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Agricultural Outlook and Situation Analysis Reports

Rabi Outlook Report – 2017

Project Sponsored by

Department of Agriculture, Cooperation and Farmers Welfare
Ministry of Agriculture and Farmers Welfare

Report	February
20170201	2017



National Council of Applied Economic Research

About the Project

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

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

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

From January 2015, the Ministry has approved continuation of the project for the remaining period of the Twelfth Plan.

The main objective of the grant during January 2015–March 2017 is to sustain the work programme established in the previous grant period. The activities will be more focused on model-based analysis in the medium-term assessment. A forum for broad based consultations on the emerging outlook in the short-term would be developed. Efforts would also be made to involve the state-level agricultural departments in the discussion of emerging outlook for the sector. More high-value agricultural commodities, viz. horticulture and dairy products would be included in our analysis.

Main outputs of the project are:

1. Biannual Season-wise Agricultural Outlook Reports: These will cover the assessment of the output, prices and markets in the short-term including the global scenario.
2. Annual medium-term Agricultural Outlook Reports: These will cover an assessment of outlook in terms of production, utilisation, trade and prices for the major food commodities from national and global perspectives. The medium-term outlook assessment will utilise an adapted version of FAO-COSIMO model besides the econometric model presently being used for analysis.
3. Meetings/workshops: The representatives from industry, academia and government would be invited to share their assessment of commodity outlook on production, demand, prices and trade. These meetings will be organised by NCAER with the active support and participation by the Ministry of Agriculture. NCAER will provide a background review paper for the meetings and would also request for presentations by other experts on major commodity sectors.

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**National Council of Applied Economic Research
11 Indraprastha Estate, New Delhi 110 002**

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PREFACE

After a rich Kharif harvest in 2016-17, India seems headed towards repeating this performance for the 2017 Rabi harvest despite setbacks during the planting period that may have been caused by India's November 2016 demonetisation episode. Thanks to a favourable 2016 monsoon after two consecutive years of deficient rainfall, agriculture GDP is projected to grow at a healthy 4.1 per cent during 2016-17, as compared to its low, 2.0 per cent growth performance in 2015-16. The Central Government has introduced a number of schemes to spur growth, including the *Pradhan Mantri Krishi Sinchai Yojana* (PMKSY), the *Pradhan Mantri Fasal Bima Yojana* (PMFBY), and the creation of a national electronic market for agricultural produce (eNAM). The Government has boldly proclaimed that it will double farmers' income by 2022. Since agriculture is a state subject in the Indian Constitution, the outcomes will depend a great deal on the earnestness and effectiveness with which state governments implement these and other schemes and the soundness of their overall policy frameworks. If efficiently implemented, these programmes have the potential to significantly boost agricultural production, in addition to making it more resilient to weather shocks.

Today, global agricultural markets look very different from what they looked like even a decade ago. International prices of most crop and livestock products, including commodities that India exports (including rice, wheat, maize, and soybean meal), have fallen from their earlier high levels. Demand remains subdued due to the global economy's lacklustre performance. In some areas, such as vegetable oils and pulses, which India imports in substantial quantities, this could prove to be a blessing.

Although India has made some progress on food security after enacting the National Food Security Act, the country's per capita caloric, protein, and fat consumption remains notably less than that of more developed countries such as China and the United States. This means that rising per capita incomes and rapid urbanisation in the coming years could push up the demand for high-quality food products in the country, necessitating a change in both food production and agricultural trade. This could also have serious implications for predominantly small and marginal farmers, unless new policies enable them to shift from subsistence agriculture to producing such food crops and becoming more integrated into global markets.

This *NCAER 2017 Rabi Outlook Report* provides a comprehensive assessment of the current availability of inputs, monsoon rainfall, demand conditions in domestic and global markets, and government policies, all of which are likely to impact this year's Rabi crop.

The work underlying the Report has been supported by the National Food Security Mission, Government of India, and the Ministry of Agriculture, Cooperation and Farmers Welfare. We would like to sincerely thank Shri Shobhana K. Pattanayak, Secretary, Department of Agriculture, Cooperation and Farmers Welfare, for his guidance and support in preparing this Report.

The research for this Report was carried out by a team led by Dr Rajesh Chadha, Senior Research Counsellor at NCAER, with substantive contributions from our senior consultants, Dr Shashanka Bhide, Dr A. Govindan, and Mr Ved Prakash Ahuja, and from the NCAER research team, Dr Laxmi Joshi, Dr Charu Jain, and Dr Tarujyoti Buragohain. I am grateful to Dr Chadha and his excellent research team for the consistently high quality of this work that has proven itself to be of tremendous value for the Government and other organisations like FAO.

I look forward to the continued strong collaboration between NCAER and the Ministry of Agriculture, Cooperation and Farmers' Welfare and with other government agencies on the critical subject of raising agricultural productivity and production in India and making it more resilient.



Dr Shekhar Shah
Director-General

New Delhi
February 17, 2017

Dr. S K PATTANAYAK
SECRETARY



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भारत सरकार
कृषि एवं किसान कल्याण मंत्रालय
कृषि, सहकारिता एवं किसान कल्याण विभाग
Government of India
Ministry of Agriculture & Farmers Welfare
Department of Agriculture, Cooperation
& Farmers Welfare

FOREWORD

The Indian agriculture has made a smart recovery after two successive years of deficient monsoon. The total foodgrain production in the current year (2016-17) as per the 2nd Advance Estimate, is estimated to attain a new record level of 271.98 million tonnes as against 251.57 million tonnes in 2015-16. During the current Rabi season the wheat production is expected to be 96.64 million tonnes in 2016-17 as against 86.53 million tonnes in 2014-15 and 92.29 million tonnes in 2015-16. Similarly in case of rice a record production of 108.86 million tonnes is expected in 2016-17. The remarkable achievement is the case of pulses. The total pulse production is expected to be 22.14 million tonnes, an all time high, as against 16.35 million tonnes in 2015-16. It appears that the Government strategy for higher Minimum Support Prices (MSP) along with initiatives like distribution of mini-kits, subsidy on production of quality seeds, cluster frontline demonstrations along with good monsoon has turned around the pulse production. The higher production combined with creation of buffer stocks of pulses would help contain domestic prices which witnessed a sharp increase in the last two years. Global food markets also are likely to continue to remain well stocked on the supply side and less volatile in 2017-18 like in the previous two years.

