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Quarterly Agricultural Outlook Report April-June 2012

NCAER

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Agricultural Outlook and Situation Analysis Reports

Quarterly Agricultural Outlook Report
April-June 2012

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

June, 2012

Prepared by

National Council of Applied Economic Research

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Preface

Indian agriculture is facing a new set of challenges. The growth of the economy leading to rise in average incomes together with the globalisation of agricultural markets has increased consumer demand for a diversified food basket. Farmers need to be in a position to respond to these challenges by taking into account the factors that affect costs and prices of their produce.

Monitoring the ever changing conditions in the agriculture sector is important for designing and fine tuning policy measures for the benefit of the farmers. While information is generally available capturing the past developments in the sector, systematic and regular forward looking assessment are still not available to farmers, students and policy makers. With this in view, the Ministry has commissioned NCAER to undertake a a study on preparing quarterly and semi-annual reports on agricultural outlook. It is a matter of pleasure that other international agencies such as FAO are collaborating in this effort.

It is extremely heartening to note that the first Quarterly Agricultural Outlook Report is now ready. This is the first report in this series and will inevitably suffer from various lacunae and shortcomings. Suggestions for improving the report will be greatly appreciated.

Secretary

Department of Agriculture and Cooperation

Ministry of Agriculture

Foreword

Agriculture continues to be critical to India's economy given its role in meeting the needs of food and fibre for over a billion people and providing livelihoods to millions of households in the rural areas. India is a major producer and consumer of several basic food commodities. The challenge is to meet the diversified and increased demand for food commodities as a result of the changing dietary preferences of the population. Imports meet a substantial share of the consumption of edible oils and pulses. Several efforts are under way to achieve the diversification of agricultural output in order to raise the incomes of the producers and improve the sustainability of production systems. At the same time, there is also the need to achieve food security. The food inflation of the last two years has highlighted the need to watch the imbalances in supply and demand not just of food grains, but also of fruits, vegetable and milk, and both in the short and longer runs.

NCAER is very privileged to have been asked by the Ministry of Agriculture to undertake a 3-year study to prepare quarterly and semi-annual reports on the agricultural outlook. The study has been commissioned by the National Food Security Mission to fill the gap in regular periodic assessments of agriculture with a focus on food commodities. This initiative of the Ministry is also expected to be strengthened by collaboration with FAO, to be supported by a grant from DFID. NCAER has been commissioned for Phase I of this grant.

This is the first of a series of periodic reports planned under this project. This Quarterly Agricultural Outlook provides an overview of agricultural trends globally and at the national level. It covers a wide range of commodities from rice, wheat, and coarse grains to potato, banana, and milk.

The work would not have been possible without the cooperation of several officials of the government and other stakeholders. I would like to express our gratitude to the Ministry of Agriculture for entrusting this task to NCAER. 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 cooperative network of researchers and other institutions in the course of the study to aid this task of monitoring developments in Indian agriculture. In ending, I would like to thank the NCAER team and its team leader, Dr Shashanka Bhide, Senior Research Counsellor, for the tremendous work going into this very timely effort and the support it is providing for policymaking.

New Delhi

June, 2012

Shekhar Shah

Director-General

Acknowledgements

The study team wishes to place on record the guidance, support and assistance received from a number of organisations and individuals. Mr P.K. Basu, former Secretary, Department of Agriculture and Cooperation provided critical support and encouragement to the study team from the very initial stages of this work. He presided over the first seven monthly briefings which set the framework for the study. Mr Mukesh Khullar, Joint Secretary (Crops) and Mission Director, NFSM has provided the inputs and guidance in all stages of the study. Dr Gangaiah, Adviser, Directorate of Economics and Statistics, Ministry of Agriculture, has participated in all the activities in the study as a Nodal Officer for the study from the Ministry. A number of officials from the Ministry and DES have provided data, opportunities for interaction and guidance in the course of the study. In addition, Dr Ashok Gulati (CACP), Prof. Ramesh Chand (NCAP), Mrs S. Bhavani (Ministry of Agriculture), Prof. Mahendra Dev (IGIDR), Dr Shekhar Shah (NCAER) as members of the Advisory Committee and Dr Peter Kenmore (FAO), and Ms Liz Drake (DFID) as Special Invitees to the Advisory Committee have provided advice and guidance on a number of occasions in the course of the study. The Technical Support Group (TSG) set up for the study has included a number of officials and also other experts. Interactions with the TSG members have been of great value to the study team.

The report has utilised a number of sources of information. Reports of USDA, FAO and Department of Agriculture and Cooperation have been major sources of data and information for the report. We have noted the specific references used for our assessment of outlook in the report. Reports of Agriwatch have also been referred in our work. The study team benefited from the responses received from a few trade/industry sources to a questionnaire that was circulated.

A number of experts made presentations in the monthly briefings during the period of November 2011 to May 2012. We acknowledge their support as they shared their experience and knowledge on different aspects of assessment of agricultural outlook.

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Context for the Study

I.1 Introduction, Scope and Objectives

The need for monitoring and analysis of the 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. There is a wide range of information available on the supply and demand for the output of agriculture and various factors that have a bearing on agricultural sector. Management of agriculture from a public policy perspective requires organization of this information and analysis as inputs to policy making.

In the advanced countries such as the OECD (Organisation for Economic Corporation and Development) members, there are periodic and regular assessments of agriculture in their economies that provide information not only on the domestic markets but also international markets. The FAO provides an assessment at the global level on a regular basis. FAO-OECD collaborative effort also provides longer term assessments of the emerging global scenarios based on models of agriculture.

For India, the regular periodic assessments of agricultural outlook are not available on a systematic basis. The quarterly macroeconomic reviews provided by the Reserve Bank of India and the periodic assessments by the Economic Advisory Council provide a review of the major sectors of the economy including agriculture. The "State of Indian Agriculture Report" by the Ministry of Agriculture provides a comprehensive review of agricultute. A few independent agencies also provide periodic assessment of the sector's output and prices. But, the coverage is often at the aggregate level and not focused on the food sector.

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) 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). Milk is also considered in the analysis.

Management of agriculture from a public policy perspective requires organisation of information and analysis as inputs to policy making.

I.2 Activities and Objectives

The study aims to cover the following activities:

- To present an analysis of the prevailing scenario for Indian agriculture on regular and periodic basis through quarterly and semi-annual reports.

The final goals of policy would be improvement and stability of producer and consumer welfare so that farm incomes are adequate and adequate supply of food is available to the consumers at affordable prices.

- To provide a briefing on the prevailing conditions affecting agriculture to both officials in the Ministry of Agriculture and also other stake-holders including state level participants at periodic intervals.
- In both the cases above, to address one or two selected specific issues for more intensive analysis.

These activities will be based on:

- Organisation of information available from various official sources on production conditions such as input availability (seeds, fertilizers, pesticides, energy, equipment), input prices, rainfall, water availability in reservoirs/ ground water sources, credit and pest control; output prices in the wholesale and retail markets; supplies and prices in the international markets; storage and distribution conditions for output.
- Integration of available information in an analytical framework so that the implications of emerging situation to the final goals of policy are discernible. The final goals of policy would be improvement and stability of producer and consumer welfare so that farm incomes are adequate and adequate supply of food is available to the consumers at affordable prices. Information is presently available from a variety of sources on the various aspects of agriculture.
- In some cases, the information may not be adequate. There will be a need to assess the adequacy of information and where necessary, to compile additional information to supplement existing sources of information. The information flow would be organised in terms of (a) inputs and production conditions; (b) output; (c) storage, distribution and market conditions; (d) international market conditions; (e) prices in the wholesale and retail levels and (f) farm income and consumption of food in the economy as a whole.
- Some of the information may be available at the district level and some at the state level. The study will aim to organise the information relevant for assessing the conditions influencing agricultural economy.
- Developing forecasts of agricultural output, prices, farm income and consumption of food at the national level initially to be expanded to the major regions or states. Models of the sector will be developed to understand the sector's performance under alternative conditions in the short-term and longer-term. Models will be developed to assess the impact of various policy scenarios on resources use and output in agriculture across regions in the country. This analysis will be carried out after identifying the key variables of interest or policy assessment, a review of models available globally and adopting them to reflect the conditions of Indian agriculture and economy. FAO, OECD and other models will be examined.
- Continuing dialogue with the Ministry to identify issues of policy concern and how the available data and models can provide insights into these issues.

I.3 Output of the Study

The three main outputs of the proposed work will be:

- A Quarterly Agricultural Situation 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. The key indicators will be specified after discussion with the Ministry.

- 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.
- Monthly briefings on the prevailing agricultural conditions.

The reports will be provided at specified intervals in electronic copies. A limited number of hard copies of the reports may also be made available to the Ministry.

I.4 Approach

I.4.1 Integration of available information

The proposed work involves systematic accessing of relevant information on agriculture from official sources and also other relevant data sources, including international information, integration of the data for the quarterly Agricultural Outlook Reports and semi-annual Agricultural Situation Analysis Reports noted earlier.

There is a vast range of information on variables relevant for agricultural policies now available. The information ranges from weather conditions, pest conditions, water, crop sowing activity, input usage, credit, standing crop status, yields, market supplies at the wholesale level, prices, international trade, grain procurement by the government agencies, Public Distribution System (PDS), and consumption. Information may be available at the district, state, national, and international level.

It is necessary to identify the key sets of information that is important for monitoring. In some cases the information is available with considerable lag. We will use existing sources of data wherever possible. In case data are needed and not available in the relevant time frame, supplementary alternative sources of data may have to be identified and where possible pursued.

The study will focus on compiling a data base that is relevant for the analysis of outlook and modeling of alternative scenarios for agricultural production.

I.4.2 Collection of additional supplementary information

Where necessary and feasible, we will obtain supplementary information. We will examine the potential for using the existing NFSM machinery at the district level for compiling this supplementary data.

I.4.3 Development of models for forecasts and scenario analysis

The study will focus on developing short-term and longer-term forecasts for agriculture, particularly the production aspects. A number of other factors would also have to be modeled to develop the scenarios for production.

As we noted earlier, we will examine the other modeling efforts for agriculture and adopt the one that is most suitable for evaluating alternative policies for agriculture.

Models that can incorporate some regional level details will be necessary given the diversity of farm conditions in the country. The modeling effort will be prioritized based on discussions with the Ministry.

I.5 Capacity Building and Knowledge Partnerships

The study will require collaboration with the Ministry of Agriculture and several other institutions and experts in the government and the private sector.

Capacity building will also be in the context of information technology for data collection, storage, retrieval, processing and dissemination. The study will attempt to initiate steps to achieve these goals.

Food and Agriculture Organisation (FAO) will be collaborating with NCAER supporting the technical aspects of supplementary data collection and in the development of the models by bringing international expertise to support the work. This component of the work will also be supported by a grant from Department for International Development (DFID), UK to FAO.

As we noted earlier, the study requires close collaboration between the researchers and the Ministry. The identification of key variables for analysis, issues for analysis, data sources and insights based on experience will be areas for close cooperation. This will be a knowledge partnership for the study team and the Ministry.

The study team at NCAER will also attempt to build collaborations with other expert institutions to improve the inputs emerging from the study for policy analysis.

The monthly briefings, quarterly and semi-annual reports will attempt to meet the emerging needs of policy.

These forums will also be expanded to include other researchers and other stakeholders as the study progresses. Wherever other analysis is available, we will make use of the same.

The activities under the study will also develop a website that focuses on agricultural outlook. The attempt will be to focus on emerging scenarios of output and availability of food items in the economy.

I.6 Conduct of 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. Bhawani, Principal Adviser, Ministry of Agriculture. Representatives from FAO and DFID are Special Invitees to the Committee.

Dr B. Gangaiah, Adviser, Directorate of Economics and Statistics, Ministry of Agriculture has been nominated by the Ministry as the Nodal Officer for the study.

In addition, a Technical Support Group comprising of key officers from different departments of the government and experts will also interact with the study team to improve the work under the study.

I.7 About this Report

This report is the first Quarterly Report on Agricultural Outlook under the present study. It focuses on the short-term prospects for Indian food sector covering selected major food commodities.

As this is the first report in the series of Quarterly Agricultural Outlook Reports that are planned under this project, we also provide an analysis of longer-term trends in output to provide the context for the short-term assessment.

In chapter II, we provide an overview of the emerging scenario with respect to output and prices of the selected food commodities. In Chapter III, we provide more detailed discussion of the global conditions on food sector based on available assessments by the international agencies. Chapter IV, presents a discussion of the general situation and outlook for domestic food economy. In Chapter V, we cover commodity level analysis for the commodities selected in this study.

The final chapter provides a brief summary of the recent trends and emerging scenarios of the food economy and concluding observations based on the analysis in the report.

PART II

Overview of Agricultural Outlook

II.1 Backdrop

The overall outlook for the economy is becoming increasingly affected by the global economic uncertainties. The assessment of the economy by RBI in April 2012 did point to the uncertainties faced in the euro zone which now appear to be growing. The projections of global prospects of output growth for 2012 by International Monetary Fund (IMF) are only moderately better than in the previous year. The crude oil prices, however, remain high because of geo-political uncertainties. This source of supply side inflation will continue to affect economic conditions globally and also in India. Given these projections of moderate economic activity combined with firm energy prices, international trade in agricultural commodities at a global level may not see significant increase. However, country specific price and output conditions will have greater impact on the pattern of international trade for each country.

The supply conditions for the major food commodities remained fairly stable in 2011–12. After the high rates of food inflation as reflected in the annual rise in the FAO's Food Price Index in real terms during July 2010– September 2011, price rise has moderated, and since December 2011, the FAO Food Price Index has shown a decline relative to its level in the same period during the previous year. However, the financial market uncertainties remain significant.

These global uncertainties combined with domestic business conditions have led to large exchange rate fluctuations and the Indian rupee saw depreciation from Rs 44.4 per US dollar at the end of July 2011 to Rs 52.6 per US dollar at the end of December 2011. Rupee then hovered between 50 and 51 till the end of March but, slumped to Rs 54 per US dollar by mid-May, 2012 and Rs 57 per US dollar by June 22, 2012. These fluctuations have added to the uncertainties emanating from the international economic conditions as they are transmitted to prices in the domestic markets.

After a poor performance in 2009–10 due to widespread drought caused by erratic monsoon rains in 2009, India's food sector registered a robust growth in 2010–11 and 2011–12, when production of most major crops such as rice, wheat, pulses, and oilseeds climbed to record levels.

Total foodgrain output in 2011–12 is now estimated at 252.56 million tonnes of which kharif harvest is 129.37 million tonnes. There was also a significant increase in the production of sugarcane, which reached 351 million tonnes in 2011–12, the highest since 2006–07 when it had touched 355.5 million tonnes.

However, production of coarse grains, pulses and oilseeds did not see increase in output in 2011–12. Pulses output was lower as per estimates in 2011–12, as compared to the previous year in both kharif and rabi seasons. However, there are indications now that summer pulses may offset this drop in output of rabi pulses. Production of coarse grains was also lower in 2011–12 as compared to 2010–11 in both rabi and kharif. In the case of

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groundnut, soybean and rapeseed mustard, output in 2011–12 was lower than in 2010–11.

The reasons for the lower output in the case of coarse grains, pulses and oilseeds include reduction in the area under these crops indicating competition for land across crops and also lower yields as the crops get pushed into less productive lands. Sustaining production levels in the case of coarse grains, pulses and oilseeds will require both improved productivity and economic incentives as we go forward.

The record or near record levels of output of rice, wheat, and sugarcane have also led to accumulation of stocks to high levels. The stocks of foodgrain with the government reached 82.4 million tonnes on June 1, 2012 as compared to the stocks of 65.6 million tonnes on June 1, 2011. While the requirement of public distribution system may increase as per the national food security initiatives, for the present the large food stocks are a challenge to the food distribution system.

The next three months of the year represent the beginning of the sowing and planting season for the kharif crop of the year. More than half of the annual foodgrain area would be sown in this season and so would be oilseeds and many other crops. Much of this cultivation is also rainfed. In this sense, the quantum and distribution of rainfall during the monsoon season of June–September would be critical to the output performance of agriculture in kharif.

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II.2 An Overview of Global Food Outlook

The global production and price assessment available from the major international and national agencies indicates fairly comfortable situation with respect to output. In the case of wheat although there is an expected significant shortfall in production in 2012–13 as compared to 2011–12, the level of production combined with carryover stocks remains adequate for meeting consumption requirements. Prices are expected to remain at moderate levels.

In the case of rice the situation again points to comfortable levels of output and moderate or declining trend in prices.

In the case of maize and coarse grains as a whole, production is expected to increase but prices are expected to be firm because of strong demand from feed industry.

The pulses production estimates are available for only a few exporting countries. The estimates point to increased production and likely moderate price conditions. However, the exchange rate volatility will have an impact on the price of imported pulses in the domestic market.

Although initial assessment of the oilseed and oils output position provided indications of a stable environment, some uncertainty has remained. As a consequence, prices have begun to firm up. The exchange rate situation has also meant that domestic prices may be affected by the global conditions more than projected earlier. With an expected larger production in 2012–13, prices are expected to weaken.

In the case of sugar, supplies have been comfortable and prices are declining.

While the trends do not have significant implications to domestic price environment, FAO's global dairy and meat price indices have shown a declining trend in the current year.

II.3 Factors Influencing Kharif Output of the Food Sector

Production of kharif season crops, which include mostly rice, coarse grains, pulses, groundnut, soybeans and sugarcane, are not well irrigated (with the exception of sugarcane), will largely depend on the performance of the 2012 south-west monsoon rains.

The Indian Meteorology Department (IMD) issued its first long range forecast of the south-west monsoon rainfall for 2012 on April 22, 2012. This forecast has stated that the predicted probability of a normal rainfall, 96 to 104 per cent of the long term average rainfall, is 47 per cent. The probability of less than normal rainfall is greater than the probability of above normal rainfall. The second stage forecast of monsoon rainfall in 2012 issued by IMD on June 22, 2012 has indicated that the probability of normal rainfall is lower at 42 per cent. The actual rainfall from June 1 to June 20, 2012 is 26 per cent below normal. Even taking the +/- 19 per cent of the LPA as being 'normal', very few regions have received normal rainfall during June 1 to June 20: Coastal Karnataka, Konkan and Goa on the west coast, coastal Andhra Pradesh and Telengana, eastern M.P. and the north-east.

The projected monsoon conditions have differed across agencies. The Pune-based Indian Institute of Tropical Meteorology (IITM) predicted the south-west monsoon in 2012 would be above average. As per the seasonal forecasts issued by the Frontier Research Institute, Japan in February 2012, India is expected to experience below normal rainfall during the coming monsoon season. Other international Weather Agencies forecasting below normal monsoon include UK Meteorological Office, Regional Institute for Global Change, Tokyo, International Research Institute for Climate and Society, Columbia University, and European Centre for Medium-Range Weather Forecasts. However, forecasts from the US National Centre for Environmental Predictions-Climate Forecasting Centre forecasts above normal rainfall during the monsoon season.

It should also be noted that it is not just the total rainfall during the season that affects agricultural output but also the distribution of rainfall during the season and across regions of the country. In this sense, projected impact of the monsoon on agricultural output based on a projection of total rainfall alone is only indicative.

We summarise the prevailing conditions relating to inputs with implications to crop production:

- Water levels in major reservoirs by end-May this year, although higher than the ten year average, are 18 percent below a year ago level, making a normal monsoon rains more critical for kharif season crops this year. The pre-monsoon rainfall has been deficient. There are areas in Maharashtra and Karnataka where the impact of inadequate rainfall has been reported on crop prospects. Expansion of irrigated area under major crops has been slow in the recent years. Better use of existing irrigation facilities is likely to be a more important source of productivity growth in the short-term.
- Input supply situation is reported to be generally satisfactory. The fertiliser consumption in terms of major nutrients is growing at about 5 per cent per year. Fertiliser prices in terms of WPI have increased by 13.5 per cent in 2011–12 over the previous year. The WPI of diesel (HSD) increased by 8.5 per cent in 2011–12 over the previous year. The increase in consumer prices by nearly 10 per cent during the year has meant significant increase in expenditures of farmers as consumers.
- These increases in input prices will require adequate increase in output prices to maintain income levels of the farmers. The minimum support prices are expected to

Production of kharif season crops, which include mostly rice, coarse grains, pulses, groundnut, soybeans and sugarcane, which are not well irrigated (with the exception of sugarcane), will largely depend on the performance of the 2012 southwest monsoon rains.

Expansion of irrigated area under major crops has been slow in the recent years. Better use of existing irrigation facilities is likely to be a more important source of productivity growth in the short term.

offset the increase in production costs to the extent that economic incentives for production are maintained. The Minimum Support Price (MSP) recommendations of Commission for Agricultural Crops and Prices (CACP) for kharif crops for 2012–13 have now been announced. The recommendations are to increase MSP for common varieties of paddy by 15.7 per cent over the MSP of 2011–12. Considering that the actual increase in MSP in 2011–12 kharif for common paddy was only 8 per cent, the present recommendation is significantly greater. In the case of coarse grains, the recommended increase is even higher than in the case of paddy. In the case of pulses, the recommended increase is 25–30 per cent. In the case of groundnut, sunflower and soyabean, the CACP has recommended increase in MSP by 32 to 37 per cent in 2012–13. Clearly, the recommendations aim to offset not only increase in costs but also provide incentives to production of pulses and edible oilseeds.

Significant shifts in crop area will require marketing support and technology improvements besides the price incentives. These points are important in the case of pulses, coarse grains and oilseeds.

- Significant shifts in crop area will require marketing support and technology improvements besides the price incentives. These points are important in the case of pulses, coarse grains, and oilseeds. No significant shift in rice acreage is expected under normal rainfall scenario. The hike in the support price of paddy this year would further discourage any shift in rice acreage to competing crops.
- Institutional credit for agriculture has expanded sharply in the last 5–6 years. The credit has increased from Rs 2.29 lakh crore in 2006–07 to Rs 4.68 lakh crore in 2011–12 and the target for 2012–13 is Rs 5.75 lakh crore. The crop loans of up to Rs 3 lakh are available at 4 per cent annual rate of interest to the farmers.
- Reports suggest that good quality seeds are available to meet the demand for the crops. The incidence of pests and diseases is also below the economic threshold level.
- A number of new initiatives of the government to enhance and protect agricultural production have been under implementation in the recent few years. Although no quantitative assessment of the contribution of these initiatives is available, their impact on output would also be a positive factor for the sector's performance. This aspect is reviewed further in the report.

The critical factor influencing crop output in kharif and in the subsequent rabi will be the rainfall in the monsoon season.

Kharif crop outlook for 2012–13

Production of kharif season crops, which include mostly rice, coarse grains, pulses, groundnut, soybeans and sugarcane, which are not well irrigated (with the exception of sugarcane), will largely depend on the performance of the 2012 southwest monsoon rains.

Based on analysis of recent trends and the impact of total rainfall we present a set of projections for the major kharif crops as follows (in million tonnes):

Rice	82.3–86.6
Maize	15.1–16.3
Bajra	8.1–9.8
Jowar	2.6–2.9
Other coarse grains	2.4–2.6
Pulses	5.5–6.2
Total Kharif foodgrains	116.0–124.4
Groundnut	4.7–5.8
Soybean	12.3–13.1
Sugarcane	347.2-356.2

The range for 2012 Kharif crops has been derived based on trend growth rate and the impact of deviation of rainfall from normal during the monsoon season. The lower limit of the range corresponds to rainfall 10 per cent below normal and the upper range with normal rainfall. The projections are derived based on a linear regression model with production as the dependent variable and a trend and deviation of rainfall from normal as the independent variables.

The projections are less than last year's kharif harvest even when rainfall is normal except in the case of maize, bajra, groundnut and soybean.

The output of rice in 2011–12 has been well above the trend growth even after accounting for the impact of rainfall in the monsoon season. In this sense, further expansion of output even with a normal monsoon will be harder to achieve.

These projections do not explicitly capture the impact of various program initiatives of the government or the price impetus through the MSP for kharif crops. However, we have also not taken into account the impact of the distribution of rainfall during the monsoon period or distribution across regions. To this extent there may be offsetting influences of the various policy measures on the one hand and the quality of the monsoon on the other.

Recent assessment by CMIE places overall foodgrain production in 2012–13 at a marginally higher level of 0.6 per cent above 2011–12. The overall assessment is one of more cautious outlook on output front in 2012–13.

II.4 Consumption, Stocks and Price Situation

Various rounds of household consumer expenditure survey by the government's National Sample Survey Organization (NSSO) show a declining trend in per capita wheat, rice, and pulse consumption over the past decade[1]. This is attributed to diversification of food consumption leading to an increased consumption of high value food products such as fruits, dairy products, meat, and processed food products, a reflection of rising income in the economy. Per capita consumption of vegetable oils and sugar also has registered a significant growth in recent years reflecting the increasing purchase power in the economy.

Despite a declining trend in the per capita consumption of cereals and pulses, total consumption is growing due to increasing population. The recent significant increase in rice, wheat and sugarcane production has been more than adequate to meet the annual consumption requirements of cereals and sugar this year and has led to the build up of large stocks with the government. However, there is a widening gap in the demand and domestic supply of pulses, vegetable oils, milk and milk products, and meat and meat products.

In the case of milk, the present production level of about 127 million tonnes is adequate to meet the requirements. However, production will have to increase in a sustained manner at the rate of 5–6 per cent or more to keep pace with demand.

To meet the supply demand gap, large imports would become necessary in the case of basic food items such as pulses and vegetable oils. In 2010–11, India imported 8 million tonnes of vegetable oils and 3 million tonnes of pulses.

Experience of the recent years suggests that India's requirement of pulses is 20–22 million tonnes and if the production is below 17 million tonnes import requirement will increase above 3 million tonnes. The vegetable oil requirement is about 16–17 million tonnes. About 50 per cent of the requirements are currently met by imports.

1. State of Indian Agriculture 2011–12 (Page 262-263) http://agricoop.nic.in/SIA111213312.pdf

In the case of sugar, the requirement is estimated at about 22 million tonnes. With adequate carryover stocks, production in excess of this requirement may require exports to prevent further accumulation of stocks.

Some of the recent spikes in the prices of pulses and edible oils may be related to the exchange rate volatility. The position with respect to global availability of these commodities appears to be stable.

Imports of vegetable oils and pulses are likely to continue in the foreseeable future unless more area is brought under pulses and oilseeds. As the government's tariff and sanitary restrictions do not permit significant imports of milk and meat products, their prices may continue to remain high.

The large build up of rice and wheat stocks and lack of adequate storage facilities have prompted the government to allow exports of wheat and rice since September 2011, after a gap of about three years. Although Indian low quality white rice (25 per cent broken) is at present competitive in the world market, which resulted in significant exports in 2011–12, estimated at 6 million tonnes and likely to lead to exports of 5-6 million tonnes in 2012–13, Indian wheat exports are less competitive. High global corn prices have helped India's exports of maize in 2011–12 and may also promote them in 2012–13.

India's headline wholesale price index-based year-on-year inflation for all commodities has eased falling to around 7 per cent in January 2012 from around 10 per cent during most of 2011 but moved to 7.5 per cent in May 2012. Food price inflation fell more sharply hitting the negative territory in January 2012 before inching upward to 6.1 per cent in February 2012, 9.9 per cent in March 2012, and 10.5 per cent in April 2012, from the high levels of over16 to 20 per cent in 2010 and early 2011. While most of the recent decline in food inflation was due to cereals, and sugar, prices of milk and milk products, vegetables and fruits, meat and meat products and edible oils continued to remain high due to demand surpassing production and high international prices in the case of vegetable oils.

The futures market prices have been volatile. While the supply-demand imbalances in the domestic food economy and the external supply conditions influence price expectations, short term supply bottlenecks may also have greater impact on prices.

A summary of the current trends in domestic and international prices is provided in Table II.1.

As in the past, near term factors that may influence future food prices are:

- Weather
- Stock levels
- Trade Policy changes
- Exchange rates
- Energy & other non agricultural prices / Agricultural production costs
- Extent of global economic recovery
- Import demand in the consuming countries.

Record wheat and rice stocks with the government will help to keep food grain prices under control in the near future. Sugar supply situation will also remain comfortable with large stocks and a likely record production.

Record wheat and rice stocks with the government will help to keep food grain prices under control in the near term future. Sugar supply situation will also remain comfortable with large stocks and a likely record production.

Prices of vegetable oils, however, will remain volatile during the next few months due to firming up of international prices and weakening of Indian rupee against the US dollar.

Despite a decline in domestic production, good crop in Canada and traditional pulse crops in Myanmar which are major suppliers of pulses to India may help to moderate pulse prices, although the continuing depreciation of Indian rupee against the US dollar would be a concern. Milk and meat prices are also likely to remain high due to increasing domestic demand spurred by growing consumer income combined with increasing feed cost.

A trend analysis of the whole sale price index of food articles shows that, food article prices in general, are likely to trend upward. In the next three months, our analysis points to moderate price rise of up to 5 per cent in the case of rice and wheat over the previous year, pulses WPI to be in the range of 12-15 per cent over the previous year and WPI for onion to be about 10 per cent higher than in the previous year. The edible oil prices are more volatile. While the analysis suggests moderate decline relative to the level of last year, the exchange rate variations are likely to cause larger increase.

Table II.1: Price Scenario for the Selected Food Commodities: WPI and International Prices, % change

Item	WPI						International Prices					
	Nov 11	Dec 11	Jan 12	Feb 12	Mar 12	Apr 12	Nov 11	Dec 11	Jan 12	Feb 12	Mar 12	Apr 12
Food Price Index	8.31	3.00	1.39	5.93	8.62	9.20						
Food Articles	8.32	0.79	-0.68	6.07	9.94	10.49						
Food Products*	8.28	7.86	5.90	5.64	5.92	6.49						
Cereals	2.15	1.74	2.25	1.71	4.41	5.80						
Rice	2.99	1.17	0.94	1.53	4.73	5.68	12.14	8.22	2.40	2.76	13.38	16.97
Wheat	-4.86	-3.87	-3.42	-4.18	-0.69	3.25	2.53	-12.23	-15.82	-20.22	-10.38	-20.77
Jowar	31.32	29.05	29.12	17.75	15.42	8.38						
Bajra	7.66	7.22	12.92	13.26	14.64	11.08						
Maize	13.44	16.58	20.26	16.77	14.28	11.05	15.13	3.12	2.85	-4.75	-3.36	-13.97
Pulses	14.96	13.73	11.01	7.91	10.05	11.29						
Gram	47.63	43.64	41.38	36.56	41.89	47.34						
Tur	-2.21	-0.17	-3.99	-11.39	-11.38	-11.22						
Selected oilseeds												
Groundnut	20.62	22.08	35.06	36.39	32.28	25.54	43.13	36.38	18.49	17.84	12.98	31.97
Rapeseed & Mustard	11.62	17.31	20.23	18.85	21.14	33.21						
Soybean	9.56	8.98	16.16	7.71	14.98	30.69	-6.77	-13.17	-13.57	-9.86	-0.49	5.57
Vegetables	10.68	-34.55	-43.74	1.52	30.57	60.97						
Potato	-9.31	-35.39	-23.15	-2.22	11.60	53.44						
Onion	-35.15	-61.62	-75.62	-48.50	-24.23	-12.11						
Fruits	7.29	8.78	6.43	-0.53	-4.50	-15.34						
Banana	-4.10	2.11	9.35	10.14	4.38	-4.27	5.63	5.45	-0.68	3.16	15.82	1.56
Edible oils	11.82	11.93	9.43	7.57	9.78	11.10						
Groundnut oil	7.71	9.72	14.52	19.28	26.86	25.38						
R & M oil	18.92	21.21	19.75	18.48	21.78	23.55	2.95	-10.18	-12.98	-8.60	-8.66	-9.87
Palm oil	6.88	9.95	5.67	4.76	8.61	11.02	-6.92	-17.26	-17.60	-16.09	-3.19	3.00
Sugar	6.18	4.69	2.54	4.13	3.11	3.10	0.05	-3.79	-10.86	-15.80	-3.74	-10.88
Grain mill products	-0.34	-0.61	-2.48	-2.27	-2.08	-0.07						
Milk	10.91	11.02	12.33	11.70	15.29	15.51						

PART III

Global Agricultural Commodity Situation and Outlook

III.1 The Economy

The global scenario for agricultural commodity trade and prices in 2012 remains affected by the weak economic growth conditions in the advanced economies, particularly in Europe and the knock on effects of these weak demand conditions on the other economies of the world.

The supply conditions for the major food commodities remained fairly stable in 2011–12. After the high rates of food inflation as reflected in the annual rise in the FAO's Food Price Index in real terms during July 2010–September 2011, price rise has moderated and since December 2011, the FAO Food Price Index has shown a decline relative to its level in the same period in the previous year. However, the financial market uncertainties remain significant. There have been large exchange rate fluctuations and the Indian rupee saw depreciation from Rs 44.4 per US dollar at the end of July 2011 to Rs 52.6 per US dollar at the end of Dec 2011. Rupee then hovered between 50 to 51 range till the end of March but slumped to Rs 54 per US dollar by mid-May, 2012 and further to Rs. 57 by June 22. These fluctuations have added to the uncertainties emanating from the international economic conditions as they are transmitted to prices in the domestic markets.

