

Recapitulation

- 5.13 To sum up, the pricing policy is not rooted in the 'cost plus' exercise, though cost is one of its important determinants. Given the time lag of about two to three years in the availability of data from field levels to DES, the Commission by constructing CIPI projects A_2+FL and C_2 cost per quintal for paddy, jowar, bajra, maize, ragi, arhar, moong, urad, groundnut, soybean, sunflower, sesamum, nigerseed and cotton for the ensuing 2016-17 kharif season. The percentage change in the all-India projected A_2+FL cost varies in the range of 0.1 percent for arhar (tur) to 7.0 percent for nigerseed and C_2 cost varies in the range of 1.0 percent for arhar (tur) to 7.4 percent for sunflower in 2016-17 over 2015-16 for all 14 kharif crops (details in Annex Table 5.7).



Chapter 6

Considerations and Recommendations for Price Policy

- 6.1 The Commission is mandated to take into account the cost of production, overall demand-supply, domestic and international prices, inter-crop price parity, terms of trade between agricultural and non-agricultural sectors, the likely impact of the price policy on the rest of the economy, besides ensuring rational utilization of production resources like land and water while recommending Minimum Support Prices (MSPs).

Procurement Efficiency

- 6.2 Procurement of rice in Assam was almost negligible during TE 2014-15, even though it contributed 4.7 percent to the total rice production. The procurement share of West Bengal is only 5.3 percent though marketed surplus share is 12 percent. Similar is the case in Bihar and West Bengal. As against this Punjab procured 24.9 percent of rice against its marketed surplus share of 13 percent during the corresponding period. The perpetual skewedness in the procurement for different states raises the issue of equity which needs to be addressed urgently to achieve the objective of the instrument of pricing policy.
- 6.3 The total kharif oilseeds production is 17.6 million tonnes and import of edible oils during 2014-15 was 12.7 million tonnes, valued at Rs.64,894 crores. In order to increase the domestic availability, area under oilseeds needs to be expanded along with enhancing its productivity. On the contrary, there is low level of procurement of kharif oilseeds by NAFED. To promote crop diversification, pulses and oilseeds deserve priority and the government must ensure robust procurement operations for them along with a dynamic trade policy.

Negotiable Warehouse Receipt System

- 6.4 Negotiable Warehouse Receipt System (NWRS) currently under WRDA should be promoted as an instrument to provide leverage to the farmers against price fluctuation in the market. In the long run, the NWRS can also supplement the

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procurement operations by FCI. In the absence of sufficient number of WRDA approved godowns, loan against local godown receipts of the produce can be explored as an alternative mechanism to provide price support to the farmers. The Commission recommends that a mechanism involving commercial banks, co-operative banks and primary co-operative societies accepting godown receipts as collaterals may be set up.

Stocking of Food Grains

- 6.5 FCI is still continuing with the traditional storage methods which need to be phased out and storage methods of contemporary times need to be adopted for minimum storage losses. Madhya Pradesh has taken a lead in this direction and is building steel silos. Foodgrains can be stored safely in these silos for 3 years and no gunny bags are required. The Commission recommends that other states should also take the initiative of building such silos for better grain management. FCI should also modernize all the storage spaces for safe storage and movement of grains.

Right to Sell at MSP

- 6.6 The benefits of MSP bypass a large section of farmers, reducing the effectiveness of pricing policy and procurement operations. This calls for giving wide publicity about MSP and procurement agencies in regional electronic and print media at least 15 days before the procurement starts so as to reach out to farmers in far off areas. Furthermore, to instill confidence among farmers for procurement of their produce, a legislation conferring on farmers the right to sell at MSP may be brought out.

National Agriculture Market

- 6.7 In order to provide better market opportunities to Indian farmers, the Government has recently approved the creation of a pan India electronic trade portal that will integrate 585 APMC markets across the country. The prices of commodity vary a great deal depending upon quality and grading of the produce. Also inter-state variation in the rates of taxes, levies and commissions add to the price differential across the states, even for a commodity of the same grade. Hence, there is a need to improve the standardization of the grading norms according to the quality differences, so that a consistent price structure is set for a particular grade in all the markets.

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Direct Fertilizer Subsidy to Farmers

- 6.8 The Commission is of the opinion that farmers be given direct cash subsidy for fertilizers. This Direct Benefit Transfer (DBT) for input subsidies, particularly of fertilizers on per hectare basis, may help target the beneficiaries and ensure regional equity in distribution of the subsidy. This policy shift will go a long way to help those who take loans from money lenders at exorbitant interest rates to buy fertilizers and other inputs, thus relieving some of their distress. However, for direct benefit transfer a system to identify the real beneficiary has to be put in place. As such this scheme can be effective only after complete computerization of land records in the states.

Crop Insurance

- 6.9 Pradhan Mantri Fasal Bima Yojana (PMFBY) is a new crop insurance scheme which will be implemented from Kharif 2016-17. The premium rates in this Scheme (PMFBY) are 2.0 percent for Kharif crops and 1.5 percent for Rabi crops. However, to make the Scheme effective and successful, wide dissemination of timely information among farmers is necessary. The Commission recommends that for the Scheme to be successful, required technology for transparent crop assessment and financial infrastructure for direct and timely payment of compensation to farmers' account need to be put in place.

Water Productivity

- 6.10 In view of the large quantity of water consumed in the production of paddy, it is imperative to augment the water productivity. Subsidizing electricity for agriculture as is the case in some states, leads to its over use. The Commission in its previous report recommended metering electricity/water for their efficient use and reward farmers through cash incentive equivalent to unused units of water/power at the rates of their domestic resource costs. The Commission reiterates upon fixing certain ceiling in order to encourage the farmers to adopt water efficient practices like drip and sprinkler irrigation.

Benchmark Districts: Improving Land Productivity

- 6.11 The efficiency gaps in productivity levels of various crops in India and best performing states are quite substantial as compared to the benchmark countries. Similarly, the efficiency gaps are very high between the low and high

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productivity states in the country. Therefore, these low productivity districts mostly concentrated in the state of UP, Bihar and Chhattisgarh which have high potential should be focused for yield gains. Similar regions can also be identified and targeted for increasing the productivity of pulses and oilseeds. In addition, pulses can also be grown on rice fallow land in eastern India and also as a summer crop in cereal cropping systems.

Rationalization of Statutory Levies /Taxes on Procurement

- 6.12 The statutory levies imposed by the states are linked to the MSP which is hardly justifiable. Andhra Pradesh, Chhattisgarh, Punjab, Haryana and Odisha which taken together account for 80 percent of the total procurement have realized Rs.37,453 crore from levies and taxes on procurement of paddy during 2005-06 to 2015-16. Out of this Rs. 19,411 crore (51.8 percent) has been realized on account of rise in MSP alone. The Commission is of the considered opinion that there is no justification for increasing the taxes with the increase in MSP as such increases in MSP are for compensating the farmers for increase in the cost. The Commission, therefore, recommends that statutory levies should be delinked from MSP and states should levy the taxes at the level of MSP fixed for KMS 2015-16 (for the purpose of taxation only) and should not increase the levies with the increase in MSP for next five years.

Farm Mechanization

- 6.13 The scarcity of labour in agriculture can be addressed by emphasizing farm mechanization which will reduce the cost of production and also increase income of the farmers. In view of high cost of farm machinery, a feasible way to promote farm mechanization is promotion of "Custom Hiring Model" as being implemented in some states like Karnataka, and practiced by private service providers in Punjab and Haryana.

Price Policy for Kharif Crops

MSPs recommended for KMS 2016-17

6.14 Taking its terms of reference into consideration, the Commission recommends the MSPs for 14 Kharif crops for the KMS 2016-17 as given in the Table 6.1. It may be noted that, the production covered at C_2 cost is 51 percent in case of paddy, 65 percent in case of cotton, 75 percent in case of maize, 44 percent in case of arhar (tur), 74 percent in case of groundnut and 56 percent in case of soybean. The production covered at MSP over C_2 cost are 75 percent in case of paddy common, 80 percent in case of paddy grade A, 70 percent in case of cotton (long staple), 45 percent in case of cotton (medium staple), 76 percent in case of maize, 85 percent in case of arhar (tur), 55 percent in case of groundnut and 56 percent in case of soybean.

Incentivising Efficiency: Linking MSP of Sunflower Seeds with Oil Content

6.15 There are variations in oil content of different varieties of sunflower and therefore a uniform MSP may not be desirable. Therefore, the Commission is of the opinion that farmers be incentivized for higher oil content. On the basis of detailed discussions held with various stakeholders such as sunflower cultivators, processors and scientists of ICAR, the Commission recommends that MSP of sunflower be linked to the basic oil content of 35 percent in sunflower seeds. According to CACP's calculations, just and fair reward to farmers would be an additional Rs.14.63/qtl for every 0.25 percent point increase in oil content beyond this level. The Commission also recommends that such a dispensation of linking MSP with oil content in other oilseeds where variation in oil content is high, may be introduced in a phased manner to incentivize the farmers to adopt high oil content varieties and thereby increase production of edible oils in the country.

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**Table 6.1: Recommended MSPs of Kharif Crops
(KMS 2016-17) and their Justification**

(Rs./qtl)

Sl. No.	Crops	Projected Costs Crop Season 2016-17			Average Prices, 2015-16 (Oct-Dec)		MSP for KMS		MSP Recommended for the KMS 2016-17	Gross Margins over (A ₂ +FL) w.r.t MSP 2016-17 being recommended (Percent)	Justification
		A ₂	A ₂ +FL	C ₂	Domestic	Inter- national	2014- 15	2015- 16			
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
1a	Paddy Common	791	1045	1378	1541	1586 \$	1360 (3.8)	1410 (3.7)	1470 (4.3)	40.67	Excessive stocks with FCI and comfortable SUR.
1b	Paddy Grade A	-	-	-	-	-	1400 (4.1)	1450 (3.6)	1510 (4.1)	-	Recommended MSP fully covers projected cost.
2a	Jowar- Hybrid	1171	1501	1992	1898	1162	1530 (2.0)	1570 (2.6)	1625 (3.5)	8.26	Yield levels in Jowar are low. Recommended MSP fully covers projected A ₂ +FL cost
2b	Jowar- Maldandi	-	-	-	-	-	1550 (2.0)	1590 (2.9)	1650 (3.8)	-	Recommended MSP fully covers projected A ₂ +FL cost
3	Bajra	549	925	1218	1380	-	1250 (0.0)	1275 (2.0)	1330 (4.3)	43.78	Recommended MSP fully covers projected cost.
4	Ragi	1211	1733	2150	1942	-	1550 (3.3)	1650 (6.5)	1725 (4.5)	-0.46	Recommended MSP covers projected A ₂ +FL in Karnataka which contributes to 72 percent of production.

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Sl. No.	Crops	Projected Costs Crop Season 2016-17			Average Prices, 2015-16 (Oct-Dec)		MSP for KMS		MSP Recommended for the KMS 2016-17	Gross Margins over (A ₂ +FL) w.r.t MSP 2016-17 being recommended (Percent)	Justification
		A ₂	A ₂ +FL	C ₂	Domestic	Inter- national	2014- 15	2015- 16			
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
5	Maize	709	966	1286	1445	1234	1310 (0.0)	1325 (1.1)	1365 (3.0)	41.30	Recommended MSP fully covers projected cost.
6	Arhar (Tur)	2405	3241	4314	8384	9802	4350 (1.2)	4425 (1.7)	4625 (4.5)	42.70	Market prices are very high. Recommended MSP fully covers projected cost.
7	Moong	2821	4065	5191	8264	7442	4600 (2.2)	4650 (1.1)	4800 (3.2)	18.08	To keep inter- crop parity within kharif pulses.
8	Urad	2624	3584	4661	9643	11828	4350 (1.2)	4425 (1.7)	4575 (3.4)	27.65	
9	Groundnut	2695	3371	4300	4384	2636	4000 (0.0)	4030 (0.8)	4120 (2.2)	22.22	Domestic prices high. Recommended MSP much above projected A ₂ +FL cost.
10	Sunflower Seed	2912	3479	4418	3504	3110	3750 (1.4)	3800 (1.3)	3850*(1.3)	10.66	Both domestic and international prices are low. Recommended MSP fully covers projected A ₂ +FL cost.

Considerations and Recommendations for Price Policy

Price Policy for Kharif Crops

Considerations and Recommendations for Price Policy

Sl. No.	Crops	Projected Costs Crop Season 2016-17			Average Prices, 2015-16 (Oct-Dec)		MSP for KMS		MSP Recommended for the KMS 2016-17	Gross Margins over (A ₂ +FL) w.r.t MSP 2016-17 being recommended (Percent)	Justification
		A ₂	A ₂ +FL	C ₂	Domestic	Inter- national	2014- 15	2015- 16			
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
11	Soybean (Yellow)	1543	1852	2542	3526	2452	2560 (0.0)	2600 (1.6)	2675 (2.9)	44.44	Recommended MSP fully covers projected cost.
12	Sesamum	2705	4188	5570	6280	-	4600 (2.2)	4700 (2.2)	4800 (2.1)	14.61	Recommended MSP much above projected A ₂ +FL cost.
13	Nigerseed	1629	3366	4320	7500	-	3600 (2.9)	3650 (1.4)	3725 (2.1)	10.67	Recommended MSP fully covers projected A ₂ +FL cost.
14a	Cotton (Medium Staple)	-	-	-	4311	4192	3750 (1.4)	3800 (1.3)	3860 (1.6)	-	Comfortable Stock to Use Ratio and both domestic as well as international prices ruling above MSP. Hence nominal increase in MSP is recommended.
14b	Cotton (Long Staple)	2305	2889	3920	4311	4192	4050 (1.3)	4100 (1.2)	4160 (1.5)	43.99	

\$ International price of paddy has been estimated by applying ratio of domestic prices of paddy to that of rice on international price of rice.

* Corresponding to oil content of 35 percent.

Note: Figures in parentheses represents increase in MSP over previous year.

Price Policy for Kharif Crops

- 6.16 In order to implement this policy here is a need to install suitable instrument at procurement centres/mandis to test oil content of every consignment and arrive at the price of sunflower based on such test reports (percent oil content), in a calibrated manner. These apparatus take a shorter time to give the result and measure oil content in a sample with a precision upto two decimal places. The Commission, therefore, recommends installation of oil content measurement apparatus in every procurement Centre of NAFED/mandi. This will induce oilseeds farmers to adopt modern technology and better farming practices.
- 6.17 The Commission is of the considered opinion that these non-price and price policy recommendations would steer farmers and agro producers to adopt better technologies and earn better returns. It would also contribute to diversification of the crops in line with emerging demand patterns of the consumers and will go a long way in putting the crop husbandry on a higher trajectory of growth.

(Dr. Suresh Pal)
Chairman

(D.S. Raghu)
Member (Non-Official)

(Kaibalya Pradhan)
Member (Non-Official)

(Dr. Shailja Sharma)
Member Secretary

30th March, 2016



Annex Tables

Price Policy for Kharif Crops

Annex Table 1.1 : All India Estimates of Area of Agricultural Commodities

(Million hectares)

S. No.	Crops		2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16*
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
1	Rice	Kharif	40.81	37.62	38.05	40.14	38.91	39.45	39.83	39.47
		Rabi	4.73	4.30	4.81	3.87	3.84	4.69	4.28	3.94
		Total	45.54	41.92	42.86	44.01	42.75	44.14	44.11	43.42
2	Wheat	Rabi	27.75	28.46	29.07	29.86	30.00	30.47	31.47	29.09
3	Barley	Rabi	0.71	0.62	0.71	0.64	0.70	0.67	0.71	0.70
4	Jowar	Kharif	2.89	3.24	3.07	2.62	2.43	2.28	2.27	2.08
		Rabi	4.64	4.55	4.31	3.63	3.79	3.52	3.89	3.66
		Total	7.53	7.79	7.38	6.25	6.21	5.79	6.16	5.74
5	Bajra	Kharif	8.75	8.90	9.61	8.78	7.30	7.81	7.32	7.03
6	Maize	Kharif	6.89	7.06	7.28	7.38	7.21	7.31	7.56	7.08
		Rabi	1.28	1.20	1.27	1.40	1.46	1.76	1.62	1.33
		Total	8.17	8.26	8.55	8.78	8.67	9.07	9.19	8.41
7	Ragi	Kharif	1.38	1.27	1.29	1.18	1.13	1.19	1.21	1.15
	Coarse Cereals	Kharif	20.83	21.31	22.05	20.75	18.82	19.27	18.95	17.95
		Rabi	6.62	6.37	6.29	5.67	5.94	5.95	6.22	5.69
		Total	27.45	27.68	28.34	26.42	24.76	25.22	25.17	23.63
	Cereals	Kharif	61.64	58.92	60.10	60.89	57.73	58.72	58.78	57.42
		Rabi	39.10	39.13	40.17	39.40	39.78	41.11	41.97	38.72
		Total	100.74	98.05	100.27	100.29	97.52	99.83	100.75	96.14
8	Tur (Arhar)	Kharif	3.38	3.47	4.37	4.01	3.89	3.90	3.85	3.80
9	Moong	Kharif	2.24	2.46	2.85	2.61	1.97	2.34	2.03	2.68
		Rabi	0.60	0.63	0.76	0.78	0.74	1.04	0.99	1.05
		Total	2.84	3.07	3.51	3.39	2.72	3.38	3.02	3.73
10	Urad	Kharif	2.02	2.23	2.51	2.36	2.44	2.35	2.49	2.68
		Rabi	0.65	0.73	0.74	0.86	0.69	0.72	0.76	0.92
		Total	2.67	2.96	3.25	3.22	3.13	3.06	3.25	3.59
11	Gram	Rabi	7.89	8.17	9.19	8.30	8.52	9.93	8.25	8.47

Contd.

Price Policy for Kharif Crops

Annex Table 1.1 : All India Estimates of Area of Agricultural Commodities

(Million hectares)

S. No.	Crops		2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16*
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
12	Lentil (Masur)	Rabi	1.38	1.48	1.60	1.56	1.42	1.34	-	-
	Pulses	Kharif	9.81	10.58	12.32	11.19	9.95	10.33	9.99	11.20
		Rabi	12.29	12.70	14.08	13.27	13.30	14.88	13.56	13.70
		Total	22.09	23.28	26.40	24.46	23.26	25.21	23.55	24.89
	Foodgrains	Kharif	71.45	69.51	72.42	72.08	67.69	69.05	68.77	68.62
		Rabi	51.39	51.83	54.25	52.67	53.09	55.99	55.53	52.42
		Total	122.83	121.33	126.67	124.75	120.78	125.04	124.30	121.03
	Groundnut	Kharif	5.29	4.62	4.98	4.32	3.93	4.65	4.01	3.71
13		Rabi	0.88	0.86	0.88	0.95	0.79	0.86	0.76	0.74
		Total	6.16	5.48	5.86	5.26	4.72	5.51	4.77	4.45
14	Soybean	Kharif	9.51	9.73	9.60	10.11	10.84	11.72	10.91	11.69
	Sunflower	Kharif	0.66	0.57	0.32	0.26	0.30	0.25	0.22	0.15
15		Rabi	1.15	0.91	0.61	0.47	0.53	0.42	0.37	0.37
		Total	1.81	1.48	0.93	0.73	0.83	0.67	0.59	0.52
16	Sesamum	Kharif	1.81	1.94	2.08	1.90	1.71	1.68	1.75	1.95
17	Nigerseed	Kharif	0.39	0.38	0.37	0.36	0.31	0.30	0.23	0.26
18	Rapeseed/ Mustard	Rabi	6.30	5.59	6.90	5.89	6.36	6.65	5.80	5.81
19	Safflower	Rabi	0.29	0.29	0.24	0.25	0.18	0.18	0.17	0.17
	Nine Oilseeds	Kharif	18.53	17.97	18.23	18.42	18.32	19.65	18.21	18.77
		Rabi	9.03	7.99	9.00	7.89	8.16	8.40	7.39	7.37
		Total	27.56	25.96	27.22	26.31	26.48	28.05	25.60	26.14
20	Cotton		9.41	10.13	11.24	12.18	11.98	11.96	12.82	11.86
	Jute		0.79	0.81	0.77	0.81	0.78	0.76	0.75	0.69
	Mesta		0.12	0.09	0.10	0.10	0.09	0.08	0.06	0.05
21	Jute & Mesta		0.90	0.91	0.87	0.90	0.86	0.84	0.81	0.74
22	Sugarcane		4.42	4.17	4.88	5.04	5.00	4.99	5.07	4.94

* : Second Advance Estimates (2015-16)

Source : Directorate of Economics & Statistics

Price Policy for Kharif Crops

Annex Table 1.2 : All India Estimates of Production of Agricultural Commodities

(Million tonnes)

S. No.	Crops		2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16*
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
1	Rice	Kharif	84.91	75.92	80.65	92.78	92.37	91.50	91.39	90.59
		Rabi	14.27	13.18	15.33	12.52	12.87	15.15	14.09	13.02
		Total	99.18	89.09	95.98	105.30	105.24	106.65	105.48	103.61
2	Wheat	Rabi	80.68	80.80	86.87	94.88	93.51	95.85	86.53	93.82
3	Barley	Rabi	1.69	1.35	1.66	1.62	1.75	1.83	1.61	1.71
4	Jowar	Kharif	3.05	2.76	3.44	3.29	2.84	2.39	2.30	2.04
		Rabi	4.19	3.94	3.56	2.69	2.44	3.15	3.15	2.99
		Total	7.25	6.70	7.00	5.98	5.28	5.54	5.45	5.03
5	Bajra	Kharif	8.89	6.51	10.37	10.28	8.74	9.25	9.18	8.47
6	Maize	Kharif	14.12	12.29	16.64	16.49	16.20	17.14	17.01	15.59
		Rabi	5.61	4.43	5.09	5.27	6.05	7.11	7.16	5.41
		Total	19.73	16.72	21.73	21.76	22.26	24.26	24.17	21.00
7	Ragi	Kharif	2.04	1.89	2.19	1.93	1.57	1.98	2.06	1.76
	Coarse Cereals	Kharif	28.54	23.83	33.08	32.44	29.80	31.20	30.94	28.29
		Rabi	11.49	9.72	10.32	9.58	10.25	12.09	11.92	10.11
		Total	40.04	33.55	43.40	42.01	40.04	43.29	42.86	38.40
	Cereals	Kharif	113.49	99.78	113.77	125.22	122.16	122.70	122.34	118.88
		Rabi	106.40	103.65	112.48	116.98	116.63	123.09	112.53	116.95
		Total	219.89	203.44	226.24	242.20	238.78	245.79	234.87	235.83
8	Tur (Arhar)	Kharif	2.27	2.46	2.86	2.65	3.02	3.17	2.81	2.55
9	Moong	Kharif	0.78	0.44	1.53	1.24	0.79	0.96	0.87	0.96
		Rabi	0.26	0.25	0.27	0.40	0.40	0.65	0.64	0.59
		Total	1.03	0.69	1.80	1.63	1.19	1.61	1.50	1.55
10	Urad	Kharif	0.84	0.81	1.40	1.23	1.43	1.15	1.28	1.11
		Rabi	0.33	0.43	0.36	0.53	0.47	0.55	0.68	0.64
		Total	1.17	1.24	1.76	1.77	1.90	1.70	1.96	1.74
11	Gram	Rabi	7.06	7.48	8.22	7.70	8.83	9.53	7.33	8.09
12	Lentil (Masur)	Rabi	0.95	1.03	0.94	1.06	1.13	1.02	-	-
	Pulses	Kharif	4.69	4.20	7.12	6.06	5.92	5.99	5.73	5.36
		Rabi	9.88	10.46	11.12	11.03	12.43	13.25	11.42	11.97
		Total	14.57	14.66	18.24	17.09	18.34	19.25	17.15	17.33

Contd.

Price Policy for Kharif Crops

Annex Table 1.2 : All India Estimates of Production of Agricultural Commodities

(Million tonnes)

S. No.	Crops		2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16*
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
	Foodgrains	Kharif	118.14	103.95	120.85	131.27	128.07	128.69	128.06	124.24
		Rabi	116.33	114.15	123.64	128.01	129.06	136.35	123.96	128.92
		Total	234.47	218.11	244.49	259.29	257.13	265.04	252.02	253.16
	Groundnut	Kharif	5.62	3.85	6.64	5.13	3.19	8.06	5.93	5.73
13		Rabi	1.55	1.58	1.62	1.84	1.51	1.66	1.47	1.45
		Total	7.17	5.43	8.26	6.96	4.69	9.71	7.40	7.18
14	Soybean	Kharif	9.91	9.96	12.74	12.21	14.67	11.86	10.37	9.13
	Sunflower	Kharif	0.36	0.21	0.19	0.15	0.19	0.15	0.11	0.07
15		Rabi	0.80	0.64	0.46	0.37	0.36	0.35	0.32	0.27
		Total	1.16	0.85	0.65	0.52	0.54	0.50	0.43	0.34
16	Sesamum	Kharif	0.64	0.59	0.89	0.81	0.69	0.71	0.83	0.83
17	Nigerseed	Kharif	0.12	0.10	0.11	0.10	0.10	0.10	0.08	0.08
18	Rapeseed/ Mustard	Rabi	7.20	6.61	8.18	6.60	8.03	7.88	6.28	6.83
19	Safflower	Rabi	0.19	0.18	0.15	0.15	0.11	0.11	0.09	0.08
	Nine Oilseeds	Kharif	17.81	15.73	21.92	20.69	20.79	22.61	19.19	17.57
		Rabi	9.91	9.15	10.56	9.11	10.15	10.14	8.32	8.77
		Total	27.72	24.88	32.48	29.80	30.94	32.75	27.51	26.34
20	Cotton\$		29.00	30.50	33.90	35.50	37.00	39.80	38.00	36.50
	Cotton\$\$		22.28	24.02	33.00	35.20	34.22	35.90	34.81	30.69
	Jute#		9.63	11.23	10.01	10.74	10.34	11.08	10.62	9.89
	Mesta#		0.73	0.59	0.61	0.66	0.59	0.61	0.51	0.51
21	Jute & Mesta#		10.37	11.82	10.62	11.40	10.93	11.69	11.13	10.40
22	Sugarcane		285.03	292.30	342.38	361.04	341.20	352.14	362.33	346.39

* : Second Advance Estimates (2015-16)

\$: CAB estimates of Million bales of 170 kgs each

\$\$: E&S estimates of Million bales of 170 kgs each

: Million bales of 180 kgs each

Source : Directorate of Economics & Statistics, Cotton Advisory Board.

Price Policy for Kharif Crops

Annex Table 1.3 : All India Estimates of Yield of Agricultural Commodities

(Kgs per hectare)

S. No.	Crops		2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16*
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
1	Rice	Kharif	2081	2018	2120	2311	2374	2319	2295	2295
		Rabi	3019	3064	3185	3238	3353	3232	3291	3302
		Total	2178	2125	2239	2393	2462	2416	2391	2386
2	Wheat	Rabi	2907	2839	2989	3177	3117	3145	2750	3225
3	Barley	Rabi	2394	2172	2357	2516	2521	2718	2280	2447
4	Jowar	Kharif	1055	853	1119	1257	1171	1050	1014	981
		Rabi	904	865	827	741	644	896	808	818
		Total	962	860	949	957	850	957	884	877
5	Bajra	Kharif	1015	731	1079	1171	1198	1184	1255	1205
6	Maize	Kharif	2048	1740	2285	2234	2246	2346	2249	2203
		Rabi	4387	3694	4003	3765	4152	4050	4414	4066
		Total	2414	2024	2540	2478	2566	2676	2632	2498
7	Ragi	Kharif	1477	1489	1705	1641	1396	1661	1706	1528
	Coarse Cereals	Kharif	1371	1119	1500	1563	1583	1619	1633	1576
		Rabi	1735	1525	1641	1689	1725	2034	1915	1778
		Total	1459	1212	1531	1590	1617	1717	1703	1625
	Cereals	Kharif	1841	1693	1893	2056	2116	2089	2081	2070
		Rabi	2721	2649	2800	2969	2931	2995	2681	3021
		Total	2183	2075	2256	2415	2449	2462	2331	2453
8	Tur (Arhar)	Kharif	671	711	655	662	776	813	729	672
9	Moong	Kharif	348	180	538	475	398	410	428	357
		Rabi	423	397	354	508	539	620	640	567
		Total	364	226	514	483	436	475	498	416
10	Urad	Kharif	419	363	557	523	586	490	516	414
		Rabi	506	587	489	621	679	768	891	693
		Total	440	418	542	549	606	555	604	485
11	Gram	Rabi	895	915	895	928	1036	960	889	955
12	Lentil (Masur)	Rabi	693	697	591	678	797	758	-	-
	Pulses	Kharif	478	397	578	541	594	580	573	479
		Rabi	804	823	790	831	934	891	842	874
		Total	659	630	691	699	789	763	728	696

Contd.