The present Agricultural Outlook Report by NCAER points to higher rabi crops production during 2016-17. The Report covers the indicators of supply and demand for major food commodities, both in the domestic economy and the global markets and provides useful framework for policy interventions. I hope that the Report will be a useful analytical tool for the stakeholders in agriculture and related sectors.

(S K Pattanayak)

Date: 16th February, 2017.



Executive Summary

Economic Situation and Outlook

Against the backdrop of a slowing global economy, India emerged as a "bright spot", registering an economic growth rate of 7.6 per cent in FY 2015–16. India also bettered its ranking in the ease-of-doing business index. Path-breaking reforms such as the enactment of the Goods and Services Tax (GST) Bill and the Insolvency and Bankruptcy Code Bill are also expected to boost business confidence and investment, brightening the environment for an acceleration of growth. In its effort to fight corruption and unaccounted for illegitimate money circulation in the economy leading to a parallel economy, the government demonetised high value currencies. According to experts, the demonetisation will act as a drag to economic growth in the short run but would take the economy to a higher growth trajectory in the long run. India's economic growth for FY 2016–17 is officially placed at 7.0 per cent (measured in terms of GVA at basic constant 2011–12 prices) against 7.2 per cent in 2015–16. The 'agriculture, forestry and fishing' sector is expected to show a robust growth of 4.1 per cent in its GVA during 2016–17, as against the previous year's drought-impacted growth rate of 1.2 per cent. The overall headline inflation measured by both WPI and CPI has declined in recent months mainly due to lower food inflation.

Overall Rabi Season Agricultural Outlook

The outlook for the 2016–17 Rabi crops, which include mostly wheat, rapeseed/mustard, and chickpeas, presents a mixed picture. On the positive side is a significant increase in the area planted to wheat, pulses, and oilseeds in response to high support prices and various pro-farmer policy measures announced by the government. On the negative side are poor North-east monsoon rains, a lower water table in the irrigation reservoirs and temporary disruption in the input supply caused by the demonetisation of high value currencies. Nevertheless, production of wheat, pulses, and oilseeds in the Rabi season is expected to register a significant growth whereas rice and coarse grains grown in the Rabi season are likely to register a decline.

The year-on-year (y-o-y) food inflation measured by the WPI plummeted to 1.54 per cent in November 2016, as compared to 5.55 per cent a year ago due to the lower prices of rice, pulses, fruits and vegetables (particularly onion), oilseeds and vegetable oils. Food price inflation in next 5 to 6 months is expected to remain moderate. Food inflation measured by CPI has also declined steeply to 2.11 per cent in November 2016.

Commodity Analysis

The MY 2016–17 rice production is forecast to increase by about 3 million tonnes to a record 107 million tonnes despite a setback to the Rabi season rice production. Rice consumption is projected to increase by around 2.2 per cent in MY 2016–17 to around 94.4 million tonnes. Rice price inflation based on WPI has declined and stabilized at around 4.6 per cent since September. Rice exports from India in 2016–17 are projected at

10.5 million tonnes, despite increased competition from major exporting countries. Government-held rice stocks by the end of MY 2016–17 on October 1, 2017, are projected to increase to around 18 million tonnes as compared to 15.9 million tonnes a year ago.

Based on progressive planting report and considering various factors impacting wheat production, the 2017 (MY 2017–18) wheat production is forecast at a record 96 million tonnes, 2.5 million tonnes more than the 2016 (MY 2016–17) government estimate of 93.5 million tonnes, assuming normal weather conditions through harvest. A decline of 5 million tonnes in government wheat procurement in MY 2016–17, combined with larger offtake through the PDS and other programmes, has resulted in a steep decline in government wheat stocks, projected at 6.5 million tonnes on April 1, 2017, the lowest April 1 stocks level since 2008 and below or close to the desired April 1 government stocks of 6.46 million tonnes. Domestic wheat prices have surged in recent months due to tight domestic markets. Unless large imports take place in MY 2017–18, government-held wheat stocks could decline further by the end of MY 2017–18. In order to facilitate imports by private trade, the government has abolished import duty on wheat effective December 8, 2016. Trade sources projects MY 2017–18 wheat imports at 5 million tonnes.

Coarse grain production in 2016–17 is projected at a near-record 41.3 million tonnes, up by 8.8 per cent from the drought-reduced 2015–16 output. Maize production in 2016–17 is estimated at a record 25.3 million tonnes, signifying an increase of 16 per cent over the 2015–16 production. Although the food use of coarse grains is shrinking, non-food usage, particularly of maize, is increasing, mainly for feed and starch and starch derivatives production. With a steep fall in global maize prices in recent years, Indian maize prices in US\$ terms are ruling above world prices. From a net exporter, India turned into a net importer of maize in MY 2015–16.

India has been in the grip of a pulses crisis over the last couple years following two successive years of poor rainfall in 2014 and 2015 causing a significant decline in pulse production and skyrocketing of pulse prices. Pulse production in 2016–17 is projected at a record 21.8 million tonnes. A significant increase in the minimum support price for pulses combined with assured purchasing through government agencies to create a buffer seem to have motivated farmers to shift from competing crops to pulses in some states. Domestic year-on-year price inflation for pulses as a group measured by WPI, after peaking at 58.1 per cent in November 2015, led by arhar, has softened due to large imports by private trade and government agencies and various policy decisions taken by the government to contain price rise. The y-o-y pulse price inflation measured by WPI dipped to 21.7 per cent in November 2016 from a record 58.1 per cent a year ago. Pulse price inflation is expected to decline further in the coming months due to large imports in the pipeline and an optimistic outlook for Rabi pulse production. The imports of pulses in 2016–17 are projected at 6.5 million tonnes, as compared to 5.9 million tonnes in 2015–16.

Led by a near record soybean production of 14.2 million tonnes, the total (nine major) Kharif oilseed production in 2016–17 is officially estimated at a record 23.4 million tonnes, thanks to a favourable rainfall distribution in major growing regions. The area sown to Rabi oilseeds (mainly rapeseed/mustard, groundnut) through December 2016 is significantly ahead of last year, which could result in a larger Rabi season oilseed production than the 2015–16 production of 8.7 million tonnes. Edible oil production in 2016–17 is estimated at around 9 million tonnes and imports in MY 2015–16 (November–October) at around 15 million tonnes. Despite the likely higher production and larger carry-over stocks, imports are forecast to increase to 16 million tonnes in MY 2016–17. Y-o-y oilseeds and vegetable oil price inflation measured by WPI strengthened during June 2015 through August 2016 and weakened thereafter.