III.2 An Overview of Global Food Outlook

The global production and price assessment available from the major international and national agencies indicates fairly comfortable situation with respect to output. In the case of wheat although there is a significant expected shortfall in production in 2012–13 as compared to 2011–12, the level of production combined with large carry-over stocks remains adequate for meeting consumption requirements. Prices are expected to remain at moderate levels.

In the case of rice, the situation again points to comfortable levels of output and moderate or declining trend in prices.

In the case of maize and coarse grains as a whole, production is expected to increase but prices are expected to be firm because of strong demand from feed industry.

The pulses production estimates are available for only a few exporting countries. The estimates point to increased production and likely moderate price conditions.

Although initial assessment of output of oilseed and oils was positive there appears to be some set back to crop prospects in the South American countries. Sugar position is expected to be one of higher output and stable or declining price conditions. Although with less impact on Indian sectors, milk production at the global level is seen to be one of adequate supplies.

The global production and price assessment available from the major international and national agencies indicates fairly comfortable situation with respect to output.

III.3 Global Production Scenario

A few international agencies have come out with their assessment of global production estimates for some of the major commodities for 2012–13. It is also useful to review estimates for the recent 2-3 years where such estimates are available

Production forecasts for 2012–13 for all the main cereals have been recently released by the FAO, United States Department of Agriculture (USDA) and the International Grains Council. In the case of wheat, maize and all coarse grains, forecasts for 2012–13 are also available from the Australian Bureau of Agricultural and Resource Economics and Sciences (ABARES). The medium term assessment by OECD-FAO provided in November 2011 fills the gap in the commodities where no other current estimates are available. The commodities covered here are: (1) Wheat (2) Rice (3) Coarse grains (4) Oilseeds and oils (5) Sugar and (6) Milk. While a detailed discussion of the global production scenario follows, a summary position of different estimates is given in Table III.1.

Table III.1: Summary of Global Production Estimates for the Major Food Commodities (million tonnes)

Commodity/ Year	FAO	USDA	ABARES	IGC	OECD-FAO
			Wheat		
2010–11	655.6	651.1	653.0	654.0	653.3
2011–12	700.0	694.6	693.0	695.0	677.4
2012–13	675.1	677.6	682.0	676.0	684.8
			Rice		
2010–11	468.1	449.3	NA	448.0	465.9
2011–12	480.1	463.3	NA	462.0	472.5
2012–13	488.0	466.4	NA	465.0	477.0
			Maize		
2010–11	845.6	829.1	NA	828.0	NA
2011–12	868.0	870.5	861.0	865.0	NA
2012–13	916.0	940.8	887.0	900.0	NA
			All coarse grains		
2010–11	1130.1	1096.6	1092.0	1100.0	1114.3
2011–12	1163.9	1142,4	1140.0	1145.0	1167.9
2012–13	1207.3	1228.0	1184.0	1195.0	1191.7
			Pulses		
2010–11	67.7	NA	NA	NA	NA
2011–12	NA	NA	NA	NA	NA
2012–13	NA	NA	NA	NA	NA
			Oilseed		
2010–11	468.0	456.5	452.0	NA	433.8
2011–12	450.9	437.3	448.0	NA	441.1
2012–13	450.9	471.5	467.0	NA	448.8
			Veg Oils		
2010–11	179.9	147.5	NA	NA	142.2
2011–12	181.9	153.5	NA	NA	146.3
2012–13	NA	157.6	NA	NA	150.2
			Sugar (Raw equivalent)		
2010–11	165.1	160.9	166.0	NA	165.3
2011–12	172.8	168.5	175.8	NA	173.3
2012–13	NA	NA	177.8	NA	180.3
			Milk		
2010–11	713,6	514.4	NA	NA	699.6
2011–12	730.1	527.1	NA	NA	715.0
2012–13	750.1	538.3	NA	NA	729.4

Note: Source for each estimate provided in the detailed discussion.

III.4 Commodity trends

III.4.1 Wheat

Assuming normal weather in coming months, the Food and Agricultural Organization of the United Nations (FAO) forecasts 2012–13 global wheat production at 675.1 million tonnes, 25 million tonnes below the record 2011–12 wheat production estimate of 700 million tonnes

Production

Assuming normal weather in coming months, the Food and Agricultural Organization of the United Nations (FAO) forecasts 2012–13 global wheat production at 675.1 million tonnes, 25 million tonnes below the record 2011–12 wheat production estimate of 700 million tonnes[2]. The current USDA forecast of the 2012–13 wheat crop is also 17 million tonnes lower than its 2011–12 estimate, at 677.6 million tonnes[3], nonetheless well above the average of past five years (Table III.2). Most of the decline is confined to Ukraine, Kazakhstan (which in 2011–12 emerged as major exporters of low-priced wheat), EU and Australia. While FAO forecasts a decline in production in China, USDA forecasts a two million tonne increase in Chinese wheat production. Yields are expected to return to average levels from last year's record high levels in several countries such as Australia resulting in lower production. Abnormal weather conditions characterised by extreme winter in some countries like EU and severe drought in some countries such as Ukraine has also contributed to lower global production. Among other major wheat exporting countries, production in USA is expected to increase significantly to 61million tonnes (FAO forecast is 59 million tonnes) and in Canada marginally to 27 million tonnes. Forecast by other agencies are 682 million tonnes (ABARES)[4], 676 million tonnes by the International Grain Council (IGC)[5], 685 million tons by OECD-FAO Agricultural Outlook 2011–2020[6].

2. www.fao.org/docrep/015/al989e/al989e00.pdf
3. www.fas.usda.gov/grain/Current/#Wheat
4. http://adl.brs.gov.au/data/warehouse/agcomd9abcc004/agcomd9abcc004201203/AC2012.V2.1_AgCommoditiesV1.0.0.pdf
5. www.igc.int/downloads/gmrsummary/gmrsumme.pdf
6. www.oecd-ilibrary.org/agriculture-and-food/oecd-fao-agricultural-outlook-2011_agr_outlook-2011-en

Table III.2: Global Wheat Production Trends (million tonnes)

	2009–11 Average	2009–10	2010–11	2011–12	2012–13 USDA	2012–13 FAO
Argentina	14.2	12.0	16.1	14.5	12.0	13.0
Australia	26.4	21.8	27.9	29.5	26.0	26.0
Canada	25.1	26.8	23.2	25.3	27.0	26.1
China	116.1	115.1	115.2	117.9	120.0	115.5
EU-27	137.3	138.9	135.7	137.4	132.0	135.0
India	82.8	80.7	80.8	86.9	91.0	88.3
Kazakhstan	16.5	17.1	9.6	22.7	15.0	14.5
Pakistan	24.0	24.0	23.9	24.2	23.0	24.0
Russia	53.2	61.8	41.5	56.2	56.0	56.8
United States	58.3	60.4	60.1	54.4	61.1	59.0
Ukraine	19.9	20.9	16.8	22.1	13.0	14.0
Others	103.5	106.7	100.3	103.5	101.5	102.9
World Total	677.3	686.2	651.1	694.6	677.6	675.1

Sources: www.fas.usda.gov/grain/current/wheat; www.fao.org/docrep/015/al985e00.pdf

USDA estimate of 2011–12 world wheat production is a record 694.6 million tonnes (FAO estimate is 700 million tonnes), due to increased wheat planting in many countries in response to strong prices. Wheat yields also recovered in areas affected by drought in 2010, particularly in the Russian Federation. Production increases for the Former Soviet Union (FSU-12), India, China, and the EU-27 more than offset the production decline in Argentina, U.S. and Mexico.

The overall assessment for 2012–13 wheat production by various international agencies is one of significant reduction in output level as compared to the previous year but still a high level of output, close to the average for the past three years.

Consumption, Trade and Prices

Global consumption is expected to decline modestly in 2012–13 following record consumption in 2011–12, with gains in food use more than offset by a fall in feed demand. Nevertheless, feed use is expected to remain high due to ample global supplies of low quality wheat. World wheat stocks are forecast to recede from the 2011–12 peak, but availabilities should remain comfortable in the major exporting countries. Some reduction in world wheat trade is forecast, mainly due to lower purchases for feed vis-à-vis 2011–12 amid improved supplies of maize and barley.

Table III.3: Global Supply and Use of Wheat (million tonnes)

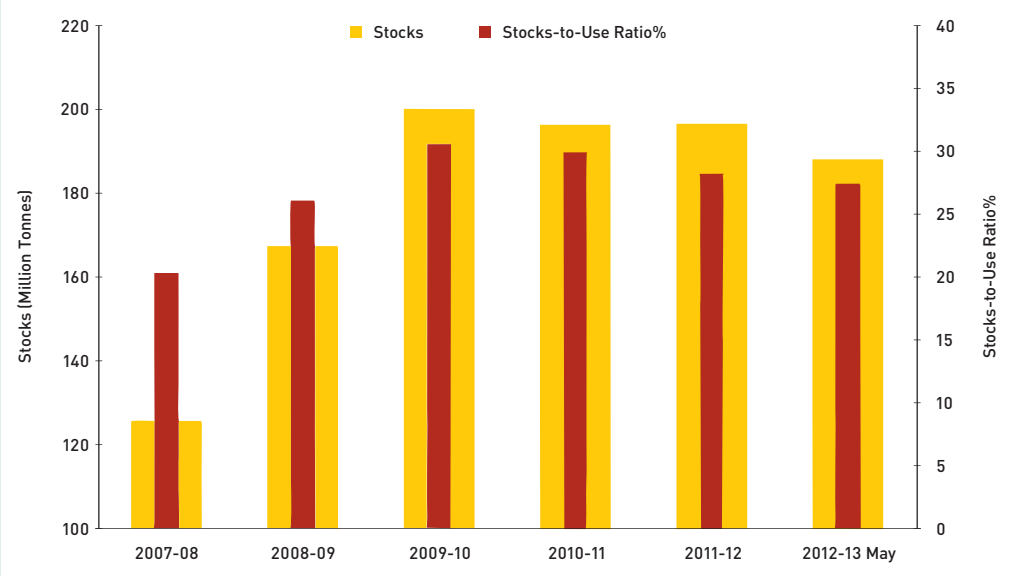
	Production	Total Supply	Trade	Total Use	Ending Stocks	Stocks -to-Use Ratio (%)
2009–10	686.19	853.52	137.22	653.44	200.06	30.6
2010–11	651.14	851.20	132.43	654.46	196.74	30.1
2011–12	694.64	891.38	146.74	694.35	197.03	28.4
2012–13 F	677.56	874.59	137.02	686.47	188.13	27.4

Sources: www.usda.gov/oce/commodity/wasde/

The overall assessment for 2012–13 wheat production by various international agencies is one of significant reduction in output level as compared to the previous year but still a high level of output, close to the average for the past three years.

Global wheat prices are expected to decline in 2012–13, reflecting near record world opening stocks, expected high global production combined with the anticipated strong recovery in maize supplies.

Figure III.1: Wheat: Stocks-to-use Ratio (%)



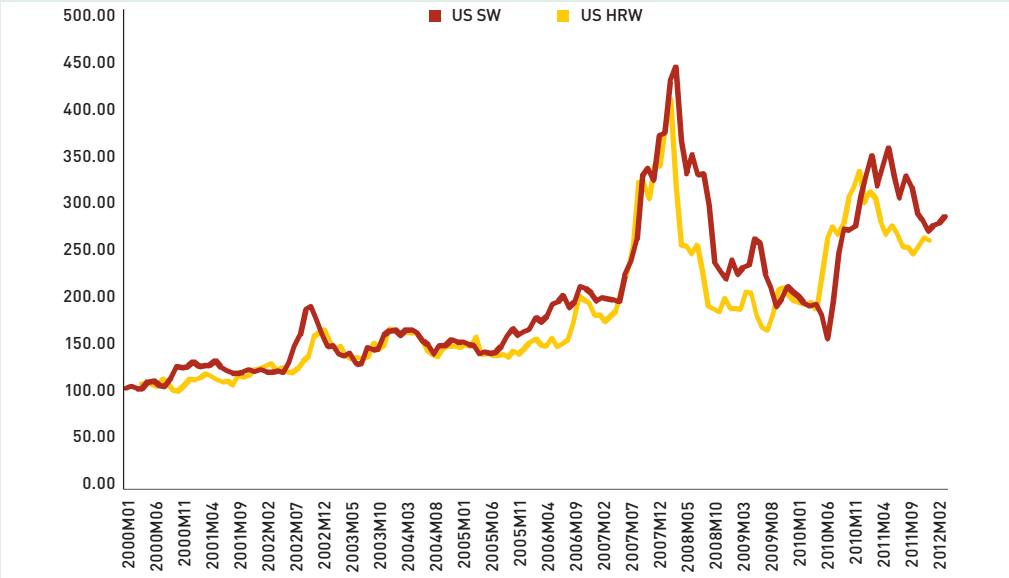
USDA estimates global wheat consumption in 2011–12 at 694 million tonnes, a record high, up 6.1 per cent year-on-year, offsetting reduced supplies of coarse grains. Global year-ending wheat stocks are expected to rise to a near record level of 197 million tonnes. Despite an increase in stocks, high global wheat demand is likely to keep stocks-to-use ratio somewhat lower than in 2010–11 at 28.4 per cent, but significantly above the 20 per cent 2007–08 that triggered high global wheat prices.

World wheat trade in 2012–13 is forecast to decline to 137 million tonnes from the near record 146.7 million tonnes in 2011–12 due to lower purchases for feed amid improved supplies of maize and barley.

Global wheat prices are expected to decline in 2012–13, reflecting near record world opening stocks, expected high global production combined with the anticipated strong recovery in maize supplies. Looking ahead, wheat futures for September delivery remained considerably below their levels in the corresponding period last year. In late April, Chicago wheat futures had averaged US dollar 240 per tonne, down 4 per cent from the start of the year. Forecast of indicative US Hard Red Winter (HRW) Wheat price (FOB Gulf) in 2012–13 range from $275[7] per tonne to $280[8] per tonne against 2011 average price of $316 per tonne.

7. http://adl.brs.gov.au/data/warehouse/agcomd9abcc004/agcomd9abcc004201203/AC2012.V2.1_AgCommoditiesV1.0.0.pdf
8. http://econ.worldbank.org/WBSITE/EXTERNAL/EXTDEC/EXTDECPROSPECTS/0,contentMDK:21574907~menuPK:7859231~pagePK:64165401~piPK:64165026~theSitePK:476883,00.html

Figure III.2: International Wheat Price Trends



Source: World Bank.

III.4.2 Rice

Production

It is too early to forecast the 2012 (marketing year 2012–13) global rice production as much will depend on the performance of rains during June to September in major rice producing countries in Asia. Nonetheless, the FAO and the USDA have recently come up with their forecasts of the 2012 rice production at 488 million tonnes and 466.4 million tonnes, respectively. The FAO rice production figures are typically some 20 million tonnes higher than the USDA estimate. The OECD-FAO Agricultural Outlook 2011–2020 projection of the 2012–13 rice production is 477.1 million tonnes[9].

Table III.4: Global Rice Production Trends (million tonnes)

	2009–2011 Average	2009–10	2010–11	2011–12	2012–13F USDA	2012–13F FAO
Bangladesh	32.7	31.0	31.7	34.1	34.1	34.5
China	138.0	136.6	137.0	140.5	141.0	139.5
India	95.9	89.1	96.0	103.4	102.5	105.0
Indonesia	36.4	36.4	35.5	36.3	36.9	42.8
Myanmar	11.0	11.6	10.5	10.8	11.0	19.5
Thailand	20.3	20.3	20.3	20.5	21.1	23.2
Vietnam	25.8	25.0	26.4	26.5	26.5	28.3
Others	91.4	91.2	91.9	91.2	93.3	95.4
World Total	451.3	441.2	449.3	463.3	466.4	488.2

Sources: www.fas.usda.gov/grain/current/#rice

There are concerns about the impact of current La Nina and the likely emergence of El Nino in coming months on rice production in some countries such as Thailand. However, on the positive side, most governments are providing additional support to rice production

9. http://stats.oecd.org/index.aspx?queryid=29934

through higher price incentives and other measures. Current indications are 2012–13 rice production will be marginally higher than the 2011–12 level, provided no significant weather adversities emerge in major producing countries.

Current indications are 2012–13 rice production will be marginally higher than the 2011–12 level, provided no significant weather adversities emerge in major producing countries.

USDA currently estimates 2011–12 global rice production (milled basis) at a record 463.3 million tonnes (Table III.4), against the FAO estimate of 480.1 million tonnes. India, Bangladesh, China, Indonesia, Pakistan, and Sri Lanka account for most of the projected year-to-year increase in global production in 2011–12. In contrast, production is projected to be substantially lower in 2011–12 than a year earlier in Brazil, and the United States. The bumper 2011–12 global rice crop is largely the result of expanded area, with South Asia accounting for most of the increases. In 2012–13, the monsoon conditions will determine the contributions from South Asia.

Consumption, Trade and Prices

According to USDA global rice consumption in 2011–12 grew by around 3.0 per cent to 456.7 million tonnes, with most of the expansion underpinned by China, India, and Bangladesh in tune with larger production. Consumption growth is expected to slow to 1.4 per cent in 2012–13, mostly driven by population growth.

Global marketing year ending stocks are forecast to rise to a high of 104.2 million tonnes in 2011–12 as the world output easily covers total use. Larger carryovers in the five leading exporters-which account for more than 80 per cent of the world's shipments of rice - will continue to shape global carryovers. This applies particularly to India and Thailand, with India's inventories expected to exceed 20 million tonnes in the year ending September 30, 2012. Global marketing year ending stocks in 2012–13 are forecast to remain more or less unchanged at the 2011–12 level at 104.9 million tonnes, with stocks in India forecast to increase to over 26 million tonnes.

After increasing by 11.8 per cent in 2010–11, reduced shipments to a number of key Asian markets-notably Bangladesh and Indonesia – are expected to result in world traded volumes shrinking marginally to 34.1 million tonnes in 2011–12. A sharp decline in Thailand's rice exports will be largely offset by increased shipments from India following the Indian government's removal of non-basmati rice exports ban in September 2011. However, the need to maintain state reserves in the years ahead, together with continued growth in African markets, should ensure that world trade increases in the coming years.

Despite an increase in stocks, high global rice demand is likely to keep 2011–12 stocks-to-use ratio increasing only marginally to 22.8 per cent. The stocks-to-use ratio is expected to decline slightly to 22.7 per cent in 2012–13.

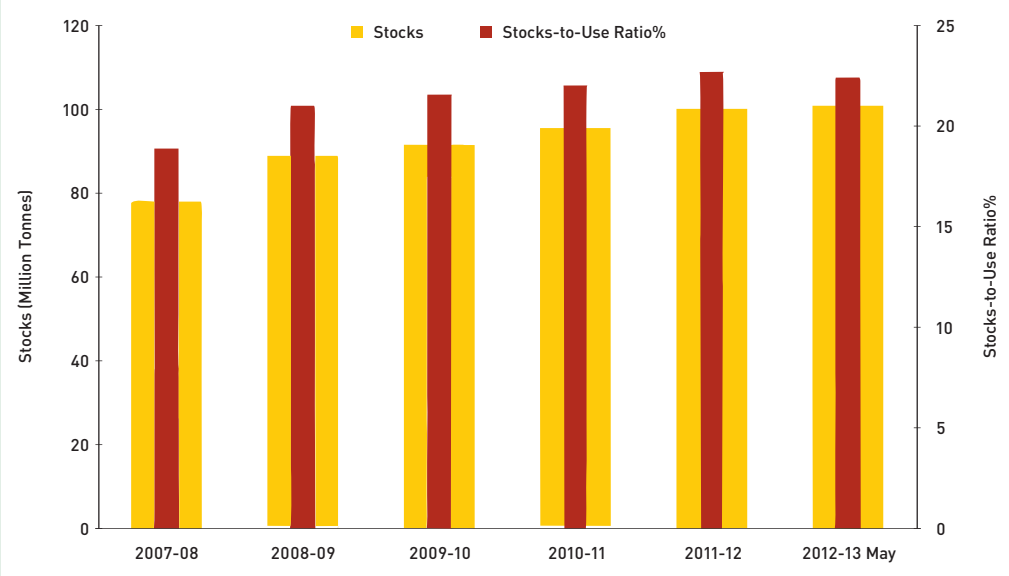
Despite an increase in stocks, high global rice demand is likely to keep 2011–12 stocks-to-use ratio increasing only marginally to 22.8 per cent. The stocks-to-use ratio is expected to decline slightly to 22.7 per cent in 2012–13.

Table III.5: Global Supply and Use of Rice (million tonnes)

	Production	Total Supply	Trade	Total Use	Ending Stocks	Stocks-to-Use Ratio %
2009–10	441.23	533.62	31.14	435.33	95.17	21.9
2010–11	449.30	544.47	34.83	443.56	98.70	22.3
2011–12	463.31	562.01	34.07	456.67	104.15	22.8
2012–13F	466.45	570.60	35.23	463.00	104.88	22.7

Sources: www.usda.gov/oce/commodity/wasde/

Figure III.3: Rice: Stocks-to-Use Ratio

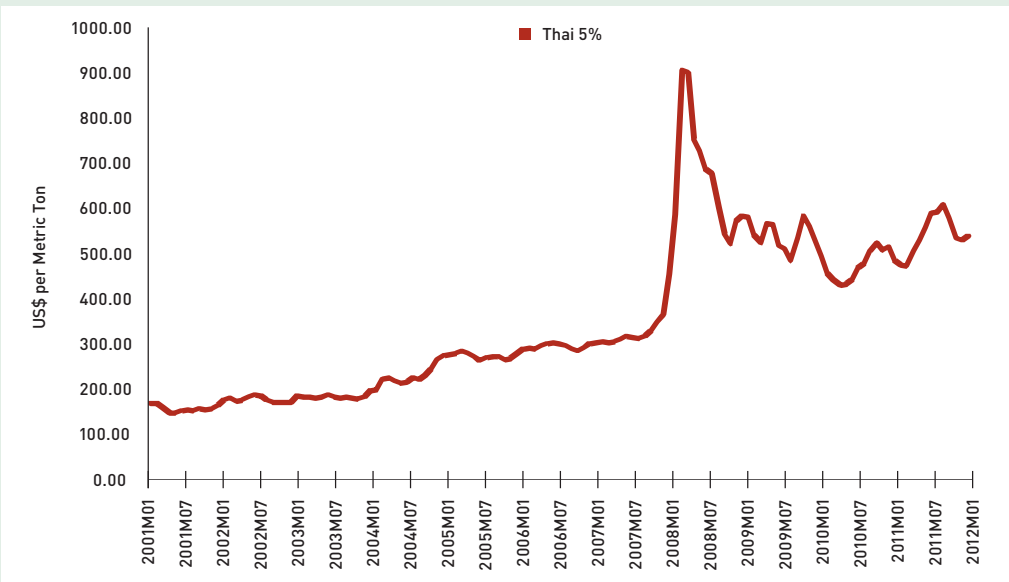


Source: www.fas.usda.gov/psdonline/circulars/grain.pdf

As the supply-demand balance sheet will remain fairly comfortable in the coming year, rice prices are expected to ease although they will remain high by historical standards. Ample stocks in major exporting countries will exert downward pressure on prices in 2012–13. Nevertheless, the outlook for prices will remain clouded with uncertainty as trade policy measures in different countries may be influenced by the unfolding weather conditions.

The World Bank currently forecasts the indicative Thai 5 per cent broken rice for 2012 at $550 per metric tonne and FAO-OECD at $504 per metric tonne against the 2011 average price of $543 per metric tonne. Thai 25 per cent broken rice price in 2011 averaged $506 per metric tonne.

Figure III.4: International Rice Price Trends



Source: World Bank.

As the supply-demand balance sheet will remain fairly comfortable in the coming year, rice prices are expected to ease although they will remain high by historical standards.

Assuming normal weather conditions, USDA has recently made its first forecast of 2012–13 total coarse grain production at 1,228 million tonnes compared with the 2011–12 estimate of 1,142.4 million tonnes.

III.4.3 Coarse grains

Production

As in the case of rice, forecast for the 2012–13 global coarse grain production is tentative, as much will depend upon the weather conditions in ensuing months, price trends and prices of competing crops such as soybeans. On the positive side are factors such as prevailing high corn prices and tight global stocks situation which will influence sowing. However, the U.S. ethanol market has saturated, which would moderate corn demand by the bio fuel industry.

Assuming normal weather conditions, USDA has recently made its first forecast of 2012–13 total coarse grain production at 1,228 million tonnes compared with the 2011–12 estimate of 1,142.4 million tonnes, reflecting a significant increase in maize production in the US, Argentina, and Mexico and an increase in jowar and barley production in major producing countries. The FAO forecast of the 2012–13 total coarse grain production released recently also shows a 3.7 per cent increase over the previous year at 1,207.3 million tonnes. USDA forecast of production by major type with FAO forecasts within parentheses in million tonnes are: maize - 945.8 (916.4); barley - 135.4 (135.6); and jowar - 61.7 (61.2). The IGC's forecast of the 2012–13 total coarse grain production is 1,195 million tonnes, whereas the ABARES using its econometric model currently projects 2012–13 coarse grain production at 1,184 million tonnes.

USDA forecasts world corn production to increase by 8.6 per cent in 2012–13 to a record 945.8 million tonnes, reflecting an expected increase in harvested area in major producing nations. In the United States, corn production is forecast to rise by a massive 20 per cent in 2012–13 to 376 million tonnes, recovering from the decline in 2011–12 brought about by adverse seasonal conditions. Barley production globally is forecast to increase marginally to 135.4 million tonnes. .

USDA estimates 2011–12 global coarse grain production at 1,142,4 million tonnes, which includes 870.5 million tonnes of maize, 133.7 million tonnes of barley, 54.5 million tonnes of sorghum (jowar), 23.2 million tonnes of oats, and 13.4 million tonnes of rye. FAO estimate of 2011–12 total coarse grain production is 1,163.9 million tonnes.

Table III.6: Recent Trends in Global Coarse Grain Production (million tonnes)

	2009–2011 Average	2009–10	2010–11	2011–12	2012–13F USDA	2012–13F FAO
Argentina	30.3	28.5	31.7	29.9	35.7	28.2
Australia	12.0	10.9	11.8	13.2	12.6	12.7
Brazil	61.2	58.4	60.4	69.8	70.4	68.3
Canada	22.2	22.5	22.3	21.9	25.4	24.8
China	183.5	169.8	183.4	198.6	200.0	199.4
EU-27	147.2	155.0	140.6	146.0	147.2	149.1
India	39.7	33.9	43.4	41.9	42.9	41.1
Mexico	28.1	27.3	29.3	25.8	28.5	29.0
Nigeria	28.3	23.3	23.3	23.8	24.0	22.8
Russia	27.0	31.8	16.4	32.8	32.1	34.3
Ukraine	26.2	24.1	21.4	33.3	32.7	33.5
United States	334.2	348.8	330.2	323.7	389.8	358.6
Others	179.7	196.7	135.9	101.1	226.2	205.5
World Total	1119.6	1,110.9	1,096.6	1,142.4	1,228.0	1,207.3

Source: USDA and FAO.

Consumption, Trade and Prices

USDA forecasts global coarse grain consumption in 2012–13 at 1,204.0 million tonnes up 5 per cent from 1,143.7 million tonnes in 2011–12, with feed use at 705 million tonnes. Total use of corn is forecast at a record 921 million tonnes, an increase of 54 million tonnes from the 2011–12 level. Barley consumption is estimated at 136.2 million tonnes and jowar at 61.3 million tonnes, almost unchanged from the 2011–12 level. In contrast to recent years, which saw very rapid growth in consumption from the industrial sector, mainly for the manufacture of fuel ethanol in the US, world demand in 2011–12 and 2012–13 will be driven mainly by increased animal feed use. Despite very strong price competition from lower-grade wheat, strong meat demand across many countries in Latin America, Asia and Africa has lifted feed consumption. The stagnation in the US production of ethanol in 2011/12 is anticipated to continue well into the 2012/13 marketing season, given the current high level of ethanol inventories, which could limit any further rise in ethanol production and hence industrial demand for maize.

USDA forecasts world coarse grain trade in 2012–13 at 131.3 million tonnes, up 6.7 per cent from the 2011–12 level, with most of the increase confined to maize, which is expected to reach a record 101.4 million tonnes. The FAO forecast of global trade in coarse grains in MY 2012–13 is 126 million tonnes whereas the ABARES forecast is 131 million tonnes.

In contrast to recent years, which saw very rapid growth in consumption from the industrial sector, mainly for the manufacture of fuel ethanol in the US, world demand in 2011–12 and 2012–13 will be driven mainly by increased animal feed use.

Table III.7: Global Supply and Use of Coarse Grains (million tonnes)

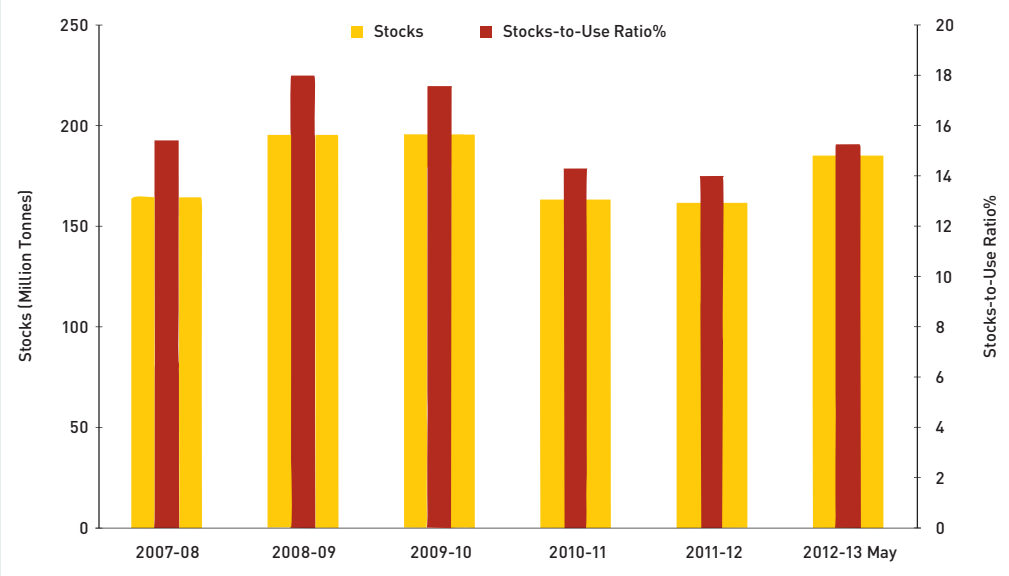
	Production	Total Supply	Trade	Total Use	Ending Stocks	Stocks-to-Use Ratio %
2010–11	1096.6	1292.1	116.3	1129.6	162.4	14.4
2011–12	1142.4	1304.9	123.1	1143.7	161.2	14.1
2012–13F	1228.0	1389.2	131.3	1204.3	184.9	15.4

Source: www.usda.gov/oce/commodity/wasde/

The supply and demand outlook for coarse grain is projected to remain tight in 2012–13, but a larger crop, including a major upturn in the US, is expected to be not entirely absorbed by demand, leaving room for a modest rise in stocks forecast at 185 million tonnes including 152 million tonnes of maize.

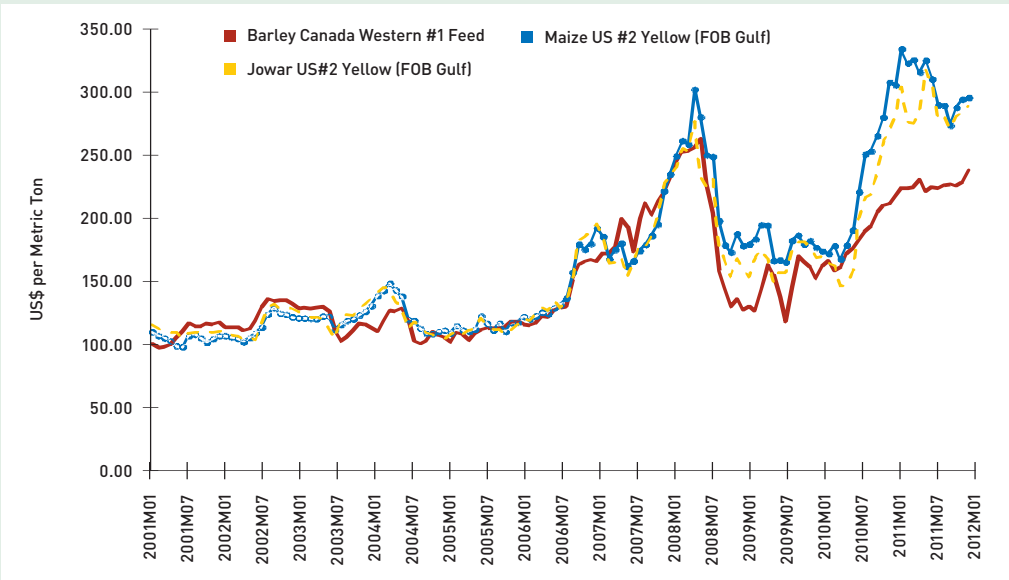
Anticipating a rebound in supply after major harvests in 2012 are complete, especially in the United States, CBOT maize futures for December delivery have been falling since the beginning of May. The maize futures for December 2012 delivery averaged US$ 213 per tonne in April, down 17 percent from the December 2011 futures cast in April last year and 13 per cent lower than the April average for the nearby (July) delivery. Although prices will be influenced by weather conditions during critical periods of the growing season, especially in July when pollination is required, the trend in December values underscores the possibility of a decline in prices from their current high levels. According to some analysts, the world coarse grains indicator price (US corn, fob Gulf) is forecast to decrease by 7 per cent in 2012–13 to US$258 to $280 a tonne from the 2011 average price of $292 per tonne.