Price Policy for Kharif Crops

Annex Table 1.3 : All India Estimates of Yield of Agricultural Commodities

(Kgs per hectare)

S. No.	Crops		2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16*
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
	Foodgrains	Kharif	1654	1496	1669	1821	1892	1864	1862	1811
		Rabi	2264	2203	2279	2430	2431	2435	2232	2459
		Total	1909	1798	1930	2078	2129	2120	2028	2092
13	Groundnut	Kharif	1063	835	1335	1188	811	1735	1478	1546
		Rabi	1764	1830	1846	1938	1908	1926	1948	1960
		Total	1163	991	1411	1323	994	1764	1552	1615
14	Soybean	Kharif	1041	1024	1327	1208	1353	1012	951	781
15	Sunflower	Kharif	540	378	608	566	622	621	512	457
		Rabi	696	700	748	783	674	826	866	717
		Total	639	576	701	706	655	750	736	643
16	Sesamum	Kharif	354	303	429	426	402	426	474	426
17	Nigerseed	Kharif	297	266	290	269	325	328	328	309
18	Rapeseed/ Mustard	Rabi	1143	1183	1185	1121	1262	1185	1083	1176
19	Safflower	Rabi	642	621	617	580	591	638	515	459
	Nine Oilseeds	Kharif	961	875	1203	1123	1135	1151	1054	936
		Rabi	1097	1146	1174	1155	1244	1207	1126	1191
		Total	1006	958	1193	1133	1168	1168	1075	1008
20	Cotton \$		524	512	513	496	525	566	504	523
	Cotton \$\$		403	403	499	491	486	510	462	440
	Jute		2207	2492	2329	2389	2396	2639	2549	2598
	Mesta		1141	1122	1115	1248	1237	1338	1525	1723
21	Jute & Mesta		2071	2349	2192	2268	2281	2512	2473	2535
22	Sugarcane		64553	70020	70091	71667	68254	70520	71512	70052

* : Second Advance Estimates (2015-16)

\$: CAB estimates

\$\$: E&S estimates

Source : Directorate of Economics & Statistics, Ministry of Agriculture

Price Policy for Kharif Crops

Annex Table 1.4 : Share of Kharif Crops (under MSP) in Total Production, TE 2015-16

S. No.	Crops	AP + Telan	Assam	Bihar	Chhatt	Guj	Har	H.P	J&K	Jhar	Kar	Kerala	M. P	Maha	Odisha	Punjab	Raj	T.N	U. P	UK	W.B	Others	Total
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)	(23)	(24)
1	Rice	11.3	4.8	5.7	6.1	1.6	3.9	0.1	0.5	3.0	3.3	0.6	3.2	2.7	6.9	10.8	0.3	5.3	12.5	0.6	14.6	2.3	100.0
2	Jowar	7.7	-	0.0	0.1	2.9	0.6	-	0.0	0.0	21.9	0.0	7.2	39.2	0.1	-	7.8	9.3	3.0	-	0.0	0.1	100.0
3	Bajra	0.7	-	0.0	0.0	10.2	8.0	0.0	0.1	0.0	2.7	-	5.0	6.4	0.0	0.0	44.9	1.6	20.3	-	0.0	0.1	100.0
4	Maize	18.0	0.3	8.8	1.0	2.6	0.1	2.7	2.0	2.0	16.8	0.0	8.8	9.4	0.8	2.0	6.5	8.2	5.5	0.2	2.7	1.6	100.0
5	Ragi	2.0	-	0.4	0.1	0.8	-	0.1	0.2	0.5	61.7	0.0	0.2	6.1	1.9	-	-	17.2	-	7.9	0.6	0.2	100.0
6	Tur	7.8	0.2	1.1	1.2	7.8	0.4	0.0	-	6.6	15.6	0.0	16.7	27.2	4.3	0.1	0.3	2.2	8.0	0.1	0.1	0.3	100.0
7	Urad	17.9	1.8	0.8	1.7	2.6	0.1	0.2	0.2	4.5	1.6	-	19.0	7.2	1.3	0.1	5.5	16.5	14.9	0.6	3.2	0.5	100.0
8	Moong	12.4	0.5	6.5	0.3	5.3	0.9	0.0	0.0	0.7	4.0	-	8.4	7.9	5.6	2.2	30.4	9.7	3.0	-	2.1	0.2	100.0
9	Groundnut	12.3	-	0.0	0.5	44.6	0.1	0.0	0.0	0.3	6.0	0.0	4.1	4.3	0.9	0.0	12.2	11.3	1.0	0.0	2.4	0.1	100.0
10	Sesamum	3.6	1.1	0.3	0.8	13.3	0.1	0.1	0.2	0.3	2.9	0.0	22.0	0.8	0.7	0.2	12.4	4.7	8.6	0.0	26.8	1.0	100.0
11	Nigerseed	4.4	5.1	-	13.8	5.1	-	-	-	1.9	3.2	-	27.5	7.5	28.1	-	-	-	-	-	3.3	0.1	100.0
12	Soybean	2.9	-	-	0.8	0.4	-	0.0	-	0.0	2.1	0.0	52.6	30.6	0.0	-	9.7	-	0.2	0.2	0.0	0.4	100.0
13	Sunflower	15.7	-	3.5	0.0	0.0	6.4	-	-	0.1	47.1	-	-	7.4	6.4	4.7	-	2.8	1.1	-	4.4	0.4	100.0
14	Cotton	19.6	-	-	-	30.4	6.2	-	-	-	5.8	-	5.0	21.5	1.1	4.7	3.8	1.6	-	-	-	0.3	100.0

Source : Directorate of Economics & Statistics

Price Policy for Kharif Crops

Annex Table 2.1 : Balance Sheet of Kharif Crops, 2013-14 to 2015-16

S. No.	Particulars	Rice			Total Pulses			Arhar/Tur			Cotton		
		(in Million Tonnes)			(in Million Tonnes)			(in Million Tonnes)			(Million bales of 170 Kg each)		
		2013-14	2014-15	2015-16	2013-14	2014-15	2015-16	2013-14	2014-15	2015-16	2013-14	2014-15	2015-16
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
1	Opening Stocks ^	31.51	21.24	16.58	1.96	1.70	1.46	0.30	0.53	0.50	4.00	3.20	5.10
2	Production	106.65	105.48	103.61	19.25	17.15	17.33	3.17	2.81	2.55	39.80	38.00	36.50
3	Imports*	0.00	0.00	0.00	3.53	4.57	4.50	0.46	0.57	0.40	1.08	1.44	1.20
4	Total Supply (1+2+3)	138.16	126.72	120.19	24.74	23.42	23.29	3.93	3.91	3.45	44.88	42.64	42.80
5	Exports*	10.90	11.98	11.00	0.34	0.22	0.22	0.00	0.00	0.00	11.79	5.77	6.80
6	Consumption\$	106.02	98.16	100.50	22.71	21.74	21.95	3.40	3.41	3.30	29.89	31.77	32.30
7	Total Use (5+6)	116.92	110.14	111.50	23.05	21.96	22.17	3.40	3.41	3.30	41.68	37.54	39.10
8	Ending Stock (4-7)	21.24	16.58	8.69	1.70	1.46	1.12	0.53	0.50	0.15	3.20	5.10	3.70
9	Stock to Use Ratio (%) (8/7)	18.16	15.05	7.79	7.37	6.65	5.05	15.59	14.66	4.55	7.68	13.59	9.46

Note: ^ Opening stock of Rice (1st July) is as per DFPD and Opening stock of Maize & Total Pulses is taken from NCAER.

* Export & import are as per DGCIIS and projected for 2015-16

\$ Consumption figures are from NCAER and adjusted according to the opening stock of DFPD

Sources : i. NCAER, DES, DFPD, NAFED and DGCIIS-Kolkata

ii. Office of The Textile Commissioner (Cotton)

Price Policy for Kharif Crops

Annex Table 2.2 : Procurement as Percentage of Production of Kharif Crops

(Million Tonnes, Percent)

S. No.	Parameter	Rice			Coarse Grains			Arhar/Tur			Urad			Moong		
		2013-14	2014-15	2015-16	2013-14	2014-15	2015-16	2013-14	2014-15	2015-16	2013-14	2014-15	2015-16	2013-14	2014-15	2015-16
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)
1	Production#	106.65	105.48	103.61	43.29	42.86	38.40	3.17	2.81	2.55	1.70	1.96	1.74	1.61	1.5	1.55
2	Procurement*	31.86	32.04	37.95	1.23	0.47	1.04	0.04	0.00	0.04	0.00	0.00	0.00	0.00	0.00	0.00
3	% Procurement	29.88	30.38	36.63	2.84	1.09	2.71	1.38	0.05	1.57	0.27	0.00	0.00	0.02	0.00	0.00
4	Stocks with FCI (as on 1st July)	31.51	21.24	15.90	0.04	1.20	0.14									
5	Storage capacity with FCI (Rice and Wheat as on 1st July)	39.18	38.74	37.30												
6	Storage capacity with States (Rice and Wheat as on 1st July)	37.69	37.55	38.13												
7	Total Storage capacity (Rice and Wheat as on 1st July)	76.87	76.29	75.43												
8	Buffer Stock Norms (as on 1st July)	11.80	11.80	13.54												

S. No.	Parameter	Soybean			Sunflower seed			Groundnut pods			Cotton (DES)*			Cotton (CAB)*		
		2013-14	2014-15	2015-16	2013-14	2014-15	2015-16	2013-14	2014-15	2015-16	2013-14	2014-15	2015-16	2013-14	2014-15	2015-16
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)
1	Production#	11.86	10.37	9.13	0.50	0.43	0.34	9.71	7.40	7.18	35.90	34.81	30.69	39.80	38.00	36.50
2	Procurement*	0.00	0.00	0.00	0.00	0.00	0.00	0.34	0.01	0.00	0.41	2.49	0.82	0.41	2.49	0.82
3	% Procurement	0.00	0.00	0.00	0.87	0.96	1.27	3.51	0.08	0.00	1.14	7.16	2.67	1.03	6.56	2.25

Note : Procurement of Rice and Coarse Grains is projected for 2015-16 (by adding the remaining procurement of last year i.e. after 16.02.2016)
2nd AE for 2015-16

* Million bales of 170 Kg each and procurement of 2015-16 is as on 30.11.2015

NA: Not Available

Source : DES, FCI, NAFED and CCI for procurement of cotton

Price Policy for Kharif Crops

Annex Table 2.3 : Decentralized Procurement Scheme (DCP) States for Rice/Paddy

S. No.	State/UT
(1)	(2)
1	A&N Islands
2	Bihar
3	Chhattisgarh
4	Karnataka
5	Kerala
6	Madhya Pradesh
7	Odisha
8	Tamil Nadu
9	Uttarakhand
10	West Bengal
11	Andhra Pradesh (6 Districts)
12	Telengana (4 Revenue Districts for KMS 2013-14 and all Districts for KMS 2014-15)

Source : FCI

Price Policy for Kharif Crops

Annex Table 2.4 : Possible Savings from Taxes as a Consequence of Delinking MSP from Taxes/ Levies - Paddy

S. No.	Year	MSP (Rs/ qtl)	AP					Chattisgarh					Punjab				
			Tax Rate (Percent)	Procurement (Million Tonnes)	Total Taxes Realised (Rs.Cr)	Taxes at MSP of 2005-06 level (Rs Cr)	Savings {Col.(7) - Col.(6)} (Rs. Crore)	Tax Rate (Percent)	Procurement (Million Tonnes)	Total Taxes Realised (Rs.Cr)	Taxes at MSP of 2005-06 level (Rs Cr)	Savings {Col.(7) - Col.(6)} (Rs. Crore)	Tax Rate (Percent)	Procurement (Million Tonnes)	Total Taxes Realised (Rs.Cr)	Taxes at MSP of 2005-06 level (Rs Cr)	Savings {Col.(7) - Col.(6)} (Rs. Crore)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)
1	2005-06	570	4.00	7.46	170.04	170.04	0.00	0.00	4.90	0.00	0.00	0.00	4.00	13.30	303.18	303.18	0.00
2	2006-07	580	4.00	7.99	185.45	182.25	3.20	0.00	4.30	0.00	0.00	0.00	4.00	11.74	272.45	267.75	4.70
3	2007-08	645	4.00	11.40	294.00	259.82	34.19	0.00	4.11	0.00	0.00	0.00	4.00	11.97	308.86	272.95	35.91
4	2008-09	850	11.50	13.59	1328.13	890.63	437.50	6.20	4.27	225.13	150.97	74.16	11.50	12.83	1254.23	841.07	413.16
5	2009-10	1000	11.50	11.33	1303.24	742.85	560.39	6.20	5.04	312.20	177.95	134.25	12.50	13.91	1739.06	991.27	747.80
6	2010-11	1000	12.50	14.41	1801.69	1026.96	774.73	6.20	5.62	348.38	198.58	149.80	12.50	12.95	1618.98	922.82	696.16
7	2011-12	1080	12.50	11.31	1527.26	806.05	721.20	6.20	6.17	413.33	218.15	195.18	14.50	11.60	1816.09	958.49	857.60
8	2012-13	1250	12.50	9.71	1516.72	691.62	825.10	6.20	7.21	558.47	254.66	303.81	14.50	12.84	2326.59	1060.93	1265.67
9	2013-14	1310	11.00	5.61	807.88	351.52	456.36	7.20	6.44	606.95	264.09	342.86	14.50	12.16	2309.56	1004.92	1304.64
10	2014-15	1360	11.00	5.39	806.94	338.20	468.74	7.20	5.13	502.72	210.70	292.02	14.50	11.68	2303.10	965.27	1337.83
11	2015-16*	1410	13.22	3.67	683.54	276.32	407.21	9.59	5.96	805.63	325.68	479.95	14.50	14.03	2867.62	1159.25	1708.37
Total				102	10425	5736	4689		59	3773	1801	1972		139	17120	8748	8372

Contd.

Price Policy for Kharif Crops

Annex Table 2.4 : Possible Savings from Taxes as a Consequence of Delinking MSP from Taxes/Levies - Paddy

S. No.	Year	MSP (Rs/qttl)	Haryana				Odisha					
			Tax Rate (Percent)/#	Procurement (Million Tonnes)	Total Taxes Realised (Rs.Cr)	Taxes at MSP of 2005-06 level (Rs Cr)	Savings {Col. (7) - Col.(6)} (Rs. Crore)	Tax Rate (Percent)	Procurement (Million Tonnes)	Total Taxes Realised (Rs.Cr)	Taxes at MSP of 2005-06 level (Rs Cr)	Savings {Col.(7) - Col.(6)} (Rs. Crore)
(1)	(2)	(3)	(19)	(20)	(21)	(22)	(23)	(24)	(25)	(26)	(27)	(28)
1	2005-06	570	4.00	3.08	70.25	70.25	0.00	3.00	2.68	45.79	45.79	0.00
2	2006-07	580	4.00	2.67	61.84	60.77	1.07	4.00	3.00	69.67	68.47	1.20
3	2007-08	645	4.00	2.36	60.91	53.83	7.08	4.00	3.54	91.22	80.61	10.61
4	2008-09	850	10.50	2.14	190.77	127.93	62.84	5.00	4.20	178.56	119.74	58.82
5	2009-10	1000	10.50	2.73	286.49	163.30	123.19	6.50	3.75	243.46	138.77	104.69
6	2010-11	1000	10.50	2.53	265.76	151.48	114.28	6.50	3.70	240.34	136.99	103.35
7	2011-12	1080	11.50	3.01	373.88	197.32	176.55	4.00	4.30	185.72	98.02	87.70
8	2012-13	1250	11.50	3.91	562.61	256.55	306.06	4.00	5.42	271.00	123.58	147.43
9	2013-14	1310	11.50	3.61	543.61	236.53	307.08	5.00	4.23	277.05	120.55	156.50
10	2014-15	1360	11.50	3.02	472.64	198.09	274.55	11.89	5.04	814.34	341.30	473.04
11	2015-16*	1410	11.50	4.29	695.62	281.21	414.41	9.22	2.53	328.64	132.86	195.79
Total				33	3584	1797	1787		42	2746	1407	1339

Note : * : Procurement is as on 16.02.2016 (AP exclude Telangana from 2013-14 onwards)

: VAT introduced w.e.f. 1.4.2003 on sale within Haryana

Tax Free in Chattisgarh during 2005-06 to 2007-08.

Source : FCI and DFPD

Price Policy for Kharif Crops

**Annex Table 2.5(a) : States/Centres with Prices of Kharif Crops Below MSP During 2015-16
Marketing Season (DES)**

(Rs per quintal)

S. No.	State	Centre	MSP	Month		
				Oct	Nov	Dec
(1)	(2)	(3)	(4)	(5)	(6)	(7)
A-Paddy			1410			
1	Andhra Pd.	Nizamabad				
2	Assam	Dibrugarh		1300	1200	1200
3	Bihar	Darbhanga				950
4	Chhattisgarh	Raipur		1237	1242	1243
5	Karnataka	Raichur		1269	1340	1281
6	Madhya Pd.	Bhopal		1310		
		Waraseoni		1100	1300	1300
7	Maharashtra	Gondia		1217	1389	
8	Uttar Pd.	Basti		1395		
		Gorakhpur		1395		
		Lakhimpur		1310	1300	
		Shahjahanpur		1050	1350	1400
9	West Bengal	Contai		1150		1050
B-Jowar			1570			
1	Rajasthan	Jaipur		1500		1513
2	Uttar Pd.	Bahraich		1350	1370	1380
C-Bajra			1275			
1	Gujarat	Patan		1260		
2	Rajasthan	Jaipur		1250		
3	Uttar Pd.	Hathras		1110	1175	
		Agra		1250	1250	1230
D-Maize			1325			
1	Madhya Pd.	Jhabua		1175	1150	1210
2	Maharashtra	Jalgaon				1200
3	Uttar Pd.	Kanpur		1285		
E-Ragi			1650			
1	Andhra Pd.	Vizianagram		1600	1600	
F-Groundnut			4030			
1	Gujarat	Rajkot		3680	4015	
G-Sunflower seed			3800			
1	Karnataka	Raichur		3477	3533	3501
2	Tamil Nadu	Virdhunagar		3200	3500	
H-Cotton			3800			
1	Tamil Nadu	Virudhunagar			3000	3300

Source : Directorate of Economics & Statistics

Price Policy for Kharif Crops

**Annex Table 2.5(b) : States/Centres with Prices of Kharif Crops Below MSP During 2015-16
Marketing Season (State Replies)**

(Rs per quintal)

S. No.	State	Centre	MSP	Month		
				Oct	Nov	Dec
(1)	(2)	(3)	(4)	(5)	(6)	(7)
A-Paddy			1410			
1	Chhattisgarh	Raipur		1161		
		Durg		1265		
		Dhamtari		1250		
		Rajnandgaon		1310		
		Bilaspur		1225		
2	Gujarat	Salal		1283		
3	Jharkhand	Bokaro		1360	1400	1400
		Ranchi		1325	1380	1400
		Dhanbad		1340	1380	1400
		Hazaribagh		1325	1360	1400
4	Rajasthan	Hanumangarh		1332		
		Pilibanga		1408		
5	Uttar Pd.	Etawah		1272		
		Sultanpur		1341		
		Pratapgarh		1320		
		Gonda		1271		
		Barabanki		1350		
B-Jowar			1570			
1	Gujarat	Palanpur		1563		
2	Rajasthan	Kota		1357		
		Jaipur		1520		
3	Uttar Pd.	Barabanki		1350		
C-Bajra			1275			
1	Gujarat	Himmatnagar		1253		
2	Rajasthan	Bandikui		1225		
		Dausa		1254		
		Nawalgarh		1225		
3	Uttar Pd.	Etawah		1085		
		Aligarh		1105		
		Mathura		1134		
		Badaun		1150		
D-Maize			1325			
1	Chhattisgarh	Rajnandgaon		1300		
2	Jharkhand	Ranchi		1300		
		Hazaribagh		1300		
3	Uttar Pd.	Etawah		1278		
		Gonda		1267		
		Barabanki		1283		
		Mainpuri		1283		
E-Groundnut			4030			
1	Raiasthan	Niwai		3732		

Source : State Replies

Price Policy for Kharif Crops

Annex Table 3.1: Benchmarking of Productivity Levels across Countries and States in India

S. No	Crop	Yield (Tonnes/ha)	Benchmarking States	Benchmarking Countries TE 2014	Efficiency gap in India's Yield level w.r.t benchmark Country (%)	Efficiency gap in India's Yield level w.r.t benchmark State (%)
(1)	(2)	(3)	(4)	(5)	(6)	(7)
1	Paddy	3.63	Punjab (5.9, 10.6%), Haryana (4.8, 3.8%), AP* (4.6, 11.3%), TN (4.5, 4.8%)	USA (8.5, 1.3%), China (6.7, 27.8%), Japan (6.7, 1.4%), Vietnam (5.7, 6.0%), India (3.6, 21.4%)	57.2	38.3
2	Arhar	0.77	Bihar (1.8, 1.2%), Gujarat (1.1, 7.9%), Jharkhand (1.0, 6.7%), TN (1.0, 1.8%)	Malawi (1.3, 6.2%), Myanmar (0.9, 12.8%), Tanzania (0.9, 5.3%), Haiti (0.8, 2.0%), India (0.7, 67.4%)	39.2	56.0
3	Groundnut	1.45	TN (2.6, 12.0%), WB (2.5, 2.5%), Raj (1.9, 11.6%), Gujarat (1.9, 39.9%)	USA (4.6, 5.7%), China (3.6, 38.5%), Argentina (2.6, 2.2%), Indonesia (2.2, 2.7%), India (1.4, 16.1%)	68.1	44.0
4	Cotton	0.52	TN (0.8, 1.4%), Gujarat (0.7, 30.5%), Rajasthan (0.7, 4.3%), Haryana (0.7, 6.6%)	Australia (1.8, 3.6%), Turkey (1.6, 3.0%), China (1.5, 25.2%), Brazil (1.2, 5.5%), India (0.5, 24.5%)	71.8	35.6
5	Soybean	1.10	Maharashtra (1.1, 32.0%), Raj (1.1, 9.2%), MP (1.1, 52.6%)	USA (3.0, 34.1%), Canada (2.9, 2.0%), Brazil (2.8, 28.3%), Argentina (2.5, 17.2%), India (1.1, 4.5%)	62.8	3.1
6	Maize	2.63	TN (5.1, 7.2%), WB (4.1, 2.3%), AP* (4.1, 16.7%), Punjab (3.7, 2.0%)	USA (9.5, 33.9%), Canada (9.4, 1.3%), Argentina (6.5, 3.1%), France (6.0, 1.1%), India (2.6, 2.4%)	72.3	49.0
7	Jowar	0.90	MP (1.7, 8.1%), AP* (1.7, 7.6%), Guj (1.4, 2.9%), TN (1.3, 6.9%)	Egypt (5.3, 1.2%), China (4.7, 4.4%), Argentina (4.4, 5.9%), Mexico (3.9, 11.3%), USA (3.7, 14.1%), India (0.9, 8.7%)	83.2	48.6
8	Sunflower	0.71	Haryana (2.2, 4.7%), Punjab (1.8, 3.9%), TN (1.4, 2.7%), AP* (0.8, 17.3%)	China (2.6, 5.8%), Serbia (2.5, 1.1%), Hungary (2.4, 3.6%), Turkey (2.4, 3.7%), India (0.7, 1.2%)	72.6	68.1

Note: 1. Figures in parentheses indicate yield (Tonnes/ha.) and share of production (%) respectively (Col 4 & Col 5).

2. Countries & States with less than 1% share in total production have not been considered.

3. *Including Telangana

Source: 1. Collated from FAO, CAB and DES

2. DES figures for TE 2014-15 (Column 3).

Price Policy for Kharif Crops

Annex Table 3.2(a): District-wise Productivity Levels of Arhar, TE 2015-16

S. No	Yield Band (Qtl/ha)	Gujarat*		Karnataka		MP*		Maharashtra	
		Area (%)	No. of Distts.	Area (%)	No. of Distts.	Area (%)	No. of Distts.	Area (%)	No. of Distts.
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
1	0-5	-	-	6.3	2	30.9	6	27.1	6
2	5-10	48.0	4	86.9	6	26.3	13	65.5	12
3	10-15	29.1	3	-	-	20.5	6	-	-
4	15-20	11.8	2	-	-	10.1	2	-	-
Summary Indicators of Land Productivity	Total Area ('000 ha)	217		754		505		1130	
	Max Yield (Qtl/ha)	19.12		7.76		19.50		9.57	
	Top 3 distts. In descending order of Yields	Panchmahal, Surat and Dahod		Davanagere, Gulbarga and Chitradurga		Singroli, Chhindwara and Morena		Jalgaon, Amravati and Latur	
	Area under top 3 distts (%) (highest yield levels)	17.8		47.7		11.2		20.2	
	Average Yield (Qtl/ha)	10.95		5.89		7.88		6.85	
	Efficiency Gap (%)	43		24		60		28	

Note: Districts with less than 1% share in total production of the state have not been considered.

*Data are for TE 2014-15.

Efficiency Gap = $(1 - \text{Actual Yield} / \text{Maximum Yield}) * 100$

Source: State Governments and DES

Price Policy for Kharif Crops

Annex Table 3.2 (b): District-wise Productivity Levels of Groundnut, TE 2015-16

S. No	Yield Band (Qtl/ha)	A.P.		MP*		Gujarat*		Rajasthan	
		Area (%)	No. of Distts.	Area (%)	No. of Distts.	Area (%)	No. of Distts.	Area (%)	No. of Distts.
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
1	5-10	66.4	1	4.2	1	-	-	2.9	1
2	10-15	30.5	3	36.7	10	-	-	9.4	3
3	15-20	1.5	2	45.8	3	64.8	7	20.5	5
4	Above 20	1.2	2	9.6	1	25.9	3	61.0	4
Summary Indicators of Land Productivity	Total Area ('000 ha)	1009		215		1510		493	
	Max Yield (Qtl/ha)	40.34		20.52		23.62		25.91	
	Top 3 distts. In descending order of Yields	Nellore, Prakasham and Srikakulam		Chhindwara, Shivpuri and Khandwa		Junagadh, Kutch and Surendranagar		Bikaner, Hanumangarh and Churu	
	Area under top 3 distts (%) (highest yield levels)	1.9		53.9		25.9		42.3	
	Average Yield (Qtl/ha)	8.32		15.63		19.20		19.96	
	Efficiency Gap (%)	79		24		19		23	

Note: Districts with less than 1% share in total production of the state have not been considered.

*Data are for TE 2014-15.

Efficiency Gap = $(1 - \text{Actual Yield} / \text{Maximum Yield}) * 100$

Source: State Governments and DES

Price Policy for Kharif Crops

Annex Table 3.2(c): District-wise Productivity Levels of Soybean, TE 2015-16

S.No	Yield Band (Qtl/ha)	Maharashtra		MP*		Rajasthan	
		Area (%)	No. of Distts.	Area (%)	No. of Distts.	Area (%)	No. of Distts.
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
1	Below 10	71.1	14	27.4	9	71.4	5
2	10-15	22.7	5	55.4	14	27.4	4
3	15-20	3.0	2	6.9	2	-	-
4	Above 20	1.3	1	-	-	-	-
Summary Indicators of Land Productivity	Total Area ('000 ha)	3645		5973		1101	
	Max Yield (Qtl/ha)	25.91		15.30		11.46	
	Top 3 distts. in descending order of Yields	Kolhapur, Satara and Sangli		Chhindwara, Dhar and Ashoknagar		Chittor, Pratapgarh and Durgapur	
	Area under top 3 distts (%) (highest yield levels)	4.3		9.3		26.3	
	Average Yield (Qtl/ha)	8.79		10.82		9.17	
	Efficiency Gap (%)	66		29		20	

Note: Districts with less than 1% share in total production of the state have not been considered.

* Data are for TE 2014-15.

Efficiency Gap = $(1 - \text{Actual Yield} / \text{Maximum Yield}) * 100$

Source: State Governments and DES

Price Policy for Kharif Crops

Annex Table 3.3 : Simulation-Impact of Oil Content on MSP of Sunflower

S. No.	Oil Content (%)	Oil Cake(%) {100- col(2)}	Realisation from oil cake on processing of 1 quintal of oilseeds, assuming price of cake/ q= Rs. 2450 {col(3)*Price of Oil cake}/100	Cost of Oil Content i.e. oilseeds without cake (Rs/ qtl.), assuming MSP/qtl.= Rs. 3850 MSP-Col(4)	Cost of Oil Content i.e. oilseeds without cake for each 0.25 percent point of oil content (Rs/ qtl.) {col(5)/ col(2)}*0.25	MSP at Oil Content given in col.(2) [MSP+{Average of col.(6)* percent points of oil content that is over & above 35%}]/ (0.25)
(1)	(2)	(3)	(4)	(5)	(6)	(7)
1	35.00	65.00	1593	2258	16.13	3850
2	35.25	64.75	1586	2264	16.05	3865
3	35.50	64.50	1580	2270	15.98	3879
4	35.75	64.25	1574	2276	15.92	3894
5	36.00	64.00	1568	2282	15.85	3909
6	36.25	63.75	1562	2288	15.78	3923
7	36.50	63.50	1556	2294	15.71	3938
8	36.75	63.25	1550	2300	15.65	3952
9	37.00	63.00	1544	2307	15.58	3967
10	37.25	62.75	1537	2313	15.52	3982
11	37.50	62.50	1531	2319	15.46	3996
12	37.75	62.25	1525	2325	15.40	4011
13	38.00	62.00	1519	2331	15.34	4026
14	38.25	61.75	1513	2337	15.28	4040
15	38.50	61.50	1507	2343	15.22	4055
16	38.75	61.25	1501	2349	15.16	4069
17	39.00	61.00	1495	2356	15.10	4084
18	39.25	60.75	1488	2362	15.04	4099
19	39.50	60.50	1482	2368	14.99	4113
20	39.75	60.25	1476	2374	14.93	4128
21	40.00	60.00	1470	2380	14.88	4143
22	40.25	59.75	1464	2386	14.82	4157
23	40.50	59.50	1458	2392	14.77	4172
24	40.75	59.25	1452	2398	14.71	4187
25	41.00	59.00	1446	2405	14.66	4201
26	41.25	58.75	1439	2411	14.61	4216
27	41.50	58.50	1433	2417	14.56	4230
28	41.75	58.25	1427	2423	14.51	4245
29	42.00	58.00	1421	2429	14.46	4260
30	42.25	57.75	1415	2435	14.41	4274
31	42.50	57.50	1409	2441	14.36	4289
32	42.75	57.25	1403	2447	14.31	4304

Contd.

Price Policy for Kharif Crops

Annex Table 3.3 : Simulation-Impact of Oil Content on MSP of Sunflower

S. No.	Oil Content (%)	Oil Cake(%) {100- col(2)}	Realisation from oil cake on processing of 1 quintal of oilseeds, assuming price of cake/ q= Rs. 2450 {col(3)*Price of Oil cake}/100	Cost of Oil Content i.e. oilseeds without cake (Rs/ qtl.), assuming MSP/qtl.= Rs. 3850 MSP-Col(4)	Cost of Oil Content i.e. oilseeds without cake for each 0.25 percent point of oil content (Rs/ qtl.) {col(5)/ col(2)}*0.25	MSP at Oil Content given in col.(2) [MSP+{Average of col.(6)* percent points of oil content that is over & above 35%}]/ (0.25)
(1)	(2)	(3)	(4)	(5)	(6)	(7)
33	43.00	57.00	1397	2454	14.26	4318
34	43.25	56.75	1390	2460	14.22	4333
35	43.50	56.50	1384	2466	14.17	4347
36	43.75	56.25	1378	2472	14.13	4362
37	44.00	56.00	1372	2478	14.08	4377
38	44.25	55.75	1366	2484	14.03	4391
39	44.50	55.50	1360	2490	13.99	4406
40	44.75	55.25	1354	2496	13.95	4421
41	45.00	55.00	1348	2503	13.90	4435
42	45.25	54.75	1341	2509	13.86	4450
43	45.50	54.50	1335	2515	13.82	4465
44	45.75	54.25	1329	2521	13.78	4479
45	46.00	54.00	1323	2527	13.73	4494
46	46.25	53.75	1317	2533	13.69	4508
47	46.50	53.50	1311	2539	13.65	4523
48	46.75	53.25	1305	2545	13.61	4538
49	47.00	53.00	1299	2552	13.57	4552
50	47.25	52.75	1292	2558	13.53	4567
51	47.50	52.50	1286	2564	13.49	4582
52	47.75	52.25	1280	2570	13.45	4596
53	48.00	52.00	1274	2576	13.42	4611
Average increase in MSP with 0.25 percent increase in oil content					14.63	

Price Policy for Kharif Crops

Annex Table 3.4: Drivers of Productivity of Major Kharif Crops

S. No	Crop	Elasticities					
		Gross Returns in preceding year at constant prices (2013-14=100)	Fertiliser (Quantity)	Seed (Quantity)	% Area Irrigated	Monsoon Rainfall	Manure
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
1	Paddy	0.11	0.23		0.20		0.10
2	Maize	0.12	0.64			0.21	
3	Bajra	0.08	0.44				
4	Jowar		0.47				0.13
5	Arhar				0.11	0.29	
6	Moong	0.08	0.20				
7	Urad	0.20	0.10	0.34			
8	Groundnut	0.13	0.24				0.19
9	Sesamum		0.16		0.22		
10	Soybean		0.19		0.07		0.19
11	Sunflower		0.52				
12	Cotton	0.15	0.44		0.17		

Note: The elasticities are statistically significant at 95% level of confidence.

Blank cells either indicate that the corresponding variable was not found appropriate to explain variability in yield levels or relevant data was not available.

