

# Agricultural Outlook and Situation Analysis Reports

## Quarterly Agricultural Outlook Report October–December 2012

Under the Project Commissioned by  
The National Food Security Mission  
Ministry of Agriculture

December, 2012



*Prepared by*

**National Council of Applied Economic Research**

## About the Project

The need for monitoring and analysis of emerging food scenarios is important for India both because of significant dependence of output on the monsoon rains and the fact that globally India is one of the major consumers of food crops influencing markets. Management of agriculture from a public policy perspective requires organisation of this information and analysis as inputs to policy making.

Against this backdrop the National Food Security Mission (NFSM), Ministry of Agriculture, commissioned a 3-Year study to National Council of Applied Economic Research (NCAER) in 2011–12 to bridge this important gap in analytical inputs for understanding the emerging agricultural scenarios both in the short-term of one or two quarters and also in the medium to longer term.

Accordingly, the agricultural outlook and scenario analysis undertaken in this study refers to the main crop based food items: cereals (specifically rice, wheat, jowar, bajra, maize and overall coarse grains), pulses (gram, tur), selected fruits and vegetables (banana, potato, onion), sugarcane and edible oils (groundnut, rapeseed/mustard, soybean). In addition the analysis also covers milk, one livestock product.

The three main outputs of the proposed work will be:

- (1) A **Quarterly Agricultural Outlook Report** that integrates the assessment of key indicators relating to agriculture with a focus on food sectors. The reports will include assessment of the current situation on inputs, output and market conditions and also forecasts of key indicators for the full year based on models developed for the purpose.
- (2) A **Semi-annual Agricultural Outlook and Scenario Analysis Report** which provides a longer term perspective for the food sector. These reports will present an analysis of alternative scenarios of output and consumption for the food crops taking into account the available information and based on the suitable economic models that permit longer term projections.
- (3) **Monthly briefings** on the prevailing agricultural conditions.

## Implementation

NCAER has set up a study team to carry out the study

An advisory committee has been formed to provide broad guidance to the implementation of the study. The Committee comprises of Dr Shekhar Shah, DG, NCAER as Chair, Dr Ashok Gulati, Chairman, Commission on Agricultural Costs and Prices, Prof. Ramesh Chand, Director, National Centre for Agricultural Policy (NCAP), New Delhi, Prof. Mahendra Dev, Director, Indira Gandhi Institute for Development Research (IGIDR), Mumbai, Mr Mukesh Khullar, Joint Secretary (Crops), Ministry of Agriculture and Mrs S. Bhavani, Principal Adviser, Ministry of Agriculture. Representative from FAO and DFID are Special Invitees to the Committee meetings.

A Technical Support Group comprising of key officers from different departments of the government and experts has also been formed to interact with the study team to improve the work under the study.

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**National Council of Applied Economic Research  
11, I.P. Estate, New Delhi 110 002**



**Shekhar Shah**  
Director-General



## PREFACE

As India continues to grow its economy, its agriculture must also keep pace in improving its infrastructure, efficiency and productivity in a sustainable manner, and contributing to the food security of a population of over a billion. The performance of India's food sector has implications not only for India but also for world markets. A comprehensive approach to ensuring food supplies in a sustainable manner requires addressing issues relating to both product and factor markets.

India relies on imports for edible oils and pulses in a substantial way. We now also export rice and wheat to other countries. Trade in livestock is developing in a significant manner. There are also shifts in domestic demand that require adjustment in production. The rising demand for fruits and vegetables requires both infrastructure investments and improvements in marketing. The challenges before agriculture are immense, requiring a more appropriate alignment of incentives for producers, consumers and intermediaries.

This series of Quarterly Agricultural Outlook Reports is an effort to assimilate wide ranging information on the food sector and bringing to a larger audience of experts, officials and the general public as an integrated review of India's food sector. NCAER is privileged to have been asked by the Union Ministry of Agriculture to undertake this activity on a multi-year basis. Going forward, the work will also benefit from additional data that will be gathered on a sample basis from farmers and markets to supplement existing information. Future editions of this Report will feature this new data. This work is being supported by an additional grant from the Food and Agriculture Organisation.

The work would not have been possible without the cooperation of several officials in the Government of India and other stakeholders. The work is also being supported by an Advisory Committee and a Technical Support Group set up by the Ministry for this purpose. As part of this process, we hope to build a network of researchers and other institutions to aid this task of monitoring developments in Indian agriculture on an on-going basis. I am grateful to Dr Shashanka Bhide, Senior Research Counsellor and Senior Fellow at NCAER, for leading this work and to the highly capable team that is working on it. I wish them well in this important work.

A handwritten signature in black ink, reading 'Shekhar Shah'.

Shekhar Shah  
Director-General







**ASHISH BAHUGUNA  
SECRETARY**



भारत सरकार  
कृषि मंत्रालय  
कृषि एवं सहकारिता विभाग  
Government of India  
Ministry of Agriculture  
Department of Agriculture & Cooperation

## **FOREWORD**

The present series of quarterly reports on agricultural outlook by NCAER is an outcome of a project commissioned by the National Food Security Mission, Ministry of Agriculture. These reports review wide ranging information globally, and at the national and state levels, to provide an assessment of the outlook on production, prices, trade and domestic use of food commodities.

The reports are intended to inform various stake-holders on the state of the food sector of our economy, given its critical significance to food supplies and food prices. Policies affecting public distribution, trade and markets are influenced by changes in supply and demand conditions, both in the country and globally.

The quarterly agricultural outlook reports focus on the short term developments in the economy generally and the food commodity sectors specifically keeping in view the broader concerns of food security. Beside major food crops such as foodgrains, oilseeds, sugarcane and selected vegetables and fruits, the reports also cover milk.

In the next phase, the reports will utilize information gathered on output conditions, input availability and prices from the farmers and from the markets on sample basis. The usefulness of this work is corroborated by the fact that international agencies such as FAO are collaborating in this effort initiated by the Ministry of Agriculture.

January 24, 2013

(Ashish Bahuguna)



# Highlights

Agriculture and allied sector registered a GDP growth of 2.14 per cent in H1: 2012–13 as compared to 3.4 per cent in the same period in the previous year. The decline in agriculture's output was mainly in response to lower kharif season crop output as a result of erratic monsoon rainfall last summer.

The global outlook for food commodities remains mixed as the output of wheat, maize and overall coarse grains is expected to be lower in 2012–13 as compared to the previous year. However, the rice production is expected to be steady and edible oil supplies are expected to be adequate given the significant carryover stocks of last year. Sugar supplies have also improved leading to declining prices in international markets.

India's rabi production prospects are positive given the relatively favourable weather conditions especially in the case of wheat and mustard.

Against the government's scaled down wheat production target of 86 million tonnes for 2013, actual production is likely to reach more or less at the same level as last year's record 93.9 million tonnes or marginally lower. Rabi rice planting is lagging behind last year's level due to dearth of irrigation water availability in the states of Andhra Pradesh and Tamil Nadu. Hence no significant increase in rabi rice production is expected, which is currently forecast at 13.4 million tonnes against last year's 12.8 million tonnes, taking total 2012–13 rice production to 99 million tonnes against 2011–12 production of 104.3 million tonnes. Taking into account the projected output of coarse grains and pulses, the rabi foodgrain output is projected at 126.1 million tonnes marginally lower than the rabi harvest of 125.1 million tonnes in 2011–12.

Total rabi oilseed production (nine major oilseeds) is projected to reach around 11 million tonnes against last year's 9.2 million tonnes, with most of the increase confined to rapeseed/mustard, now projected at 7.5 million tonnes against last year's 6.8 million tonnes. This takes total 2012–13 major oilseed production to 31 million tonnes, one million tonne more than in 2011–12.

In the case of two vegetable crops considered in this report, increased production of potato in the rabi season is expected to offset the shortfall in kharif and the overall output is projected increase by 2 per cent over the previous year. In the case of onion, increased output in late kharif and rabi season is expected to increase overall production by 2.5 per cent over the previous year. In the case of banana, the fruit crop considered in this report, given the uneven spread of rainfall during the monsoon period, production is projected to increase at a lower rate of 2.2 per cent over the previous year than its decadal annual trend rate of 9.75 per cent.

The average procurement of milk by cooperatives during April–November 2012 shows an increase of 14 per cent. However, as some of this increase may also reflect flow of surplus milk from the producers to cooperatives rather than the unorganised sector and also expansion in cooperative network, we retain the last quarter's projection of increase in milk production by 3.5–3.75 per cent in the current year to reach 131.8–132.1 million tonnes.





The trends and projections point to continued price pressures in the case of wheat, gram and tur in the next 2-3 months. The prices are seen to be moderating in the case of masur, potato and edible oils. The projections also indicate persistence of higher price rise in the case of pulses as a group and onion. Arrival of rabi crop in the market may ease some of the price pressures.



# Acknowledgements

The study team wishes to place on record the guidance, support and assistance received from a number of organisations and individuals. Mr. Ashsih Bahuguna, Secretary, Department of Agriculture and Cooperation has been very supportive of the work and has encouraged us in the conduct of the study. He presides over the monthly briefings which provide new insights to our work on outlook assessment. Mr. Mukesh Khullar, Joint Secretary (Crops) and Mission Director, NFSM is a source of constant encouragement in all stages of the study. A number of officials from the Ministry and DES have provided data, opportunities for interaction and guidance in the course of the study.

Dr Ashok Gulati (CACP), Prof. Ramesh Chand (NCAP), Mrs S. Bhavani (Ministry of Agriculture), Prof. Mahendra Dev (IGIDR), Mr Mukesh Khullar (Ministry of Agriculture) and Dr Shekhar Shah (NCAER) have provided guidance as members of the Advisory Committee and Dr Peter Kenmore (FAO) as Special Invitee to the Advisory Committee meetings. The Technical Support Group (TSG) set up for the study has included a number of officials and also other experts.

Reports of USDA, FAO and Department of Agriculture and Cooperation have been major sources of data and information for the report. We have used information and data from a number of other sources also. We have noted the specific references used for our assessment of outlook in the report.

## Study Team

Shashanka Bhide (Project Leader), A. Govindan, S.K. Mondal, V.P. Ahuja, Charu Jain, Mondira Bhattacharya, Rajesh Kumar, Sujoy Kumar Majumdar, Aditi Jha, Sushrita Sarkar, Praveen Sachdeva, and Prem Mohan Srivastava

The team also received inputs from Nidhi Srinivas of Economic Times and M.R. Subramani of Hindu Business Line.





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## PART I

# Overview of Agricultural Outlook: October–December 2012

## The Backdrop

This report is the third in the series of quarterly reports on Agricultural Outlook and Situation Analysis prepared by the National Council of Applied Economic Research under a project commissioned by the National Food Security Mission, Ministry of Agriculture. The reports began in June 2012 and cover selected commodities such as rice, wheat, maize, gram and tur among foodgrains, groundnut, soybean and rapeseed and mustard among oilseeds, potato, onion and banana among horticultural crops, sugarcane and sugar, and milk. The main outputs of the project are,

- i. Quarterly reports on commodity outlook focusing on the short-term prospects
- ii. Semi-annual reports on medium-term prospects for the commodities; and
- iii. Monthly briefings on prevailing agricultural conditions in the Ministry of Agriculture.

The present report, focusing on the prospects of rabi crops and an overall view on the food commodities is organised into five chapters. The first chapter provides an overview of the main findings of the analysis. In the second chapter, we provide an assessment of the overall global scenario of the food commodities. In chapter III, we provide an assessment of the domestic conditions affecting supply–demand balances for the selected commodities. Commodity specific discussion is provided in Chapter IV. The final chapter presents concluding remarks.

## Overview of the Prospects for the Food Commodities

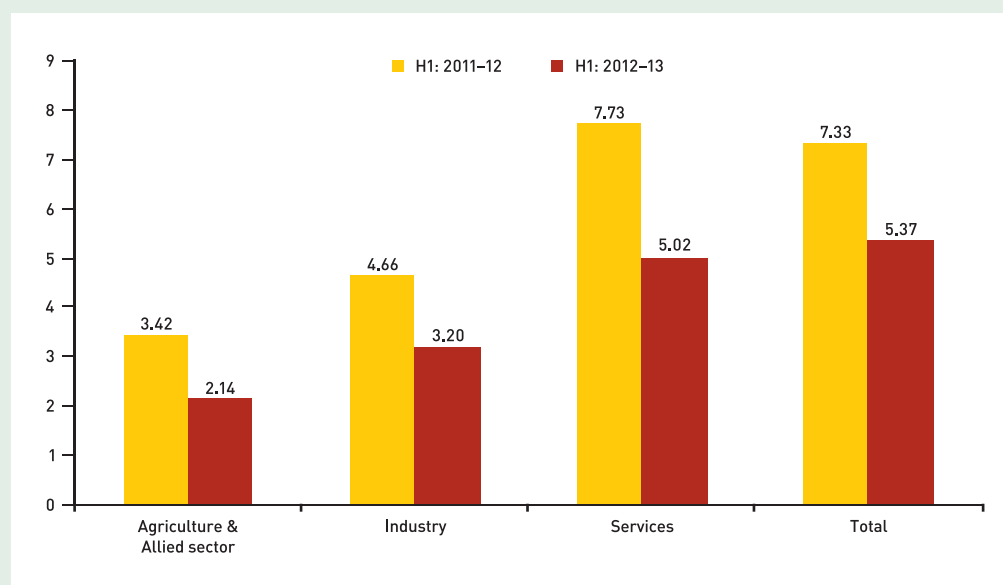
The overall economic growth decelerated in the first half of 2012–13 to 5.4 per cent as compared to 7.3 per cent in the same period in 2011, dragged down by all the sectors of the economy. Agriculture and allied sector contributed to the decline as GDP growth from this sector declined to 2.14 per cent in H1: 2012–13 as compared to 3.4 per cent in the same period in the previous year (Figure I.1). The decline in agriculture's output was mainly in response to estimated decline in kharif season crop output as a result of erratic monsoon rainfall last summer. An optimistic outlook for the rabi season crops should help stop further slide in agricultural growth rate in the second half of this fiscal year and contribute to the overall GDP growth.





There have been policy measures this year aimed to increase *rabi* oilseed and pulse production, which are in short supply, through higher support prices vis-a-vis competing wheat crop.

**Figure I.1: Deceleration in Agricultural and Overall Economic Growth in (GDP, % YOY)**



Source: Central Statistics Organisation, Ministry of Statistics and Programme Implementation.

The rainfall during the post monsoon period (Oct–December) so far has been higher than last year (Table I.1). Although the *rabi* planting was delayed in some cases due to late withdrawal of the monsoon, the winter temperature has been favourable to crops.

**Table I.1: Rainfall during Post Monsoon Period in 2011 and 2012**

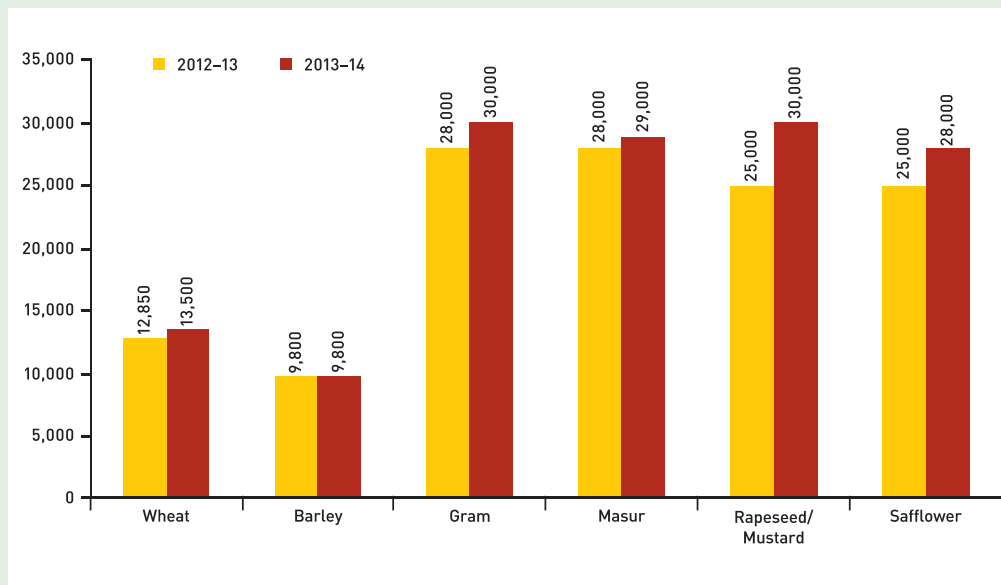
Region	Cumulative (01.10.11 to 31.12.11)				Cumulative (01.10.12 to 31.12.12)			
	Actual mm	Normal mm	% from normal	Category	Actual mm	Normal mm	% from normal	Category
North-West	18.0	62.7	-71	Severe	27.1	62.7	-57	Deficient
Central	17.8	79.6	-78	Severe	55.9	79.6	-30	Deficient
South Peninsular	237.8	273.9	-13	Normal	259.9	273.9	-5	Normal
East & North East	46.6	171.2	-73	Severe	140.6	171.2	-18	Normal
All India	65.7	127.2	-48	Deficient	100.6	127.2	-21	Deficient

Source: India Meteorology Department.

Notes: (1) Regional classification of states/ union territories: North-west- UP, Rajasthan, Chandigarh and Delhi, Panjab, Haryana, Uttarakhand, HP, and J&K; Central- MP, Chhattisgarh, Maharashtra and Gujarat; South: AP, Karnataka, Tamilnadu, Puducherry, Kerala and Lakshadweep; North-east- Bihar, Jharkhand, Odisha, West Bengal, Sikkim, Assam, Arunachal Pradesh, Meghalaya, Nagaland, Manipur, Mizoram, Tripura, Andaman & Nicobar. (2) Rainfall category: Normal= above -19 per cent of normal; Deficient: below -19 per cent but more than 60 per cent below normal; severely deficient: less than 60 per cent below normal.

There have been policy measures this year aimed to increase *rabi* oilseed and pulse production, which are in short supply, through higher support prices vis-a-vis competing wheat crop (Figure I.2). Data on cumulative area sown through mid-December points to only a marginal increase in area planted to these crops. Although area sown under gram has increased as compared to mid December 2011, the area under total *rabi* pulses has not increased. Area under nine major oilseeds has increased by about 5 per cent, led by increase in area under rapeseed and mustard.



**Figure I.2: Minimum Support Prices for 2013–14 for Selected Rabi Crops (Rs/ tonne)**

## Global Prospects

Output of food commodities has been affected by adverse weather conditions in Europe and US. The world coarse grain production has been particularly affected in 2012–13. In the case of wheat also after production estimates were revised downward during the course of year, the final estimates for the year are about 6 per cent lower than the 2011–12 level. The world production of rice for 2012–13 is projected by international agencies to be at the same level as in the previous year.

India's prospects for exports remain positive in the case of both rice and wheat although the level of exports is likely to be lower than last year on account of moderating demand.

The outlook for oilseeds for the year is better than in the previous year with higher production in Canada.

The pulses production in exporting countries is expected to improve as compared to the previous year and India's imports may increase on account of poor performance of kharif pulses production.

The global production of sugar is set to increase by 2–4 million tonnes in 2012–13 over the previous year and prices are expected to remain subdued.

The stocks-to-use ratios in the case of wheat and coarse grains have declined and prices are firm. In the case of rice, oilseeds and sugar, the price trends are likely to be more influenced by trade policy decisions of importers and exporters given the relatively modest increases in output.

## Domestic Production, Consumption and Trade Prospects

Against the government's scaled down wheat production target of 86 million tonnes for 2013, actual production is likely to reach more or less at the same level as last year's record 93.9 million tonnes or marginally lower, provided growing conditions remain favourable.

**The stocks-to-use ratios in the case of wheat and coarse grains have declined and prices are firm. In the case of rice, oilseeds and sugar, the price trends are likely to be more influenced by trade policy decisions of importers and exporters given the relatively modest increases in output.**

**Higher *rabi* season coarse grain output, forecast at 10.5 million tonnes, is expected to partially offset the significant decline in production during the *kharif* season, taking total 2012–13 coarse grain production to around 37 million tonnes against the previous year's 42 million tonnes.**

**Total *rabi* oilseed production (nine major oilseeds) is projected to reach around 11 million tonnes against last year's 9.2 million tonnes, with most of the increase confined to rapeseed/mustard, now projected at 7.5 million tonnes against last year's 6.8 million tonnes.**

Rabi season rice planting is lagging behind last year's level due to dearth of irrigation water availability in the states of Andhra Pradesh and Tamil Nadu. Hence no significant increase in rabi rice production is expected, which is currently forecast at 13.4 million tonnes against last year's 12.8 million tonnes, taking total 2012–13 rice production to 99 million tonnes against 2011–12 production of 104.3 million tonnes.

Rabi season coarse grain sowing is ahead of last year as high prices, particularly for maize, might have prompted farmers to bring larger area under this crop. Higher rabi season coarse grain output, forecast at 10.5 million tonnes, is expected to partially offset the significant decline in production during the kharif season, taking total 2012–13 coarse grain production to around 37 million tonnes against the previous year's 42 million tonnes.

Rabi season pulse (mostly gram and masur or lentil) is only marginally ahead of last year's level despite a significant hike in the support price over the past two years. The current trend in sown area data implies no significant increase in 2012–13 rabi pulse production, projected at around 11.3 million tonnes, taking total 2012–13 pulse production to 17 million tonnes, marginally below the 2011–12 production of 17.2 million tonnes.

Total rabi oilseed production (nine major oilseeds) is projected to reach around 11 million tonnes against last year's 9.2 million tonnes, with most of the increase confined to rapeseed/mustard, now projected at 7.5 million tonnes against last year's 6.8 million tonnes. This takes total 2012–13 major oilseed production to 31 million tonnes, one million tonne more than in 2011–12.

In the case of two vegetable crops considered in this report, increased production of potato in the rabi season is expected to offset the shortfall in kharif and the overall output is projected increase by 2 per cent over the previous year. In the case of onion, increased output in late kharif and rabi season is expected to increase overall production by 2.5 per cent over the previous year.

In the case of banana, the fruit crop considered in this report, given the uneven spread of rainfall during the monsoon period, production is projected to increase at a lower rate of 2.2 per cent over the previous year than its decadal annual trend rate of 9.75 per cent.

The average procurement of milk by cooperatives during April–November 2012 shows an increase of 14 per cent. However, as some of this increase may also reflect flow of surplus milk from the producers to cooperatives rather than the unorganised sector and also expansion in cooperative network, we retain the last quarter's projection of increase in milk production by 3.5–3.75 per cent in the current year to reach 131.8–132.1 million tonnes.

The estimated production of major food commodities for 2012–13 are summarised in Table I.2 herewith.

**Table I.2: Estimates of Production of Major Food Commodities in 2012–13 (million tonnes)**

Crop	June 2012 Q_AOR	Sept. 2012 Q_AOR	Jan 2012 Q_AOR	First Advance estimates
Rice: Kharif	82.3-86.6	84.0-85.1	85.0	85.6
Rabi			14.0	
Total rice			99.0	
Wheat: Rabi			92.5	
Bajra: Kharif	8.1-9.8	9.0	7.0	6.6
Jowar: Kharif	2.6-2.9	2.7	2.7	2.6
Rabi			2.5	
Total jowar			5.2	
Maize: Kharif	15.1-16.3	15.5	15.5	14.9
Rabi			5.5	
Total maize			21.0	
Other coarse grains: Kharif	2.4-2.6	2.2	2.5	3.2
Rabi			1.3	
Total other coarse grains			3.8	
Coarse grains: Kharif	28.2-31.6	29.4	27.7	26.3
Rabi			9.3	
Total coarse grains			37.0	
Pulses: Kharif	5.5-6.2	5.5-5.6	6.7	5.3
Rabi			10.3	
Total pulses			17.0	
Foodgrain: Kharif	116.0-124.4	120.0	119.4	117.2
Rabi			126.1	
Total foodgrain			245.5	
Groundnut: Kharif	4.7-5.8	4.6	4.6	3.8
Rabi			2.0	
Total groundnut			6.6	
Soybean: kharif	12.3-13.1	12.6-12.7	12.6-12.7	12.6
Rapeseed & mustard: Rabi			7.5	
Nine oilseeds: Kharif			20.0	
Rabi			11.0	
Total Nine oilseeds			31.0	
Sugarcane	347.2-356.2	333.5-336.0	333.5	335.3
Milk		131.8-132.1	131.8- 132.1	

## The Prices

In the first two months of the quarter, October–November, the wholesale price index of cereals and pulses increased by 15–20 per cent over the previous year. With the exception of jowar, the year-on-year price rise was in double digit rate (Table I.3). Global supply-demand position has also influenced domestic price trends in commodities like wheat and maize.

Government wheat and rice stocks rose sharply following record procurement of wheat and rice in recent years, peaking 82.4 million tonnes on June 1, 2012. Although stocks have declined following larger releases through the PDS, open market sale and exports,

**Government wheat and rice stocks rose sharply following record procurement of wheat and rice in recent years, peaking 82.4 million tonnes on June 1, 2012.**



**A sharp increase in global wheat prices following a decline in production in major exporting countries made Indian wheat exports competitive in the world market.**

**The aggregate wholesale price indices of fruits and vegetables have shown relatively low rate of increase in the months of September and October. However, within these categories, some important components saw sharp rise as in the case of potato and banana.**

reaching 68.3 million tonnes (37.7 million tonnes of wheat and 30.6 million tonnes of rice) on December 1, 2012, stocks are significantly above the government's desired level of stocks.

Large government wheat and rice stocks combined with inadequate storage capacity prompted the government to allow exports of wheat and rice since September 2011, after a gap of more than three years. Indian rice remained competitive in the world market throughout MY 2011–12, thanks to significant drop in rice exports from Thailand, making India the world's largest rice exporter, exporting over 10 million tonnes. However, the decline in rice production this year, more aggressive rice procurement by the government, and increased competition from other exporting countries could temper India's rice exports prospects in CY 2013, currently projected at 7 million tonnes.

A sharp increase in global wheat prices following a decline in production in major exporting countries made Indian wheat exports competitive in the world market, with India so far exporting around 4 million tonnes of wheat – 2 million tonnes by private trade and 2 million tonnes on government account. With additional export allocation of 2.5 million tonnes from the government stocks recently, 2012–13 (Apr–Mar) exports are projected at 5 million tonnes but could reach 7 million tonnes on July–June basis. Buoyed by high international prices and record domestic production, India's maize exports in 2011–12 reached around 4.5 million tonnes and are estimated at 3 million tonnes in 2012–13.

Although domestic sugar supply situation is comfortable due to larger carryover stocks despite a decline in production, export prospects look dim due to higher production cost and prevailing lower international prices.

The widening supply-demand gap in pulses and vegetable oils will continue to lead to larger imports projected at 3.5 million tonnes of pulses and over 10 million tonnes of vegetable oils in 2012–13.

The aggregate wholesale price indices of fruits and vegetables have shown relatively low rate of increase in the months of September and October. However, within these categories, some important components saw sharp rise as in the case of potato and banana. The prices are expected to stabilise in the case of potato as the rabi harvest begins arrival in the market. The onion prices are relatively stable with an upturn in November. Given the shortfall in kharif production of onion, the rabi output would be critical to maintain price stability.

An assessment based on the analysis of recent patterns in price data shows that over the next 3–4 months,

- Wheat price to stabilize at the current high level and decline from April.
- Rice prices to strengthen in coming months.
- Maize prices to remain strong in the next three to four months and to decline with the harvest of the winter crop.
- Pulse prices in general to remain stable or increase marginally and then decline from April.
- Vegetable oil prices to remain stable in the next three to four months and then increase.
- Sugar prices to increase through March and then decline.

However, seen in terms of increase over the same period in the previous year, the price scenario is seen to be a concern in the next few months in the case of wheat, pulses and also onion. In general, for the food sector as a whole, the prices would remain a concern until the new rabi harvest begins to come into the market.

The headline wholesale price index-based year-on-year inflation for all commodities has been range-bound at 7.5 to 8.0 per cent this calendar year compared to 9.5 per cent in 2011. Food inflation since March this year remained at over 10 per cent up to July before sliding to 6.6 per cent in October. Food price inflation again rose to 8.5 per cent in November, propelled mostly by cereals, particularly wheat, vegetable oils and fruits and vegetables. Wheat price inflation strengthened to over 20 per cent in recent months and rice price inflation at over 10 per cent.