With an estimated opening stock of 7.7 million tonnes, the production of 23.4 million tonnes, and imports of around 1.9 million tonnes, sugar availability during MY 2016–17 (October –September) is estimated at around 33 million tonnes, which is more than enough to meet estimated domestic consumption requirement of 25 million tonnes, leaving a comfortable carryover stocks. Sugar exports in MY 2016–17 are forecast at around 1.2 million tonnes. Domestic sugar price has remained firm in 2016. To contain the price rise and to conserve stocks the government imposed an export tax of 20 per cent and enforced sugar stocks holding limit on stockists/dealers and producers of sugar.

Potato production in 2015–16 declined by 8.8 per cent to 43.8 million tonnes from 48 million tonnes in 2014–15, resulting in high domestic prices throughout 2016. Concerned over rising retail prices, the government reduced import duty on potatoes from 30 per cent to 10 per cent until October 2016 to boost supplies. Production in 2016–17 is projected to increase to 47.5 million tonnes, which should moderate prices. In view of the higher production and dwindling domestic prices, the government abolished the minimum export price of \$360 per tonne on potatoes in late December. Potato exports in 2016–17 are estimated at around 200,000 tonnes, 0.42 per cent of domestic production.

Onion production in 2016–17 is projected at 22.5 million tonnes, 7.2 per cent higher than the 2015–16 official production estimate of around 21 million tonnes. Domestic onion consumption has registered a steady growth over the years and is estimated at 20.6 million tonnes in 2016–17. Onion exports in 2014–15 and 2015–16 were significantly lower due to an increase in the Minimum Export Price (MEP). The government first levied an MEP of \$250 a tonne in May 2015. This was raised to \$425 a tonne in June, to restrict exports and increase domestic supply. However, domestic prices continued to move up and the government raised the MEP to \$700 a tonne in August 2015. Although this helped to contain domestic onion prices, onion exports came to a grinding halt as international prices were much lower than the MEP. Prices started easing in November in the wake of the government's raids on stockists and various other measures, including imports. The MEP was reduced to \$400 a tonne on December 11, 2015, and finally abolished to reduce the glut in the onion market following a bumper Rabi crop and to increase prices of onion in the wholesale markets which should translate into higher prices for farmers. This has propped up the exports market and exports in 2016–17 are likely to increase significantly.

The Global Situation

The world economy stumbled in 2015, amid weak aggregate demand, falling commodity prices and increasing financial market volatility in major economies. Global production estimates for 2015–16 for most crops by all the agencies have tended to converge to record or near record levels for the second consecutive year. The current 2016–17 forecasts for most crops by all the agencies point to a third consecutive record or near record production level. Hence, global food markets are likely to continue to remain well stocked on the supply side and less volatile in 2016–17 as in the previous two years.

All major agricultural commodities exporting countries experienced a decline in exports in 2015–16. The situation is unlikely to improve in 2016–17 due to a global glut in most commodities, slow global economic growth, and foreign exchange fluctuations. While the stocks-to-use ratio continues to remain comfortable in the case of wheat, rice, maize, and soybeans, the ratio has declined in the case of soybean oil, palm oil, and sugar, making these commodities more vulnerable in case the 2017–18 crop turns out to be lower. The global prices of most cereals in 2016 have remained well below the prices prevalent a year ago but strengthened for oilseed and products and sugar. Record or near-record productions in 2015–16 and large carryover stocks combined with an optimistic production outlook for most crops in 2016–17 are weighing on the international prices of

cereals. Although, on an average, agricultural prices are expected to remain broadly stable in 2017, the outlook for individual commodities is likely to vary depending on supply conditions. Upside risks to the agricultural price forecasts include worsening weather conditions in South America and East Asia, and a larger-than-expected increase in energy prices, a key cost component. The risks of disruptions from the La Niña weather pattern are limited. Downside price risks include the possibility of increased agricultural subsidies, which would encourage greater supplies as well as diminished diversion of food commodities to the production of biofuels.

Implications for India

The current global agricultural outlook scenario characterised by abundant supplies of wheat, rice, maize, and a larger than normal supply for pulses but likely higher prices for vegetable oils, and sugar presents mixed blessings for India, which is a major exporter of rice, wheat, maize, sugar and soybean meal, and importer of vegetable oils and pulses. The prevailing lower global prices for wheat should prove beneficial for India which is in the process of importing large quantities of wheat. The larger global pulses supplies in major exporting countries and a decline in international prices for most pulses should also benefit India. Because of expected record domestic pulse production, there could be a small window of opportunity for exporting small quantities of high quality pulses such as Kabuli Chana from India. Due to record global rice production and stocks and higher production in most countries, Indian non-basmati rice will face increased competition in the global market in 2016–17. However, there have been some positive developments to cheer Indian rice exporters which include a likely MOU with Indonesia for imports of rice from India and China agreeing to provide market access for Indian rice, both non-basmati and basmati varieties, from 17 registered mills in India. According to trade sources, aided by a weakening of the Indian currency against the US dollar and lower domestic prices, Indian soymeal exports are set to make a comeback in the world market after two years of a poor showing. As India is unlikely to import sugar in the 2016–17 season despite a drop in production, the forecast of higher global sugar prices for 2017 is unlikely to impact India. Although there is an opportunity for India to export sugar, the imposition of a 20 per cent export duty on sugar in a bid to rein in domestic sugar prices, will preclude sugar exports from India. The prevailing low domestic prices for onion offer an opportunity to export onion provided no export restrictive measures such as MEP or export duty are imposed by the government.

Acknowledgements

The study team wishes to acknowledge the guidance, support and encouragement of Shri Shobhana K. Pattanayak, Secretary, Department of Agriculture, Co-operation and Farmers Welfare in the conduct of the study. Dr S. K. Mukherjee, Senior Economic and Statistical Advisor, Directorate of Economics and Statistics (DES) and Dr B. Rajender, Joint Secretary (Crops), have provided valuable guidance for improving the content and coverage of the report. A number of officials from the Ministry and DES have provided data and opportunities for interaction and guidance in the course of the study.