Price Policy for Kharif Crops

Annex Table 4.1 : Quarterly Domestic and International Prices of Kharif Crops

(Rs/Quintal)

S. No.	Quarter	Paddy			Maize		Jowar		Arhar/Tur		Urad		Moong		Cotton	
		D* (others)	D** (E Belt)	I	D	I	D	I	D	I	D	I	D	I	D	I
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)
1	2010 Q4	961	998	1417	1023	1083	1316	936	3373	3073	4487	4348	4719	4613	4139	6111
2	2011 Q1	1005	977	1411	1041	1280	1455	1155	3532	4169	4310	4414	5394	5999	5299	8526
3	2011 Q2	1057	974	1368	1148	1398	1707	1209	3250	3387	4070	4169	4887	5562	3889	7123
4	2011 Q3	1022	960	1632	1123	1383	1995	1316	3208	2781	4055	3910	4621	4387	3926	4894
5	2011 Q4	1040	932	1912	1056	1348	1788	1311	3259	3195	3929	3849	4376	4659	4161	4787
6	2012 Q1	1078	916	1799	1196	1396	1594	1355	3230	3046	3638	3100	4281	4156	4298	4591
7	2012 Q2	1175	934	1950	1203	1457	1628	1242	3426	3413	3649	3169	4484	4441	3848	4425
8	2012 Q3	1289	998	2005	1294	1794	1673	1274	3883	4261	3970	4105	4846	5209	4382	4225
9	2012 Q4	1314	1028	1944	1324	1733	1651	1560	3722	3592	3906	3470	5098	5474	4051	4039
10	2013 Q1	1397	1051	1944	1382	1652	1726	1581	3847	3787	3876	3439	5408	5543	4284	4426
11	2013 Q2	1400	1142	1950	1403	1629	1848	1454	4073	3985	3785	3645	5356	5546	4400	4712
12	2013 Q3	1414	1269	1753	1482	1506	1824	1365	3906	3828	3791	3486	5184	4897	5061	5194
13	2013 Q4	1404	1273	1700	1362	1237	1785	1294	3957	3837	4400	3661	5356	5755	4663	4916
14	2014 Q1	1391	1274	1553	1304	1296	1770	1385	4017	3964	4712	4288	6216	6841	4978	5277
15	2014 Q2	1405	1310	1408	1293	1280	1817	1312	4015	4277	5040	5430	6361	6801	4880	5034
16	2014 Q3	1435	1372	1625	1326	1055	1881	1116	4478	4596	5654	6000	6562	6908	4543	4244
17	2014 Q4	1436	1301	1669	1249	1075	1857	1246	4363	4671	5367	5471	7167	7380	4062	3868
18	2015 Q1	1450	1195	1657	1333	1084	1865	1478	4864	6452	5609	5675	7357	7095	3983	3895
19	2015 Q2	1392	1177	1583	1350	1068	1844	1366	5864	7184	6524	7607	7681	7615	4153	4172
20	2015 Q3	1406	1205	1573	1386	1099	1820	1233	7021	9007	7443	7614	7761	7608	4217	4190
21	2015 Q4	1541	1268	1586	1445	1234	1898	1162	8384	9802	9643	11828	8264	7442	4311	4192

Note : (*) Others include Andhra Pradesh, Chhattisgarh, Gujarat, Maharashtra, Punjab and Tamil Nadu.

(**) Eastern belt includes the states of Bihar, Odisha, East Uttar Pradesh and West Bengal.

Contd.

Price Policy for Kharif Crops

Annex Table 4.1 : Quarterly Domestic and International Prices of Kharif Crops

(Rs/Quintal)

S. No.	Quarter	Soybean		Soybean Oil		Soybean Meal		Groundnut		Groundnut Oil		Sunflower Seed		Sunflower Oil	
		D	I	D	I	D	I	D	I	D	I	D	I	D	I
(1)	(2)	(18)	(19)	(20)	(21)	(22)	(23)	(24)	(25)	(26)	(27)	(28)	(29)	(30)	(31)
1	2010 Q4	2090	2203	5427	5077	1726	1828	3522	2233	7827	7398	2568	3015	6341	6249
2	2011 Q1	2276	2396	6169	5686	1755	1648	3459	2306	7607	7893	2887	3190	6600	6545
3	2011 Q2	2262	2244	6141	5450	1678	1709	3776	2276	8654	7887	2537	3040	6337	6374
4	2011 Q3	2264	2390	6384	5669	1674	1680	3588	2364	9700	9458	2726	2692	6577	6194
5	2011 Q4	2194	2342	6320	5730	1642	1864	3716	3451	8813	10921	2890	2740	6478	6196
6	2012 Q1	2533	2450	6825	5862	2128	2480	4285	3742	10834	10619	2881	2859	6342	6239
7	2012 Q2	3110	2925	7132	6326	3264	3357	4488	4106	12054	12703	3098	3243	6630	6837
8	2012 Q3	3841	3547	7528	6604	3617	2966	4584	4062	12001	13168	3471	3668	7093	7158
9	2012 Q4	3138	3077	6757	5935	2729	2656	4586	4162	11901	11996	3491	3608	6855	6770
10	2013 Q1	3262	2903	6857	5940	3124	2744	4585	3468	12468	10421	3389	3624	7082	6798
11	2013 Q2	3632	2992	6705	5494	3188	3089	4374	3326	11169	9875	3393	3102	6984	6816
12	2013 Q3	3425	3318	6524	5480	3142	3303	3626	3349	9259	11391	3122	2683	7384	6430
13	2013 Q4	3556	3349	6846	5657	3314	3278	3549	3518	8558	10721	3185	2981	6810	6139
14	2014 Q1	3752	3488	6642	5418	3478	3147	3474	3392	7707	8105	3303	3074	6296	5825
15	2014 Q2	4108	3137	6613	5223	4004	2697	3621	2984	7543	7342	3249	2851	5977	5605
16	2014 Q3	3622	2816	6218	4960	3467	2660	4083	2907	7869	8152	3050	2482	5699	5126
17	2014 Q4	3097	2719	6053	4775	2826	2680	3950	2861	8536	8026	2978	2738	5748	5456
18	2015 Q1	3224	2558	6152	4777	2860	2471	4292	3079	9718	9024	3217	2716	5902	5062
19	2015 Q2	3550	2499	5942	4501	3368	2262	4640	3097	9658	9822	2919	2649	6213	5630
20	2015 Q3	3200	2497	5767	4389	2980	2333	4752	3100	10387	10941	3059	2800	6387	5324
21	2015 Q4	3526	2452	6152	4439	3351	2146	4384	2636	9318	8443	3504	3110	6723	5706

Price Policy for Kharif Crops

Annex Table 4.2(a) : India's Agricultural Exports of Major Commodities

(Rs. 000 Crore)

Sl. No.	Commodity	2014-15 (Apr-Dec)	2015-16 (Apr-Dec)	Percent increase/ decrease over previous year
(1)	(2)	(3)	(4)	(5)
1	Rice	35.6	28.7	(-)19.4
2	Marine Products	27.0	24.5	(-)9.0
3	Meat & Processed Meat	23.6	21.3	(-)10.0
4	Spices	11.2	12.0	7.1
5	Cotton (Raw)	8.2	8.8	7.1
6	Sugar	3.7	6.1	65.8
7	Oilseeds	8.1	5.8	(-)27.6
8	Cashew	4.2	3.8	(-)8.1
9	Oil Meals	5.8	2.8	(-)50.7
10	Guargum Meal	7.9	2.7	(-)65.7
11	Other Cereals	4.5	1.2	(-)72.2
12	Wheat	4.7	0.9	(-)81.5
13	Others	42.2	45.9	8.8
	Total	186.7	164.5	(-)11.9

Source : DGCIS

Price Policy for Kharif Crops

Annex Table 4.2(b) : India's Agricultural Imports of Major Commodities

(Rs. 000 Crore)

Sl. No.	Commodity	2014-15 (Apr-Dec)	2015-16 (Apr-Dec)	Percent increase/decrease over previous year
(1)	(2)	(3)	(4)	(5)
1	Vegetable Oils	50.3	52.5	4.5
2	Pulses	13.3	19.2	44.3
3	Wood & Wood Products	13.6	13.2	(-)2.3
4	Fresh Fruits	7.3	8.6	18
5	Cashew	5.5	7.4	35.4
6	Spices	3.2	3.8	20.7
7	Natural Rubber	4.1	3.7	(-)8.7
8	Sugar	3.2	2.8	(-)13.5
9	Cotton (Raw)	2.7	2.1	(-)21.8
10	Others	9.7	11.4	17.5
	Total	112.9	124.7	10.5

Source : DGCIS

Price Policy for Kharif Crops

Annex Table 5.1 : State-wise Gross and Net returns of Kharif crops, TE 2013-14

S. No.	Crop/State	Cost A ₂	Cost A ₂ +FL	Cost C ₂	GVO	Gross Returns over A ₂		Gross Returns over A ₂ +FL		Net Returns	
		Rs./ha.				Rs./ha. (Col.6-Col.3)	Percent (Col.7/Col.3*100)	Rs./ha. (Col.6-Col.4)	Percent (Col.9/Col.4*100)	Rs./ha. (Col.6-Col.5)	Percent (Col.11/Col.5*100)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Paddy											
1	Andhra Pradesh	36219	42466	66088	75060	38841	107	32594	77	8972	14
2	Assam	14864	26722	34783	26375	11510	77	-347	-1	-8409	-24
3	Bihar	17067	23253	30612	28695	11628	68	5443	23	-1917	-6
4	Chhattisgarh	17609	23111	34530	39587	21978	125	16475	71	5056	15
5	Gujarat	27904	32371	43981	59445	31541	113	27074	84	15464	35
6	Haryana	29633	37156	60828	91310	61677	208	54154	146	30482	50
7	Himachal Pradesh	6629	18026	25669	33161	26531	400	15134	84	7491	29
8	Jharkhand	15452	20615	27313	21224	5772	37	610	3	-6089	-22
9	Kerala	41468	44212	60976	82521	41053	99	38310	87	21545	35
10	Karnataka	36003	42183	60514	78069	42066	117	35886	85	17554	29
11	Madhya Pradesh	16634	22005	35100	45690	29057	175	23685	108	10591	30
12	Maharashtra	30116	39555	51439	52405	22289	74	12850	32	966	2
13	Odisha	20448	34590	42057	47337	26889	131	12747	37	5279	13
14	Punjab	30983	36013	62313	87006	56023	181	50993	142	24692	40
15	Tamilnadu	41939	51030	65757	72156	30216	72	21126	41	6399	10
16	Uttar Pradesh	21563	29522	43024	51255	29692	138	21733	74	8232	19
17	Uttarakhand	23234	33197	42681	45733	22499	97	12537	38	3053	7
18	West Bengal	29528	42171	55350	48910	19382	66	6738	16	-6440	-12
	ALL INDIA	25179	33631	47547	53242	28063	111	19611	58	5696	12

(Continued)

Price Policy for Kharif Crops

Annex Table 5.1 : State-wise Gross and Net returns of Kharif crops, TE 2013-14

S. No.	Crop/State	Cost A ₂	Cost A ₂ + FL	Cost C ₂	GVO	Gross Returns over A ₂		Gross Returns over A ₂ + FL		Net Returns	
		Rs./ha.				Rs./ha. (Col.6- Col.3)	Percent (Col.7/ Col.3*100)	Rs./ha. (Col.6- Col.4)	Percent (Col.9/ Col.4*100)	Rs./ha. (Col.6- Col.5)	Percent (Col.11/ Col.5*100)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Maize											
1	Andhra Pradesh	29710	34418	53543	60637	30928	104	26220	76	7094	13
2	Bihar	17791	22202	29526	40240	22449	126	18038	81	10714	36
3	Chhattisgarh	6181	13879	18747	17167	10986	178	3288	24	-1580	-8
4	Gujarat	19213	26856	32773	25308	6095	32	-1548	-6	-7465	-23
5	Himachal Pradesh	7666	17589	24119	20085	12419	162	2496	14	-4034	-17
6	Karnataka	23686	27719	39266	44424	20738	88	16705	60	5158	13
7	Madhya Pradesh	14171	18678	26896	29178	15008	106	10500	56	2282	8
8	Rajasthan	12869	29127	35803	30035	17166	133	908	3	-5769	-16
9	Tamilnadu	39640	47904	63203	71462	31822	80	23557	49	8259	13
10	Uttar Pradesh	11997	21411	31706	25349	13352	111	3938	18	-6357	-20
	ALL INDIA	18989	26462	36659	37958	18969	100	11497	43	1299	4
Jowar											
1	Andhra Pradesh	17238	22698	33517	35697	18459	107	12999	57	2179	7
2	Karnataka	11267	14332	20807	22627	11360	101	8295	58	1820	9
3	Maharashtra	20456	25228	35290	32855	12399	61	7627	30	-2435	-7
4	Tamilnadu	12078	16624	24054	29345	17268	143	12722	77	5291	22
5	Madhya Pradesh	11311	14555	19731	17895	6584	58	3340	23	-1835	-9
	ALL INDIA	17330	21657	30546	29659	12329	71	8002	37	-887	-3

(Continued)

Price Policy for Kharif Crops

Annex Table 5.1 : State-wise Gross and Net returns of Kharif crops, TE 2013-14

S. No.	Crop/State	Cost A ₂	Cost A ₂ + FL	Cost C ₂	GVO	Gross Returns over A ₂		Gross Returns over A ₂ + FL		Net Returns	
						Rs./ha. (Col.6- Col.3)	Percent (Col.7/ Col.3*100)	Rs./ha. (Col.6- Col.4)	Percent (Col.9/ Col.4*100)	Rs./ha. (Col.6- Col.5)	Percent (Col.11/ Col.5*100)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Bajra											
1	Gujarat	19595	25443	34254	45232	25638	131	19789	78	10978	32
2	Haryana	11046	20766	30210	24411	13365	121	3645	18	-5799	-19
3	Tamilnadu	17612	21936	31144	40195	22583	128	18259	83	9051	29
4	Karnataka	10066	12416	15881	12709	2644	26	294	2	-3172	-20
5	Maharashtra	22532	26841	34995	29318	6786	30	2477	9	-5677	-16
6	Rajasthan	6628	14085	18466	17690	11062	167	3605	26	-776	-4
7	Uttar Pradesh	10408	16927	25247	24376	13968	134	7449	44	-871	-3
	ALL INDIA	10399	17219	23166	22605	12206	117	5386	31	-561	-2
Ragi											
1	Andhra Pradesh	16220	32108	42970	35139	18918	117	3031	9	-7831	-18
2	Karnataka	21019	26944	36385	27926	6907	33	982	4	-8459	-23
3	Tamilnadu	17477	26814	35175	49032	31555	181	22218	83	13857	39
4	Maharashtra	17273	27629	34263	23589	6316	37	-4040	-15	-10674	-31
5	Uttarakhand	14056	30110	35412	31254	17197	122	1144	4	-4158	-12
	ALL INDIA	19340	27575	36188	29616	10276	53	2041	7	-6572	-18
Arhar (Tur)											
1	Andhra Pradesh	18830	24153	35809	33504	14674	78	9350	39	-2305	-6
2	Bihar	8469	7465	15550	28067	19598	231	20601	276	12516	80
3	Gujarat	16119	20851	27805	32916	16797	104	12064	58	5111	18
4	Karnataka	16883	18857	28954	38662	21778	129	19804	105	9707	34
5	Madhya Pradesh	12745	15270	26237	35853	23109	181	20583	135	9617	37
6	Maharashtra	33997	39644	56104	69924	35927	106	30280	76	13820	25
7	Odisha	9760	11632	16678	16827	7067	72	5195	45	149	1
8	Uttar Pradesh	11771	21405	38266	37928	26157	222	16523	77	-338	-1
	ALL INDIA	19508	25902	38593	46505	26997	138	20602	80	7912	21

(Continued)

Price Policy for Kharif Crops

Annex Table 5.1 : State-wise Gross and Net returns of Kharif crops, TE 2013-14

S. No.	Crop/State	Cost A ₂	Cost A ₂ +FL	Cost C ₂	GVO	Gross Returns over A ₂		Gross Returns over A ₂ +FL		Net Returns	
		Rs./ha.				Rs./ha. (Col.6- Col.3)	Percent (Col.7/ Col.3*100)	Rs./ha. (Col.6- Col.4)	Percent (Col.9/ Col.4*100)	Rs./ha. (Col.6- Col.5)	Percent (Col.11/ Col.5*100)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Moong											
1	Andhra Pradesh	10485	13235	22756	29080	18595	177	15845	120	6324	28
2	Karnataka	10451	12704	17613	20815	10364	99	8111	64	3203	18
3	Maharashtra	19564	24614	30718	24845	5282	27	231	1	-5873	-19
4	Odisha	5684	10608	15012	14545	8861	156	3937	37	-467	-3
5	Rajasthan	8313	13867	17794	18798	10484	126	4931	36	1004	6
6	Tamilnadu	13055	15926	20864	25063	12008	92	9137	57	4199	20
	ALL INDIA	10882	15381	20598	21321	10440	96	5940	39	723	4
Urad											
1	Andhra Pradesh	17300	18942	32368	43722	26422	153	24780	131	11354	35
2	Chhattisgarh	4819	12343	18881	24158	19339	401	11815	96	5277	28
3	Madhya Pradesh	9918	13099	19614	23482	13563	137	10383	79	3867	20
4	Maharashtra	17953	22991	27865	21202	3250	18	-1788	-8	-6663	-24
5	Odisha	5154	10384	14166	12135	6982	135	1752	17	-2030	-14
6	Rajasthan	7857	16717	21346	19037	11180	142	2320	14	-2309	-11
7	Tamilnadu	15372	18326	24563	24253	8881	58	5927	32	-310	-1
8	Uttar Pradesh	7675	11890	16421	13660	5985	78	1770	15	-2761	-17
	ALL INDIA	11901	15950	22716	23850	11949	100	7901	50	1134	5

(Continued)

Price Policy for Kharif Crops

Annex Table 5.1 : State-wise Gross and Net returns of Kharif crops, TE 2013-14

S. No.	Crop/State	Cost A ₂	Cost A ₂ +FL	Cost C ₂	GVO	Gross Returns over A ₂		Gross Returns over A ₂ +FL		Net Returns	
						Rs./ha. (Col.6- Col.3)	Percent (Col.7/ Col.3*100)	Rs./ha. (Col.6- Col.4)	Percent (Col.9/ Col.4*100)	Rs./ha. (Col.6- Col.5)	Percent (Col.11/ Col.5*100)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Groundnut											
1	Andhra Pradesh	39527	46926	73152	79070	39543	100	32144	68	5918	8
2	Gujarat	31520	38818	50233	59807	28286	90	20988	54	9574	19
3	Karnataka	24499	29098	38448	37631	13132	54	8533	29	-817	-2
4	Maharashtra	33585	44606	58725	67247	33661	100	22640	51	8522	15
5	Odisha	18957	31145	45719	53362	34405	181	22217	71	7643	17
6	Tamilnadu	36290	48733	60739	63430	27140	75	14696	30	2691	4
	ALL INDIA	33257	40935	56913	63119	29862	90	22183	54	6206	11
Soybean											
1	Chhattisgarh	11997	13769	19442	19158	7161	60	5389	39	-284	-1
2	Madhya Pradesh	14350	17797	27035	33047	18696	130	15250	86	6012	22
3	Maharashtra	24579	27949	37358	43545	18966	77	15596	56	6187	17
4	Rajasthan	12157	16208	23339	32429	20272	167	16221	100	9090	39
	ALL INDIA	17299	20762	29818	36078	18779	109	15317	74	6261	21
Sunflower											
1	Andhra Pradesh	18363	25292	35113	31188	12825	70	5896	23	-3925	-11
2	Karnataka	11665	13496	18296	17798	6133	53	4303	32	-498	-3
3	Maharashtra	18418	21435	28241	32029	13611	74	10594	49	3789	13
	ALL INDIA	14415	17579	23958	23579	9165	64	6000	34	-379	-2
Sesamum											
1	Andhra Pradesh	10431	14077	21179	20722	10291	99	6645	47	-457	-2.2
2	Gujarat	13676	19401	26617	39575	25899	189	20174	104	12957	49
3	Madhya Pradesh	8149	13880	24265	38859	30711	377	24979	180	14594	60
4	Odisha	5692	9256	13753	14542	8850	155	5286	57	789	6
5	Rajasthan	5163	10517	14525	17545	12382	240	7028	67	3020	21
6	Tamilnadu	15506	22211	31059	38806	23299	150	16595	75	7746	25
7	West Bengal	17452	22825	30401	28168	10716	61	5343	23	-2232	-7
	ALL INDIA	9647	15048	21880	28273	18626	193	13225	88	6393	29

(Continued)

Price Policy for Kharif Crops

Annex Table 5.1 : State-wise Gross and Net returns of Kharif crops, TE 2013-14

S. No.	Crop/State	Cost A ₂	Cost A ₂ +FL	Cost C ₂	GVO	Gross Returns over A ₂		Gross Returns over A ₂ +FL		Net Returns	
		(3)	(4)	(5)	(6)	Rs./ha. (Col.6-Col.3)	Percent (Col.7/Col.3*100)	Rs./ha. (Col.6-Col.4)	Percent (Col.9/Col.4*100)	Rs./ha. (Col.6-Col.5)	Percent (Col.11/Col.5*100)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Nigerseed											
1	Odisha	5483	11311	15815	14460	8977	164	3149	28	-1355	-9
	ALL INDIA	5483	11311	15815	14460	8977	164	3149	28	-1355	-9
Cotton											
1	Andhra Pradesh	42343	48858	71912	70525	28182	67	21667	44	-1387	-2
2	Gujarat	34929	44670	61160	80688	45759	131	36018	81	19527	32
3	Haryana	26450	43380	66403	78284	51834	196	34904	80	11881	18
4	Karnataka	27039	31998	48044	64279	37239	138	32281	101	16235	34
5	Madhya Pradesh	17514	24925	42370	62699	45185	258	37774	152	20329	48
6	Maharashtra	43583	51672	68740	71689	28106	64	20017	39	2949	4
7	Odisha	24412	33945	47173	46387	21975	90	12442	37	-786	-2
8	Punjab	38658	45077	71527	82212	43554	113	37136	82	10686	15
9	Rajasthan	23569	42944	61859	101095	77526	329	58151	135	39236	63
10	Tamilnadu	32888	54062	69591	62690	29802	91	8628	16	-6901	-10
	ALL INDIA	37266	46208	64931	74519	37253	100	28311	61	9588	15

(Concluded)

Source: CACP calculations based on CS data

Price Policy for Kharif Crops

Annex Table 5.2 : Month-wise and State-wise Average Wage Rates for Agricultural Labour (Man)

S. No.	Month/Year	Daily Wage Rate																(Rs./Day)
		AP	ASS	BH	GJ	HR	HP	KRN	KER	MP	MH	ODI	Punjab	RAJ	TN	UP	WB	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)
1	January, 2010	136	97	89	84	171	178	88	259	69	96	87	143	129	136	96	101	107
2	February	140	95	90	84	176	179	90	258	71	97	92	141	129	148	98	105	109
3	March	132	98	90	85	177	179	90	298	73	98	93	141	120	145	98	105	107
4	April	143	97	90	86	178	181	93	298	74	97	95	147	128	145	104	106	111
5	May	135	100	92	86	179	178	93	298	75	99	95	147	146	145	102	106	113
6	June	126	102	92	86	176	179	93	299	76	106	115	164	126	148	103	106	112
7	July	141	105	97	88	181	186	95	307	79	110	105	182	136	158	109	110	118
8	August	138	112	98	88	188	190	99	307	80	109	106	177	132	153	111	111	118
9	September	136	113	98	87	185	193	103	318	80	110	109	172	192	163	112	115	127
10	October	140	112	99	89	188	186	106	330	81	115	118	178	144	167	115	115	123
11	November	153	113	99	90	188	185	109	330	84	117	121	177	145	178	115	115	126
12	December	176	114	102	91	195	195	112	319	84	119	124	176	146	174	117	118	129
13	January, 2011	171	117	101	92	197	195	116	335	86	124	126	172	140	175	115	122	129
14	February	171	118	100	94	202	207	118	335	87	127	133	165	141	181	118	126	131
15	March	174	123	101	93	202	207	119	341	89	131	128	169	149	184	116	126	133
16	April	174	122	101	94	203	217	120	341	89	131	133	170	163	186	116	126	136
17	May	171	122	102	95	203	211	125	341	90	135	135	211	179	178	117	129	139
18	June	174	123	103	96	203	218	127	350	90	140	133	189	172	199	119	130	140
19	July	174	127	108	112	205	219	128	360	94	156	133	215	208	200	123	133	151
20	August	171	128	110	112	206	232	133	372	98	155	134	211	191	208	122	139	150
21	September	176	115	113	113	206	232	136	376	98	152	137	189	154	206	123	141	145
22	October	177	127	113	113	205	230	137	392	99	153	135	219	162	209	126	142	148
23	November	191	131	119	113	214	232	138	454	99	155	138	223	203	213	130	143	157
24	December	176	127	113	113	206	232	136	376	98	152	137	189	154	206	123	141	145

(Continued)

Price Policy for Kharif Crops

Annex Table 5.2 : Month-wise and State-wise Average Wage Rates for Agricultural Labour (Man)

(Rs./Day)

S. No.	Month/Year	Daily Wage Rate																
		AP	ASS	BH	GJ	HR	HP	KRN	KER	MP	MH	ODI	Punjab	RAJ	TN	UP	WB	All India
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)
25	January, 2012	177	127	113	113	205	237	137	392	99	153	135	219	162	209	126	142	148
26	February	203	131	124	115	212	241	145	420	100	153	140	235	172	231	136	151	157
27	March	195	132	126	116	213	241	147	413	106	156	140	233	198	226	135	152	161
28	April	207	132	127	117	210	241	146	417	110	156	145	256	194	231	136	159	164
29	May	198	134	129	118	210	241	148	417	108	154	148	243	202	232	138	161	164
30	June	185	134	134	118	215	246	156	420	113	165	137	223	204	238	138	160	165
31	July	191	138	138	125	219	270	163	453	116	171	140	246	223	244	146	169	174
32	August	193	138	143	126	229	246	168	453	119	170	152	241	213	253	149	167	175
33	September	205	140	144	126	229	246	170	455	121	173	143	240	214	252	153	165	177
34	October	199	145	147	126	238	246	173	461	119	174	135	278	216	251	156	165	179
35	November	210	148	148	126	233	251	178	461	120	173	137	274	217	246	158	171	180
36	December	224	145	151	127	228	260	177	461	120	182	138	273	221	247	160	173	184
37	January, 2013	224	146	162	130	246	273	184	465	126	186	136	257	219	253	163	178	187
38	February	228	157	164	130	245	259	188	465	126	192	134	260	204	259	165	180	187
39	March	221	154	166	133	245	259	189	461	130	194	136	260	208	265	166	181	189
40	April	230	153	167	130	247	264	192	478	135	195	137	284	217	265	168	182	193
41	May	223	150	167	131	245	266	192	489	138	197	141	273	244	266	169	185	197
42	June	222	162	168	132	244	262	196	483	134	189	143	290	235	271	173	185	196
43	July	221	178	175	136	258	263	203	485	132	201	150	291	220	272	174	198	198
44	August	210	183	177	137	317	284	210	487	133	200	157	279	215	275	181	200	199
45	September	213	178	176	138	312	290	212	490	138	196	150		219	284	181	200	192
46	October	212	175	175	139	312	298	213	487	144	199	156	283	229	294	180	199	203
47	November	247	184	205	142	328	337	235	585	140	221	196		248	330	192	224	214
48	December	242	181	191	165	325	356	228	580	151	216	179	278	247	352	186	229	222

(Continued)

Price Policy for Kharif Crops

Annex Table 5.2 : Month-wise and State-wise Average Wage Rates for Agricultural Labour (Man)

S. No.	Month/Year	Daily Wage Rate																(Rs./Day)
		AP	ASS	BH	GJ	HR	HP	KRN	KER	MP	MH	ODI	Punjab	RAJ	TN	UP	WB	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)
49	January, 2014	229	182	194	172	320	336	237	580	155	215	178	276	262	355	191	229	225
50	February	226	188	200	172	329	336	240	629	158	214	180	275	251	362	191	230	226
51	March	222	189	202	175	333	341	243	594	161	219	164	279	270	356	195	223	229
52	April	222	199	204	179	335	352	240	594	163	223	160	306	291	361	201	226	235
53	May	225	203	206	179	346	335	242	594	165	223	173	307	283	364	202	225	235
54	June	217	204	207	179	347	341	241	594	164	230	191	304	280	362	199	227	235
55	July	230	208	218	185	345	345	241	599	173	225	201	302	320	372	200	226	244
56	August	226	220	220	190	348	343	241	599	173	226	208	304	305	371	202	230	243
57	September	239	225	220	190	350	343	242	586	180	222	204	310	296	417	198	234	246
58	October	241	226	222	198	354	339	242	586	171	222	202	310	297	412	201	237	246
59	November	247	238	220	198	357	330	244	597	170	223	200	312	305	421	199	236	248
60	December	236	234	220	192	344	349	252	604	176	222	194	307	307	417	199	237	247
61	January, 2015	246	235	219	194	338	363	254	643	178	225	201	286	298	430	200	241	249
62	February	250	234	221	194	335	363	252	643	179	225	202	290	287	440	202	241	249
63	March	245	226	228	194	341	363	253	642	179	226	202	281	284	429	205	242	248
64	April	245	225	230	195	340	363	253	652	182	231	201	277	291	403	209	242	249
65	May	235	231	231	196	345	362	260	652	183	232	200	292	279	405	208	242	249
66	June	239	239	237	196	346	351	260	664	188	228	203	311	282	399	207	240	250
67	July	229	236	242	203	350	361	269	664	186	234	206	311	295	393	211	240	253
68	August	241	238	246	203	355	366	277	653	188	233	202	304	300	404	214	239	257
69	September	241	239	246	203	354	372	278	656	190	228	196	303	304	394	214	241	256
70	October	240	236	244	203	354	367	279	656	189	233	200	298	298	392	215	237	256
71	November	276	243	243	203	351	374	285	657	182	228	204	301	303	382	216	237	259

Note: Daily Wage rate - Average of five operations i.e. Ploughing, Sowing, Weeding, Transplanting and Harvesting
Source: Labour Bureau, Ministry of Labour, Govt. of India

Price Policy for Kharif Crops

Annex Table 5.3 : Farm Inputs: Wholesale Price Index (Base 2004-05=100)