Figure III.5: Coarse Grains Stocks-to-Use Ratio



Source: www.fas.usda.gov/psdonline/circulars/grain.pdf

Figure III.6: International Coarse Grain Price Trends



Source: World Bank.

III.4.4 Pulses

Production and Prices

According to FAO statistics, global pulse production in 2010–11 (the latest year for which global data are available) was 67.7 million tonnes, which included 10.2 million tonnes of dry peas (mattar), 10.9 million tonnes of chickpeas (chana, including kabuli chana), 4.6 million tonnes of lentils (masur), 23.2 million tonnes of dry beans, 5.5 million tonnes of

cowpeas, 3.7 million tonnes of pigeon peas (tur), 4.3 million tonnes of broad beans, 4.4 million tonnes of other pulses. Although there are several large and small pulse producing countries, major pulse exporting countries are Canada, Myanmar, United States, France, Turkey, and Mexico. The most widely traded pulse crops are dry peas, lentils, urad, mung, tur, and chickpeas.

Based on early country reports, pulse production in the two major pulses exporting countries of Myanmar[10] and Canada[11] in 2012–13 is forecast to increase by around 10 percent at 8.9 million tonnes. Production in Myanmar in 2012–13 is forecast at 4.7 million tonnes (mostly tropical pulses like urad, tur, mung, chickpeas) compared with 4.1 million tonnes in 2011–12. Canadian pulse production in 2012–13 is forecast to increase to 4.3 million tonnes (2.65 million tonnes of dry peas, 1.3 million tonnes of lentils, 200,000 tonnes of dry beans, and 95,000 tonnes of chickpeas) from the weather beaten production of 3.9 million tonnes in 2011–12, with most of the increase coming from dry peas. The Australian pulse production in 2011–12 declined by 4 per cent to 1.99 million tonnes, due to early November 2011 rains and storms[12]. Production there is likely to increase marginally in 2012–13 provided growing season weather remains favourable. The likely production increase in major exporting countries will mostly offset the one million tonne decline in 2012–13 pulse production in India forecast at 17.0 million tonnes. Thus global pulse production in 2012–13 is likely to remain more or less unchanged from the 2011–12 level, provided weather continues to remain favourable.

Thus global pulse production in 2012–13 is likely to remain more or less unchanged from the 2011–12 level, provided weather continues to remain favourable.

In Canada[13], forecast 2012–13 prices in Canadian $ per tonne are: dry peas 245-275 (290-320); masur 425-455 (465-495); chickpeas 755-790 (870-900).

Australian field pea is experiencing strong competition in the Indian market from Canada. Pea prices have continued to decline with the subdued demand and generous supply[14].

In 2012–13 Myanmar's bean and pulse exports are forecast to reach 1.4 million tonnes, an increase of 17 per cent from 2011–2012 due to greater supplies from increasing yields and a larger planted area.

Thus although overall pulse supply situation in major exporting countries remained tight in 2011–12, larger dry peas production in Canada and Australia and tropical pulses in Myanmar in 2012–13 should help to moderate export prices in markets benefitting India which is a major importer of pulses.

III.4.5 Oilseeds, Vegetable Oils, and Oil Meals

Production

It is too early to forecast 2012–13 global oilseed production as much will depend on growing season weather conditions in major growing countries. However, the USDA recently released its first forecast of world oilseed production at 471.5 million tonnes compared with the weather damaged 2011–12 production of 437.3 million tonnes, with most of the increase confined to soybeans. According to USDA, prevailing strong prices are expected to lead to a record global soybean production. However, the FAO is more cautious about the outlook for 2012–13 oilseed production and indicates any improvement

10. http://gain.fas.usda.gov/Recent%20GAIN%20Publications/Grain%20and%20Feed%20Annual_Rangoon_Burma%20-%20Union%20of_3-9-2012.pdf
11. www.agr.gc.ca/pol/mad-dam/index_e.php?s1=pubs&s2=spec&s3=php&page=spec_2012-01-17
12. www.pulseaus.com.au/
13. http://www.agr.gc.ca/pol/mad-dam/index_e.php?s1=pubs&s2=spec&s3=php&page=spec_2012-03-15
14. www.pulseaus.com.au/index.aspx

Besides a return to normal weather, a sizeable increase in Brazil's and Argentina's soy acreage would be required for a relaxation in the global supply and demand picture.

in global soybean supplies in 2012–13 would very much depend on the size of South America's 2013 soybean crop. Besides a return to normal weather, a sizeable increase in Brazil's and Argentina's soy acreage would be required for a relaxation in the global supply and demand picture.

Recently released USDA planting intention report[15] shows US soybean growers intend to plant 73.9 million acres in 2012, down 1 per cent from last year. However, yields are expected to be better than last year resulting in higher production. On the positive side, the likely high oilseed prices, particularly soybean prices, should provide an impetus to farmers in the southern hemisphere countries to bring more acreage under oilseed crops later this year. The oil palm plantation industry is set to see an increase in supply of about 2 million tonnes in 2012, mostly in Indonesia, paving the way for a year of larger supply boosted by favourable weather conditions, increasing yield from young trees as well as newly mature areas in Indonesia. Canadian canola (rapeseed) seeded area for 2012–13, is forecast to increase by 5 per cent to a record high[16]. The gain is supported by historically strong prices and expected attractive yields. Production is forecast to rise by 6 per cent to a record 15.0 million tonnes.

Table III.8A: Global Oilseed Production (million tonnes)

	2009–2011 Average	2009–10	2010–11	2011–12	2012–13
Peanut	34.88	33.72	35.88	35.46	36.76
Rapeseed	60.60	60.96	60.55	60.41	60.43
Soybean	255.15	261.09	264.69	236.87	271.42
Sunflower seed	34.84	32.19	33.29	39.10	38.93
Others	61.52	57.01	62.06	65.42	63.94
Total major oilseeds	446.99	444.97	456.47	437.26	471.48

Sources: http://www.fas.usda.gov/oilseeds/Current/

Table III.8B: Global Vegetable oil Production (million tonnes)

	2009–2011 Average	2009–10	2010–11	2011–12	2012–13
Coconut	3.67	3.63	3.83	3.56	3.52
Olive	3.05	3.05	3.04	3.10	3.09
Palm	48.17	45.87	47.95	50.67	52.77
Peanut	4.99	4.74	5.10	5.27	5.37
Rapeseed	23.07	22.44	23.59	23.60	23.35
Soybean	40.56	38.88	41.24	41.95	43.65
Sunflower	12.82	12.11	12.21	14.15	14.50
Others	10.64	10.12	10.54	11.17	11.39
Total oil	146.97	140.84	147.50	153.47	157.64

Sources: http://www.fas.usda.gov/oilseeds/Current/

Table III.8C: Global Oilmeal Production (million tonnes)

	2009–2011 Average	2009–10	2010–11	2011–12	2012–13
Peanut	6.05	5.77	6.22	6.45	6.58
Rapeseed	34.57	33.56	35.16	35.33	34.92
Soybean	171.91	165.22	174.53	177.50	184.99
Sunflower seed	13.65	12.96	13.03	15.04	15.39
Others	28.15	26.63	28.10	29.50	29.72
Total oil meal	254.33	244.14	2567.04	263.82	271.60

Sources: http://www.fas.usda.gov/oilseeds/Current/

15. http://usda01.library.cornell.edu/usda/current/ProsPlan/ProsPlan-03-30-2012.pdf
16. www.agr.gc.ca/pol/mad-dam/index_e.php?s1=pubs&s2=go-co&s3=php&page=go-co_2012-02-15

Table III.9A: Global Oilseed Production for Countries and Total (million tonnes)

	2009–2011 Average	2009–10	2010–11	2011–12	2012–13
United States	96.87	98.90	100.38	91.32	96.97
Brazil	73.17	71.42	79.23	68.85	81.50
China	57.91	57.84	58.10	57.78	56.20
Argentina	53.10	57.94	54.06	47.31	60.61
India	34.22	32.37	34.77	35.52	35.74
Other	130.97	126.49	129.94	136.49	140.46
Total	446.23	444.97	456.47	437.26	471.48

Sources: USDA.

Table III.9B: Global Veg Oil Production for Countries and Total

	2009–2011 Average	2009–10	2010–11	2011–12	2012–13
Indonesia	27.37	25.59	27.27	29.25	31.06
Malaysia	20.43	19.94	20.38	20.96	21.30
China	19.09	17.88	19.02	20.36	20.97
EU-27	16.49	16.71	16.42	16.35	16.06
United States	9.89	10.07	9.80	9.79	9.89
Argentina	8.41	7.72	8.83	8.69	9.27
Brazil	7.54	7.14	7.71	7.76	7.92
Other	38.06	35.80	38.06	40.31	41.17
Total	147.27	140.84	147.50	153.47	157.64

Sources: USDA.

Table III.9C: Global Oil Meal Production for Countries and Total

	2009–2011 Average	2009–10	2010–11	2011–12	2012–13
China	60.30	55.67	60.43	64.81	67.90
United States	38.86	40.08	38.09	38.42	38.34
Argentina	30.06	28.05	31.18	30.94	32.96
Brazil	28.66	27.22	29.32	29.45	30.08
EU-27	26.36	26.91	26.50	25.68	25.29
Other	70.76	66.23	71.53	74.53	77.05
Total	255.00	244.14	257.04	263.82	271.60

Sources: USDA.

USDA's current estimates for major oilseed production in MY 2011–12 are at 437.3 million tonnes, 4.2 per cent down from the record MY 2010/11 production of 456.5 million tonnes. Total vegetable oil production is estimated at 153.5 million tonnes and oil meal production at 263.8 million tonnes, up 4.0 per cent and 2.6 per cent, respectively, with most of the increase in vegetable oil production coming from palm oil (in Indonesia) and soy oil and meal production increase in soybean (Tables III.8 and III.9).

The FAO in its latest Food Outlook report has revised total major oilseed production in 2011–12 downward at 440.2 million tonnes, 3.7 per cent down from its 2010–11 estimate of 457.3 million tonnes. The oil production is estimated to increase marginally to 181.9 million tonnes. Total supply was projected to rise even more by draw down of stocks as utilisation was seen to rise by 5 per cent at 185.3 million tonnes. The USDA report had also projected an increase in the output of vegetable oils in 2011–12 over the previous year's levels.

The FAO in its latest Food Outlook report has revised total major oilseed production in 2011–12 downward at 440.2 million tonnes, 3.7 per cent down from its 2010–11 estimate of 457.3 million tonnes.

The FAO report has pointed to the inevitable tightening of supply–demand balance in oilseeds, vegetable oils, and meals in 2011–12, given the rising demand for oilseed products. One reflection of this has been the rising prices of oils. However, in the short term, weak global economic growth has kept the commodity prices, including feed prices in check.

Consumption, Trade and Prices

Despite 20 million tonnes decline in 2011–12 major oilseed production, global oilseed use is expected to increase by around 11 million tonnes to 388.3 million tonnes driven by increasing demand from developing countries. Consumption growth could only be satisfied by drawing from inventories with a conspicuous reduction in global stocks to an estimated 63.0 million tonnes from 81.4 million tonnes in the previous year. This will push the global stock-to-use ratios a historically low level estimated at 16.2 per cent, making 2012–13 supply situation more vulnerable. Given current USDA forecast, stocks-to-use ratio is expected to improve only marginally in 2012–13.

Global vegetable oil supply situation at 166.8 million tonnes is adequate to meet the growing consumption requirement estimated at 151.0 million tonnes, leaving carry-overstocks of 13.2 million tonnes. Stocks-to-use ratio is projected at 8.7 per cent, a marginal decline from the 2010–11 level.

Global vegetable oil supply situation at 166.8 million tonnes is adequate to meet the growing consumption requirement estimated at 151.0 million tonnes, leaving carry-overstocks of 13.2 million tonnes. Stocks-to-use ratio is projected at 8.7 per cent, a marginal decline from the 2010–11 level.

Table III.10: Global Supply and Use of Oilseeds, Vegetable Oils and Oilmeals

	Production	Total Supply	Trade	Total Use	Ending Stocks	Stocks-to-Use Ratio %
Table III.10A: Global Supply and Use of Oilseeds (million tonnes)						
2010–11	456.47	529.86	109.23	377.43	81.41	21.57
2011–12	437.26	518.67	106.52	388.29	62.77	16.17
2012–13F	471.48	534.25	115.10	399.38	65.63	16.43
Table III.10B. Global Supply and Use of Vegetable Oils (million tonnes)						
2010–11	147.50	161.21	60.13	144.84	13.37	9.23
2011–12	153.47	166.83	62.60	151.01	13.16	8.71
2012–13F	157.64	170.80	64.76	155.84	12.32	7.90
Table III.10C. Global Supply and Use of Oilmeals (million tonnes)						
2010–11	257.04	265.10	77.34	251.33	10.08	4.01
2011–12	263.82	273.90	80.00	260.87	9.53	3.65
2012–13F	271.61	281.14	80.39	268.30	10.17	3.79

1/ Major oilseeds which include soybeans, rapeseed, sunflower, cottonseed, groundnut, and palm kernel.

Sources: www.usda.gov/oce/commodity/wasde/

Population growth and rising incomes in developing countries (especially China and India) as well as sustained growth in industrial demand (biodiesel) should result in increased oilseed use in 2012–13. World total oilseed crush is also forecast to increase in 2012–13 due to the forecast increase in production of all major oilseeds as well as continued high prices for vegetable oils supporting crush margins.

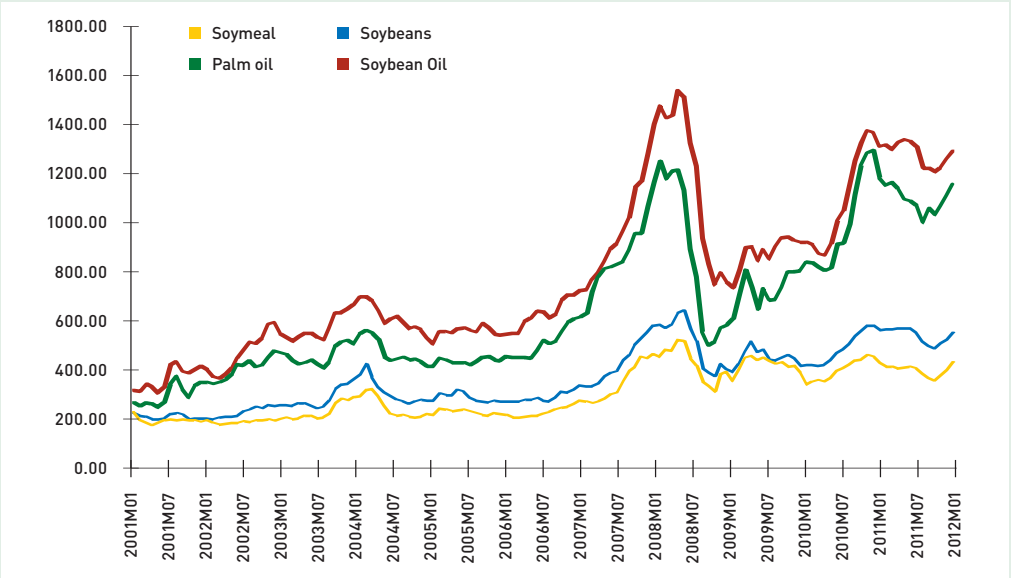
International prices for oilseeds and products eased during the second half of 2011, when ample 2010–11 ending stocks overlapped with weak soybean crushing and a slowing world import demand. However, the slide in prices came to a halt in January 2012, when news of adverse weather threatening the South American soybean crop and of prospective weak palm oil production growth in Southeast Asia hit the market triggering a rally in prices.

By April 2012, indicative soybean price increased by 20 per cent, soybean oil price by 12 per cent and soybean meal prices by 37 per cent over the December 2011 level. The CBOT soybean futures contract for September had appreciated steadily since the beginning of 2012 and, in early April, crossed the US dollar 500 per tonne mark.

Most agencies forecast a decline in oilseed, vegetable oil, and oilmeal prices in 2012–13. For example, the World Bank's January–June 2012 forecast price for soybeans per metric tonne in 2012–13 with 2011–12 prices in parentheses is $540 ($541), soybean oil - $1,250 ($1,299), soybean meal - $440 ($398), and palm oil - $1,080 ($1,125). The forecast decline reflects an increase in world soybean export supplies, driven by a forecast recovery of the United States soybean crop, and relatively high closing stocks from the 2011–12 season.

Most agencies forecast a decline in oilseed, vegetable oil, and oilmeal prices in 2012–13.

Figure III.7: International Oilseed, Vegoil, and Oilmeal Price Trends



III.4.6 Sugar

Production

ABARES[17] forecasts world sugar production in 2012–13 to increase by a further 2 million tonnes from its estimate for 2011–12 at 175.8 million tonnes of raw sugar. This largely reflects an assumed recovery from poor seasonal conditions in Australia, Brazil and Mexico, offset by a return to more normal sugar beet yields in the European Union, the Russian Federation and Ukraine following expected excellent yields of 2011–12.

USDA estimates 2011–12 sugar production (on raw sugar basis) at a record 168.3 million tonnes, an increase of around 7 million tonnes over 2010–11, as sugarcane and beet producers around the world responded to relatively high world sugar prices. The FAO estimate of the 2011–12 sugar production is 172.8 million tonnes, a 4.6 per cent increase over its 2010–11 production of 165.1 million tonnes.

17. http://adl.brs.gov.au/data/warehouse/agcomd9abcc004/agcomd9abcc004201203/AC2012.V2.1_AgCommoditiesV1.0.0.pdf

A slowdown of global economic growth in 2012 could undermine prospects for demand expansion, as manufacturing and food preparation sectors, which account for the bulk of aggregate sugar consumption, are particularly sensitive to income changes.

Table III.11: Trends in Global Sugar Production (million tonnes)

Country	2009–10	2010–11	2011–12 USDA	2011–12 FAO
Brazil	36.40	38.35	35.75	36.2
India	20.64	26.65	28.30	28.1
EU-27	16.69	15.09	16.74	17.9
China	11.43	11.20	11.84	11.0
Thailand	6.93	9.66	10.17	10.2
United States	7.22	7.11	7.15	7.2
Mexico	5.12	5.50	5.65	5.3
Russia	3.44	3.00	4.80	5.5
Pakistan	3.42	3.92	4.22	5.2
Australia	4.70	3.70	4.15	4.0
Other	37.70	37.26	39.47	42.20
Total	153.69	161.44	168.25	172.8

Sources: USDA and FAO.

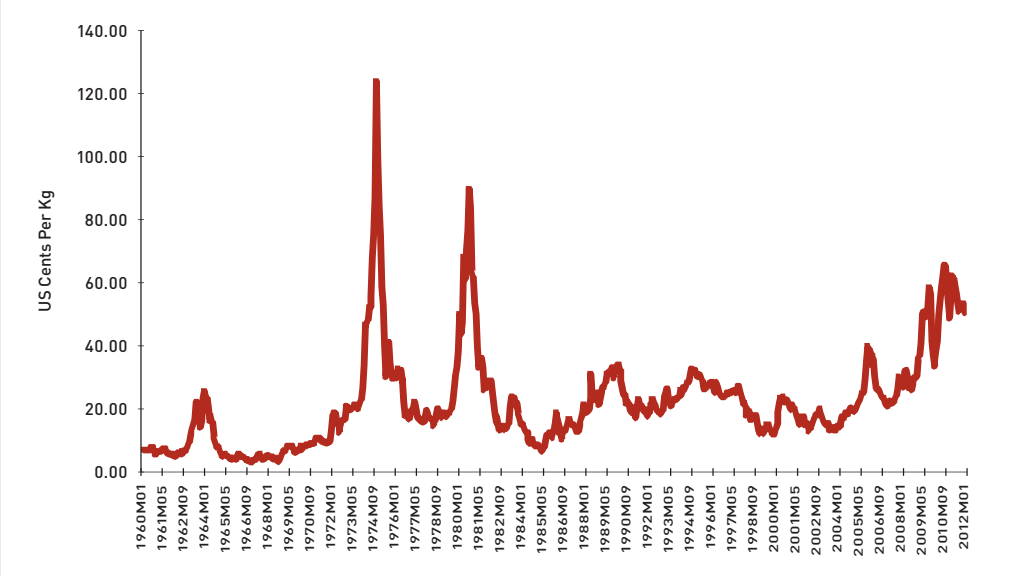
The production increase is largely due to bumper beet sugar harvests in Eastern and Western Europe. Production in Brazil was adversely affected by poor growing conditions. Thailand's production is a record on increased area combined with favourable weather conditions and better than expected yields. EU production is now expected to be a record due to high yields, and increased area in response to measures by the European Commission to encourage production and stimulate demand from processors.

Better sugar beet crop in the EU and Russia combined with increased production in Thailand and India more than offset the decline in Brazilian sugar production in 2011–12.

World sugar consumption is expected to return to long-term trend. According to latest FAO estimates, global sugar consumption is anticipated to reach 167.4 million tonnes in 2011–12, 2.2 per cent more than in 2010–11. Increased supply availability and lower prices are expected to support larger sugar intake than in the previous season. In 2009–10 and 2010–11, high domestic sugar prices curtailed demand in virtually all regions. However, a slowdown of global economic growth in 2012 could undermine prospects for demand expansion, as manufacturing and food preparation sectors, which account for the bulk of aggregate sugar consumption, are particularly sensitive to income changes.

Latest FAO estimates of world sugar imports for 2011–12 (October–September) stand at 49 million tonnes, 5 per cent less than in the previous season, reflecting lower output in Brazil, the world's largest exporter, and large production in traditional importing countries.

Figure III.8: International Sugar Price Trends



After declining since July 2011, international sugar prices rose to an average of US 23.5 cents per pound in January 2012, and further increased to US 24.1 cents per pound in March. Nonetheless, between January 2012 and March 2012, sugar prices averaged 16 per cent below the same period last year.

III.4.7 Milk

Production

Global dairy markets continue to expand at a rapid pace. Emerging markets, particularly India, have increased their milk production, but domestic demand continues to outstrip production. USDA forecasts 2012 global milk production at 538 million tonnes, including (460 million tonnes of cow milk and 78 million tonnes of other milk, mostly buffalo milk in India).

Table III.12A: Global Milk Production for Selected Countries and Total (thousand metric tonnes)

	Cow Milk			Other Milk			Total Milk		
	2010	2011	2012	2010	2011	2012	2010	2011	2012
EU-27	135,435	137,800	138,950	4,020	4,020	4,020	1,39,455	1,41,820	1,42,970
United States	87,461	88,950	90,038	NA	NA	NA	87,461	88,950	90,038
India	50,300	52,500	55,000	66,700	69,000	72,000	1,17,000	1,21,500	1,27,000
China	29,300	30,700	32,150	1,228	1,280	1,350	30,528	31,980	33,500
Russia	31,900	31,800	31,900	NA	NA	NA	31,900	31,800	31,900
Brazil	29,948	30,610	31,300	NA	NA	NA	29,948	30,610	31,300
New Zealand	17,173	18,681	19,130	NA	NA	NA	17,173	18,681	19,130
Argentina	10,600	11,990	12,450	NA	NA	NA	10,600	11,990	12,450
Mexico	11,033	10,878	10,975	168	165	165	11,201	11,043	11,140
Ukraine	10,977	10,800	10,550	272	300	330	11,249	11,100	10,880
Other	27,833	27,635	27,982	20	20	20	27,853	27,655	28,002
Total	4,41,960	4,52,344	4,60,425	72,408	74,785	77,885	5,14,368	5,27,129	5,38,310

Source: USDA.

Table III.12B: World Milk Production Estimate– USDA Vs. FAO (thousand metric tonnes)

Country/ Region	2011		2012	
	USDA	FAO	USDA	FAO
EU-27	141,820	155,300	142,970	156,500
United States	88,950	89,000	90,038	90,600
India	121,500	121,800	127,000	127,000
China	31,980	39,600	33,500	41,500
Russia	31,800	32,000	31,900	33,000
Brazil	30,610	32,100	31,300	33,100
New Zealand	18,681	17,900	19,130	19,500
Argentina	11,990	12,000	12,450	12,500
Mexico	11,043	10,700	11,140	10,700
Ukraine	11,100	11,100	10,880	11,200
Other	27,655	208,600	28,002	213,900
Total	527,129	730,100	538,310	749,500

Sources: USDA.

International prices of dairy products began to decline in mid-2011, as supplies to the international market improved.

The FAO estimate of world milk production is typically much higher than the USDA estimate, as perhaps USDA estimate does not include milk production in several countries in Africa and Asia. According to FAO, 2012 world milk production is 750.1 million tonnes, a 2.7 per cent increase over its 2011 milk production estimate, with most of the production increase in India. A comparison of USDA and FAO milk production estimate/forecast for 2011 and 2012 are given in Table III.12B.

Milk production in the United States is forecast to rise by 1.2 per cent in 2012 to 90 million tonnes, driven by rising average milk yields per cow. Nevertheless, production growth is forecast to moderate by relatively high feed grain costs and lower milk prices, which are expected to lower profitability. Assuming average seasonal conditions, New Zealand milk production is forecast to increase by around 2 per cent in 2012 to 19.1 million tonnes, following an estimated 8.8 per cent growth in the previous year.

Argentina's dairy industry is expected to continue to expand in 2012 but at a slower pace following an anticipated sharp improvement in milk production in 2011. Australian milk production is forecast to expand in 2012 by 2 per cent to 9.75 million tonnes.

International prices of dairy products began to decline in mid-2011, as supplies to the international market improved. In March, prices registered a further sharp decline. Comparing April 2012 with a year earlier, butter price was down by 26 per cent, whole milk powder down by 19 per cent and skimmed milk powder by 20 per cent. Despite the drop, international prices for dairy products remain well above historical averages.

World trade in dairy products is expected to continue to expand in 2012 with imports forecast by the FAO at 52.5 million tonnes of milk equivalent, Asia continuing to remain the main market.

PART IV

Overview of the Current Domestic Food Sector Output, Demand and Price Scenario

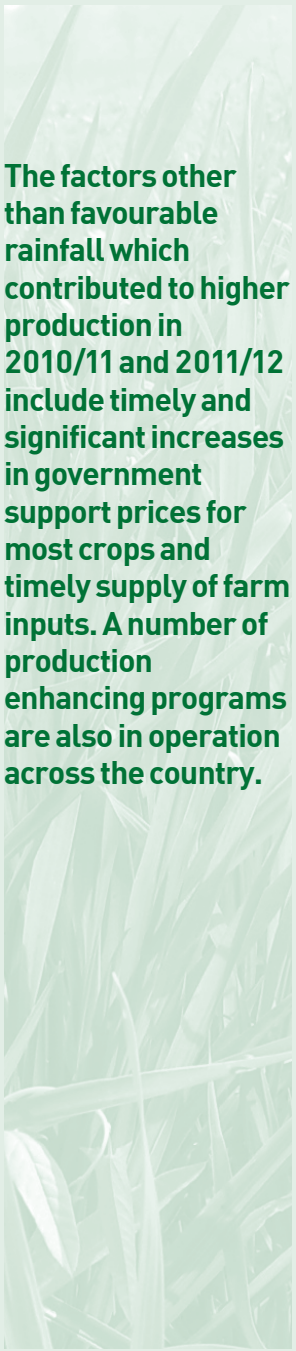
IV.1 Output Scenario for the Food Sector

After a poor performance in 2009–10 due to widespread drought caused by erratic monsoon rains in 2009, India's food sector registered a robust growth in 2010–11 and 2011–12, when production of most major crops such as rice, wheat, pulses, and oilseeds climbed to record levels. Total foodgrain output in 2011–12 is now estimated at 252.56 million tonnes of which kharif harvest is 129.37 million tonnes. The kharif foodgrain production in 2010–11 was 121.14 million tonnes, an increase of 17.19 million tonnes over the previous year. The total foodgrain output in 2010–11 was 244.78 million tonnes. The production of pulses was estimated to be lower in 2011–12 as compared to the previous year in both kharif and rabi seasons. Production of coarse grains was also lower in 2011–12 as compared to 2010–11 in both rabi and kharif. In the case of groundnut, soybean and rapeseed mustard, output in 2011–12 was lower than in 2010–11. There was also a significant increase in the production of sugarcane, which reached a near record level of around 351 million tonnes in 2011/12.

Thus, 2010–11 represented a strong recovery across all the major commodity groups from the decline in production seen in 2009–10. The production scenario in 2011–12, on the other hand represented sustained growth in the two major cereals, rice and wheat but in the other foodgrains and oilseeds further growth could not be achieved. The reasons for the lower output in the case of coarse grains, pulses and oilseeds include reduction in the area under these crops indicating competition for land across crops and also lower yields as the crops get pushed into less productive lands. Any reversal of these trends will require sustained efforts to improve the competitiveness of these crops improves with respect to the other crops grown in the same season.

The factors other than favourable rainfall which contributed to higher production in 2010/11 and 2011/12 include timely and significant increases in government support prices for most crops and timely supply of farm inputs. A number of production enhancing programs are also in operation across the country. The National Food Security Mission (NFSM), a Centrally Sponsored Scheme was implemented during the Eleventh Five Year Plan in 480 districts of 18 important Rice, Wheat and Pulses growing states. The Mission launched in 2007–08 was tasked to increase production of rice by 10 million tonnes, wheat by 8 million tonnes and pulses by 2 million tonnes by the end of 2011–12. A comparison of the goals and achievement is provided here:

The factors other than favourable rainfall which contributed to higher production in 2010/11 and 2011/12 include timely and significant increases in government support prices for most crops and timely supply of farm inputs. A number of production enhancing programs are also in operation across the country.



Year	Rice	Wheat	Pulses	Coarse grains	Foodgrain
2006–07	93.36	75.81	14.20	33.92	217.28
2007–08	96.69	78.57	14.76	40.76	230.78
2008–09	99.18	80.68	14.57	40.03	234.47
2009–10	89.09	80.80	14.66	33.55	218.11
2010–11	95.98	86.87	18.24	43.68	244.78
2011–12	103.41	90.23	17.02	41.91	252.56
Increase in 2011–12 over 2006–07	10.05	14.42	2.82	7.99	35.28
Target set for NFSM	10.00	8.00	2.00	Not applicable	Not applicable

Source: Data on production from State of Indian Agriculture (Ministry of Agriculture, 2012).

The target with respect to rice has been achieved and surpassed significantly in the case of wheat and pulses. Besides NFSM, there are many other initiatives of the Ministry of Agriculture that may be noted which have an impact on food production. Initiatives at the state level are also important in influencing agricultural production in the country.

Rashtriya Krishi Vikas Yojana (RKVY): This scheme was aimed at incentivizing States to enhance public investment in agriculture to achieve 4 per cent growth rate in agriculture and allied sectors during the XI Plan period. Based on data available upto 2010–11 RKVY has succeeded in incentivizing States to allocate more funds to agriculture and allied sectors as the Plan allocation to agriculture and allied sectors has gone up from 4.88 per cent of total State Plan Expenditure in 2006–07 to 6.04 per cent of aggregate State Plan Expenditure in 2010–11 (RE).

Bringing Green Revolution to Eastern India (BGREI): This programme is being implemented under RKVY in the states of Assam, Bihar, Chhattisgarh, Jharkhand, Odisha, Eastern Uttar Pradesh and West Bengal since 2010–11 to harness the potential of Eastern Indian Plains for enhancing Agricultural Production. We may mention that the record production of rice in 2011–12 has been possible because of the significant share of Eastern states in this increased output.

Pulses and Oilseeds Villages in Rainfed areas: Government of India has implemented "Integrated Development of 60,000 Pulses Villages in Rainfed Areas" programme during 2011–12. The programme has been implemented in 11 major pulses growing States viz. Andhra Pradesh, Bihar, Chhattisgarh, Gujarat, Karnataka, Madhya Pradesh, Maharashtra, Odisha, Rajasthan, Tamil Nadu & Uttar Pradesh.