The "anomaly" of high wheat and rice price inflation in the face of record government grain stocks reflects the need for correction in policy by expanding either the supplies through domestic sales or through exports or a combination of both. Grain overstocking, apart from distorting the free functioning of the market has also increased food subsidy bill. The food subsidy bill has skyrocketed to over Rs 750 billion in FY 2011–12 and will increase further this year.

**Table I.3: Recent Price Trends: % YOY**

Item	WPI								International Price		
	Apr-12	May-12	Jun-12	Jul-12	Aug-12	Sep-12	Oct-12	Nov-12	Nov-11	Dec-11	Jan-12
Food Price Index	9.5	9.2	9.4	9.2	9.2	8.6	7.4	8.6			
Cereals	6.8	5.6	6.6	8.1	10.8	14.4	14.4	15.8			
Rice	6.0	4.9	7.5	9.9	10.4	12.6	11.4	11.8	-2.9	-3.0	-2.6
Wheat	6.0	6.8	6.8	6.4	13.0	18.9	19.8	23.2	23.9	28.5	29.3
Jowar	8.4	1.4	-8.4	-11.7	-9.6	-8.6	-5.7	-8.2			
Bajra	11.1	6.1	10.8	15.7	20.8	21.3	18.7	24.3			
Maize	11.1	5.7	5.8	7.7	9.7	16.4	19.2	20.1	17.1	17.3	19.5
Pulses	11.3	16.8	20.6	28.6	34.5	29.0	20.0	19.1			
Gram	47.3	56.4	59.7	64.2	64.4	51.4	34.2	29.9			
Tur	-11.3	-5.2	1.0	10.1	22.2	18.5	14.3	14.9			
Groundnut seed	25.8	24.4	21.5	18.3	17.8	18.5	23.6	34.1			
Rapeseed & Mustard seed	33.2	36.1	28.4	30.2	36.5	41.1	46.6	51.6			
Vegetables	61.9	49.9	50.1	24.1	10.1	-6.7	-7.4	-1.2			
Potato	59.3	72.2	84.9	73.2	70.7	52.4	49.1	72.2			
Onion	-11.0	-8.1	-9.5	-10.1	-20.7	-24.7	-9.0	17.0			
Fruits	-15.3	-6.1	-4.9	-0.1	1.3	7.0	3.3	7.3			
Banana	-4.5	13.5	16.3	22.3	21.6	20.4	20.7	35.7	0.3	-2.3	-0.1
Groundnut oil	25.8	24.7	19.6	18.0	17.8	15.0	13.7	18.0	9.2	7.1	14.3
R & M Oil	23.6	21.2	19.3	19.7	16.5	14.7	13.5	12.6	-4.1	-6.3	-4.3
Palm oil	11.8	10.8	9.1	9.8	7.0	5.9	5.2	3.4	-16.0	-24.6	-26.3
Edible oils	11.2	10.4	9.5	10.8	10.9	10.7	9.5	9.9			
Sugar	3.2	5.2	7.1	9.4	16.9	19.9	18.7	14.9	-36.8	-40.4	-38.3
Milk	15.7	11.9	7.5	8.0	6.7	6.5	6.3	6.2			
Soybean	30.7	43.3	47.2	79.1	82.8	76.5	51.5	54.8	26.8	24.3	27.3



The estimated supply demand balances of major food commodities are summarised in Table I.4 below.

**Table I. 4: Food Balances for 2012–13: January 2013 (thousand tonnes)**

Item	Rice	Wheat	Maize	Pulses	Edible oil	Sugar	Onion	Potato
<b>A. The Supply side</b>								
Beginning stocks	23373	26000	700	1800	500	7789	750	1400
Production	99000	92500	23000	17000	8800	24000	16700	43500
Imports	0	0		3400	10000	0	0	0
Total supply	122373	118500	23700	22200	19300	31789	17450	44900
<b>B. Demand side</b>								
Domestic consumption	93373	85000	19142	19425	17979	22575	14700	42000
Exports	7000	6000	2500	0	0	2000	1630	200
Utilisation	100373	91000	21642	19425	17979	24575	16330	44000
<b>C. Ending stocks</b>								
	22000	27500	2058	2775	1321	7214	1120	900

**Notes:** (1) We have used marketing year as the time frame and accordingly in the case of wheat, the balances are for 2013–14 with output of current rabi in the balances, (2) In the October report, onion production level was incorrectly indicated as 12,000 tonnes for 2012–13; the error is now corrected with the revised figure, and (3) We have ignored the small import figures in the case of onion.



## PART II

# Global Situation and Outlook Summary

### Production

- There have been further downward revisions in the 2012–13 wheat and coarse grains production forecasts over the past three months by various international agencies.
- Rice production forecast for 2012–13 has remained more or less unchanged or marginally increased from previous estimates.
- Production outlook for oilseed in general and soybean production in particular has marginally improved supported by a higher crop in Canada.
- Global sugar production forecast for 2012–13, although down from earlier forecasts, remains marginally higher than the 2011–12 production despite production setback in India, Thailand, EU and Russia, which was offset by higher production in Brazil, Mexico and the U.S.
- Global pulse production in 2012–13 is expected to remain more or less at the same level as in 2011–12 due to increased production in major exporting countries such as Canada (dry peas), USA (dry peas), Australia (chick peas and dun peas) and Myanmar (tropical pulses such as urd, mung), offsetting expected decline in pulse production in India.

The latest 2012–13 forecasts by various international agencies along with their 2011–12 production estimates are shown in Table II.1.

### Prices

- Global wheat and maize prices further strengthened during the October – December quarter reflecting downward revisions in production
- There was a significant decline in prices of oilseeds and vegetable oil, reflecting improved production situation and large stocks of palm oil in Indonesia and Malaysia.
- Rice prices remained steady thanks to large exportable surplus from India offsetting a significant decline in exports from Thailand consequent to domestic policy conundrum.

Sugar prices also witnessed a downward trend in recent months due to improved production condition in major producing countries such as Brazil and India.



**Global pulse production in 2012–13 is expected to remain more or less at the same level as in 2011–12 due to increased production in major exporting countries such as Canada (dry peas), USA (dry peas), Australia (chick peas and dun peas) and Myanmar (tropical pulses such as urd, mung), offsetting expected decline in pulse production in India.**





The likelihood of a better than normal rice crop in 2013 should keep international rice prices under check in coming months. Nevertheless, prices will be influenced by policies of major exporting countries such as Thailand, Vietnam, and India.

**Table II.1: Global Production Forecasts for Major Food Commodities (million tonnes)**

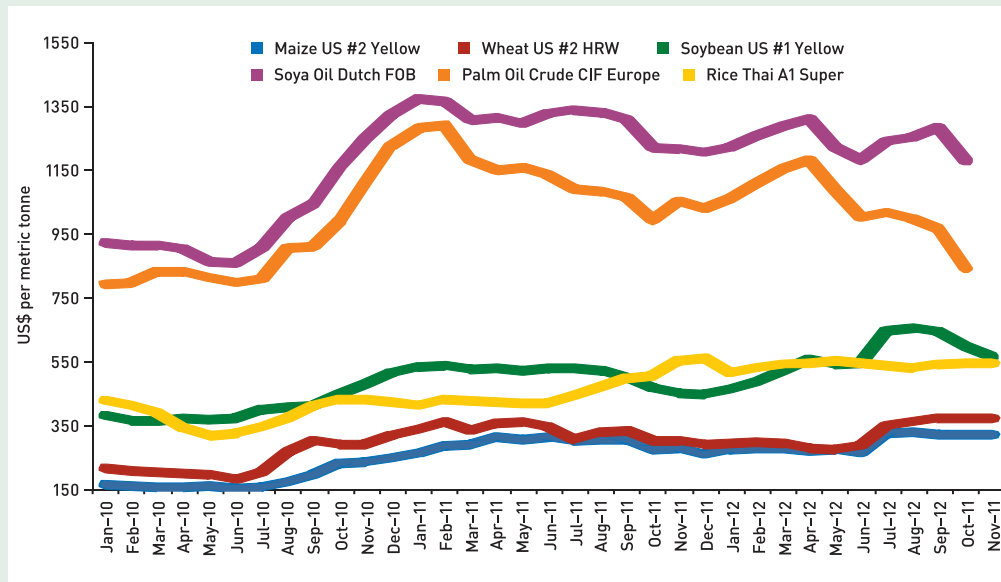
Commodity/ Year	FAO	USDA	ABARES	IGC
<b>Wheat</b>				
2011–12	699.4	696.4	694.0	695.0
2012–13	659.4	655.1	656.0	654.0
% Change	-5.7	-5.9	-5.5	-5.9
<b>Rice</b>				
2011–12	482.7	465.0	NA	463.0
2012–13	486.8	465.3	NA	464.0
% Change	0.8	0.1	NA	0.2
<b>Maize</b>				
2011–12	884.3	881.7	880.0	876.0
2012–13	856.1	849.1	831.0	830.0
% Change	-3.2	-3.7	-5.6	-5.3
<b>All coarse grains</b>				
2011–12	1166.0	1152.5	1151.0	1155.0
2012–13	1135.5	1118.9	1106.0	1108.0
% Change	-2.6	-2.9	-3.9	-4.1
<b>Total oilseeds</b>				
2011–12	452.3	442.6	438.0	NA
2012–13	474.3	463.0	459.0	NA
% Change	4.9	4.6	4.8	NA
<b>Total veg oils</b>				
2011–12	181.2	155.7	NA	NA
2012–13	186.7	156.7	NA	NA
% Change	3.0	0.6	NA	NA
<b>Sugar (Raw equivalent)</b>				
2011–12	173.5	172.1	175.1	NA
2012–13	177.3	172.3	177.6	NA
% Change	2.2	0.1	1.4	NA
<b>Milk</b>				
2011–12	737.9	527.1	NA	NA
2012–13	759.6	542.1	NA	NA
% Change	2.9	2.8	NA	NA

**Source:** Data sources are indicated in the note at the end of this section.

The recent trends in food commodity prices in international markets are illustrated in Figure II.1. World wheat and maize prices are likely to remain firm in coming months due to lower carryover stocks and the possibility of an export ban by Ukraine. Although, international maize price surge has softened in recent months, prices are likely to remain volatile given the lower stocks-to-use ratio.

The likelihood of a better than normal rice crop in 2013 should keep international rice prices under check in coming months. Nevertheless, prices will be influenced by policies of major exporting countries such as Thailand, Vietnam, and India. Likely larger government rice procurement this year in India combined with lower domestic production could curtail exportable surplus putting upward pressure on global prices, particularly for low quality rice.

Figure II.1: Global Price Trends of Major Food Commodities



Source: FAO.

Despite recent softening of oilseed and vegetable oil prices in the light of a partial recovery in global stocks and stock-to-use ratios, international markets of soybean and products are expected to remain vulnerable in coming months, at least until prospects for an expected record soy crop in South America becomes clearer.

Larger sugar imports by traditional buyers to beef up depleting stocks could deter further significant weakening of international sugar prices despite higher production.

CBOT future price quotes tend to support the price outlook scenario for various commodities noted above. The early December CBOT price quotes show continued strengthening of wheat and maize prices reaching \$327 and \$290 respectively in July 2013. Soybean future prices show a weakening trend reaching \$504 by September 2013, whereas soybean oil prices depict firmness reaching \$1155 per tonne by September 2013. Sugar future prices also show some strengthening in coming months.

## Consumption

- Global wheat consumption in 2012–13 is projected to drop slightly by most international agencies (in the range of 1 per cent to 2 per cent), with the decline entirely confined to feed use. Wheat feed use, which peaked in 2011–12, nevertheless is expected to remain above normal due to tight maize supply.
- World coarse grain consumption is also projected to decline from the high 2011–12 level, with the decline largely confined to maize utilization in ethanol production in the United States, and a likely marginal decline in feed use in developed countries.
- Global rice consumption is projected to increase marginally driven by population growth and increased availability of low quality rice from India despite lower exports from Thailand.
- Global vegetable oil consumption is projected to increase marginally compared with higher growth rates in previous years due to prospects of a slowdown in global

Despite recent softening of oilseed and vegetable oil prices in the light of a partial recovery in global stocks and stock-to-use ratios, international markets of soybean and products are expected to remain vulnerable in coming months, at least until prospects for an expected record soy crop in South America becomes clearer.

**Global pulse trade is likely to increase modestly in 2012–13 due to larger exportable surplus in major exporting countries such as Canada, Myanmar, and Australia and larger import demand from India due to lower domestic production.**

economic growth, high prices, and reduced demand by the biofuel industry.

- According to the latest FAO estimate, global sugar consumption is expected to increase by 2 per cent to 172 million tonnes in 2012–13, marginally below the past decade average annual growth of 2.2 per cent due to economic slowdown.

The consumption demand for grains and vegetable oils, therefore, is expected to be moderate due to higher prices in the case of wheat and coarse grains and slower economic growth in general.

## Trade

- World wheat trade is likely to shrink in 2012–13 due to increased supplies in several importing countries and reduced feed demand. The projected decline ranges from 8.2 per cent to 134–135 million tonnes by the FAO and the IGC and by 7 per cent to 138 million tonnes by the USDA.
- Global rice trade in CY 2012 is estimated to have grown to a record high – 38.2 million tonnes by the USDA and 37.3 million tonnes by the FAO – due to a decline export prices from the 2011 high level and larger export availabilities. CY 2013 trade is projected at 37.5 million tonnes by the FAO (assuming China's imports will continue to remain high) and 36 million tonnes by the USDA. India displaced Thailand as the world's largest exporter of rice in CY 2012 exporting around 10 million tonnes and is likely to remain as a major exporter in CY 2013 unless the government imposes some trade restrictions due to domestic compulsions.
- International coarse grain trade in 2012–13 is projected to shrink sharply due to high prices with most of the decline confined to maize, which is projected to decline by around 7 per cent to 94 to 95 million tonnes from the record 2011–12 level of 101 to 102 million tonnes.
- Global pulse trade is likely to increase modestly in 2012–13 due to larger exportable surplus in major exporting countries such as Canada, Myanmar, and Australia and larger import demand from India due to lower domestic production.
- FAO projects global sugar trade to increase marginally to 53 million tonnes with a likely rebound in Brazilian exports and marginal increase in Thai exports, partly offset by reduced Indian exports.

The decline in the growth rate of production in the case of wheat and decline in output in the case of maize combined with slower increase in demand due to slow pace of global economy have meant that overall trade in food commodities in 2012–13 is likely to see smaller volumes.

## Stocks

- Global wheat stocks by the end of 2012–13 marketing year are projected to fall sharply as consumption is likely to exceed production, despite a decline in consumption and trade vis-a-vis the previous year. 2012–13 ending stocks are projected at 167 million tonnes by the FAO, 173 million tonnes by the IGC and 174 million tonnes by the USDA with the stocks-to-use ratio declining to one of the lowest level in recent years. The decline is sharper in major exporting countries.



- While FAO projects a 10 million tonne increase in 2012–13 ending global rice stocks, both USDA and IGC are projecting 1 to 3 million tonne decline in stocks, but still one of the highest ever. Stocks-to-use ratio is expected to remain comfortable at or near previous year's level.
- Coarse grain stocks are projected to be drawn down sharply by the end of 2012–13 marketing year with stocks-to-use ratio at one of the lowest level in recent years.
- Vegetable oil stocks-to-use ratio is projected to improve marginally from the previous year's level but still one of the lowest in recent years.
- Sugar ending stocks and stocks-to-use ratio in 2012–13 are projected to improve to one of the highest levels in recent years.

The overall supply situation is expected to remain adequate to meet the needs of consumption. In the case of wheat, maize and overall coarse grains, there is a decline in year- end stocks-to-use ratio as compared to the previous year. In the case of rice, sugar and vegetable oils, the stocks are expected to rise.

## Implications for India

Indian wheat and maize exports will continue to remain competitive, at least through the end of the 2012–13 marketing year due to reduced marketable surplus in major exporting countries. The weakened rupee against the US\$ further supports India's export prospects.

Indian rice exports in 2013 are likely to be tempered due to reduced domestic exportable surplus and burgeoning rice stocks in Thailand which could prompt Thailand to release supplies and promote exports to regain its lost spot as the world's largest rice exporter. Efforts to achieve self-sufficiency through tariff and non-tariff policy measures by major importing countries such as Nigeria, Iran and Indonesia also could negatively impact global rice trade in general and Indian rice exports in particular in coming years.

Despite forecast of increase in Canadian dry pea (mutter) production and Australian chickpea (gram or chana) production prices are likely to remain firm due to lower carryover stocks in Canada. Furthermore, reduced field pea (mutter) production in Europe combined with increased demand for feed supplies will constrain export from France, which last year emerged as a major supplier of field peas to India.

Regarding vegetable oils, Indonesia and Malaysia are expected to boost exports of palm oil prompted by large stocks which should prove beneficial for India and encourage substitution for the high priced soybean oil. Thus the share of palm oil in India's vegetable oil import basket is expected to grow significantly in 2012–13.

**Sugar ending stocks and stocks-to-use ratio in 2012–13 are projected to improve to one of the highest levels in recent years.**



## Box 1: International Agricultural Policy Developments Likely to Impact India

### Iran to import wheat from Pakistan

Iran has agreed to import one million tons of wheat from Pakistan. This reduces potential demand from Indian sources.

### Ukraine not to export wheat to Egypt

Egypt may remove Ukraine from its list of suppliers in 2013 after uncertainty of exports from Ukraine.

### Rice production in Thailand

If rice prices do not improve in the coming year, farmers may switch to crops like sugarcane and cassava. But the switch may not come easily.

The development is in the context of rising stock of rice with the government, which is now estimated at 10-12 million tonnes.

### Rice self-sufficiency in importing countries

Nigeria produces about 2.8 million tons of rice, but imports around 2.5-3 million tons to meet the domestic demand of around 5-5.5 million tons of rice annually. The government is targeting self-sufficiency in rice by 2015.

Iran's rice production is expected to reach about 2.4 million tons, against a consumption of around 2.8 million tons and it is reported to be planning to bridge this gap through increased production. Iran imports most of its rice from India, Pakistan and the UAE.

### Weather impact on corn production in Argentina

Argentina could lose 20 per cent of its projected corn crop and 10 per cent of its soy this season as a result of violent storms. Heavy rains since August have affected crops in the world's no. 3 soybean exporter and no. 2 corn supplier.

### Indonesia Cuts Palm Oil Export Duty

Based on further decreasing international benchmark prices, starting November, the export tax collected on crude palm oil was reduced from 9 per cent from the previous 13.5 per cent. The rates for various other types of oil have been lowered accordingly, with highly refined oils and palm-oil based biodiesel attracting zero tariff.

**Note:** The above summaries based on news reports in the publications of FAO, USDA, and Oryza.com

India's competitiveness in the international sugar market will be under pressure due to lower production, high domestic prices and increasing sugarcane prices in the context of rising global production and declining international prices.

## Note on data sources

Global production, consumption, price, trade and stocks statistics are given in Annexure. Most recent detailed country by country analysis of the commodity situation and outlook are available in the following reports:

### *Food and Agriculture Organization of the United Nations*

Food Outlook – November 2012 (<http://www.fao.org/docrep/016/a1993e/a1993e00.pdf>)

Crop Prospects and Food Situation - December 2012  
(<http://www.fao.org/docrep/017/a1995e/a1995e00.pdf>)

Cereal Supplies and Demand Brief - December 2012  
(<http://www.fao.org/worldfoodsituation/wfs-home/csdb/en/>)

### *United States Department of Agriculture – Foreign Agricultural Service*

Grain: World Markets and Trade, December 2012  
(<http://usda01.library.cornell.edu/usda/current/grain-market/grain-market-12-11-2012.pdf>)

Oilseeds: World Market and Trade, December 2012  
(<http://usda01.library.cornell.edu/usda/current/oilseed-trade/oilseed-trade-12-11-2012.pdf>)

### *United States Department of Agriculture – Economic Research Service*

Wheat Outlook, December 2012  
<http://www.ers.usda.gov/media/965593/whs-12l.pdf>

Rice Outlook, December 2012  
<http://www.ers.usda.gov/media/965275/rcs-12l.pdf>

Oil Crops Outlook, December 2012 <http://www.ers.usda.gov/media/965281/ocs12l.pdf>

Feed Outlook, December 2012  
<http://www.ers.usda.gov/media/965805/fds12l.pdf>

### *Australian Bureau of Agricultural and Resource Economics and Sciences*

Agricultural Commodities, December 2012  
<http://www.ers.usda.gov/media/965275/rcs-12l.pdf>

### *International Grains Council*

Grain Market Report, November 29, 2012  
<http://www.igc.int/en/downloads/gmrsummary/gmrsumme.pdf>







## PART III

# Overview of Domestic Food Sector Output, Demand and Price Scenario

## Production Scenario for the Food Sector

Rabi season crop sowing progressing normally...

- Sowing operation of rabi crops, which include mainly wheat, pulses (gram, masur), rapeseed/mustard and small quantities of rice and coarse grains, is in full swing supported by generally normal weather conditions in most states and high domestic prices. Due to late harvesting of the kharif season rice crop in several states, rabi sowing got off to a slow start but picked up momentum later. According to the most recent planting report from the Agriculture Ministry, sowing through December is more or less the same or marginally ahead of last year's level for most rabi crops except rice, which is lagging somewhat behind.

Although the government announced a significant hike in the minimum support prices (MSP) for rabi pulses and oilseed crops (Table III.1), a final decision on the MSP for wheat was withheld. The Commission on Agricultural Costs and Prices (CACP) had earlier recommended maintaining status quo on MSP for wheat in view of large wheat stocks with the government<sup>1</sup>. However, on December 26, the government's Cabinet Committee on Economic Affairs announced a Rs 650 per tonne increase in the wheat MSP for MY 2013–14 to Rs 13,500 per tonne. Notwithstanding the delay in announcing the MSP, wheat planting, after a slow start, is likely to match or even exceed last year's level.

**Table III.1: Minimum Support Prices for Rabi Season Crops (Rs per tonne)**

	2009-10	2010-11	2011-12	2012-13	2013-14
Wheat	10,800	11,000	11,700	12,850	13,500
Barley	6800	7,500	7,800	9,800	9,800
Gram	17,300	17,600	21,000	28,000	30,000
Masur	18,700	18,700	22,500	28,000	29,000
Rapeseed/Mustard	18,300	18,300	18,500	25,000	30,000
Safflower	16,500	16,800	18,000	25,000	28,000

### ... Production outlook mixed

- Although the government wanted to encourage oilseed and pulse production, which are in short supply, by offering higher support prices vis-a-vis competing wheat crop, progressive sowing data through mid-December points to only a marginal increase in area planted to these crops. .

On the weather front, post-monsoon rainfall through December was significantly below normal in the major wheat/oilseed/pulses belt in northwest and central India but

**Notwithstanding the delay in announcing the MSP, wheat planting, after a slow start, is likely to match or even exceed last year's level.**

1. [http://cacp.dacnet.nic.in/RPP/Rabi\\_Report\\_2013-14\\_English.pdf](http://cacp.dacnet.nic.in/RPP/Rabi_Report_2013-14_English.pdf)

**Rabi season rice planting, mainly confined to the southern states and West Bengal, is lagging behind last year's level, reportedly due to dearth of irrigation water availability in the states of Andhra Pradesh and Tamil Nadu.**

temperature dropped sharply in recent weeks after remaining above normal earlier. However, compared to the previous year, the post-monsoon rainfall this year has been somewhat better. Moreover, better access to irrigation in the case of wheat is expected to sustain its yields.

Given the reports of sown area, against the government's scaled down wheat production target of 86 million tonnes for 2013, actual production is likely to more or less at the same level as last year's record 93.9 million tonnes, provided growing conditions remain favourable. Last year, the country recorded the highest wheat yield of 3,140 kg/ha, a 5 per cent increase over the 2011 yield due to ideal growing conditions, with Madhya Pradesh, Rajasthan, Punjab and Haryana scaling record yields. Whether this feat could be repeated this year will depend much on the weather developments in coming months particularly temperatures in the grain filling stage in February and the duration of winter season.

- Assuming an average yield of 3,100 kg/ha and area planted at 29.9 million hectares, 2013 wheat production is projected at 92.5 million tonnes, somewhat above the trend line projection of 90 million tonnes.

Rabi season rice planting, mainly confined to the southern states and West Bengal, is lagging behind last year's level, reportedly due to dearth of irrigation water availability in the states of Andhra Pradesh and Tamil Nadu. Water level in irrigation dams in these states is inadequate and electricity shortage is hindering full exploitation of ground water resources curtailing rice planting.

- With no significant increase in rabi rice production expected, it is currently forecast at 13.4 million tonnes against last year's 12.8 million tonnes and the trend projection of 14.7 million tonnes, taking total 2012–13 rice production to 99 million tonnes against 2011–12 production of 104.3 million tonnes.

Rabi season coarse grain planting, which includes mostly maize, barley and some sorghum, is ahead of last year as high prices, particularly for maize, might have prompted farmers to bring larger area under this crop.

- Higher rabi season coarse grain output, forecast at 10.5 million tonnes, is expected to partially offset the significant decline in production during the kharif season, taking total 2012–13 coarse grain production to around 37 million tonnes against the previous year's 42 million tonnes and the trend line projection of 42.9 million tonnes.

Rabi season pulse (mostly gram and masur) area is only marginally ahead of last year's level despite a significant hike in the support price, ostensibly due to drier than normal weather conditions in the major growing states of Madhya Pradesh and Rajasthan and some shift to more lucrative wheat and oilseed crops. According to the CACP analysis, profitability over actual cost of production in Madhya Pradesh and Rajasthan is much higher for wheat and rapeseed than for pulses.

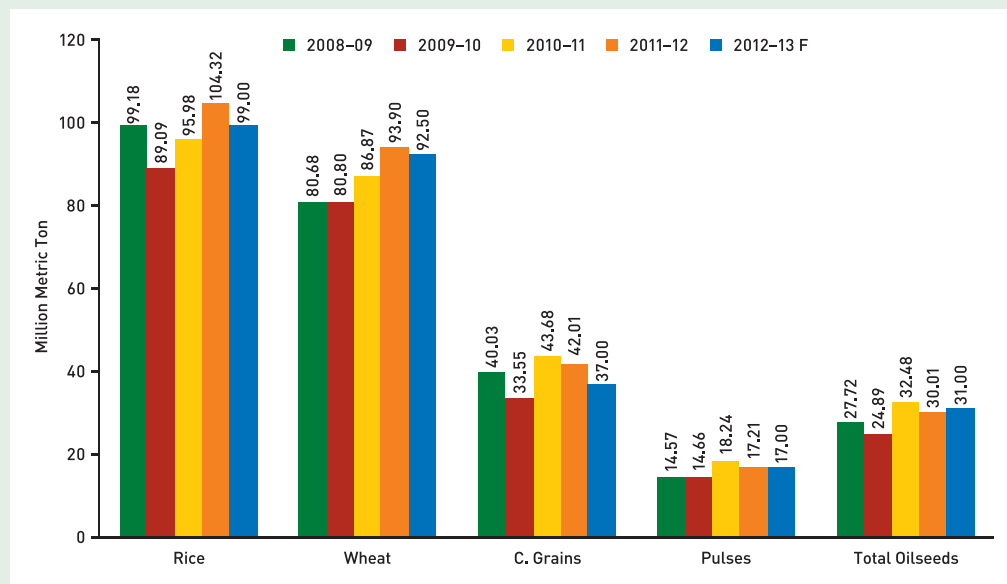
- Assuming the current trend in rabi pulse sowing will prevail, and no significant change in yield level is likely, 2012–13 rabi pulse production is projected at around 11 million tonnes, unchanged from the 2011–12 level, taking total pulse production to 17 million tonnes, marginally below the 2011–12 production of 17.2 million tonnes and the trend line projection of 17.6 million tonnes.

Rabi oilseed sowing is marginally ahead of last year's level through mid-December, prompted by high market prices and a significant increase in the MSP.