S. No.	Month/Year	Fertilisers	Electricity (Irrigation)	Pesticides	Non-Electrical Machinery	Tractors	Lubricants	High Speed Diesel (HSD)	Fodder	Cattle Feed
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
2010										
1	January	108.9	117.4	110.2	117.7	123.5	174.5	133.9	182.3	173.1
2	February	109.0	117.4	110.2	118.0	123.5	174.5	136.6	176.5	175.6
3	March	109.8	117.4	111.8	118.6	123.7	174.5	144.6	199.1	175.8
4	April	114.6	117.4	114.6	118.8	123.5	174.5	145.6	182.2	177.0
5	May	115.2	126.2	113.6	117.6	123.9	194.2	145.6	165.2	177.0
6	June	115.3	126.2	113.6	117.8	124.0	194.2	147.4	171.3	177.0
7	July	115.3	126.2	113.4	117.9	124.0	194.2	153.5	173.4	177.6
8	August	116.5	126.2	113.3	117.9	124.0	194.2	153.5	180.7	177.8
9	September	116.5	126.2	113.4	118.0	124.2	194.2	153.5	186.5	178.0
10	October	116.3	126.2	113.7	118.0	125.0	194.2	153.5	192.7	178.2
11	November	116.6	126.2	114.0	118.2	125.6	194.2	153.6	190.7	178.6
12	December	116.3	126.2	113.9	118.1	125.6	194.2	153.6	190.1	178.5
2011										
13	January	117.8	128.1	112.9	121.0	128.0	194.2	153.6	193.9	181.3
14	February	120.3	128.1	113.1	122.9	128.3	194.2	153.6	198.5	181.4
15	March	120.7	128.1	113.9	123.2	128.9	194.2	153.6	205.8	180.5
16	April	122.9	128.1	114.1	123.6	131.4	214.0	153.6	200.6	183.8
17	May	125.2	128.1	113.9	123.1	134.8	220.8	153.6	176.8	181.2
18	June	125.7	128.1	113.8	123.5	134.8	220.8	157.1	179.5	180.0
19	July	127.0	128.1	114.5	123.5	136.0	221.8	167.8	182.7	184.9
20	August	127.9	128.1	114.6	123.5	136.4	231.2	167.8	188.2	186.3
21	September	130.4	133.8	114.8	123.8	137.2	236.6	167.8	189.8	186.4

(Concluded)

Price Policy for Kharif Crops

Annex Table 5.3 : Farm Inputs: Wholesale Price Index (Base 2004-05=100)

S. No.	Month/Year	Fertilisers	Electricity (Irrigation)	Pesticides	Non-Electrical Machinery	Tractors	Lubricants	High Speed Diesel (HSD)	Fodder	Cattle Feed
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
22	October	134.9	135.7	114.6	124.2	137.5	236.6	167.8	191.2	186.4
23	November	137.6	135.7	114.6	125.9	137.8	236.6	167.8	196.9	186.2
24	December	138.7	135.7	115.3	125.8	137.8	236.6	167.8	198.9	186.2
2012										
25	January	139.5	135.7	115.9	123.6	137.9	236.6	167.8	198.5	187.3
26	February	140.1	135.7	115.9	124.0	138.0	236.6	167.8	197.4	191.8
27	March	141.1	135.7	116.2	122.8	138.4	236.6	167.8	202.2	197.3
28	April	142.3	135.7	118.9	122.1	138.3	236.6	167.8	205.7	195.4
29	May	142.4	135.7	118.7	122.6	138.3	236.6	167.8	203.4	195.6
30	June	144.3	166.3	117.9	122.6	140.7	241.4	167.8	196.0	199.7
31	July	148.3	166.3	120.4	122.7	140.7	241.4	167.8	208.4	199.7
32	August	149.1	166.3	121.0	122.9	140.9	241.4	168.6	217.8	199.7
33	September	150.5	166.3	122.1	122.9	141.2	241.4	182.8	228.1	201.8
34	October	150.7	166.3	122.1	123.0	141.5	241.4	192.3	236.1	209.3
35	November	151.0	166.3	122.1	123.1	142.4	241.4	192.3	239.6	214.3
36	December	152.1	166.3	122.3	123.0	143.7	253.3	192.3	237.5	225.2

(Continued)

Price Policy for Kharif Crops

Annex Table 5.3 : Farm Inputs: Wholesale Price Index (Base 2004-05=100)

S. No.	Month/Year	Fertilisers	Electricity (Irrigation)	Pesticides	Non-Electrical Machinery	Tractors	Lubricants	High Speed Diesel (HSD)	Fodder	Cattle Feed
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
2013										
37	January	152.6	166.3	123.0	123.0	143.7	253.3	198.8	241.9	225.2
38	February	152.5	166.3	122.9	123.5	143.7	253.3	202.7	246.2	231.1
39	March	152.3	166.3	122.5	123.1	143.7	253.3	201.7	250.4	232.2
40	April	152.4	184.8	122.0	123.0	143.7	253.3	202.3	246.0	233.8
41	May	151.5	184.8	123.0	122.9	143.7	253.3	203.4	244.2	233.3
42	June	150.5	184.8	123.5	122.9	143.7	253.3	207.0	257.1	234.1
43	July	151.5	184.8	123.6	123.1	143.7	253.3	212.0	265.3	238.2
44	August	152.0	203.0	124.5	123.8	143.8	253.3	215.4	267.6	237.7
45	September	152.4	206.9	125.7	123.9	144.3	263.9	219.8	270.1	238.8
46	October	152.7	209.1	127.7	124.1	144.7	263.9	220.4	270.7	238.4
47	November	152.8	209.1	127.9	124.1	144.7	263.9	222.4	274.1	239.0
48	December	152.6	205.5	127.5	124.3	145.0	263.9	225.0	278.3	246.6
2014										
49	January	153.0	205.5	127.2	124.3	149.0	263.9	226.6	285.5	244.9
50	February	152.9	205.5	128.2	124.4	149.6	263.9	228.6	299.0	251.4
51	March	153.1	211.3	130.5	124.4	150.1	263.9	231.2	316.8	259.4
52	April	154.4	212.1	130.6	124.5	150.8	263.9	230.1	296.5	263.4
53	May	154.3	212.1	131.7	124.5	150.8	263.9	232.3	275.6	263.7
54	June	154.2	212.1	135.2	126.8	150.9	263.9	235.2	280.0	262.8
55	July	154.4	211.3	135.4	127.3	151.4	263.9	238.8	277.6	262.8
56	August	154.2	211.3	135.4	127.1	151.5	263.9	240.4	285.9	262.8
57	September	154.6	211.5	137.2	127.2	152.0	275.2	242.0	308.4	262.2

(Continued)

Price Policy for Kharif Crops

Annex Table 5.3 : Farm Inputs: Wholesale Price Index (Base 2004-05=100)

S. No.	Month/Year	Fertilisers	Electricity (Irrigation)	Pesticides	Non-Electrical Machinery	Tractors	Lubricants	High Speed Diesel (HSD)	Fodder	Cattle Feed
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
58	October	154.9	211.5	136.6	127.3	152.3	277.8	239.2	313.5	264.7
59	November	155.4	211.5	136.3	127.3	152.2	277.8	218.1	318.3	262.1
60	December	155.3	211.5	137.0	127.3	152.1	277.8	210.8	322.4	260.3
2015										
61	January	155.3	211.5	138.6	127.8	152.2	277.8	200.7	319.6	262.9
62	February	155.6	217.9	138.1	127.9	152.3	277.8	188.4	306.6	262.9
63	March	156.3	217.9	136.7	127.5	152.9	277.5	203.2	286.1	262.7
64	April	156.1	217.9	135.9	127.6	153.0	277.5	195.6	277.4	261.1
65	May	156.7	217.9	136.2	127.6	153.0	277.5	209.6	274.9	257.5
66	June	157.8	217.9	136.1	127.6	153.0	277.5	212.0	283.5	256.4
67	July	158.2	243.5	136.5	127.5	153.0	277.5	200.8	296.2	258.4
68	August	158.3	243.5	136.4	127.4	153.1	277.5	179.4	316.0	258.5
69	September	158.9	243.5	137.0	127.4	153.2	277.5	174.0	317.4	263.4
70	October	158.9	243.5	138.7	127.5	153.2	277.5	176.5	322.2	266.6
71	November	159.0	243.5	140.4	127.5	153.2	277.5	181.4	330.9	266.7
72	December	158.4	243.5	138.5	127.6	153.3	277.5	181.7	338.6	268.2
% change of Dec.,2015 over Dec.,2014		2.0	15.1	1.1	0.2	0.8	-0.1	-13.8	5.0	3.0

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Source : DIPP, Ministry of Commerce and Industry

Price Policy for Kharif Crops

**Annex Table 5.4 : Projected Cost of Production (A_2 , A_2 +FL & C_2) for Kharif 2016-17
and Production Shares**

S.No.	Crop/State	Cost of Production (Rs./qtl.)			Shares in Production (%)
		A_2	A_2 +FL	C_2	
(1)	(2)	(3)	(4)	(5)	(6)
Paddy					
1	Andhra Pradesh	862	1002	1402	11
2	Assam	634	1128	1375	5
3	Bihar	747	1013	1259	6
4	Chhattisgarh	642	833	1170	6
5	Gujarat	755	870	1123	2
6	Haryana	839	980	1484	4
7	Himachal Pradesh	318	845	1123	1
8	Jharkhand	1103	1480	1813	3
9	Karnataka	836	978	1328	3
10	Kerala	1083	1144	1489	1
11	Madhya Pradesh	663	867	1258	2
12	Maharashtra	1233	1596	1906	3
13	Odisha	737	1136	1450	8
14	Punjab	569	658	1065	11
15	Tamil Nadu	936	1133	1404	5
16	Uttar Pradesh	748	1024	1337	13
17	Uttarakhand	756	1084	1333	1
18	West Bengal	890	1261	1554	14
All India		791	1045	1378	
Jowar					
19	Andhra Pradesh	958	1309	1815	9
20	Karnataka	1350	1746	2305	29
21	Madhya Pradesh	893	1137	1471	10
22	Maharashtra	1192	1468	1956	43
23	Tamil Nadu	1027	1475	1926	9
All India		1171	1501	1992	

(Continued)

Price Policy for Kharif Crops

Annex Table 5.4 : Projected Cost of Production (A_2 , A_2+FL & C_2) for Kharif 2016-17 and Production Shares

S.No.	Crop/State	Cost of Production (Rs./qtl.)			Shares in Production (%)
		A_2	A_2+FL	C_2	
(1)	(2)	(3)	(4)	(5)	(6)
Bajra					
24	Gujarat	693	893	1144	12
25	Haryana	525	976	1373	9
26	Karnataka	1236	1562	1878	3
27	Maharashtra	1103	1279	1608	7
28	Rajasthan	425	910	1174	47
29	Uttar Pradesh	454	736	1057	21
30	Tamil Nadu	800	1000	1327	1
All India		549	925	1218	
Maize					
31	Andhra Pradesh	669	768	1159	25
32	Bihar	627	778	990	12
33	Chhattisgarh	483	1039	1329	1
34	Gujarat	854	1174	1392	4
35	Himachal Pradesh	583	1310	1673	4
36	Karnataka	820	963	1279	21
37	Madhya Pradesh	681	895	1198	9
38	Rajasthan	618	1366	1626	9
39	Tamil Nadu	817	991	1264	8
40	Uttar Pradesh	717	1267	1736	7
All India		709	966	1286	
Ragi					
41	Andhra Pradesh	1065	2216	2775	3
42	Karnataka	1278	1723	2145	72
43	Maharashtra	1263	1980	2391	8
44	Tamil Nadu	921	1581	1959	17
All India		1211	1733	2150	

(Continued)

Price Policy for Kharif Crops

Annex Table 5.4 : Projected Cost of Production (A_2 , A_2+FL & C_2) for Kharif 2016-17 and Production Shares

S.No.	Crop/State	Cost of Production (Rs./qtl.)			Shares in Production (%)
		A_2	A_2+FL	C_2	
(1)	(2)	(3)	(4)	(5)	(6)
Arhar (Tur)					
45	Andhra Pradesh	2522	3267	4584	8
46	Bihar	1128	1227	2090	1
47	Gujarat	2262	3109	3850	9
48	Karnataka	2624	3200	4218	18
49	Madhya Pradesh	1823	2424	3550	15
50	Maharashtra	2884	3713	4612	33
51	Odisha	1909	3810	5077	5
52	Uttar Pradesh	1706	3078	4815	10
All India		2405	3241	4314	
Moong					
53	Andhra Pradesh	2221	2894	4484	18
54	Karnataka	2898	3589	4730	6
55	Maharashtra	3825	4781	5751	17
56	Odisha	2142	3955	5316	9
57	Rajasthan	2702	4508	5456	37
58	Tamil Nadu	3130	3781	4790	12
All India		2821	4065	5191	
Urad					
59	Andhra Pradesh	1992	2180	3419	20
60	Chhattisgarh	746	1887	2591	2
61	Madhya Pradesh	1752	2296	3248	23
62	Maharashtra	4845	6352	7254	11
63	Odisha	1689	3360	4336	2
64	Rajasthan	1972	4167	4998	7
65	Tamil Nadu	3709	4485	5594	15
66	Uttar Pradesh	2740	4262	5522	20
All India		2624	3584	4661	

(Continued)

Price Policy for Kharif Crops

Annex Table 5.4 : Projected Cost of Production (A_2 , A_2 +FL & C_2) for Kharif 2016-17 and Production Shares

S.No.	Crop/States	Cost of Production (Rs./qtl.)			Shares in Production (%)
		A_2	A_2 +FL	C_2	
(1)	(2)	(3)	(4)	(5)	(6)
Groundnut					
67	Andhra Pradesh	2407	2869	4218	19
68	Gujarat	2677	3321	4118	48
69	Karnataka	3446	4197	5316	9
70	Maharashtra	2369	3148	3930	6
71	Tamil Nadu	2856	3773	4515	16
72	Odisha	1755	2843	4004	1
All India		2695	3371	4300	
Soybean					
73	Madhya Pradesh	1130	1386	2140	56
74	Maharashtra	2259	2542	3147	34
75	Rajasthan	1392	2083	2715	10
All India		1543	1852	2542	
Sunflower					
76	Andhra Pradesh	2334	3263	4308	23
77	Karnataka	3160	3621	4549	68
78	Maharashtra	2558	2979	3722	9
All India		2912	3479	4418	
Sesamum					
79	Andhra Pradesh	4374	5779	7963	5
80	Gujarat	3800	5372	6865	14
81	Madhya Pradesh	2466	4204	6184	26
82	Odisha	2537	4345	5811	1
83	Rajasthan	2379	4841	6247	17
84	Tamil Nadu	3306	4833	6379	5
85	West Bengal	2291	3029	3733	33
All India		2705	4188	5570	
Nigerseed					
86	Odisha	1629	3366	4320	100
All India		1629	3366	4320	
Cotton					
87	Andhra Pradesh	2350	2693	3912	20
88	Gujarat	2172	2764	3591	29
89	Haryana	1550	2527	3759	7
90	Karnataka	2615	3087	4224	5
91	Madhya Pradesh	1161	1650	2729	5
92	Maharashtra	3070	3627	4632	22
93	Punjab	2110	2669	3932	5
94	Rajasthan	1204	2186	3061	4
95	Tamil Nadu	2482	4045	4978	2
96	Odisha	2843	3933	5011	1
All India		2305	2889	3920	

Note: Projected cost is exclusive of cost of marketing, transportation and crop insurance premium.

(Concluded)

Price Policy for Kharif Crops

Annex Table 5.5(a) : Paddy - Break-up of Cost of Cultivation

S. No.	Cost Items	Andhra Pradesh		Assam		Bihar		Chhattisgarh		Gujarat		Haryana		Himachal Pradesh		Jharkhand		Karnataka	
		2013-14	2012-13	2013-14	2012-13	2013-14	2012-13	2013-14	2012-13	2013-14	2012-13	2013-14	2012-13	2013-14	2012-13	2013-14	2012-13	2013-14	2012-13
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
Operational Cost		46317.74	46495.55	29433.09	25372.65	25236.49	23452.66	26138.25	22099.05	33602.36	33700.34	38041.85	36471.79	21519.76	17647.60	20585.21	21127.30	43772.11	43107.16
Human Labour																			
1	Casual	17038.96	15944.37	4473.18	3351.20	8169.16	9039.73	4372.53	2740.15	13001.62	11400.17	10758.23	8619.76	1275.35	861.39	8366.60	7267.45	11218.32	13137.96
2	Attached	578.69	567.33	404.20	527.84	29.51	34.91	0.74	0.48	180.08	57.78	1160.98	564.71	11.45	7.09	0.00	0.00	0.00	4.40
3	Family	6475.15	6152.67	13333.38	12401.34	6155.13	5765.07	6532.29	5367.90	4786.53	4871.28	7412.68	8035.86	14355.66	11468.87	4261.78	5514.38	7798.47	5326.80
4	Total	24092.80	22664.37	18210.76	16280.38	14353.80	14839.71	10905.56	8108.53	17968.23	16329.23	19331.89	17220.33	15642.46	12337.35	12628.38	12781.83	19016.79	18469.16
Bullock Labour																			
5	Hired	189.38	148.22	69.69	38.42	209.35	117.12	615.66	405.39	163.57	426.03	0.00	0.00	230.28	389.43	61.22	1071.65	833.01	467.03
6	Owned	473.70	501.95	6181.47	4823.18	473.99	996.67	1893.24	1523.14	260.14	757.85	116.44	160.21	439.98	202.71	1966.95	2449.44	1168.71	1130.33
7	Total	663.08	650.17	6251.16	4861.60	683.34	1113.79	2508.90	1928.53	423.71	1183.88	116.44	160.21	670.26	592.14	2028.17	3521.09	2001.72	1597.36
Machine Labour																			
8	Hired	8068.32	7000.57	1953.04	1444.41	3085.96	2441.96	4831.33	4695.34	3101.23	2404.95	3275.34	2662.38	2296.17	2137.49	2367.69	1198.71	7687.67	6401.12
9	Owned	181.24	113.21	372.58	300.89	36.02	20.60	40.71	51.25	682.21	378.04	1267.11	1425.54	55.40	29.69	0.77	1.34	399.03	543.32
10	Total	8249.56	7113.78	2325.62	1745.30	3122.98	2462.56	4872.04	4746.59	3783.44	2782.99	4542.45	4087.92	2351.57	2167.18	2368.46	1200.05	8086.70	6944.44
11	Seed	1748.09	1602.79	867.78	815.24	1346.13	1281.93	2121.41	1996.80	3209.45	3246.03	880.14	1232.12	1830.57	1673.54	1323.85	1493.33	2228.92	2365.10
Fertilisers and Manure																			
12	Fertilisers	6487.54	5610.63	533.97	518.44	2669.55	2533.71	3006.86	2593.93	3865.28	4001.36	4590.86	3967.94	253.06	254.40	1290.94	1374.46	7738.22	7681.76
13	Manure	773.26	734.57	557.63	618.69	0.00	1.05	1013.48	1176.64	933.93	1376.96	3.37	20.75	265.66	200.77	394.62	185.16	1139.86	1896.77
14	Total	7260.80	6345.20	1091.60	1137.13	2669.55	2534.76	4020.34	3770.57	4799.21	5378.32	4594.23	3988.69	518.72	455.17	1685.56	1559.62	8878.08	9578.53
Other Inputs																			
15	Insecticides	2068.39	1774.04	20.36	13.35	0.00	0.00	927.77	782.00	1115.62	956.47	2689.47	1831.25	278.67	168.82	0.00	0.00	2080.45	2288.78
16	Irrigation charges	964.14	1027.43	177.94	126.58	2482.47	683.92	169.78	251.07	1429.49	2949.81	4959.07	7088.54	10.41	66.17	56.14	98.26	389.34	718.93
17	Interest on working capital	1207.35	1096.25	487.87	393.07	578.22	535.99	594.12	507.00	873.21	873.61	928.16	861.69	217.10	187.23	494.65	473.12	1090.11	1144.86
18	Miscellaneous	63.53	55.00	0.00	0.00	0.00	0.00	18.33	7.96	0.00	0.00	0.00	1.04	0.00	0.00	0.00	0.00	0.00	0.00
Fixed Cost		25769.19	25820.66	11236.25	9331.49	8120.05	7194.62	12895.89	12588.83	14875.36	11186.72	28966.31	22758.82	9235.81	7617.82	7513.25	7781.19	20510.94	19342.29
19	Rental value of owned land	24063.27	24182.30	7667.84	5572.25	6619.90	5611.55	10816.86	10456.51	11390.88	8501.69	26042.54	20017.96	7205.94	5496.86	5849.25	5619.56	18763.71	17125.63
20	Rent paid for leased-in land	282.00	167.32	757.05	605.76	0.00	0.00	0.00	0.00	908.53	401.67	0.00	0.00	153.78	155.14	0.00	0.00	0.00	0.00
21	Land revenue, cesses & taxes	2.37	3.10	47.62	48.26	29.84	23.40	3.35	3.49	9.85	8.66	0.00	0.00	8.46	8.81	41.15	40.44	14.03	16.27
22	Depreciation on implements & Farm buildings	178.94	170.41	746.35	773.73	326.72	295.19	768.36	699.81	154.48	152.38	242.83	234.84	313.89	339.93	568.47	656.46	245.08	200.56
23	Interest on fixed capital	1242.61	1297.53	2017.39	2331.49	1143.59	1264.48	1307.32	1429.02	2411.62	2122.32	2680.94	2506.02	1553.74	1617.08	1054.38	1464.73	1488.12	1999.83
Total Cost		72086.93	68149.69	40669.34	34704.14	33356.54	30647.28	39034.14	34687.88	48477.72	44887.06	67008.16	59230.61	30755.57	25265.42	28098.46	28908.49	64283.05	62449.45

(Contd..)

Price Policy for Kharif Crops

Annex Table 5.5(a) : Paddy - Break-up of Cost of Cultivation

S. No.	Cost items	(Rs/Ha)																	
		Kerala		Madhya Pradesh		Maharashtra		Odisha		Punjab		Tamil Nadu		Uttar Pradesh		Uttarakhand		West Bengal	
(1)	(2)	2013-14	2012-13	2013-14	2012-13	2013-14	2012-13	2013-14	2012-13	2013-14	2012-13	2013-14	2012-13	2013-14	2012-13	2013-14	2012-13	2013-14	2012-13
		(21)	(22)	(23)	(24)	(25)	(26)	(27)	(28)	(29)	(30)	(31)	(32)	(33)	(34)	(35)	(36)	(37)	(38)
Operational Cost																			
Human Labour																			
1	Casual	22208.97	20215.88	4502.22	3089.85	13929.71	13363.55	9630.19	8645.43	7553.32	6805.87	14750.56	13768.63	5813.30	5307.69	6623.19	7159.41	14804.30	13010.57
2	Attached	0.00	0.00	113.48	49.48	137.78	372.77	219.69	193.80	1321.56	1359.45	355.14	462.61	53.07	37.70	11.46	10.65	27.08	30.53
3	Family	3194.70	2208.50	5997.66	5825.23	10324.06	9337.56	12968.33	11069.96	5346.40	5155.49	10600.58	8130.46	7807.02	8231.21	10157.87	10881.03	13956.81	13603.43
4	Total	25403.67	22424.38	10613.36	8964.56	24391.55	23073.88	22818.21	19909.19	14221.28	13320.81	25706.28	22361.70	13673.39	13576.60	16792.52	18051.09	28788.19	26644.53
Bullock Labour																			
5	Hired	82.81	296.85	55.07	131.45	1272.09	735.42	210.36	274.11	4.27	2.94	173.96	209.01	22.01	32.88	2566.08	4347.78	580.60	482.04
6	Owned	0.00	0.00	2792.57	1962.17	4980.98	5159.46	4132.75	3528.65	41.38	42.89	104.57	80.91	1606.16	1414.88	644.00	160.09	2019.99	1919.68
7	Total	82.81	296.85	2847.64	2093.62	6253.07	5894.88	4343.11	3802.76	45.65	45.83	278.53	289.92	1628.17	1447.76	3210.08	4507.87	2600.59	2401.72
Machine Labour																			
8	Hired	9751.35	9268.51	3117.69	3442.48	2732.57	3112.69	1649.23	1404.14	3170.47	2932.88	9230.80	8868.69	4054.62	3097.30	1473.34	1653.03	2704.60	2337.31
9	Owned	20.75	19.80	485.86	269.35	1152.05	41.34	31.09	36.57	2405.59	2165.56	294.39	298.32	463.72	236.88	671.15	554.82	17.88	17.92
10	Total	9772.10	9288.31	3603.55	3711.83	3884.62	3154.03	1680.32	1440.71	5576.06	5098.44	9525.19	9167.01	4518.34	3334.18	2144.49	2207.85	2722.48	2355.23
11	Seed	2790.72	2326.53	1919.84	1888.93	1617.26	1271.70	1108.18	1063.50	1562.58	1509.04	5925.22	5527.64	3014.07	2568.18	3457.68	2605.89	1813.24	1641.73
Fertilisers and Manure																			
12	Fertilisers	5717.33	5248.54	2713.55	3423.41	3404.33	2607.16	2451.86	2487.74	3842.70	3739.91	6549.88	6650.15	3851.44	3697.73	3068.42	2610.86	4044.39	4066.65
13	Manure	2272.40	1496.55	870.06	1178.96	1573.48	1874.95	1546.55	1426.17	397.68	389.93	2228.51	2078.68	41.18	73.47	973.95	906.39	1201.56	1049.32
14	Total	7989.73	6745.09	3583.61	4602.37	4977.81	4482.11	3998.41	3913.91	4240.38	4129.84	8778.39	8728.83	3892.62	3771.20	4042.37	3517.25	5245.95	5115.97
Other Inputs																			
15	Insecticides	1518.63	1409.12	845.71	700.35	258.36	389.43	54.37	50.32	3716.37	3159.29	1491.20	1209.09	242.93	265.66	517.25	460.17	688.82	567.24
16	Irrigation charges	145.22	315.69	172.25	29.51	195.91	133.78	67.89	79.81	2164.29	2638.32	1505.71	1599.03	2274.31	2953.58	980.35	1087.69	1822.28	2006.76
17	Interest on working capital	1390.88	1268.68	549.90	506.01	976.72	908.20	659.44	599.85	819.27	773.64	1332.64	1275.47	669.95	615.19	656.55	674.59	929.97	848.54
18	Miscellaneous	0.00	0.37	8.36	26.48	0.00	0.00	0.00	5.00	36.57	10.25	34.39	62.18	1.61	0.02	22.57	30.15	34.23	23.54
Fixed Cost																			
19	Rental value of owned land	18565.14	16718.06	13531.33	11700.27	10134.72	9180.72	9050.48	9972.69	25585.63	24826.00	11346.84	10208.83	11959.35	10940.91	8443.06	6538.65	13848.82	11785.82
20	Rent paid for leased-in land	233.35	4.42	0.00	0.00	0.00	0.00	186.35	151.29	7041.62	6166.85	411.67	556.78	291.40	204.06	2416.77	2859.44	407.91	435.78
21	Land revenue, cesses & taxes	132.57	112.21	3.16	2.94	18.00	21.46	27.74	27.71	0.00	0.00	7.38	6.92	4.58	4.94	1.40	1.05	49.95	48.32
22	Depreciation on implements & Farm buildings	205.32	221.55	478.51	575.49	675.39	832.70	625.84	679.20	262.74	251.65	482.68	372.48	771.48	695.61	445.90	515.65	680.33	680.87
23	Interest on fixed capital	320.71	273.13	1540.57	1663.72	2973.79	3279.88	1917.18	1965.71	3110.42	2813.28	4685.96	4625.14	2415.17	3189.97	1123.81	1173.93	1291.43	1426.74
Total Cost		68550.85	61404.39	39697.79	36466.08	56357.20	52622.77	46537.52	43661.65	68382.86	64743.24	71512.08	65991.02	45357.37	43567.86	44254.80	44231.27	60924.19	55982.79

Source: DES

Price Policy for Kharif Crops

Annex Table 5.5(b) : Jowar - Break-up of Cost of Cultivation

S. No.	Cost Items	Andhra Pradesh		Karnataka		Madhya Pradesh		Maharashtra		Tamil Nadu	
		2013-14	2012-13	2013-14	2012-13	2013-14	2012-13	2013-14	2012-13	2013-14	2012-13
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
(Rs/Ha)											
Operational Cost											
Human Labour											
1	Casual	7534.10	5385.27	4430.23	3806.95	3850.31	2571.32	7686.35	7213.64	7164.75	5026.39
2	Attached	0.00	11.12	0.00	1.32	12.63	12.11	677.12	466.05	25.10	82.64
3	Family	6801.92	5428.23	3202.17	3023.32	3995.87	2916.05	4638.46	4371.83	5788.96	3927.57
4	Total	14336.02	10824.62	7632.40	6831.59	7858.81	5499.48	13001.93	12051.52	12978.81	9036.60
Bullock Labour											
5	Hired	859.33	684.90	930.60	862.58	0.00	4.76	1051.51	1326.18	51.60	148.90
6	Owned	2981.06	2665.32	1570.37	745.75	1414.29	810.81	3732.95	4078.85	0.00	0.00
7	Total	3840.39	3350.22	2500.97	1608.33	1414.29	815.57	4784.46	5405.03	51.60	148.90
Machine Labour											
8	Hired	2093.33	2500.39	1978.87	2225.88	2888.72	2985.29	2505.56	2483.62	3128.37	2463.31
9	Owned	31.20	2.90	144.72	149.34	0.00	10.03	220.11	124.55	1.69	11.51
10	Total	2124.53	2503.29	2123.59	2375.22	2888.72	2995.32	2725.67	2608.17	3130.06	2474.82
11	Seed	1496.79	511.32	485.77	482.86	1159.03	1239.41	510.37	600.28	1066.09	1523.18
Fertilisers and Manure											
12	Fertilisers	3000.73	2252.71	2110.37	1439.66	2515.55	2633.11	2086.25	1474.25	552.51	122.14
13	Manure	259.74	316.26	134.91	120.61	940.10	270.59	20.78	1219.88	1730.43	684.57
14	Total	3260.47	2568.97	2245.28	1560.27	3455.65	2903.70	2107.03	2694.13	2282.94	806.71
Other Inputs											
15	Insecticides	581.95	474.31	14.20	36.10	322.75	310.90	8.51	18.31	1.50	0.00
16	Irrigation charges	624.02	820.24	194.95	131.10	0.00	0.00	1196.66	1192.41	195.14	57.18
17	Interest on working capital	608.20	488.34	374.84	312.57	409.48	339.01	615.98	633.71	434.91	316.24
18	Miscellaneous	0.00	2.21	0.00	0.00	0.00	0.00	15.11	80.60	0.00	0.00
Fixed Cost											
19	Rental value of owned land	15829.77	10640.37	7374.62	5090.96	5435.44	6037.81	10422.98	10453.52	9732.49	7531.72
20	Rent paid for leased-land	14733.82	9165.95	6065.28	3784.33	4633.92	4857.12	5475.06	4346.57	7951.30	6020.98
21	Land revenue, cesses & taxes	0.00	0.00	0.00	0.00	0.00	0.00	0.00	56.56	0.00	0.00
22	Depreciation on implements & Farm buildings	0.93	0.43	6.64	6.02	2.14	3.21	16.16	19.74	6.32	8.50
23	Interest on fixed capital	142.52	351.85	191.25	147.76	206.75	318.95	467.09	724.68	305.19	280.60
Total Cost											
		42702.14	32183.89	22946.62	18429.00	22944.17	20141.20	35388.70	35737.68	29873.54	21895.35