Dr Shashanka Bhide, Director, Madras Institute of Development Studies has also provided guidance and support in the conduct of the study.

Reports of the OECD/FAO, USDA, International Food Policy Research Institute (IFPRI), IGC, and the Department of Agriculture and Co-operation have been major sources of data and information for the report. We have also used information and data from a number of other sources. The specific references used for our assessment of outlook in the report have been cited at the appropriate places in the report.

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PART I

Overview of the Domestic Economic and Agriculture Outlook

I.1 FY 2015–16 Recorded Robust Economic Growth

The Indian economy posted robust gains in 2015–16 against the backdrop of a global environment characterised by lacklustre growth and increased financial market volatility.

Economic activity picked up pace and the trajectory of growth was underpinned by macroeconomic stability embodied in narrowing fiscal and current account deficits and ebbing inflation.

India's economy grew at 7.6 per cent in 2015–16, and the Government was expecting the economy to grow at close to 8 per cent in 2016–17. The World Bank recently described South Asia as a global growth hotspot led by India, which has remained resilient to external headwinds such as China's slowdown, Brexit, and the slowing influx of remittances. The country has emerged as a "bright spot", as it is also aiming to improve its ranking in the Ease-of-doing Business Index.¹ The World Bank predicted that India's GDP growth will remain strong at 7.6 per cent in 2016 and 7.7 per cent in 2017, supported by expectations of a rebound in agriculture, civil service pay reforms supporting consumption, increasingly positive contributions from exports, and a recovery of private investment in the medium term. Over the medium term, implementation of the GST is also expected to boost business confidence and investment, brightening the prospects of acceleration in growth. Meanwhile, a number of other measures are likely to boost entrepreneurial initiatives and growth. These include steps to attract foreign direct investment in defence, civil aviation, pharmaceuticals and broadcasting, measures to improve infrastructure, and the enactment of the Insolvency and Bankruptcy Code and the Real Estate (Regulation and Development) Act.

The World Bank report, however, cautioned that India faces the challenges of further accelerating the responsiveness of poverty reduction to growth, promoting inclusion, and extending gains to a broader range of human development outcomes related to health, nutrition, education and gender. It averred that 2016 is expected to see some convergence in rural and urban economies, supported by stimulating policies, such as the passage of GST and civil pay revisions, along with good monsoons. However, optimism on the growth front needs to be balanced with caution when being translated into broad-based poverty reduction. Despite the recent success in poverty reduction, the gains have been uneven, with greater progress being witnessed in states and social groups that were already better-off. The report also pointed out that India faces the challenge of further accelerating the responsiveness of poverty reduction to growth, enforcing the inclusion of presently excluded groups (such as women and Scheduled Tribes), and extending the gains to a broader range of human development outcomes related to health, nutrition, education and gender, wherein the country continues to rank poorly.

1. <https://openknowledge.worldbank.org/bitstream/handle/10986/25096/9781464809927.pdf?sequence=2&isAllowed=y>.

I.2 Growth Momentum Slows Down in Q2 of FY 2016–17

On November 30, 2016, the Central Statistics Office (CSO) released the estimates of GVA for the second quarter (July–September) Q2 and (April–September) H1 of 2016–17, both at constant (2011–12) and current prices, along with the corresponding quarterly and half yearly estimates of GVA of 2015–16.² Accordingly, GVA at Basic Price at constant 2011–12 prices in Q2 of 2016–17 registered a growth rate of 7.1 per cent as compared to the 2015–16 Q2 GVA growth rate of 7.3 per cent. The Q2 2016–17 GVA growth was also lower than the revised Q1 2016–17 growth rate of 7.3 per cent, indicating a deceleration in the economy. During H1 of 2016–17 (April–September) the year-on-year (y-o-y) GVA growth rate was 7.2 per cent, which was unchanged from H1 2015–16 (Table I.1).

Table I.1: Quarterly Estimate of GVA at Basic Prices in Q2 and H1 of 2016–17³

Particulars	2014–15		2015–16		2016–17		Percentage Change over H1 of the Previous Year	
	Q1	Q2	Q1	Q2	Q1	Q2	2015–16	2016–17
At 2011–12 Prices								
GVA (Agriculture and Allied)	2.6	2.1	2.6	2.0	1.8	3.3	2.3	2.5
GVA (All Sectors)	7.4	8.4	7.2	7.3	7.3	7.1	7.2	7.2

Source: http://mospi.nic.in/mospi_New/.

The GVA in the Agriculture, Forestry and Fisheries (AFF) sector registered a significant 3.3 per cent y-o-y growth in the Q2 of 2016–17 as compared to 1.8 per cent growth in Q1 because of favourable monsoon rains in 2016, which resulted in the higher production of most Kharif crops. In fact, the growth rate in the AFF sector in Q2 of 2016–17 is higher than that achieved in Q1 and Q2 of 2014–15 and 2015–16, the two drought-hit years. The improved performance in the AFF sectors in Q2 of 2016–17 was due to a normal monsoon in 2016 with most regions enjoying normal precipitation combined with various programmes and policies initiated by the government. The rainfall in the June–September monsoon period in 2016 has been 97 per cent of the long-period average (LPA), as compared to corresponding figures of 88 per cent and 86 per cent of the LPA in 2014 and 2015, respectively. This in turn, is expected to have boosted business sentiment and improved rural consumption. The urban demand also got a push from higher salaries for government staff stemming from the seventh pay commission award. Central government employees received higher salaries and arrears for the past seven months along with their August salaries.

The y-o-y production growth of food grains during the Kharif season of the agriculture year 2016–17 was 8.9 per cent as compared to a decline of 3.2 per cent during the same period in 2015–16. Around 51.0 per cent of the GVA of the AFF sector is based on livestock products, forestry and fisheries, which registered a combined growth of 3.6 per cent in the Q2 of 2016–17. Nevertheless, the slow growth in the agriculture sector in recent years has become a drag on the overall economy and signifies the continued vulnerability of Indian agriculture to the vagaries of the weather and the impact of the emerging integration of Indian agricultural commodity markets with the global markets.