- Total rabi oilseed production is projected to reach around 11 million tonnes against last

year's 9.2 million tonnes, with most of the increase confined to rapeseed/mustard, tentatively projected at 7.5 million tonnes against last year's 6.8 million tonnes. This takes total 2012–13 major nine oilseed production to 31 million tonnes, one million tonnes more than in 2011–12 but somewhat below the trend line projection of 33.7 million tonnes. Figure III.1 shows agricultural production trend since 2008/09.

**Figure III.1: Agricultural Production Trends**



Source: Ministry of Agriculture, GOI for data up to 2011–12 & NCAER Forecast for 2012–13.  
 Note: Oilseeds refer to 9 major oilseeds.

### Consumption, Trade, Stocks, and Price


The leap in rice, wheat and sugar production in 2010–12 has outstripped the annual consumption requirements and without adequate export channels led to a build up of stocks. The situation was accentuated by a steady decline in per capita consumption of wheat and rice as the growing middle-income consumers shift from basic cereals to high value products such as milk and dairy products, meat and meat products, processed food items, and fruits. Although the government has been making available more wheat and rice through the Public Distribution System (PDS) to contain the anomaly of high wheat and rice price inflation in the face of record production and stocks, offtake has been sluggish. However, demand/supply gap for pulses and vegetable oil is widening due to inadequate production growth combined with income-driven high consumption growth, necessitating larger imports. Over a span of a decade ending 2011–12, India's vegetable oil imports have doubled and pulse imports have increased by more than 50 per cent. Although, there is potential to import more pulses, global availability is a limiting factor.

The large government wheat and rice stocks combined with inadequate storage capacity prompted the government to allow exports of wheat and rice since September 2011, after a gap of more than three years. Indian white rice remained competitive in the world market throughout MY 2011–12, thanks to significant drop in rice exports from Thailand due to domestic policy imbroglio. This helped India to emerge as the world's largest rice exporter, exporting over 10 million tonnes of rice – all on private account. It is doubtful, whether this situation will continue in 2012–13, because of the decline in domestic rice production and more aggressive rice procurement by the government (perhaps to meet the increased requirement once the Food Security Bill is enacted), leaving reduced quantities

The leap in rice, wheat and sugar production in 2010–12 has outstripped the annual consumption requirements and without adequate export channels led to a build up of stocks.

The large government wheat and rice stocks combined with inadequate storage capacity prompted the government to allow exports of wheat and rice since September 2011, after a gap of more than three years.





**Buoyed by high international prices and record domestic production, India's maize exports in 2011–12 are estimated at around 4.5 million tonnes. Despite lower production in 2012–13, maize exports are reportedly continuing, but at a slower pace and are forecasted to reach around 3 million tonnes.**

in the open market for exports by private trade. The record rice stocks in Thailand will sooner or later find its way into the export market depressing international prices. Because of these developments 2012 13 exports are forecast to decline to 7 million tonnes.

A sharp increase in global wheat prices following dry weather conditions in major exporting countries such as Ukraine, Russia, and the United States, resulting in lower production, has made Indian wheat exports competitive in the world market. In July 2012 the government allocated 2 million tonnes of wheat from its stocks for exports through various government trading companies such as the STC, PEC, and MMTTC, which is being exported in small tranches. Looking at the high price realization for the recent wheat exports and the need for more storage space for the new crop procurement starting in April 2013, the government on December 26 permitted additional 2.5 million tonnes of wheat from its stocks for exports through government trading companies at a minimum export price of \$300 per tonne. Exports are to be completed before June 30, 2013. Earlier, private trade was also exporting wheat sourcing from the open market. However, reduced wheat availability in the open market resulting in a steep rise in domestic wheat prices in recent months has made private wheat exports infeasible. Total MY 2012 13 (Apr Mar) exports are projected at 5 million tonnes (2 million tonnes on private account and 3 million tonnes on government account) but could reach 7 million tonnes on July June basis.

Buoyed by high international prices and record domestic production, India's maize exports in 2011–12 are estimated at around 4.5 million tonnes. Despite lower production in 2012 13, maize exports are reportedly continuing, but at a slower pace and are forecasted to reach around 3 million tonnes.

Government wheat and rice stocks rose sharply following record procurement of wheat and rice by government agencies at the support price in recent years, peaking 82.4 million tonnes (50.2 million tonnes of wheat and 32.1 million tonnes of rice) on June 1, 2012. Although stocks have declined since then following larger releases through the PDS, open market sale and exports, reaching 68.3 million tonnes (37.7 million tonnes of wheat and 30.6 million tonnes of rice) on December 1, 2012, these stocks (Figure III.2) are significantly above the government's desired level of stocks needed for distribution through the Public Distribution Stocks (PDS).

The policy developments in the recent three months are summarised in Box III.1 below.

### Box III.1: Agricultural Policy Developments during October–December 2012

Sl. No.	Product	Date/ Month	Policy Instrument	Description
1.	Sugar	October	Export regulations	Government extends the time for sugar export under open general licence (OGL) for another year. Mills may ship sugar abroad in 2012–2013 crop marketing year without any curbs.
2.	Agricultural Finance	October	Priority Sector Lending	The Reserve Bank of India revised the definition of priority sector to include companies formed by individual farmers, partnership firms and co-operatives of farmers directly engaged in agriculture and allied activities. They will now be considered as priority sector for lending.
3.	Edible oil exports	October	Export ban lifted	Removed ban on edible oil exports in small branded consumer packs, until Sep. 30, 2013, in packs of up to 5 kilograms with a limit of 20,000 tonnes.
4.	MSP for Rabi crops to be marketed in 2013–14	November	MSP	The minimum support price (MSP) for rabi crops such as mustard seeds, grams and lentils raised by 7 to 20 per cent for the 2013–14 crop marketing season (April–March).
5.	Whole milk powder and other milk products	November lifted	Export ban	The ban on export of whole milk powder (WMP), dairy whitener, infant milk foods and other milk products removed till March 2013.
6.	Rice and wheat export	December	Export Policy	Export of rice, wheat and cotton to continue without restrictions this year
7.	Wheat MSP	December	MSP	Government raises the Wheat MSP to Rs 1,350 a quintal for the 2013–14 marketing year, which is higher by Rs 65 over last year.

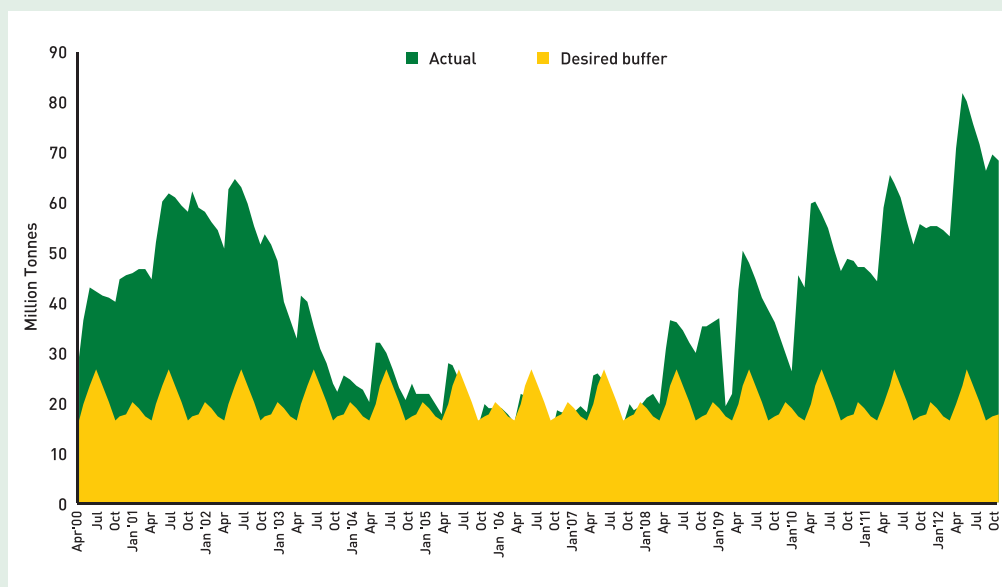
**Source:** Based on various new reports and press releases of the government.





**Food inflation showed a declining trend during August through October dipping to 6.6 per cent in October before rising to 8.5 per cent in November.**

**Figure III.2: Government Foodgrain Stocks vis-a-vis Desired Buffer Stocks**



With sugar production outstripping consumption requirement and exports in 2010–11 and 2011–12, sugar stocks have risen to an estimated 7.0 million tonnes on September 30, 2012 against 3.4 million tonnes a year ago. Despite a decline in sugar cane production in 2012–13, sugar stocks are projected to remain high as exports will be difficult because of higher domestic production cost and prevailing lower global prices of sugar.

India's headline wholesale price index-based year-on-year inflation for all commodities has been in the range of 7.5 to 8.0 per cent over the past 12 months (Figure III.3). Inflation of food articles since March this year, however, was hovering at over 10 per cent. Food inflation showed a declining trend during August through October dipping to 6.6 per cent in October before rising to 8.5 per cent in November. While wheat price inflation strengthened during the past three months, price inflation of most other products

**Figure III.3: Food Inflation vs. Overall Inflation**

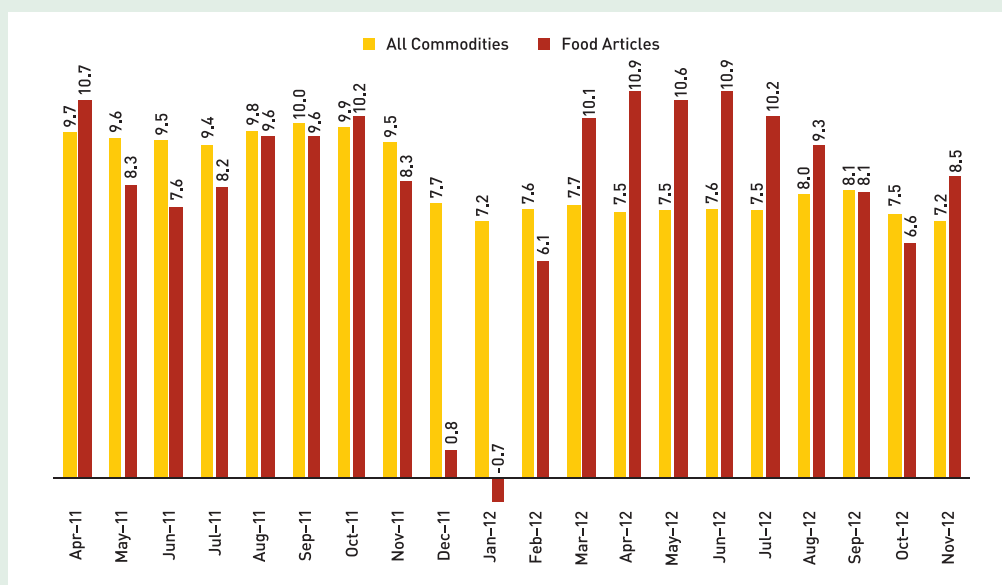
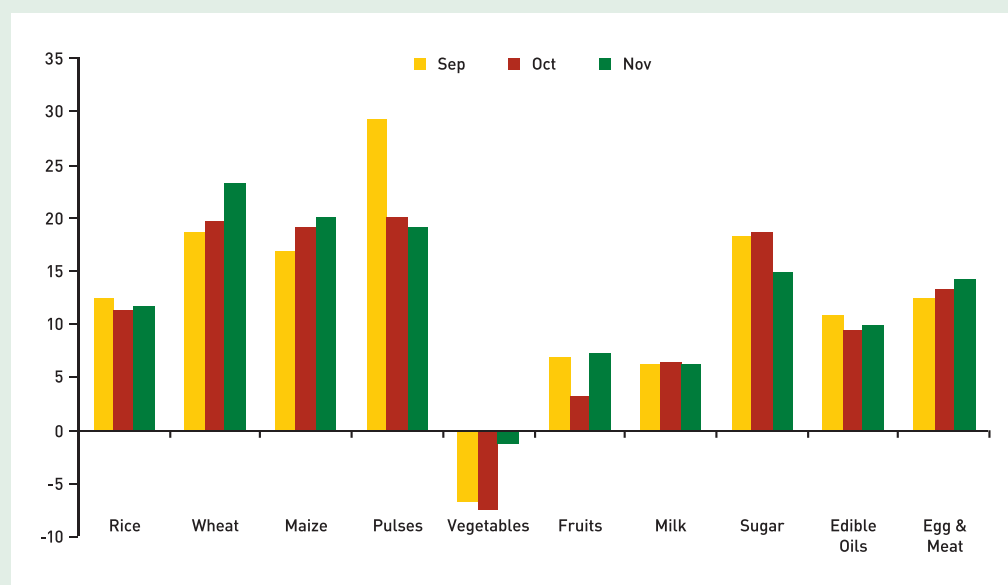


Figure III.4: Food Inflation Trend during Sep–Nov 2012



increased only modestly or even declined in some cases (Figure III.4).

Commodity price outlook for major food commodities for the next six months based on our analysis (See BOX 2) and the NCDEX future price quotes is summarised below:

- Wheat price to stabilize at the current high level and decline from April.
- Rice prices to strengthen in coming months.
- Maize prices to remain strong in the next three to four months and to decline with the harvest of the winter crop.
- Pulse prices in general to remain stable or increase marginally and then decline from April.
- Vegetable oil prices to remain stable in the next three to four months and then increase.
- Sugar prices to increase through March and then decline.





### Box III.2: Price Trends

There are two important ways of arriving at price forecast using econometric methods. One is to build a causal econometric model using a single equation or simultaneous equation model and, under a set of plausible assumptions regarding the movement of the exogenous variables. The second method is the time series modelling essentially capturing the trends, cycles and seasonality in the price data. The time series modelling approach gives reliable short-run forecasts, although it lacks causal explanatory power. We have used the univariate time series models for assessing short term prospects for commodity prices in the present analysis.

The two time series techniques often used are: (a) harmonic analysis and (b) Auto Regressive Integrated Moving Average (ARIMA) method. The harmonic analysis using trigonometric functions uncovers inherent periodicities in a time series such as monthly or weekly prices. The basic assumption underlying a harmonic analysis of economic time series is that a time varying phenomenon can be interpreted as comprising cycles of varying amplitude, each of which can be represented by the trigonometric Sine or Cosine functions. The alternative technique of autoregressive, moving average or the autoregressive integrated moving average (ARIMA) technique is based on the principle that a stationary process can often be parsimoniously represented by a mixture of auto-regressive and moving average models. Even a non-stationary (having cyclical fluctuations) series after proper differencing, can be treated a stationary series.

We have used both the time series approaches to assess the price scenario emerging in the short term. The ARIMA projections of WPI for selected food commodities are discussed in the Annexure. The harmonic analysis is presented here. The data used is the wholesale prices data for major agricultural products maintained by the Department of Consumer Affairs

(<http://consumeraffairs.nic.in/consumer/>). The indicative Delhi wholesale price is used for the analysis, except for soybean oil, palm oil, and milk for which average data for the national level given in the above website is used.

With the exception of milk for which only a linear trend was noted, most other commodity price series analyzed were found to contain an annual cycle and in some cases a three year cycle, besides a linear trend. In some cases a dummy variable is used to capture price shocks caused by drought or policy changes.

The regression equation can be represented by:

$$Y_t = a_0 + a_1 \sin 30^\circ t + b_1 \cos 30^\circ t + a_2 \sin 10^\circ t + b_2 \cos 10^\circ t + c_1 t + d_1 D_t + u_t,$$

Where t is the trend variable and D is a dummy variable, = 0 or 1.

The ordinary least squares procedure can be used to estimate the unknown parameters  $a_0, a_1, a_2, b_1, b_2, c_1,$  and  $d_1$ .

The actual and forecasted prices for various commodities are shown in the following Charts in the case of Wheat and gram (figure III.5 & Figure III.6). Trends for the major food commodities are presented in Table iii.2. Projections based on Wholesale Price Index for major commodities using ARIMA Model are presented in Table III.3. These forecasts are subject to statistical errors and they are presented as indicative of emerging trends.

Figure III.5: Trends in Wholesale Price of Wheat in Delhi Market (Rs/ Qtl): Actual and Projections

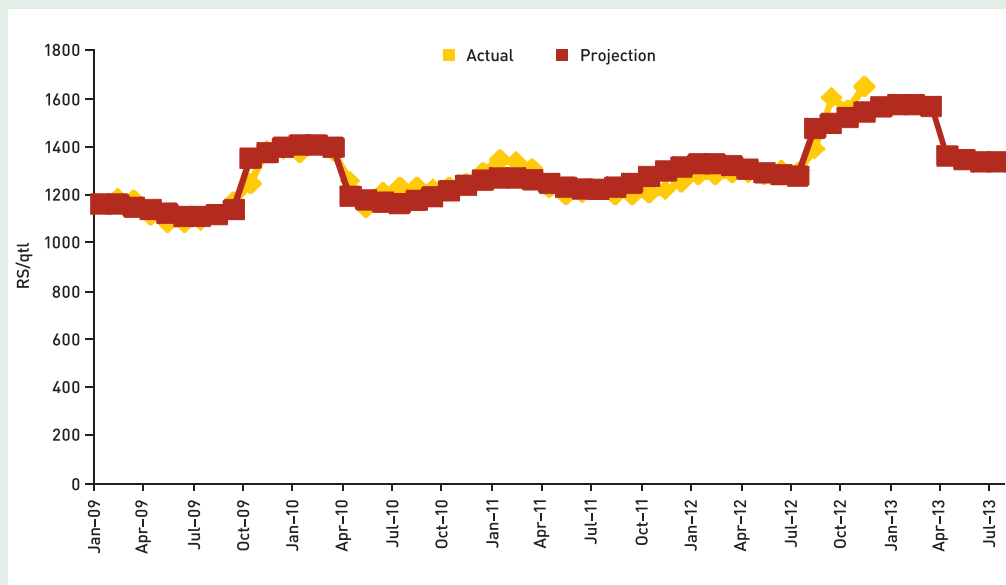
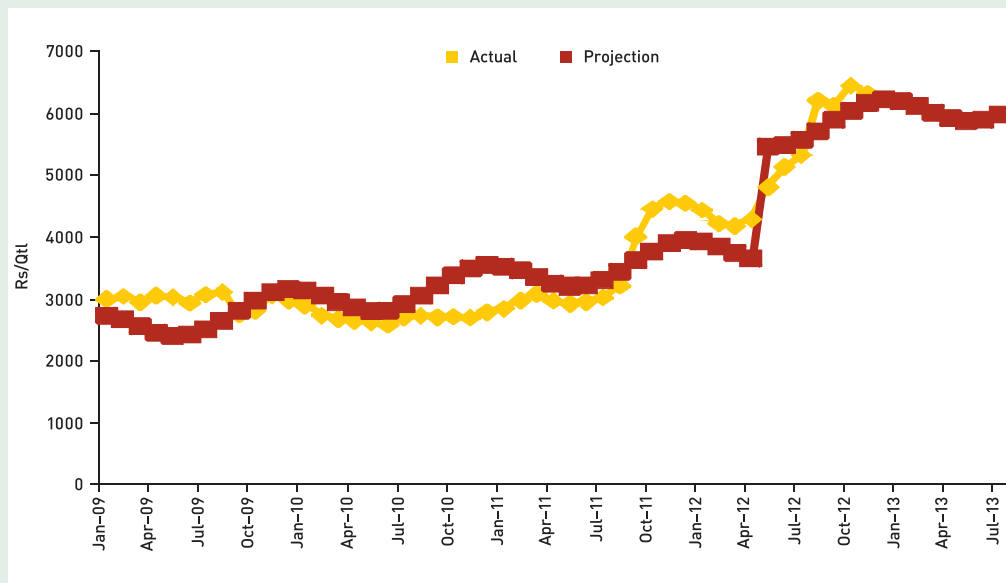


Figure III.6: Trends in Wholesale Price of Gram in Delhi Market (Rs/ Qtl): Actual and Projections





In general for the food sector as a whole, the prices would remain a concern until the new *rabi* harvest begins to come into the market.

**Table III.2: Trends and Projections of Wholesale Prices in Delhi: % YOY (Projections are in bold)**

Month/ Year	Wheat	Rice	Tur	Gram	Mung	Masur	Potato	Onion	Sugar	Soybean	Palm oil
Apr-12	4.6	0.2	4.2	44.6	0.6	-3.3	89.2	1.4	8.6	14.8	16.6
May-12	6.8	5.0	2.8	64.3	1.8	4.5	87.2	1.7	11.0	12.5	15.9
Jun-12	8.1	7.1	6.9	73.7	1.0	10.4	62.8	-2.5	11.4	12.7	13.1
Jul-12	5.9	5.6	9.5	75.9	6.1	21.8	87.4	-16.4	12.9	14.8	17.0
Aug-12	15.7	9.7	22.0	93.0	13.5	35.3	64.9	-28.4	24.6	15.1	17.5
Sep-12	33.6	11.1	19.2	52.9	<b>25.1</b>	23.3	47.6	-35.5	27.2	14.2	15.9
Oct-12	28.9	11.7	12.8	44.6	<b>30.4</b>	22.9	35.0	-1.0	26.1	12.5	9.1
Nov-12	35.2	8.0	11.5	38.0	<b>35.1</b>	16.7	49.0	39.2	15.9	10.1	1.1
Dec-12	<b>18.8</b>	<b>9.6</b>	<b>19.6</b>	<b>57.4</b>	<b>38.8</b>	<b>2.5</b>	<b>38.0</b>	<b>-9.2</b>	<b>29.1</b>	<b>-5.5</b>	<b>-3.1</b>
Jan-13	<b>18.7</b>	<b>9.6</b>	<b>20.1</b>	<b>57.7</b>	<b>41.4</b>	<b>-0.5</b>	<b>35.3</b>	<b>-3.6</b>	<b>27.2</b>	<b>-6.5</b>	<b>-3.0</b>
Feb-13	<b>18.6</b>	<b>9.6</b>	<b>20.5</b>	<b>58.8</b>	<b>42.4</b>	<b>-3.7</b>	<b>26.5</b>	<b>4.4</b>	<b>25.1</b>	<b>-7.1</b>	<b>-2.5</b>
Mar-13	<b>18.8</b>	<b>9.6</b>	<b>20.9</b>	<b>60.4</b>	<b>41.9</b>	<b>-7.0</b>	<b>13.9</b>	<b>18.6</b>	<b>22.8</b>	<b>-7.1</b>	<b>-1.5</b>
Apr-13	<b>4.3</b>	<b>9.7</b>	<b>20.9</b>	<b>62.0</b>	<b>39.9</b>	<b>-10.2</b>	<b>2.9</b>	<b>46.3</b>	<b>20.0</b>	<b>-6.6</b>	<b>-0.2</b>

**Table III.3: Trends and Projections of WPI for Selected Food Commodities (Projections are in bold)**

Month/ Year	Rice	Wheat	Pulses	Edible oils	Onion	Food sector
<b>Year on Year Changes %</b>						
Apr-12	6.0	6.0	11.3	11.2	-11.0	9.3
May-12	4.9	6.8	16.8	10.4	-8.1	8.9
Jun-12	7.5	6.8	20.6	9.5	-9.5	9.1
Jul-12	9.9	6.4	28.6	10.8	-10.1	9.0
Aug-12	10.4	13.0	34.5	10.9	-20.7	9.3
Sep-12	12.6	18.9	29.0	10.7	-24.7	8.8
Oct-12	11.4	19.8	20.0	9.5	-9.0	7.7
<b>Nov-12</b>	<b>11.8</b>	<b>23.2</b>	<b>19.1</b>	<b>9.9</b>	<b>17.0</b>	<b>9.0</b>
<b>Dec-12</b>	<b>12.4</b>	<b>22.8</b>	<b>18.2</b>	<b>9.5</b>	<b>44.4</b>	<b>9.9</b>
<b>Jan-13</b>	<b>13.1</b>	<b>22.7</b>	<b>19.1</b>	<b>7.4</b>	<b>65.7</b>	<b>9.8</b>
<b>Feb-13</b>	<b>13.1</b>	<b>23.7</b>	<b>18.1</b>	<b>6.4</b>	<b>54.9</b>	<b>9.5</b>

**Note:** The projections are based on ARIMA models estimated for the WPI series using data from April 2000 to November 2012. Projections are presented only upto February 2013. Food sector is a weighted average of WPI for Food articles and Food products, using WPI weights.

The trends and projections based on the harmonic analysis point to continued price pressures in the case of wheat, gram and tur in the next 2-3 months. The prices are seen to be moderating in the case of masur, potato and edible oils. The ARIMA projections indicate higher prices in the case of rice wheat as compared to the harmonic analysis upto February 2012. But the projections from ARIMA analysis also indicate persistence of higher price rise in the case of pulses as a group and also in the case of WPI for onion. The projections do capture seasonal factors and therefore, the price trends are also on account of seasonal factors. In general for the food sector as a whole, the prices would remain a concern until the new *rabi* harvest begins to come into the market.



## PART IV

# Commodity Outlook Assessment

## IV.1 Wheat

### Production growth analysis

India harvested a record wheat crop of 93.9 million tonnes in 2012 (MY 2012–13), 8 per cent above the 2011 production, supported by favourable weather conditions and a significant increase in the government's minimum support price. Wheat sown area and yield in 2012 scaled record highs at 29.9 million hectares and 3,140 kg/ha, respectively. Most of the increase in wheat production in 2012 was in Rajasthan, Madhya Pradesh, and Bihar, due to a significant increase in planted area combined with a robust increase in yields. However, area and yield increases in major traditional growing states such as Punjab, Uttar Pradesh and Haryana were only modest or stable.

**Table IV.1: Wheat Growth Trends, 2000–01 to 2011–12 (% per year)**

State	Area	Production	Yield
Bihar	0.37	1.09	0.67
Gujarat	12.79	15.92	2.78
Haryana	0.98	2.32	1.33
Madhya Pradesh	2.34	3.95	1.57
Maharashtra	4.40	7.20	2.67
Punjab	0.35	0.81	0.46
Rajasthan	2.39	4.11	1.69
Uttar Pradesh	0.56	1.96	1.40
India	1.35	2.61	1.24

*Source:* Estimated from DES data using semi-log function.

A state-by-state analysis of the wheat area, production, and yield growth trends for the period 2000–01 to 2011–12 shows highest growth rates in all the three dimensions were recorded in non-dominant wheat growing states, such as Gujarat, Maharashtra, Rajasthan and Madhya Pradesh, whereas in the prime Gangetic wheat belt of Punjab, Haryana, Uttar Pradesh and Bihar, growth rates were only modest, below the national growth rate (Table IV.1). This implies that wheat production has more or less saturated in the major wheat belt under the existing technology regime and future wheat growth potential lies mostly in non-traditional states. As the scope to increase wheat area is limited, a paradigm shift in technology is needed to increase wheat production in the wheat heartland. For the country as a whole, wheat production growth in the past decade was around 2.6 per cent contributed almost equally by area growth and yield growth (1.3 per cent each).

### 2013 Production Outlook Favourable

The 2013 wheat planting is taking place under a more or less favourable weather conditions. A delay in the harvest of kharif crops due to late monsoon rains caused initial



**A state-by-state analysis of the wheat area, production, and yield growth trends for the period 2000–01 to 2011–12 shows highest growth rates in all the three dimensions were recorded in non-dominant wheat growing states.**

**Although the government is supplying additional quantities of wheat through the PDS and offering large quantities of wheat for open market sale to bulk users at marginally subsidised prices to contain price rise, actual utilisation has been below par.**

lag in wheat sowing, but picked up momentum in December. Progressive planting from the Agriculture Ministry shows, planting this year towards the end of December is tracking closely the previous year's level and could end up near last year's record level despite the government's intention to shift acreage from wheat to pulses and oilseeds which are in critical short supply. Although the Commission on Agricultural Costs and Prices (CACP) in its report on price policy for 2013 rabi crops recommended no increase in the MSP for wheat for the 2013–14 marketing year, the government's Cabinet Committee on Economic Affairs recently decided to increase the MSP by Rs. 650 per tonne to Rs. 13,500 per tonne. No significant change in wheat area in major growing states is expected although there has been a decline in wheat area in Gujarat due to lack of irrigation. .