National Horticulture Mission (NHM) and Horticulture Mission for North East and Himalayan States (HMNEH): Horticulture is also being promoted in a mission mode for improving farm income, livelihood security and for enhancing employment generation. Between NHM and HMNEH all States and UTs are covered for promoting production of horticultural crops. The HMNEH is being implemented in a mission mode with multiple strategies for the development of the sector.

Integrated Scheme of Oilseeds, Pulses, Oil Palm and Maize (ISOPOM): This scheme is being implemented since 2004 to increase production of oilseeds, pulses, maize and oil palm by bringing additional area under these crops and increasing productivity of these crops through various input incentives and technological support. The pulses component of ISOPOM has been merged with National Food Security Mission (NFSM) w.e.f. 1.4.2010.

Accelerated Pulses Production Programme: The 'Accelerated Pulses Production Programme (A3P)' has been launched as part of NFSM Pulses from Kharif 2010–11. One

million hectares of potential areas for the major pulses crops- tur, urad, moong, gram and lentil have been taken up for large scale demonstration of production and protection technologies on village level compact blocks for enhanced production of Pulses as well as for motivating farmers.

A reflection of the steady changes in the agricultural sector is in the growth of input use. The Report on State of Indian Agriculture (Ministry of Agriculture, 2012) provides a comprehensive review on this aspect. The report points to the large share of ground water sources in irrigating farm land. It emphasises the need for improving efficiency of irrigation systems: "Even an increase of 5 per cent in irrigation efficiency can increase irrigation potential by 10-15 million hectares". The SIA report documents the growth of distribution of certified seeds from 126.75 million tonnes in 2005–06 to to 277.3 million tonnes in 2010–11. Consumption of fertilisers increased from 105.5 kg of N+P+K per hectare of crop area to 144.14 kg/ ha during the same period. Consumption of pesticides has increased from 39.77 thousand tonnes to 55.54 thousand tonnes. About 40 per cent of soil working and seed bed preparation is now estimated to be mechanised. The SIA report points out that India is now the largest manufacturer of tractors in the world with the sales exceeding 5 lakh numbers in 2010–11.

A reflection of the steady changes in the agricultural sector is in the growth of input use.

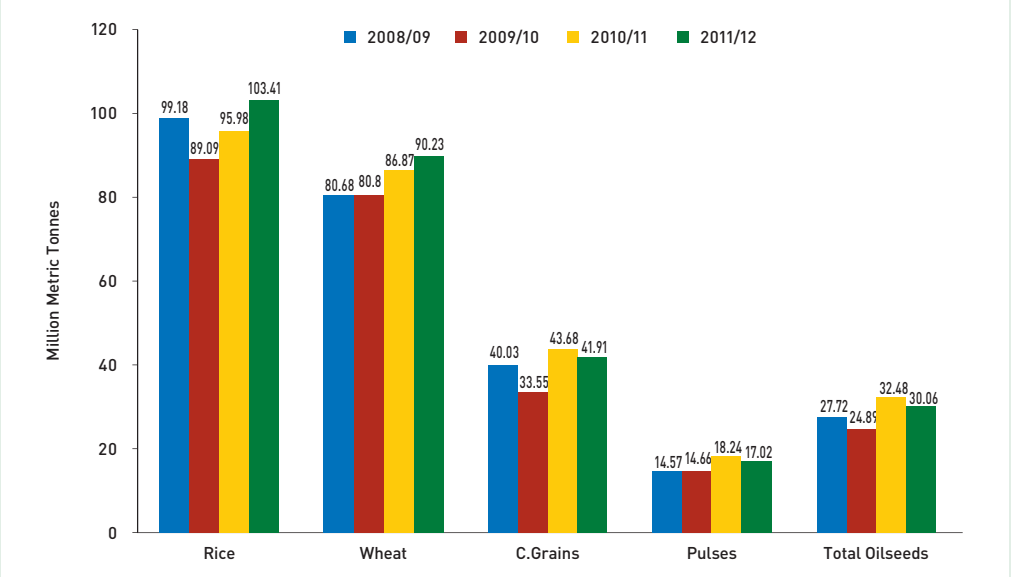
One development in the rural areas that is likely to accelerate mechanisation of farm operations is the rise in farm wages. The SIA report points to the sharp increase in wage rates for unskilled labour between 2008 and 2010. Improving the productivity of farm labour will be an important goal for the farmers to remain economically viable enterprises.

There has also been a push towards providing institutional credit to farmers and expanding agricultural insurance which in the long run should reduce financial risks to the farming operations. The SIA report points to the rise in institutional credit from 11.47 per cent of agricultural GDP in 2000–01 to 32.21 per cent in 2010–11.

The impact of various policies and the adoption of new technologies and production practices by the farmers has been increase in agricultural output, including livestock and allied products. As we pointed out above input use has expanded and intensified. However, the policies have also led to overflow of government granaries and achieving balanced growth of supplies to keep pace with demand while ensuring the growth of farm income will remain a policy challenge in years to come. The policies have also led to rising subsidy bill, especially on the government operations in rice and wheat.

The impact of various policies and the adoption of new technologies and production practices by the farmers has been increase in agricultural output, including livestock and allied products.

Figure IV.1: Agricultural Production Trends



Government's current estimates of output places this year's wheat production at 90.23 million tonnes, the highest ever.

2011–12 Production Situation

The June to September South West Monsoon rains last year were near normal at 101.4 per cent of the Long Period Average (LPA), with a generally satisfactory spatial distribution. There was deficiency of rainfall in July which is a critical month for crop production. However, the higher than normal rainfall in June and return to normal rainfall in August helped offset the deficiency in July. This resulted in increased sowing of rice, soybeans and planting of sugarcane. Among the other main oilseeds, area under kharif groundnut had declined as compared to the previous year. Area under cotton increased. The prospect of good financial returns for rice, soybean, cotton, and sugarcane as a result of higher minimum support prices announced by the government was also an encouraging factor for farmers to bring additional area under production.

Favourable rainfall combined with adequate supply of farm inputs resulted in higher yields of most kharif season crops, resulting in a record production of rice, maize and sugarcane. However, there was a marginal decline in the production of kharif oilseeds, coarse grains and pulses due to poor rainfall distribution in major growing states as yield levels decreased.

Favourable pre-sowing soil moisture conditions due to late monsoon rains in major growing areas last year combined with a prolonged cool weather through March this year should help the country harvest a record wheat crop this year. Latest official sowing data shows 2011/12 (MY 2012/13) wheat area is ahead of the previous year's level through January at around 29.7 million hectares. A significant upward revision in the government wheat support price for the 2012 crop provided an impetus for wheat sowing.

A deficiency in winter rains was largely offset by larger availability of irrigation water in dams and wells and a drawn out winter which prevented higher evapo-transpiration during critical grain filling stage in wheat. Government's current estimates of output places this year's wheat production at 90.23 million tonnes, the highest ever.

There is likely to be a marginal decline in production of other rabi crops such as rapeseed/mustard and pulses (gram, masur, peas, etc.), which are not so well irrigated as wheat, from the record 2010–11 levels due to poor winter rains and localised frost damages in major growing areas. Furthermore, available data point towards a marginal shift in acreage from these crops in favour of wheat, the major competing crop, due to assured higher return from wheat.

Kharif Crop outlook for 2012–13

Production of kharif season crops, which include mostly rice, coarse grains, pulses, groundnut, soybeans and sugarcane, which are not well irrigated (with the exception of sugarcane), will largely depend on the performance of the 2012 southwest monsoon rains. The 2012 monsoon forecasts by various global agencies vary considerably (Table IV.1).

The Indian Meteorology Department (IMD) issued its first long range forecast of the south-west monsoon rainfall for 2012 on April 22, 2012. This is based on its 5- parameter statistical model using data and information available up to the end of March 2012. This forecast has stated that the predicted probability of a normal rainfall, 96 to 104 per cent of the long term average rainfall, is 47 per cent. The probability of less than normal rainfall is greater than the probability of above normal rainfall.

In its second stage forecast for the Southwest Monsoon season rainfall over the country as a whole, released on June 22, 2012, the IMD has provided following details:

Rainfall over the country as a whole for the 2012 southwest monsoon season: (June to September) is most likely to be normal (96-104 per cent of LPA). This assessment is the same as on April 22, 2012 although with a lower probability than estimated in April.

The monsoon season rainfall for the country as a whole is likely to be 96 per cent (as compared to projected 99 per cent in April) of the long period average with a model error of ±4 per cent.

Monthly (July & August) Rainfall over the country as a whole: Rainfall over the country as a whole for the month of July 2012 is likely to be 98 per cent of its LPA and that for the month of August is likely to be 96 per cent of LPA both with a model error of ± 9 per cent.

Season's Rainfall over Broad Geographical Regions: Over the four broad geographical regions of the country, rainfall for the 2012 Southwest Monsoon Season is likely to be 93 per cent of its LPA over North-West India, 96 per cent of its LPA over Central India, 95 per cent of its LPA over South Peninsula, and 99 per cent of its LPA over North-East India all with a model error of ± 8 per cent.

The revised forecast for rainfall during the monsoon season projects lower probability of normal rainfall as compared to April forecast: probability of normal rainfall or 96-104 per cent of LPA is 42 per cent as compared to probability of 47 per cent projected in April. Rainfall in June 2012 so far has been deficient. The forecast for July, taking into account the model error, is 90-106 per cent of LPA. For August it is 87-104 per cent of LPA. The June–July rainfall is critical for sowing of kharif crops and September rainfall is critical to support crop yields.

The spatial spread of rainfall also indicates that the rainfall is likely to be below LPA in most of the regions except the North-East.

It would be, therefore, critical to monitor the rainfall conditions and take steps to provide advice on suitable crops, varieties and inputs to minimise the adverse impact of deficiency in rainfall in the monsoon season.

Ahead of the official forecast in April 2012, the Pune-based Indian Institute of Tropical Meteorology (IITM) predicted the southwest monsoon in 2012 would be above average.

As per the seasonal forecasts issued by the Frontier Research Institute, Japan in February 2012, India is expected to experience below normal rainfall during the coming monsoon season. Other international Weather Agencies forecasting below normal monsoon include

The revised forecast for rainfall during the monsoon season projects lower probability of normal rainfall as compared to April forecast: probability of normal rainfall or 96-104 per cent of LPA is 42 per cent as compared to probability of 47 per cent projected in April.

Table IV.1 Monsoon 2012: Forecast by Various Weather Agencies

National and International Agencies	Forecast
US National Centres for Environmental Predictions- Climate Forecasting Centre (NCEP-CFC)	Above normal
UK Meteorological Office (UKMO)	Below normal
Regional Institute for Global Change (RIGC), Tokyo	Below normal
Frontier Research Institute (FRI), Japan	Below normal
International Research Institute for Climate and Society (IRI), Columbia University	Below normal
European Centre for Medium-Range Weather Forecasts	Below normal
National	
Indian Institute of Tropical Meteorology (IITM), Pune	Above normal
Indian Meteorology Department (IMD) (April 2012)	Normal (with the probability of 47 per cent)$

Sources: : http://devconsultancygroup.blogspot.in/2012/04/normal-monsoon-forecast-indian-ocean.html, and Indian Meteorology Department. (www.imdpune.gov.in/weather_forecasting/weather_index.html)
Note: $ As per the June 22 forecast, the probability of normal rainfall is estimated to be lower at 42 per cent.

UK Meteorological Office, Regional Institute for Global Change, Tokyo, International Research Institute for Climate and Society, Columbia University, and European Centre for Medium-Range Weather Forecasts. However, forecasts from the US National Centre for Environmental Predictions-Climate Forecasting Centre forecasts above normal rainfall during the monsoon season (Table IV.1).

Due to variations in the monsoon forecasts by various agencies and in the absence of any clear indications regarding farmers' planting intentions so early in the season, forecasts about various kharif crop productions can be made only conditional on monsoon scenarios. For instance even with just a normal rainfall scenario, and less than LPA rainfall in July, the year 2011–12 saw record level of foodgrain output.

But, given the deficiency in rainfall even upto June 27, 2012 there is a need to be cautious on the likely output scenario for agriculture in 2012–13 in the context of the monsoon conditions.

Table IV.2 Kharif 2012–13 Crop Forecasts (million tonnes)

Crop	3rd Advance Estimate	Projected range for Kharif 2012
Rice	90.2	82.3-86.6
Maize	16.1	15.1-16.3
Bajra	9.7	8.1-9.8
Jowar	3.0	2.6-2.9
Other coarse grains	3.0	2.4-2.6
Pulses	6.4	5.5-6.2
Total Kharif foodgrain	128.4	116.0-124.4
Groundnut	5.35	4.7-5.8
Soybean	12.1	12.3-13.1
Sugarcane	351.2	347.2-356.2

Note: The range for 2012 Kharif has been derived based on trend growth rate and the impact of total rainfall during the monsoon season. The lower limit of the range corresponds to rainfall 10 per cent below normal and the upper range with normal rainfall. The projections are derived based on a linear regression model with production as the dependent variable and a trend and annual rainfall as the independent variables.

The projections are less than last year's kharif harvest even when rainfall is normal except in the case of maize, bajra, groundnut, soybean and Sugarcane.

Based on analysis of recent trends and the impact of total rainfall we present a set of projections for the major kharif crops in Table IV.2.

The projections are less than last year's kharif harvest even when rainfall is normal except in the case of maize, bajra, groundnut, soybean and Sugarcane. The major reason for the lower output in the case of rice, the main driver of growth last year is the fact that in terms of total rainfall even 2011 monsoon was near normal and yet the output was above the overall trend growth. In other words, the output level could not be explained by only the trend growth and normal rainfall. The other factors driving growth may be the particular pattern of rainfall across regions and during the monsoon period. Unless there is a replication of the monsoon pattern of last year, the output level for kharif may be lower in 2012 than in the previous year.

Water levels in major reservoirs at the end of May this year, although higher than the ten year average, are 18 per cent below a year ago level, making a normal monsoon rains more critical for kharif season crops this year.

The pre-monsoon rainfall has been deficient. There are areas in Maharashtra and Karnataka where the impact of inadequate rainfall has been reported on crop prospects. Expansion of irrigated area under major crops has been slow in the recent years. Better use of existing irrigation facilities is likely to be a more important source of productivity growth in the short term.

Input supply situation is believed to be generally satisfactory. The fertiliser consumption in terms of major nutrients is growing at about 5 per cent per year. Fertiliser prices in terms of WPI have increased by 13.5 per cent in 2011–12 over the previous year. The WPI of diesel (HSD) increased by 8.5 per cent in 2011–12 over the previous year. The increase in consumer prices by nearly 10 per cent during the year has meant significant increase in expenditures of farmers as consumers.

These increases in input prices will require adequate increase in output prices to maintain income levels of the farmers. The minimum support prices offset the increase in production costs to the extent that economic incentives for production are maintained. The recommendations of CACP on MSP for kharif crops for 2012–13 have now been announced. As we have noted before, the recommendations provide incentives to coarse grains, pulses and oilseeds although significant increase in the MSP for paddy has also been recommended. The recommendations of CACP on MSP for kharif crops are summarised in Table IV.3.

Again, as we had noted earlier, marketing reforms will be important to derive the full benefits of the increase in MSP for coarse grains and pulses. However, the prevailing high international corn and soybean prices, translating into high domestic market prices, should also encourage a marginal shift in acreage towards these crops from some low return competing crops such as sorghum and millets other than bajra.

The recommendations of CACP on MSP for kharif crops for 2012–13 have now been announced. As we have noted before, the recommendations provide incentives to coarse grains, pulses and oilseeds although significant increase in the MSP for paddy has also been recommended.

Table IV.3: Minimum Support Prices fixed by the Government for Kharif Crops since 2006–07 Marketing Season) (Rs. per quintal)

Sl No.	Commodity	2006–07	2007–08	2008–09	2009–10	2010–11	2011–12	2012–13@@	%increase in 12–13 over11–12
1	Paddy Common	580@	645#	850$	1000^	1000	1080	1250	15.7
2	Paddy Grade 'A'	610@	675#	880$	1030^	1030	1110		
3	Jowar -Hybrid	540	600	840	840	880	980	1500	53.1
4	Jowar-Maldandi	555	620	860	860	900	1000		
5	Bajra	540	600	840	840	880	980	1175	19.9
6	Ragi	540	600	915	915	965	1050	1500	42.8
7	Maize	540	620	840	840	880	980	1175	19.9
8	Tur(Arhar)	1410	1550*	2000	2300	3000	3200	4000	25.0
9	Moong	1520	1700*	2520	2760	3170	3500	4500	28.6
10	Urd	1520	1700*	2520	2520	2900	3300	4300	30.3
11	Groundnut in shell	1520	1520	2100	2100	2300	2700	3700	37.0
12	Sunflower Seed	1500	1510	2215	2215	2350	2800	3700	32.1
13	Soybean Black	900	910	1350	1350	1400	1650	2200	33.3
14	Soyabean Yellow	1020	1050	1390	1390	1440	1690		
15	Sesamum	1560	1580	2750	2850	2900	3400	4200	23.5
16	Nigerseed	1220	1240	2405	2405	2450	2900	3500	20.7

@An additional incentive bonus of Rs 40/- is payable on procurement between 1.10.06 to 31.03.07. This will be subject to the condition that Government fully exempt this bonus amount from all state taxes and levies.
Additional incentive bonus of Rs 100.00 per quintal for paddy for 2007–08 entire Kharif marketing season (Rs 50/- Notification dated 09.10.07 & Rs 50/- Notification dated 15.11.07)
$bonus of Rs 50/- per quintal payable over the MSP
^Rs 50/- incentive bonus for paddy procurement during 2009–10.
*An additional incentive bonus of Rs 40/- per quintal be given over and above the MSP for 2007–08 season.
a refer to the variety F414/H777as Medium Staple Length from 2006–07 onward.
aa refer to the variety H4 as Long Staple Length from 2006–07 onward.
b staple length(mm) of 24.5-25.5 and micronaire value of 4.3-5.1
bb staple length(mm) of 29.5-30.5 and micronaire value of 3.5-4.3.1
@@ As recommended by CACP
Source: Commission on Agricultural Costs and Prices

In 2010–11, India imported 7 million tonnes of vegetable oils and 3 million tonnes of pulses. Similar imports are likely to continue in the foreseeable future unless there is more area brought under pulses and oilseeds.

Institutional credit for agricultural credit has expended has expanded sharply in the last 5-6 years. The credit has increased from Rs 2.29 lakh crore in 2006–07 to Rs 4.68 lakh crore in 2011–12 and the target for 2012–13 is Rs 5.75 lakh crore. The crop loans of up to Rs 3 lakh are available at 4 per cent annual rate of interest to the farmers.

Reports suggest that good quality seeds are available to meet the demand for the major crops. The incidence of pests and diseases is also reportedly below the economic threshold level.

Consumption, Stocks and Price Situation

Various rounds of household consumer expenditure survey by the government's National Sample Survey Office (NSSO) show a declining trend in per capita wheat, rice, and pulses consumption over the past decade[18]. This is attributed to diversification of food consumption leading to increased consumption of high value food products such as fruits, dairy products, meat, and processed food products, a reflection of rising income in the economy. Per capita consumption of vegetable oils and sugar also has registered a significant growth in recent years reflecting the increasing purchase power in the economy.

Despite a declining trend in the per capita consumption of cereals and pulses, total consumption is growing due to increasing population. The recent significant increase in rice, wheat and sugarcane production has been more than adequate to meet the annual consumption requirements of cereals and sugar this year and has led to the build up of large stocks with the government. However, there is a widening gap in the demand and domestic supply of pulses, vegetable oils, milk and milk products, and meat and meat products. To meet the supply demand gap, large imports would become necessary in the case of basic food items such as pulses and vegetable oils. In 2010–11, India imported 7 million tonnes of vegetable oils and 3 million tonnes of pulses. Similar imports are likely to continue in the foreseeable future unless there is more area brought under pulses and oilseeds. The government's tariff and sanitary restrictions, however, do not permit significant imports of milk and meat products, and their prices may continue to remain high.

The large build up of rice and wheat stocks and lack of adequate storage facilities have prompted the government to allow exports of wheat and rice since September 2011, after a gap of about three years. Although Indian low quality (25 per cent broken) white rice is at present competitive in the world market, which resulted in significant exports in 2011–12, estimated at 4 million tonnes and likely to lead to exports of 6 million tonnes in 2012–13, Indian wheat is not currently competitive in the global market due to large supplies of low quality wheat from the Black Sea region countries. Except for small exports to neighbouring countries such as Bangladesh and Sri Lanka due to freight advantage, large wheat exports are unlikely in 2012–13, unless the government heavily subsidizes wheat exports, which will be objected by several wheat exporting countries on the ground that it is in contravention to India's WTO commitment. High global corn prices have helped India's exports of maize in 2011–12 and may continue so in 2012–13.

Commodity Balance

A useful tool to assess the emerging availability and price scenario for commodities is to examine their supply-demand balances. We provide a preliminary position on supply-demand balance for rice based on the available information. In this analysis some simplifying assumptions have been necessary especially on the domestic consumption: we have combined all components of domestic use into one category that includes use of the

18. State of Indian Agriculture 2011–12 (Page 262-263) http://agricoop.nic.in/SIA111213312.pdf

commodity for food, seed, industrial use, wastage and also any privately held stocks. In the case of vegetable oils, and sugar we present the estimates available from the other sources. We have not been able to provide the supply-demand balances only in the case of rice, wheat, maize, vegetable oils and sugar.

The commodity level supply-demand balance tables are presented in the respective commodity level sections in the Part V of this report. Some implications of the analysis are:

- Rising stocks have emerged with the government in the case of rice and wheat, as domestic use based on the recent trends may not be able to absorb the additional production. The increasing stocks open up opportunities for exports but may also allow increased distribution through PDS. The implications to food subsidy are also significant as the cost of procurement and storage will increase.
- In the case of maize, increased production will provide opportunities for exports or increased domestic use. The production increase will moderate market prices.
- In the case of edible oils, shortfall in production will increase the import demand and global supply scenario and exchange rate of the rupee will influence both availability and consumer prices in the country.
- In the case of sugar, finding export markets would be important as there are significant stocks of the commodity at the beginning of 2012–13 and production is also likely to be satisfactory.

India's headline wholesale price index-based year-on-year inflation for all commodities has eased in recent months falling to around 7.2 per cent in January 2012 from around 10 per cent during most of 2011 but increasing to 7.5 per cent in May 2012. Food price inflation has fallen more sharply hitting the negative territory in January 2012 before inching upward to 6.1 per cent in February 2012, 9.9 per cent in March 2012, and 10.5 per cent in April 2012 from the high levels of over16 to 20 per cent in 2010 and early 2011. Food article price inflation averaged 15.2 per cent in FY 2009–10 and 15.8 per cent in 2010–11. However, following a record or near record harvest of most crops in 2011–12, food price inflation has eased to average around 7 per cent in 2011–12. While most of the recent decline in food inflation was due to cereals and sugar, prices of milk and milk products, vegetables and fruits, meat and meat products and edible oils continued to remain high due to demand surpassing production and high international prices in the case of vegetable oils.

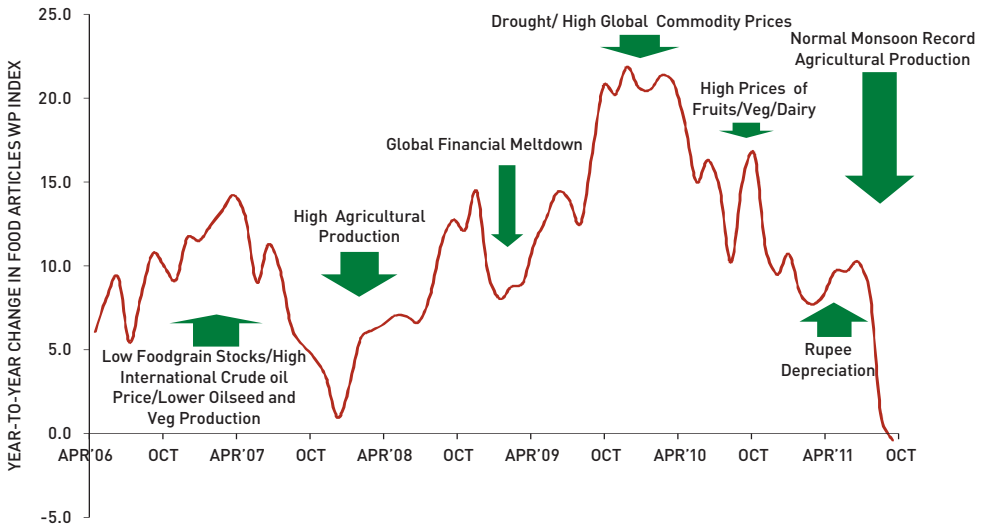
As in the past (Figure IV.2), near term factors that may influence future food prices are:

- Weather
- Stock levels
- Trade Policy changes
- Exchange rates
- Energy & other non ag prices / Ag production costs
- Extent of global economic recovery
- Import demand.

Rising stocks have emerged with the government in the case of rice and wheat, as domestic use based on the recent trends may not be able to absorb the additional production.

While most of the recent decline in food inflation was due to cereals and sugar, prices of milk and milk products, vegetables and fruits, meat and meat products and edible oils continued to remain high due to demand surpassing production and high international prices in the case of vegetable oils.

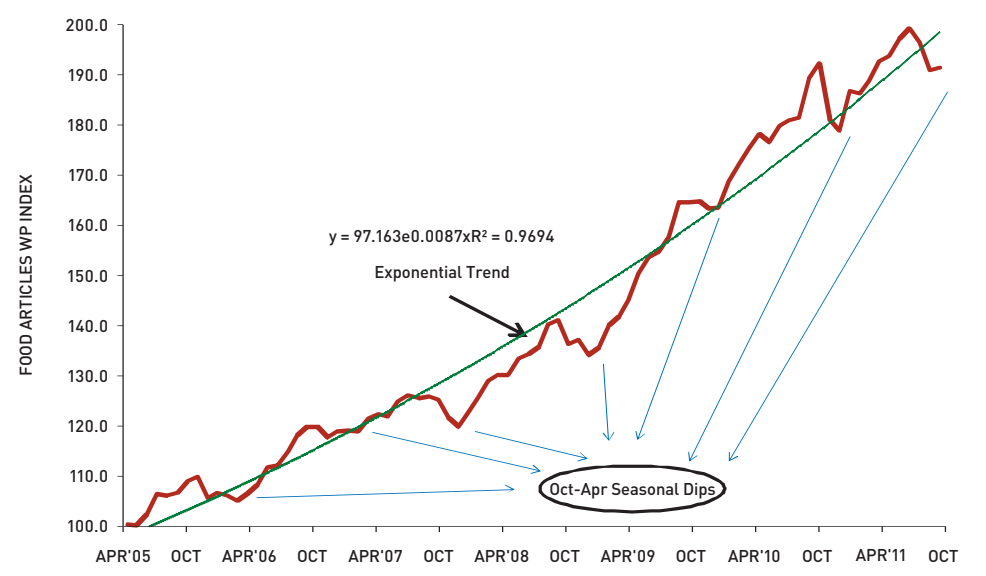
Figure IV.2: Tracking Food Inflation



Record wheat and rice stocks with the government, which on June 1, 2012, stood at 82.4 million tonnes (32.1 million tonnes of rice and 50.2 million tonnes of wheat), combined with all time high rice and wheat production in 2011–12 will help to keep food grain prices under control in the near future. Nonetheless, it will be at a higher cost to the government exchequer in the form of higher food subsidy as the grains distributed through the Public Distribution System (PDS) to contain the price rise will be at highly subsidised price.

Sugar supply situation will also remain comfortable with large stocks and a likely record production. Prices of vegetable oils, however, will remain volatile during the next few months due to a surge in international prices and weakening of India rupee against the US dollar, as the country meets a major share of its consumption requirements through imports. Despite a decline in domestic production, a large dry peas crop in Canada and traditional pulse crops in Myanmar which are major suppliers of pulses to India, may help

Figure IV.3: Food Articles Price Trends Upward



to moderate pulse prices, although the continuing depreciation of Indian rupee against the US dollar has created uncertainties and made importers weary. Milk and meat prices are also likely to remain high due to increasing domestic demand spurred by growing consumer income combined with increasing feed cost. Although international prices of milk and milk products has declined, India's restrictive import policy will prevent taking advantage of the lower global prices.

A trend analysis of the whole sale price index of food articles shows that, food article prices in general, are likely to trend upward at around 0.8 percent per month (9.6 per annum) in the near future, with a typical modest seasonal dips during the October – April period.

PART V

Commodity Specific Assesment of Kharif 2012

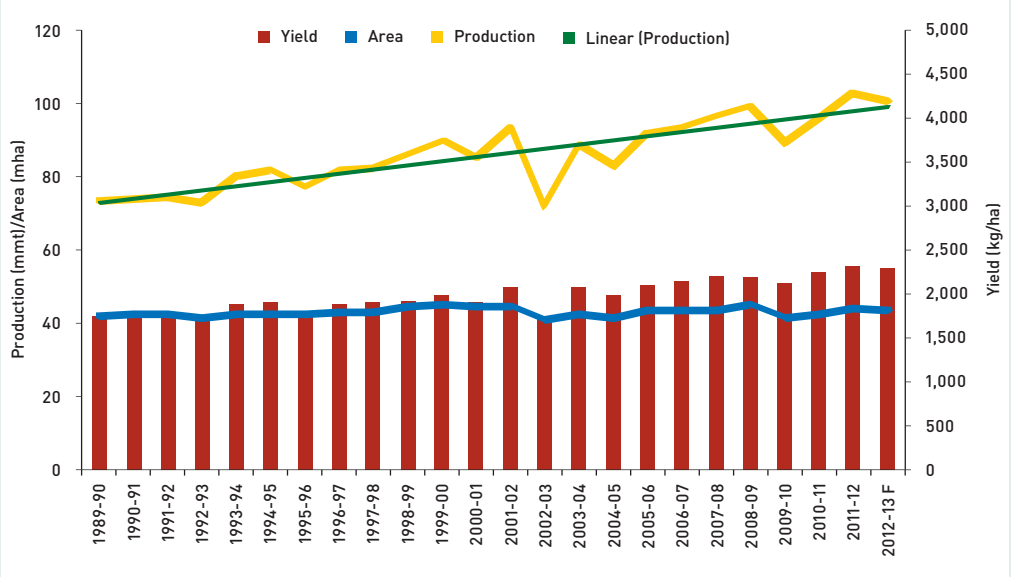
V.1 Rice

Production

Rice production has shown a steady upward trend during the period 2005–06 to 2008–09 reaching a record level of 99.18 million tonnes in 2008–09. Production declined to 89.09 million tonnes in 2009–10 due to a severe drought gripping most parts of the country but rebounded to 96 million tonnes in 2010–11 and further to a record 103.4 million tonnes (Third Advance Estimate) in 2011–12, largely due to favourable monsoon (Figure V.1). Various government production programs such as the National Food Security Mission and Bringing Green Revolution to Eastern India are also believed to have contributed to increasing yields in targeted districts contributing to overall increase in productivity.

Sowing of the crop in kharif is yet to begin and forecast for the Marketing Year (MY) 2012–13 (Oct–Sep) rice production, would be conditional on the rainfall during the monsoon season of June–September. Besides the total precipitation, what matters most for rice production is the spatial and temporal distribution of rains.

Figure V.1: Rice: Area, Production, and Yield



Under normal rainfall condition, kharif crop is forecast to come at around 86.6 million tonnes and total rice crop may reach 103 million tonnes in 2012–13.

India is the second largest rice producing country in the world after China. Although rice planted area in India is 40 per cent higher than in China, Indian rice production is 30 per

Besides the total precipitation, what matters most for rice production is the spatial and temporal distribution of rains.

cent below Chinese production because of lower yields (2.3 tonnes per hectare in India vs. 4.7 tonnes in China). Indian rice yields are well below the world average (2.9 tonnes/hectare), implying there is a great potential for increasing production.

Another challenge facing Indian rice production is that production largely depends on monsoon rains as only 59 per cent of rice area has assured irrigation compared with 91 per cent in the case of wheat, with the result that Indian rice production is subject to high year-to-year variability.

Another challenge facing Indian rice production is that production largely depends on monsoon rains as only 59 per cent of rice area has assured irrigation compared with 91 per cent in the case of wheat, with the result that Indian rice production is subject to high year-to-year variability.