- http://www.mospi.nic.in/sites/default/files/press_release/nad_PR_30nov16.pdf.
- The Indian Central Statistics Office recently came out with the 1st Advance Estimate of India's economic growth for FY 2016–17. Accordingly, the GVA at basic constant prices (2011–12) is anticipated to increase by 7.0 per cent as against 7.2 per cent in 2015–16. The growth in GDP in 2016–17 is estimated at 7.1 per cent as compared to the growth rate of 7.6 per cent in 2015–16. The 'agriculture, forestry and fishing' sector is expected to show a growth of 4.1 per cent in its GVA during 2016–17, as against the previous year's growth rate of 1.2 per cent. www.mospi.nic.in/sites/default/files/press_release/nad_prn_6jan17.pdf.

The y-o-y production growth of food grains during the Kharif season of the agriculture year 2016–17 was 8.9 per cent as compared to a decline of 3.2 per cent during the same period in 2015–16.

The share of the AFF sector GVA in the overall GVA continued to decline, falling to 15.4 per cent in 2015–16 from 16.3 per cent in 2014–15 and 17.5 per cent in 2013–14.

An analysis of the details indicates that the economic activities which gave a boost to economic growth in the Q2 of 2016–17 are 'Public administration, defence and other services', 'financial, insurance, real estate and professional services', 'manufacturing', 'trade, hotels', 'transport and communication' and services related to "broadcasting", which registered growth of over 7.0 per cent in the Q2 of 2016–17 over the Q2 of 2015–16. On a half-yearly basis, the y-o-y GVA growth in the H1 of 2015–16 was the same as that achieved in 2016–17 at 7.2 per cent. Government spending, which accounts for a large chunk of growth and consumption, are the main drivers of growth. Private final consumption expenditure grew at 7.5 per cent, as against 6.7 per cent in the previous quarter, which, however, signified a marked slowdown over the 8.3 per cent increase in the Q4 of FY 2015 due to weaker urban demand. Demand during the quarter-end was boosted by the disbursement of higher salaries on account of the implementation of the Pay Commission award from September onwards as well as an early festival season.

The 'financial, insurance, real estate and professional services' sector accounted for 29.7 per cent of the growth in GVA over the corresponding period a year ago. The category 'public administration, defence and other services', which is mainly government spending, contributed the second largest chunk of growth, at 23.8 per cent of the total GVA growth. Consumption, including both government and private, together contributed 82.2 per cent to GDP growth, but there was a large negative contribution of capital formation. In short, the Q2 data shows that private sector activity in the economy was not robust.

1.2.1 Demonetisation of High Value Currency

On November 8, 2016, Prime Minister Narendra Modi announced demonetisation of high denomination currencies (of Rs. 500 and Rs. 1,000), which constituted about 86 per cent of the currency in circulation at the time. These currencies accounted for the maximum-and most popular-denominations and countless transactions are done in these currencies hidden from the authorities (without the paying of tax) creating a parallel economy, which is believed to amount to about a quarter of the country's GDP. Reacting to the demonetisation move in India, the IMF said that it supports the government's efforts to fight corruption through demonetisation. However, it cautioned that given the large role of cash in everyday transactions in India's economy, the currency transition would have to be managed prudently to minimise possible disruptions.

According to some experts, the demonetisation move will act as a temporary drag to growth in the Q3 of 2016–17 but a rebound in investment would ultimately take the economy to a higher growth trajectory in the long run. The extent to which the annual growth of GDP in Q3 would be affected by the demonetisation would depend on the length of time it would take for the situation to normalise and the extent to which the sowing of Rabi crops and informal rural lending would be adversely affected.

1.2.2 Positive External Situation

On the external front, India became a preferred destination for foreign direct investment (FDI) in FY 2015–16, receiving the highest annual net inflow. Since coming to power, the Prime Minister has pitched to global business to come and "Make in India", which has reportedly resulted in a 29 per cent rise in FDI, taking it up to \$40 billion in FY 2015–16, as evidence of the fact that his policies are gaining traction. Over the medium term, the implementation of the GST⁴ is expected to boost trade, investment and growth by

4. <http://www.cbec.gov.in/htdocs-cbec/gst>.

reducing supply chain rigidities, encouraging scale economies, and cutting down transportation and transaction costs, besides promoting efficiency gains. By eliminating the cascading impact of taxes on production and distribution costs, advent of the GST would also improve the overall competitiveness of the economy.

The implementation of the GST should boost business confidence and investment, creating an environment conducive to acceleration of growth. Other initiatives such as steps to attract foreign direct investment in defence, civil aviation, pharmaceuticals and broadcasting, measures to improve infrastructure, and the enactment of the Insolvency and Bankruptcy Code and the Real Estate (Regulation and Development) Act should also contribute to unlocking entrepreneurial energies and growth impulses.

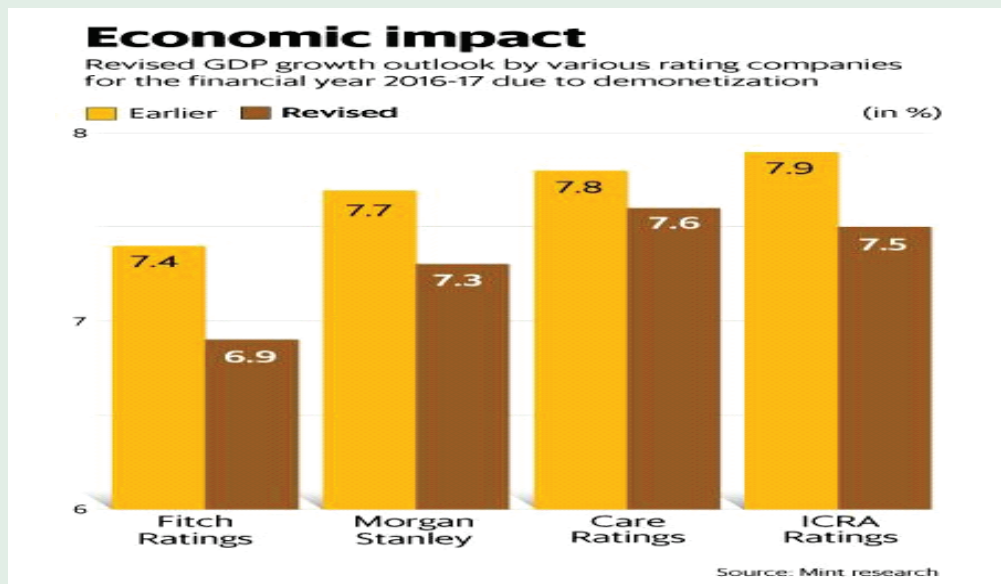
Although there is still a long way to go, the results of the first half 2016–17 cast doubts on the government's projection that the economy will expand by 8.0 per cent this fiscal year. NCAER, in its recent review, placed the overall 2016–17 GDP growth (GDP at market prices), at constant 2011–12 prices, at 7.6 per cent, equal to or close to estimates projected by multilateral agencies such as the International Monetary Fund (IMF) and the World Bank. The IMF expects the Indian economy, Asia's third largest, to expand by 7.6 per cent in 2016–17, up from its earlier projection of 7.4 per cent. "India's economy continued to recover strongly, benefiting from a large improvement in the terms of trade, effective policy actions, and stronger external buffers, which have helped boost sentiment," the IMF said in its World Economic Outlook (WEO) Report.⁵