Wheat yield will be influenced by weather developments during the growing period, particularly duration of the winter season and temperature regime during the crucial grain filling stage in February. A prolonged cool weather and no significant increase in surface temperatures at the grain filling stage typically contribute to higher yields and better grain quality. Although the wheat crop is mostly irrigated, timely winter rains provide an impetus to wheat yield, particularly in non- optimally irrigated regions such as Madhya Pradesh and Maharashtra. Growing season weather conditions so far this year have been comparable or better than last year, although winter rains continue to remain deficient in central and western India.

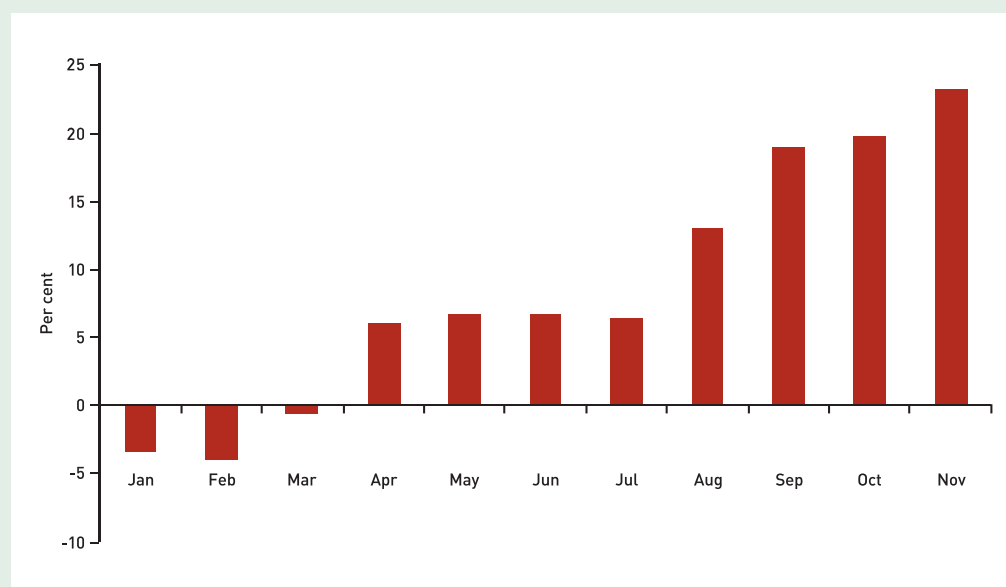
As far as input supplies are concerned, there are no reports of shortages of critical farm inputs such as fertilizers and seeds. The season so far has remained free of any major pest/disease incidence.

Assuming normal weather conditions through harvest, 2013 wheat yield is expected to be around 3,100 kg/ha. With wheat acreage likely to be more or less at last year's level of 29.9 million hectares, 2013 wheat production is forecast at 92.5 million tonnes, significantly above the government's wheat production target of 86 million tonnes.

#### ***Consumption, Trade and Price Up***

Wheat consumption including food, feed, seed, waste and other uses (residual consumption) in MY 2012/13 is forecast to increase marginally, going by the trend pattern. Wheat availability in the open market has dwindled in recent months as government procured 10 million tonnes more wheat under price support operation in MY2012–13 over the MY 2011–12 level, against a production increase of 7 million tones. Reflecting the shortage of wheat in the open market, wheat price has skyrocketed since August 2012, with Wheat Wholesale Price Index registering a year-on-year increase of over 23 per cent in November (Figure IV.1). Prices are expected to remain firm until the new crop starts arriving in the market in April. Prices could strengthen from August 2013 due to hike in the MSP and the government continues to procure a major share of the market arrivals as was the case in 2012 to meet the increased requirement once the National Food Security Act in its current form becomes operational. .

Although the government is supplying additional quantities of wheat through the PDS and offering large quantities of wheat for open market sale to bulk users at marginally subsidised prices to contain price rise, actual utilisation has been below par, indicative of the inadequacy of the PDS channel to address food security concerns.

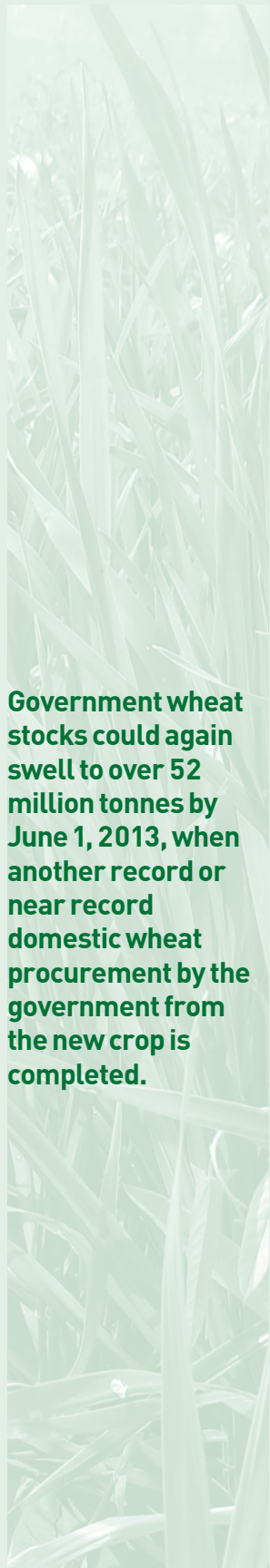
**Figure IV.1: Wheat Wholesale Price Index Change 2012 Over 2011 (% YOY)**

The three-year long government ban on wheat exports was lifted in September 2011 following a large build up of government wheat stocks. However, Indian wheat exports remained highly non-competitive in the international market up until June 2012. In early July 2012 the government allocated 2 million tonnes of wheat from its own stocks to government parastatal such as the State Trading Corporation of India (STC) for exports at a minimum export price of \$ 228 per tonne. Reports of a sharp decline in global wheat production following dry weather in major exporting countries such as Ukraine, Russia, and the United States led to increased global interest in Indian wheat giving a fillip to Indian wheat exports. According to non-official sources, private trade has so far exported around 2 million tonnes of wheat sourcing from the open market. Government parastatals have managed to contract for around 1.8 million tonnes of wheat allocated to them from government stocks. Indian wheat is currently fetching over \$320 per tonne, nevertheless, below the government's current economic cost of Rs 18,225 (\$332). Exports were mostly to the Middle East and South East Asian countries.

Although private wheat exports have dried up in recent months following scarcity of wheat in the domestic open market and higher prices (Figure IV.2), government wheat exports are expected to continue. The government allocated additional 2.5 million tonnes of wheat from its stocks for exports to government parastatals at a minimum export price of \$300 per tonne, for shipment before June 30, 2013. MY 2012-13 (Apr-Mar) exports are currently forecast at 6 million tonnes – 2 million tonnes by private trade and 3 million tonnes on government account, but July-June exports may exceed these estimates as the new rabi crop comes into play. With a record or near record wheat harvest likely this year and government procurement expected to remain high, which could lead again to high government wheat stocks. Exports are likely to continue more vigorously in MY 2013-14.

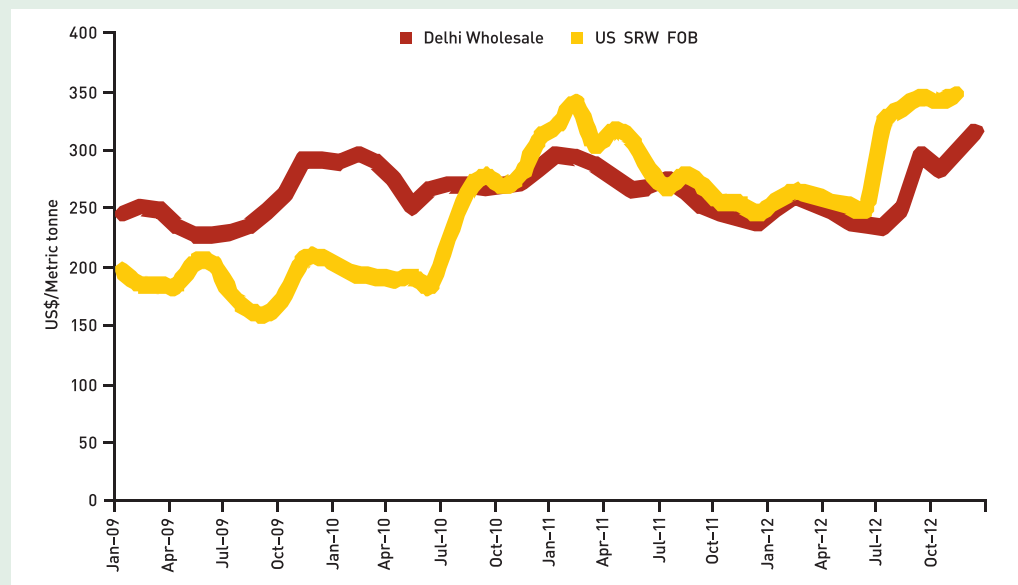
**With a record or near record wheat harvest likely this year and government procurement expected to remain high, which could lead again to high government wheat stocks. Exports are likely to continue more vigorously in MY 2013-14.**





**Government wheat stocks could again swell to over 52 million tonnes by June 1, 2013, when another record or near record domestic wheat procurement by the government from the new crop is completed.**

**Figure IV.2: Indian wholesale wheat price vis-à-vis US SRW wheat price FOB**



**Source:** US Price - World Bank; Indian Price: Ministry of Consumer Affairs.  
**Note:** US SRW has typically sells at a premium over Indian wheat. Indian FOB price will be higher than the indicated Delhi wholesale price by around \$40 per tonne on account of transportation cost and other handling charges.

**Stocks remain high**

With a record government procurement of over 38 million tonnes in MY 2012–13, government wheat stocks peaked to 50 million tonnes on June 1, 2012, aggravating the grain storage problem. Stocks on December 1, 2012, were 37.7 million tonnes, 10 million tonnes more than on December 1, 2011 (Figure IV.3). Even with a likely higher offtake of wheat from government stocks in coming months for domestic distribution and exports, April 1, 2013, government stocks are projected at over 26 million tonnes, 6 million tonnes more than a year ago level. Private-held stocks by the end of the marketing year are expected to be minimal.

Government wheat stocks could again swell to over 52 million tonnes by June 1, 2013, when another record or near record domestic wheat procurement by the government from the new crop is completed. The open-ended procurement policy has led to the "anomaly" of high domestic wheat prices co-existing with record stocks-to-use ratio (Table IV.2).

Figure IV.3: Government Wheat Stocks- Actual vs. Buffer Norm (million tonnes)

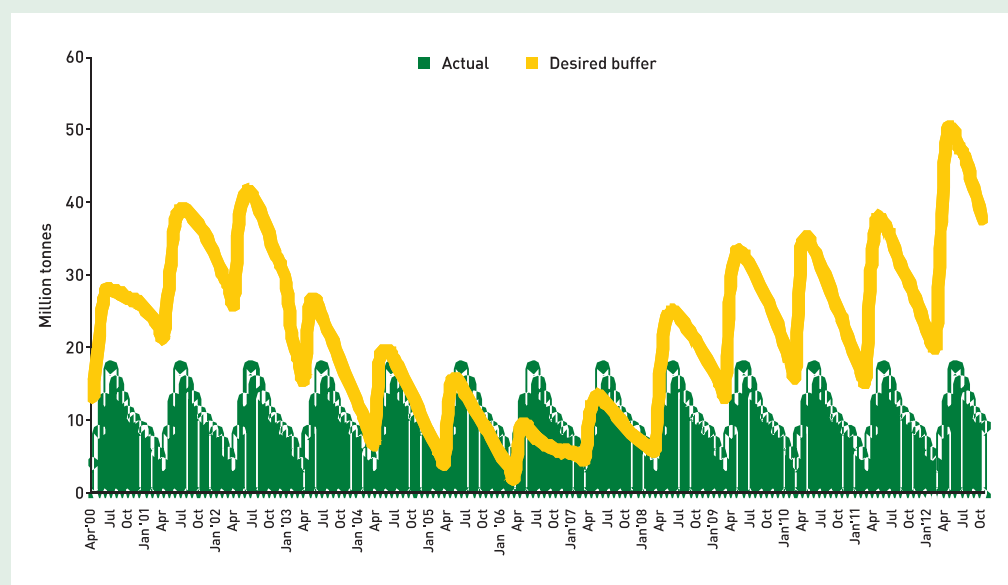


Table IV.2: Supply and Demand Balance for Wheat (1000 metric tonnes) (marketing year)

Wheat	2010-11	2011-12	2012-13 E	2013-14F
	Apr-Mar	Apr-Mar	Apr-Mar	Apr-Mar
Area (1000 Ha)	28,460	29,069	29,900	29,900
Yield (Kg/Ha)	2,839	2,988	3,140	3094
Production	80,800	86,870	93,900	92,500
Beginning Stocks	16,125	15,364	19,952	26,000
Imports	270	25	0	0
<b>Total Supply</b>	<b>97,195</b>	<b>102,259</b>	<b>113,852</b>	<b>118,500</b>
Exports	70	750	5,000	7,000
Food Use	75,000	76,200	77,852	80,000
Seed, Feed, Waste, Other	6,761	5,357	5,000	5,000
Total Domestic Use	81,761	81,557	82,852	85,000
Ending Stocks	15,364	19,952	26,000	26,500
<b>Total Distribution</b>	<b>97,195</b>	<b>102,259</b>	<b>113,852</b>	<b>118,500</b>
Stocks to Use Ratio %	19	24	31	32
<b>Govt Wheat Operation</b>	<b>2010-11</b>	<b>2011-12</b>	<b>2012-13E</b>	<b>2013-14F</b>
	Apr-Mar	Apr-Mar	Apr-Mar	Apr-Mar
Beginning Stocks	16,125	15,364	19,952	26,000
Imports	0	0	0	0
Procurement	22,514	28,334	38,100	36,500
Total Availability	38,639	43,698	58,052	62,500
PDS Offtake	23,067	24,267	29,052	31,000
Exports	0	250	3,000	4,000
Un accounted	208	-771	0	0
Total Distribution	23,067	24,517	32,052	35,000
Ending Stocks	15,364	19,952	26,000	27,500

E- Estimate; F- Forecast

Source: Food Corporation of India, Directorate of Economics and Statistics, NCAER Estimate.

Note: In government account, Unaccounted = (Total availability - Ending stocks) - (PDS Offtake + Exports).



## IV.2 Rice

### Production growth analysis

Rice production reached record 104.3 million tonnes in 2011–12, an increase of seven million tonnes over the previous year due to increase in planted area combined with a record yield. Most of the production increase was in Bihar, Uttar Pradesh, West Bengal and Jharkhand, whereas production in major surplus rice growing states of Punjab, Andhra Pradesh, and Haryana remained more or less unchanged.

A state-by-state growth analysis for the period 2000–01 to 2011–12 (Table IV.3) shows that the highest yield-induced rice production growth during the past decade occurred in Chhattisgarh, Jharkhand, Madhya Pradesh, Orissa, where the yield growth ranged from 3.3 per cent in Orissa to over 5 per cent in other states. Modest to high production growth in Andhra Pradesh, Haryana, Karnataka, and Punjab was largely stimulated by area growth.

**Table IV.3: Rice Growth Trends, 2000–01 to 2011–12 (% per year)**

State	Area	Production	Yield
Andhra Pradesh	1.97	2.99	0.99
Assam	-0.40	1.28	1.69
Bihar	-1.51	-0.91	0.61
Gujarat	3.03	8.71	5.51
Haryana	2.29	3.54	1.23
Karnataka	1.29	2.49	1.18
Madhya Pradesh	-0.90	3.03	3.96
Maharashtra	0.06	1.91	1.85
Orissa	-0.50	2.80	3.31
Punjab	1.02	2.02	0.99
Tamil Nadu	0.64	0.91	0.27
Uttar Pradesh	-0.09	1.01	1.11
West Bengal	-0.67	0.27	0.95
Chhattisgarh	-0.20	5.23	5.45
Jharkhand	-1.92	3.20	5.24
India	0.00	1.78	1.78

In Gujarat, both area and yield growth contributed to a remarkable 8.7 per cent growth in production. Rice production growth in some of the traditional major rice growing states such as Assam, Bihar, Uttar Pradesh, West Bengal, and Tamil Nadu was lower and below the national growth rate of 1.8 per cent.

As in the case of wheat, the scope to increase rice area is limited. Hence, most of the increase in production in coming years will have to come from yield enhancing technologies such as hybrid rice cultivation and flood and drought proofing rice cultivation by introducing tolerant varieties. This is particularly true in Bihar, Assam, East Uttar Pradesh, West Bengal, Chhattisgarh, and Jharkhand, where the rice crop is mostly rainfed, yields are low and highly variable due to abiotic stresses. The government's ambitious programme 'Bringing Green Revolution in Eastern India' (BGREI) is thus focused on increasing rice production in this region through various technological interventions.

As in the case of wheat, the scope to increase rice area is limited. Hence, most of the increase in production in coming years will have to come from yield enhancing technologies such as hybrid rice cultivation and flood and drought proofing rice cultivation by introducing tolerant varieties.

**2012–13 Rabi outlook not promising**

A major share of the rice is cultivated during the kharif season (planted in June–July and harvested in October–January), mostly under rain-fed conditions with lower yields. A small share of rice is grown in the rabi/summer season under assured irrigation resulting in higher yields. The share of rabi production in total rice production in recent years has ranged from 12 to 15 per cent. Late arrival and erratic performance of the monsoon rains in several parts of the country in 2012 caused 2012–13 kharif rice production to decline by 6.5 per cent to 85.59 million tonnes. However, considering the trend in government rice procurement so far this year, which is ahead of last year in most states, an upward revision in kharif rice production seems likely when the government releases the second round of estimates.


With production dropping by an estimated six million tonnes during the kharif season, the government was pinning hopes on rabi rice crop to partly make up for the loss in kharif production. Rabi rice production is mostly confined to West Bengal, Andhra Pradesh and Tamil Nadu. No significant increase in rabi rice area is possible at least in the short term due to agro climatic constraints primarily availability of irrigation in regions where other climatic conditions are favourable. The largest rabi rice production ever reached was 15.3 million tonnes in 2010–11 and has ranged from 13.2.0 to 15.3 million tonnes in recent years with area ranging from 4.0 to 4.8 million hectares.

Initial reports show that rabi rice planting is lagging behind last year's level in south India, particularly in Tamil Nadu and Andhra Pradesh due to reduced irrigation availability. Though the Southern states received good rains in November, thanks to cyclone Nilam, follow up rains were below normal. Furthermore, the cyclone wreaked havoc on paddy crop in coastal Andhra, where the rice crop in about half a million acres was affected. Post monsoon rains till December 14 has been 21 per cent deficient in Andhra Pradesh. Rain in other key rabi rice growing areas of Tamil Nadu and Bengal has been about 14 per cent below normal. Water levels in major irrigation dams in south India are low. The water storage level as of December 15 was 69 per cent below normal in Tamil Nadu, 44 per cent below normal in Kerala, 22 per cent less than normal in Andhra Pradesh and 16 per cent less in Karnataka. Furthermore, an acute shortage of electricity in southern states, particularly in Tamil Nadu, is hindering utilisation of groundwater for irrigation. In West Bengal, another major rabi rice growing state, however, there have been no adverse reports so far.

Considering these factors, no significant increase in rabi rice production is expected, which is currently forecast at 13.4 million tonnes against last year's 12.8 million tonnes, taking total 2012–13 rice production to 99 million tonnes against 2011–12 production of 104.3 million tonnes.

**Consumption flat, Trade and Prices Up**

Despite a decline in production, domestic rice consumption is expected to remain more or less unchanged in 2012–13. This is based on the supply/demand analysis where consumption is derived as residual (Table IV.4). As government procured most of the marketable surplus at the support price, open market availability of rice declined significantly in 2011–12, resulting in higher prices. On year-on-year basis, rice wholesale prices in 2012 remained 10 to 12 per cent above the 2011 level in most months (Figure IV.4), mainly due to higher support price and a 15 per cent increase government procurement over the previous year.



**The share of rabi production in total rice production in recent years has ranged from 12 to 15 per cent.**

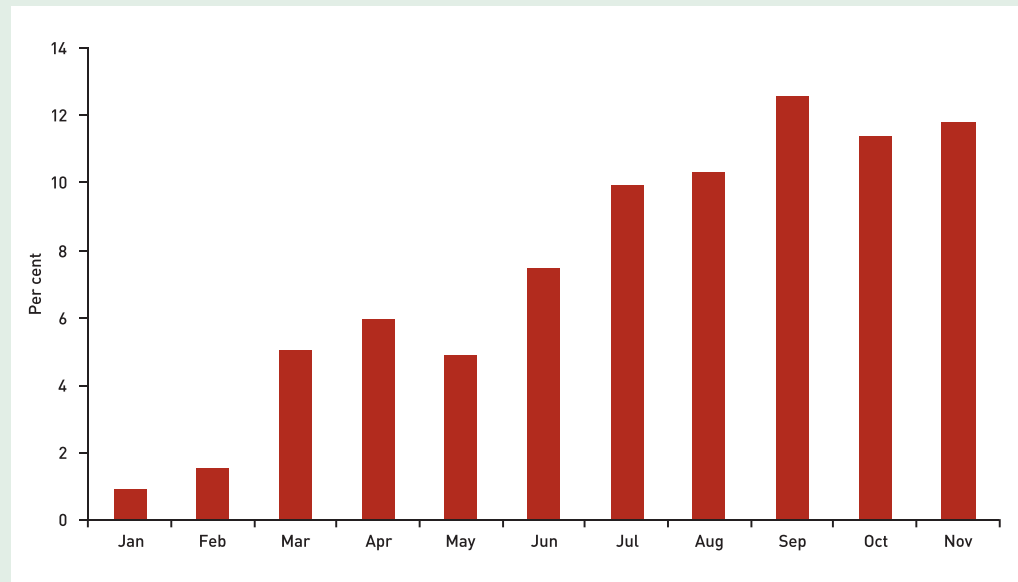
**Despite a decline in production, domestic rice consumption is expected to remain more or less unchanged in 2012–13.**



**After removal of the ban on exports of non-Basmati rice effective September 9, 2011, non-Basmati rice has become very competitive in the global market.**

The government strategy to contain the price rise will continue to be increase supplies through the PDS and perhaps open market sales at subsidised prices. The subsidy on account of government operations in foodgrain is ballooning contributing to the widening overall fiscal deficit in the economy. The implementation of the National Food Security Bill in its current form would entail additional subsidy burden due to the proposed lower central issue price of grain, a significant rise in the number of entitled beneficiaries and the need to keep raising the MSP to match the rising production cost<sup>2</sup>.

**Figure IV.4: Rice Wholesale Price Index Change 2012 over 2011 (% YOY)**

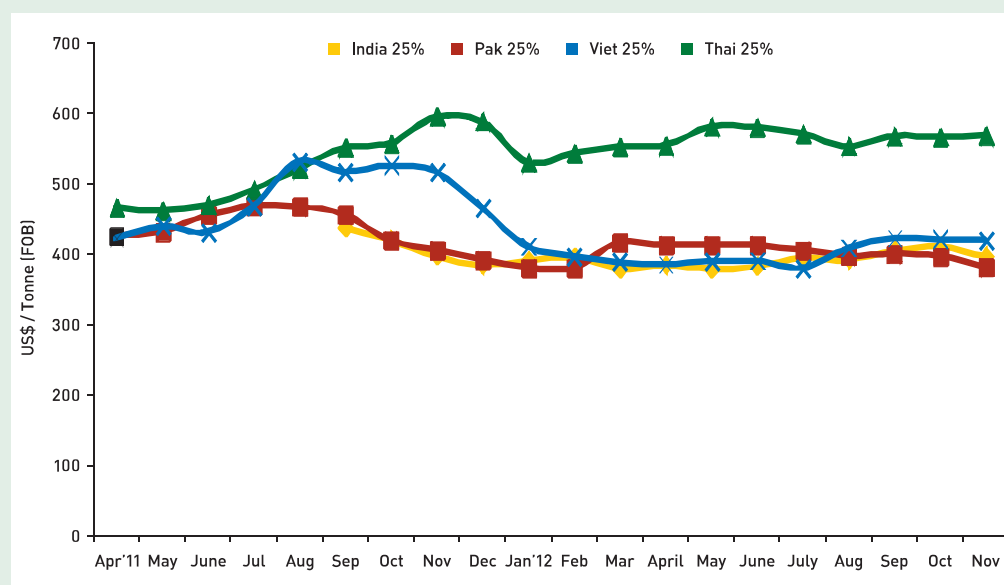


After removal of the ban on exports of non-Basmati rice effective September 9, 2011, non-Basmati rice has become very competitive in the global market. The shortfall in Thailand's exports due to domestic policy imbroglio came to India's advantage, helping India become the top most exporter of rice in 2012, after decades of Thailand's hegemony. The displacement of Thailand from its top position was mainly the result of the pledging programme run by the Thai government to guarantee high prices to producers, which has severely hindered the country's competitive edge. As a result, Thai exports are now forecast to plunge from 10.7 million tonnes in 2011 to 6.5 million tonnes in 2012. Much of the Thailand's shortfall is poised to be captured by India with exports estimated at around 10 million tonnes, more than twice the quantity exported in 2011. India has made vast inroads into the rice market in West Asia and North Africa. More importantly, India has been able to win orders for shipments for the first time from Bulog, Indonesia's procurement agency.

2. <http://cacp.dacnet.nic.in/NF.pdf>.



Figure IV.5: Rice Export Price – India vis-a-vis International



Source: FAO.

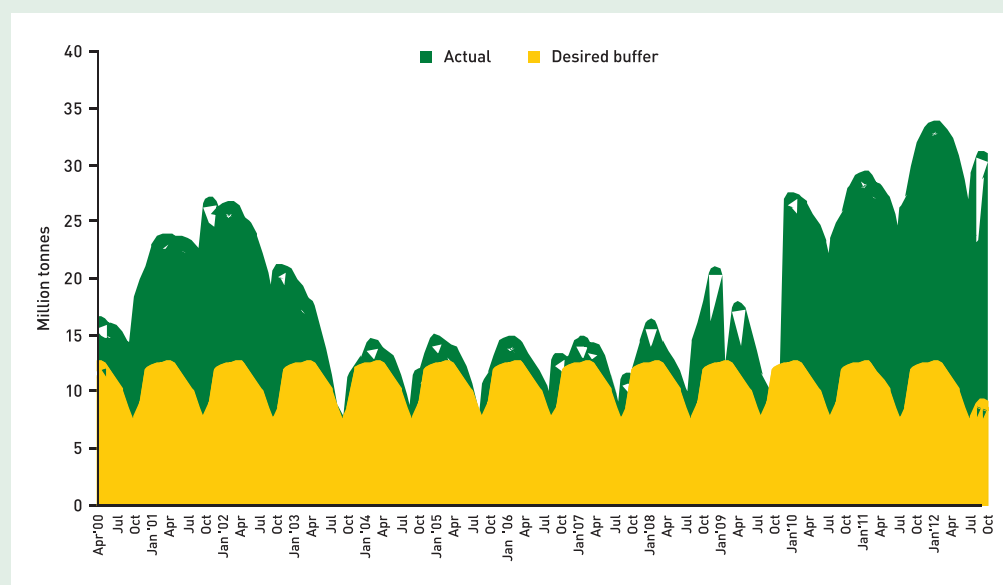
It is doubtful whether India could maintain its topmost rice exporter position in 2013 due to both domestic and international developments. Due to expected decline in rice production and higher production cost, Indian rice exports are likely to be less competitive in the international market in 2013. Furthermore, government procurement this year through December is ahead of last year despite a decline production. If this trend continues, open market availability will be considerably reduced and prices will remain high. Furthermore, the record rice stocks in Thailand will sooner or later find its way into the export market depressing international prices. Rice exports from other exporting countries such as Pakistan and Vietnam have become more competitive in recent months (Figure IV.5). Because of these developments 2012–13 exports are forecast to decline to 7 million tonnes.

### Stocks

Government rice stocks on October 1, 2012, were 23.4 million tonnes, 3 million tonnes more than a year ago and over four times the government's desired October 1 minimum buffer stock level of 5.2 million tonnes. If rice procurement in MY 2012–13 continues at last year's level, there will be further build up in rice stocks (Figure IV.6).