Use of high-yielding seed varieties is concentrated in states that use irrigation such as Punjab, Haryana, Andhra Pradesh, Tamil Nadu and West Uttar Pradesh. Fertilizer application at the national level is not high, but is near optimum in these states. Area under hybrid rice is estimated to have increased in recent years from 10,000 hectares in 1995 to 2 million hectares presently, concentrated mostly in eastern Uttar Pradesh, Bihar, Jharkhand, and Chhattisgarh. The major challenge facing hybrid rice seed producers in India is the vast diversity in the consumer preference for rice, making it difficult to develop the right type of hybrids on a commercial scale. The National Food Security Mission[19] contained a target to cover 3 million hectares rice area under hybrid rice by the year 2011–12, to achieve the objective of increasing rice production by 10 million tonnes over 2006–07.

Some of the surplus rice growing states in the north are attempting to diversify the intensive rice/wheat rotation due to ecological concerns such as a low water table and declining soil health. However, a significant shift is not imminent in the absence of a more profitable crop rotation and due to the government's renewed emphasis on rice production for food security reasons by offering higher MSPs and other incentives. Rice area, production and yield by state in MY 2011–12 are shown in Table V.1.

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/spring season under assured irrigation resulting in higher yields. Numerous varieties of rice are grown in India to meet varied consumer preferences. For government procurement purposes, however, rice is classified into two categories: common (length to breadth ratio less than 2.5) and Grade A (length to breadth ratio more than 2.5). India is a leading producer of Basmati (aromatic rice). Basmati rice production is reportedly growing with the introduction of PUSA 1121 variety, an evolved high yielding variety of Basmati rice, grown mostly in Punjab and Haryana. Although no official statistics are available, trade sources peg production of all types of basmati (traditional, Pusa, and Pusa 1121) in MY 2011–12 at around 5.0 million tonnes from 1.8 million hectares.

Consumption, Trade and Prices

Despite larger rice production in MY 2010–11 and 2011–12, open market rice prices have remained high, as government procured most of the marketable surplus at the support price (Table V.2). During the past two years, wholesale rice price has increased by 11 per cent and by 64 per cent since 2005–06, based on wholesale price index. To overcome the impact of high rice prices in the open market, the government has been increasing PDS allocations and making open market sales, somewhat offsetting the reduced consumption outside the PDS. Nevertheless, per capita rice availability has been declining over the past several years, currently estimated at around 185 grams per day (68 kg per year). This is

19. http://agricoop.nic.in/NFSM/NFSM.pdf

Table V.1: Area, Production and Yield of Rice by State 2011–12

State	Area Mill. ha	% of Total	Production Million Tonnes	% of Total	Yield Kg/Ha	% Irrigated Area (2008–09)
West Bengal	5.51	12.41	15.04	14.55	2729.0	48.4
Uttar Pradesh	5.95	13.39	14.03	13.56	2357.9	78.8
Andhra Pradesh	4.07	9.16	12.95	12.52	3182.1	96.8
Punjab	2.82	6.35	10.54	10.19	3741.0	99.5
Bihar	3.09	6.96	6.68	6.46	2160.0	57.2
Tamil Nadu	2.03	4.57	6.10	5.90	3009.0	93.3
Chattisgarh	3.77	8.50	6.03	5.83	1597.4	32.7
Orissa	4.07	9.16	5.82	5.63	1431.0	46.8
Assam	2.44	5.50	4.35	4.20	1777.8	5.3
Karnataka	1.39	3.13	3.86	3.73	2778.1	74.7
Haryana	1.24	2.78	3.76	3.64	3043.7	99.9
Jharkhand	1.69	3.81	3.42	3.30	2018.0	NA
Maharashtra	1.55	3.50	2.85	2.75	1832.0	26.4
Madhya Pradesh	1.65	3.72	1.83	1.77	1106.0	17.8
Gujarat	0.80	1.80	1.76	1.71	2202.2	63.3
Kerala	0.21	0.47	0.55	0.53	2654.0	NA
Others	2.13	3.7	3.86	4.8	1813.3	NA
All India	44.41	100	103.41	100	2328.5	58.7

Source: Directorate of Economics and Statistics, Department of Agriculture and Cooperation

further confirmed by various Rounds of National Sample Survey Organization (NSSO) Household Consumption Expenditure Survey. Accordingly, annual per capita rice consumption declined from 82.61 kg in 1993–94 to 77.62 kg in 2004–05 and further to 74.70 kg in 2009–10 in rural households and from 62.42 kg in 1993–94 to 57.31 kg in 2004–05 and further to 56.64 kg in 2009–10 in urban households.[20] However, the decline in rice, wheat and other cereal consumption was partly offset by higher consumption of vegetables, fruits, milk, eggs and meat, reflecting the increasing purchasing power in the economy.

With a view to maximize distribution due to food security concerns and to compensate farmers for the increasing cost of production, the government has been steadily increasing the Minimum Support Price (MSP) of paddy. The government increased the MSP for paddy for MY 20011–12 by Rs. 800 per metric tonne to Rs. 10,800 per tonne for Common varieties and Rs. 11,300 per tonne for Grade A varieties.

20. State of Indian Agriculture 2011–12 Report (http://agricoop.nic.in/SIA111213312.pdf) Page 262.

Table V.2: Government Operations in Rice

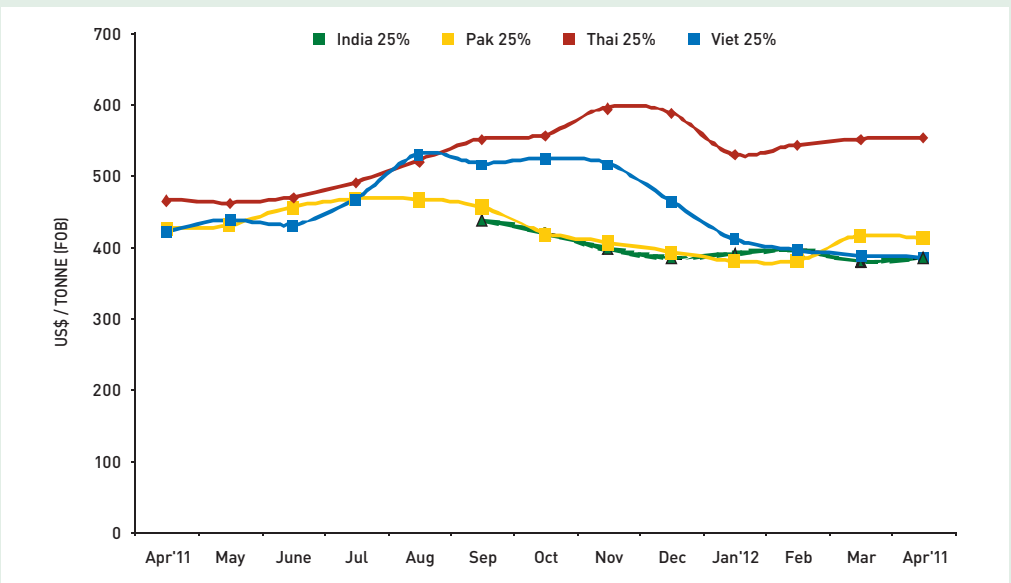
Marketing Year (Oct–Sep)	Govt Procurement Million tonnes	MSP for Paddy Rs. per tonne		PDS Offtake Million Tonnes**	PDS Issue Price for Milled Rice Rs. Per tonne			Govt. Food Subsidy Billion Rs.
		Common	Grade A		APLGrade A	BPL	AAY	
2002/03	16.4 (22.8)	5,500	5,800	26.1	8,300	5,650	3,000	241.8
2003/04	22.9 (25.8)	5,500	5,800	25.1	8,300	5,650	3,000	251.8
2004/05	24.7 (29.7)	5,600	5,900	20.8	8,300	5,650	3,000	258.0
2005/06	27.6 (30.1)	5,700	6,000	24.0	8,300	5,650	3,000	230.8
2006/07	25.1 (26.9)	6,200	6,500	24.8	8,300	5,650	3,000	240.1
2007/08	28.7 (29.7)	7,450	7,750	25.2	8,300	5,650	3,000	313.3
2008/09	34.1 (34.4)	9,000	9,300	24.7	8,300	5,650	3,000	437.5
2009/10	31.4 (35.2)	10,000	10,300	27.6	8,300	5,650	3,000	584.4
2010/11	34.2 (35.6)	10,000	10,300	30.0	8,300	5,650	3,000	638.4
2011/12	*37.0 (36.0)	10,800	11,100	*31.8	8,300	5,650	3,000	728.2
2012/13		12,500	12,800		8,300	5,650	3,000	***750.0

Sources: http://fciweb.nic.in/
* Estimated; ** On Fiscal Year (Apr–Mar) basis; ***Budgeted
PDS = Public Distribution System; APL = Above Poverty Line
BPL = Below Poverty Line; AAY = Antyodaya Anna Yojana (Poorest of the Poor)
Figures in parenthesis show government procurement as percent of production.

The government has not increased the sale price of rice distributed through the PDS (issue price) since July 1, 2002, although the MSP has doubled during this period, contributing to the increasing food subsidy. The government food subsidy has tripled since 2002–03 to Rs728 billion in Fiscal Year 2011–12 (Apr–Mar) with FY 2012–13 food subsidy budgeted at Rs. 750 billion. The implementation of the National Food Security Act is likely to lead to further escalation in food subsidy.

India's MY 2010–11 rice exports are estimated at 2.8 million tonnes compared to around 2.1 million tonnes in MY 2009–10 (mostly Basmati rice as non-Basmati rice exports were banned during April 1, 2008 to September 8, 2011). After the government lifted the ban on exports of non-Basmati rice effective September 9, 2011, Indian non-Basmati rice has become very competitive in the global market (Figure V.2).

Figure V.2: India Export Price vis-a-vis Global Price



Source: FAO

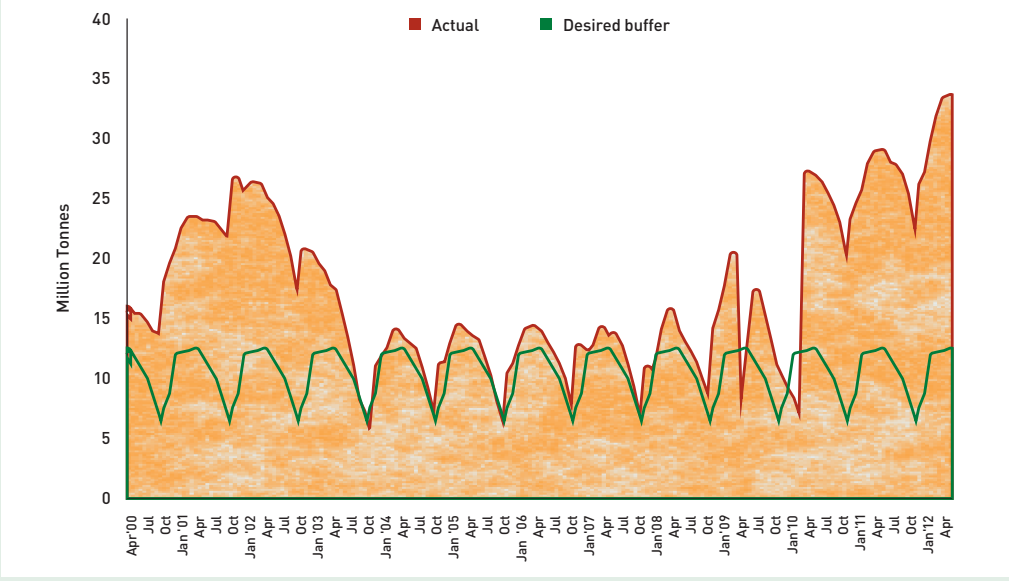
Market sources report that India shipped about 2.2 million tons of non-Basmati during September 2011 through January 2012, mostly to Bangladesh, African, Middle East and some South Asian countries. With strong exports of non-Basmati rice since the lifting of export ban, CY 2011 rice exports are estimated to have reached around 4 million tonnes. Provided Indian rice exports continue to remain competitive in the global market MY 2011–12 and CY 2012 exports may touch 6 million tonnes in CY 2012. Although the weakening of Indian rupee against US$ has contributed to competitiveness of Indian non-Basmati rice exports, a likely hike in the MSP of paddy in MY 2012–13 could mar this advantage

Provided Indian rice exports continue to remain competitive in the global market MY 2011–12 and CY 2012 exports may touch 6 million tonnes in CY 2012.

Stocks

Government-held rice stocks have been increasing since 2008, as government procurement under price support operations continues to outstrip PDS offtake (Figure V.3). Stocks on October 1, 2011, were 20.4 million tonnes, four times the government's desired October 1 minimum buffer stock level of 5.2 million tonnes excluding strategic stocks. Stocks are projected at around 25 million tonnes on October 1, 2012. Large rice stocks, combined with large wheat stocks and prospects of record government wheat procurement this year could balloon the government's grain storage problem.

Figure V.3: Government Rice Stocks- Actual vs Buffer Norm



Supply-Demand Balance

We have attempted to provide an assessment of the emerging supply-demand balance in 2012–13 in the case of rice based on a number of assumptions. First, the overall production is assumed to be 102 million tonnes, slightly lower than the 2011–12 harvest. Details on various components of supply and demand are provided in Table V.3.

Table V.3: Supply-demand balance for rice

Rice	2009–10 Oct–Sep	2010–11 Oct–Sep	2011–12 Oct–Sep	2012–13F Oct–Sep
Production (1000 T)	89,090	95,980	103,410	102,000
Beginning Stocks (1000 T)	15,349	18,444	20,359	25,000
Imports (1000 T)	0	0	0	0
Total Supply (1000 T)	**104,439**	**114,424**	**123,769**	**127,000**
Exports (1000 T)	2,100	2,800	6,000	5,000
Total Domestic Use (1000 T)	83,895	91,265	92,769	95,000
Ending Stocks (1000 T)	18,444	20,359	25,000	27,000
Total Utilisation (1000 T)	**104,439**	**114,424**	**123,769**	**127,000**
Stocks to Use Ratio %	22	22	27	28
Government Operations in Rice	**2009–10 Oct–Sep**	**2010–11 Oct–Sep**	**2011–12 Oct–Sep**	**2012–13F Oct–Sep**
Beginning Stocks (1000 T)	15,349	18,444	20,359	25,000
Imports (1000 T)	0	0	0	0
Procurement (1000 T)	32,124	34,196	37,000	36,000
Total Availability (1000 T)	47,473	52,640	57,359	61,000
PDS Offatke (1000 T)	29,029	32,281	32,359	34,000
Exports (1000 T)	0	0	0	0
Discrepancy (1000 T)	0	0	0	0
Total Distribution (1000 T)	**47,473**	**52,640**	**57,359**	**61,000**
Ending Stocks (1000 T)	18,444	20,359	25,000	27,000

Note: Data for 2012–13 are based on our assumptions.

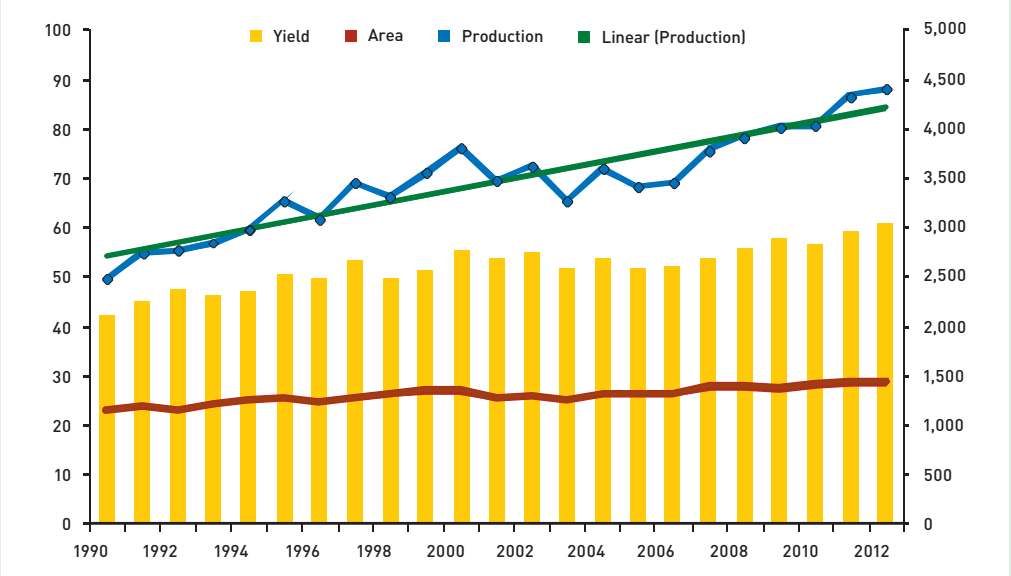
The picture emerging from the analysis points to the rising stocks with the government even with nearly unchanged production in 2012–13 as compared to the previous year, unless either domestic use increases more than the trend increase or export demand increases.

V.2 Wheat

Production

India is heading for another record wheat harvest this year (MY 2012–13), the fifth in a row, aided by a generally favourable growing condition characterised by a prolonged winter, and adequate availability of farm inputs. Above normal late season monsoon rains provided a favourable soil moisture regime for wheat planting in most growing areas. The timely announcement of a hike in the government's minimum support price (MSP) for wheat for MY 2012–13 also provided further impetus to wheat planting. Although approximately 91 per cent of India's wheat area has assured irrigation facilities, cool temperatures through grain filling stage is critical for realizing higher yields. Sporadic rains coinciding with the harvest season in major wheat growing areas of northern India was a matter of concern as these rains could result in quality problem (high moisture and discoloration) and even some production losses.

Figure V.4: Wheat: Area, Production, and Yield



Wheat production, after remaining below the trend line during the first half of the last decade, bounced back on or above the trend path during the last five years scoring new record year after year.

Wheat production, after remaining below the trend line during the first half of the last decade, bounced back on or above the trend path during the last five years scoring new record year after year (Figure V.4). The 2012 wheat production is now estimated by the government at 90.2 million tonnes. The increase in the production has been achieved in these recent five years on account of larger area coverage and also increase in productivity, which crossed 3,000 kg/hectare in 2012. Although potential exists to increase wheat yields in most states, realising that potential is hampered by a number of factors. For instance, there is a need for varieties that are late sowing and resistant to terminal moisture stress especially in regions where wheat can be sown after a rice crop.

The 2012 wheat production is now estimated by the government at 90.2 million tonnes.

India is the second largest wheat producing country in the world after China. Wheat yield in India ranges from about 4,700 kg/hectare in Punjab and Haryana, where wheat is almost fully irrigated, optimally fertilised, and almost entirely covered under High Yielding Varieties to 1,800 kg/hectare in Madhya Pradesh where wheat is sub optimally fertilised and irrigated with most area covered under low yielding traditional varieties.

Table V.3 shows wheat area, production, and yield by major growing states. Indian wheat yield is comparable to world average, though well below the Chinese yield of 4,700 kg/hectare. Indian wheat is largely a soft/medium hard, medium protein, bread wheat, somewhat similar to U.S. hard white wheat. Wheat grown in central and western India is typically hard, with high protein and high gluten strength, hence fetching a premium. India also produces around 1.2 million tons of durum wheat, mostly in the state of Madhya Pradesh, which, however, is not marketed separately due to segregation problems at the market yard. Lower yields and a small premium vis-à-vis other high yielding and high quality wheat varieties such as Sharbati and Lok 1 grown in this region and the government's wheat export ban has also discouraged durum wheat cultivation in recent years.

Table V.4: Area, Production and Yield of Rice by State 2011–12

State	Area Million Hectares	% of Total	Production Million Tonnes	% of Total	Yield Kg/Ha	% Irrigated Area (2008–09)
Uttar Pradesh	9.73	32.8	30.29	33.6	3113.00	97.8
Punjab	3.52	11.8	16.52	18.3	4699.86	98.6
Haryana	2.53	8.5	12.03	13.3	4750.00	99.3
Rajasthan	2.94	9.9	9.14	10.1	3112.36	99.4
Madhya Pradesh	4.83	16.3	8.47	9.4	1751.83	83.8
Bihar	2.20	7.4	4.85	5.4	2206.00	91.7
Gujarat	1.32	4.4	4.08	4.5	3100.38	89.8
Maharashtra	0.84	2.8	1.28	1.4	1523.13	74.8
Other States	1.79	6.03	3.58	3.97	1999.01	
All India	29.69	100.00	90.23	100.00	3038.82	91.3

Source: Directorate of Economics and Statistics, Department of Agriculture and Cooperation.

Consumption, Trade and Price

A record production and larger than normal distribution of wheat from government stocks helped to contain the price rise during MY 2011–12, although a significant increase in the MSP for wheat kept open market prices high. Concerned about food price inflation, the government has been supplying additional quantities of wheat and rice through the PDS in recent years. Overall wheat consumption including food, feed, seed, waste and other uses (residual consumption) in MY 2012/13 is forecast to increase marginally. Wheat prices, measured by Wholesale Price Index, declined by 2 per cent in FY 2011–12 from the FY 2010–11 level, although prices increased by 60 percent since 2005–06.

Table V.5: Government Operations in Wheat

Marketing Year (Apr – Mar)	MSP Rs. per tonne	Govt Procurement Million Tonnes	PDS Offtake Million Tonnes**	PDS Issue Price Rs. Per tonne			Food Subsidy Rs. Billion*
				APL	BPL	AAY	
2002/03	6,200	19.0 (26.1)	26.5	6,100	4,150	2,000	241.8
2003/04	6,300	15.8 (24.0)	24.3	6,100	4,150	2,000	251.8
2004/05	6,300	16.8 (23.3)	16.9	6,100	4,150	2,000	258.0
2005/06	6,400	14.8 (21.6)	16.7	6,100	4,150	2,000	230.8
2006/07	6,500	9.2 (13.3)	11.9	6,100	4,150	2,000	240.1
2007/08	8,500	11.1 (14.6)	12.2	6,100	4,150	2,000	313.3
2008/09	10,000	22.7 (28.9)	14.9	6,100	4,150	2,000	437.5
2009/10	10,800	25.3 (31.4)	22.4	6,100	4,150	2,000	584.4
2010/11	11,000	22.5 (25.9)	23.1	6,100	4,150	2,000	638.4
2011/12	11,700	28.3 (32.0)	22.2	6,100	4,150	2,000	728.2
2012/13	12,850	37.2 (41.2)					**750.0

Sources: http://fciweb.nic.in/
* On Fiscal Year (Apr–Mar) basis; ** Budgeted
PDS = Public Distribution System; APL = Above Poverty Line
BPL = Below Poverty Line; AAY = Antyodaya Anna Yojana (Poorest of the Poor)
Figures in parenthesis show government procurement as percent of production.

As in the case of rice, despite an increase in production, per capita net availability of wheat has shown a generally downward trend in recent years, increasing marginally to 168 grams/day (61kg/ year) in 2010–11. This is also reflected in the NSSO's Consumer Expenditure Survey results, which showed annual per capita wheat consumption in urban areas declined to 52.82 kg in 2009–10 from 53.05 kg in 2004–05 and 54.02 kg in 1993–94. However, in rural households there was an increase in annual per capita consumption to 53.03 kg in 2009–10 from 50.98 kg in 2004–05 and 52.56 kg in 1993–94.

Although the MSP has doubled over the past ten years, there has been no revision to the government sale price (issue price) of wheat under various PDS programs since July 2002 (Table V.4). While policies relating to MSP for agricultural crops and the central issue price for the PDS served the twin objectives of providing remunerative prices to farmers and affordable prices to PDS consumers, the spread between the government's economic cost and the issue price of wheat and rice has widened leading to a surge in food subsidy in recent years. Nonetheless, several states are unable to utilise their full allocation of subsidised grains from the central pool due to poor infrastructure and lack of finance.

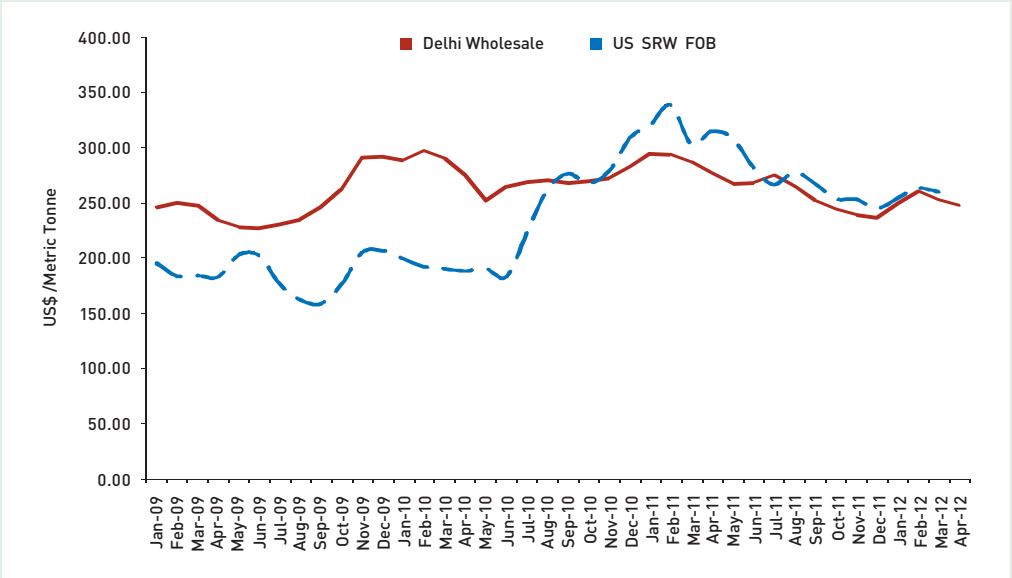
On September 9, 2011, the government lifted the ban on wheat exports which was in place since February 2007 (with some exceptions) due to food security concerns. The decision to lift the ban was prompted by comfortable domestic grain supply situation, thanks to consecutive record harvests and burgeoning government stocks resulting in massive grain storage problem. It is unclear whether the export permission will continue once the government enacts the National Food Security Bill[21], which has been referred to a Standing Parliamentary Committee for further review before being enacted by the Parliament. The National Food Security Bill in its current form entails legal entitlement to subsidised food grains for 63.5 per cent of India's population, including 75 per cent of rural and 50 per cent of urban dwellers, requiring 64 million tonnes of food grains (mostly wheat and rice) for distribution against annual PDS distribution of around 55 million tons in recent years.

According to trade sources, against the prevailing global prices of about $270 per metric tonne for Russian and Ukraine origin wheat comparable to Indian wheat, FOB price of Indian wheat is $272 to $300 per tonne. Unless global prices firm up or Indian prices decline (which is not likely in view of the hike in MSP) or rupee further depreciates against US$, there is no parity for large scale Indian wheat exports, except to nearby markets such as Bangladesh, where India has a freight advantage. Furthermore, because of lack of grading standards, Indian wheat is typically traded at a discount in the world market. Being an "on again and off again" exporter of wheat, India is not able to make a mark in the world wheat market. Figure V.5 shows indicative Indian wholesale price of milling quality wheat at Delhi compared to the US FOB price for Soft Red Winter wheat. Exports in MY 2012–13 are forecast by trade sources at 1 to 1.5 million tonnes. .However, if the government decides to subsidize exports, significant exports are likely.

While policies relating to MSP for agricultural crops and the central issue price for the PDS served the twin objectives of providing remunerative prices to farmers and affordable prices to PDS consumers, the spread between the government's economic cost and the issue price of wheat and rice has widened leading to a surge in food subsidy in recent years.

21. http://fcamin.nic.in/LSfoodsecuritybill.pdf

Figure V.5: Indian Wholesale Wheat Price vis-à-vis US SRW Wheat Price FOB

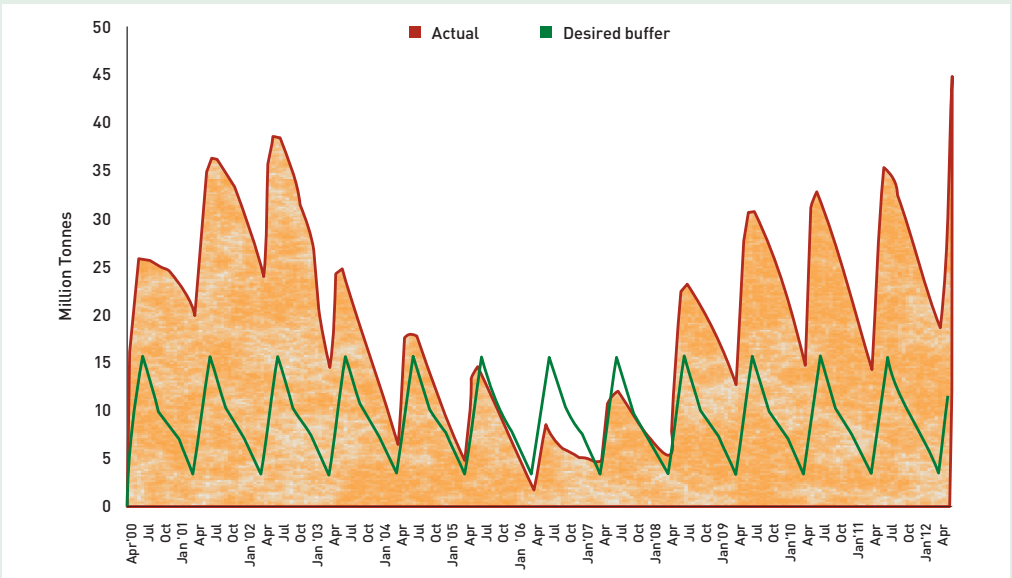


Source: US Price - World Bank; Indian Price: http://fcainfoweb.nic.in/pms/Average1_web.aspx
Note: US SRW has typically sells at a premium over Indian wheat. Indian FOB price will be higher than the indicated Delhi wholesale price by around $40 per tonne on account of transportation cost and other handling charges taking current FOB price to $290 per tonne.

Stocks

Government-held wheat stocks on April 1, 2012, were 20 million tonnes, compared with 15.4 million tonnes a year ago, but below the record April 1 stocks of 26 million tonnes in 2002. With a likely higher procurement (37.2 million tonnes) this year compared with an annual offtake (29.5 million tonnes) through the PDS, stocks are projected to reach around 26 million tonnes on April 1, 2013. However, with most of the government procurement likely to be over by end-May, June 1, 2012, wheat stocks could peak to a record of around 50.2 million tonnes (Chart V.6), which combined with large rice stocks could aggravate the grain storage problem.

Figure V.6: Government Wheat Stocks- Actual vs Buffer Norm



Supply-Demand Balance

The emerging supply-demand balance in 2012–13 in the case of wheat has been presented in Table V.5. As in the case of rice, a number of assumptions were made to arrive at the supply-demand balance. The overall production, however, is known from the rabi 2011–12 harvest. Details on various components of supply and demand are provided in Table V.6.

The stocks with the government are set to increase by the end of 2012–13 marketing year for wheat by about 6 million tonnes unless there is greater distribution of grain through the PDS or increased exports. The stock to use ratio is estimated to increase from 24 per cent in 2011–12 to 31 per cent in 2012–13 unless demand for wheat increases above the trend level.

Table V.6: Supply-Demand Balance for Wheat

Wheat	2009–10 Apr–Mar	2010–11 Apr–Mar	2011–12 Apr–Mar	2012–13F Apr–Mar
Production (1000 T)	80,680	80,800	86,870	90,230
Beginning Stocks (1000 T) Govt	13,429	16,125	15,364	19,952
Imports (1000 T)	220	270	25	0
Total Supply (1000 T)	**94,329**	**97,195**	**102,259**	**110,182**
Exports (1000 T)	60	70	500	1,000
Total Domestic Use (1000 T)	77,924	81,491	81,782	83,182
Ending Stocks (1000 T) Govt	16,125	15,364	19,952	26,000
Total Utilisation (1000 T)	**94,329**	**97,195**	**102,259**	**110,182**
Stocks to Use Ratio %	21	19	24	31
Govt Wheat Operation	**2009–10 Apr–Mar**	**2010–11 Apr–Mar**	**2011–12 Apr–Mar**	**2012–13F Apr–Mar**
Beginning Stocks (1000 T)	13,429	16,125	15,364	19,952
Imports (1000 T)	0	0	0	0
Procurement (1000 T)	25,382	22,514	28,334	37,000
Total Availability (1000 T)	38,811	38,639	43,698	56,952
PDS Offatke (1000 T)	22,384	23,067	24,267	29,452
Exports (1000 T)	0	0	250	1,000
Discrepancy (1000 T)	302	208	-771	2,500
Total Distribution (1000 T)	22,384	23,067	24,517	30,952
Ending Stocks (1000 T)	16,125	15,364	19,952	26,000

Note: (1) T= Tonnes; (2) F= Forecast; (3) Stock to use ratio in a year is calculated as (Year Ending Stock/ Total utilisation during the year)* 100.

The stocks with the government are set to increase by the end of 2012–13 marketing year for wheat by about 6 million tonnes unless there is greater distribution of grain through the PDS or increased exports.