Source: DES

Price Policy for Kharif Crops

Annex Table 5.5(c) : Bajra - Break-up of Cost of Cultivation

S. No.	Cost Items	Gujarat		Haryana		Karnataka		Maharashtra		Rajasthan		Tamil Nadu		Uttar Pradesh	
(1)	(2)	2013-14 (3)	2012-13 (4)	2013-14 (5)	2012-13 (6)	2013-14 (7)	2012-13 (8)	2013-14 (9)	2012-13 (10)	2013-14 (11)	2012-13 (12)	2013-14 (13)	2012-13 (14)	2013-14 (15)	2012-13 (16)
Operational Cost															
Human Labour															
1	Casual	7419.82	6230.33	4054.19	1023.02	3853.38	3748.79	9352.53	6825.50	1750.58	1756.26	9586.31	6972.44	1985.76	4485.75
2	Attached	90.49	83.83	63.83	80.09	0.00	0.00	153.90	294.14	30.53	13.84	0.00	0.00	0.00	0.00
3	Family	6514.08	5588.45	10594.86	10887.00	2591.07	2059.91	5919.20	3622.58	8295.63	7343.08	4788.64	4687.88	8552.66	5140.03
4	Total	14024.39	11902.61	14712.88	11990.11	6444.45	5808.70	15425.63	10742.22	10076.74	9113.18	14374.95	11660.32	10538.42	9625.78
Bullock Labour															
5	Hired	487.61	328.20	9.96	0.58	782.72	600.50	534.99	409.25	17.04	72.00	0.00	0.00	0.00	0.00
6	Owned	666.09	822.47	220.37	445.37	1205.65	1105.47	1158.39	2575.60	72.38	48.94	0.00	0.00	88.08	84.96
7	Total	1153.70	1150.67	230.33	445.95	1988.37	1705.97	1693.38	2984.85	89.42	120.94	0.00	0.00	88.08	84.96
Machine Labour															
8	Hired	3581.72	3323.13	4625.66	3893.95	1565.06	1938.31	6153.55	3268.81	2691.73	2086.07	1670.14	2546.32	3834.09	3498.70
9	Owned	253.57	367.73	651.45	785.09	154.04	33.75	1187.50	179.32	154.42	102.47	1098.43	0.00	22.02	53.51
10	Total	3835.29	3690.86	5277.11	4679.04	1719.10	1972.06	7341.05	3448.13	2846.15	2188.54	2768.57	2546.32	3856.11	3552.21
11	Seed	1521.22	1625.70	873.88	803.41	996.11	815.63	740.92	748.49	844.94	723.96	1443.20	1166.24	885.38	743.26
Fertilisers and Manure															
12	Fertilisers	2650.69	2439.45	1529.52	1207.37	1665.79	1260.14	1746.17	2551.93	434.52	488.95	4727.87	2675.42	1342.28	775.89
13	Manure	716.54	609.95	0.00	0.00	0.00	504.81	7684.42	0.00	467.87	308.02	3523.77	470.71	0.00	0.00
14	Total	3367.23	3049.40	1529.52	1207.37	1665.79	1764.95	9430.59	2551.93	902.39	796.97	8251.64	3146.13	1342.28	775.89
Other Inputs															
15	Insecticides	54.31	23.68	15.60	24.77	0.00	0.00	0.00	0.00	2.05	0.00	73.04	249.52	7.07	3.82
16	Irrigation charges	2854.45	2423.38	779.80	477.27	133.83	70.50	481.56	464.25	128.23	271.61	882.63	517.93	282.10	352.15
17	Interest on working capital	634.27	571.19	400.76	273.15	323.64	314.93	914.70	541.16	206.07	183.50	718.92	456.21	263.96	312.44
18	Miscellaneous	0.00	0.00	0.00	0.00	0.00	0.00	76.36	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fixed Cost															
19	Rental value of owned land	9926.03	9949.67	11468.85	10549.23	4255.53	3216.46	9428.72	9305.42	5495.42	4538.52	12740.11	10038.96	11702.76	10057.30
20	Rent paid for leased-in land	7783.89	7619.97	8769.02	7755.73	3598.64	2435.92	5493.46	4797.59	3651.38	2770.39	8222.30	6502.41	7586.70	8128.61
21	Land revenue, cesses & taxes	151.19	640.77	335.81	0.00	0.00	0.00	0.00	0.00	35.10	12.25	0.00	156.38	2290.34	194.15
22	Depreciation on implements & Farm buildings	5.35	3.86	0.00	0.00	4.03	4.30	14.36	20.96	3.88	4.38	8.23	8.24	3.58	2.78
23	Interest on fixed capital	116.75	122.67	368.64	464.28	101.14	107.17	287.63	476.40	279.49	307.59	489.73	258.40	678.06	595.22
Total Cost		1868.85	1562.40	1995.38	2329.22	551.72	669.07	3633.27	4010.47	1525.57	1443.91	4019.85	3113.53	1144.08	1136.54
		37370.89	34387.16	35288.73	30450.30	17526.82	15669.20	45532.91	30786.45	20591.41	17937.22	41253.06	29781.63	28966.16	25507.81

Source: DES

Price Policy for Kharif Crops

Annex Table 5.5(d) : Maize - Break-up of Cost of Cultivation

S. No.	Cost Items	Andhra Pradesh		Bihar		Chhattisgarh		Gujarat		Himachal Pradesh	
		2013-14	2012-13	2013-14	2012-13	2013-14	2012-13	2013-14	2012-13	2013-14	2012-13
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Operational Cost											
Human Labour											
1	Casual	11041.31	10035.36	5839.81	5460.17	642.11	2947.70	5427.01	6330.22	584.81	473.10
2	Attached	956.27	682.12	31.85	55.81	0.00	0.00	70.20	67.31	7.68	42.22
3	Family	5199.50	5106.21	5063.35	3968.98	10838.56	5817.78	10569.99	8137.33	12702.22	9640.76
4	Total	17197.08	15823.69	10935.01	9484.96	11480.67	8765.48	16067.20	14534.86	13294.71	10156.08
Bullock Labour											
5	Hired	632.56	526.69	0.00	0.00	0.00	0.00	381.08	324.09	217.95	324.74
6	Owned	2255.53	1047.40	0.00	48.41	2701.75	1115.62	2245.02	2444.31	752.14	387.18
7	Total	2888.09	1574.09	0.00	48.41	2701.75	1115.62	2626.10	2768.40	970.09	711.92
Machine Labour											
8	Hired	4666.64	4193.77	2724.63	3009.85	0.00	1054.82	2349.95	2279.34	1433.02	1322.23
9	Owned	166.24	149.41	85.93	38.62	0.00	552.20	1234.39	940.54	51.80	20.29
10	Total	4832.88	4343.18	2810.56	3048.47	0.00	1607.02	3584.34	3219.88	1484.82	1342.52
11	Seed	3671.51	2900.83	2249.29	2313.00	2000.00	1711.54	2897.82	1746.73	956.43	999.24
Fertilisers and Manure											
12	Fertilisers	5697.97	5200.37	4142.65	3797.42	364.22	1338.43	2857.40	2790.99	657.31	653.16
13	Manure	2098.09	1629.13	525.9	121.75	0.00	290.90	850.94	665.06	2556.60	2491.40
14	Total	7796.06	6829.50	4668.55	3919.17	364.22	1629.33	3708.34	3456.05	3213.91	3144.56
Other Inputs											
15	Insecticides	837.33	907.79	97.5	93.64	0.00	719.37	46.56	56.60	148.07	84.79
16	Irrigation charges	419.01	503.73	2300.40	2614.88	0.00	413.22	1018.01	744.47	0.00	135.48
17	Interest on working capital	1015.48	869.25	562.44	548.55	178.38	317.70	605.57	574.68	230.18	216.68
18	Miscellaneous	52.86	39.55	0.00	0.00	0.00	22.54	0.00	0.00	0.00	0.00
Fixed Cost											
19	Rental value of owned land	23262.32	20826.66	8040.93	7201.34	5100.89	6482.33	6716.04	7286.77	7306.33	7011.62
		19624.84	17607.69	6812.27	5968.65	4480.70	5263.22	4462.66	5308.63	4923.12	4556.40
20	Rent paid for leased-in land	1380.49	994.05	0.00	0.00	0.00	0.00	149.24	16.41	56.82	23.87
21	Land revenue, cesses & taxes	0.14	0.77	24.03	23.13	7.77	5.46	12.37	10.11	5.18	5.30
22	Depreciation on implements & Farm buildings	196.44	203.75	291.16	221.72	193.90	202.13	212.05	235.46	446.57	473.35
23	Interest on fixed capital	2060.41	2020.40	913.47	987.84	418.52	1011.52	1879.72	1716.16	1874.64	1952.70
Total Cost		61972.62	54618.27	31664.68	29272.42	21825.91	22784.15	37269.98	34388.44	27604.54	23802.89

(Contd..)

Price Policy for Kharif Crops

Annex Table 5.5(d) : Maize - Break-up of Cost of Cultivation

S.No.	Cost Items	Karnataka		Madhya Pradesh		Rajasthan		Tamil Nadu		Uttar Pradesh	
		2013-14 (13)	2012-13 (14)	2013-14 (15)	2012-13 (16)	2013-14 (17)	2012-13 (18)	2013-14 (19)	2012-13 (20)	2013-14 (21)	2012-13 (22)
(1)	(2)										
Operational Cost											
Human Labour											
1	Casual	8196.99	6701.62	2923.76	3744.39	1994.75	1682.53	14049.52	15902.68	4828.81	3960.41
2	Attached	41.54	74.74	206.64	85.06	90.93	74.65	113.63	31.15	0.00	0.00
3	Family	4836.99	3993.14	5567.22	4054.57	19017.59	16717.81	9179.26	8746.05	10978.88	9268.58
4	Total	13075.52	10769.50	8697.62	7884.02	21103.27	18474.99	23342.41	24679.88	15807.69	13228.99
Bullock Labour											
5	Hired	1581.04	1075.44	297.05	362.74	639.96	689.45	1.57	3.62	17.17	27.55
6	Owned	1494.37	1069.57	3166.71	1758.22	2340.28	1096.00	0.24	8.42	682.84	532.79
7	Total	3075.41	2145.01	3463.76	2120.96	2980.24	1785.45	1.81	12.04	700.01	560.34
Machine Labour											
8	Hired	4748.78	3877.65	2740.26	3543.25	2951.70	3492.06	6930.10	4991.37	2974.29	2661.84
9	Owned	319.69	480.56	42.53	76.71	260.50	152.76	212.29	100.46	421.72	19.97
10	Total	5068.47	4358.21	2782.79	3619.96	3212.20	3644.82	7142.39	5091.83	3396.01	2681.81
11	Seed	2201.94	2154.58	2897.02	2407.28	1542.18	1605.17	3604.77	3737.91	997.70	821.69
Fertilisers and Manure											
12	Fertilisers	5958.53	5094.59	2079.55	1395.24	2316.20	2238.12	6328.31	5699.58	1820.49	1878.34
13	Manure	829.03	788.77	321.14	684.68	2609.18	331.84	5856.40	4545.20	0.00	257.56
14	Total	6787.56	5883.36	2400.69	2079.92	4925.38	2569.96	12184.71	10244.78	1820.49	2135.90
Other Inputs											
15	Insecticides	130.22	67.00	290.12	155.40	1.22	1.82	873.20	836.07	0.00	7.52
16	Irrigation charges	240.43	354.83	0.00	0.00	424.40	353.90	3588.21	2265.65	447.04	917.68
17	Interest on working capital	804.46	679.36	467.67	444.16	474.10	366.20	1298.69	1191.32	380.94	346.42
18	Miscellaneous	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fixed Cost											
19	Rental value of owned land	12157.85	11571.35	7949.44	9963.82	8199.29	8206.38	15506.61	16984.06	13120.88	11286.99
20	Rent paid for leased-in land	10196.11	8960.37	6878.94	8553.16	4642.80	5906.53	12006.75	13084.30	9130.88	7892.64
21	Land revenue, cesses & taxes	0.00	0.00	0.00	0.00	725.74	278.30	149.21	145.65	0.00	301.04
22	Depreciation on implements & Farm buildings	10.23	8.10	2.50	2.87	10.60	7.15	5.84	6.71	9.04	8.80
23	Interest on fixed capital	289.25	262.03	344.39	439.66	309.70	351.90	504.95	302.31	795.23	740.63
Total Cost		1662.26	2340.85	723.61	968.13	2510.45	1662.50	2839.86	3445.09	3185.73	2343.88
		43541.86	37983.20	28949.71	28675.52	42862.28	37008.69	67542.80	65043.54	36670.76	31987.34

Source: DFS

Price Policy for Kharif Crops

Annex Table 5.5(e) : Ragi - Break-up of Cost of Cultivation

S.No.	Cost Items	Andhra Pradesh				Karnataka				Maharashtra				Tamil Nadu				Uttarakhand			
		2013-14	2012-13	(3)	(4)	2013-14	(5)	(6)	(7)	2013-14	(8)	(9)	(10)	2013-14	(11)	(12)	(13)	2013-14	(14)	(15)	(16)
(1)	(2)																				
	Operational Cost	39381.95	29472.74	30736.17	26915.59	35969.31	26332.67	29456.29	32283.61	16503.10	34036.00										
	Human Labour																				
1	Casual	4556.80	8791.08	11496.38	7733.43	10987.65	7832.54	12958.50	8761.36	1466.82	4996.50										
2	Attached	0.00	0.00	182.49	291.83	2751.52	1381.66	12.28	0.00	0.00	0.00										
3	Family	23751.63	13279.94	8200.84	7673.73	11727.13	10649.05	6472.57	15088.23	11005.04	17432.15										
4	Total	28308.43	22071.02	19879.71	15698.99	25466.30	19863.25	19443.35	23849.59	12471.86	22428.65										
	Bullock Labour																				
5	Hired	0.00	457.08	1060.46	700.34	0.00	0.00	160.63	97.45	2174.17	8394.13										
6	Owned	982.56	0.00	2189.26	2911.12	8417.77	5037.29	3358.69	43.28	0.00	0.00										
7	Total	982.56	457.08	3249.72	3611.46	8417.77	5037.29	3519.32	140.73	2174.17	8394.13										
	Machine Labour																				
8	Hired	5267.66	3750.00	3158.38	2639.43	0.00	0.00	189.93	3677.10	0.00	0.00										
9	Owned	0.00	0.00	181.13	86.60	0.00	0.00	10.91	0.00	0.00	0.00										
10	Total	5267.66	3750.00	3339.51	2726.03	0.00	0.00	200.84	3677.10	0.00	0.00										
11	Seed	290.69	573.14	380.22	345.94	67.82	50.18	257.85	2643.64	273.40	198.18										
	Fertilisers and Manure																				
12	Fertilisers	2424.73	641.76	2957.25	2806.32	0.00	0.00	3628.56	65.78	0.00	0.00										
13	Manure	227.84	1410.45	105.17	565.29	1282.82	906.69	8.47	0.00	1417.06	2511.89										
14	Total	2652.57	2052.21	3062.42	3371.61	1282.82	906.69	3637.03	65.78	1417.06	2511.89										
	Other Inputs																				
15	Insecticides	0.00	44.77	0.00	0.56	0.00	0.00	0.00	0.00	0.00	0.00										
16	Irrigation charges	1406.39	33.83	141.70	577.91	0.00	0.00	1701.42	1385.70	0.00	0.00										
17	Interest on working capital	473.65	490.69	682.89	583.09	734.60	475.26	696.48	521.07	166.61	503.15										
18	Miscellaneous	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00										
	Fixed Cost	18418.76	6071.00	9325.26	9022.61	8197.21	6568.56	8718.64	11840.21	5297.66	5390.06										
19	Rental value of owned land	17866.72	5698.29	7585.84	6459.51	4658.41	3603.90	5909.40	8469.65	4768.72	4523.78										
20	Rent paid for leased-in land	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00										
21	Land revenue, cesses & taxes	0.00	0.00	14.00	18.04	15.49	35.66	10.09	14.22	0.40	0.00										
22	Depreciation on implements & Farm buildings	103.12	161.58	323.20	312.21	485.93	401.44	169.36	341.39	433.59	552.81										
23	Interest on fixed capital	448.92	211.13	1402.22	2232.85	3037.38	2527.56	2629.79	3014.95	94.95	313.47										
	Total Cost	57800.71	35543.74	40061.43	35938.20	44166.52	32901.23	38174.93	44123.82	21800.76	39426.06										

Source: DES

Price Policy for Kharif Crops

Annex Table 5.5(f) : Arhar (Tur) - Break-up of Cost of Cultivation

		S.No.		Cost Items		Andhra Pradesh		Bihar		Gujarat		Karnataka		Madhya Pradesh		Maharashtra		Odisha		Uttar Pradesh		(Rs/Ha)
		2013-14	2012-13	2013-14	2012-13	2013-14	2012-13	2013-14	2012-13	2013-14	2012-13	2013-14	2012-13	2013-14	2012-13	2013-14	2012-13	2013-14	2012-13	2013-14	2012-13	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)					
Operational Cost																						
Human Labour																						
1	Casual	7657.62	6111.06	5050.00	3000.00	3924.67	3723.82	4981.73	5485.49	2782.72	3975.02	10591.71	9811.68	972.26	958.09	2979.99	2564.43					
2	Attached	296.25	374.01	0.00	0.00	145.75	341.66	0.00	0.00	0.00	0.00	831.17	878.11	147.45	95.90	0.00	0.00					
3	Family	7259.11	5625.25	603.60	643.70	5562.47	3903.09	3472.37	3506.12	5816.20	3319.53	9818.93	8636.58	6110.84	6075.19	11543.56	9000.82					
4	Total	15212.98	12110.32	5653.60	3643.70	9632.89	7968.57	8454.10	8991.61	8598.92	7294.55	21241.81	19326.37	7230.55	7129.18	14523.55	11565.25					
Bullock Labour																						
5	Hired	1822.22	679.19	0.00	0.00	1011.71	1702.65	870.22	916.43	84.57	117.64	1371.73	1296.13	185.92	265.88	25.68	43.00					
6	Owned	3494.34	2080.00	0.00	0.00	1107.63	2126.58	1564.87	1437.15	1245.17	335.56	4204.63	4546.57	2173.21	2177.96	1219.22	635.29					
7	Total	5316.56	2759.19	0.00	0.00	2119.34	3829.23	2435.09	2353.58	1329.74	453.20	5576.36	5842.70	2359.13	2443.84	1244.90	678.29					
Machine Labour																						
8	Hired	2002.89	1901.99	0.00	0.00	3555.81	1742.84	2952.23	1806.58	2597.84	2288.42	6277.63	4895.11	234.56	60.41	1835.17	2066.81					
9	Owned	101.75	126.85	750.00	420.00	126.52	377.05	86.47	87.27	152.78	346.00	120.90	58.49	0.00	4.29	80.81	91.17					
10	Total	2104.64	2028.84	750.00	420.00	3682.33	2119.89	3038.70	1893.85	2750.62	2634.42	6398.53	4953.60	234.56	64.70	1915.98	2157.98					
11	Seed	1597.52	975.36	1200.00	1680.00	895.48	784.17	763.14	838.82	2292.51	1896.53	1360.11	1356.99	977.21	854.06	1390.21	1202.87					
Fertilisers and Manure																						
12	Fertilisers	1887.19	3452.06	0.00	0.00	2158.64	1664.83	2492.25	1854.12	1248.28	887.55	2988.20	3339.32	60.69	44.26	112.11	79.11					
13	Manure	70.41	55.25	1250.00	3000.00	677.99	950.31	265.62	286.00	654.03	327.35	1281.01	1310.56	58.46	11.24	26.13	8.62					
14	Total	1957.60	3507.31	1250.00	3000.00	2836.63	2615.14	2757.87	2140.12	1902.31	1214.90	4269.21	4649.88	119.15	55.50	138.24	87.73					
Other Inputs																						
15	Insecticides	904.44	1614.75	0.00	0.00	776.10	585.25	2769.74	2505.52	1169.62	980.02	3472.68	3409.91	3.58	6.17	4.61	0.00					
16	Irrigation charges	0.00	126.34	0.00	0.00	969.61	683.30	12.45	63.60	0.00	80.22	140.89	404.77	0.00	0.00	325.57	1268.26					
17	Interest on working capital	619.83	546.78	257.81	253.13	479.67	459.27	523.71	477.53	383.03	351.07	1020.37	979.47	150.42	139.95	249.98	248.74					
18	Miscellaneous	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	29.52	0.00	11.20	35.28	0.00	0.00	0.00	0.00					
Fixed Cost																						
19	Rental value of owned land	11733.18	10872.17	10403.17	7059.32	8810.65	6372.36	11929.94	8861.02	13247.95	12107.50	19580.60	17836.52	6976.65	6121.13	22150.75	25291.41					
20	Rent paid for leased-in land	0.00	0.00	0.00	0.00	332.45	118.09	0.00	0.00	0.00	0.00	0.00	0.00	4068.61	3666.74	10867.52	12212.66					
21	Land revenue, cesses & taxes	0.05	0.84	17.86	17.85	21.98	27.54	8.06	9.53	7.33	9.90	44.72	43.87	13.03	11.15	18.94	13.76					
22	Depreciation on implements & Farm buildings	364.70	501.64	26.53	14.95	433.28	319.29	247.65	219.60	597.27	649.44	945.03	917.49	630.14	697.00	1470.42	1347.93					
23	Interest on fixed capital	1329.35	1768.71	930.21	866.52	1497.70	1629.79	1170.68	1201.10	1305.20	2446.30	4500.29	4830.84	1515.32	1272.96	8678.62	4962.93					
Total Cost		39446.75	34541.06	19514.58	16056.15	30202.70	25431.37	32684.74	28125.65	31704.22	27012.41	63071.76	58795.49	18051.25	16814.53	41943.79	42500.53					

Source: DES

Price Policy for Kharif Crops

Annex Table 5.5(g) : Moong - Break-up of Cost of Cultivation

S. No.	Cost Items	Andhra Pradesh		Karnataka		Maharashtra		Odisha		Rajasthan		Tamil Nadu	
		2013-14	2012-13	2013-14	2012-13	2013-14	2012-13	2013-14	2012-13	2013-14	2012-13	2013-14	2012-13
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
Operational Cost													
Human Labour													
1	Casual	5636.67	5214.84	3897.89	4611.56	5473.40	6943.63	1393.78	1233.00	2635.81	2632.51	7025.36	6063.28
2	Attached	21.23	77.26	0.00	0.00	302.61	980.60	113.54	111.49	19.07	24.65	81.01	21.54
3	Family	2890.98	3114.40	2743.60	2337.35	4917.75	4926.43	5723.68	5198.27	6133.95	5631.18	2977.92	3575.90
4	Total	8548.88	8406.50	6641.49	6948.91	10693.76	12850.66	7231.00	6542.76	8788.83	8288.34	10084.29	9660.72
Bullock Labour													
5	Hired	185.19	107.39	621.69	553.13	960.59	735.88	16.18	61.02	5.79	0.76	7.81	0.00
6	Owned	481.56	1549.17	1688.50	981.41	3252.81	4231.58	1631.57	1938.81	40.74	89.11	16.02	11.58
7	Total	666.75	1656.56	2310.19	1534.54	4213.40	4967.46	1647.75	1999.83	46.53	89.87	23.83	11.58
Machine Labour													
8	Hired	1904.16	923.95	1921.08	1418.87	2710.50	1994.45	617.27	406.58	2207.94	2036.08	1800.54	1591.34
9	Owned	252.50	19.15	188.38	9.56	420.09	297.21	2.36	2.68	64.20	101.49	290.97	59.90
10	Total	2156.66	943.10	2109.46	1428.43	3130.59	2291.66	619.63	409.26	2272.14	2137.57	2091.51	1651.24
11	Seed	1620.98	1169.18	1100.42	1034.44	1477.53	1605.53	1572.38	1412.49	1280.37	1309.66	1712.53	1506.50
Fertilisers and Manure													
12	Fertilisers	656.14	352.88	1924.25	619.19	2260.27	2225.72	31.01	63.53	458.41	704.36	1415.77	1411.50
13	Manure	82.80	120.84	73.22	14.43	2430.83	1284.03	7.33	32.85	1.08	50.26	1332.78	633.39
14	Total	738.94	473.72	1997.47	633.62	4691.10	3509.75	38.34	96.38	459.49	754.62	2748.55	2044.89
Other Inputs													
15	Insecticides	923.48	443.80	371.62	42.36	652.10	633.29	0.00	0.00	149.43	206.22	1016.01	822.83
16	Irrigation charges	45.14	34.72	3.71	167.97	193.07	154.47	0.00	4.75	122.42	90.96	114.81	167.84
17	Interest on working capital	373.37	312.91	368.46	295.40	630.83	659.53	168.30	164.60	218.29	226.44	462.93	384.05
18	Miscellaneous	138.04	0.00	0.00	0.00	52.78	18.57	0.00	0.00	0.00	0.00	0.00	0.00
Fixed Cost		11495.37	7450.33	7240.34	4600.92	5207.00	8513.85	5128.22	4647.80	4546.76	5149.29	7020.96	4602.54
19	Rental value of owned land	10094.50	6340.95	6415.75	3961.45	3383.14	5726.64	4087.20	3510.07	3453.41	2749.65	5971.80	3471.11
20	Rent paid for leased-land in land	0.00	109.99	0.00	0.00	0.00	0.00	44.89	23.97	200.13	898.83	128.11	163.88
21	Land revenue, cesses & taxes	2.80	6.77	4.70	4.93	12.22	12.48	15.66	15.67	1.44	2.08	5.22	4.94
22	Depreciation on implements & Farm buildings	102.81	137.47	199.41	100.66	249.85	287.61	231.60	297.97	140.34	294.15	291.70	203.26
23	Interest on fixed capital	1295.26	855.15	620.48	533.88	1561.79	2487.12	748.87	800.12	751.44	1204.58	624.13	759.35
Total Cost		26707.61	20890.82	22143.16	16686.59	30942.16	35204.77	16405.62	15277.87	17884.26	18252.97	25275.42	20852.19

Source: DES

Price Policy for Kharif Crops

Annex Table 5.5(h) : Urad - Break- up of Cost of Cultivation

S.No.	Cost Items	Andhra Pradesh 2013-14	2012-13	Chhattisgarh 2013-14	2012-13	Madhya Pradesh 2013-14	2012-13	Maharashtra 2013-14	2012-13	Odisha 2013-14	2012-13	Rajasthan 2013-14	2012-13	Tamil Nadu 2013-14	2012-13	Uttar Pradesh 2013-14	2012-13
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)
Operational Cost		18087.95	18355.84	14862.46	11927.49	14489.96	12603.34	22096.06	23546.49	11378.96	10003.17	15703.23	19434.45	21594.00	17265.07	11736.15	10485.35
Human Labour																	
1	Casual	8723.73	8853.86	749.71	650.78	3281.07	2861.05	5206.24	6044.86	602.15	877.46	2027.81	2398.78	8712.63	6332.83	2617.78	1352.54
2	Attached	16.67	50.70	0.00	0.00	364.38	36.74	1266.67	407.02	3.55	14.78	51.63	107.91	173.44	473.30	15.88	9.84
3	Family	1876.93	1721.92	9149.89	7665.05	3611.49	3133.07	3477.18	5050.61	6420.43	5095.10	8629.90	10185.42	3351.40	2817.03	3769.03	4533.59
4	Total	10617.33	10626.48	9899.60	8315.83	7256.94	6030.86	9950.09	11502.49	7026.13	5987.34	10709.34	12692.11	12237.47	9623.16	6402.69	5895.97
Bullock Labour																	
5	Hired	41.05	116.18	0.00	0.00	10.17	22.45	792.23	1315.96	77.90	256.46	137.49	187.10	3.12	1.12	7.87	8.64
6	Owined	26.57	220.08	3736.66	2196.70	503.65	351.69	3566.34	3929.33	2084.58	1780.46	803.47	1868.01	15.00	27.49	189.98	322.30
7	Total	67.62	336.26	3736.66	2196.70	513.82	374.14	4358.57	5245.29	2162.48	2036.92	940.96	2055.11	18.12	28.61	197.85	330.94
Machine Labour																	
8	Hired	1893.73	1846.79	0.00	158.98	2598.91	3127.76	2480.29	2469.93	540.07	269.37	1241.41	1938.75	2362.75	1788.87	3039.34	2147.20
9	Owined	6.29	39.46	0.00	0.00	265.64	54.49	251.27	63.12	1.34	0.51	501.89	468.21	310.52	359.92	299.57	632.14
10	Total	1900.02	1886.25	0.00	158.98	2864.55	3182.25	2731.56	2533.05	541.41	269.88	1743.30	2406.96	2673.27	2148.79	3338.91	2779.34
11	Seed	2903.71	2486.66	1053.09	1126.82	1490.36	1248.39	1210.89	1301.41	1453.65	1347.97	911.71	977.65	1802.96	1521.52	1093.93	922.04
Fertilisers and Manure																	
12	Fertilisers	93.14	186.66	0.00	0.00	1414.23	967.58	2075.11	1836.31	29.09	132.08	741.41	647.97	1366.08	1643.53	192.21	50.95
13	Manure	9.98	9.61	0.00	0.00	411.12	144.34	298.24	83.52	14.63	79.52	303.84	178.41	1621.04	922.73	0.00	0.00
14	Total	103.12	196.27	0.00	0.00	1825.35	1111.92	2373.35	1919.83	43.72	211.60	1045.25	826.38	2987.12	2566.26	192.21	50.95
Other Inputs																	
15	Insecticides	2000.90	2315.95	0.00	0.00	204.27	368.80	907.40	483.94	1.31	0.73	137.06	195.97	1049.54	629.55	78.87	299.70
16	Irrigation charges	0.00	1.17	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.27	0.00	272.71	309.36	190.26	26.05
17	Interest on working capital	491.24	504.06	173.11	129.16	329.65	286.98	564.20	560.48	150.26	148.73	214.34	280.27	552.81	437.82	241.43	180.36
18	Miscellaneous	4.01	2.74	0.00	0.00	5.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fixed Cost		13863.61	13489.74	6908.56	7654.95	5846.18	7554.68	5186.52	4649.54	4398.02	3914.57	4485.25	5808.21	7691.06	5456.14	5239.82	5855.34
19	Rental value of owned land	13607.09	13011.85	5742.20	7147.27	5009.09	6732.76	3872.90	3484.94	3400.90	2801.85	2200.52	4302.14	5758.16	3459.33	3923.71	2979.32
20	Rent paid for leased-in land	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	515.15	0.00	49.98	0.00	0.00	1557.06
21	Land revenue, cesses & taxes	1.62	3.48	5.26	8.18	4.15	3.90	10.66	18.04	11.92	12.08	4.54	7.86	4.71	6.92	4.05	3.66
22	Depreciation on implements & Farm buildings	106.60	131.38	445.67	160.70	146.28	147.96	157.88	159.21	239.11	321.77	188.90	311.76	313.17	340.11	277.20	313.05
23	Interest on fixed capital	148.30	343.03	715.43	338.80	686.66	670.06	1145.08	987.35	746.09	778.87	1576.14	1186.45	1565.04	1649.78	1034.86	1002.25
Total Cost		31951.56	31845.58	21771.02	19582.44	20336.14	20158.02	27282.58	28196.03	15776.98	13917.74	20188.48	25242.66	29285.06	22721.21	16975.97	16340.69