Due to expected decline in rice production and higher production cost, Indian rice exports are likely to be less competitive in the international market in 2013.



**Figure IV.6: Government rice stocks – actual vs. buffer Norm (million tonnes)**

**Table IV.4: Supply and Demand Balance for Rice (1000 Tonnes)**

Rice	2009–10 Oct–Sep	2010–11 Oct–Sep	2011–12E Oct–Sep	2012–13F Oct–Sep
Area (1000 Ha)	41,920	42,860	43,,970	42600
Yield (Kg/Ha)	2,125	2,239	2,373	2,324
Production	89,090	95,980	104,320	99,000
Beginning Stocks	15,349	18,444	20,359	23,373
Imports	0	0	0	0
<b>Total Supply</b>	<b>104,439</b>	<b>114,424</b>	<b>124,679</b>	<b>122,373</b>
Exports	2,100	2,800	10,000	7,000
Food Use	81,895	89,065	89,306	91,173
Seed, Feed, Waste, Other	2,000	2,200	2,000	2,200
Total Domestic Use	83,895	91,265	91,306	93,373
Ending Stocks	18,444	20,359	23,373	22,000
<b>Total Distribution</b>	<b>104,439</b>	<b>114,424</b>	<b>124,679</b>	<b>122,500</b>
Stocks to Use Ratio %	22	22	26	24
<b>Government Rice Operation</b>	<b>2009–10 Oct–Sep</b>	<b>2010–11 Oct–Sep</b>	<b>2011–12 Oct–Sep</b>	<b>2012–13F Oct–Sep</b>
Beginning Stocks	15,349	18,444	20,359	23,373
Imports	0	0	0	0
Procurement	32,124	34,196	35,000	35,000
<b>Total Availability</b>	<b>47,473</b>	<b>52,640</b>	<b>55,359</b>	<b>58,373</b>
PDS Offatke	29,029	32,281	31,986	36,373
Exports	0	0	0	0
Ending Stocks	18,444	20,359	23,373	22,000
<b>Total Distribution</b>	<b>47,473</b>	<b>52,640</b>	<b>55,359</b>	<b>56,000</b>

## IV.3 Coarse Grains

### Coarse Cereals

#### Production

As per the latest Weather Watch report released by the Ministry of Agriculture, the area sown under rabi coarse cereal crops, which include maize, jowar, and barley, has increased 2.0 per cent to 5.48 million hectares in the current rabi season as on 21 December 2012, compared to 5.38 million hectares sown same time last season. Late south west monsoon (Jun–Sep) rains helped to replenish soil moisture aiding rabi crop sowing. Although the northeast monsoon (Oct–Dec) rains were 19 per cent below normal during October 1 to December 19, they were better than the previous year when rainfall deficiency during the same period was 49 per cent.

There has been a decline in the area coverage under coarse cereals from TE 1990–91 to TE 2011–12. However, the production of coarse cereals has increased significantly because of the increase in maize production. States showing a major increase in the production of coarse cereals are Uttar Pradesh, Maharashtra, and Karnataka (Table IV.5).

Among the coarse cereals performance of maize has been dramatic. It has emerged as the third largest foodgrain crop after rice and wheat. Although primarily a kharif season crop, maize is also cultivated in the rabi season in parts of southern and eastern India. In 2011–12 maize was grown in 8.7 million hectares with a record production of 21.3 million tonnes. The growth was largely driven by rising adoption of hybrid seeds, increasing demand for feedstock (due to rapid growth in the poultry sector) and the starch industry. The expansion in area and production was accompanied by a regional shift in cultivation to the southern states from the traditional maize belt (Bihar, Madhya Pradesh, Rajasthan, and Uttar Pradesh). Government programmes/ schemes that supported maize production include the setting up of a Technology Mission on Maize (TMM) in 1995–96, Integrated Cereals Development Program in Coarse Cereals Based Cropping Systems Areas (ICDP-Coarse Cereals); Minikit Demonstration Program; and the UNDP-sponsored program for hybrid maize development (1997–2002). In 2004–05 a centrally sponsored Integrated Scheme on Oilseeds, Pulses, Oil Palm, and Maize (ISOPOM) was initiated under which Maize Development Program is being implemented in 15 states.

2012–13 kharif maize production is officially placed at 14.9 million tonnes (4th Advance Estimates), 1.3 million tonnes down from the 2011–12 production, due to poor monsoon rains, which is likely to be mostly offset by expected higher rabi season production, taking total production close to last year's level.

As in the case of maize, although primarily a kharif crop, jowar is also grown in the rabi season, mostly in Maharashtra, Karnataka, and Andhra Pradesh. Total sorghum area (kharif and rabi season) registered a 51 per cent decline over the past two decades. The decline in kharif area was more precipitous (66 per cent) than in the rabi season area (28 per cent). This is mainly due to diversion of kharif sorghum areas to crops like soybeans, cotton and maize.

The 2012–13 kharif season jowar production is officially placed at 2.63 million tonnes (Fourth AE), 18 per cent below the 2011–12 production of 3.24 million tonnes due to poor rainfall, which is likely to be marginally offset by higher rabi season production, with total production currently forecast at 5.5 million tonnes.

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Barley is a minor rabi season crop cultivated predominantly in the states of Rajasthan, Uttar Pradesh and Madhya Pradesh (Table IV.6). There has been a steady decline in barley area over the past two decades as farmers shifted from barley to more remunerative wheat. However, this was largely offset by increase in yields.

In 2011–12 production was 1.61 million tonnes. Given the relatively similar sowing area in wheat in 2012–13 as in the previous year, barley production in 2012–13 is also expected to be more or less at the same level.

**Table IV.5 All India trend in Area, Production and yield of Coarse Cereals**

Year/Crop	Area			Production		
	Kharif	Rabi	Total	Kharif	Rabi	Total
<b>Coarse Cereals</b>						
TE 1990–91	30.7	6.8	37.6	28.0	5.0	33.0
TE 2000–01	23.1	6.6	29.6	24.4	7.6	30.9
TE 2011–12	21.5	6.1	27.6	29.9	9.8	39.7
<b>Maize</b>						
TE 1990–91	5.9	-	5.9	8.9	-	8.9
TE 2000–01	5.8	0.6	6.4	9.8	1.7	11.6
TE 2011–12	7.3	1.2	8.5	15.1	4.8	19.9
<b>Jowar</b>						
TE 1990–91	8.8	5.8	14.5	8.2	3.4	11.6
TE 2000–01	4.9	5.1	9.9	4.9	3.3	8.2
TE 2011–12	3.0	4.2	7.1	3.2	3.4	6.6
<b>Barley</b>						
TE 1990–91	-	1.0	1.0	-	1.6	1.6
TE 2000–01	-	0.8	0.8	-	1.5	1.5
TE 2011–12	-	0.7	0.7	-	1.6	1.6



**Table IV.6: Area and Production Share of Rabi Coarse Cereals by States, 2011–12**

State	Area Share (%)	Production Share (%)
<b>Rabi Coarse Cereals</b>		
Maharashtra	44.8	17.5
Karnataka	19.5	14.5
Andhra Pradesh	9.0	26.3
Bihar	6.2	10.6
Tamil Nadu	5.5	10.2
Rajasthan	5.0	8.6
Gujarat	3.0	3.1
Uttar Pradesh	3.0	4.4
Madhya Pradesh	1.5	1.5
Other States	3.3	6.0
<b>Rabi Maize</b>		
Bihar	26.8	19.8
Andhra Pradesh	26.4	45.4
Tamil Nadu	12.2	15.4
Karnataka	11.6	8.5
Maharashtra	11.5	6.1
Gujarat	9.1	4.6
West Bengal	4.6	5.5
Other States	2.2	1.5
<b>Barley*</b>		
Rajasthan	46.5	57.4
Uttar Pradesh	23.0	20.1
Madhya Pradesh	11.1	6.2
Haryana	5.2	7.8
Uttarakhand	3.4	1.8
Himachal Pradesh	3.2	1.7
Bihar	2.8	1.5
Jammu & Kashmir	1.9	0.5
Punjab	1.7	2.6
Other States	1.2	0.4
<b>Jowar*</b>		
Maharashtra	70.3	58.5
Karnataka	23.8	31.5
Andhra Pradesh	3.2	5.4
Tamil Nadu	1.5	2.9
Gujarat	1.1	1.6

\* Data on Barley and Jowar is 2010–11.

Excessive dependence on rice and wheat for food self-sufficiency has not only made the country's food security fragile, but has also constrained the diversity of the food basket. Coarse grain production deserves more attention as it is less irrigation intensive, more nutritious, and short duration varieties are available.

#### **Consumption Trade and Prices**

Consumption of coarse cereals has declined from 27.86 kg per annum in 1993–94 to 10.34 kg per annum in 2009–10. Domestic consumption of maize is increasing with the rapid growth in the poultry sector, whereas consumption of other coarse grains, mostly for food use, is declining, with increased availability of superior grains such as wheat and rice through the PDS at highly subsidized rate. Feed use of maize is estimated to be 9–10 million tonnes, roughly 50 per cent of production. Good quality barley goes in the production of malt, required by the beer industry.

**Coarse grain production deserves more attention as it is less irrigation intensive, more nutritious, and short duration varieties are available.**

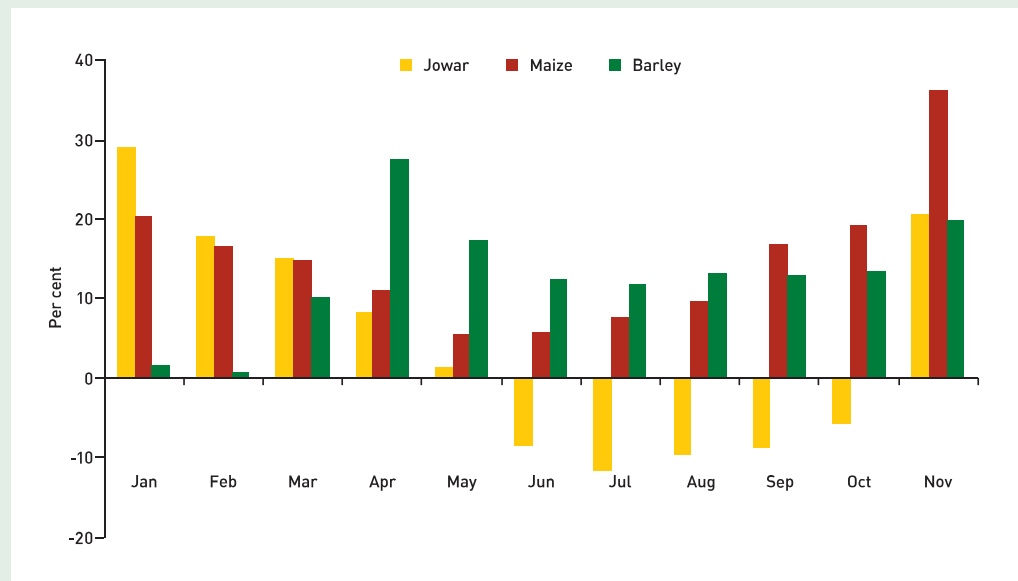


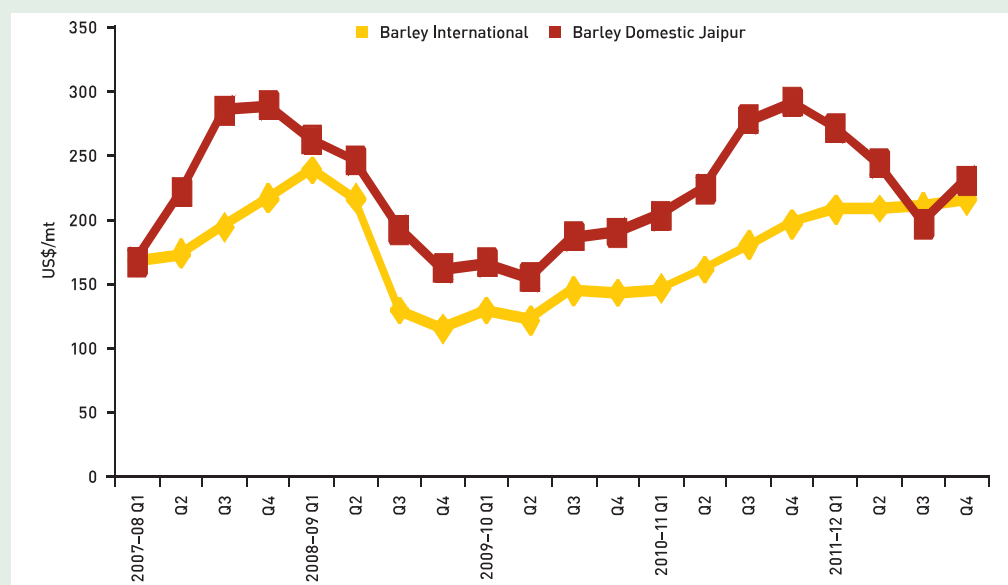
**High international maize prices during the past two years helped India to become an important exporter of maize. Exports in 2011–12 (October –September) are estimated at around 4.5 million tonnes. Exports are likely to continue in 2012–13, but at a lower level.**

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Coarse grain prices have been rising (Figure IV.7) as domestic maize price respond to high international prices, poultry growth picks up, and the perceived health benefits drive domestic demand. Large food companies have started procuring some of these coarse grains as multi-grain diets catch up fast with health-conscious urban consumers. The current minimum support price for barley is Rs. 980 per quintal and Rs. 1,175 for jowar and maize. However, the open market prices are well above the MSP. Due to increasing demand for barley by brewers, the crop prices have generally shown an upward trend since 2008. Domestic prices of barley have been closely following the international prices, although marginally higher in most of the years. Thus, Indian barley is unlikely to remain competitive as an exportable in the international market. (Figure IV.8).

**Figure IV.7: Trend in Coarse cereals WPI: % Change YOY, 2012 over 2011**



**Figure IV.8: International prices vs. Domestic prices of Barley****Assessment of Outlook**

Official First Advance Estimates place 2012–13 kharif maize production at 14.9 million tonnes (1.3 million tonnes down from the 2011–12 production), kharif jowar production at 2.63 million tonnes (18 per cent below the 2011–12 production of 3.24 million tonnes), due to poor rainfall, which is likely to be marginally offset by higher rabi season production. In 2011–12 Barley production was 1.61 million tonnes. Given the relatively similar sown area under wheat in 2012–13 as in the previous year, barley production in 2012–13 is also expected to be more or less at the same level. The 2012–13 Rabi coarse grains production along with the 2011–12 figures are given in Table IV.7. Total rabi coarse grain output is projected to be 9.43 million tonnes lower than the previous year's harvest of 9.75 million tonnes.

**Total rabi coarse grain output is projected to be 9.43 million tonnes lower than the previous year's harvest of 9.75 million tonnes.**

**Table IV.7: Projected and official estimates of Rabi coarse cereals (million tonnes)**

Rabi Jowar		Rabi Maize		Barley		Rabi Coarse Cereals	
2011-12 (A)	2012-13 (P)	2011-12 (A)	2012-13 (P)	2011-12 (A)	2012-13 (P)	2011-12 (A)	2012-13 (P)
2.78	2.81	5.00	5.02	1.61	1.54	9.75	9.43

Note: A= 4th Advance estimates; P= Projections.

Nearly 60 per cent of total pulse production is in the *rabi* season, which includes mostly gram (chickpea) and masur (lentil), grown mostly in Madhya Pradesh, Uttar Pradesh, and Rajasthan.

## IV.4 Pulses

### Production outlook mixed

India is the world's largest producer, consumer and importer of pulses. Cultivated both in the kharif and rabi seasons, mostly under rain fed conditions, pulse crops are highly vulnerable to weather changes. Nearly 60 per cent of total pulse production is in the rabi season, which includes mostly gram (chickpea) and masur (lentil), grown mostly in Madhya Pradesh, Uttar Pradesh, and Rajasthan (Table IV.8). Rabi pulse production in 2011–12 was 11.05 million tonnes down from 13.4 million hectares, almost unchanged from the previous year's production.

**Table IV.8: Area and Production share of Rabi pulses by States, 2011–12**

State/Crop	Area share (%)			Production share (%)		
	Rabi Pulses	Gram	Masur*	Rabi Pulses	Gram	Masur*
Madhya Pradesh	35.4	37.1	36.97	30.9	34.6	18.85
Uttar Pradesh	11.2	9.0	36.68	15.1	11.0	43.55
Rajasthan	10.3	16.8	2.76	12.8	18.2	4.07
Andhra Pradesh	7.8	6.1	-	8.2	7.1	-
Maharashtra	7.4	11.2	0.25	7.2	10.0	0.21
Karnataka	6.6	9.1	-	5.1	6.5	-
Bihar	4.7	2.2	14.93	5.9	2.8	22.75
Tamil Nadu	4.4	0.1	-	2.2	0.1	-
Chhattisgarh	3.7	2.6	0.87	2.9	2.7	0.45
Gujarat	2.1	2.5	-	2.6	3.1	-
Orissa	2.0	0.4	-	1.4	0.4	-
Jharkhand	1.6	1.6	1.31	2.3	2.0	1.82
Assam	1.1	0.0	1.50	0.8	0.0	1.25
West Bengal	1.0	0.3	3.60	1.4	0.4	5.65
Haryana	0.6	0.9	0.21	0.8	1.1	0.28
Uttarakhand	0.1	-	0.76	0.1	-	0.95
HP	0.1	0.0	0.04	0.2	0.0	0.04
Punjab	0.1	0.0	0.07	0.1	0.0	0.07

\*Data on Masur is 2010–11.

For the current rabi season, the government has targeted for a higher pulse production than last year to offset the decline in kharif output. However, the late withdrawal of southwest monsoon across most parts of the country, particularly over north India, has delayed sowing of rabi pulses. The sowing of pulse crops this rabi season is lagging somewhat behind last year's level, particularly in Maharashtra and Karnataka due to inadequate rainfall. In case of gram, the dominant rabi pulse crop, sowing as of December 21 has taken place in 8.7 million hectares against 8.4 million hectares the previous year. The area under all other rabi pulse crops is marginally behind last year's level. Reports from the Ministry of Agriculture state that incidence of pests and diseases this year has generally remained below economic threshold level for most crops.

To encourage pulse production, the government has fixed the MSP of gram at Rs 3,000 per quintal for this year, a hike of Rs 200 over that of last year. The MSP for lentil (masur) has been fixed at Rs 2,900 a quintal, up Rs 100 over last year. The cost of production of pulses has increased substantially over the past few years. The increase in support price should help farmers to offset the production cost increase. Additionally, the government has launched a focus program in 60,000 villages in rainfed areas for increasing pulse crop productivity and strengthening market linkages.



### Consumption Trade and Prices

Due to increasing demand and purchasing power of Indian consumers, market prices of pulses in the last few years have been increasing compared to other food groups. The NSSO data reveal that per-capita consumption of pulses has been shrinking during the last few decades as domestic production had been lagging behind consumption requirement, and imports are not adequate to bridge the supply-demand gap.

Stagnating domestic production over the last two decades has made the country increasingly dependent on imports. High prices of traditional pulses have forced Indian consumers to shift to imported yellow peas mostly from Canada and dun peas from Australia as a low-cost substitute for higher priced pulses like pigeon peas and chick peas. The government through public media campaign is promoting yellow pea consumption as a cheap and nutritive alternative to high priced pulses. In the last few years, government agencies have imported large quantities of yellow peas to supply through various government distribution networks at subsidized prices.

Total imports of pulses during 2011–12 (Apr–Mar) were 3.4 million tonnes, which included 2 million tonnes of dry peas and dun peas (mutter), 471,000 tonnes of tur, 430,000 tonnes of mung, 207,000 tonnes of chick peas, 118,000 tonnes of lentil, 63,000 tonnes of kidney beans, and 37,000 tonnes of other pulses. Major suppliers were Canada, Myanmar, Australia, the United States of America, Tanzania and China (Table IV.9). During April to September 2012 India imported around 1.6 million tonnes of pulses, which included 637,000 tonnes of dry peas, 298,000 tonnes of mung, 280,000 tonnes of tur, and 90,000 tonnes of chickpeas. Imports during the full year are likely to match or exceed 2011–12 imports of 3.4 million tonnes.

**Table IV.9: Major Suppliers of Pulses to India, 2011–12**

	Imported value 2011 (US\$ 1000)	Share in India's imports (%)
<b>Peas (mutter/ yellow peas)</b>		
World	783768	100
Canada	530175	67.6
Russian Federation	60939	7.8
Australia	59226	7.6
United States of America	41935	5.4
<b>Chickpeas (gram)</b>		
World	108715	100
Australia	44068	40.5
Myanmar	27353	25.2
United Republic of Tanzania	9608	8.8
China	5880	5.4
United States of America	4962	4.6
Canada	3623	3.3
<b>Beans, small red</b>		
World	64	100
China	64	100
<b>Urd, mung</b>		
World	387203	100
Myanmar	287735	74.3
Australia	21531	5.6
China	20402	5.3
United Republic of Tanzania	9612	2.5
<b>Kidney beans &amp; white pea beans</b>		
World	59341	100
China	40962	69
Myanmar	6767	11.4

Source: ITC.

**Total imports of pulses during 2011–12 (Apr–Mar) were 3.4 million tonnes.**

**Imports during the full year are likely to match or exceed 2011–12 imports of 3.4 million tonnes.**

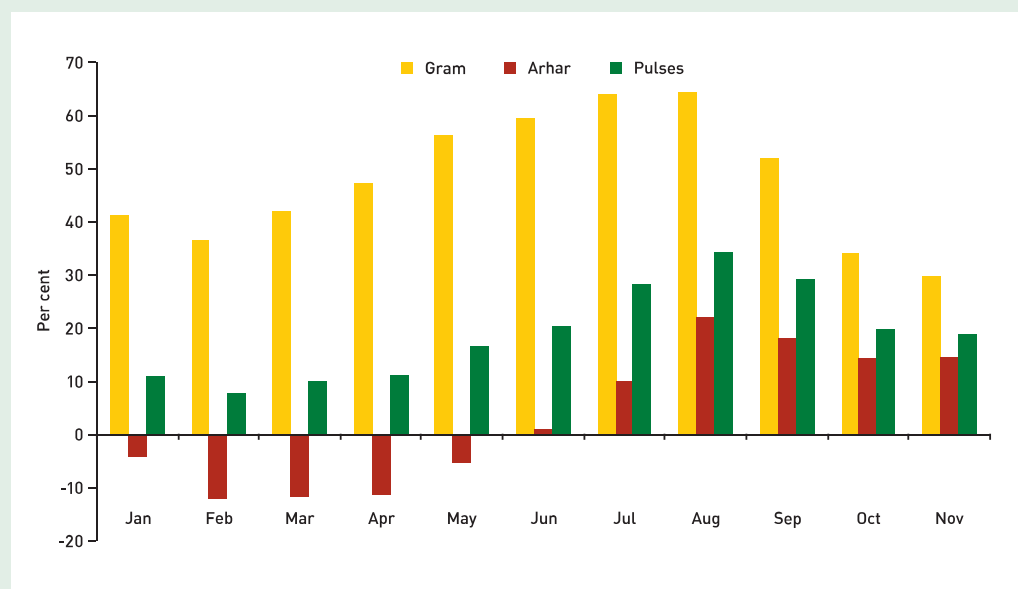




**Assuming the normal production of Rabi Pulses, which include Gram and lentil, total rabi pulses production, is likely to be 12.01 million tonnes compared with 11.05 million tonnes in 2011–12.**

Currently, there is no import duty on pulses, while exports of all pulses, with the exception of Kabuli chana, are banned. With a view to encourage pulses production, the Commission for Agriculture Costs and Prices (CACP) has suggested a 10 per cent import duty on pulses. However, it is unlikely that the government will accept this recommendation as it could lead to a further increase in pulse prices. The increase in the MSPs for rabi pulse crops such as gram and masur this year over last year's significant increases would keep pulse prices high in 2012–13. However, expectations of higher sown area under rabi pulses and increased availability of Australian chana and Canadian yellow peas at lower prices have caused chana price to weaken by Rs 200–300 per quintal in almost all domestic centres in recent months. The yellow peas (mutter) in Delhi is currently traded at a discount of around Rs. 1,400 per quintal.

**Figure IV.9: Trend in Pulses WPI: % Change YOY, 2012 over 2011**



Pulse prices in general and chana prices in particular have declined significantly in recent months from the high levels in June and July in response to expectation of a good rabi crop and larger imports leading to a decline in the rate of increase year-on-year basis (Figure IV.9). The government recently revived the scheme of supplying one kg of imported pulses per month at subsidized prices to below poverty line (BPL) families. Under the new program, the subsidy element was increased from Rs 10/kg to Rs 20/kg. This will provide cushion to the vulnerable sections of society against any significant increase in the prices of pulses. The new scheme is in the form of an interim arrangement to tide over the possible spike in prices of pulses. Imports will be undertaken by designated government agencies such as STC, PEC, MMTTC, NAFED, and NCCF.

**Assessment of Outlook**

Assuming the normal production of Rabi pulses, which include gram and lentil, total rabi pulses production, is likely to be 12.01 million tonnes compared with 11.05 million tonnes in 2011–12.

## IV.5 Oilseeds and Vegetable Oils

### *Rabi crop prospects bright*

With favourable weather conditions and larger sown acreage, the country is likely to harvest a bumper mustard production this year, currently forecast at 7.5 million tonnes, 10 per cent increase over the government estimate of 6.8 million tonnes in 2011–12. According to latest data of Agriculture Ministry, farmers have so far sown mustard in 6.4 million hectare as against 6.2 million hectare during the corresponding period of last year. Sowing will continue till early January and total acreage this year is expected to touch 7 million hectares, an increase of about a million hectares over last year. Cool temperatures and morning dew are favouring crop growth, which can further improve with a couple of showers in north western India. Higher sowing is reported in Rajasthan, which contributes over 40 per cent of total national mustard output. Yields are expected to remain the same as last year's 1146 kg per hectare or marginally higher. Sowing of other rabi oilseed crops such as ground nut, sunflower seed, and safflower seed is also ahead of last year's level.

Total rabi oilseed production is projected to reach around 11 million tonnes against last year's 9.2 million tonnes, with most of the increase confined to rapeseed/mustard. This takes total 2012–13 major nine oilseed production to 31 million tonnes, one million tonnes more than in 2011–12 but somewhat below the trend line projection of 33.7 million tonnes.

### *Prices under pressure*

The MSP of rapeseed/mustard has been raised by a fifth from Rs 2500 per quintal in 2011–12 to Rs 3000 per quintal in 2012–13. In most years, the MSP is irrelevant since market prices tend to rule significantly higher than the MSP. Prospects of a better crop this year is not going well with farmers as prices are declining. Mustard seed wholesale prices have declined from Rs 4,500 to Rs 4,150 a quintal in the week ending December 15. Prices are likely to remain bearish due to expectations of record output. The returns on investment are likely to be substantially lower than last year.

Mustard seed and oil prices are expected to remain under pressure from a large domestic crop, ample soybean supply as well as import of cheaper palm oil. For the season as a whole, trade sources indicate mustard seed prices are likely to stay bearish as there is little buying support. Traders and stockists are staying away because they do not wish to be saddled with expensive mustard seed at a time when prices of close substitutes such as soya and palm are declining. The solvent extraction industry is also not willing to pay a premium for mustard seed as long as ample soybean and cotton seed are available in the market.

There is ample edible oil in the country for next three months. Total edible oil supply (opening stocks+ domestic production+ imports) for Nov–Jan 2013 period is 5.9 million tonnes, which is 11 per cent higher year year-on-year basis. On the other hand, consumption is estimated to be 6 per cent higher over the previous year. Trade is expecting stocks as of Feb 1 to be 11 per cent higher over the previous year at 1.65 million tonnes. Overall India's production of vegetable oils should expand for oil year 2012–13 mainly on account of a higher mustard crop.