In anticipation of temporary headwinds from the demonetisation of high-value currency notes on November 8, 2016, securities houses and rating agencies have cut their estimates of India's GDP growth. Their estimates of the economic growth rate for FY 2017 now range from a highly pessimistic 3.5 per cent to 7.5 per cent, which is 0.5- 3.3 percentage points below their earlier forecast. According to HSBC, India's economic growth is expected to fall by up to 1 percentage points over the next 12 months in the wake of demonetisation, while longer-term gains will depend on follow-up reforms. International rating agencies—Moody's Investor Service, and Standard and Poor's – have given a thumbs-up to the government's decision to demonetise high-value currency notes, but warned of short-term pain emanating from this move. "The move will weigh on GDP growth for a few quarters, dampening government revenues," (Source: Economic News, 30 November, 2016) More recently, Fitch cut its India GDP growth forecast for the current fiscal year to 6.9 per cent from 7.4 per cent, and lowered its 2017–18 projection to 7.7 per cent from 8 per cent, citing the impact of demonetisation of high-value bank notes. Figure I.1 shows the revised GDP growth rates predicted by various rating agencies as a consequence of demonetisation.

NCAER, in its recent review, placed the overall 2016–17 GDP growth (GDP at market prices), at constant 2011–12 prices, at 7.6 per cent.

In anticipation of temporary headwinds from the demonetisation of high-value currency notes on November 8, 2016, securities houses and rating agencies have cut their estimates of India's GDP growth.

5. <http://www.imf.org/external/pubs>.

Figure I.1: Revised GDP Growth Outlook due to Demonetisation


Source: Mint 30 November, 2016, Demonetisation: Fitch lowers India's growth outlook for FY 2017 and FY 2018.

The Union Commerce and Industry Minister of India also conceded that economic output in the current quarter may get affected by Government's demonetisation drive, which has temporarily hit commercial activities in some sectors. However, the economy is subsequently expected to expand as the Reserve Bank of India (RBI) is releasing more cash and banks would have greater supply, the Minister added.

On the external front, the first half of the year witnessed current account deficit (CAD) within manageable limits. India's merchandise exports growth turned positive in June 2016, with exports rising at 1.27 per cent on a y-o-y basis in June to \$22.57 billion, reversing the trend that started in December 2014 due to weak global demand and a fall in commodity prices. Furthermore, after a decline in July and August 2016, exports grew at 4.6 per cent in September, raising hopes that the period of declining exports is coming to an end. However, according to the available data, the performance of the external sector in the H1 of FY 2016 has waned. The exports of goods and services declined by 1.2 per cent while the imports of goods and services declined by 13.1 per cent (Table I.2). Table I.3 shows India's the FY import/export and trade balance since 2015-16 in billion US\$.

Table I.2: Monthly Foreign Trade FY 2015-16 versus FY 2016-17 (Billion US\$)

FY	FY Exports			FY Imports		
	2015-16	2016-17	Y-o-Y Growth per cent	2015-16	2016-17	Y-o-Y Growth per cent
April	22.1	20.6	-6.7	33.1	25.4	-23.1
May	22.4	22.2	-0.8	32.8	28.4	-13.2
June	22.3	22.6	1.3	33.1	30.7	-7.3
July	23.1	21.7	-6.3	36.0	29.5	-18.1
August	21.3	21.5	1.2	33.7	29.2	-13.5
September	21.9	22.9	4.6	32.0	31.2	-2.5
FY H1	133.0	131.4	-1.2	200.6	174.4	-13.1

Source: Office of the Economic Advisor – Key Economic Indicators, October 2016
http://eaindustry.nic.in/key_economic_indicators/Key_Economic_Indicators.pdf.

Table I.3: India Merchandise Imports/Exports (Billion US\$)

FY FY Year	FY Exports		FY Imports		
	Exports	Y-o-Y Growth per cent	Imports Billion \$	Y-o-Y Growth per cent	Trade Balance Billion \$
2005–06	103.09	23.41	149.17	33.76	-46.08
2006–07	126.41	22.62	185.74	24.52	-59.33
2007–08	163.13	29.05	251.65	35.49	-88.52
2008–09	185.3	13.59	303.67	20.68	-118.37
2009–10	178.75	-3.53	288.37	-5.05	-109.62
2010–11	249.82	39.76	369.77	28.23	-119.95
2011–12	305.96	22.48	489.32	32.33	-183.36
2012–13	300.4	-1.82	490.74	0.29	-190.34
2013–14	314.41	4.66	450.2	-8.26	-135.79
2014–15	310.34	-1.29	448.03	-0.48	-137.69
2015–16	261.14	-15.85	379.6	-15.28	-118.46

Source: Office of the Economic Advisor, Key Economic Indicators, October 2016.
http://eaindustry.nic.in/key_economic_indicators/Key_Economic_Indicators.pdf.

I.3 Outlook for Rabi Crops in 2016–17

The outlook for 2016–17 Rabi crops, which include mostly wheat, rapeseed/mustard, and chickpeas, and small quantities of coarse grains, presents a mixed picture. The positive and negative factors impacting the Rabi production outlook are discussed below.