Source: DES

Price Policy for Kharif Crops

Annex Table 5.5(i) : Groundnut - Break- up of Cost of Cultivation

S. No.	Cost Items	Andhra Pradesh		Gujarat		Karnataka		Maharashtra		Odisha		Tamil Nadu		(Rs/Ha)
		2013-14 (3)	2012-13 (4)	2013-14 (5)	2012-13 (6)	2013-14 (7)	2012-13 (8)	2013-14 (9)	2012-13 (10)	2013-14 (11)	2012-13 (12)	2013-14 (13)	2012-13 (14)	
(1)	(2)													
Operational Cost														
Human Labour														
1	Casual	16199.62	16280.80	6471.65	4772.42	8277.74	4563.51	9040.23	10123.31	7489.68	7276.57	15505.79	13748.61	
2	Attached	294.73	444.19	94.37	13.16	10.61	16.92	358.52	3710.02	365.54	178.34	216.41	378.73	
3	Family	8848.12	7641.47	9511.78	6703.62	3810.69	6123.31	13370.07	10111.92	13868.08	13334.02	15487.96	11507.73	
4	Total	25342.47	24366.46	16077.80	11489.20	12099.04	10709.74	22768.82	23945.25	21723.30	20788.93	31210.16	25635.07	
Bullock Labour														
5	Hired	1155.71	965.67	625.83	490.21	771.40	710.15	574.31	322.20	29.26	22.58	831.27	1008.61	
6	Owned	729.16	789.02	3181.15	2615.08	1699.17	2350.28	2704.50	2196.65	1545.51	2071.21	29.69	215.08	
7	Total	1884.87	1754.69	3806.98	3105.29	2470.57	3060.43	3278.81	2518.85	1574.77	2093.79	860.96	1223.69	
Machine Labour														
8	Hired	3581.57	3133.45	4307.81	3043.65	2425.66	1639.50	3345.52	2341.06	1431.37	1167.78	4502.56	3673.40	
9	Owned	10.38	26.02	599.92	514.14	72.19	99.31	143.08	54.46	65.10	17.13	52.12	107.59	
10	Total	3591.95	3159.47	4907.73	3557.79	2497.85	1738.81	3488.60	2395.52	1496.47	1184.91	4554.68	3780.99	
11	Seed	11037.81	11062.46	11215.10	10691.68	7685.56	8146.49	8723.68	8778.49	5096.35	5615.66	9094.26	8828.92	
Fertilisers and Manure														
12	Fertilisers	3726.10	3448.89	2775.53	2481.69	2741.19	4578.31	3060.47	2736.16	2982.81	3344.97	3625.39	2994.23	
13	Manure	1893.00	1680.86	2166.44	2967.88	340.44	14.49	454.63	405.11	245.21	218.80	5201.97	3151.01	
14	Total	5619.10	5129.75	4941.97	5449.57	3081.63	4592.80	3515.10	3141.27	3228.02	3563.77	8827.36	6145.24	
Other Inputs														
15	Insecticides	698.94	600.06	1870.78	659.62	230.27	645.75	158.61	404.58	0.00	0.00	567.08	548.82	
16	Irrigation charges	1384.33	1323.91	1002.09	1507.17	449.94	1078.45	890.06	2986.40	159.81	231.58	2114.59	1513.60	
17	Interest on working capital	1272.23	1242.41	1072.50	930.01	772.01	745.10	920.41	1064.33	606.58	629.52	1304.41	1130.27	
18	Miscellaneous	0.00	1.92	9.26	3.52	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Fixed Cost														
19	Rental value of owned land	21297.60	33054.14	14942.56	10620.80	9399.33	10365.51	13156.30	18376.10	13489.58	16850.72	14818.54	12142.93	
20	Rent paid for leased-in land	18789.64	30159.27	12560.10	7591.90	8381.88	8352.31	10324.40	15431.29	11530.98	15188.54	11030.98	9115.16	
21	Land revenue, cesses & taxes	0.00	0.00	368.60	506.23	0.00	0.00	0.00	0.00	86.14	14.97	250.12	63.79	
22	Depreciation on implements & Farm buildings	0.12	1.00	4.72	5.64	4.37	8.77	20.78	23.86	11.67	11.20	5.30	6.48	
23	Interest on fixed capital	267.18	361.05	132.90	234.03	186.22	217.53	362.36	354.46	289.29	336.73	313.38	332.60	
Total	Total Cost	2240.66	2532.82	1876.24	2283.00	826.86	1786.90	2448.76	2566.49	1571.50	1299.28	3218.76	2624.90	
		72129.30	81695.27	59846.77	48014.65	38686.20	41083.08	56900.39	63610.79	47374.88	50958.88	73352.04	60949.53	

Source: DES

Price Policy for Kharif Crops

Annex Table 5.5(j) : Soybean - Break-up of Cost of Cultivation

(Rs/Ha)

S.No.	Cost Items	Madhya Pradesh		Maharashtra		Rajasthan	
		2013-14	2012-13	2013-14	2012-13	2013-14	2012-13
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Operational Cost		19398.80	18759.16	30964.62	28974.35	18622.45	16988.79
Human Labour							
1	Casual	2697.12	2580.03	6735.80	6592.00	2529.16	2462.52
2	Attached	132.09	83.77	312.75	218.65	65.29	70.80
3	Family	3586.94	3719.34	3516.32	3359.28	4569.09	3822.60
4	Total	6416.15	6383.14	10564.87	10169.93	7163.54	6355.92
Bullock Labour							
5	Hired	137.26	251.07	710.78	584.49	60.92	108.74
6	Owned	607.29	589.71	2477.07	2507.92	133.31	285.92
7	Total	744.55	840.78	3187.85	3092.41	194.23	394.66
Machine Labour							
8	Hired	3495.32	3288.90	5995.28	5969.27	2863.18	3097.16
9	Owned	291.55	338.52	294.52	171.32	541.97	418.86
10	Total	3786.87	3627.42	6289.80	6140.59	3405.15	3516.02
11	Seed	3842.59	3676.67	3924.96	3513.34	4890.62	4507.90
Fertilisers and Manure							
12	Fertilisers	1705.46	1472.32	2901.32	2473.94	784.36	329.24
13	Manure	606.35	676.28	1634.39	1332.29	339.73	505.03
14	Total	2311.81	2148.60	4535.71	3806.23	1124.09	834.27
Other Inputs							
15	Insecticides	1802.56	1611.16	1490.65	1277.05	1393.65	965.07
16	Irrigation charges	0.00	0.00	134.75	191.17	25.31	15.97
17	Interest on working capital	479.15	455.75	831.77	776.21	425.86	398.98
18	Miscellaneous	15.12	15.64	4.26	7.42	0.00	0.00
Fixed Cost		8202.81	12182.14	9674.78	11650.72	5627.93	9183.36
19	Rental value of owned land	7141.56	10982.97	7198.31	9189.91	3788.44	7271.20
20	Rent paid for leased-in land	0.00	0.00	0.00	47.33	0.00	0.00
21	Land revenue, cesses & taxes	3.61	3.51	21.56	19.86	6.25	6.40
22	Depreciation on implements & Farm buildings	229.34	259.08	404.32	438.57	173.98	278.70
23	Interest on fixed capital	828.30	936.58	2050.59	1955.05	1659.26	1627.06
Total Cost		27601.61	30941.30	40639.40	40625.07	24250.38	26172.15

Source: DES

Price Policy for Kharif Crops

Annex Table 5.5(k) : Sunflower - Break-up of Cost of Cultivation

(Rs/Ha)

S. No.	Cost Items	Andhra Pradesh		Karnataka		Maharashtra	
		2013-14	2012-13	2013-14	2012-13	2013-14	2012-13
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Operational Cost		23961.75	28261.54	14256.49	14034.45	19791.96	23832.44
Human Labour							
1	Casual	2950.00	6336.75	2881.22	3038.09	5056.87	7259.33
2	Attached	0.00	0.00	0.00	0.00	1716.96	352.23
3	Family	11316.95	5565.27	1784.53	2018.55	1782.41	3599.22
4	Total	14266.95	11902.02	4665.75	5056.64	8556.24	11210.78
Bullock Labour							
5	Hired	625.00	2026.89	901.45	910.93	2273.42	87.79
6	Owned	0.00	186.62	1127.88	775.80	2383.60	3843.66
7	Total	625.00	2213.51	2029.33	1686.73	4657.02	3931.45
Machine Labour							
8	Hired	750.00	3253.90	2391.77	2649.46	2352.28	2088.77
9	Owned	0.00	321.95	400.95	171.70	91.56	0.00
10	Total	750.00	3575.85	2792.72	2821.16	2443.84	2088.77
11	Seed	2250.00	2351.25	1973.07	1702.85	1219.09	2249.14
Fertilisers and Manure							
12	Fertilisers	4600.00	3717.44	2054.57	2023.16	2088.85	2208.33
13	Manure	0.00	858.58	102.83	127.18	0.00	0.00
14	Total	4600.00	4576.02	2157.40	2150.34	2088.85	2208.33
Other Inputs							
15	Insecticides	268.75	2101.16	96.35	101.20	80.04	0.00
16	Irrigation charges	817.87	818.82	163.93	151.41	201.14	1530.84
17	Interest on working capital	383.18	687.77	377.94	364.12	545.74	613.13
18	Miscellaneous	0.00	35.14	0.00	0.00	0.00	0.00
Fixed Cost		8204.13	10803.96	4998.96	5439.79	4137.58	9136.00
19	Rental value of owned land	7087.50	9985.77	3910.90	4264.39	2432.81	7300.67
20	Rent paid for leased-in land	0.00	0.00	0.00	0.00	0.00	0.00
21	Land revenue, cesses & taxes	0.00	4.64	4.89	6.29	28.11	11.75
22	Depreciation on implements & Farm buildings	218.75	115.77	116.55	179.85	259.27	214.76
23	Interest on fixed capital	897.88	697.78	966.62	989.26	1417.39	1608.82
Total Cost		32165.88	39065.50	19255.45	19474.24	23929.54	32968.44

Source: DES

Price Policy for Kharif Crops

Annex Table 5.5(l) : Sesamum - Break-up of Cost of Cultivation

S. No.	Cost Items	Andhra Pradesh		Gujarat		Madhya Pradesh		Odisha		Rajasthan		Tamil Nadu		West Bengal	
		2013-14	2012-13	2013-14	2012-13	2013-14	2012-13	2013-14	2012-13	2013-14	2012-13	2013-14	2012-13	2013-14	2012-13
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
Operational Cost															
Human Labour															
1	Casual	5628.90	4627.97	5772.28	3483.79	2437.95	3185.85	2029.65	1223.35	1737.03	1836.91	7844.15	7727.55	9436.33	9137.19
2	Attached	109.40	0.00	0.00	372.92	0.00	0.00	1025.16	1047.72	0.00	182.24	831.73	801.09	15.17	12.43
3	Family	4992.01	2855.44	6712.25	4343.53	6609.83	4505.42	3628.18	3545.64	5580.22	5221.52	7401.50	5858.80	6010.05	5262.77
4	Total	10730.31	7483.41	12484.53	8200.24	9047.78	7691.27	6682.99	5816.71	7317.25	7240.67	16077.38	14387.44	15461.55	14412.39
Bullock Labour															
5	Hired	806.68	1214.96	161.87	314.86	14.82	14.44	12.71	2.91	0.00	26.14	0.00	247.26	502.63	243.57
6	Owned	1288.48	784.43	643.34	1091.23	15.77	20.02	1498.37	1781.22	0.00	295.99	0.00	0.00	2370.94	1265.59
7	Total	2095.16	1999.39	805.21	1406.09	30.59	34.46	1511.08	1784.13	0.00	322.13	0.00	247.26	2873.57	1509.16
Machine Labour															
8	Hired	1814.02	1199.68	1927.62	1639.23	3136.82	2865.22	310.13	253.87	1723.39	999.82	1457.55	1756.93	1420.60	1541.90
9	Owned	83.88	34.05	278.24	236.20	6.15	10.84	128.73	0.00	33.46	259.16	674.57	509.40	13.93	24.14
10	Total	1897.90	1233.73	2205.86	1875.43	3142.97	2876.06	438.86	253.87	1756.85	1258.98	2132.12	2266.33	1434.53	1566.04
11	Seed	685.84	514.76	1411.25	673.96	989.30	854.62	713.06	575.39	411.33	411.19	821.48	655.07	650.18	618.45
Fertilisers and Manure															
12	Fertilisers	709.36	450.90	2277.96	1484.52	1342.65	1034.42	23.14	29.04	116.78	448.27	2025.21	2062.37	2336.84	1984.09
13	Manure	591.05	506.42	216.00	223.32	313.15	0.00	0.00	0.00	0.00	10.38	396.92	759.12	208.51	37.16
14	Total	1300.41	957.32	2493.96	1707.84	1655.80	1034.42	23.14	29.04	116.78	458.65	2422.13	2821.49	2545.35	2021.25
Other Inputs															
15	Insecticides	318.00	199.25	962.26	427.58	143.07	0.00	0.00	0.00	0.00	0.00	140.37	180.38	206.79	147.83
16	Irrigation charges	265.03	242.84	1350.04	687.77	0.00	0.00	91.62	0.00	0.00	0.00	1084.06	743.22	1275.56	816.55
17	Interest on working capital	384.66	305.63	468.78	332.36	262.49	249.54	182.27	153.55	125.69	139.69	477.38	482.57	576.17	494.65
18	Miscellaneous	8.32	4.96	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fixed Cost															
19	Rental value of owned land	9672.90	6434.31	10093.73	6410.82	13529.53	11049.52	6243.06	4247.25	4681.00	4887.01	9635.39	8534.20	9685.81	6798.42
20	Rent paid for leased-in land	7843.95	5652.74	8991.74	4928.34	12753.65	10135.49	4699.83	2982.69	2894.79	2682.49	6338.39	5739.45	8795.93	6127.89
21	Land revenue, cesses & taxes	0.00	0.00	66.57	600.61	0.00	0.00	0.00	262.58	647.62	625.04	0.00	46.83	0.00	0.00
22	Depreciation on implements & Farm buildings	0.74	1.32	4.84	7.46	3.43	3.72	16.33	14.57	3.67	4.48	6.89	11.45	31.95	21.00
23	Interest on fixed capital	108.79	98.80	96.22	138.23	132.74	133.88	253.70	244.51	272.63	252.94	397.91	290.86	258.62	187.26
Total Cost		1719.42	681.45	934.36	736.18	639.71	776.43	1273.20	742.90	862.29	1322.06	2892.20	2445.61	599.31	462.27
		27358.53	19375.60	32275.62	21722.09	28801.53	23789.89	15886.08	12859.94	14408.90	14718.32	32790.31	30317.96	34709.51	28384.74

Source: DES

Price Policy for Kharif Crops

Annex Table 5.5(m) : Nigerseed - Break-up of Cost of Cultivation

(Rs/Ha)

S. No.	Cost Items	Odisha	
		2013-14	2012-13
(1)	(2)	(3)	(4)
Operational Cost		11418.02	11028.88
Human Labour			
1	Casual	884.36	870.81
2	Attached	0.00	16.66
3	Family	6703.26	6031.72
4	Total	7587.62	6919.19
Bullock Labour			
5	Hired	19.01	12.37
6	Owned	3138.31	3511.50
7	Total	3157.32	3523.87
Machine Labour			
8	Hired	146.47	66.70
9	Owned	0.00	0.00
10	Total	146.47	66.70
11	Seed	383.73	367.69
Fertilisers and Manure			
12	Fertilisers	0.00	0.00
13	Manure	0.00	0.00
14	Total	0.00	0.00
Other Inputs			
15	Insecticides	0.00	0.00
16	Irrigation charges	0.00	0.00
17	Interest on working capital	142.88	151.43
18	Miscellaneous	0.00	0.00
Fixed Cost		5344.17	5702.48
19	Rental value of owned land	3886.75	4536.82
20	Rent paid for leased-in land	0.00	0.00
21	Land revenue, cesses & taxes	9.56	9.22
22	Depreciation on implements & Farm buildings	490.83	356.91
23	Interest on fixed capital	957.03	799.53
Total Cost		16762.19	16731.36

Source: DES

Price Policy for Kharif Crops

Annex Table 5.5(n) : Cotton – Break-up of Cost of Cultivation

S. No.	Cost Items	Andhra Pradesh	Gujarat	Haryana	Karnataka	Madhya Pradesh	Maharashtra	Odisha	Punjab	Rajasthan	Tamil Nadu
(1)	(2)	2013-14	2012-13	2013-14	2012-13	2013-14	2012-13	2013-14	2012-13	2013-14	2012-13
(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)	(23)	(24)	(25)	(26)
Operational Cost		55887.33	49164.10	49472.73	40688.94	47321.80	43367.47	35791.64	29710.46	54663.07	53319.90
Human Labour											
1	Casual	22521.81	18317.15	14393.03	9490.78	10746.96	4726.73	12057.72	8335.17	15224.20	13769.79
2	Attached	1082.65	939.90	297.07	92.01	612.21	498.45	0.00	0.00	718.62	1333.58
3	Family	7222.36	7054.03	11395.06	9446.19	17313.01	20560.94	5963.76	5098.52	8417.54	6860.90
4	Total	30826.82	26311.08	26085.16	19028.98	28672.18	25786.12	18021.48	13433.69	12992.43	10964.29
Bullock Labour											
5	Hired	1130.13	861.99	552.67	577.62	24.83	135.23	601.54	617.80	147.96	370.62
6	Owned	3468.91	2097.69	1687.29	1678.29	569.59	1022.00	2491.67	1751.39	2781.59	1849.91
7	Total	4599.04	2959.68	2239.96	2255.91	594.42	1157.23	3093.21	2369.19	2929.55	2220.53
Machine Labour											
8	Hired	2942.84	2617.19	3249.62	2650.28	3159.52	2352.94	2707.02	2920.36	1582.17	1807.49
9	Owned	291.61	188.85	788.28	837.96	1438.77	1028.92	140.59	195.69	4.51	3.10
10	Total	3234.45	2806.04	4037.90	3488.24	4598.29	3381.86	2847.61	3116.05	1586.68	1810.59
11	Seed	3639.78	4120.46	3003.51	3456.53	4604.17	4522.28	4046.36	4872.56	2421.10	2403.27
Fertilisers and Manure											
12	Fertilisers	7572.56	7338.36	5307.41	3735.67	3402.93	2674.63	5130.53	3294.90	2861.75	2832.67
13	Manure	783.52	1120.11	2439.07	3274.29	22.50	0.00	337.61	518.44	1212.38	1028.73
14	Total	8356.08	8458.47	7746.48	7009.96	3425.43	2674.63	5468.14	3813.34	4074.13	3861.40
Other Inputs											
15	Insecticides	3732.65	3134.40	2285.61	1594.90	1877.10	1440.51	1046.19	929.57	1233.44	2073.25
16	Irrigation charges	22.84	92.93	2920.24	2907.67	2640.85	3693.83	364.77	430.24	712.70	528.17
17	Interest on working capital	1474.70	1276.06	1153.87	946.75	909.36	691.11	903.88	745.82	547.89	531.27
18	Miscellaneous	0.97	4.98	0.00	0.00	0.00	19.90	0.00	0.00	0.00	0.00
Fixed Cost		27604.20	21445.41	21200.76	14080.51	22428.83	23762.08	19170.71	14724.38	17318.18	17039.07
19	Rental value of owned land	23875.29	17272.16	15849.68	8546.31	19673.27	20205.15	17051.45	11878.13	14911.75	15292.28
20	Rent paid for leased-in land	645.37	1544.46	896.52	873.00	0.00	0.00	0.00	0.00	0.00	0.00
21	Land revenue, cesses & taxes	0.42	0.57	12.01	11.66	0.00	0.00	10.46	8.64	1.90	2.00
22	Depreciation on implements & Farm buildings	320.45	239.10	285.89	299.79	217.00	431.12	365.00	298.53	502.55	383.59
23	Interest on fixed capital	2762.67	2389.12	4156.66	4349.75	2538.56	3125.81	1743.80	2539.08	1901.98	1361.20
Total Cost		83491.53	70609.51	70673.49	54769.45	69750.63	67129.55	54962.35	44343.84	43816.10	41431.84

Source: DES

Price Policy for Kharif Crops

Annex Table 5.6 : Comparison of Cost Projections of Kharif Crops - 2016-17 KMS

S. No.	Crop/State	State Projections		CACP Projections on the basis of CS data	
		Yield (qtl/ha)	Cost of Production (Rs/qtl)	Yield (qtl/ha)	Cost of Production (Rs/qtl)
(1)	(2)	(3)	(4)	(5)	(6)
Paddy					
1	Andhra Pradesh	60	1841	56	1402
2	Bihar	39	1441	26	1259
3	Haryana	44	1518	46	1484
4	Maharashtra	28	2229	33	1906
5	Punjab	58	1475	64	1065
6	Telangana*	50	2079	56	1402
Jowar					
7	Andhra Pradesh	16	1810	21	1815
8	Maharashtra	18	1882	14	1956
9	Telangana*	11	2493	21	1815
Bajra					
10	Andhra Pradesh	17	1555	NP	
11	Haryana	19	1113	19	1373
12	Maharashtra	15	2207	20	1608
13	Telangana	12	2137	NP	
Maize					
14	Andhra Pradesh	49	1600	47	1159
15	Bihar	30	1410	32	990
16	Haryana	23	1493	NP	
17	Maharashtra	37	1275	NP	
18	Telangana*	34	1883	47	1159
Ragi					
19	Andhra Pradesh	12	1877	15	2775
20	Telangana*	12	2205	15	2775
Arhar (Tur)					
21	Andhra Pradesh	6	5722	8	4584
22	Maharashtra	18	3888	18	4612
23	Telangana*	5	6841	8	4584

(Continued)

Price Policy for Kharif Crops

Annex Table 5.6 : Comparison of Cost Projections of Kharif Crops - 2016-17 KMS

S.No.	Crop/State	State Projections		CACP Projections on the basis of CS data	
		Yield (qtl/ha)	Cost of Production (Rs/qtl)	Yield (qtl/ha)	Cost of Production (Rs/qtl)
(1)	(2)	(3)	(4)	(5)	(6)
Moong					
24	Andhra Pradesh	6	5296	6	4484
25	Maharashtra	5	6895	6	5751
26	Telangana*	5	5918	6	4484
Urad					
27	Andhra Pradesh	7	4965	11	3419
28	Maharashtra	7	5666	5	7254
29	Telangana*	6	5064	11	3419
Groundnut					
30	Andhra Pradesh	10	4879	18	4218
31	Maharashtra	10	5847	17	3930
31	Telangana*	12	4791	18	4218
Soybean					
33	Andhra Pradesh	19	2905	NP	
34	Maharashtra	12	3361	15	3147
35	Telangana*	15	3157	NP	
Sunflower					
36	Andhra Pradesh	8	4778	9	4308
37	Telangana*	6	5941	9	4308
Sesamum					
38	Andhra Pradesh	5	6704	3	7963
39	Telangana*	3	6799	3	7963
Cotton (Medium Staple)					
40	Andhra Pradesh	20	4959	19	3912
41	Haryana	18	3870	18	3759
42	Maharashtra	13	5581	17	4632
43	Punjab	18	4557	20	3932
44	Telangana*	20	5150	19	3912

NP: Not Projected due to non-availability of CS estimates.

* The CACP projections of Andhra Pradesh (A.P. and Telangana united) are considered for Telangana.

(Concluded)

Price Policy for Kharif Crops

**Annex Table 5.7 : All India Projected Cost of Production of Kharif Crops for
2016-17 over 2015-16 KMS**

S. No.	Crops	Cost of Production (Rs./qtl.)				Percentage Change in Projected Cost (2016-17 over 2015-16) %	
		2016-17		2015-16			
		A ₂ +FL	C ₂	A ₂ +FL	C ₂	A ₂ +FL	C ₂
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
1	Paddy	1045	1378	1020	1324	2.5	4.1
2	Jowar	1501	1992	1467	1929	2.3	3.3
3	Bajra	925	1218	893	1154	3.6	5.6
4	Maize	966	1286	941	1223	2.6	5.2
5	Ragi	1733	2150	1688	2069	2.7	3.9
6	Arhar (Tur)	3241	4314	3237	4272	0.1	1.0
7	Moong	4065	5191	3993	5025	1.8	3.3
8	Urad	3584	4661	3455	4483	3.7	4.0
9	G.Nut	3371	4300	3314	4195	1.7	2.5
10	Soybean	1852	2542	1770	2418	4.6	5.1
11	Sunflower	3479	4418	3282	4114	6.0	7.4
12	Seasmum	4188	5570	4132	5189	1.4	7.3
13	Nigerseed	3366	4320	3146	4068	7.0	6.2
14	Cotton	2889	3920	2753	3767	5.0	4.1

Price Policy for Kharif Crops

Annex Table - 6.1 : MSP Suggested by State Governments for the Kharif Crops of 2016-17

(Rs/Quintal)

S.No.	State	Paddy (Common)	Paddy (Gr-A)/(S. Fine)	Paddy (Basmati)	Jowar	Bajra	Maize	Ragi	Arhar (Tur)	Moong	Urad	Ground-nut (in shell)	Sesamum	Soya-bean	Soya-bean (Yellow)	Soya-bean (Black)	Sunflower-seed	Niger-seed	Cotton	Cotton (Medium Staple)	Cotton (Long Staple)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)
1	Andhra Pd.	2762	3392		2714	2333	2400	2816	8583	7945	7448	7319	10056	4358			7167			7438	7593
2	Assam	1495	1535						5300	4750	4650		5100								
3	Bihar	1801					1762														
4	Chhattisgarh	2200	2250				1450		6500	7000	6500	5500	6000	3250			4600	5000			
5	Goa	1500						1750				4060									
6	Gujarat	2000			2030	1950	2100		5500	5500	5500	5500	6200							5300	5500
7	Haryana	2281				1683	2244												5775		
8	Himachal Pd.	1450			1570	1275	1325	1650	4625	4850	4625	4030	4700	2600			3800	3650		3800	4100
9	Karnataka	2000			3000	2600	1800	3000	6500	6000	6000	6200			4700		5000		5600		
10	Kerala	2350	2400																		
11	Madhya Pd.	2100	2600		2000		2000		6000			4500	5000		3500			4500		4050	5000
12	Odisha	2500					1500		5100	6000	5500	5000	6000					4200	4500	4800	5000
13	Puducherry	2000	2350							6500	7000	7000	6600						5000		
14	Punjab	1900	1960				1850		5900	6200	6000	5400							5551		
15	Rajasthan					1500	1550			5000	5000		5500	3000					4500		
16	Tamil Nadu	2200	2300		1800	1600	1700	1800	5000	5350	5000	4950	5500	3100			4950			4200	4550
17	Telangana	3118	3986		3740	3206	2824	3308	10261	8878	7595	7186	10198	4735			8911			7725	8092
18	Uttar Pradesh	2430	2740	3890	2385	2175	2115		5765	6195	6080	5245		4125							
19	West Bengal	1775																			

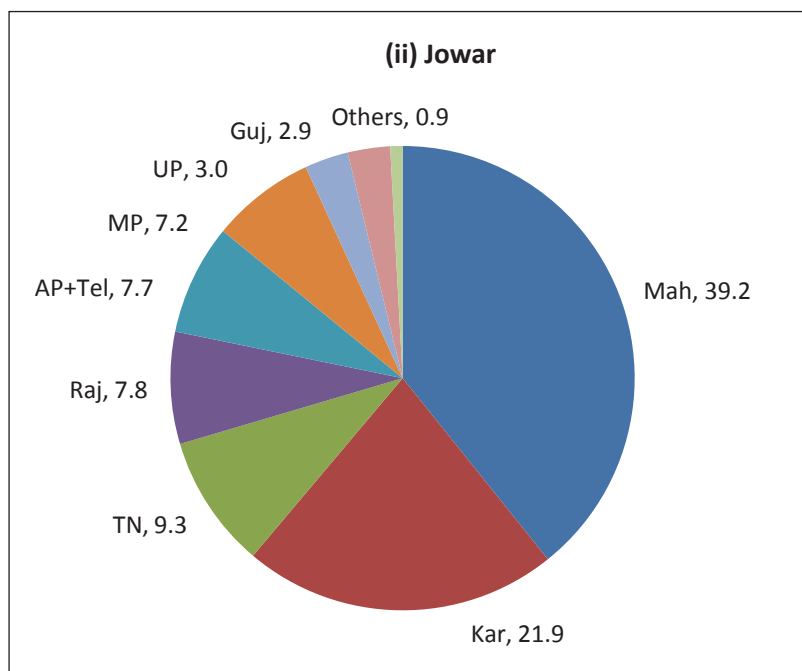
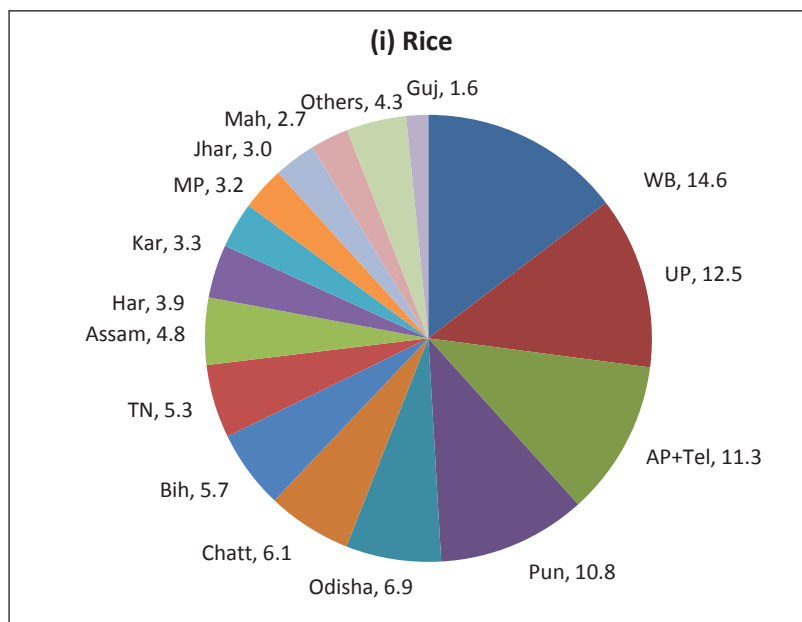
Source : State Replies