There is significant longer-term pressure on Indian mustard oil from imported palm oil. Malaysia will produce at least 19 million tonnes in 2013 and Indonesian production will be around 30 million tonnes. Between Malaysia and Indonesia crude palm oil (CPO)

**Total rabi oilseed production is projected to reach around 11 million tonnes against last year's 9.2 million tonnes, with most of the increase confined to rapeseed/mustard. This takes total 2012–13 major nine oilseed production to 31 million tonnes, one million tonnes more than in 2011–12 but somewhat below the trend line projection of 33.7 million tonnes.**

**Despite a late start this year, Uttar Pradesh is likely to produce 7.9 million tonnes of sugar, aided by a good cane harvest. Production is likely to be affected in Maharashtra and Karnataka due to lower cane production caused by below normal monsoon rains.**

**The biggest challenge facing the sugar industry now is to balance rising costs of production due to higher raw material prices with flat domestic prices and threat from imports.**

production will expand 2.5 to 3 million tonnes. Vegetable oil imports in MY 2012–13 are likely to be more or less unchanged from the 2011–12 level of 10 million tonnes, with increased share of palm oil. MY 2011–12 (Nov–Oct) imports included 6 million tonnes of crude palm oil, 1.6 million tonnes of palmolein, and 1.1 million tonnes of soybean oil and sunflower seed oil, respectively.

## IV.6 Sugar

### Production outlook

According to the first advance estimates by agriculture ministry, sugarcane output in 2012–13 (October–September) is pegged at 335.3 million tonnes, down by 6.2 per cent from 357.6 million tonnes in 2011–12. According to the Indian Sugar Mills Association (ISMA), India is set to produce 24 million tonnes of sugar in 2012–13, starting October 1, although the Department of Food and Consumer Affairs is currently maintaining production somewhat lower at 23 million tonnes. As on December 15, 2012, sugar production was 4.9 million tonnes, marginally ahead of 4.8 million tonnes produced during the corresponding period of last year. While in most states, production is ahead of last year, there was a decline in production in Uttar Pradesh, where crushing started late, as sugar mills were waiting for the state government to announce the State Advised Price (SAP) for sugarcane.

Despite a late start this year, Uttar Pradesh is likely to produce 7.9 million tonnes of sugar, aided by a good cane harvest. Production is likely to be affected in Maharashtra and Karnataka due to lower cane production caused by below normal monsoon rains. Sugar output in Maharashtra is expected to drop to 6.5 million tonnes from 9 million tonnes last year. In Karnataka, the production is expected to be 3 million tonnes compared to 3.8 million tonnes in 2011–12.

### Industry Prospects

The Uttar Pradesh Government, through a December 7, 2012, Order, announced a Rs 40 per quintal increase in the State Advised Price (SAP) of sugarcane for the sugar year 2012–13. The order raises the cane price for normal varieties from Rs 240 per quintal in 2011–12 to Rs 280 per quintal in 2012–13, 65 per cent higher than the Central government established floor price of Rs 170 per quintal. Cane prices in Maharashtra and Karnataka are expected to range between Rs 225 and Rs 250 per quintal. The higher sugarcane prices this year is likely to adversely impact the financial viability of sugar mills in most states and could result in higher sugarcane arrears by mills to farmers.

The biggest challenge facing the sugar industry now is to balance rising costs of production due to higher raw material prices with flat domestic prices and threat from imports. According to industry sources, the worst crisis will be in Uttar Pradesh, where mills will not be able to take advantage of higher production because of stiff competition from other states. The cost of production of sugar in the state, with 9.5 per cent sugar recovery, is Rs 38 per Kg as compared to Rs 34 and Rs 35 per Kg, respectively in Maharashtra and Karnataka (Table IV.10). In Tamil Nadu, where the SAP for cane is Rs 225 a quintal, the cost of production is even lower at Rs 32 per Kg. With market price of sugar hovering at Rs 36 per Kg, Uttar Pradesh mills could be heading for heavy financial losses.

Government is soon expected to announce the open market quota for a six month period, giving mills more flexibility in selling sugar. The government currently decides how much



sugar mills can sell in the open market and fixes a quota for a four month period. For Uttar Pradesh based sugar mills, an upside in the near-term could arise from the government accepting the Rangarajan Committee recommendations<sup>3</sup> regarding abolition of levy sugar.

**Table IV.10: Cost of production of sugar and cane SAP in 2012-13**

State	Cost of Production Rs. Per Kg	Sugarcane SA Rs. Per Quintal
Uttar Pradesh	37-38	275-290
Maharashtra	34	220-250*
Karnataka	34-35	225-250*
Punjab	34-34.50	235-250
Haryana	34-34.50	235-251
Tamil Nadu	32	225

\* Fixed by farmers- millers agreement.

Source: ISMA.

### Consumption

Domestic consumption is expected at around 22.6-23 million tonnes for 2012-13 below the expected supplies from current year's production alone (Table IV.11). Demand for sugar from bulk consumers like cold-drink and ice-cream makers usually drops in India during the winter season. The festival and wedding season also catches pace only by April.

**Table IV.11: Supply and Demand for 2012-13**

Item	2011-12	2012-13
Opening stock	6.8	7.8
Production	26.0	24.0
Imports	0	0
Total availability	32.8	31.8
Domestic consumption	21.5	22.6
Exports	3.5	2.0
Total distribution	25.0	24.6
Ending stocks	7.8	7.2
Stock to use ratio (%)	31.2	29.3

### Trade

According to ISMA, with overall supply outstripping domestic consumption requirement by 8 million tonnes, the country could export up to 1.5 million tonnes of sugar, while maintaining a reasonable carryover stocks. However, as prices in the world market are not lucrative for local miller, sugar exports are unlikely in the near future. On December 13, January sugar contract on India's National Commodity and Derivatives Exchange (NCDEX) was trading at Rs 3,299 per 100 kg (\$608.2/tonne), while March white sugar on Liffe (London International Financial Futures and Options Exchange) was at \$498/tonne.

On the other hand, higher domestic prices vis-à-vis international prices could encourage imports. Already sugar from Pakistan is reportedly arriving in Punjab as traders take advantage of the price differential. Around 25,000 tonne sugar is expected to be imported from Pakistan in the next couple of months as Pakistan origin sugar is at least Rs 5 a Kg cheaper than sugar from Uttar Pradesh mills. However, Pakistan sugar is unlikely to move to other parts of the country due to high freight costs. The other fear is of the significantly cheaper Brazilian raw sugar landing at port-based refineries in the country. Brazil has always been a low-cost sugar producer with a sugar recovery rate of 14 per cent and 90 to 100 tonne per hectare yield from a 7-year crop on fully mechanized farms with less uncertainty on labour.

3. [http://eac.gov.in/reports/rep\\_sugar1210.pdf](http://eac.gov.in/reports/rep_sugar1210.pdf)

**Domestic consumption is expected at around 22.6-23 million tonnes for 2012-13 below the expected supplies from current year's production alone.**

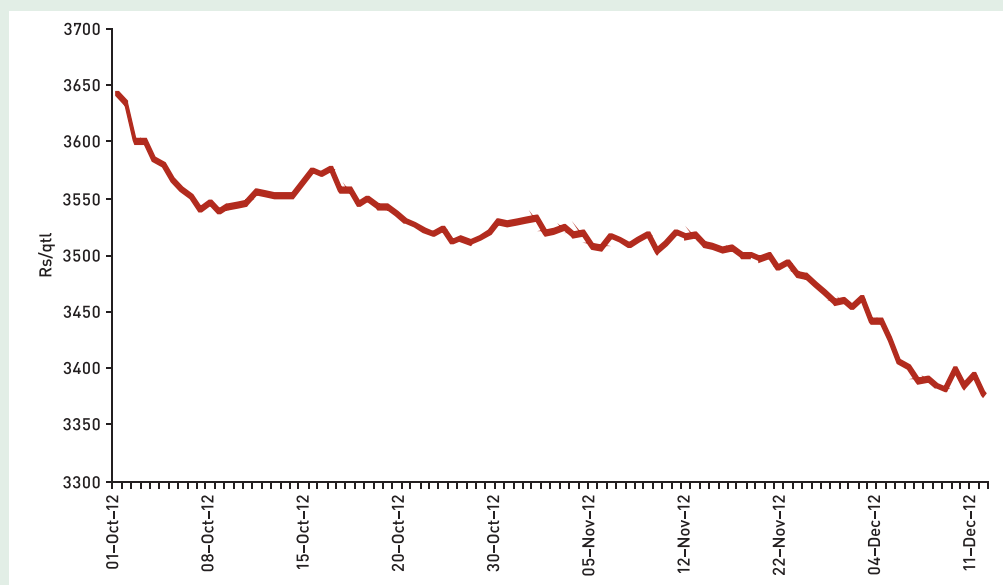


**The higher quota for the December–March period depressed sentiment. Some of this decline may also be seasonal as our own projections indicate that in the next three months prices would remain higher than the last year's prices in the same period.**

**Price trends**

Sugar prices remain bearish because of ample supply, imports and sluggish domestic demand (Figure IV.11). Sugar stocks with mills are rising. While demand for the sweetener from bulk consumers like cold-drink and ice-cream makers usually drops in India during the winter season, crushing has gained pace in all the key producing states. Mills are under pressure to generate cash for cane payments. Government has allowed mills to sell 7 million tonnes of sugar in the open market between December and March, including 200,000 tonnes of unsold stocks from the October–November period, slightly higher than the average monthly allocation of about 1.7 million tonnes. The higher quota for the December–March period depressed sentiment. Some of this decline may also be seasonal as our own projections indicate that in the next three months prices would remain higher than the last year's prices in the same period.

**Figure IV.10: Sugar Price Trend**



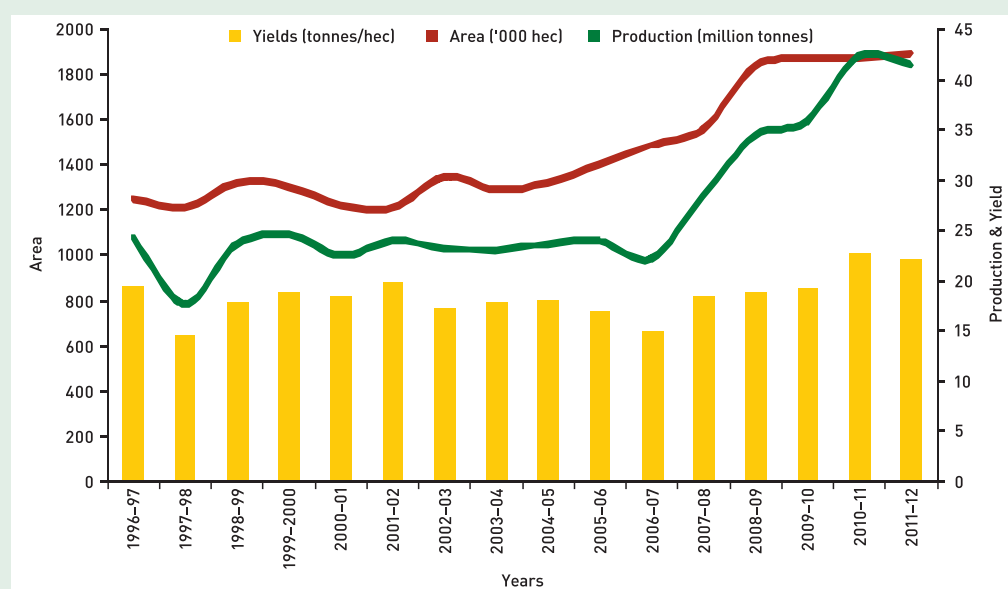
**IV.7 Potato**

**Recent Trends in Production**

India is the second largest producer of potatoes in the world after China. During the three years ending 2010, China produced 22.2 per cent of the world's potatoes followed by India which produced 10.7 per cent. India has the third largest share in potato area in the world (9.8 per cent), preceded by China (26.7 per cent) and the Russian Federation (11.5 per cent).

Potato production in India grew at a trend rate of 6.3 per cent per year between 2000–01 and 2011–12 with much of this increase coming between 2005–06 and 2008–09. Not only area under the crop increased in a short period, there has also been a steady rise in yield per hectare since 2005–06 (Figure IV.11). Some of the drivers of this change are availability of high yielding crop varieties more suited to the growing regions and also growth of processed foods market. There was also a sharp increase in exports around this period.

Figure IV.11: Area, Production and Yield of Potato



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

In the 10 year period of 2000–01 to 2010–11, the highest annual rates of growth in output were recorded in states with relatively lower production shares such as Andhra Pradesh (24.6 per cent), Rajasthan (20.5 per cent), Maharashtra (18.2 per cent) and Bihar (17.3 per cent). Area growth has been significantly high in the case of Andhra Pradesh, Rajasthan and Bihar during this period. In Maharashtra the main contribution to output growth has come from increase in yield per hectare (Table IV.12).

During the three years ending 2011–12, the state of Uttar Pradesh had the highest share of potato area in the country (29 per cent), followed by West Bengal (20.4 per cent) and Bihar (16.9 per cent). Uttar Pradesh also has the highest share of potato production in the country (33 per cent) followed by West Bengal (28 per cent) and Bihar (15 per cent).

During the triennium ending 2011–12, the state of Gujarat had the highest potato yields in the country (28.69 tonnes/ha) followed closely by West Bengal (28.63 tonnes/ha), and Punjab (25.15 tonnes/ha). At the all India level yields increased steadily, since 2006–07 and reached a peak in 2010–11, but registered a decline in 2011–12 due to unseasonal rainfall.



In the current year, *kharif* production is expected to be lower but *rabi* production is expected to make up for the drop in *kharif*. Total production for 2012–13 is projected to be at 43.5–44.5 million tonnes, lower than the expectations held in the September 2012 report.

**Table IV.12: Potato Production Statistics**

States/UTs	Potato Area		Potato Production		Potato Yields	
	Growth Rate (%) (2000–01 to 2011–12)	Share of Potato Area (TE-2011) (%)	Growth Rate (%) (2000–01 to 2011–12)	Share of Potato Production (TE-2011) (%)	Growth Rate (%) (2000–01 to 2011–12)	Potato Yields (TE-2011) (kg/ha)
Andhra Pradesh	11.06	0.29	24.55	0.27	12.15	20.10
Bihar	9.31	16.91	17.32	15.00	7.33	18.93
Gujarat	9.04	3.67	11.49	4.95	2.25	28.69
Haryana	5.66	1.38	6.52	1.42	0.81	21.89
Karnataka	2.25	2.91	2.85	1.07	0.59	8.58
Madhya Pradesh	6.36	3.82	6.37	2.22	0.01	12.37
Maharashtra	2.94	1.33	18.23	0.94	14.86	16.79
Orissa	6.80	0.73	10.41	0.47	3.37	13.65
Punjab	3.68	4.47	6.00	5.26	2.23	25.15
Rajasthan	18.64	0.66	20.50	0.39	1.57	12.33
Tamil Nadu	-2.62	0.22	-1.66	0.20	1.00	19.60
Uttar Pradesh	3.61	29.58	3.97	32.74	0.35	23.58
West Bengal	2.69	20.42	4.35	27.52	1.62	28.63
INDIA	4.75	100.00	6.28	100.00	1.46	21.34

Source: DES & NHRDF.

### Production Outlook

Potato is grown mainly in the rabi season with the share of kharif season in production being less than five per cent in the recent three years. Production in 2011–12 declined from 42.65 million tonnes in the previous year to 42.34 million tonnes. The reason for decline was adverse rainfall conditions in the main growing regions. In the current year, kharif production is expected to be lower but rabi production is expected to make up for the drop in kharif. Total production for 2012–13 is projected to be at 43.5–44.5 million tonnes, lower than the expectations held in the September 2012 report.

### Consumption and Trade

Potato exports as a percentage of production has fluctuated but remained at less than 1 per cent over the years (Table IV.13). For the current year, the exports are projected to be at the level of previous peak of 196 thousand tonnes given the increased level of output for the year.

**Table IV.13: Potato Supply and Demand ('000 tonnes)**

Item	2005–06	2006–07	2007–08	2008–09	2009–10	2010–11	2011–12	2012–13
Production	23905	22181	28471	34391	36580	42340	42650	43500
Imports	2	0	0	0	0	0	0	0
Total Supply	23907	22181	28471	34391	36580	42340	42650	43500
Exports	78	92	82	196	97	174	185	200
Domestic Use	23829	22089	28389	34195	36483	42166	42495	43304
Total Utilisation ('000 Tonnes)	23907	22181	28471	34391	36580	42340	42650	43500
Share of Exports to Production (%)	0.33	0.42	0.29	0.57	0.27	0.41	0.44	0.46
Share of Domestic Use to Total Supply (%)	99.67	99.59	99.71	99.43	99.73	99.59	99.64	99.54

Source: DES & FAOSTAT.

Notes: 1. Production projection of 2012–13 is based on a review of the trends in production in the recent years and an estimated equation for production as a function of rainfall in the monsoon season and a trend variable.  
2. Export figures for 2011–12 and 2012–13 are based on a review of recent trends.



Potato exports grew at a trend rate of 24.7 per cent per annum between 2000–01 and 2010–11. The increase in exports took a sharp upturn in 2003–04 preceding the increase in area and production of potatoes. Although small in proportion to total production, growth of this demand may help in the development of market for this crop. In the triennium ending 2010–11, the top potato exporters in the world were France (19.4 per cent of the total) followed by Netherlands (15.9 per cent) and Germany (14.6 per cent). However, India's export destinations are closer to her borders. Over the years most potato exports from India were directed to Nepal, Pakistan, Sri Lanka, Bangladesh, and Malaysia (Table IV.14).

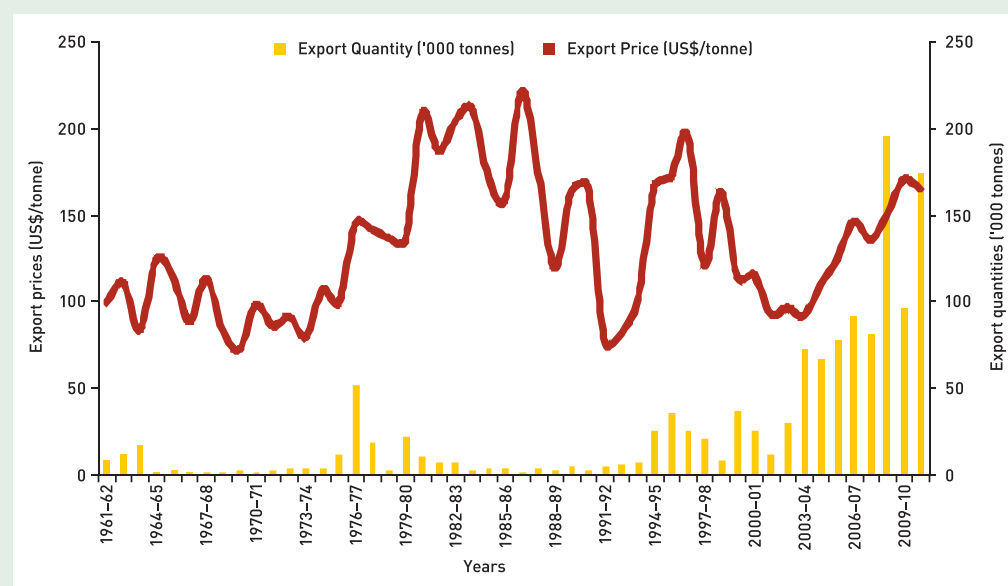
**Table IV.14: Potato Exports**

World Potato Exports (%)		Potato Exports from India (%)	
Countries	TE-2010 (%)	Years	TE-2010 (%)
France	19.37	Nepal	53.18
Netherlands	15.91	Pakistan	17.33
Germany	14.64	Sri Lanka	13.16
Belgium	6.96	Bangladesh	3.92
Canada	5.03	Maldives	2.42
United States of America	3.16	Malaysia	2.24
China	3.08	United Arab Emirates	2.14
Egypt	2.86	Mauritius	2.13
United Kingdom	2.62	Seychelles	0.94
Spain	2.44	Singapore	0.83

Source: FAOSTAT.

In the recent years, Potato exports and export prices have moved in the same direction indicating a rising export demand for Indian Potatoes despite high export prices (Figure IV.12).

**Figure IV.12: Relation between Export Prices and Export Quantities**



Source: FAO.

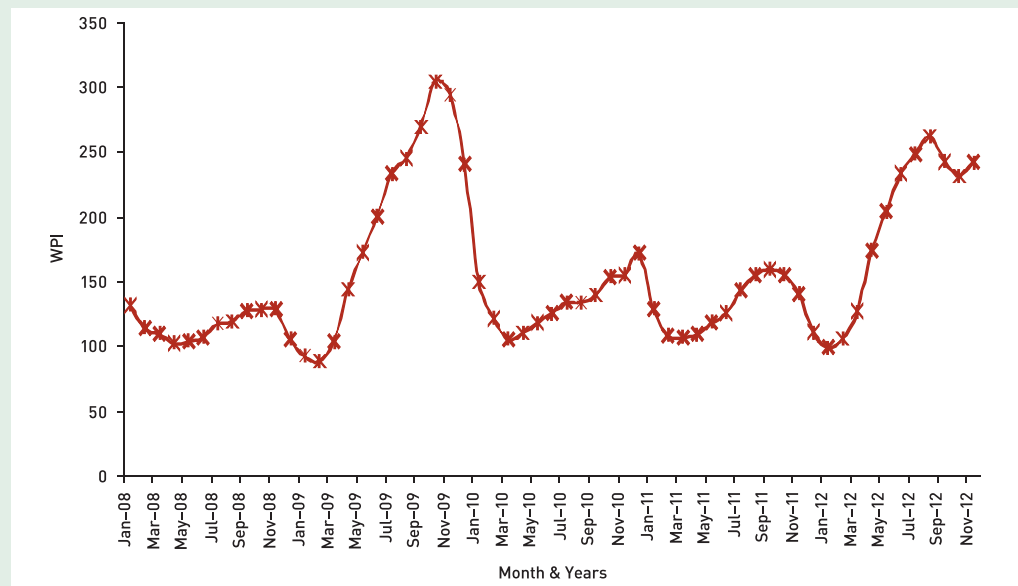


**Seasonal and regional supply-demand imbalances can be expected as infrastructure for storage and transportation of vegetables and fruits is yet to be fully developed.**

**Prices**

In the recent years potato prices showed a decline since the peak of 2009–10 (Figure IV.13). However, prices began to rise sharply from the beginning of 2012 and reached a peak in August 2012. The WPI for potato declined in October, but rose again in November. High prices in 2012–13 were due to low production of rabi season potato of 2011–12 as well as deficient rainfall in kharif 2012–13. Further, growing domestic demand is also putting pressure on prices. Seasonal and regional supply-demand imbalances can be expected as infrastructure for storage and transportation of vegetables and fruits is yet to be fully developed.

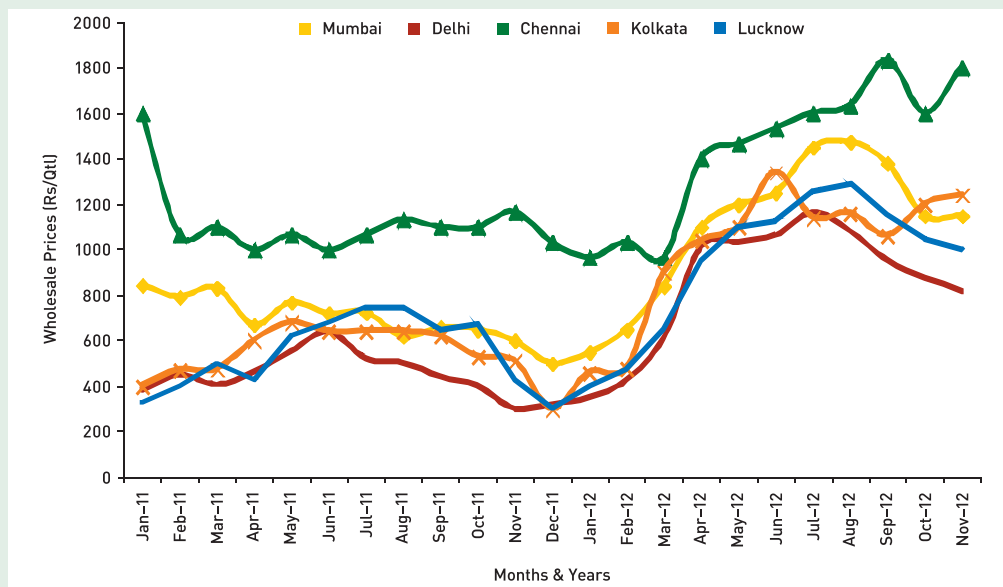
**Figure IV.13: WPI Trends in Potato**



Source: WPI Data from Office of Economic Adviser, Govt. of India.

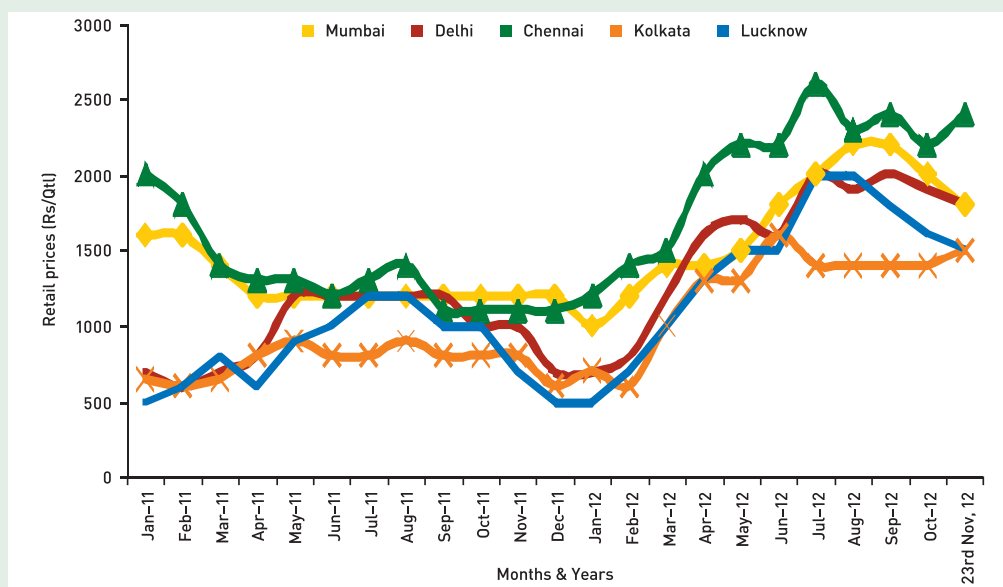
Both wholesale and retail price trends show a similar pattern with low prices in the beginning of the year and high prices from April to September and a decline thereafter (Figure IV.14a & IV.14b). However in 2011–12 prices remained relatively low and stable for most part of the year whereas in 2012–13 they registered a sharp increase since April. Unlike the WPI which showed an increase in November 2012, the retail prices have shown a decline in the metros of Delhi and Mumbai in the same month.

Figure IV.14a: Wholesale Prices of Potato in Metro Cities



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

Figure IV.14b: Retail Prices of Potato in Metro Cities



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

Wholesale prices of potato are now declining in response to increased market arrivals in some consuming centres (Table IV.15).



Potato prices were very high in 2012 mainly in response to the deficient rainfall during the *kharif* season and the lower output in the previous year. With the expected increased production in *rabi* 2012–13, the arrival of fresh crop in the market will have a moderating effect on prices.

**Table IV.15: Potato Market Arrivals and Prices**

Consuming Centres	Avg. Wholesale Price in October 2012 (Rs/Qtl)	Avg. Wholesale Price in November 2012 (Rs/Qtl)	Average Market Arrivals Per day in October 2012 ('000 Tonnes)	Average Market Arrivals Per day in November 2012 (Tonnes)
Delhi	875	815	32.56	39.71
Kolkata	1200	1240	0.23	0.240
Lucknow	1050	1000	3.11	5.19

Source: www.agmarknet.nic.in.

Note: Market Arrivals data unavailable for Mumbai and Chennai.

Trends in the futures market suggest a decline in prices in the coming few months. The May 15, 2013 Futures price in MCX commodity exchange is Rs 675.6 per quintal as compared to the price of March 15, 2013 futures price of Rs 713.1 per quintal (Table IV.16).