I.3.1 Cash Crunch to Marginally Impact Input Purchases

There is apprehension that India's massive rural economy, which after two years of distress, was on a slow path to recovery on the back of a favourable monsoon and bumper Kharif crop harvest, is likely to be hit, albeit modestly, by the Government's decision to demonetise high-value currency to curb black money in the economy. The importance of cash in India can be seen from the fact that the country has a much higher cash-to-gross domestic product (GDP) ratio (over 12 per cent), as compared to the corresponding figures of 2.5 per cent to 8.0 per cent globally. Anecdotal evidence indicates that the sales of agriculture inputs such as seeds and fertilisers, besides tractors, cement, and consumer durables have dropped due to the cash crunch. However, the Government has taken special care to protect farmers from the adverse impact of the cash crunch by making adequate credit available through cooperative banks. The Finance Ministry has asked the National Bank for Agriculture and Rural Development (NABARD) to sanction Rs. 21,000 crore to district cooperative banks in order to fund the crop loan demands of small and marginal farmers. These banks typically meet 40 per cent of the credit needs of farmers. Furthermore, all the cooperative societies, private retailers/wholesalers of fertilisers have been asked to provide fertilisers to farmers through all other modes of payments like on credit, vide cheque, credit card, and debit card, among others. The Government has also decided to provide an additional grace period of 60 days to farmers, whose crop loan dues fall due between November 1, 2016 and December 31, 2016. In another move aimed at enabling farmers to carry out cashless transactions, NABARD has planned to provide RuPay cards to over 34 million farmers in villages across India. These cards will be provided through cooperative banks and farmers' credit cooperative societies. Farmers can buy seeds, fertilisers and other farming equipment by using their Rupay cards.

Nonetheless, the demonetisation is likely to have some negative impact on the purchase of farm inputs and hence on crop production during the ongoing Rabi season. The cash

Nonetheless, the demonetisation is likely to have some negative impact on the purchase of farm inputs and hence on crop production during the ongoing Rabi season.

crunch in rural and agricultural markets after the demonetisation of high-value currency notes has also reportedly resulted in a significant decline in the prices of perishable farm produce.

I.3.2 North-East Monsoon Below Par

Although the 2016 south-west monsoon rains were near normal at the all-India level (7 per cent below the LPA), the North-east monsoon up to December 21, 2016 was significantly below normal in the southern peninsula, where the major crops grown are rice, maize and pulses. The monsoon was also below par in the major wheat-, rapeseed-, and pulse-growing regions of north and central India. Although most Rabi crops, particularly wheat, are largely irrigated, the North-east monsoon rains and winter rains are crucial for crops grown in the non-irrigated regions.

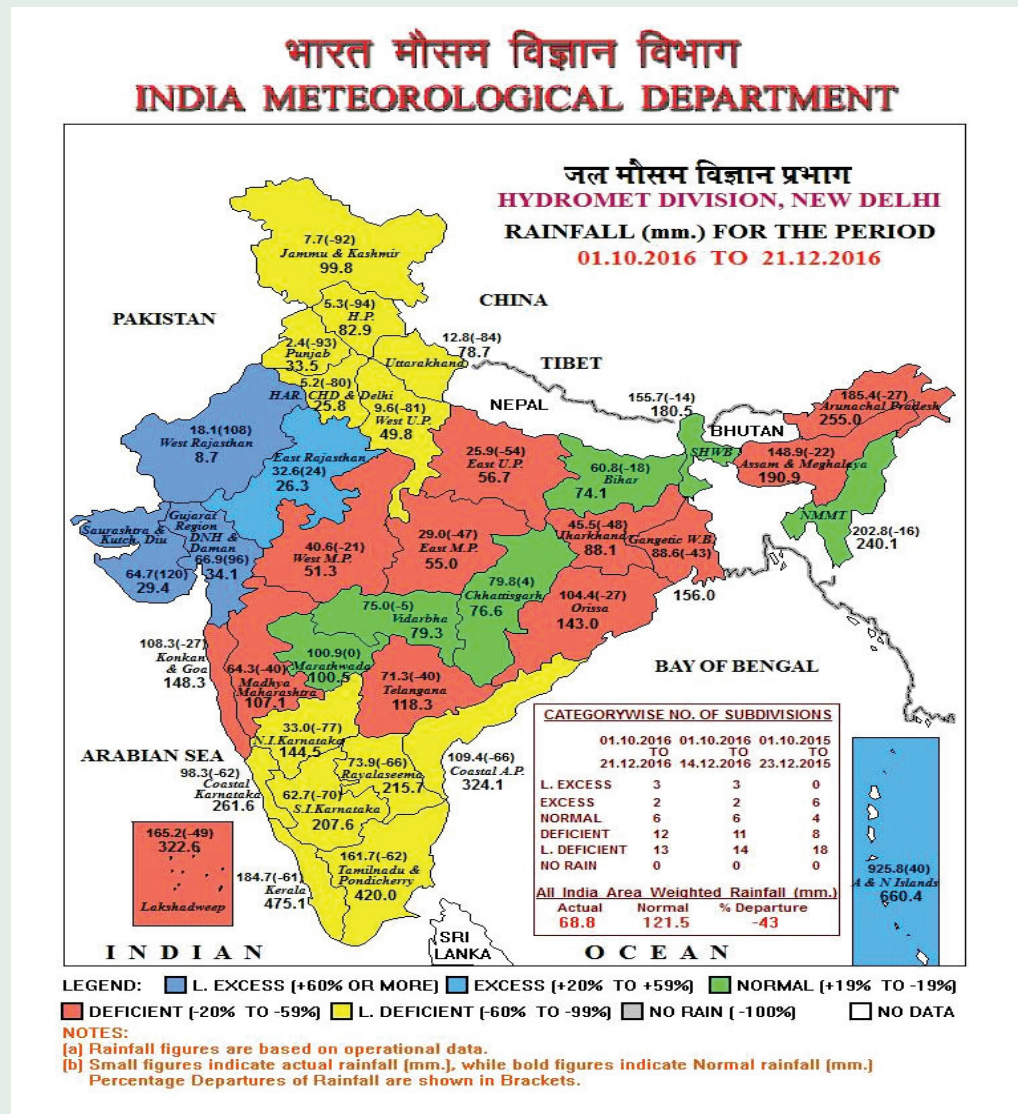
For the country as a whole, the cumulative rainfall during this year's post-monsoon season up to December 21, 2016 has been 43 per cent below the LPA, signifying the highest deficiency in recent years. Rainfall in the four broad geographical divisions of the country during the above period has been lower than the LPA by 62 per cent in North-west India, 69 per cent in south peninsular India, 19 per cent in eastern and north-eastern India and 3 per cent in central India.