V.3 Coarse Grains

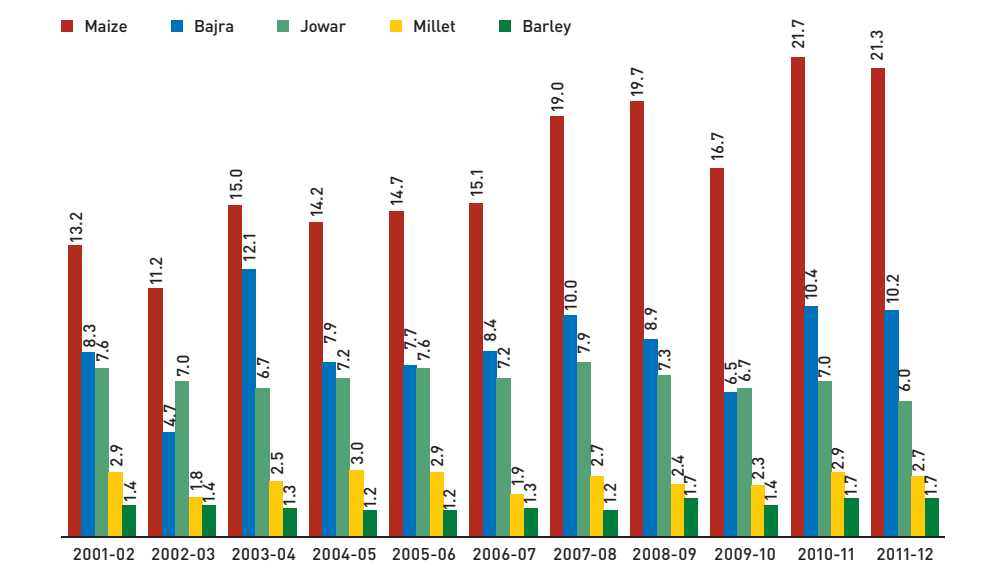
Production

India's coarse grain production, consisting mostly of maize, jowar, bajra, various other millets, and barley has shown a mixed trend over the past years. As most coarse grain crops are grown under rain-fed conditions, there is significant year-to-year production variation. With the exception of some jowar, maize, and barley, a major share of coarse grain crops is grown in the kharif season. 2011–12 coarse grain production is estimated at 41.9 million tonnes (32.4 million tonnes in kharif and 9.5 million tonnes in rabi), a marginal decline over the 2010–11 production of 43.7 million tonnes). Assuming normal rains this summer, 2012–13 kharif coarse grain production is projected at around 33 million tonnes

(maize 16.8, jowar 3.0, bajra 10.7, and other millet 2.7). Area, production and yield of various coarse grains by major producing states in 2010–11 is shown in Table V.7.

While maize production has registered a significant growth in recent years, thanks to introduction of hybrid seeds mostly in south India, production of other coarse grains has declined or stagnated.

Figure V.7: Coarse Grain Production Trend (million tonnes)



While maize production has registered a significant growth in recent years, thanks to introduction of hybrid seeds mostly in south India, production of other coarse grains has declined or stagnated. Sorghum production has slowed, due to a shift in area from sorghum to soybeans and other commercial crops such as cotton. Millet production fluctuates widely from year-to-year depending on the monsoon, as it is almost entirely rain-fed. Barley production, which is a small winter crop in north India, has remained stagnant at around 1.5 million tonnes over the past several years but has registered a small growth in most recent years. A decline in area due to a shift toward wheat was largely offset by increased yields. Production has failed to respond to increasing demand from India's growing malt-based beer and health food sectors, because of lower returns vis-à-vis wheat. Most of the barley production in India is feed type, unsuitable for malting. However, in recent years good malting type barley varieties have been developed under a public-private breeding program. Some malting and brewing companies have initiated contract farming of malting type barley in Haryana, Punjab, and Rajasthan.

Consumption, Trade and Price

Food use accounts for a major share of coarse grain consumption, particularly in the case of sorghum, millet, and barley. In the case of maize, however, around 10 9 million tonnes (roughly 50 percent of total production) goes for feed use, primarily for poultry feed. Another 1.2 million tons of maize is used by the starch industry. High maize and soybean prices (major feed ingredients) resulted in high prices for poultry. Maize demand by the starch industry is on the upswing. However, the slowdown in the global economy may reduce the demand for starch, mainly used by the textile industry. The high tannin content in Indian sorghum restricts its use in poultry rations, while its use in the production of industrial alcohol and starch has greater potential. Barley is used mainly for food and feed, although some better quality varieties are used in malting. The total quantity of barley required for malting purposes is estimated at 250,000 tons annually, growing at 10 percent per year. India does not produce any ethanol from cereal grains. Thus, there has been no

Table V.7: Area, Production and Yield of Maize, Jowar, Bajra and Coarse Grains by States (2011–12)

State	Area Million Hectares	% of Total	Production Million Tonnes	% of Total	Yield Kg/Ha	% Irrigated Area (2008–09)
Area, Production and Yield of Maize by States						
Karnataka	1.30	15.4	4.1	19.2	3063.5	41.3
Andhra Pradesh	0.90	9.8	3.6	17.0	4254.4	49.4
Maharashtra	0.80	9.6	2.3	10.7	2738.0	14.7
TN	0.30	4.0	1.8	8.4	5176.4	47.9
Rajasthan	1.00	12.0	1.6	7.7	1582.9	1.3
UP	0.80	9.0	1.3	6.1	1663.3	34.5
MP	0.90	9.8	1.3	6.0	1501.9	1.8
Bihar	0.50	5.5	1.2	5.7	2546.4	60.6
other states	2.15	24.8	4.1	19.2	1906.5	NA
All India	8.67	100.0	21.3	100.00	2460.2	25.2
Area, Production and Yield of Jowar by States						
Maharashtra	3.27	51.6	2.5	42.0	775.2	9.1
Karnataka	1.16	18.4	1.5	24.1	1248.3	11.2
MP	0.37	5.9	0.6	9.8	1587.1	0.1
Rajasthan	0.55	8.8	0.4	6.8	740.6	0.4
AP	0.28	4.5	0.3	5.7	1200.7	9.2
TN	0.28	4.5	0.3	4.8	1010.5	9.9
UP	0.19	3.0	0.2	3.5	1104.2	0.7
Gujarat	0.13	2.0	0.2	2.5	1187.5	16.3
Others	0.09	1.4	0.1	0.9	575.2	NA
All India	6.33	100.0	6.0	100.0	952.0	8.9
Area, Production and Yield of Bajra by States						
Rajasthan	5.49	60.6	4.6	44.9	832.0	5.2
UP	0.89	9.8	1.6	16.1	1839.0	7.8
Haryana	0.58	6.4	1.2	11.6	2039.9	37.0
Maharashtra	0.84	9.2	0.8	8.3	1004.8	5.5
Gujarat	0.68	7.6	1.1	11.1	1655.0	22.1
Karnataka	0.28	3.1	0.3	2.8	996.5	15.1
MP	0.18	2.0	0.3	3.4	1922.4	0.2
Others	0.13	1.4	0.2	1.9	1485.0	NA
All India	9.07	100.0	10.2	100.0	1121.4	9.4
Area, Production and Yield of Total Coarse Grains by States						
Rajasthan	7.43	27.8	7.6	18.2	1023.1	8.0
Karnataka	3.49	13.0	7.2	17.1	2056.2	18.8
Maharashtra	5.14	19.2	5.8	13.9	1133.0	8.9
Andhra Pradesh	1.25	4.7	4.1	9.8	3269.4	37.0
UP	2.03	7.6	3.5	8.4	1731.7	23.3
TN	0.80	3.0	2.4	5.8	3021.8	25.1
MP	1.72	6.4	2.4	5.6	1374.8	3.0
Gujarat	1.39	5.2	2.1	5.1	1542.6	17.7
Haryana	0.69	2.6	1.4	3.3	1987.0	44.5
Bihar	0.51	1.9	1.3	3.0	2449.5	58.2
Others	2.31	8.6	4.2	9.9	1798.3	NA
All India	26.76	100.0	41.9	100.0	1566.1	15.3

Source: Directorate of Economics and Statistics

impact resulting from the domestic ethanol program (which is based on molasses from sugar) on the domestic market for food, feed and trade of cereal grains and its by-products. A lower production in MY 2011-12 and a significant increase in the support price in MY 2012-13 will keep maize and other coarse grain price high.

Unlike rice and wheat, maize prices are affected by global price movements as exports are not restricted. Despite two consecutive bumper harvests in MYs 2010/11 and 2011/12, maize prices have remained firm in MY 2011/12 on strong domestic demand and international prices. The average maize price across the major markets in February 2012 is estimated at Rs 10,905 ($220) per metric ton, over 10 per cent higher than the average price in February 2011. Prices of other coarse grains have also been 8-10 per cent higher than last year's level on lower production, compared to last year's record harvests.

Despite two consecutive bumper harvests in MYs 2010/11 and 2011/12, maize prices have remained firm in MY 201/12 on strong domestic demand and international prices.

Supply-Demand Balance for Maize

As production stagnated in 2011–12 and there were no imports, domestic use also remained stagnant. This scenario also points to lack of information regarding stocks held in the private sector. There may have been draw down of stocks available either with the farmers or traders. However, as there is no information on this component of demand, we assume that domestic use declined or remained stagnant in 2011–12. Going forward, if there is an increase in production in 2012–13 by 1.7 million tonnes, this creates space for increased domestic use. Exports are unlikely to increase significantly given the expected increase in global production. Details of the emerging supply-demand scenario are in Table V.8.

Table V.8: Supply-Demand Balance for Maize

Maize	2009–10 Oct–Sep	2010–11 Oct–Sep	2011–12 Oct–Sep	2012–13F Oct–Sep
Production (1000 T)	16,720	21,730	21,330	23,000
Beginning Stocks (1000 T)	750	450	600	700
Imports (1000 T)	0	0	0	0
Total Supply (1000 T)	**17,470**	**22,180**	**21,930**	**23,700**
Exports (1000 T)	1,900	2,800	3,000	2,500
Total Domestic Use (1000 T)	**15,120**	**18,780**	**18,230**	**20,300**
Total Utilisation (1000 T)	**17,470**	**22,180**	**21,930**	**23,700**
Ending Stocks (1000 T)	450	600	700	900

Note: (1) T= Tonnes; Production for 2012–13 is based on the projections presented earlier; Stock levels in each year are assumptions; Domestic use is total supply minus exports. Exports for 2012–13 are based on our assessment.

V.4 Pulses

Production

Pulses are important protein crops in India grown mostly under rain-fed conditions. Annual planted area and production fluctuates depending upon the rainfall conditions with annual production in recent years ranging from 13 to 18 million tonne from 22 to 26 million hectares with yields fluctuating between 540 and 690 kg/ hectare (Figure V.8). A wide range of pulses are grown in India, which include primarily gram or chana, tur, mung, urad, masur and mutter. Favourable weather conditions, combined with high domestic prices and government's special focus on pulse production under the National Food Security Mission (NFSM) and other programs resulted in pulse production registering significant growth in recent years, reaching a record high 18.2 million tonnes

in 2010–11 falling marginally to 17 million tonnes in 2011–12. Nevertheless, pulse yields have, on average, failed to show significant gains compared with other crops, eroding the profitability and reducing area under pulses relative to other crops.

Pulse production remains unattractive because of the relatively low productivity of pulses, combined with more favourable government price supports and procurement policies for wheat and rice. Low resilience to moisture stress and pest infestation, have contributed to variable production. Only a small share (16 per cent in 2008–09) of pulse acreage is irrigated, reflecting both the rain fed conditions in traditional pulse-growing areas and the inability of relatively low-productivity pulses to compete with other crops, particularly wheat and rice, for irrigated land.

Figure V.8: Pulse Area, Production, and Yield Trends

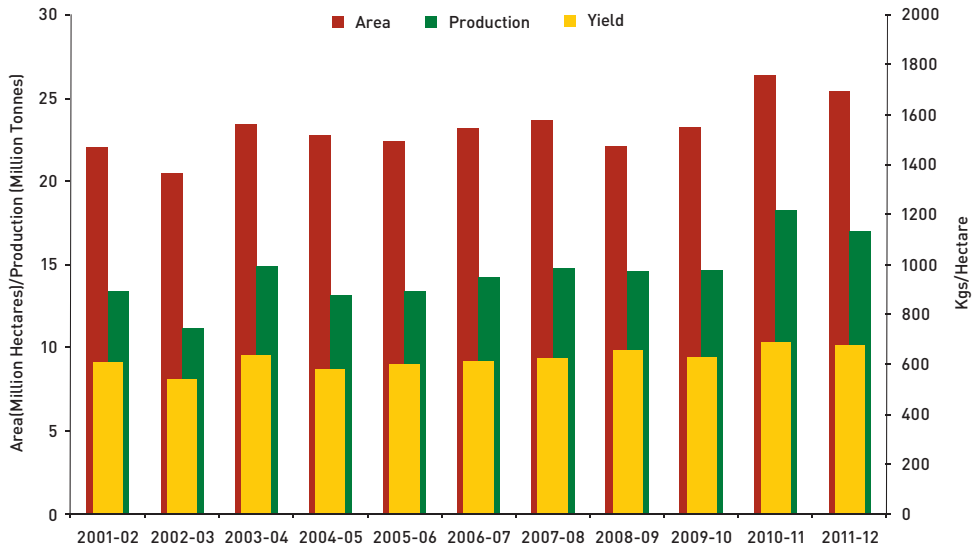


Figure V.9: Pulse Production by Type

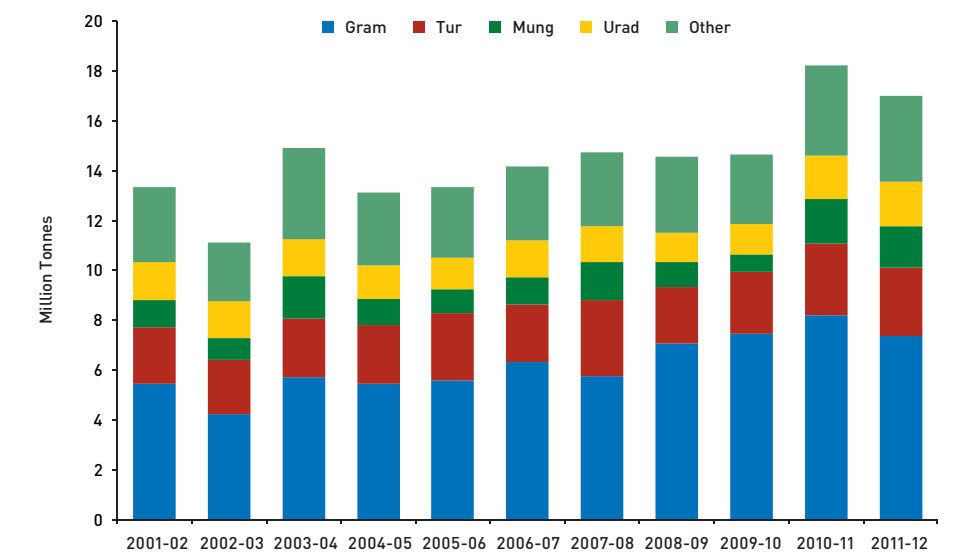
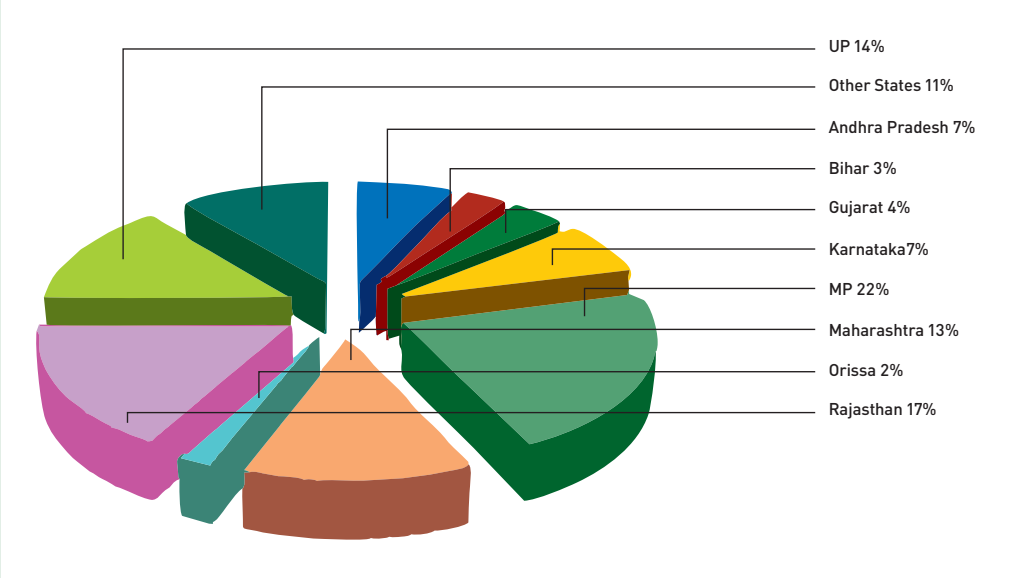


Figure V.10: Pulses Production by States (2011–12)



Data source: Directorate of Economics and Statistics

Gram, masur, and mutter are grown in the rabi season, while tur, mung, and urad, and some other minor pulses are produced mostly during the kharif season. Although pulses are grown in almost all states, major growing states are Madhya Pradesh, Rajasthan, Maharashtra, Uttar Pradesh, Karnataka, and Andhra Pradesh, which together accounts for almost 75 per cent of production (Figure V.10). Assuming normal rainfall this summer, we project 2012–13 kharif pulse production at 6.6 million tonnes against 2011–12 estimate of 6.4 million tonnes.

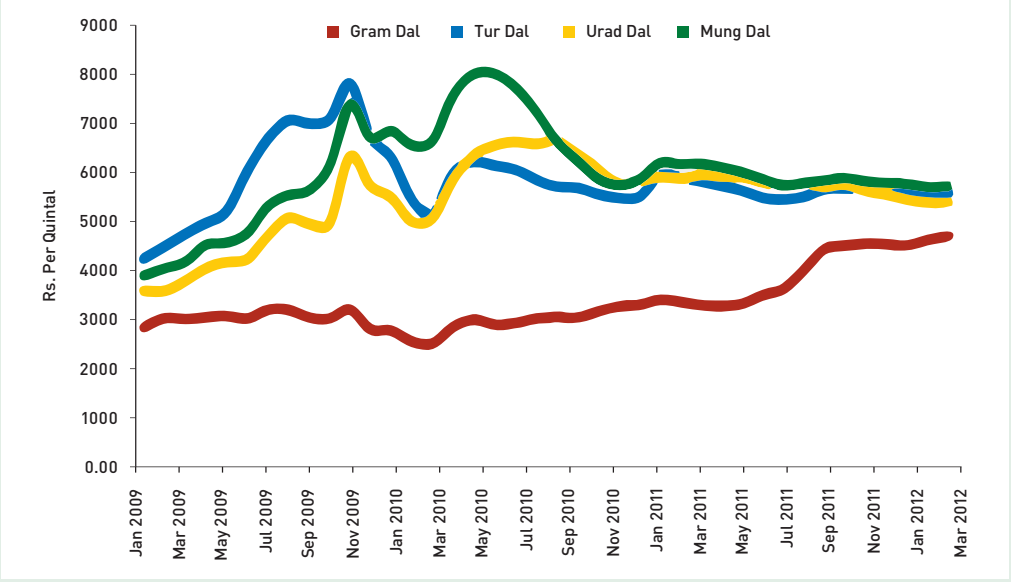
Consumption, Trade and Price

Per capita pulse consumption has shown a generally down trend despite increasing consumer income although prices of pulses have also increased sharply over the years. Per capita net pulse availability has declined from around 70 grams per day in Fifties to 40 grams in 1980s and further to around 35 grams per day currently. NSSO Consumer Expenditure Survey results show annual per capita pulse and pulse products consumption shrunk from 9.25 kg in 1993–94 to 8.64 kg in 2004–05 and further to 7.92 kg in 2009–10 in rural households and 10.46 kg in 1993–94 to 9.98 kg in 2004–05 and 9.60 kg in 2009–10 in urban areas. The explanation for why the Indian market has witnessed declining per capita consumption of pulses despite rising incomes and a liberal import policy likely hinges on several factors[22]. First, domestic supplies have not risen significantly over time. Second, imports have remained a small share of supplies due to constraints in world supplies of low-priced pulses that could be exported to India. Third, the price effect on demand has outstripped the income effect. To some extent, households also substitute among pulse varieties and qualities when price relationships change. The most obvious demonstration of substitution is the rising consumption of imported yellow peas (from Canada and USA) and dun peas (from Australia). Both are generally imported at prices that make them the lowest cost pulses in the Indian market. Although the varieties are not traditionally consumed in India, consumers have readily accepted them because of their low price.

22. www.ers.usda.gov/publications/WRS03/may03/wrs0301/wrs0301.pdf

Measured by wholesale price index, domestic pulse prices have increased by 78 per cent during FY 2005–06 to FY 2011–12, and were a major contributor to overall food inflation. Record and near record production in 2010–11 and 2011–12 combined with large imports helped to keep pulse price inflation under check at 3.2 per cent in 2010–11 and 2.5 percent in 2011–12 (Figure V.11). Pulse price inflation in 2012–13 is likely to remain at this low level, unless production declines sharply if rainfall distribution is unfavourable.

Figure V.11: Wholesale Pulses/ Dal Prices



Source: http://fcainfoweb.nic.in/Prices_Application/daily_prices/san_interface_daily.asp

India has emerged as a major importer of pulses in recent years with imports reaching a record high of 3.75 million tonnes valued at around Rs.100 billion in FY 2009–10, the second largest agricultural import item after vegetable oils. Imports declined to 2.78 million tonnes in 2010–11 following a record production. Imports in 2011–12 are expected to be more or less at the 2010–11 level, and is likely to be at the same level in 2012–13, provided domestic production does not fall significantly. Supply situation in Canada and Myanmar, major sourcing countries, this year is reported to be better than the previous year which should support larger imports. However, the depreciation of Indian rupee against US$ is making imports expensive. Furthermore, the high volatility in the rupee-dollar exchange rates has added another layer of risk in import trade making importers cautious.

FY 2009–10 and 2010–11 imports by type of pulses are given in Table V.9.

India has emerged as a major importer of pulses in recent years with imports reaching a record high of 3.75 million tonnes valued at around Rs.100 billion in FY 2009–10, the second largest agricultural import item after vegetable oils.

Table V.9: Imports of Pulses by Type and Major Suppliers (Thousand Metric Tonne)

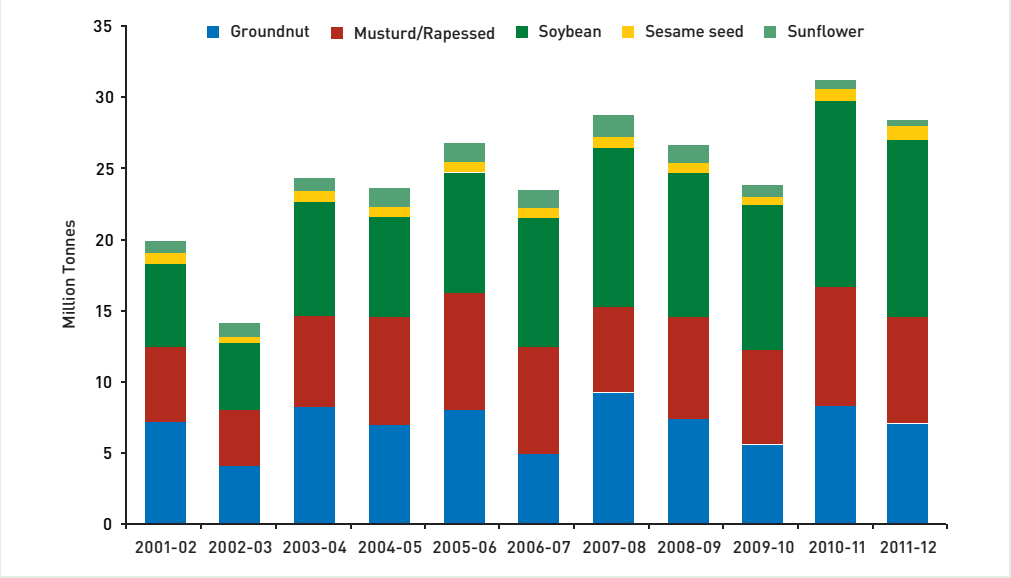
	2009/10	2010/11	Major Suppliers
Dry Peas (Mattar)	1,656	1,505	Canada, USA, Australia, Russia, Ukraine
Mung Beans	706	432	Myanmar, Australia, Tanzania, Kenya, Namibia
Pigeon Peas (Tur)	389	346	Myanmar, Tanzania, Mozambique, Malawi, Kenya
Lentils (Masur)	288	161	Canada, USA, Australia, Russia, Brazil
Chickpeas (Gram)	338	101	Australia, Tanzania, USA, Canada, Mexico
Kidney/Other Beans	85	106	China, Myanmar, Ethiopia, Peru
Other Dried Legumes	288	128	Varied sources
Total	3,750	2,778	

V.5 Oilseeds and Vegetable Oils

Production

With the exception of soybeans and to some extent mustard/rapeseed, India's production of other cultivated edible oilseeds, which include groundnut, sunflower seed, sesame seed, and safflower seed, has remained more or less static over the past several years (Figure V.12). Besides cultivated oilseeds, other vegetable oil sources include cotton seed, rice bran, copra, and various minor oilseed crops. Stagnant oilseed production combined with mounting demand for vegetable oils propelled by growing population and income has widened the demand/supply gap for vegetable oils, making India one of the largest importers of vegetable oils in the world in recent years.

Figure V.12: Oilseed Production by Type



Oilseeds are grown both in the kharif and rabi seasons. Major kharif oilseeds are groundnut and soybeans and the main rabi season crop is rapeseed/mustard. Major growing states are Andhra Pradesh, Gujarat, Maharashtra, Karnataka and Tamil Nadu for groundnut, Madhya Pradesh, Maharashtra and Rajasthan for soybeans, and Rajasthan, Madhya Pradesh, Haryana and Uttar Pradesh for rapeseed /mustard.

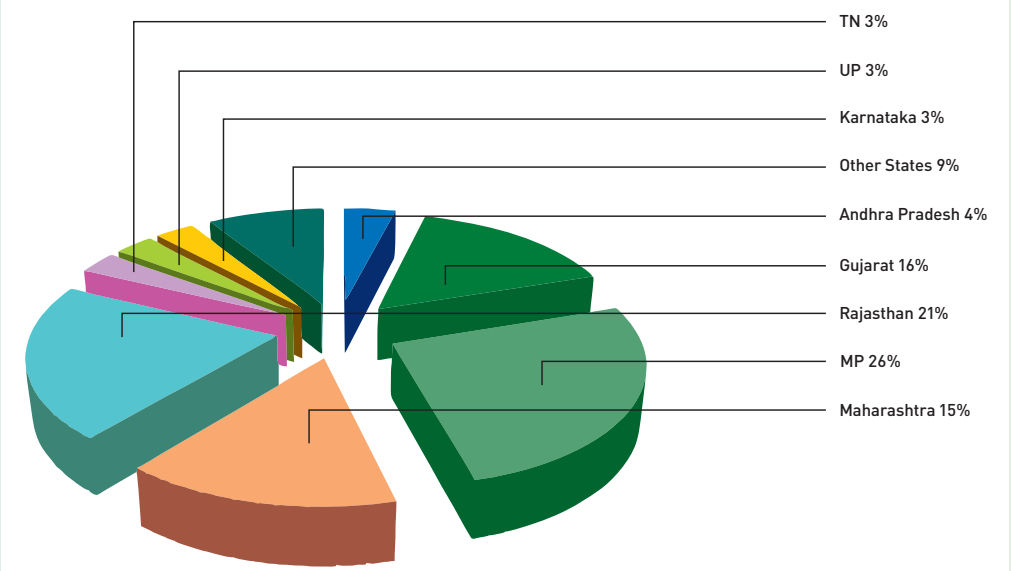
Figure V.13 depicts major oilseed growing states with their relative share in total production. Oilseed yields are much lower in India compared with other producing countries. For example, soybean yield in India at around 1,100 kg/ha is only roughly one third of the U.S. yield of 2,900 kg/ha. Groundnut yield in India at around 1,100 kg/ha is less than one-third of U.S. yield, and mustard/rapeseed yield in India is 40 per cent less than Canadian yield. Yield limiting factors are lack of irrigation, poor input use level, low quality seeds, and poor agronomic practices.

Being predominantly rain-fed crops (only 27 per cent oilseed area is irrigated), oilseed production in 2012–13 will largely be influenced by the monsoon rains. On the positive side are the prevailing high prices for oilseeds and vegetable oils, and oil meals, particularly for soybeans, which should lead to some increase in soybean planted area. Rapeseed/Mustard, which is a rabi season crop, will be influenced by residual soil moisture during the post-monsoon period, winter rains, and winter temperatures. Large wheat stocks and likely lower wheat prices could prompt farmers to switch from wheat to the competing mustard/rapeseed in the ensuing rabi season. A significant increase in the MSP for oilseeds could also send a positive signal to farmers to shift from wheat to mustard, although farm prices are typically above MSPs for most oilseeds in most years. Under normal weather conditions, 2012–13 oilseed production is likely to increase to around 30.8 million tonnes (including 7.5 million tonnes of groundnut, 13.1 million tonnes of soybeans, and 8.2 million tonnes of mustard/rapeseed) from the 2011–12 production of 28 million tonnes, which included 6.95 million tonnes of groundnut, 7.0 million tonnes of mustard/rapeseed, and 12.2 million tonnes of soybeans.

Being predominantly rain-fed crops (only 27 per cent oilseed area is irrigated), oilseed production in 2012–13 will largely be influenced by the monsoon rains.

The 2011–12 total oilseed production was 10 per cent down from the record 31 million tonnes in 2009–10, due to abnormal weather conditions in major growing areas both in the kharif and rabi season and some shift from rapeseed to wheat.

Figure V.13: Oilseed Production by States 2011–12



Total edible oil production from the cultivated oilseeds and other sources such as cottonseed and coconut in 2012–13 is estimated at 7.5 million tonnes, marginally higher than the 7.3 million tonnes in 2011–12, with most of the increase likely to be confined to rapeseed oil and soybean oil. Edible oil production for the current marketing year,

estimated at 7.3 million tonnes, includes 2.3 million tonnes of rapeseed oil, 1.7 million tonnes of soybean oil, 1.3 million tonnes of groundnut oil, and 1.2 million tonnes of cottonseed oil, and 600,000 tons of coconut and sunflower seed oils. In addition India produces a significant quantity of edible grade rice bran oil, which according to trade sources is around 850,000 tonnes, a major share of which (around 650,000 tonnes) goes in the production of vanaspati (hydrogenated vegetable oil).

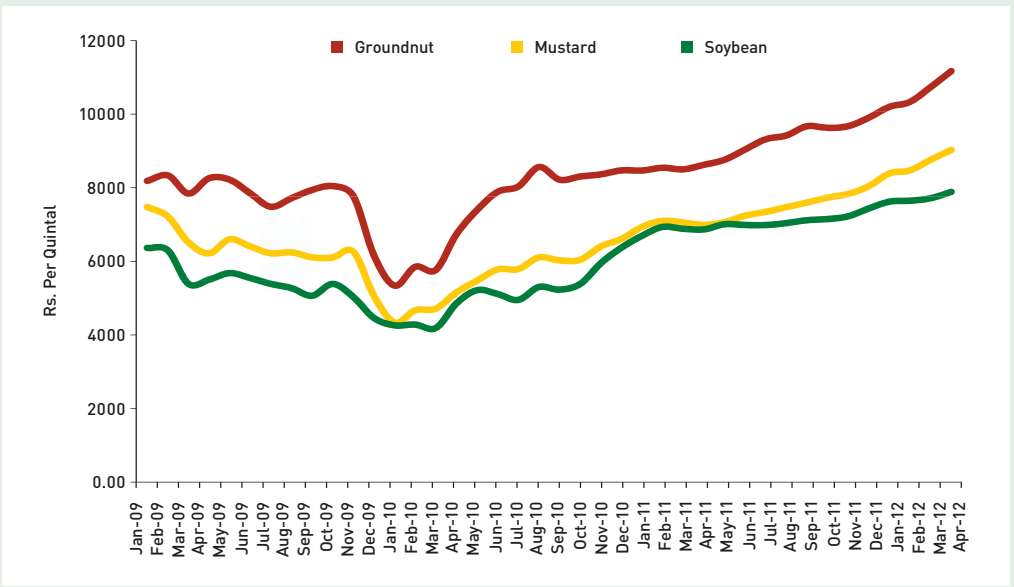
Consumption, Trade and Price

Driven by population growth and an increase in purchasing power of the consumers, total and per capita consumption of vegetable oils have registered a significant growth in recent years. Data compiled by the Directorate of Oilseeds and Vegetable oils show annual per capita vegetable oil consumption (excluding vanaspati) has grown from 7 kg in the 1990s to 13.5 kgs in recent years. NSSO Consumer Expenditure Survey results also confirm this. According to the survey results, annual per capita consumption in rural households increased from 4.5 kg in 1993–94 to 5.84 kg in 2004–05 and further to 7.74 kg in 2009–10. In the urban households, annual per capita consumption increased from 6.81 to 8.03 and to 9.95 kg during the corresponding period. We project Total vegetable oil consumption in 2012–13 is forecast at around 16.5 million tonnes.