**Table IV.16: Futures Prices of Potato**

Launch Date	Expiry Date	Futures Price (Rs.Qtl) as on 17th December 2012*
16-Aug-12	15-Mar-13	713.1
16-Sept-12	15-Apr-13	673.2
16-Oct-12	15-May-13	675.6

Source: www.mcxindia.com

### Outlook

Potato prices were very high in 2012 mainly in response to the deficient rainfall during the *kharif* season and the lower output in the previous year. With the expected increased production in *rabi* 2012–13, the arrival of fresh crop in the market will have a moderating effect on prices.

## IV.8 Onion

### Recent Trends

India has the largest share of onion area in the world (26.4 per cent) followed by China (23.7 per cent). However, given the lower yields, India is the second largest producer of Onions in the world after China. During the triennium ending 2010, China produced 28 per cent of the world's onions followed by India's share of 19.3 per cent (FAO).

Onion area in India grew at a trend rate of 9.0 per cent per annum between 2000–01 to 2011–12, with the highest rates of growth in Orissa (22.72 per cent), Gujarat (14.67 per cent) and Maharashtra (12.04 per cent). During the triennium ending 2011–12, the state of Maharashtra had the highest share of Onion area in the country (33.98 per cent) followed by Karnataka (18.55 per cent) (Table IV.17).

Onion production in India grew at a trend rate of 13.62 per cent per annum between 2000–01 to 2011–12, with the highest rates of growth in Orissa (30.32 per cent), Karnataka (18.49 per cent) and Gujarat (14.68 per cent). During the triennium ending 2011–12, the state of Maharashtra had the highest share of Onion production in the country (29.98 per cent) followed by Karnataka (17.37 per cent).

Onion yields in India grew at a trend rate of 4.15 per cent between 2000–01 to 2011–12, with the highest rates of growth in Karnataka (12.79 per cent), Rajasthan (7.71 per cent)



and Orissa (6.20 per cent). During the triennium ending 2011–12, the state of Gujarat had the highest Onion yields in the country (24.92 tonnes/ha).

**Table IV.17: Onion Production Statistics**

States/UTs	Onion Area		Onion Production		Onion Yields	
	Growth Rate (%) (2000–01 to 2011–12)	Share in Crop Area (TE-2011) (%)	Growth Rate (%) (2000–01 to 2011–12)	Share in Production (TE-2011) (%)	Growth Rate (%) (2000–01 to 2011–12)	Yield (TE-2011) (kg/ha)
Andhra Pradesh	4.64	4.72	4.61	5.27	-0.04	17.00
Gujarat	14.67	5.82	14.68	9.52	0.01	24.92
Haryana	4.63	2.37	8.05	2.88	3.27	18.54
Karnataka	5.05	18.55	18.49	17.37	12.79	14.42
Madhya Pradesh	11.82	6.62	14.44	7.50	2.34	17.22
Maharashtra	12.04	33.98	13.20	29.98	1.03	13.86
Orissa	22.72	3.56	30.32	2.53	6.20	10.77
Rajasthan	6.78	5.37	15.01	5.01	7.71	14.14
Tamil Nadu	1.13	3.19	3.16	2.32	2.00	11.55
Uttar Pradesh	0.35	2.48	2.70	2.41	2.34	14.80
INDIA	9.10	100.00	13.62	100.00	4.15	15.32

Source: DES & NHRDF.

India has 3 crop seasons for Onion namely; Main Kharif season (May–June planting), Late Kharif season (September–October planting) and Rabi season (November–December planting). In terms of area, Onion is mainly a Rabi crop although in 2010–11 more area was planted in Kharif compared to the Rabi season. In 2011–12, the area in the Kharif season had declined but it was still close to the Rabi season area. Between the two Kharif seasons, higher area was planted during Main Kharif (Table IV.18).

Production in the Main Kharif season of 2011–12 was affected by unseasonal rains in the onion growing regions which resulted in skyrocketing onion prices. The government resorted to emergency measures by suspending exports and also subjecting them to high Minimum Export Prices (MEP). Latest available data till August 2012 shows the Main Kharif area to have again declined in the face of deficient monsoon rainfall by August. However, it is important to mention here that early production estimates in Onion tend to be misleading, as these are based on nursery stage estimates<sup>4</sup>.

4. Market Intelligence System – Baseline Data for Potato & Onion, April 2010. Report compiled by Agriwatch and SFAC.



As regards output, this year's *kharif* output is expected to be lower than in the previous year, being adversely affected by deficient rainfall during the early two months of the monsoon season, but thereafter, the weather situation has been favourable and *rabi* production is expected to be higher than in the previous year. We now expect the total production to be higher by about 1 million tonnes in 2012–13 over the previous year.

**Table IV.18: Season wise Onion Production Statistics**

States	2008–09	2009–10	2010–11	2011–12
<b>Area ('000 ha)</b>				
Main Kharif	189.6	175	376.82	246.13
Late Kharif	93.4	79.3	131.9	187.4
Kharif	283	254.3	508.72	433.53
Rabi	552.3	503	495.1	501.6
<b>Total</b>	<b>835.3</b>	<b>757.3</b>	<b>1003.82</b>	<b>935.13</b>
<b>Production ('000 tonnes)</b>				
Main Kharif	3045	2804.6	4732.6	3367.4
Late Kharif	1532.3	1269.7	1442.2	2905.6
Kharif	4577.3	4074.3	6174.8	6273
Rabi	9011.02	8115.7	8387	8862.6
<b>Total</b>	<b>13588.32</b>	<b>12190</b>	<b>14561.8</b>	<b>15135.6</b>
<b>Yield (Tonnes/ ha)</b>				
Main Kharif	16.06	16.03	12.56	13.68
Late Kharif	16.41	16.01	10.93	15.51
Kharif	16.17	16.02	12.14	14.47
Rabi	16.32	16.14	16.94	17.67
<b>Total</b>	<b>16.27</b>	<b>16.10</b>	<b>14.51</b>	<b>16.19</b>

Source: NHRDF.

#### Onion Supply and Demand

Onion exports as a percentage of production have declined over the years, and the share of domestic use has increased (Table IV.19). This reflects a response to fast growing domestic market. However, there are also policy restrictions on exports: high MEP and the measures to curb exports when domestic prices flare up. Given the expectation of relatively strong recovery in output, exports may be expected to rise at the recent trend growth rate of about 6.5 per cent per year.

**Table IV.19: Onion Supply and Demand ('000 tonnes)**

Item	2005–06	2006–07	2007–08	2008–09	2009–10	2010–11	2011–12	2012–13
Production	8683	8885	9138	13480	12160	15118	15700	16700
Total Supply	8690	8885	9138	13480	12159	15123	15706	16707
Exports (net)	955	1382	1009	1671	1676	1359	1528	1628
Domestic use	7728	7503	8129	11809	10482	13759	14372	15072
Total Utilisation	8690	8885	9138	13580	12159	15123	15706	16707
Share of Exports to Production (%)	11.08	15.55	11.05	12.30	13.76	9.02	9.39	9.79
Share of Domestic Use to Total Supply (%)	88.93	84.45	88.96	87.60	86.21	90.98	91.1	90.21

Source: DES & FAOSTAT.

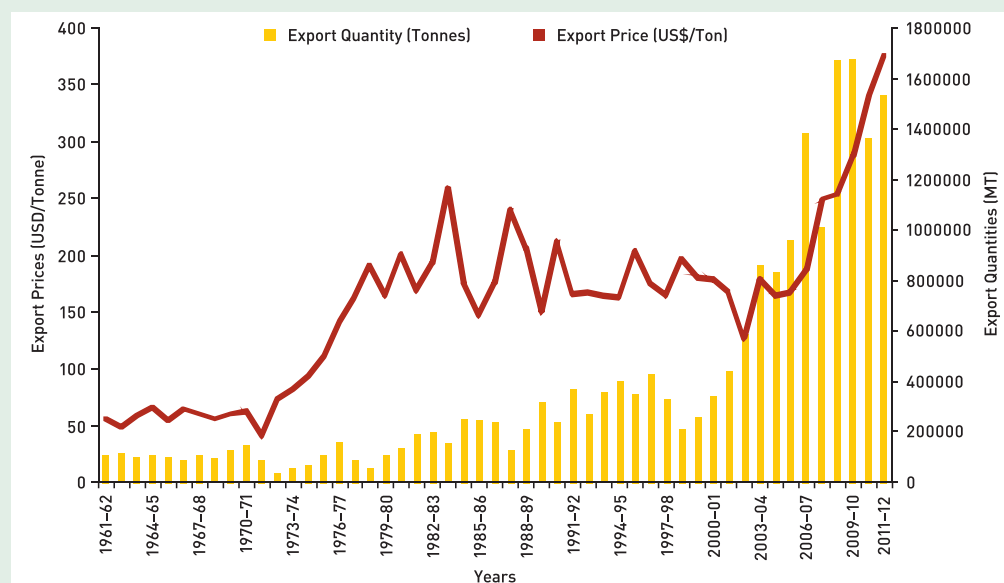
Notes: 1. Production projection of 2012–13 based on an estimated equation linking production to rainfall during the monsoon season and a trend variable. Supply estimates include small quantities of imports.

2. Export projections of 2012–13 based on average trend growth in the recent five years. Total utilisation = Domestic use + exports. Total supply = Production + imports.

As regards output, this year's *kharif* output is expected to be lower than in the previous year, being adversely affected by deficient rainfall during the early two months of the monsoon season, but thereafter, the weather situation has been favourable and *rabi* production is expected to be higher than in the previous year. We now expect the total production to be higher by about 1 million tonnes in 2012–13 over the previous year.

Onion exports from India grew at a trend rate of 14.28 per cent between 2000–01 and 2011–12. During the triennium ending 2010, the topmost Onion exporters in the world were India (23.89 per cent) followed by Netherlands (19.34 per cent) and China (8.70 per cent). Over the years most of the Onion from India has been exported to Bangladesh, Malaysia, UAE, Sri Lanka, and Pakistan. Indian onions are preferred in these destinations. Price is not a critical issue, as in recent years Onion export prices show rising trend even as the quantities exported have also increased (Figure IV.15). Thus, Indian onion exports are driven by constant demand from importing countries.

**Figure IV.15: Onion Export Prices and Export Quantities**



Source: FAO.

According to the Small Farmers' Agribusiness Consortium (SFAC) report<sup>5</sup>, Onion export demand generally declines after July–August and starts to pick up from December. This is because after July–August, the crop starts getting spoiled and low quality onion arrives in market. April is the peak export time as Rabi onion is in good demand at that time. In January 2011, export was banned due to higher domestic prices and fear of supply shortage.

The government scrapped the MEP, beginning 2012 aiming at better price realisation to farmers keeping in view higher production in Late Kharif and Rabi seasons. This move is expected to result in higher export demand and storage activity as exporters will try to get more export orders. Further, if exports are allowed directly through exporters rather than designated agencies such as canalising agents or state trading agencies, exports may rise further.

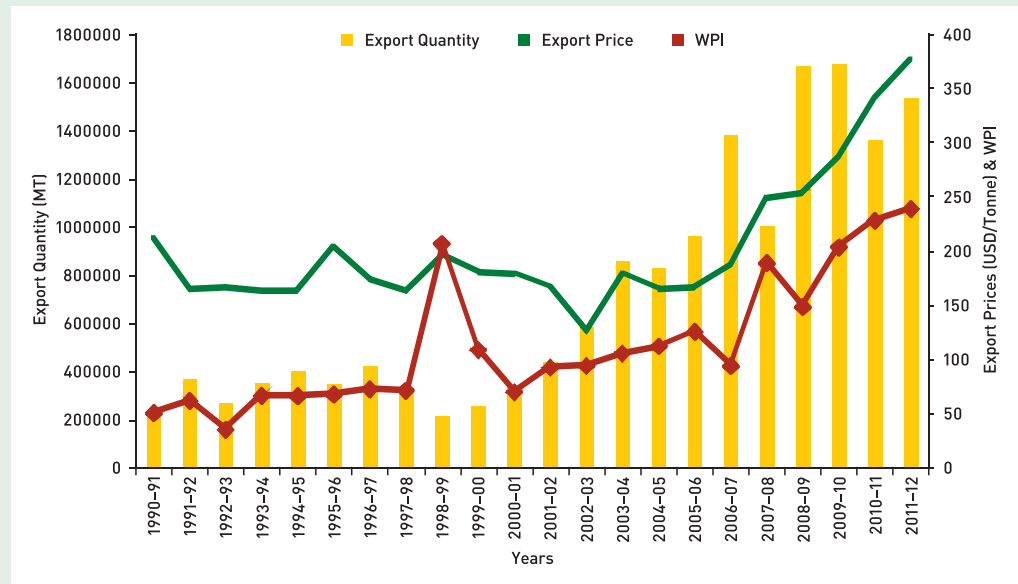
Trade sources indicate that abolishing MEP will give India a competitive edge over China and Pakistan in international markets. There is a big market for Onion both in India and abroad and high prices don't seem to be affecting demand in both the domestic and export market (Figure IV.16). Nevertheless, sharp spikes in prices point to the need for investments in marketing and storage infrastructure.

**Sharp spikes in prices point to the need for investments in marketing and storage infrastructure.**

5. Onion and Potato Monthly Report, October 2012.



**Figure IV.16: Onion Export Quantities, Export Prices and WPI**



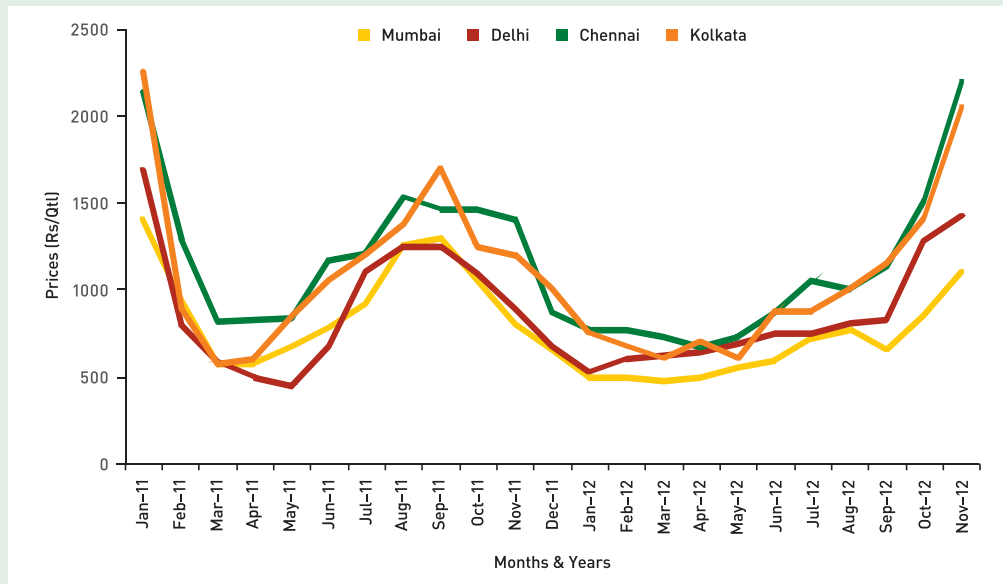
Source: FAO, DES.

**Prices**

Wholesale and retail prices of Onion in the four metros have shown a similar pattern during 2011 and 2012 (Figures IV.17a and IV.17b). In 2011, prices reached a peak in January after which they declined to once again increase in the months of August–September. The prices peaked in January 2011 because Onion production in Late Kharif and Rabi seasons of 2010 was affected by unseasonal rains which resulted in skyrocketing onion prices due to supply shortages across the country. In general, prices tend to be higher in August–September due to logistics issues (SFAC report cited earlier). Prices are seen to increase from October onwards this year due to delay in the arrival of kharif onion and lower production estimate this kharif season. The short cycles in prices indicating seasonality patterns are also prominent (Figure IV.18).

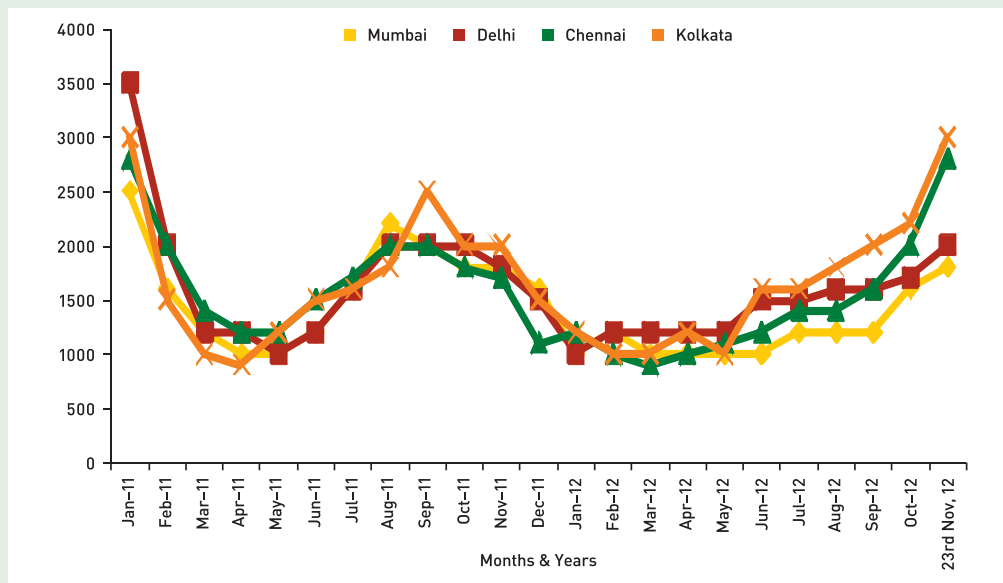


**Figure IV.17a: Wholesale Prices of Onion in Metro Cities (Rs/Quintal)**



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

**Figure IV.17b: Retail Prices of Onion in Metro Cities (Rs/Quintal)**



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

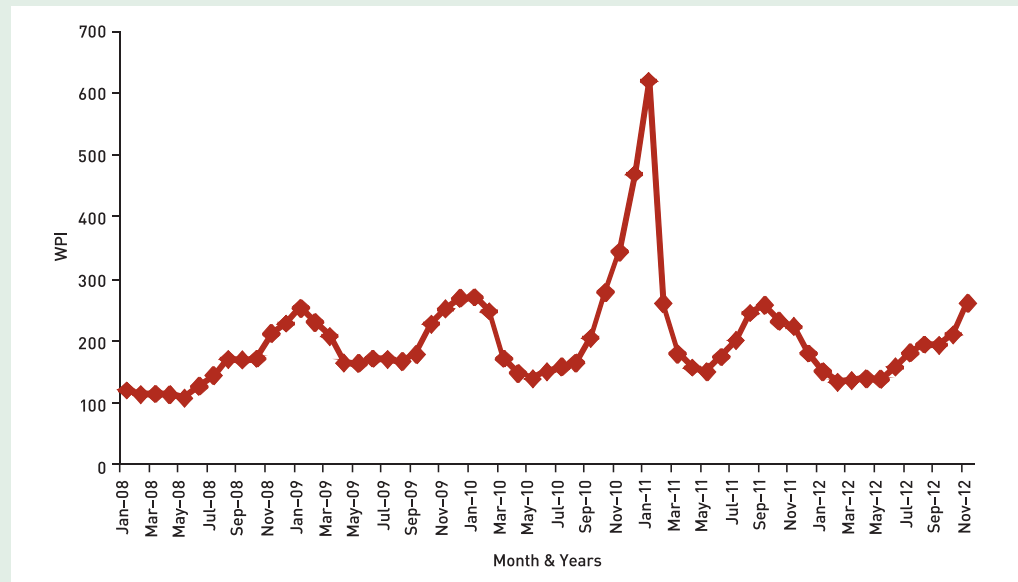






**Onion prices are showing an increase in response to high domestic demand and relatively lower production on account of erratic rainfall in the *kharif* and late *kharif* seasons.**

**Figure IV.18: Wholesale Price Index of Onion**



Source: Office of Economic Adviser, Govt. of India.

The reported market arrivals in November 2012 were actually lower or in Delhi and Kolkata reflecting the lower output in the *kharif* season. As the supplies pick up in the subsequent months, prices are expected to show moderate trend.

**Outlook**

Onion prices are showing an increase in response to high domestic demand and relatively lower production on account of erratic rainfall in the *kharif* and late *kharif* seasons. This year too the *kharif* output seems to have been adversely affected due to deficient rainfall during the early monsoon months of June and July, but thereafter, the weather situation has been favourable and *rabi* production is expected to exceed last year's production. In this respect, the output projections made in our September Outlook Report have underestimated growth in 2012–13. On export front, with the removal of MEP, onion exports can be expected to reach new markets. Since Indian onions have a high domestic and export demand, government policy should focus on increasing production, besides development of market infrastructure including storage.

**IV.9 Banana**

**Recent Trends**

India is the World's largest producer of Banana. During the triennium ending 2010, India produced 28.15 per cent of the world's Banana output followed by China (9.18 per cent), Philippines (9.14 per cent) and Ecuador (7.60 per cent). India also occupies the largest share in Banana area in the world (15.55 per cent) followed by Brazil (9.96 per cent).

Banana area in India grew at a trend rate of 6.56 per cent per year between 2000–01 and 2011–12, with the highest rate of growth in Chhattisgarh (57.31 per cent) followed by Uttar Pradesh (35.77 per cent) and Madhya Pradesh (15.79 per cent). During the triennium ending 2011–12, the state of Karnataka had the highest share of Banana area in the country (14.09 per cent) followed by Tamil Nadu (13.32 per cent), Maharashtra (10.45 per cent) and Andhra Pradesh (10.06 per cent) (Table IV.20).

**Table IV.20: Banana Production Statistics**

States/UTs	Banana Area		Banana Production		Banana Yields	
	Growth Rate (%) (2000–01 to 2011–12)	Share of Banana Area (TE-2011) (%)	Growth Rate (%) (2000–01 to 2011–12)	Share of Banana Production (TE-2011) (%)	Growth Rate (%) (2000–01 to 2011–12)	Banana Yield (TE-2011) (kg/ha)
Andhra Pradesh	10.00	10.06	15.94	10.12	5.40	34994
Arunachal Pradesh	4.22	0.70	1.69	0.05	-2.43	2643
Assam	1.58	6.30	2.95	2.74	1.35	15155
Bihar	8.14	4.05	18.77	5.51	9.84	47380
Chhattisgarh	57.31	1.79	49.68	1.24	-4.85	24248
Gujarat	7.48	8.04	10.18	14.24	2.51	61597
Karnataka	12.95	14.09	14.75	8.27	1.60	20420
Kerala	-5.48	6.82	-5.26	1.58	0.23	8055
Madhya Pradesh	15.79	4.85	14.79	6.26	-0.87	44846
Maharashtra	4.00	10.45	2.82	16.90	-1.14	56217
Manipur	10.76	1.85	1.28	0.18	-8.56	7524
Meghalaya	2.29	0.82	2.17	0.28	-0.12	11849
Mizoram	14.78	1.21	34.95	0.54	17.57	15866
Orissa	1.16	3.32	7.06	1.68	5.83	17617
Tamil Nadu	4.58	13.32	9.38	20.85	4.59	53822
Tripura	7.51	1.18	6.93	0.43	-0.54	13302
Uttar Pradesh	35.77	4.03	41.22	4.69	4.02	40403
A & N Islands	-0.71	0.21	2.86	0.06	3.59	10301
Pondicherry	7.35	0.06	5.27	0.05	-1.94	28269
INDIA	6.56	100.00	9.75	100.00	2.99	34772

Source: DES & NHB.

Banana production in India grew at a trend rate of 9.75 per cent per year between 2000–01 to 2011–12, with the highest rates of growth in Chhattisgarh (49.68 per cent), Uttar Pradesh (41.22 per cent) and Mizoram (34.95 per cent). During the triennium ending 2011–12, the state of Tamil Nadu had the highest share of Banana production in the country (20.85 per cent) followed by Maharashtra (16.90 per cent) and Gujarat (14.24 per cent).

Banana yields in India grew at a trend rate of 2.99 per cent per annum between 2000–01 and 2011–12, with the highest rates of growth in Mizoram (17.57 per cent) followed by Bihar (9.84 per cent) and Andhra Pradesh (5.40 per cent). During the triennium ending 2011–12, the state of Gujarat had the highest Banana yields in the country (61.59 tonnes/ha) followed by Maharashtra (56.22 tonnes/ha) and Tamil Nadu (53.82 tonnes/ha).

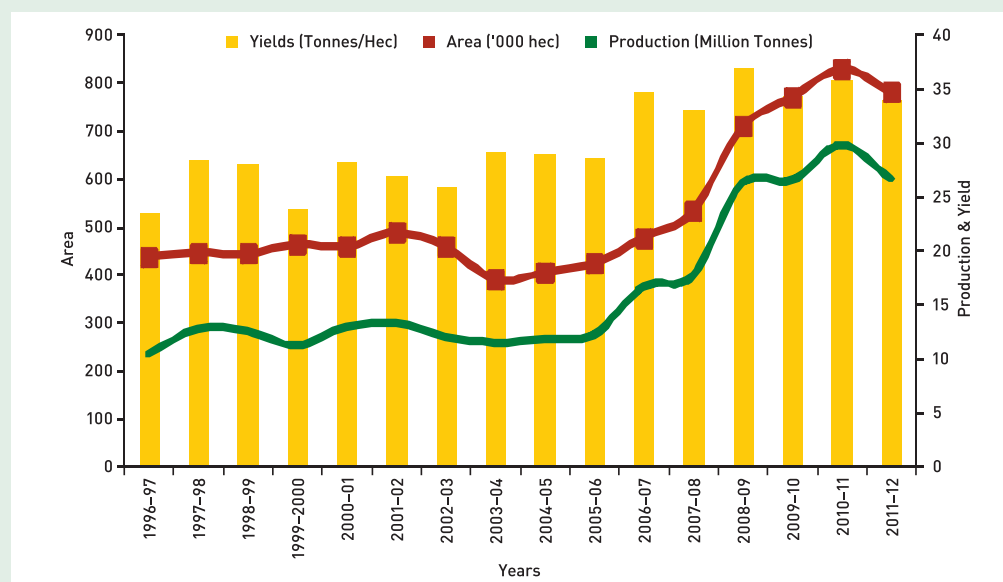
Banana exports from India grew at a trend rate of 22.03 per cent between 2000–01 and 2010–11. In the triennium ending 2010, the topmost Banana exports in the world were from Ecuador (30 per cent) followed by Philippines (10.28 per cent) and Columbia (9.97 per cent). Most of the Banana exports from India went to UAE, Saudi Arabia, Iran, Nepal and Bahrain (Table IV.21 and Figure IV.19).




**Table IV.21: Banana Export Statistics**

World Banana Exports (%)		Banana Exports from India (%)	
Countries	TE-2010 (%)	Countries	TE-2010 (%)
Ecuador	30.00	United Arab Emirates	29.52
Philippines	10.28	Saudi Arabia	17.24
Colombia	9.97	Nepal	13.16
Costa Rica	9.84	Bahrain	10.77
Guatemala	7.92	Iran	10.41
Belgium	7.04	Kuwait	7.77
Honduras	3.00	Qatar	4.30
United States of America	2.91	Oman	3.14
Germany	2.26	Maldives	1.95
Panama	1.66	Japan	0.54

Source: FAOSTAT.

**Figure IV.19: Area, Production and Yields of Banana**


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

### **Banana Supply and Demand**

Banana export as a percentage of production has been quite small (less than 1 per cent) over the years, even as exports have increased from around 30 thousand tonnes in 2008–09 to 61 thousand tonnes in 2010–11 (Table IV.22). The share of domestic use to total supply has been very high (nearly 100 per cent) over the years.