Annex Charts

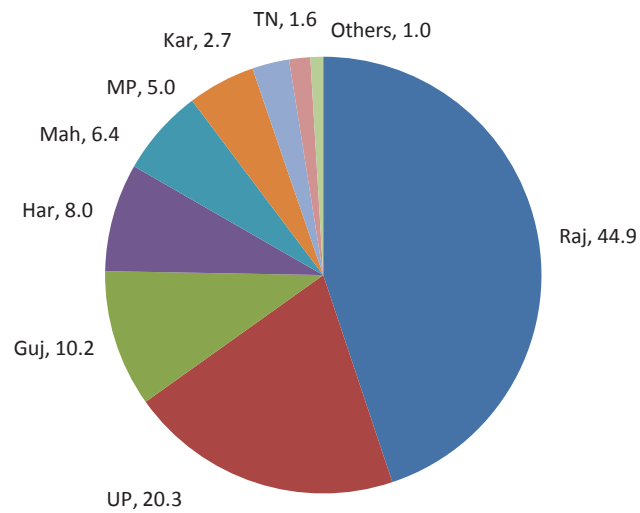
Price Policy for Kharif Crops

Annex Chart 1.1: Production Shares of Kharif Crops, TE 2015-16

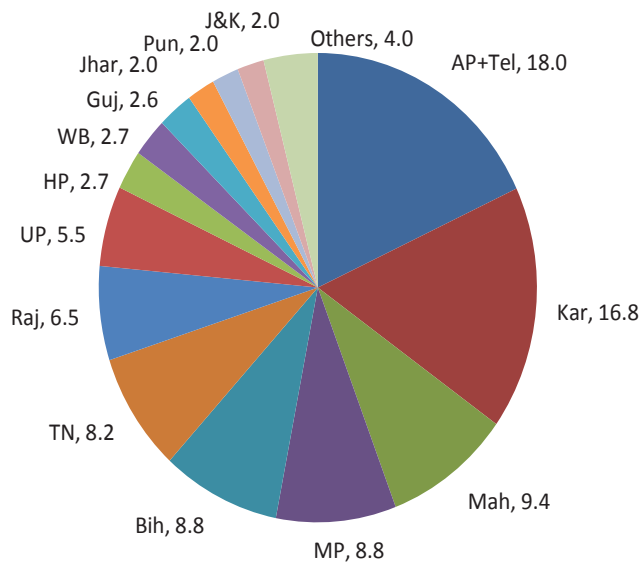


Price Policy for Kharif Crops

(iii) Bajra

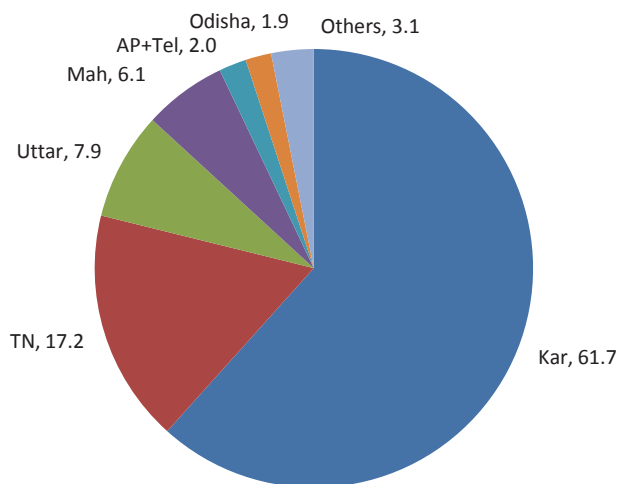


(iv) Maize

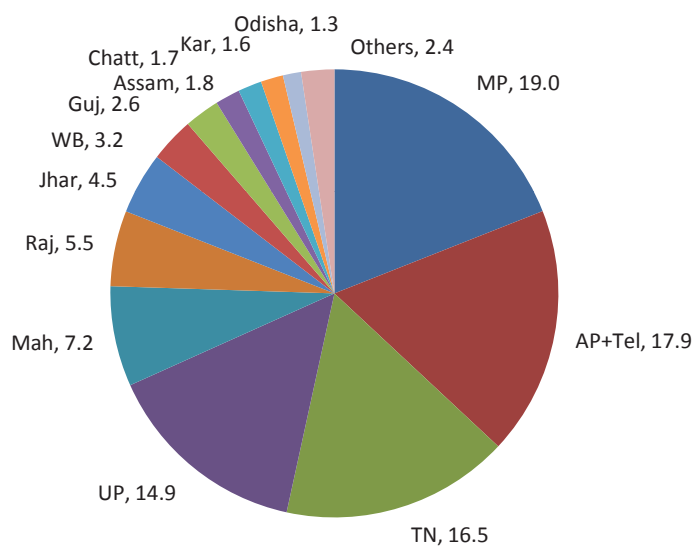


Price Policy for Kharif Crops

(v) Ragi

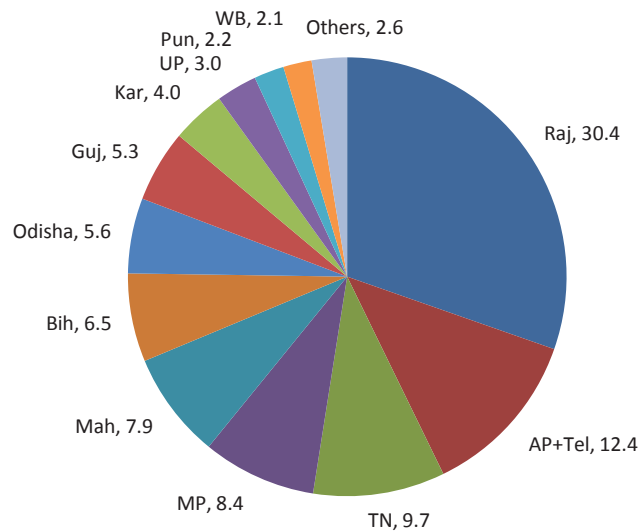


(vi) Urad

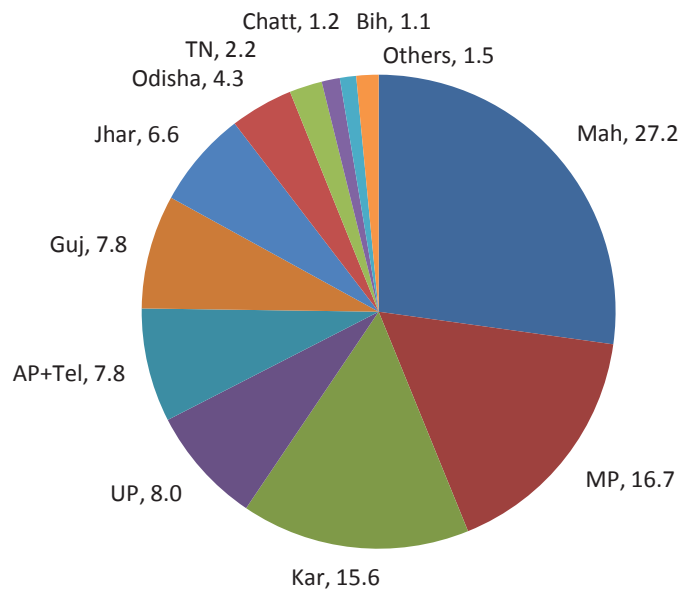


Price Policy for Kharif Crops

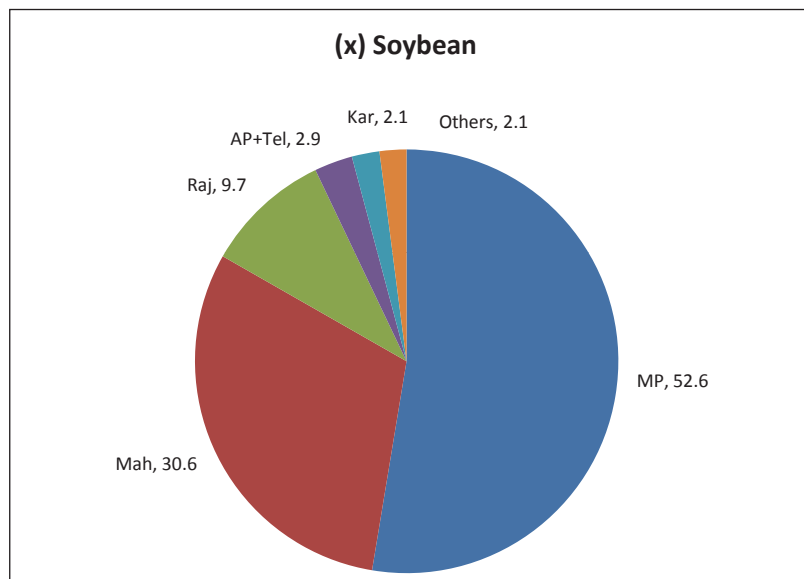
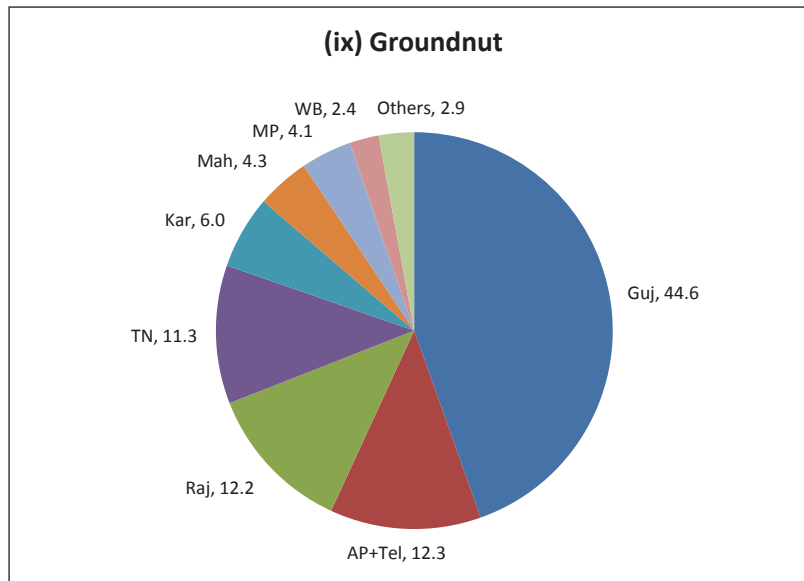
(vii) Moong



(viii) Tur

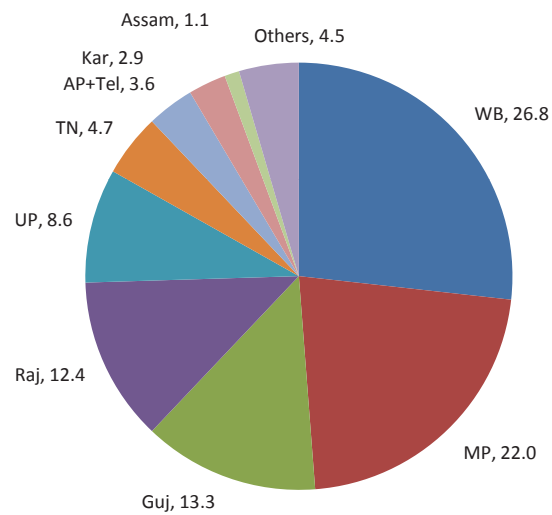


Price Policy for Kharif Crops

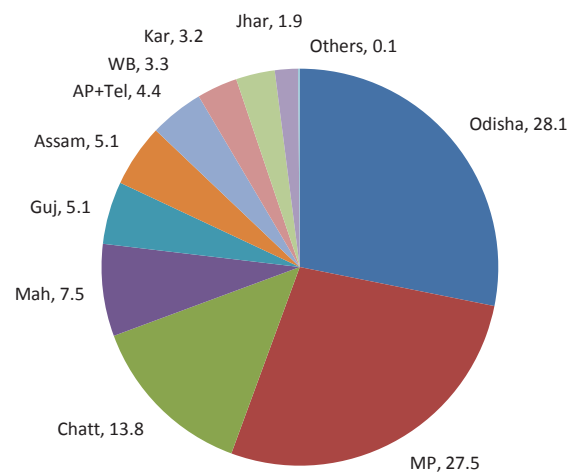


Price Policy for Kharif Crops

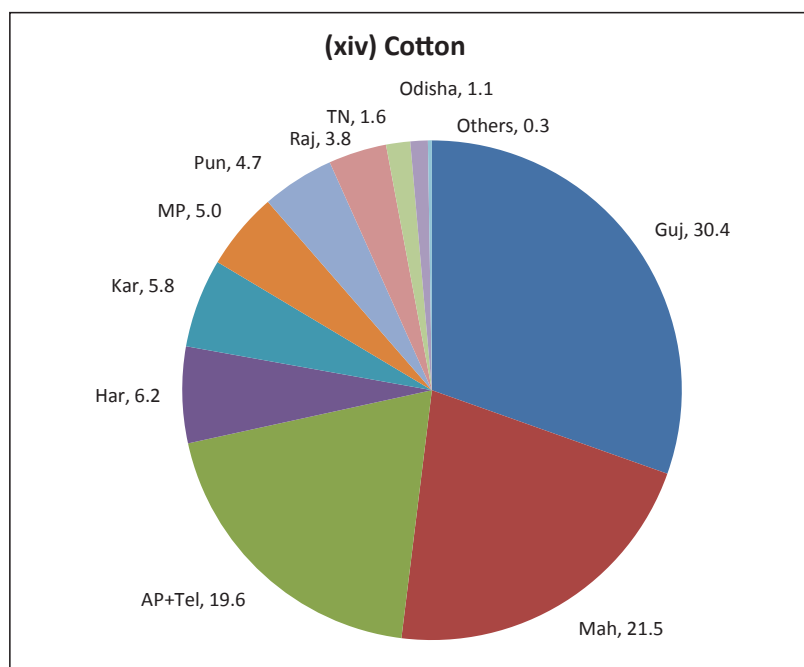
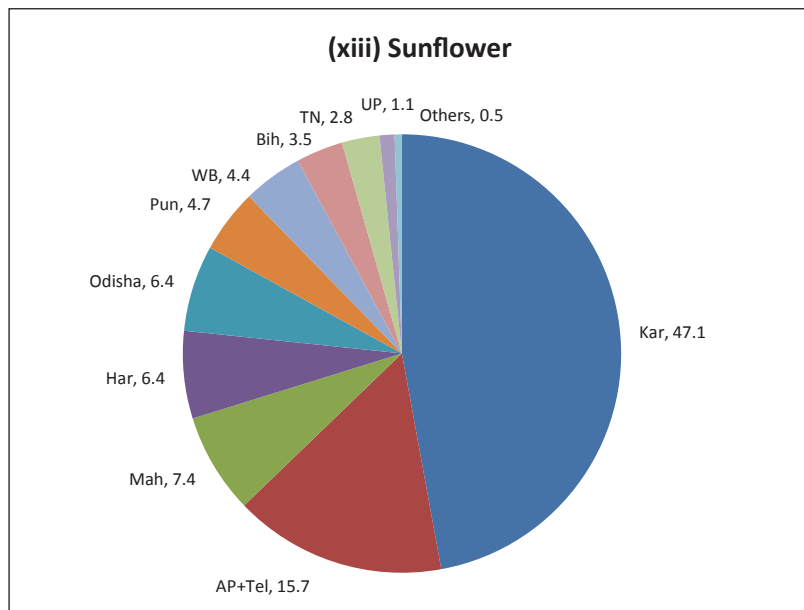
(xi) Sesamum



(xii) Nigerseed

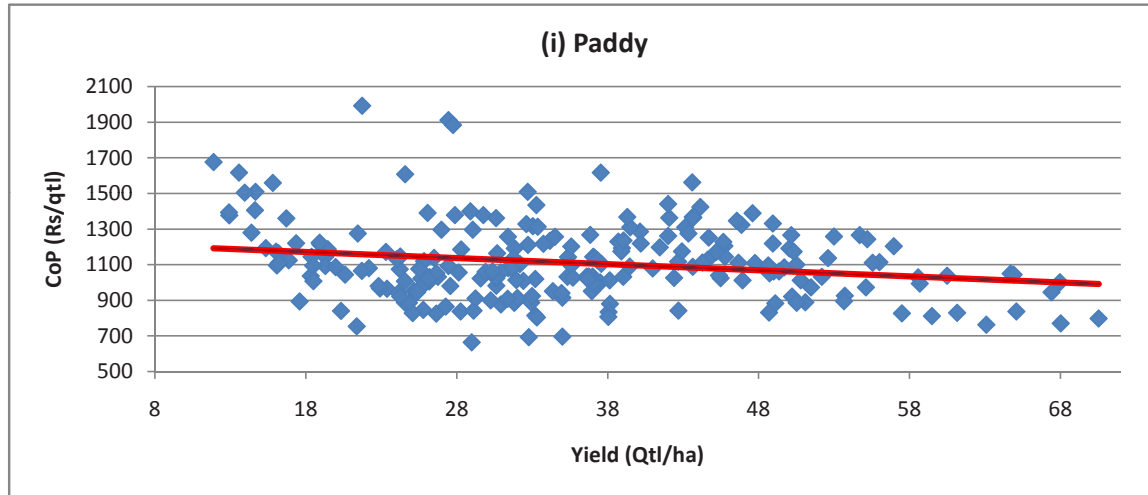


Price Policy for Kharif Crops

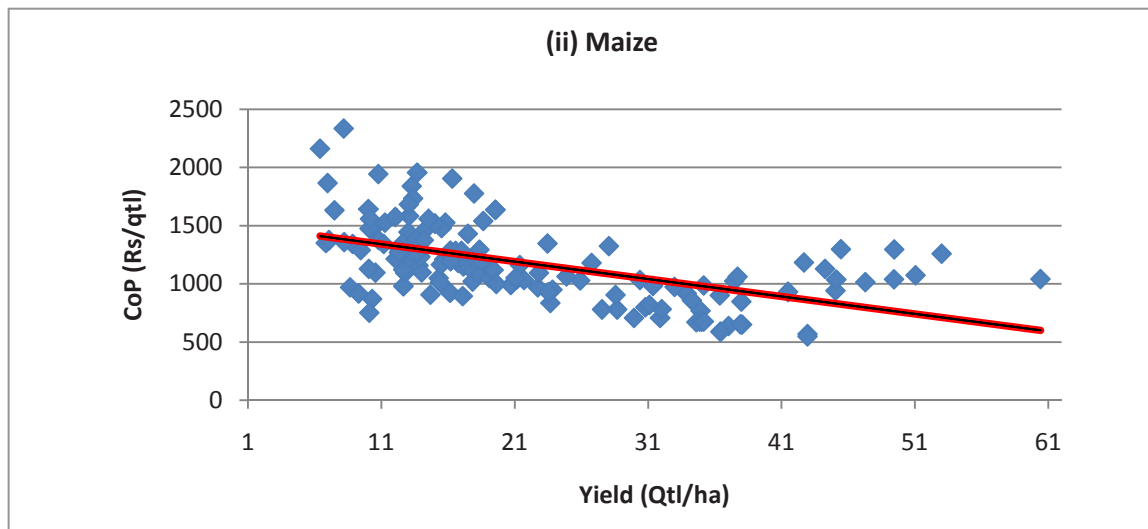


Price Policy for Kharif Crops

Annex Chart 3.1: Relationship Between Cost of Production and Productivity Levels

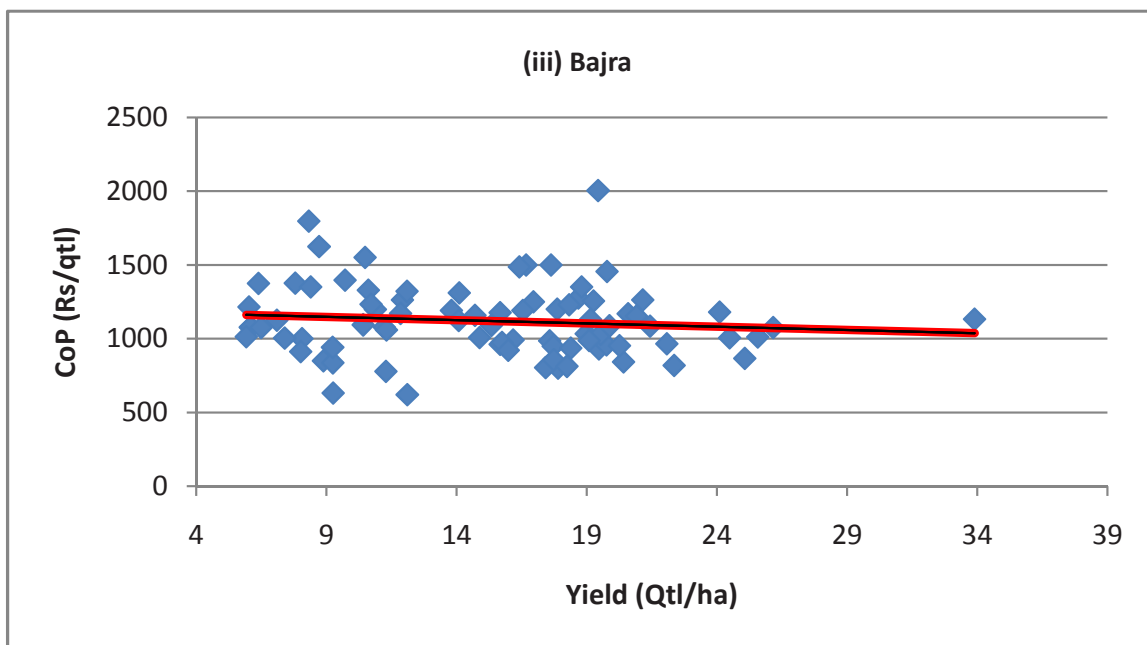


Source: Directorate of Economics & Statistics, Ministry of Agriculture & Farmers Welfare

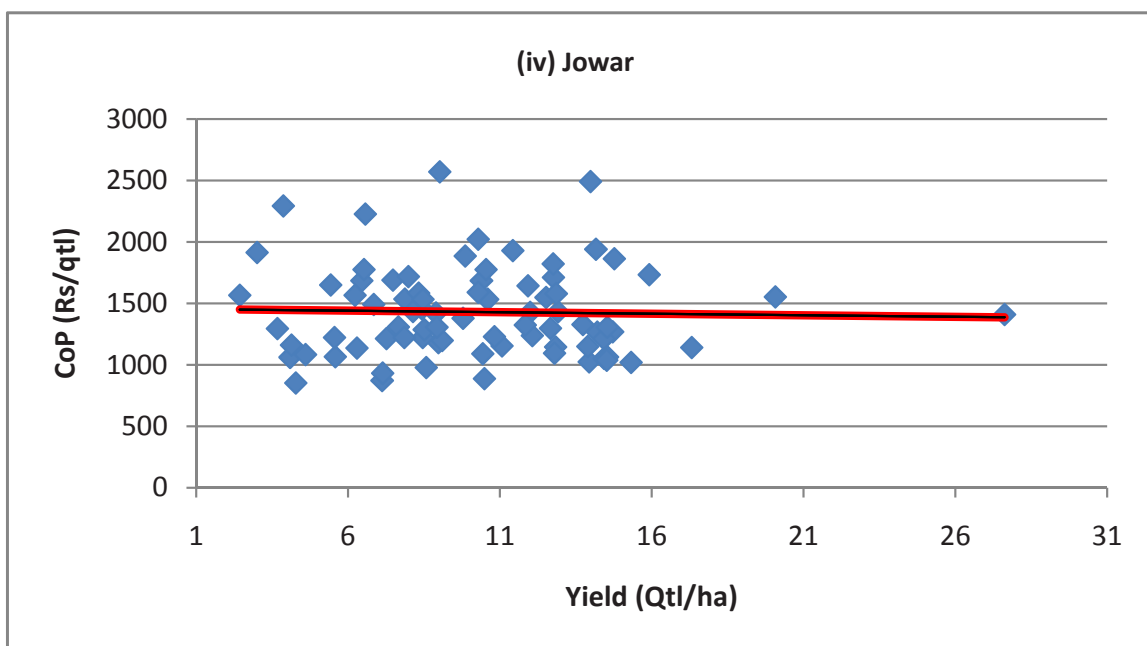


Source: Directorate of Economics & Statistics, Ministry of Agriculture & Farmers Welfare

Price Policy for Kharif Crops

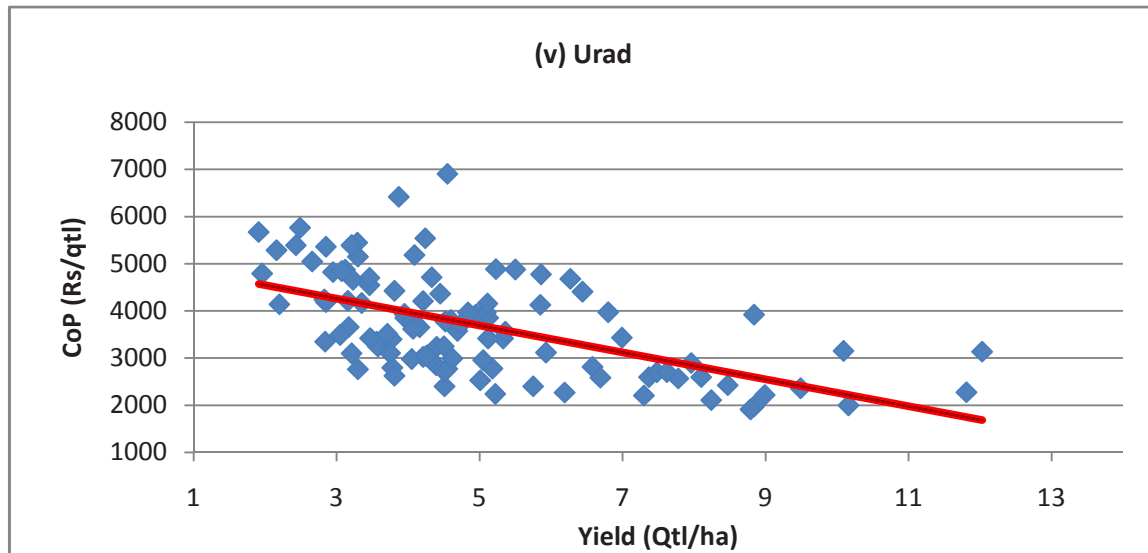


Source: Directorate of Economics & Statistics, Ministry of Agriculture & Farmers Welfare

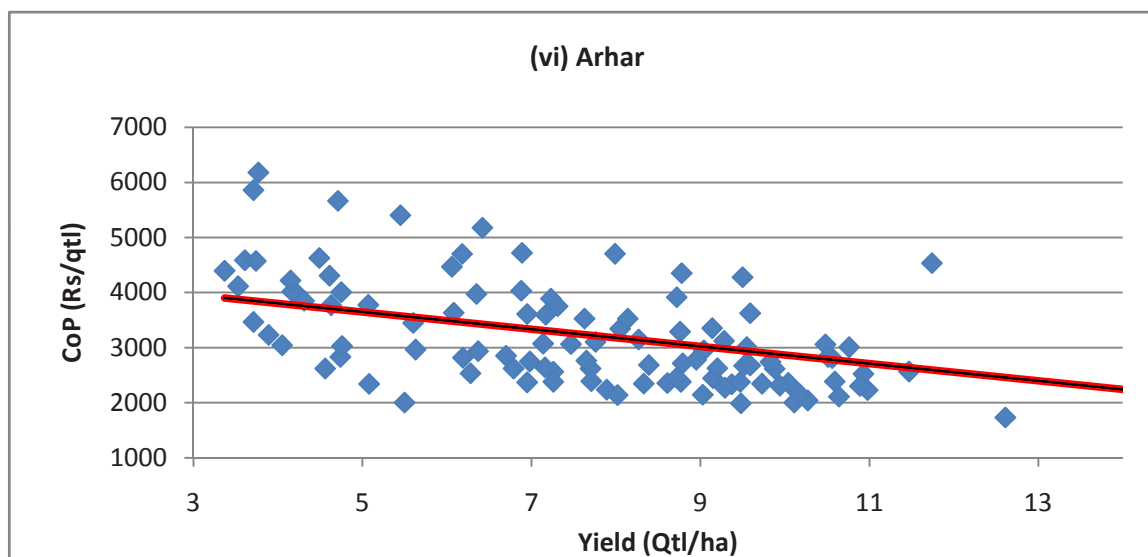


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Price Policy for Kharif Crops

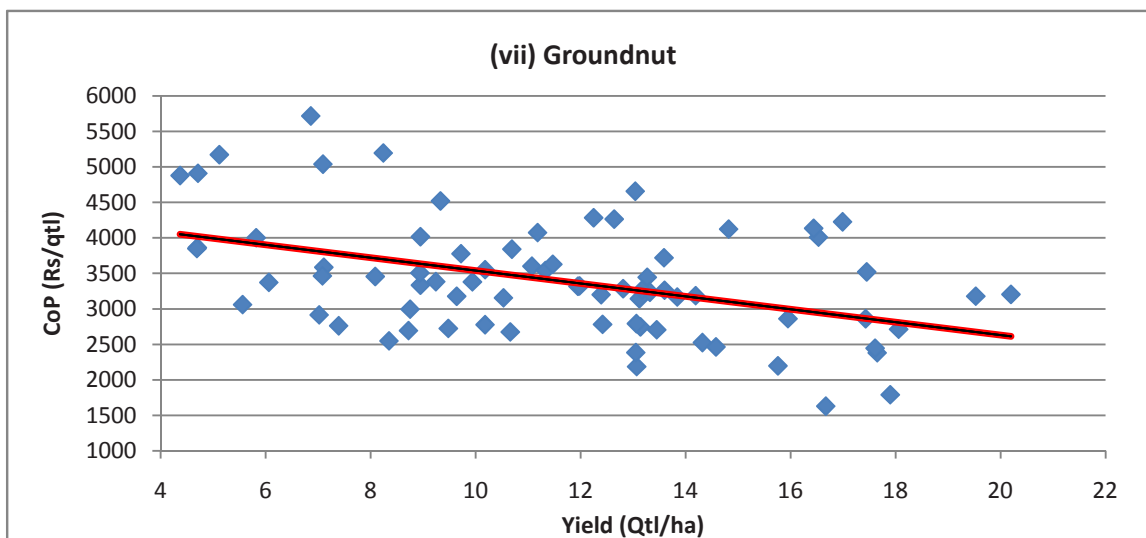


Source: Directorate of Economics & Statistics, Ministry of Agriculture & Farmers Welfare

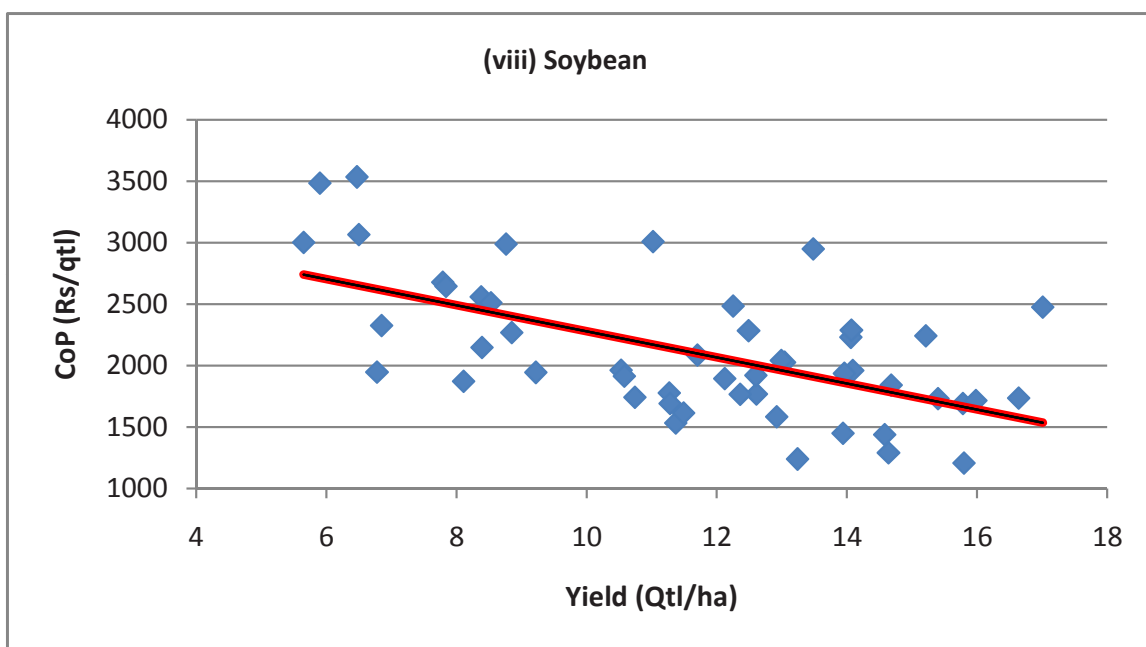


Source: Directorate of Economics & Statistics, Ministry of Agriculture & Farmers Welfare