Oilseed and vegetable oil prices remained strong in FY 2011–12, with wholesale prices registering a 12.3 per cent increase in the case of oilseeds and 12.5 per cent increase in the case of edible oils.

Oilseed and vegetable oil prices remained strong in FY 2011–12, with wholesale prices registering a 12.3 per cent increase in the case of oilseeds and 12.5 per cent increase in the case of edible oils (Figure V.14). Higher international prices for vegetable oils and a steep depreciation of Indian rupee against US$ also contributed to the higher domestic prices in recent months as India meets more than 50 per cent of its edible oil requirement through imports. During the five year period ending 2011–12, oilseed prices have risen by 68 per cent and vegetable oil prices by 32 per cent. Price increases are likely to moderate in 2012–13 as international prices are expected to weaken somewhat. Consumption demand is expected to grow as vegetable oils are the main source of fat in the Indian diet.

Figure V.14: Average Wholesale Vegetable Oil Prices (in Pack)



Although oilseed imports are restricted due to phytosanitary concerns, India is a leading importer of vegetable oils in the world. In marketing year 2010–11 (Oct–Sep), India's

vegetable oil imports are placed at around 8.3 million tonnes by private trade, which included 6.5 million tonnes of palm oil, around 1 million tonnes of soybean oil, and 800,000 tonnes of sunflower seed oil. Imports in MY 2011–12 through March are 700,000 tones ahead of the corresponding period of MY 2010–11. At this rate, total imports in MY 2011–12 could cross 9 million tonnes. Imports in MY 2012–13 are forecast at around 9.2 million tonnes. To contain the price rise, vegetable oil imports (crude) are likely to be allowed duty free, whereas refined vegetable oil imports attracts 7.5 percent import duty. Although a leading importer of vegetable oils, India is a major exporter of oilseed meal, particularly soybean meal. Soybean meal exports are benefitting from high international prices and the depreciation of Indian rupee against US$. MY 2010–11 exports were around 5.8 million tonnes, mostly soybean meal and some rapeseed meal. Exports in MY 2011–12 and 2012–13 are likely to remain at this level.

Supply-Demand Balance

The overall supply of edible oils as a whole includes both domestic production and imports. Imports account for a little more than 50 per cent of total supplies in the country and therefore have a significant impact on availability and prices. Even with constant per capita consumption of edible oils, demand for imports can be expected to increase because of the increase in population. In this sense, favourable global supplies and stable exchange rate would have salutary effect on domestic availability and prices. Details of supply-demand balance for the sector as a whole are provided in Table V.10.

Table V.10: Supply-demand balance for edible oils

Total Edible Oils	2009–10 Nov–Oct	2010–11 Nov–Oct	2011–12 Nov–Oct	2012–13F Nov–Oct
Production (1000 T)	7,770	8,523	8,123	8,300
Imports (1000 T)	8,823	8,371	9,000	9,200
Total Supply (1000 T)	16,593	16,894	17,123	17,500
Exports (1000 T)	0	0	0	0
Total Domestic Use (1000 T)	16,593	16,894	17,123	17,500
Per Capita Annual Consumption (Kg)	14.4	14.0	13.9	14.0
Population (Million)	1,150	1,210	1,230	1,250

Source: Solvent Extractors' Association of India (www.seaofindia.com)
Notes: (1) Includes all major and minor oils including edible rice bran oil; (2) Assumes no significant change in stocks position from year-to-year

V.6 Onion

Trends in Production and Exports

Onion is consumed widely in India and it is a common vegetable in Indian cooking. The weight of onions in the WPI is 0.17 as compared to the weight of entire vegetable group's weight of 1.74 per cent indicating its significance in terms of value of output relative to the total vegetable crop output in the country. Onions are also grown widely across the country. Nearly 40 per cent of the crop is harvested in August–December and the remaining 60 per cent in February–March. While total annual production of onion is now about 15 million tonnes, about 10 per cent of the production is exported.

India is the second largest producer of onion globally behind China. While the area under the crop is larger in India, yields are only 65 per cent of the per hectare yield of onion in China (Table V.11).

While total annual production of onion is now about 15 million tonnes, about 10 per cent of the production is exported.

Over the last 11 years, from 2001–02 to 2011–12, area under onion increased by 110 per cent and production by about 200 per cent.

Table V.11: Major Onion Producing Countries in the world (2010–11)

Country	Area (Thous. ha)	Production (Mill. MT)	Productivity (MT/ha)
China	930.2	20.5	22.0
India	1064.0	15.1	14.2
Pakistan	124.7	1.7	13.6
Bangladesh	117.6	0.89	7.4
Indonesia	109.5	1.0	9.6
Viet Nam	101.7	0.4	3.5
Russian Federation	88.0	1.5	17.5
Myanmar	78.9	1.1	14.4
Brazil	67.3	1.6	23.1
Turkey	62.7	1.9	30.3
Others	1227.0	76.0	24.6
World	3971.5	76.0	19.1

Source: National Horticulture Board, www.nhb.gov.in

Over the last 11 years, from 2001–02 to 2011–12, area under onion increased by 110 per cent and production by about 200 per cent. The yield per hectare has also increase significantly by 45 per cent during the entire period. The share of area under onion in the total area under vegetable cultivation increased gradually from 8.1 per cent in 2001–02 to 12.5 per cent in 2010–11. The share of onion in the total production of vegetables also increased from 10.6 to 15.11 per cent during the period. However, demand has continued to rise as well. There was a sharp increase in the exports of onion in 2003–04 as compared to the previous years. Opening up the sector to exports in a more significant manner led to expansion of area under the crop and production.

India exports onions mainly to Middle East, South east and South Asian countries.

Table V.12: India's exports of onion (Thousand metric tonnes)

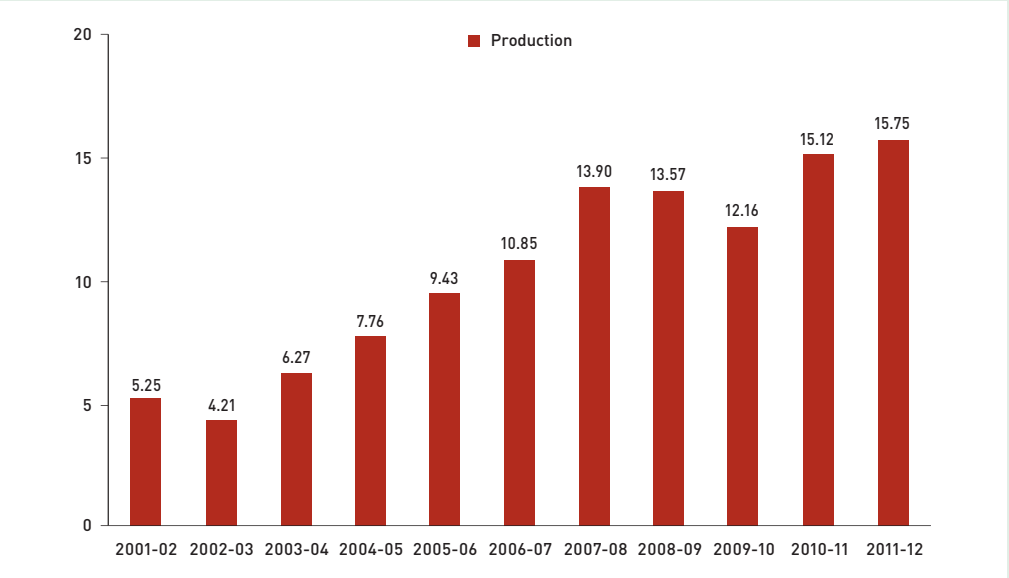
Country	2008–09	2009–10	2010–11
Bangladesh	685.5	764.1	391.6
Malaysia	283.9	303.2	273.2
Sri Lanka	152.2	129.3	114.5
UAE	189.7	147.2	126.2
Indonesia	12.7	9.6	43.1
Pakistan	128.1	0.1	45.7
Singapore	24.3	24.6	20.9
Nepal	40.7	39.0	30.0
Oman	12.0	19.8	18.0
Vietnam	0.02	3.9	15.3
Others	141.2	122.2	85.
Total	1670.2	1664.9	1163.5

Source: APEDA, www.apeda.gov.in

The increase in production between 2000–01 and 2010–11 by 12.8 per cent per year has been achieved mainly by increased area and also to some extent by higher yields. The area has increased by 8.27 per cent per year and yield by 4.57 per cent per year during this period. The WPI for onions has increased by 138 per cent during the period 2000–01 to 2011–12 as compared to the rise in the price of cereals by 80 per cent and in the price of

vegetables as a group by 106 per cent. The relatively higher increase in prices has led to expansion of area and also adoption of practices to raise yield.

Figure V.15: Production of Onion (Mill tonnes)



Source: National Horticulture Board, www.nhb.gov.in

While production increased steadily between 2002–03 and 2007–08, there was a sharp decline in output in 2009–10 by 1.4 million tonnes over the previous year because of unfavourable weather conditions. The WPI rose by 14.9 per cent during this year over the average WPI in the previous year. Production fluctuations have led to significant price impact. WPI went up in the next year 2010–11 also despite the recovery in production but then fell by 28 per cent in 2011–12 as the production level was maintained. Export control measures are applied when the domestic prices vary sharply. Minimum export prices ensure greater availability of supplies in the domestic market.

Further increase in production depends on the potential for increase in area under the crop.

Table V.13: Distribution of top 10 States in terms Onion production 2011–12

State	Area (000 hectares)	Production (000 MT)	Yield (Tonnes per hectare)	Col. %	
				Area	Production
Maharashtra	359	5026	14.0	34.4	32.0
Karnataka	200	2722	13.6	19.2	17.3
Gujarat	64	1530	23.9	6.2	9.8
MP	74	1298	17.5	7.1	8.2
Bihar	53	1076	20.3	5.1	6.9
Andhra Pradesh	49	824	17.0	4.7	5.2
Rajasthan	49	494	10.1	4.7	3.1
Haryana	22	410	18.5	2.1	2.6
Odisha	36	395	11.1	3.4	2.5
UP	24	384	16.2	2.3	2.4
Sub- total (1 to 10)	930	14159	15.2	89.2	89.9
Others	113	1589	14.1	10.8	10.1
All	1043	15748	15.1	100	100

Source: National Horticulture Board, www.nhb.gov.in

Given this scenario, the price conditions for the producers remain closer to those prevailing a year back. If the monsoon conditions remain favourable production may expand moderately by 4-5 per cent over the previous year.

The share of top ten producing states, Maharashtra, Karnataka, Gujarat, M.P, Bihar, A.P., Rajasthan, Maharashtra (32 per cent), Karnataka (17.3 per cent), Gujarat (9.8 per cent) and M.P. (8.2 per cent) account for almost 70 per cent crop production. The share of these four states in area is 67 per cent indicating relatively higher productivity of onion in these states as compared to the other states as a group.

Prices

The perishable nature of the produce, its widespread use and therefore fairly price inelastic demand and a remunerative export market have meant that prices have remained quite sensitive to supply conditions. The large year-on-year variations in WPI for onion within the year illustrate the sensitivity of prices. In all the three years of 2008–09 to 2010–11 prices were volatile as compared to the previous year. (Table V.14).

Towards the end of 2011–12, prices have dropped sharply relative to 2010–11, as production has increased. While minimum export price remains as a safeguard on prices to the consumers, the prices to the producers would be unattractive. There are no minimum support prices for onions.

Assessment

Given this scenario, the price conditions for the producers remain closer to those prevailing a year back. If the monsoon conditions remain favourable production may expand moderately by 4-5 per cent over the previous year.

Table V.14: Volatility in prices of onion (WPI, % change over previous year)

Month	2009	2010	2011	2012
Jan	109.8	7.0	129.1	-75.6
Feb	102.1	7.6	5.2	-48.5
March	81.4	-17.4	4.6	-24.2
April	45.2	-10.0	6.0	
May	51.8	-15.0	8.1	
June	35.2	-12.2	16.1	
July	18.5	-7.5	27.2	
August	-2.1	-1.3	48.6	
September	5.4	14.9	25.8	
October	32.8	22.3	-16.9	
November	18.5	36.8	-35.1	
December	17.7	75.0	-61.6	

Source of data: Office of Economic Adviser, Ministry of Commerce and Industry.

V.7 Potato

Global Perspective

Potato is a commonly used vegetable in the country. With production of 40-42 million tonnes, India is the third largest producer of the crop globally. Although India's yield levels are lower than the crop yield per hectare in Germany and Netherlands, they are higher than in China and Russia and the global average.

Table V.15: Area, Production and Yield of Potato in Major Producing Countries (2010–11)

Rank	Country	Area in Thous ha	Production in mill. MT	Yield MT/ha	(Col %)	
					Area	Production
1	Poland	490.9	8.8	17.9	2.63	2.15
2	China	5077.5	74.8	14.7	27.25	18.29
3	India	1863.0	42.3	22.7	10.00	10.35
4	Russian Federation	2109.1	21.1	10.0	11.32	5.17
5	Ukraine	1408.0	18.7	13.3	7.56	4.57
6	USA	406.6	18.0	44.3	2.18	4.41
7	Germany	255.2	10.2	40.0	1.37	2.49
8	Bangladesh	435.0	7.9	18.2	2.33	1.94
9	Belarus	366.8	7.8	21.4	1.97	1.91
10	Netherland	157.0	6.8	43.6	0.84	1.67
11	Others	6061.2	113.5	18.7	32.53	27.75
	All	18630.2	408.9	17.7	100.00	100.00

Source: National Horticulture Board, www.nhb.gov.in

Table V.16: Export of Potato from India (Thousand MT)

Country	2008–09	2009–10	2010–2011
Nepal	74.3	64.0	107.8
Sri Lanka	10.3	8.3	34.7
Russia	0.0	0.0	15.3
Malaysia	0.8	1.1	8.1
Mauritius	2.6	2.6	4.9
Maldives	2.9	3.4	6.0
UAE	5.5	0.2	3.4
Singapore	1.5	0.5	1.7
Vietnam	0.0	0.1	0.4
Brunei	0.0	0.2	0.3
Others	87.0	13.7	1.5
Total	185.0	94.1	184.3

Source: APEDA, www.apeda.gov.in

India exports less than 2 lakh tonnes of potato a year amounting to less than 5 per cent of production. Most of the exports are to neighbouring countries of Nepal and Sri Lanka. Exports are also not stable. In 2009–10 there was a decline which is not related to total production in the country.

Area under potato registered a significant increase between 2005–06 and 2008–09. During this period there has also been some increase in yield but this appears to be catching up with the yield levels of 2000–01 and 2001–02. During the interim period area under the crop may have expanded to less productive lands. Production increased sharply by about 6 million tonnes in 2008–09 on the back of increase in both area and yield. Production increased again in 2010–11 due to increase in area and yield.

Table V.17: Trend in Area, Production and Yield of Potato

Year	Area (Million ha)	Production (Million Tonnes)	Yield (Tonnes/ha)
2000–01	1.22	22.5	18.4
2001–02	1.21	23.9	19.8
2002–03	1.35	23.3	17.3
2003–04	1.29	23.1	17.9
2004–05	1.32	23.6	17.9
2005–06	1.40	23.9	17.1
2006–07	1.48	22.2	14.9
2007–08	1.55	28.5	18.3
2008–09	1.83	34.4	18.8
2009–10	1.84	36.6	20.0
2010–11(P)	1.89	39.7	21.0

Source: Ministry of Agriculture

The top 10 potato producing states in the country account for about 97 per cent of production covering 90 per cent of total crop area. Out of these states, UP, West Bengal and Bihar account for about 78 per cent of India's total potato production. UP has a share of 33.12 per cent of India's production, followed by West Bengal (31.4) per cent and Bihar (13.56 per cent). In terms of yield West Bengal tops the list with 32.96 MT per hectare, followed by U.P. with 24.88 MT and Bihar 18.41 MT per hectare.

Potato is harvested mainly between October to December and January to April. There is a gap of about four months: May to August when no harvesting is done in any of these states requiring cold storage facilities.

Table V.18: Distribution of Major States in terms Potato production (2011–12)

State	Area in Thous ha	Production (000 MT)	Yield (tonnes/ ha)	(Col %)	
				Area	Production
UP	567.7	14125.1	24.88	29.71	33.12
West Bengal	406.3	13391.2	32.96	21.27	31.4
Bihar	314.2	5784.3	18.41	16.45	13.56
Gujarat	78.1	2250	28.81	4.09	5.28
Punjab	84.1	2101.7	24.99	4.4	4.93
MP	78.8	944.4	11.98	4.12	2.21
Assam	89.4	783.4	8.76	4.68	1.84
Jharkhand	43.6	621.7	14.26	2.28	1.46
Haryana	26.8	600	22.39	1.4	1.41
Chhattisgarh	36.6	565.5	15.45	1.92	1.33
Sub-total	1725.6	41167.3	23.86	90.32	96.53
All India	1910.6	42645.3	22.32	100	100

Source: Ministry of Agriculture

Reflecting the harvesting period, the prices are relatively low from December till March and there after they start increasing till July being at the peak. The maximum decline is seen in the month of January. Harvesting in all the three major potato growing states, UP, West Bengal and Bihar is done from January to April. Some area is harvested in U.P. in November and December. Overall the winter crop (rabi) of potato accounts for 70-80 per cent of production.

Although vegetable prices have in general been rising more sharply than the other staple crops such as cereals, in the recent 3-4 years the prices of potato have declined since the peak of 2009–10 (Figure V.16).

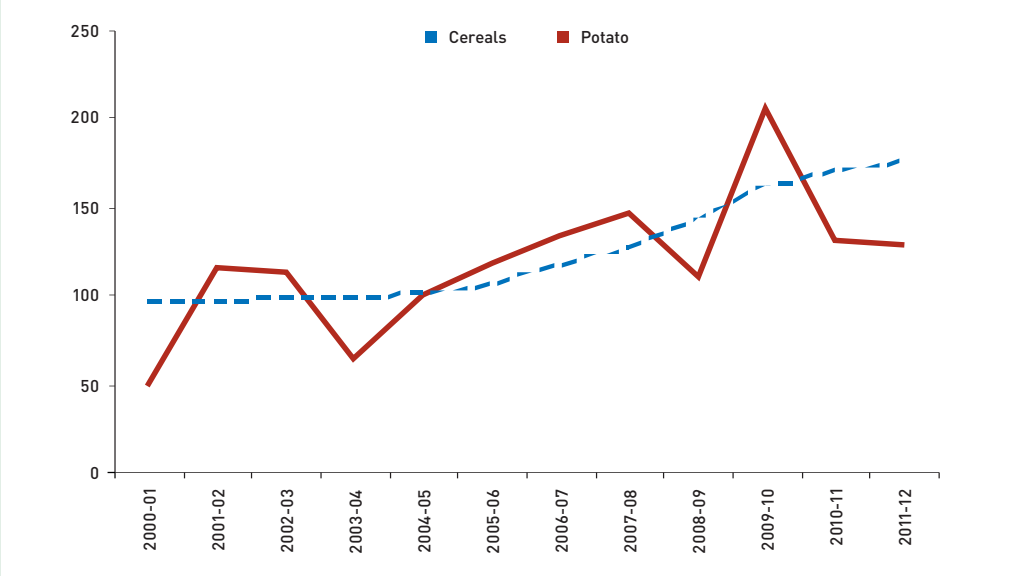
Table V.19: Wholesale Price Index of Potato Month wise from 2008 to 2012)

Month	2008	2009	2010	2011	2012
Jan	131.5	92.7	149.3	128.7	98.9
Feb	114.1	88.5	121.5	108.3	105.9
Mar	109.8	103.2	105.4	106.9	119.3
April	102.7	143.5	110.3	109.1	
May	104.0	172.2	118.1	118.2	
June	106.9	199.8	125.3	125.9	
July	117.3	232.7	133.7	143.1	
August	118.9	244.5	133.3	154.8	
Sept	127.0	268.7	139.3	159.2	
Oct	128.2	303.6	153.3	154.9	
Nov	128.5	293.6	154.7	140.3	
Dec	105.6	240.1	171.5	110.8	

Note: Shaded areas reflect months when prices are usually soft.

Although vegetable prices have in general been rising more sharply than the other staple crops such as cereals, in the recent 3-4 years the prices of potato have declined since the peak of 2009–10.

Figure V.16: Trends in WPI: Cereals and Potato



India is the largest producing country of banana in the World followed by China and Philippines.

Assessment

Production of potato increased by about 3 million tonnes in 2009–10 and 2010–11. Estimates for 2011–12 are still not available but given the price trends so far, production can be expected to have increased at least by 3 million tonnes. Much of this increase has come on account of higher yield per hectare. The increase may be attributed to general improvement in cultivation practices including planting of better seed material and fertilisers. While concerns over lack of adequate marketing and storage infrastructure remains a weakness for the sector, the trend in yield and production suggest that an increase of 7-8 per cent in production can be expected in 2012–13 over 2011–12 under normal rainfall conditions. At these production levels, prices can be expected to remain within 5 per cent of the average levels of 2011–12.

V.8 Banana

Global Perspective

India is the largest producing country of banana in the World followed by China and Philippines. India's share in the world banana production is about 30 per cent followed by China at 10 per cent and Philippines another 10 per cent. The other major banana producing countries are Ecuador (7.93 per cent), Brazil (6.93 per cent) and Indonesia 5.81 per cent

Table V.20: Area, Production and Yield for Major Producers of Banana in 2010–11

S. No.	Country	Area in Thous ha	Production in Thous MT	Yield MT/ha
1.	India	830.0	29780	35.9
2.	China	413.9	9849	23.8
3.	Philippines	449.6	9101	20.2
4.	Ecuador	215.6	7931	36.8
5.	Brazil	487.0	6978	14.3
6.	Indonesia	98.0	5815	59.3
7.	Tanzania	450.0	2925	6.5
8.	Guatemala	60.7	2622	43.2
9.	Mexico	76.9	2103	27.3
10.	Colombia	80.5	2034	25.3
	Sub-total (1 to 10)	3162.3	79138	25.0
11.	Others	1639.7	20858	12.7
	World	4802.0	99997	20.8

Source: National Horticulture Board, www.nhb.gov.in

Although the share of exports in total banana production is quite small exports have gone up from 30,400 tonnes in 2008–09 to 56,305 tonnes in 2010–11

Banana is exported from India mainly to five countries: UAE, Saudi Arabia, Kuwait, Bahrain and Nepal. Within this group of importers there is significant change in their shares. For UAE, which tops the list of 10 major countries where Banana is exported, UAE's share in quantity of banana imported from India declined from 34 per cent in 2008–09 to only 20 per cent in 2010–11. Exports to Iran have considerably increased from less than 1 per cent of quantity in 2008–09 to 16.42 per cent in 2010–11. The share of Nepal in the total quantity exported declined from 26 per cent in 2008–09 to only 10 per cent in 2010–11. Exports to Bahrain increased considerably from 1262 Mt in 2008–09 to 10,905 Mt in 2010–11. In fact the jump to the extent of about 78 percent in the quantity of exports in 2009–10 over the previous year 2008–09 was due to the sharp increase in exports to the Middle East. Sustainability of this growth would depend on the competitiveness of Indian exports to the region.

Table V.21: Export of Banana from India during 2008–09 to 2010–11 (Thousand tonnes)

S. No.	Country	2008–09	2009–10	2010–11
1.	UAE	10.2	18.6	11.2
2.	Saudi Arabia	5.1	9.4	8.8
3.	Iran	0.0	5.2	9.2
4.	Kuwait	1.5	5.6	5.6
5.	Bahrain	1.3	2.9	10.9
6.	Qatar	1.3	2.7	1.7
7.	Oman	0.9	2.0	1.4
8.	Nepal	7.9	6.6	5.4
9.	Maldives	1.2	0.6	1.0
10.	USA	0.0	0.1	0.1
	Total (1 to 10)	29.6	53.7	55.6
	Others	0.8	0.6	0.7
	Total	30.4	54.3	56.3

Source: APEDA, www.apeda.gov.in

During the period from 2001–02 to 2011–12, banana area increased by 83.66 per cent and production more than doubled. The yield rate per hectare increased more slowly by 12.15 per cent. Much of the increase in banana production in the past decade has therefore come from expansion of area under the crop. There has been a steady increase in area from 2005–06 till 2010–11 by about 50-60 thousand hectares per year. In 2011–12 the expansion in area has slowed to 20 thousand hectares and yield level stagnated (Table V.22).

Table V.22: Trends in Area, Production and Yield of Banana

Year	Area (000 ha)	Production (000 MT)	Yield (MT per ha)	Banana Area as % of total Fruit Area	Banana Production as %of total Fruit Production
2001–02	466	14210	30.5	11.6	33.0
2002–03	475	13304	28.0	12.5	29.4
2003–04	499	13857	27.8	10.7	30.4
2004–05	590	16745	28.4	11.9	34.0
2005–06	570	18888	33.2	10.7	34.1
2006–07	604	20998	34.8	10.9	35.3
2007–08	658	23823	36.2	11.2	36.3
2008–09	709	26217	37.0	11.6	38.3
2009–10	770	26470	34.4	12.2	37.0
2010–11	830	29780	35.9	13.0	39.8
2011–12	856	29287	34.0	13.0	37.8
% Change 2001 to 2011–12	83.66	106.10	12.15		

Source: National Horticulture Board, www.nhb.gov.in

India's total production of banana comes largely from 10 states. The top ten states contributing 93 per cent of the total production are Tamil Nadu (23.01 per cent share), followed by Maharashtra (15.0 per cent), Gujarat (13.58 per cent), Andhra Pradesh (9.9 per cent), Karnataka (8.34 per cent), MP (6.87 per cent), Bihar (5.18 per cent), UP (4.78 per cent), West Bengal (3.6 per cent) and Assam (2.54 per cent). There is wide variation in the yield of the crop across states. Gujarat, Maharashtra and Tamil Nadu have yield rates in excess of 50 tonnes per hectare whereas West Bengal, Karnataka and Assam have yield rates between 15 and 25 tonnes per hectare (Table V.23). There is scope for catching up of yields in the low yield regions to the yield levels of the leading states in the production of the crop.

Table V.23: Area, Production and Yield in Top 10 States for Banana: 2011–12

States/ UTs	Area in (000 hectares)	Production (000 MT)	Yield per hectare (mt/ ha)	(Col %)	
				Area	Production
Tamil Nadu	130	6738	51.7	15.23	23.01
Maharashtra	82	4510	55.0	9.58	15.4
Gujarat	64	3978	62.2	7.47	13.58
Andhra Pradesh	83	2900	35.0	9.68	9.9
Karnataka	120	2441	20.4	13.96	8.34
Madhya Pradesh	45	2012	45.1	5.2	6.87
Bihar	32	1517	47.6	3.72	5.18
Uttar Pradesh	33	1400	42.3	3.87	4.78
West Bengal	44	1054	24.1	5.11	3.6
Assam	49	745	15.2	5.73	2.54
Total (1 to 10)	681	27296	40.1	79.55	93.2
Other States	175	1992	11.4	20.45	6.8
TOTAL	856	29287	34.2	100	100

Source: Ministry of Agriculture.

The WPI of Banana increased at the rate of 8.5 per cent per annum during the 12 years period 2001–02 to 2011–12, quite similar to the WPI for fruits which increased at 8.6 per cent per annum. During the period 2008–09 to 2010–11, WPI for banana increased by more than 10 per cent year-on-year basis. In the case of fruits the price rise was even greater in 2010–11, by nearly 20 per cent. Banana did not see such high rate of increase in prices in 2010–11 and 2011–12, indicating that supply expansion has kept pace with the demand. However, the stagnation in yields may lead to supply-demand imbalances given the growing demands on land by other crops also.

Harvesting of banana takes place nearly throughout the year in states like Tamil Nadu, Maharashtra and Andhra Pradesh. In Gujarat, harvesting is mainly in September to November. In general, there is supply of fresh banana throughout the year. However, the prices remain moderate during the months of December to March and relatively high during May–November (Table V.24). Marketing and distribution remains a challenge to ensure supply of fresh fruits to the consumers.

Table V.24: Month wise WPI (2004–05=100) of Banana (2008 to 2012 March)

Month	2008	2009	2010	2011	2012
Jan	116.9	133.4	154.3	151.9	166.1
Feb	119.2	128.0	171.3	149.9	165.1
March	122.9	129.1	165.2	166.8	174.1
April	128.0	131.4	154.6	185.2	
May	131.4	136.9	149.3	178.6	
June	134.5	137.5	153.7	178.9	
July	136.3	139.6	167.2	177.1	
August	136.0	141.9	173.9	182.6	
September	136.3	146.4	173.9	168.0	
October	134.0	147.9	177.8	169.4	
November	131.1	145.8	175.7	168.5	
December	131.3	141.2	161.4	164.8	
WPI (Jan –Dec)	129.8	138.3	164.9	170.1	168.4

Data source: Office of Economic Adviser, Ministry of Commerce and Industry.

Assessment

Banana production growth has taken place mainly on the back of increase in area. Although potential for increase in yields prevails in the low yield areas, the major contribution to output continues to come from high yield states where further expansion of area may require investments in marketing infrastructure. Based on the recent trends, expansion of area by 20 thousand hectares in 2012–13 and continuation of yield level of 35 tonnes per hectare would mean that production level would increase only marginally over the 2010–11 level. With adequate rainfall in the monsoon period the yield levels are likely to be sustained at the levels seen in the last 2-3 years.

On the utilisation front, export demand is expected to remain firm given that demand is concentrated in a few regions where India may have advantages of distance and cost. The demand for processed products made from banana fruit is expected to increase over time. The consumption demand from direct and indirect uses is expected to increase at a pace seen in the last few years. This would imply that there would be an upward pressure on prices during the year.

In the short term of next few months, traditionally prices firm up and we should expect to see this trend. Unless there is a more significant addition to area under the crop, the prices may remain firm for longer periods during the year.

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V.9 Milk

Production Trends and Patterns

India is the largest producer of milk in the world. From 66.2 million tonnes in 1995–96, milk production has increased steadily to 121.8 million tonnes in 2010–11. The average annual rate of growth of milk production is 4 per cent during 2000–01 to 2010–11. In 2010–11, the estimated growth is 4.66 per cent over the previous year. Per capita availability of milk has gone up from 195 grams per day in 1995–96 and to 276 grams per day in 2010–11. However, it is well below the world average per capita availability. Global average per capita availability was 284 grams per day in 2009–10 compared to 273 grams per day for India.

Table V.25: Milk Production in India

Year	Production (Million Tonnes)	Per Capita Availability (gms/day)
1991–92	55.7	178
1995–96	66.2	197
2000–01	80.6	220
2005–06	97.1	241
2006–07	102.6	246
2007–08	107.9	252
2008–09	112.2	258
2009–10	116.4	273
2010–11	121.8	281

Source: Department of Animal Husbandry, Dairying & Fisheries, Ministry of Agriculture

A notable feature of the Indian Dairy Sector is the role of dairy cooperatives. The dairy cooperatives have marketed an average of 219.9 lakh litres of milk per day during 2010–11 covering all metros, major cities and more than 2000 town/cities. However, the share of cooperatives still remains less than 10 per cent of total milk produced in the country.

Milk is an important agricultural produce of the country. As a single commodity, it has the highest value, even as high as the combined value of paddy and wheat. Table V.26 below gives the value of output of milk and milk products in relation to paddy and wheat at current prices from 2004–05 onwards.

Table V.26: Value of output of Paddy Wheat and Milk (Rs. Crore at current prices)

Year	Value of output		
	Paddy	Wheat	Milk & milk products
2004–05	73162	47788	1,23,907
2005–06	81138	53693	1,32,812
2006–07	88096	69007	1,44,999
2007–08	108324	82063	1,65,254
2008–09	134061	91472	1,85,685
2009–10	135307	103226	2,28,809

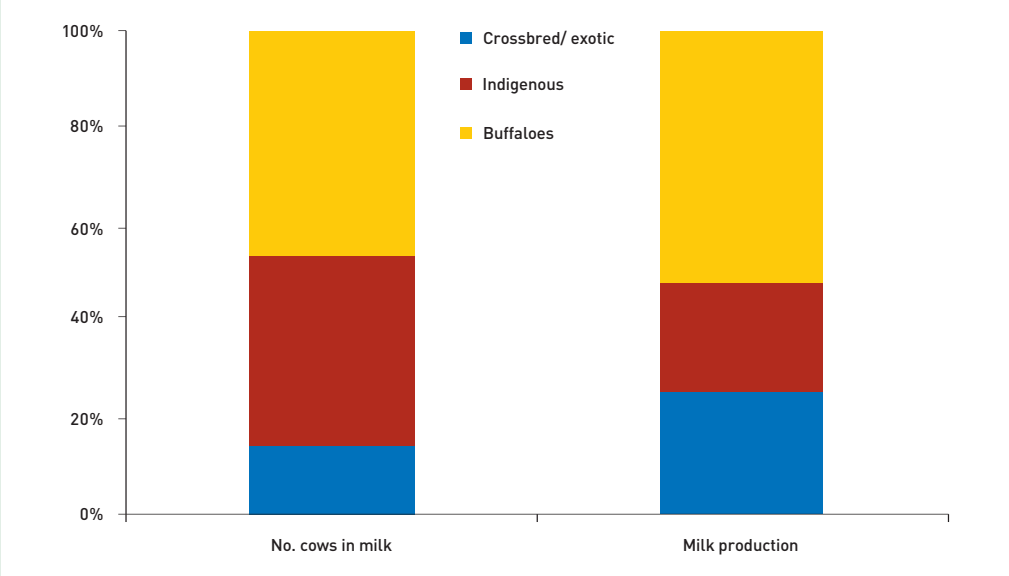
Source: National Accounts Statistics–2011, CSO, GoI.