**Table IV.22: Banana Supply and Demand ('000 tonnes)**

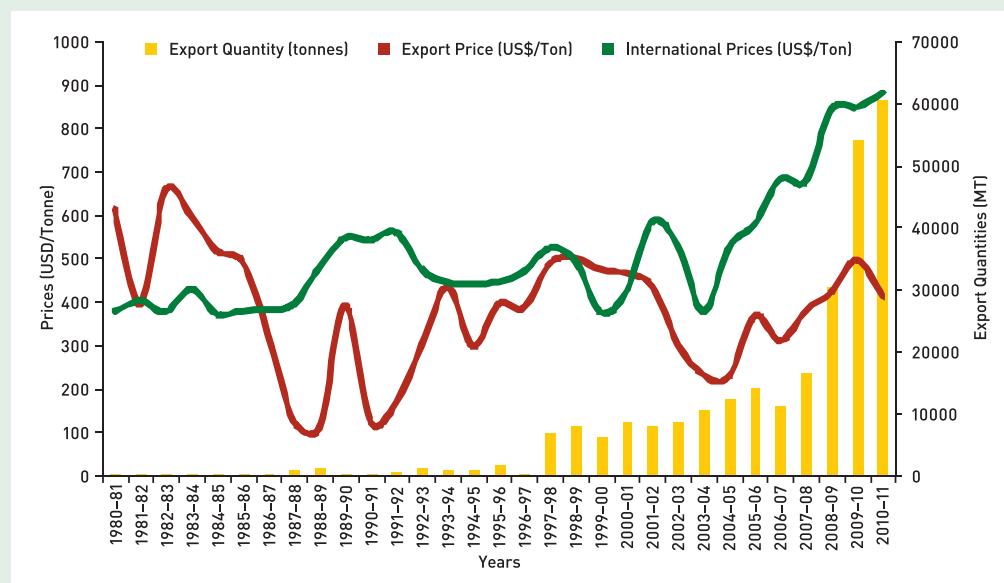
Item	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12 (P)	2012-13 (P)
Production	12105	16609	17647	26217	26470	29780	<b>31200</b>	31900
Imports	0	0	0	0	0	0	0	0
Total Supply	12105	16609	17647	26217	26470	29780	31200	31900
Exports	14	11	17	30	54	61	63	65
Domestic use	12090	16597	17630	26187	26415	29719	31137	31835
Total Utilisation	12105	16609	17647	26217	26470	29780	<b>31200</b>	31900
Share of Exports to Production (%)	0.12	0.07	0.09	0.12	0.21	0.20	0.20	0.23
Share of Domestic use to Total Supply (%)	99.88	99.93	99.91	99.88	99.79	99.80	99.80	99.80

Source: DES & FAOSTAT.

Notes: 1. Production projection of 2011-12 and 2012-13 based on estimated equation for production with monsoon season rainfall and trend variable as explanatory variables.

2. Export projections of 2011-12 and 2012-13 based on average growth rate for the recent five years.

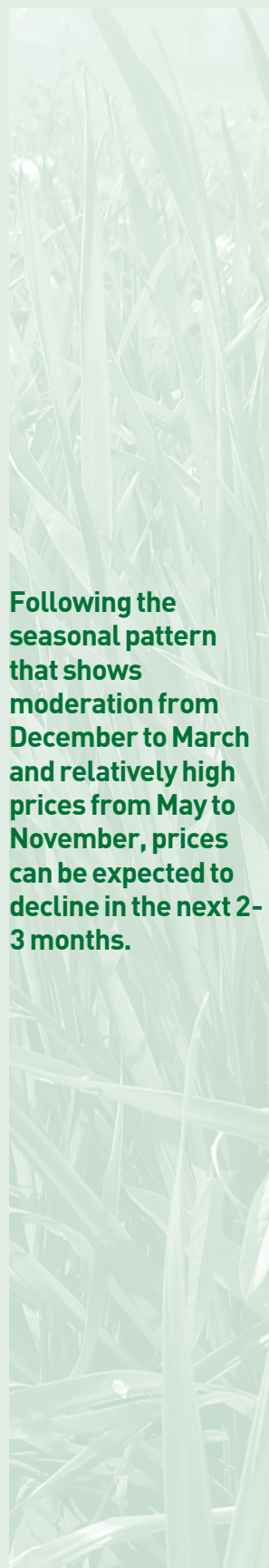
International prices of Banana have remained high in recent years (Figure IV.20). While infrastructure and quality need to improve, the high international prices point to opportunities for exports, especially to the Middle East (Table IV.23). However the Banana industry, mainly in Tamil Nadu needs changes in its cultural and post-harvest practices in order to remain competitive<sup>6</sup>.

**Figure IV.20: Banana Export Quantities, Export Prices & International Prices**


Source: FAO & IMF.

6. L. Patrick Hanemann (2006), An Assessment of the Export Competitiveness of the Banana, Mango and Mango Pulp Sectors in the State of Tamil Nadu. Prepared for The World Bank. Under contract with Abt Associates, Inc. Farm2Market Agribusiness Consulting, Inc.





Following the seasonal pattern that shows moderation from December to March and relatively high prices from May to November, prices can be expected to decline in the next 2-3 months.

**Table IV.23: Banana Imports in the Middle East (metric tonnes)**

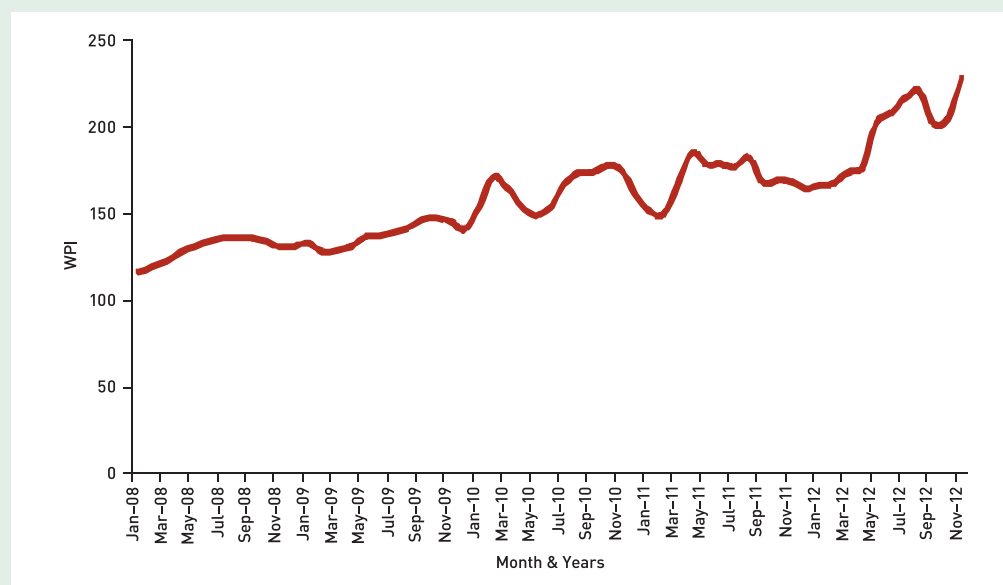
Countries (exporter)	United Arab Emirates (importer)	Countries (exporter)	Saudi Arabia (importer)	Countries (exporter)	Bahrain (importer)	Countries (exporter)	Iran (importer)
Year	2008	Year	2010	Year	2010	Year	2010
Egypt	1	Bangladesh	188	China	20	China	854
India	3242	Costa Rica	26936	France	3	Ecuador	19405
Indonesia	2	Ecuador	30884	Germany	19	India	10162
Jordan	1	India	11205	India	1412	Malaysia	39
Malaysia	82	Malaysia	301	Italy	260	Mozambique	7538
Oman	81	Philippines	189732	Oman	16	Philippines	237521
Philippines	122441	Sri Lanka	2760	Philippines	11866	Turkey	74388
Qatar	39	Yemen	45188	Saudi Arabia	105	UAE	311483
Spain	20			South Africa	16		
Sri Lanka	803			Spain	24		
				USA	96		

Source: FAO/STAT.

### Prices

The WPI for Banana has registered gradual increase over time relative to the patterns in the case of onion and potato (Figure IV.21). However, with stagnating Banana yields there is an upward pressure on prices. Banana is available in India round the year. Arrivals start increasing from April and reach a peak during the August to October period<sup>7</sup>. Prices showed an increase in the summer months in 2011 and 2012, reflecting unfavourable production conditions. In both years prices declined a little in September and October and have increased in November. Prices are usually low in September–October that corresponds with higher arrivals during the peak harvesting period in a few growing states like Bihar and West Bengal. However, following the seasonal pattern that shows moderation from December to March and relatively high prices from May to November, prices can be expected to decline in the next 2-3 months.

**Figure IV.21: Wholesale Price Index of Banana**

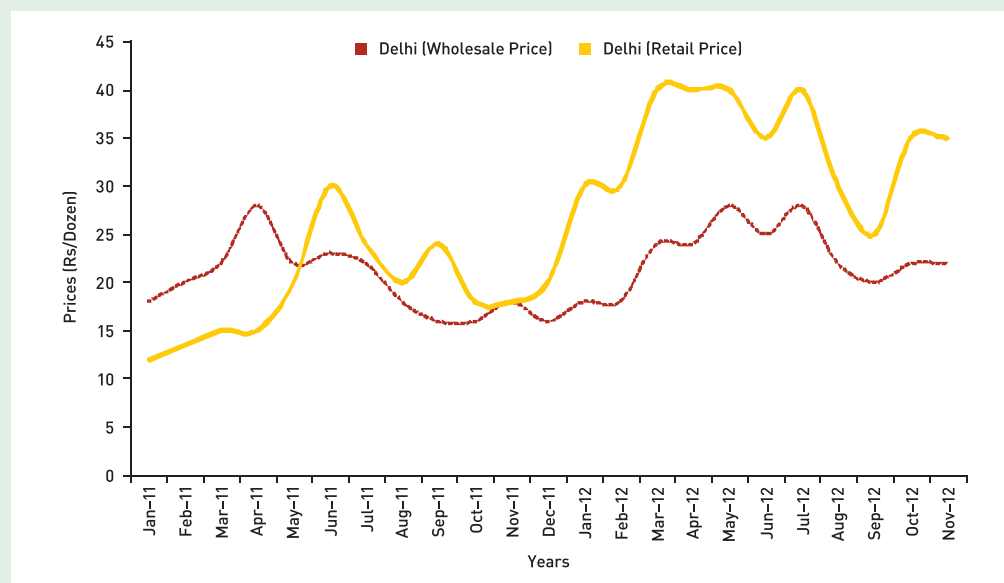


Source: Office of Economic Adviser, Govt. of India.

7. <http://agriexchange.apeda.gov.in/Market%20Profile/MOA/Product/Banana.pdf>.

The pattern of retail and wholesale prices of Bananas in Delhi show them to be moving in a similar pattern especially over the months of 2012, although retail prices are more volatile than wholesale prices (Figure IV.22).

**Figure IV.22: Wholesale and Retail Prices of Banana in Delhi (Rs/Dozen)**



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

Retail and wholesale prices of Bananas have increased in Delhi, while in Chennai which is close to the producing centres in Tamil Nadu, the percentage change has been relatively less (Table IV.24). In both places retail prices have increased much more than the change in wholesale prices.

**Table IV.24: Monthly Wholesale and Retail Prices (Rs/Quintal)**

Metros	Wholesale Prices			Retail Prices		
	Nov 2011	Nov 2012	% Change	Nov 2011	Nov 2012	% Change
Delhi	18	21.96	22.00	18	35	94.44
Chennai	30	36.13	20.43	15	26	73.33

Source: Data from Ministry of Agriculture.

### Outlook

Production is projected to increase in 2012–13 to 31.9 million tonnes from an estimated 31.2 million tonnes in the previous year. Although overall monsoon conditions were not favourable to the crop, the trend increase in area is expected to drive output growth. Demand for Banana in the domestic market and also for exports is strong. However, stagnation in yields over the years may lead to supply-demand imbalances, given the growing demand for land by other crops also.

## IV.10 Milk

The dairy industry in India has taken rapid strides during the last two decades. India's milk production is anticipated to have reached 127.3 million tonnes during 2011–12. Today, India is the world's largest producer and also the largest consumer of milk. It produces about 15 per cent of the total world milk production. Milk and milk products are emerging as an important source of nutritional security. Increasing urbanisation, growing purchasing

**Production is projected to increase in 2012–13 to 31.9 million tonnes from an estimated 31.2 million tonnes in the previous year. Although overall monsoon conditions were not favourable to the crop, the trend increase in area is expected to drive output growth.**

**The growth rate witnessed during the first two years of tenth plan was much below the average for the plan period indicating severe fodder shortage due to drought in many parts of the country during 2002–03.**

power and general health awareness have led to the rapid changes in the consumption pattern for dairy products. The demand is growing for safe nutritious, and health promoting convenience milk products.

### **Production Trends**

The milk production has been estimated at 127.3 million tonnes at the end of 11th Five Year Plan (2011–2012) as compared to 102.6 million tonnes at the end of the 10th Plan (2006–2007) (Table IV.25). The average annual rate of growth of milk production has been around 4.41 per cent during the 11th Five Year Plan (2007–2012) as compared to 3.99 per cent during the 10th Plan (2002–2007) more than twice the population growth rate. The growth rate witnessed during the first two years of tenth plan was much below the average for the plan period indicating severe fodder shortage due to drought in many parts of the country during 2002–03. Similarly, lower growth rate witnessed during the second and third year of Eleventh plan is also related to the shortage of fodder due to floods in 2008–09 and drought in many parts of the country during 2009–10. Relatively weak monsoon hampers availability of key inputs such as green fodder and water affecting yields.

**Table IV.25: Milk Production & Growth in India**

Year	Production (Million Tonnes)	Growth rate (% yoy)	Per Capita Availability (gms /day)	Growth rate (% yoy)
2001–02	84.4	-	222	-
2002–03	86.2	2.13	224	0.90
2003–04	88.1	2.20	225	0.45
2004–05	92.5	4.99	233	3.56
2005–06	97.1	4.97	241	3.43
2006–07	102.6	5.66	251	4.15
2002–07	-	3.99	-	2.50
2007–08	107.9	5.17	260	3.59
2008–09	112.2	3.99	266	2.31
2009–10	116.4	3.74	273	2.63
2010–11	121.8	4.64	281	2.93
2011–12*	127.3	4.52	289	2.85
2007–12	-	4.41	-	2.86

\* Anticipated production and derived availability figures based on growth of availability in 2010–11 over the previous year.  
**Source:** Department of AHD&F, GoI and projected availability as above.

Uttar Pradesh has the pre-eminent position in milk production (17.3 per cent) followed by Rajasthan (10.9 per cent) and Andhra Pradesh (9.2 per cent) in the country (Table IV.26). Ten major milk producing States contribute over 81 per cent of the total milk production in the country. For sustaining overall growth in milk production states have to address constraints and focus on policies and programmes which will help sustain overall growth in milk production.



**Table IV.26: Share of top 10 states in milk production during 2008-09 – 2010-2011 ('000 tonnes)**

S. No.	State	2008-09	2009-10	2010-11
1.	Uttar Pradesh	19.5 (17.4)	20.2 (17.4)	21.0 (17.3)
2.	Rajasthan	11.9 (10.6)	12.3 (10.6)	13.2 (10.9)
3.	Andhra Pradesh	9.6 (8.5)	10.4 (9.0)	11.2 (9.2)
4.	Punjab	9.4 (8.4)	9.4 (8.1)	9.4 (7.7)
5.	Gujarat	8.4 (7.5)	8.8 (7.6)	9.3 (7.7)
6.	Maharashtra	7.5 (6.6)	7.7 (6.6)	8.0 (6.6)
7.	Madhya Pradesh	6.9 (6.1)	7.2 (6.2)	7.5 (6.2)
8.	Tamil Nadu	6.7 (5.9)	6.8 (5.8)	6.8 (5.6)
9.	Bihar	5.9 (5.3)	6.1 (5.3)	6.5 (5.4)
10.	Haryana	5.7 (5.1)	6.0 (5.2)	6.3 (5.1)
	Others	20.7 (18.5)	21.5 (18.4)	22.5 (18.4)
	All India	112.2 (100.0)	116.4 (100.0)	121.8 (100.0)

**Source:** Based on data from Department of AHD&F, Govt.  
(Figures in brackets indicate % to total)

India, despite being the largest milk producing country, the productivity of its milch animals is one of the lowest in the world. Differences in productivity are also large. Milk yield per milch animal is higher in the case of crossbred cows and lower in Indigenous/ non descriptive cows. Milk yield per milch animal of buffaloes is higher than indigenous/ non descriptive cows but lower than crossbred/ exotic cows. Punjab, Gujarat and Haryana with an yield rate of 10.95, 8.57 and 7.58 kg./day lead the country in the case of crossbred/ exotic cows whereas Punjab, Haryana and Rajasthan lead the country in the case of indigenous/ non descriptive cows and buffaloes (Table IV.27).

**Table IV.27: Estimates of yield rates of Crossbred/ exotic breed Cows, Indigenous/ non descriptive cows and Buffaloes in Ten major milk producing States in 2010-11 (Kg./day)**

S. No.	State/ UT	Crossbred/ Exotic Cows	Indigenous/ non descriptive cows	Buffaloes
1.	Uttar Pradesh	7.07	2.56	4.43
2.	Rajasthan	7.53	3.77	5.20
3.	Andhra Pradesh	7.26	1.92	4.05
4.	Punjab	10.95	6.50	8.59
5.	Gujarat	8.57	3.75	4.58
6.	Maharashtra	6.62	1.70	3.93
7.	Madhya Pradesh	6.32	1.89	3.56
8.	Tamil Nadu	6.39	2.52	4.04
9.	Bihar	6.16	2.85	3.92
10.	Haryana	7.58	4.77	6.87

**Source:** Department of AHD&F, Govt.

Milk & milk products have a major share in the value of output from agriculture and allied sectors with the sub-sectors' contribution ranging between 19-20 per cent at current and constant prices (Table IV.28).



**Table IV.28: Value of output of Agriculture & allied sectors and Milk & Milk Products (Rs crores)**

Year	Agriculture & allied sectors		Milk & Milk Products		% contribution of milk & milk products in the value of output of Agr. & Allied products.	
	at current prices	at constant prices (2004-05)	at current prices	at constant prices (2004-05)	at current prices	at constant prices (2004-05)
2008-09	1049121	742613	1,94,993	147832	18.59	19.91
2009-10	1199744	752088	2,27,652	153300	18.98	20.38
2010-11	1416441	816818	2,62,215	160424	18.51	19.64

Source: National Accounts Statistics-2012, CSO, Gol.

### Consumption and Price

Organised sector plays dominant role in the production and marketing of milk in the country. The average daily milk procurement by producer cooperatives has gone up from 9.7 million litres per day during 1990-91 to 20.72 million litres per day during 2007-08 and further to 27.96 million litres per day during 2010-11. Likewise average milk marketing by cooperatives in India has gone up from 8.05 million litres per day during 1990-91 to 21.99 million litres per day during 2010-11. Dairy Cooperatives now market milk in all metros, major cities and more than 2000 towns/cities in the country. However, as a ratio to milk produced, the milk procurement by dairy cooperatives is below 10 per cent.

Milk procurement by organised sector increases during the months of November to March with the onset of winter, when the availability of green fodder rises, and procurement decreases during the months of April to October, the summer months as availability of green fodder is reduced. Farmers need to ensure improved availability of green fodder during summer months (Table IV.29).

**Table IV.29: Month/ Year-wise average milk procurement by the dairy cooperative during 2008-2012**

Sl.No.	Month	Av. Milk Procurement (Lakh Kg. per day)				
		2008	2009	2010	2011	2012
1.	Jan	230.00	285.49	282.34	297.49	337.56
2.	Feb	207.00	276.78	284.96	301.04	347.73
3.	Mar	222.00	271.18	262.42	291.32	347.70
4.	Apr	202.54	272.24	258.76	269.96	316.32
5.	May	190.07	239.37	252.62	270.21	322.22
6.	June	188.89	234.34	238.94	255.92	299.12
7.	July	205.68	211.25	240.75	258.37	298.90
8.	Aug.	189.48	208.87	199.54	254.24	294.95
9.	Sept.	195.73	210.09	197.49	262.50	299.58
10.	Oct.	198.60	224.09	211.72	264.37	301.23
11.	Nov.	206.00	270.11	271.03	313.18	345.06
12.	Dec	250.00	275.32	295.40	316.76	
	Average per month	207.17	248.26	249.66	279.61	319.12

Source: National Accounts Statistics-2012, CSO, GOI.

In India, about 2/3 of the total milk produced is consumed in liquid form but the situation is changing fast. There is a growing demand for safe, nutritious, health promoting convenience milk products. The continuing low economic growth momentum at the global level, India's own slow GDP growth, poor monsoon and inflationary pressure have an impact on consumption pattern. Consumers seem to have reduced spending particularly on the value added milk products resulting in reduced off- take by the organised dairy

The average daily milk procurement by producer cooperatives has gone up from 9.7 million litres per day during 1990-91 to 20.72 million litres per day during 2007-08 and further to 27.96 million litres per day during 2010-11.

sector. On the supply side, farmers may have tried to sell more milk to supplement their reduced crop income as the monsoon brought erratic rains. The increased prices offered by organised dairies to the farmers during 2011–12 and in the first quarter of 2012–13 have reflected these pressures on supply-demand balance.

These developments have resulted in surplus milk output in the present situation. Consumer has not benefitted as the retail prices have not come down. Some of the pressure of lower demand may have affected price offered by the unorganised sector to the producers. Wholesale prices that prevailed in four metros of Calcutta, Chennai, Delhi and Mumbai ranged between Rs 27–34 per kg. in 2011 and between Rs 28–36 in 2012 while retail prices ranged between Rs 35–42 per kg in 2011 and between Rs 35–44 in 2012 for the whole milk. Private organised sector and cooperatives would need to improve production and marketing efficiency if the producer price is to be protected and consumption demand is to be supported.

### *International Trade*

The dairy industry is regulated in most of the countries. Imports are commonly restricted and exports are frequently subsidised. Nonetheless the competitive advantages of the Indian dairy industry are considered to be substantial. Considering the surplus availability of milk, the Government has recently (November '12) lifted the ban on export of whole milk powder (WMP), dairy whitener, infant milk foods and other milk products till March 2013. Earlier during the year, export ban on casein was lifted in April and SMP in June 2012.

The increased milk production globally has led to moderation in the prices of dairy products in the international markets during the first half of 2012–13. From a mid-year low of 173 points, the FAO's dairy price index has registered 22 points increase in November 2012. The increases since August stemmed from supply uncertainty, combined with steady world demand. However, prevailing adequate supplies, as a result of output growth in some exporting countries, have led prices to stabilise. The efforts to improve productivity and achieve competitiveness would be critical to the dairy sector in India in the coming years.

### *Assessment*

In spite of significantly lower than normal rainfall during current monsoon period, procurement of milk by organised sector during the summer months of 2012–13 has improved as compared to the same months of the previous years and there is a situation of surplus milk availability at present. Milk procurement by cooperatives and the organised private sector in 2012–13 is estimated to rise by around 5 per cent over the previous year. We retain the projected growth of milk production in 2012–13 at 3.5 to 3.75 per cent as provided in the September 2012 report. There will be pressure on prices both for procurement and on consumer prices in the short period ahead.

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## PART V

# Conclusions

The overall economic growth remained subdued in the second quarter of the year, with the industrial output continuing to remain stagnant throughout the first half of 2012–13. The agricultural output in the kharif season was also adversely affected by deficient rainfall in the first two months of the monsoon period of June–September. The global economic growth was registering a slow recovery. The high rate of overall inflation and particularly food inflation witnessed during 2011 and much of 2012 has remained a policy concern and the need to rebalance agriculture's production mix and raise productivity of agriculture is evident.

The weather conditions for the rabi season have turned out to be favourable although post monsoon rainfall from October to December has been less than normal. The rainfall, however, is higher than last year. The area sown under wheat and mustard, two main rabi crops has exceeded last year's area upto late December. However, in the case of rice, the growing conditions are not favourable especially because of inadequate irrigation. Even as the MSP alone does not determine crop output, its impact cannot be overlooked. The higher MSP for the rabi crops including wheat have retained the economic incentives to the farmers even as the price of diesel has increased. The MSPs for the rabi crops have sought to raise the price incentives for pulses and oilseeds relative to wheat.

The global scenario for the food commodities in 2012–13 has been influenced by the inclement weather conditions in US and Europe. The wheat crop is estimated to be lower in 2012–13 than in the previous year by 6 per cent. The coarse grains are also estimated to be lower mainly because of the lower maize production in the US which was affected by drought. The output of oilseeds is has been projected to be favourable in 2012–13 by agencies such as FAO, USDA and ABARES. In the case of rice also, the overall world production is expected to be maintained in 2012–13 at the level of the previous year.

World production of rice, edible oils, sugar and milk is projected to match the levels of 2011–12 or increase moderately. In the case of pulses, a commodity imported by India in large quantities, production in exporting countries such as Canada and Australia is expected to be better than in the previous year.

There is contrasting production performance between India and at the global level in the case of wheat, rice and sugarcane/ sugar presenting policy challenges and opportunities. The accumulated large stocks of wheat and rice may find export markets. In the case of sugar, while India's sugar output in 2012–13 is projected to decline from 2011–12, the opportunity for reducing large carry over stock has diminished because of plentiful global supplies.

The prices of food commodities in the internal markets have shown divergent trends reflecting the supply-demand imbalances. In the case of wheat and maize, prices have strengthened in the October–December quarter reflecting expectations of lower production. The edible oil prices showed decline on the back of improved production conditions and large carryover stocks from the previous year. Rice prices have remained stable as supplies are assured by large carryover stocks. Similarly, international sugar prices



**The high rate of overall inflation and particularly food inflation witnessed during 2011 and much of 2012 has remained a policy concern and the need to rebalance agriculture's production mix and raise productivity of agriculture is evident.**

**The global scenario for the food commodities in 2012–13 has been influenced by the inclement weather conditions in US and Europe.**



**The supply-demand imbalance due to the decline in overall production of foodgrain has been moderated by the large carryover stocks in rice and wheat. However, the price scenario remains a concern.**

also show a declining trend in the recent months.

The outlook for domestic supplies is characterised by strong sowing data for the rabi crops. In the case of wheat, we are projecting an output of 92.5 million tonnes which is short by just 1.4 million tonnes from the record production of 93.9 million tonnes. In the case of rapeseed and mustard, production is projected to exceed 2011–12 harvest of 6.8 million tonnes by 0.7 million tonnes.

However, in comparison to the 2011–12 harvest of total foodgrain of 257.4 million tonnes, the total production is projected to be lower at 245.5 million tonnes as a result of decline in rice from 104.3 million tonnes in 2011–12 to 99 million tonnes, coarse grains from 42 million tonnes to 37 million tonnes.

In the case of pulses, production is projected to remain at about the same level as last year, at 17 million tonnes as compared to 17.5 million tonnes in 2011–12.

The shortfall in groundnut is expected to be offset by gains in rapeseed and mustard as soybean production is expected to be maintained at the 2011–12 level. The output of 9 major oilseeds is projected at 31 million tonnes as compared to the production of 30 million tonnes in 2011–12.

In the case of sugarcane, production is projected to be 333.5–336 million tonnes as compared to 357.7 million tonnes in 2011–12.

Production of selected vegetable and fruit crops, potato, onion and banana is expected to remain unchanged or increase marginally in 2012–13 as compared to 2011–12. Milk production is projected to increase by 3.5 per cent over 2011–12, reaching 131.8 million tonnes.

The supply-demand imbalance due to the decline in overall production of foodgrain has been moderated by the large carryover stocks in rice and wheat. However, the price scenario remains a concern.

Our projections based on wholesale prices suggest that the overall food sector WPI-composite of food articles and food products- will continue to show year on year increase of 9.5 percent upto February 2013. Extending the projections at the commodity level, we project an increase in the prices of what and rice at the current growth trends upto March 2013, the rice prices rising at less than 10 per cent but wheat prices at higher rate of 20 per cent over the previous year. With the rabi crop harvest in April–May, wheat prices are expected to show a decline in growth. In terms of increase over the previous year, the high rates are expected to prevail in the case of pulses and sugar although the prices are expected to show decline as compared to the present levels in the short term. In the case of potato, prices are expected to show lower rate of increase by April 2013 and in the case of onion, prices may see an increased price trend by March–April 2013. The edible oil prices would be influenced by the import prices which are expected to remain steady.

The weak and delayed monsoon this year has had an adverse impact on the overall production of foodgrain. When we compare the output projections for 2012–13 with some of the earlier drought years, the performance appears to be quite resilient. The large stocks of rice and wheat with the government have ensured supply of critical cereals. However, to ensure moderation of the price trends, supply of commodities into the market would also be necessary.



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