Price Policy for Kharif Crops

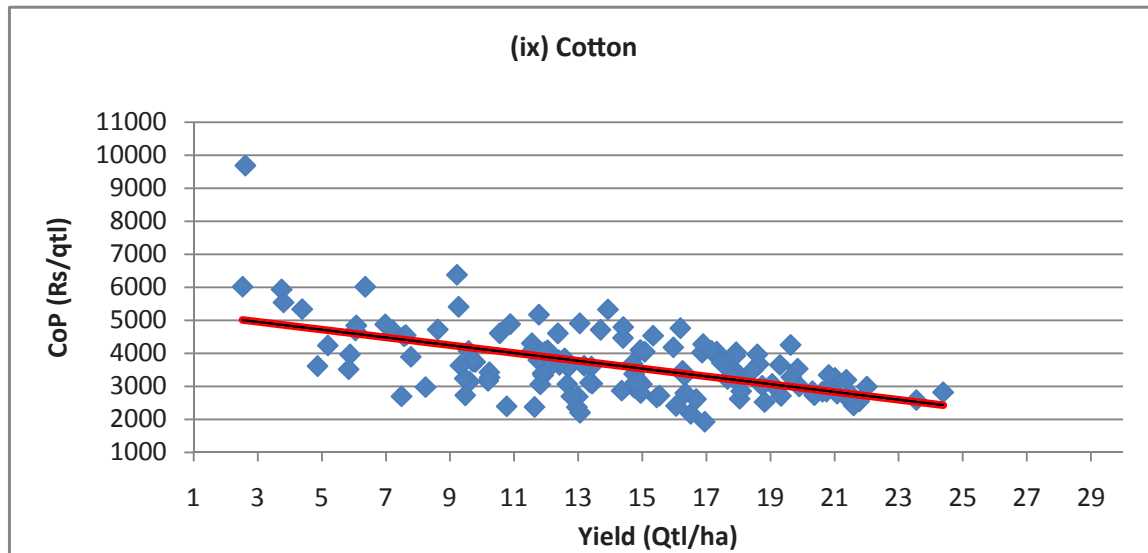


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Source: Directorate of Economics & Statistics, Ministry of Agriculture & Farmers Welfare

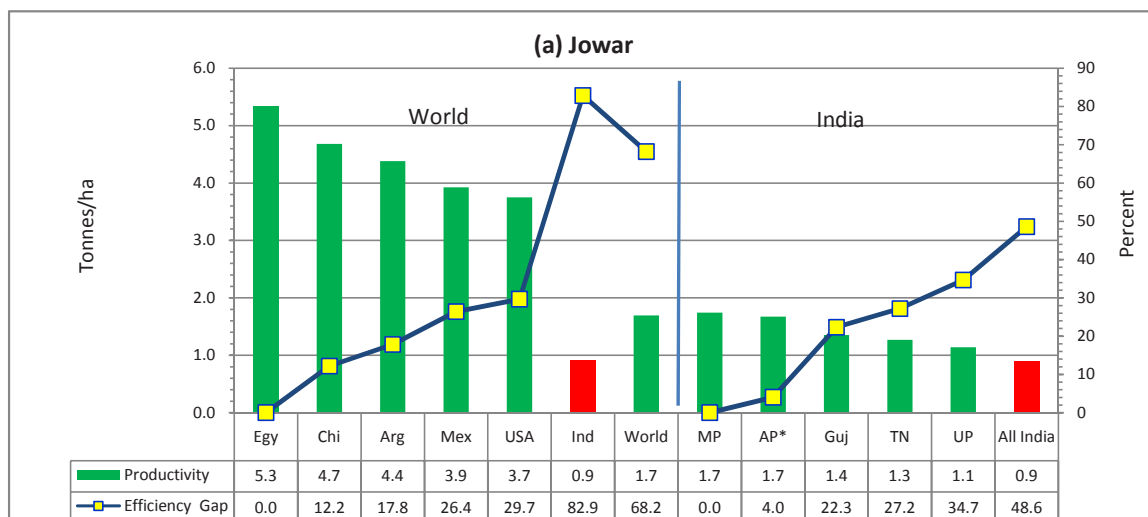
Price Policy for Kharif Crops



Source: Directorate of Economics & Statistics, Ministry of Agriculture & Farmers Welfare

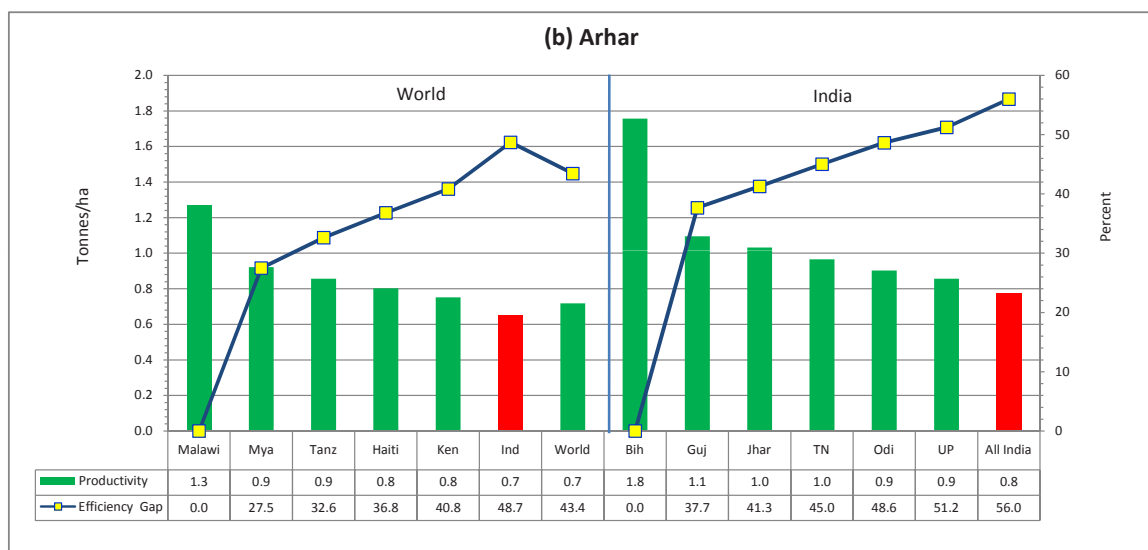
Price Policy for Kharif Crops

Annex Chart 3.2: Benchmarking of Productivities across Countries and States in India



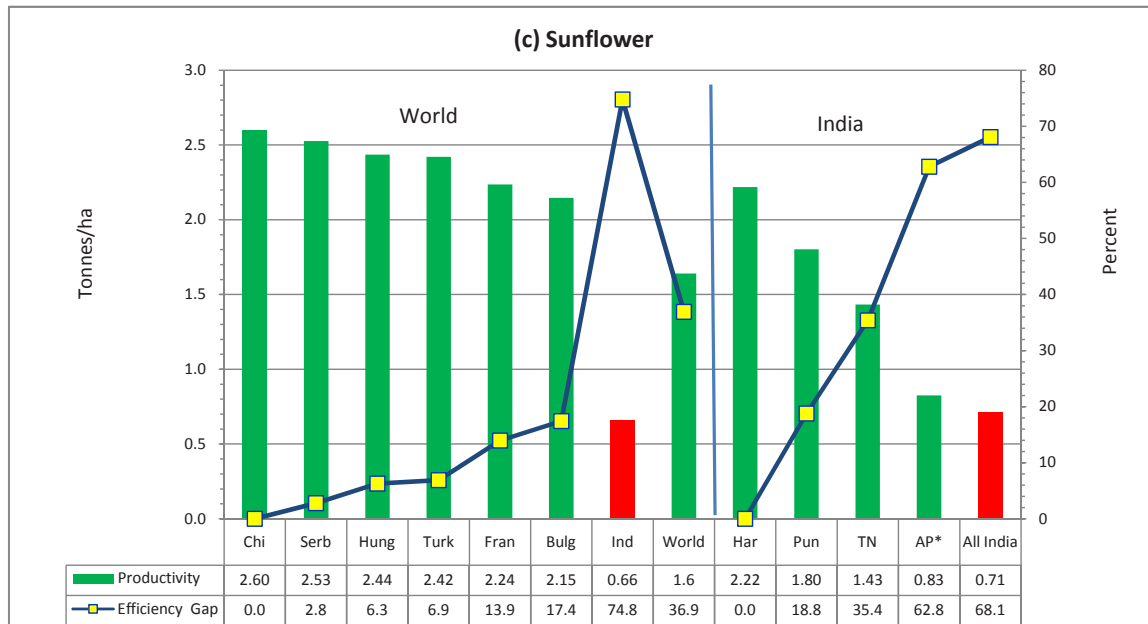
* Including Telangana

Source: FAO & DES



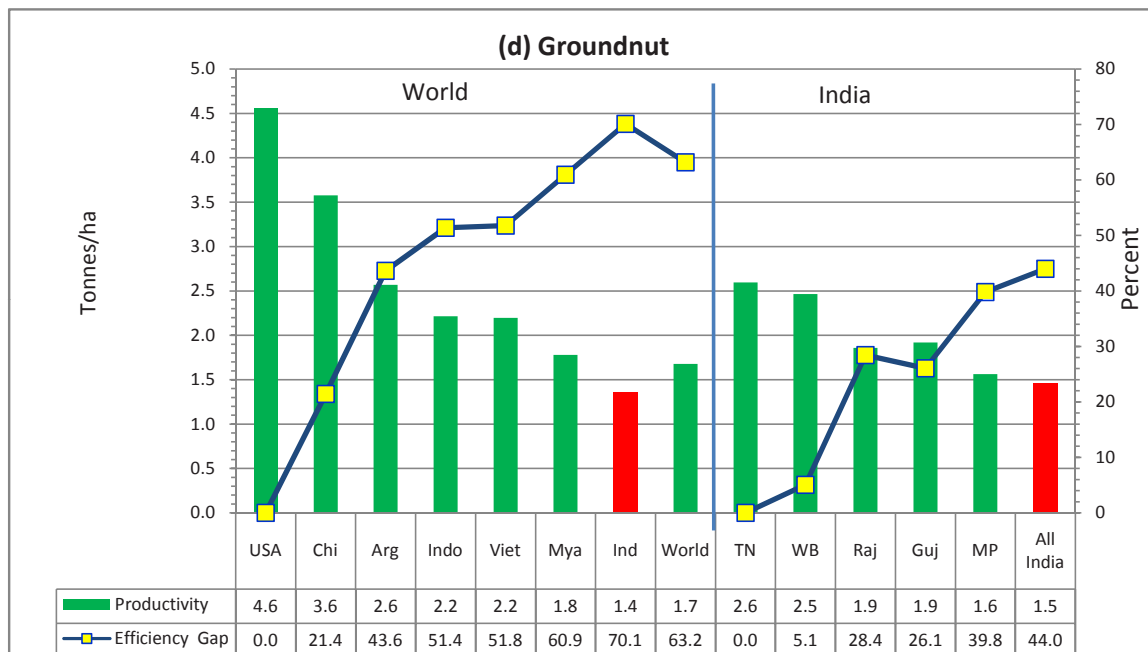
Source: FAO & DES

Price Policy for Kharif Crops



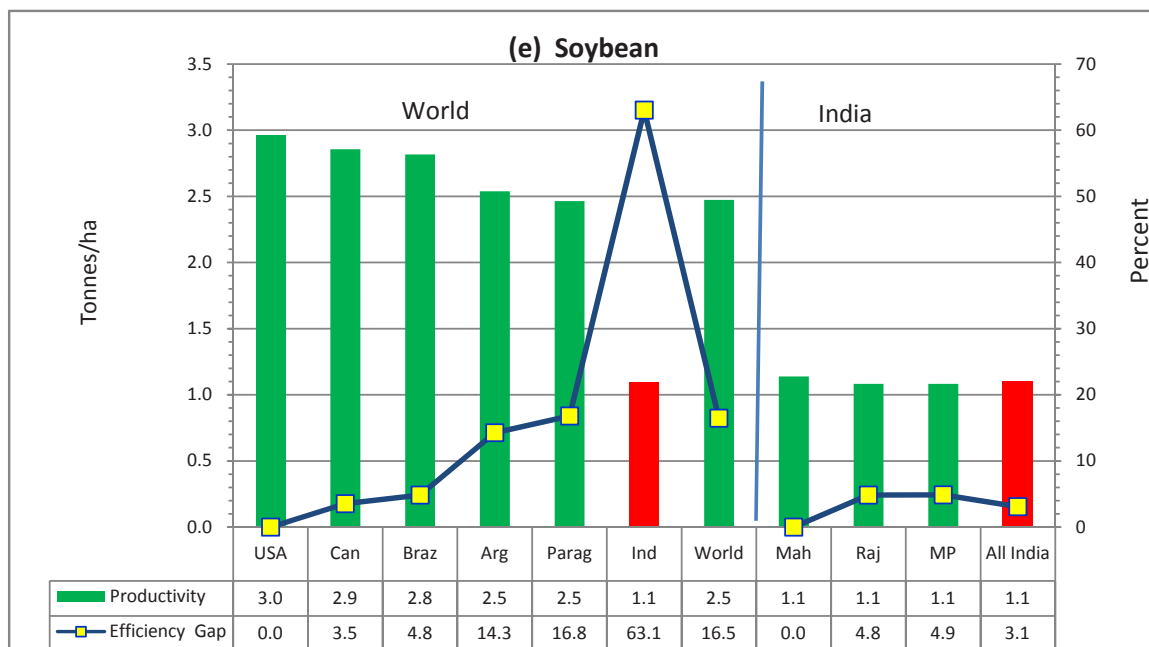
* Including Telangana

Source: FAO & DES



Source: FAO & DES

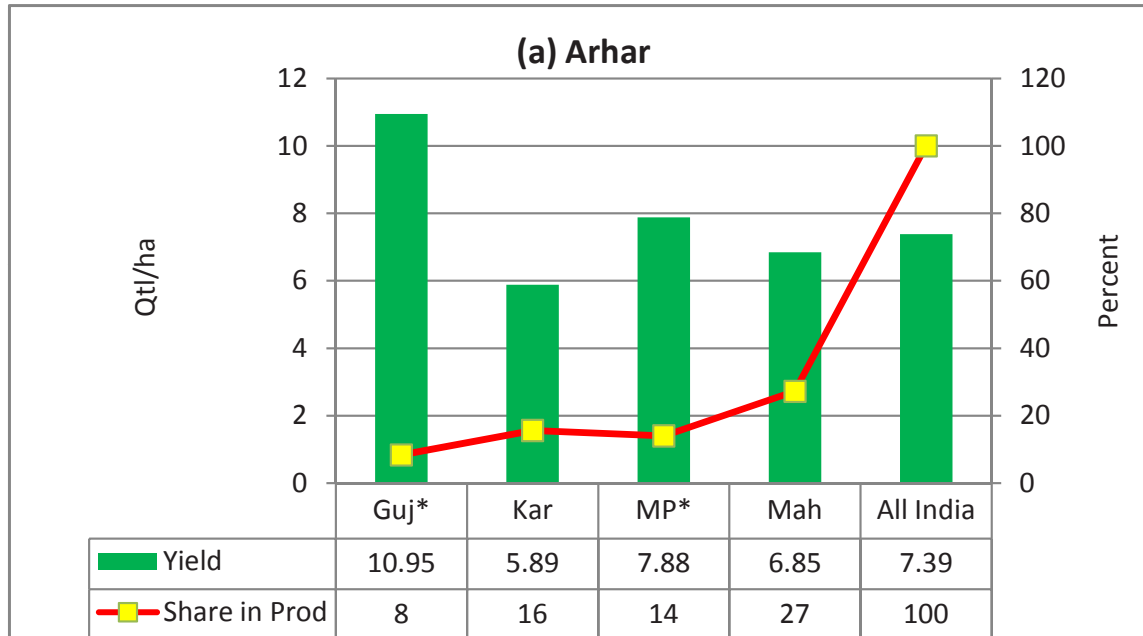
Price Policy for Kharif Crops



Source: FAO & DES

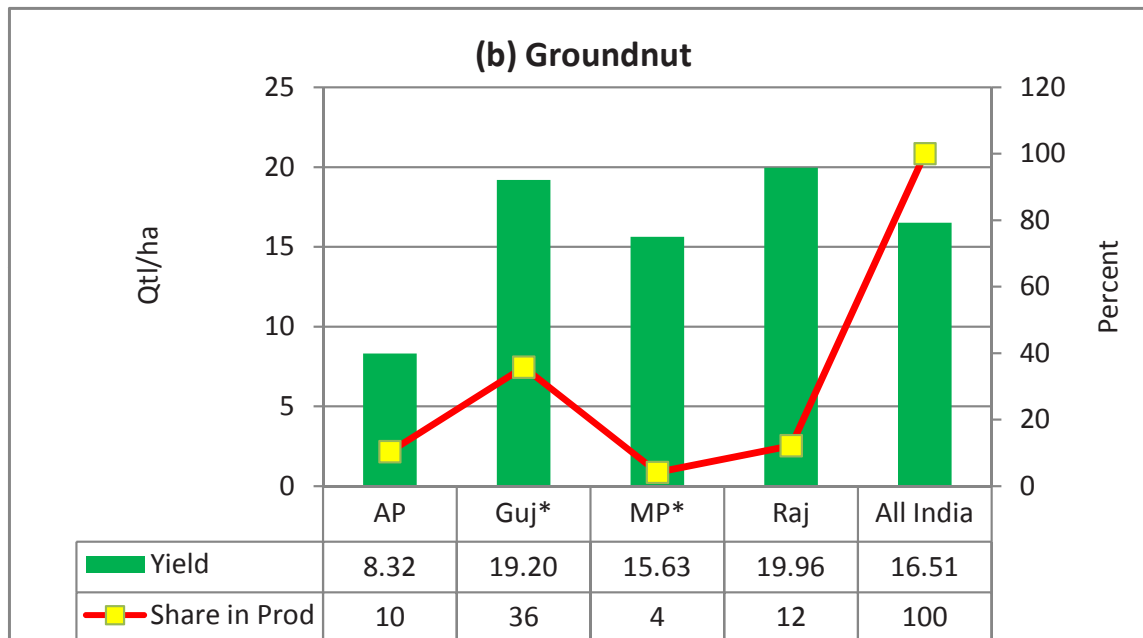
Price Policy for Kharif Crops

Chart 3.3: State-wise Productivity Levels, TE 2015-16



*Data are for TE 2014-15.

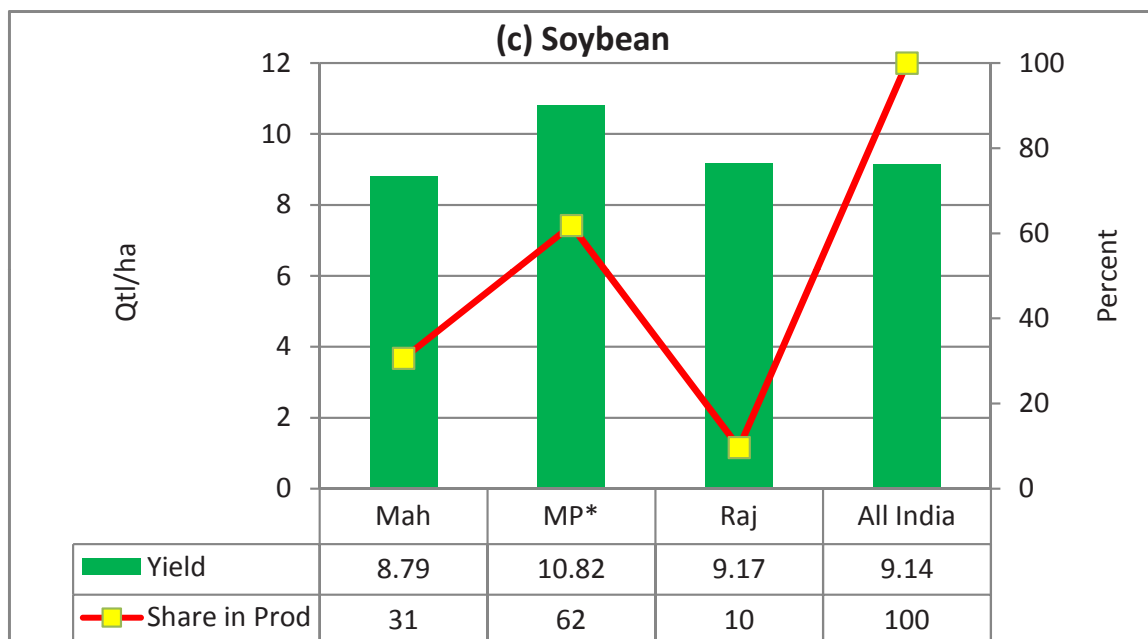
Source: State Governments and DES



*Data are for TE 2014-15.

Source: State Governments and DES

Price Policy for Kharif Crops

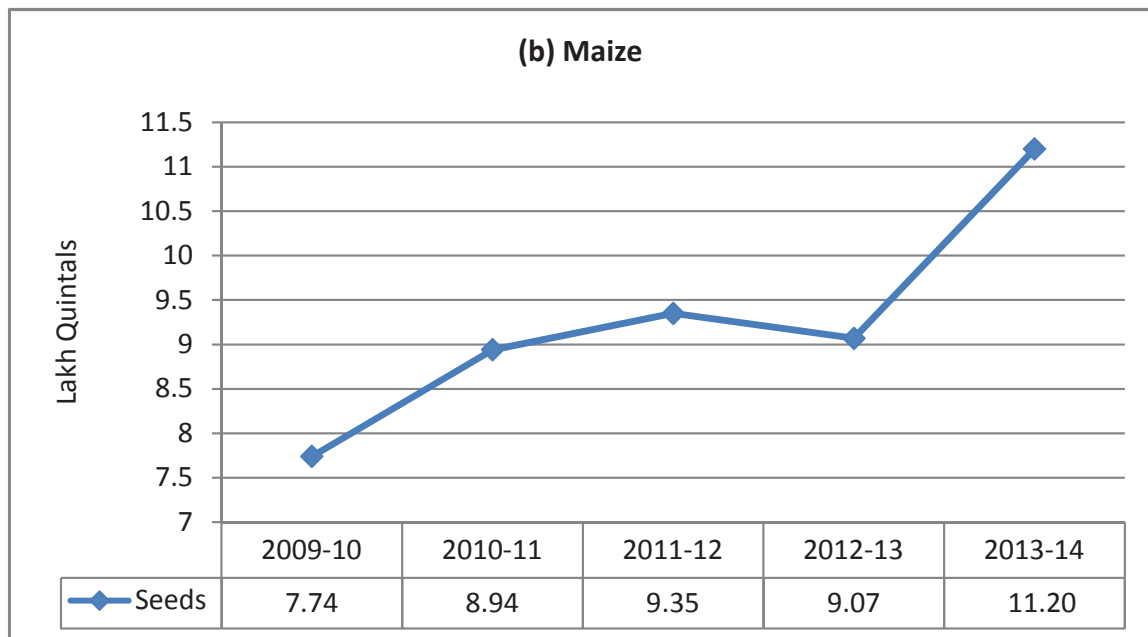
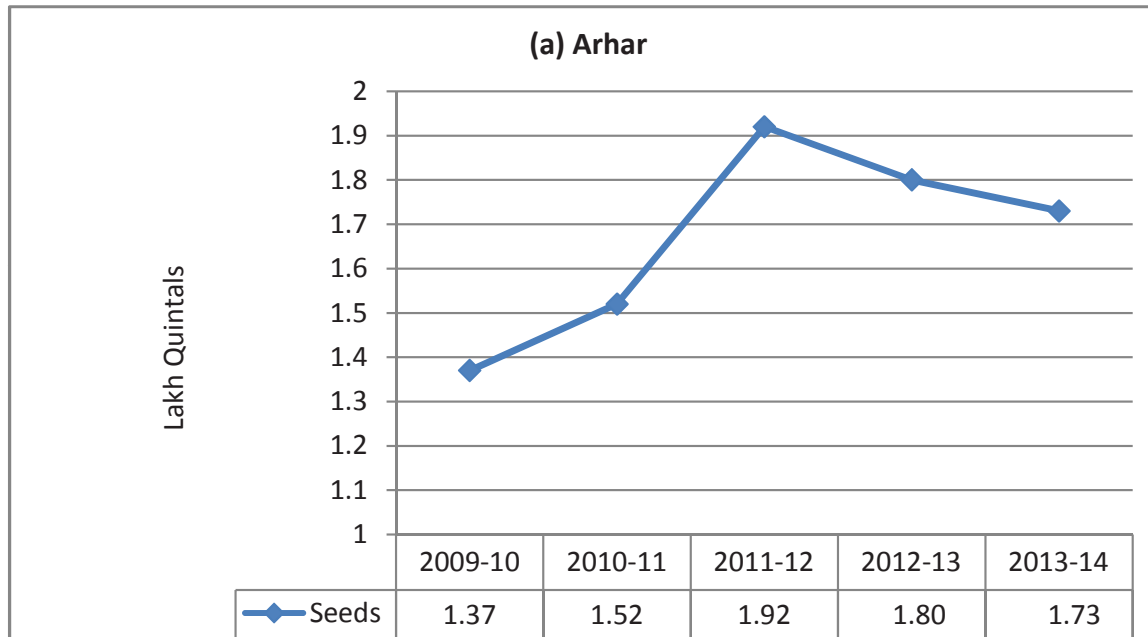


*Data are for TE 2014-15.

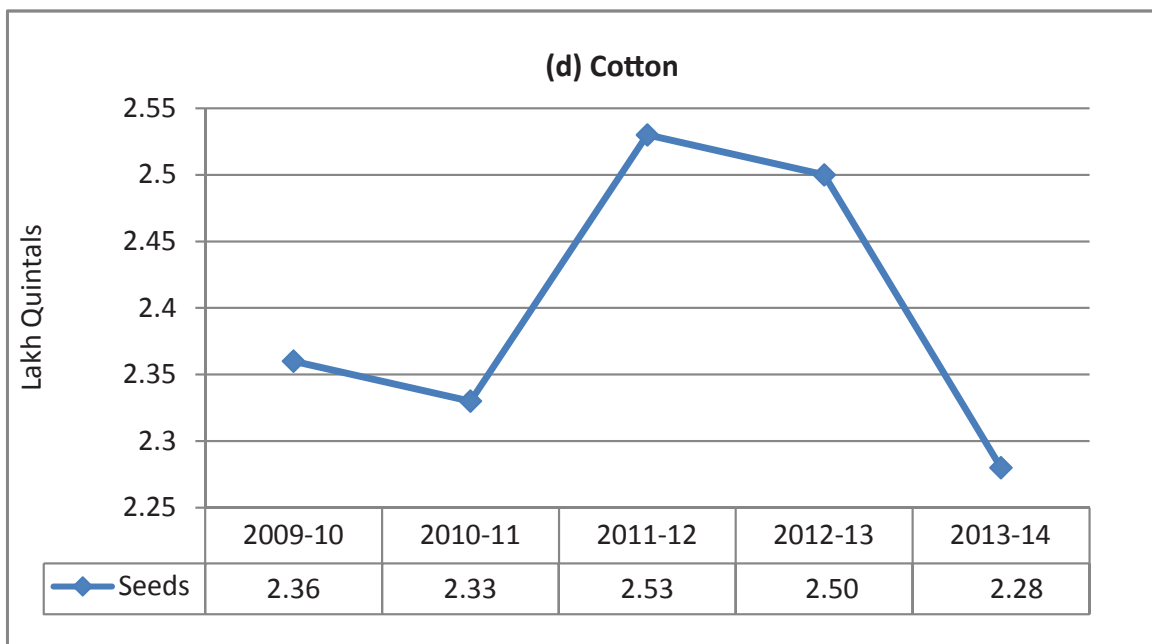
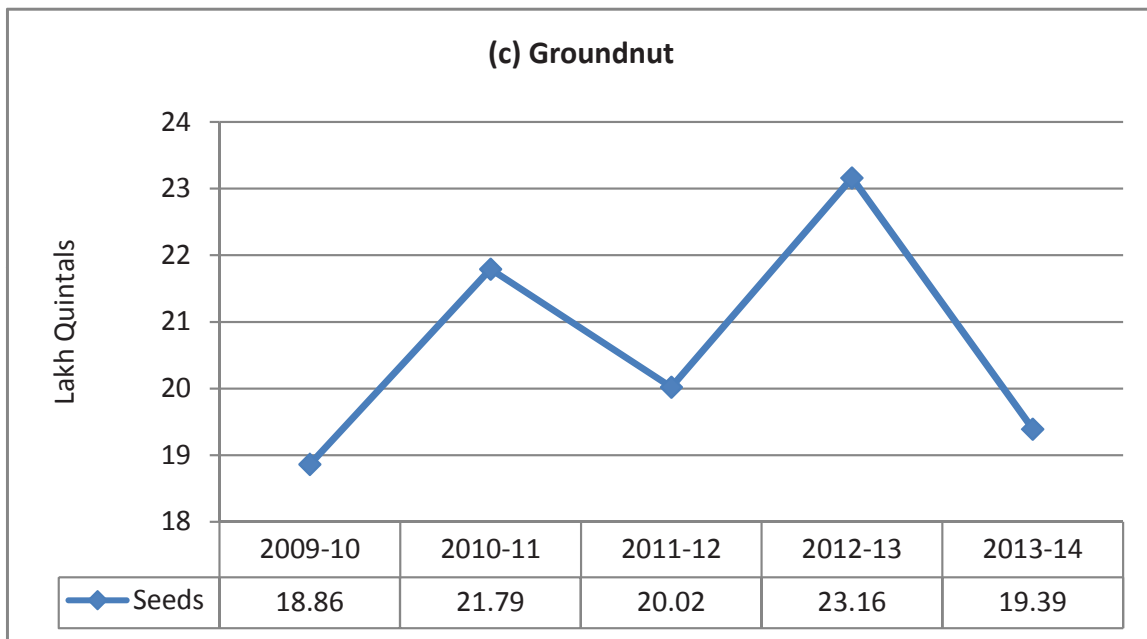
Source: State Governments and DES

Price Policy for Kharif Crops

Annex Chart 3.4: Distribution of Quality Certified Seeds



Price Policy for Kharif Crops



Commission for Agricultural Costs and Prices

List of Officers

Advisors

Shri S. R. Joshi
Shri S.N. Tobria
Smt. Nutan Raj

Director

Shri R.K. Sharma

Deputy Directors

Shri Rameshwar Singh
Ms. Mamta
Ms. Nidhi Satija

Assistant Directors

Shri S.P. Badgujar
Dr. Sunil Kumar Gupta
Dr. Harish Kumar Kallega
Shri Manish Bindal

Economic Officers

Smt. Uma Sharma
Dr. Surendra Singh
Dr. Bhavik Lukka

Sr. Statistical Officers

Shri. Mohd. Shoeb
Shri S.K. Srivastava
Shri A. K. Pandey

Economic Investigators

Md. Abdul Aleem
Shri Chandra Kumar



कृषि लागत एवं मूल्य आयोग

Commission for Agricultural Costs and Prices

कृषि, सहकारिता एवं किसान कल्याण विभाग

Department of Agriculture, Cooperation and Farmers Welfare

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