Improving milk production requires focus on improving productivity of milch animals for further enhancing both quality and quantity of milk produced. As shown in Figure V.17 productivity of crossbred/ exotic cattle and buffaloes is superior to the indigenous cattle although the indigenous cows are more prominent as compared to the crossbred/ exotic cows. Farmers have to invest in increasing herd size, arrange for superior quality of feed, adequate quantity of green & dry fodder, proper veterinary care, cross-breeding, artificial insemination and other productivity enhancement measures. To invest in these productivity enhancing measures, supporting economic incentives are needed. In recent years, dairy farmers have faced rising input costs. The most critical cost component of milk production is cost of feed and fodder. Labour is also an important cost component. Dairying has to compete for allocation of resources of production with crop cultivation, whether it is labour or land.

Milk is an important agricultural produce of the country. As a single commodity, it has the highest value, even as high as the combined value of paddy and wheat.

Improving milk production requires focus on improving productivity of milch animals for further enhancing both quality and quantity of milk produced.

Figure V.17: Composition of Milch Population and Milk Production 2010–11



The high yields in these crossbred cows are providing the economic incentives for the increase in their numbers.

Milk yield actually shows significant variability over time (Table V.26). For instance, the growth rate of milk yield per day declined from 2.65 per cent in 2008–09 over the previous year to 1.64 per cent in the next year. However, the number of animals in milk also shows considerable variability. The growth rate in the number of animals in milk increased sharply in 2008–09 in buffaloes and indigenous cows as compared to the near stagnant situation in 2007–08. We may also note that 2008 monsoon rainfall was below normal and may have led to lack of growth in the number of animals in milk in that year especially in the case of indigenous cows and buffaloes which may be more dependent on good rainfall for quality green fodder. However, it is the crossbred cows and exotic breeds of cows that are driving up the numbers. The high yields in these crossbred cows are providing the economic incentives for the increase in their numbers.

In India, Tamil Nadu, Uttar Pradesh, Rajasthan, Maharashtra & West Bengal are the major cow milk producing states whereas Uttar Pradesh, Andhra Pradesh, Rajasthan, Punjab & Gujarat are the major Buffalo milk producing states.

In terms of yield rates Gujarat, Rajasthan, and Uttar Pradesh are better placed for Crossbred/Exotic Cows and also Indigenous cows whereas milk yields are high in Andhra Pradesh for crossbred/ exotic cow breeds.

Table V.27: Milk production, yield and number of milch animals by type

Type of milch animal/ Year	No. of animals in milk	Milk yield	Milk Production	% change over previous year		
	Thousand	Kg/ day	Thous tones	No. of animals in milk	Milk yield	Milk Production
Buffaloes						
2007–08	35108	4.42	56630			
2008–09	35380	4.48	57895	0.77	1.45	2.23
2009–10	36166	4.53	59758	2.22	0.97	3.22
Ind. Cows						
2007–08	29587	2.11	22809			
2008–09	29842	2.17	23650	0.86	2.84	3.69
2009–10	30199	2.2	24238	1.20	1.38	2.49
Xbred/ exotic breeds						
2007–08	10142	6.47	24014			
2008–09	10680	6.71	26160	5.30	3.71	8.94
2009–10	11262	6.8	27963	5.45	1.34	6.89
Total						
2007–08	74837	3.79	103453			
2008–09	75902	3.89	107705	1.42	2.65	4.11
2009–10	77627	3.95	111959	2.27	1.64	3.95

Note: The milk production figures here refer to only milk from cows and buffaloes. Another 4–5 million tonnes of milk is produced by goats.

Table V.28: Estimates of yield rates and share of CB Cows and ND Cows in ten Major Milk Producing States in India in 2010–11

S. No.	States/ UTs	Crossbred/Exotic Cows			Indigenous/Non Descript Cows			Cow milk Prod. Total
		Animals in Milk (in 000)	Avg. yield/day (kg)	Milk Production (000 MT.)	Animals in Milk (in 000)	Avg. yield/day (kg)	Milk Production (000 MT.)	(000 MT.)
1.	Tamil Nadu	2251	6.386	5247	842	2.519	774	6021
2.	Uttar Pradesh	633	7.069	1634	3963	2.564	3709	5343
3.	Rajasthan	332	7.533	913	2995	3.769	4120	5033
4.	Maharashtra	1270	6.618	3068	1977	1.704	1230	4298
5.	West Bengal	902	5.839	1922	3228	1.856	2187	4109
6.	Gujarat	509	8.567	1593	1445	3.750	1978	3571
7.	Bihar	615	6.155	1382	2099	2.845	2180	3562
8.	Karnataka	1002	5.970	2183	1553	2.279	1292	3475
9.	Madhya Pradesh	209	6.317	482	3877	1.887	2670	3152
10.	Andhra Pradesh	745	7.259	1974	1614	1.916	1128	3102

In case of buffalo milk Punjab leads the states in terms of yield rates followed by Haryana and Rajasthan.

Table V.29: Estimates of yield rates and share of Buffaloes in ten Major Milk Producing States: 2010–11

S. No.	States/ UTs	Animals in Milk (in 000)	yield/day (kg)	Milk Production (000 MT.)
1.	Uttar Pradesh	8963	4.4	14496
2.	Andhra Pradesh	5474	4.1	8101
3.	Rajasthan	3483	5.2	6611
4.	Punjab	2011	8.6	6301
5.	Gujarat	3298	4.6	5514
6.	Haryana	2090	6.9	5239
7.	Madhya Pradesh	3029	3.6	3935
8.	Maharashtra	2422	3.9	3473
9.	Bihar	1954	3.9	2798
10.	Karnataka	1677	2.6	1583

Consumption and Price

Milk in India is primarily consumed in liquid form. Curd is the second important form of consumption of milk. Rising income levels in India have led to rising consumption of milk, vegetables and meat. NSSO 56th Round (July 2000– June 2001) and 66th Round (July 2009– June 2010) show that per capita monthly consumption expenditure on milk and milk Products in India has almost doubled in rural areas during the decade. In terms of monthly per capita consumption of milk as per 66th Round urban India consumed 5.358 litres of milk as against rural India which consumed 4.117 litres during July 2009–June 2010. Per capita expenditure is nearly 50 per cent higher in urban areas as compared to the rural areas. However, the changes in consumption expenditure over time are also affected by the rise in the prices.

Table V.30: Per Capita Monthly Consumption Expenditure: Milk and Milk Products (in Rs.)

NSS Round	Rural	Urban
56th Round (July 2000– June 2001)	42.97	75.90
60th Round (Jan. 2004– June 2004)	47.60	82.98
66th Round (July 2009– June 2010)	80.55	137.01

Source: NSSO, Household Common Expenditure Surveys.

The wholesale price index of milk has gone up by 76 per cent during 2004–05 and 2010–11 whereas the wholesale price index of dairy Products has increased by 52 per cent during the same period. Even after taking into account these price changes, there has been a significant increase in the consumption of milk and milk products.

Table V.31: Index Number of Wholesale Prices

Particulars	2004–05	2005–06	2006–07	2007–08	2008–09	2009–10	2010–11
All Commodities	100	104.47	111.35	116.63	126.02	130.81	143.32
Food Articles	100	105.38	115.52	123.57	134.8	155.39	179.63
Milk	100	101.01	108.98	114.58	123.24	146.41	175.88
Dairy Products	100	99.47	105.41	116.37	122.94	138.79	152.07

Source: Office of Economic Adviser, Ministry of Commerce and Industry.

India needs to target over 5.5 per cent growth in milk production per annum to meet the projected demand. The rise in production at the rate of 4 per cent per year in the recent years is putting pressure on prices. In 2011–12 average WPI for milk increased by a high rate of 10.3 per cent over the previous year. One of the strategies to achieve this goal would be to incentivise dairy farmers in more productive milch animals and reduce wastage in transport and distribution.

Government of India has recently launched Rs 17,000-crore National Dairy Plan (NDP) to enable India's milk production to meet a projected demand of 200 million tonnes by 2021–22. The program has to operate in an environment of growing pressure on fodder and feed resources, besides rising opportunity cost of rural labour. Feeding, cleaning and milking buffaloes daily require considerable labour time. NDP aims to invest hugely in scientific breeding, artificial insemination, animal nutrition, fodder development and farm-level mechanisation.

On balance, normal rainfall is expected to sustain the recent growth trend in milk production at 4 per cent for 2012–13 also. At this rate of increase in production, the pressure on prices can be expected to moderate.

Trade

The international dairy industry is highly protected through domestic support and export subsidies and does not provide an easy market access. A number of nontariff trade barriers (NTBs) are applied leading to restrictions on exports.

The European Union, New Zealand, Australia and the US are the four major players in the export market, which account for nearly 85 per cent of the world's total exports. Skimmed Milk Powder, Ghee and Cheese are the major products being exported from India. Russia, African countries besides the SAARC countries are emerging markets for Indian dairy products. Due to demand supply mismatch India has placed a ban on the export of milk powder in 2011.

As far as imports are concerned, the volume of milk products imported into India has not been of a level so as to significantly affect the competitiveness and interests of the domestic dairy industry.

Assessment

The monsoon rainfall in the current year would be an important factor that will have an impact on milk production during the year as the rainfall conditions and their impact on feed and fodder will affect milk yields. The price conditions for milk have been positive to the milk producer except for the fact that cost of inputs have also increased. On balance, normal rainfall is expected to sustain the recent growth trend in milk production at 4 per cent for 2012–13 also. At this rate of increase in production, the pressure on prices can be expected to moderate.

V.10 Sugarcane and Sugar

Production Trends

Sugar cane

Driven by favourable weather conditions and remunerative support prices, sugarcane production continued its upward trend for the fourth consecutive year reaching a near record level of 351.2 million tonnes in 2011–12. The record sugarcane production was 355.5 million tonnes in 2006–07. Area planted to sugarcane has also shown a generally upward trend in recent years reaching 5.09 million hectares in 2011–12. Assuming a

normal monsoon, favourable weather conditions and a likely significant increase in sugar cane support price, sugarcane planting is likely to increase modestly in 2012–13 with a corresponding increase in production, currently forecast at 355 million tonnes. Progressive planting data shows sugarcane planting this year through April is marginally ahead of last year. However, dry weather conditions and depleted soil moisture in some parts of Maharashtra, the second largest sugarcane growing state, is a matter of concern. It is likely that a cyclical decline in sugar production will set in from 2013–14.

Most of the increase in sugarcane production in recent years is attributed to increase in area, whereas per hectare yield has remained more or less static at around 69 tonnes. Although India's sugarcane yield consistently increased until the late nineties, in the past decade yield has remained stagnant at a lower level. The all India yield was the highest in 1994–95 at 71.3 tonnes per hectare. India likely has significant potential to expand sugarcane production by increasing both planted area and yield. However, the relatively higher demands on water will make expansion in area more difficult.

Uttar Pradesh, Maharashtra, Tamil Nadu, Karnataka, Andhra Pradesh, Gujarat, Haryana and Punjab are the leading sugar cane producing states. Sugar cane is a long-term crop, taking between 10 to 18 months to mature. Planting is done in such a manner as to meet the time specific demands of the mills for crushing. With an average crushing season of 160 days, planting of cane has to be coordinated across hundreds of farms to ensure that cane matures throughout the season for crushing from October up to May.

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Sugar

The Indian Sugar Mills Association (ISMA) currently estimates 2011–12 sugar production at 26 million tonnes against 24.4 million tonnes in 2010–11 and the record production of 28.3 million tonnes in 2006–07. Cumulative sugar production during the current marketing year 2011–12 (October–September) through April 2012 was 25.1 million tonnes, 2.5 million tonnes more than the production during the corresponding period of 2010–11. At the forecasted 355 million tonnes of sugarcane in 2012–13, sugar production is likely to be marginally higher than the 2011–12 production of 26 million tonnes.

India is the second largest producer of sugar in the world after Brazil. However, the sugar recovery from cane in India is the lowest among major producing countries. Against Brazil's 14.6 percent average sugar recovery, Indian average sugar recovery is only around 10.1. There is high variability in sugar recovery among states with Maharashtra on the top and Bihar in the bottom.

Sugar production in general fluctuates in line with the sugarcane production, although diversion of sugarcane to gur and khandsari (two other traditional sugarcane-based sweeteners) fluctuate from year-to-year depending upon the price offered by these small - scale sector to cane farmers vis-à-vis paid by sugar mills. Gur production in particular tends to rise in years when higher gur prices or payment arrears by sugar mills create incentives for farmers to divert sugarcane to production of gur. There have been apprehensions that the gur and khandsari units which fall outside government regulation and control could harm the sugar economy. However, the consumption trends show that the market for gur and khandsari have declined significantly. The cane usage rate by sugar mills have increased significantly from 46 percent in 1997–98 to 68 percent in 2002–03 and is reported to have increased further in the last decade[23].

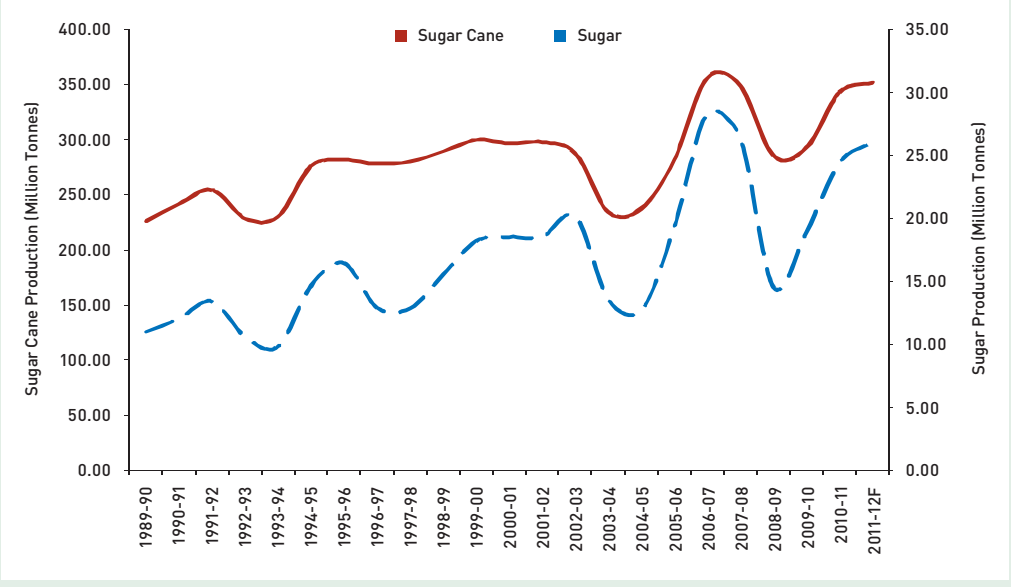
23. http://fcamin.nic.in/sugar/Thorat.pdf

Indian sugarcane and sugar production is characterised by a cyclical nature (Figure V. 18). High production and low prices are followed by low production and high prices in a six to seven year cycle. The sugar cycle is perpetuated on account of alternating peaks and troughs in the supply of cane. Biological factors also play a key role in the cyclical nature of sugar cane production[24].

Sugarcane remains in the field for 3 years once it is planted, and area and production adjust downward slowly as price incentives fall, thus prolonging periods of oversupply, weak market prices, and financial distress for sugar mills. The main factor attributed to the cyclicality of sugar production in India is the cane price payment arrears. During the surplus seasons when overproduction results in lower prices of sugar, it severely impacts the ability of the sugar mills to pay farmers. This leads to huge cane price arrears and results in significant fall in cane cultivation in favour of other alternate crops. The government and the sugar industry in India are continuosuly engaged on potential policy reforms to stabilise the profitability of sugarcane production and processing and reduce the increasingly volatile cycles in the sector.

Sugarcane remains in the field for 3 years once it is planted, and area and production adjust downward slowly as price incentives fall, thus prolonging periods of oversupply, weak market prices, and financial distress for sugar mills.

Figure V.18: The Indian Sugar Cane Sugar Cycle



Consumption, Trade and Prices

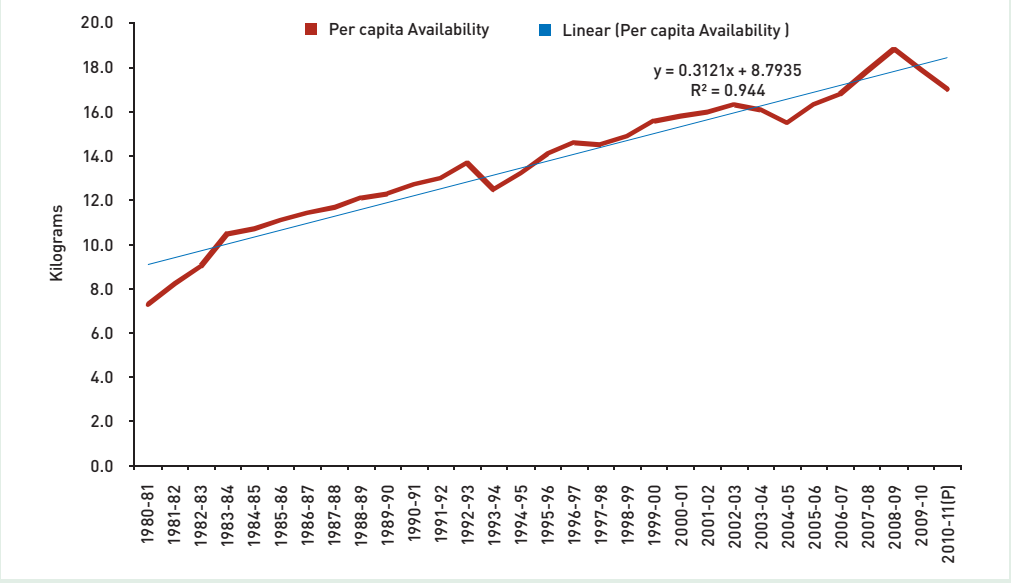
Sugar is the dominant sweetener in India, with the two traditional sugarcane-based sweeteners, gur and khandsari, accounting for smaller shares of overall use. Khandsari production and use has been declining, and it now constitutes only a miniscule share of total sweetener consumption, whereas gur still maintains a significant, albeit declining, share of overall consumption.

In contrast to the volatility of sugar production and prices, sugar consumption in India has grown relatively steadily at around 3 per cent per annum, with per capita consumption increasing at about 300 grams annually since 1980–81 reaching around 18 kilograms per

24. Sugarcane has a production cycle of 2-3 years. Cane planted in a marketing year is harvested in the next marketing year, followed by one or two additional rattoon crop in the next one to two years. About 60-70 percent of farmers take one rattoon crop and the other 30-40 per cent takes two rattoon crops. The cane yield of rattoon crop is normally lower than that of new planted cane crop.

year in recent years. If, however, other sweeteners such as gur and khandsari are added, India's per capita consumption would be much higher at more than 23 kilograms, raw value. Government's Public Distribution System has led to relatively stable growth in per capita sugar availability. The stable growth in consumption is also reflective of both the robust growth in aggregate demand in response to growing income and population and the price inelasticity of sugar demand. Total domestic sugar consumption in 2010–11 is estimated at around 21 million tonnes and we forecast production at 21.6 million tonnes in 2012–13, assuming an annual growth rate of 3 per cent.

Figure V.19: Trends in Per capita Sugar Availability



Due to a highly cyclical sugar production and a relatively stable consumption growth, the national sugar supply/demand balance periodically swings from surplus to deficit and back, making India an on-again and off-again importer as well as exporter of sugar.

India has an ethanol-petrol blending program using ethanol produced from sugarcane. However, the program has not so far affected the supply of sugarcane for the production of sweeteners as India produces all its ethanol from molasses, a normal by-product of sugar milling process. Although the government has permitted direct use of sugarcane juice for ethanol production by mills, such usage is yet to pick up momentum.

Due to a highly cyclical sugar production and a relatively stable consumption growth, the national sugar supply/demand balance periodically swings from surplus to deficit and back, making India an on-again and off-again importer as well as exporter of sugar. This makes sugar trade in India also cyclical, with exports of primarily refined sugar during periods of surplus and imports of mostly raw sugar during periods of deficit. Furthermore, the government policy on import and export of sugar has been geared to protect the domestic consumer rather than make India a player in the global sugar market. The ad hoc nature of ban and permission for export of sugar makes India an unreliable global supplier of sugar. Furthermore, the shifts in India's sugar trade are increasingly significant for world markets, contributing to periods of both undersupply and oversupply[25].

Given the surplus sugar supply situation for 2011–12, the government permitted commercial exports of 3 million tonnes of sugar under Open General License in three tranches. On May 2, 2012, the government removed the quantity restrictions on sugar exports, permitting unlimited sugar exports by mills during the current fiscal year ending

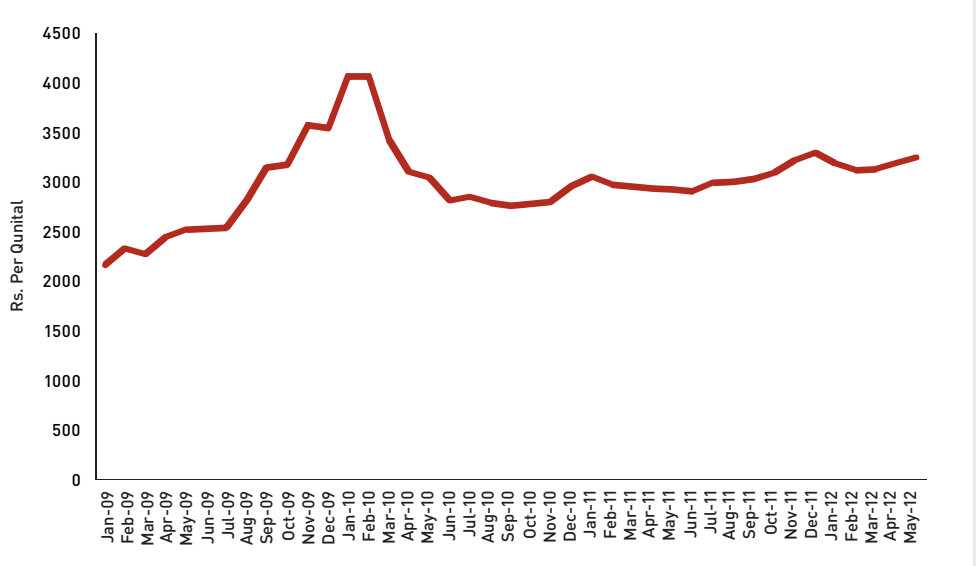
25. www.ers.usda.gov/Publications/SSS/2010/Apr04/SSSM26001/SSSM26001.pdf

March 31, 2013. However, International sugar prices are weakening due to large global supplies, which would temper Indian sugar exports. The recent significant depreciation of Indian rupee against US dollar, however, has given an interim edge to Indian sugar exports. Indian CIF prices to Indonesia at US$ 615-685 are reportedly looking competitive vis-à-vis Brazil and Thailand CIF prices especially sugar sourced from Chennai and Kolhapur. However, export parity still does not exist from Uttar Pradesh market due to higher transportation and labour charges compared to other domestic sourcing centres. According to current indications, total exports in 2011–12 (Oct–Sep) will be around 2.6 million tonnes. With the surplus domestic supply situation likely to continue in 2012–13, sugar exports are likely to continue, forecast at 2 to 3 million tonnes depending upon global supply situation.

After peaking in January 2010, domestic sugar prices softened on expectation of increased domestic production in 2010–11 and forecasted higher production in 2011–12. In response to government decision to allow sugar exports in 2011–12, domestic sugar prices firmed in November 2011, but tempered with fresh sugar supplies from new crop. Current domestic wholesale sugar prices range from Rs 3000 to Rs 3300 per tonne (Figure V.20). Sugar prices in 2012–13 are expected to remain range-bound on prospects of comfortable domestic supplies, although international price movements could influence domestic prices.

Sugar prices in 2012–13 are expected to remain range-bound on prospects of comfortable domestic supplies, although international price movements could influence domestic prices.

Figure V.20: Delhi Sugar Wholesale Price



Stocks

Sugar stocks at the beginning of 2011–12 were estimated by industry sources at 5.0 million tonnes. With an estimated production of 26 million tonnes, domestic consumption of 21 million tonnes and exports of 2.6 million tonnes in 2011–12, ending stocks will be a comfortable 7.4 million tonnes. With a forecast production of over 26 million tonnes and exports of 2.5 million tonnes, and domestic consumption of around 22 million tonnes, a further build up in stocks is likely by the end of 2012–13.

Supply-demand Balance

Increase in the production of sugar in 2010–11 and 2011–12 have led to rising stocks with the producers. In 2012–13, the expectation is that production will be nearly at the same level as in 2011–12. Domestic consumption has been estimated to increase by about 0.5 million tonnes each year. When production increases by more than this, stock levels rise unless there are exports. The details in Table V.32 point to the likelihood of rising stock to use ratio in 2012–13 unless the demand for sugar increases either in the domestic market or through exports. The available supplies indicate that price of sugar is likely to be stable in the current year.

Table V.32 Supply-Demand Balance for Sugar

Sugar	2009–10 Oct–Sep	2010–11 Oct–Sep	2011–12 Oct–Sep	2012–13F Oct–Sep
Beginning Stocks (Thousand T)	4364	5793	6789	8789
Production (Thousand T)	18912	24365	26000	26500
Imports (Thousand T)	4080	0	0	0
Total Supply (Thousand T)	27356	30158	32789	35289
Domestic Consumption (Thousand T)	21328	20769	21500	22000
Exports (Thousand T)	235	2600	2500	2500
Total Utilisation (Thousand T)	21563	23369	24000	24500
Closing Stocks (Thousand T)	5793	6789	8789	10789
Stocks to use ratio (%)	27.2	32.7	40.9	49.0

Source: Trade Estimates

PART VI

Conclusions

This is the first of the quarterly reports on agricultural outlook planned under the study undertaken by NCAER under a grant from the National Food Security Mission, Ministry of Agriculture. It aims to provide an assessment of the emerging scenario for the food sector regarding output, markets and prices. The quarterly reports will focus on short term prospects for the next quarter whereas the semi-annual reports proposed in the study will focus on the medium term scenarios.

In the present report, we have provided an integrated perspective on the emerging scenario for the food sector. We have reviewed the available information on the global scene, overall domestic scenario and also at the commodity level. This report has used simple framework for projection of output for the upcoming kharif season. We expect to fine tune the methodology and also develop partnerships to obtain a wide ranging perspective from experts and other observers of the food economy. In this sense, this is work in progress.

In this chapter we highlight some of the key points emerging from the review of recent trends and an assessment of the prospects for the food sector in the short term.

VI.1 Trends in 2011–12

The monsoon rainfall in 2011 was above normal in all the major regions in the country. As per Indian Meteorology Department, rainfall during June–September 2011 at the overall level, was 2 per cent above the long period average. Moreover, the temperature conditions in the rabi season helped raise wheat harvest dramatically. Besides these enabling environmental conditions of nature, a number of policy measures have also had positive impact on crop output. The focus on improving production conditions in the Eastern region may have helped realise the he increase in rice production 2011–12.

Even as Indian agriculture witnessed record foodgrain output last year, inflationary pressures in the food sector have continued to signal the need for attention to those segments of commodities where marketing and technology development need to keep pace with the rising demand for these commodities. Vegetables, pulses, oilseeds and milk have remained vulnerable to price rise although rice and wheat stocks with the government point to easy supply conditions in these key cereals. The latest official estimates, 3rd Advance Estimates for 2011–12 place foodgrain output at 252.56 million tonnes as compared to the harvest of 244.78 million tonnes in 2010–11.

The production growth in foodgrains in 2011–12 was led by rice and wheat while the coarse grains and pulses showed a decline. Among the major oilseeds, groundnut, rapeseed and mustard, and soyabean have recorded lower output in 2011–12 as compared to the previous year. The nine major oilseeds together recorded a decline of 2.4 million tonnes in 2011–12 as compared to the output of 32.5 million tonnes in 2010–11. The year 2011–12 was also positive for sugarcane production as the latest estimates place production at 351.2 million tonnes as compared to the production of 342.3 million tonnes. Among the three horticultural crops considered in this report, production of onion is estimated to increase

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to 15.75 million tonnes in 2011–12 as compared to 15.12 million tonnes in the previous year. The production of potato has been estimated at 42.6 million tonnes as compared to 39.7 million tonnes in the previous year. In the case of milk, the recent trend growth of about 4 per cent per year is also expected to be realised in 2011–12.

The estimates for 2011–12 available from FAO and USDA also point to increased global production of rice, wheat, coarse grains, vegetable oils, sugar and milk. The oilseed production was, however, lower implying drawing down of stocks of oilseeds and also greater proportion of crushing of seeds in the year.

The overall supply conditions both globally and in India remained favourable for rice, wheat, milk and sugar in 2011–12. The price pressures began to ease in the second half of 2011–12 for food commodities both in the international markets and also in the country.

In general, output price environment on the supply side is favourable to increased input use in food production.

VI.2 Prospects for 2012–13

The favourable supply conditions for some of the key commodities and at the same time the inflationary pressures on some other food commodities in 2011–12 have reflected significant imbalances in supply-demand conditions. The high level of production in the case of rice, wheat and sugar and relatively high level of stocks have led to easing of export conditions for these commodities. However, relatively to ample supply of commodities in the international markets has also meant that exports are possible only when cost based prices are competitive.

Sharp depreciation of the rupee in the recent months provides an incentive for the exporters but it also increases the prospects of high prices in the case of pulses and edible oils where imports are significant. While the rupee volatility may be transitory, the relatively high prices in the case of pulses, vegetable oils and vegetables are a signal to the farmers to prevailing demand conditions. However, marketing reforms that improve the efficiency of marketing channels would be necessary to persuade farmers that the output would be purchased in the market at reasonable prices.

In general, output price environment on the supply side is favourable to increased input use in food production. In the case of input prices, one of the important drivers is the agricultural wage rates. Although price of diesel has remained stable during 2011–12 and in the current year so far, the depreciation of the rupee has put added pressure on the prices of imported commodities including petroleum sector products. If the slowdown in global economic activity continues, price of petroleum crude may decline but the exchange rate depreciation of the rupee may offset the benefits of lower crude oil prices for the Indian consumer and farmer.

The most critical factor influencing India's agricultural output in any year is the monsoon rainfall. The recent projection of rainfall in the current monsoon period, June–September, by IMD on June 22, 2012 presents a cautious outlook for the monsoon rainfall this year. Overall, rainfall in this year's monsoon is expected to be lower than last year. The implications for output are that production conditions in the dryland areas are likely to be less favourable than last year.

Based on estimated relationship between rainfall in different months of the monsoon period and a trend variable to capture the impact of all other factors, we have provided an assessment of the output of selected food commodities in the kharif season. The projected level of output is slightly lower than the output in kharif 2011–12.

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The short term projections of prices for the next three months indicate that the price situation for the food sector is likely to be of concern. The deficient rainfall in the pre-monsoon period and in the early monsoon period of June has meant that short duration crops that are grown to meet immediate demand such as vegetables may be in short supply. The exchange rate depreciation may also have the impact of increasing the prices of both imported and exported commodities. In this sense, prices of food commodities would be under upward pressure in the short term.

VI.3 Policy Implications

The next three months of the year represent beginning of the sowing and planting season for the kharif crop of the year. More than half of the annual foodgrain area would be sown in this season and so would be oilseeds and many other crops. Much of this cultivation is also rainfed. In this sense, the quantum and distribution of rainfall during the monsoon season of June–September would be critical to the output performance of agriculture in kharif. The recommended of increase in MSP for the kharif crops provide incentives to the farmers for increasing production. However, effectiveness of the higher MSP would be realised when the marketing infrastructure is also effective in providing the necessary support. To realise the goals of adequate incentives to the farmers and food security to the consumers, continuous monitoring of the emerging production conditions and providing supporting input and market support would be necessary.