However, under the influence of a severe cyclonic storm, Vardha, on December 12, 2016, there has been excess rainfall (88 per cent above normal) over the south-eastern peninsula during the week ending December 14, 2016. Despite this, the cumulative rainfall in the southern peninsula continued to remain significantly below the LPA. Figure I.2 shows the cumulative spatial distribution of the North-east monsoon up to December 21, 2016.

Although most Rabi crops, particularly wheat, are largely irrigated, the North-east monsoon rains and winter rains are crucial for crops grown in the non-irrigated regions.



Figure I.2: Spatial Distribution of the North-east Monsoon up to December 21, 2016

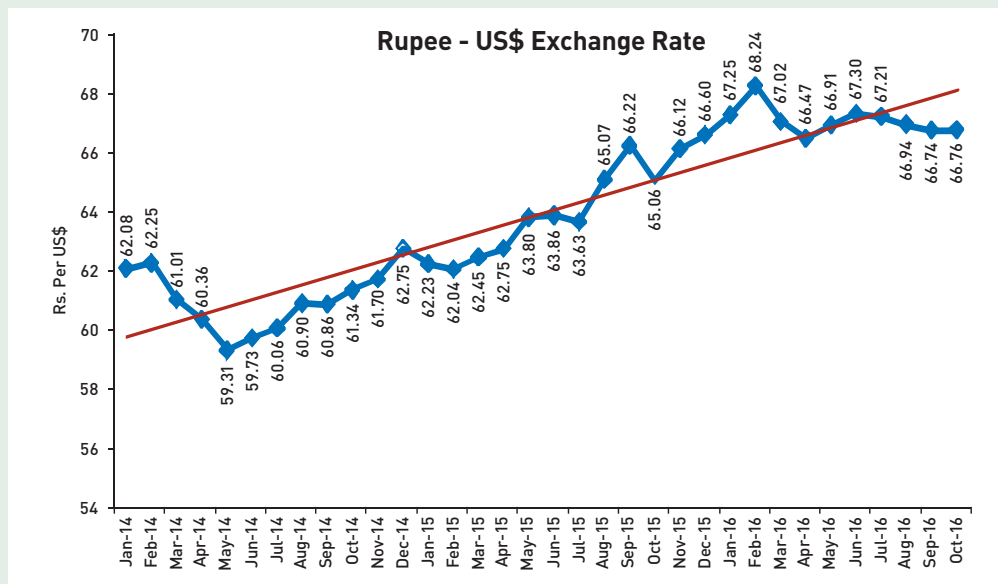


Source: www.imd.gov.in.

I.3.3 Rupee Depreciation: A Mixed Blessing

According to currency experts, the post-demonetisation impact on the rupee-dollar exchange rate is unlikely to be significant. This is primarily because the rupee's fortunes are linked more to the global factors at this stage, mainly the US factors, rather than domestic drivers. In fact, the rupee continued to fall sharply following the US election and the election of Donald Trump as President of the United States. The Indian currency fell steeply during the past few weeks, touching 68.86 against the US dollar, which was lower than the previous low of Rs. 68.84 recorded on August 28, 2013. A 25-basis point rise in the interest rate announced by the US Federal Reserve might accentuate economic challenges for India in the coming quarters. The possibility of the withdrawal of FIIs from the market following an interest hike by the US Federal Reserve could further weaken the rupee against the dollar. While the US will not like the dollar to rally too much due to its negative impact on US companies, the strength in the dollar is affecting the rupee adversely. Figure I.3 shows the rupee/US\$ exchange rate trends over the past few years.

According to currency experts, the post-demonetisation impact on the rupee-dollar exchange rate is unlikely to be significant.

Figure I.3: Trends in Rupee/US\$ Exchange Rate


Source: IMF (<http://data.imf.org/regular.aspx?key=60998110>).

The impact of the depreciation of the rupee on the Indian economy, in general, and the food and agriculture sector, in particular, is expected to be mixed. Being a largely import-based economy, India is heavily dependent on imports for energy needs and some food commodities such as vegetable oils and pulses, which will become costlier due to depreciation of the rupee. The rise in the prices of all imported goods and imported raw materials could adversely impact corporate profits. However, the depreciation of the rupee will prove beneficial for the export-oriented sectors such as IT, handicrafts, pharmaceuticals, and textiles. This will also benefit exporters of agricultural commodities such as rice, oil meals, fishery products, and fruits and vegetables.

I.3.4 Government Hikes Support Prices for Rabi Crops

In order to give a positive signal to farmers for expanding production, the Government announced a significant increase in the Minimum Support Prices (MSPs) for most Rabi crops, with a higher increase in the MSPs for pulses and oilseeds, wherein domestic supply falls short of demand. The Government also announced a hefty bonus for pulse crops, over and above the MSP. Table I.4 shows the applicable MSPs for various Rabi crops.

Table I.4: Minimum Support Prices for Rabi Crops (Rs./Quintal)

Crop	MY 2014-15	MY 2015-16	MY 2016-17	MY 2017-18	Increase	
					Absolute	Per cent
Wheat	1,350	1,400	1,450	1,525	75	5.2
Barley	980	1,100	1,150	1,225	75	6.5
Gram	3,000	3,100	3,175	3,500*	325	10.2
Masur (Lentil)	2,900	2,950	3,075	3,400*	325	10.6
Rapeseed/Mustard	3,000	3,050	3,100	3,350	250	8.1
Sunflower	2,899	3,000	3,050	3,300	250	8.2

Note: * Including additional bonus of Rs. 75 per quintal.

Source: Directorate of Economics and Statistics—<http://eands.dacnet.nic.in/>.

The impact of the depreciation of the rupee on the Indian economy, in general, and the food and agriculture sector, in particular, is expected to be mixed.

In order to give a positive signal to farmers for expanding production, the Government announced a significant increase in the Minimum Support Prices (MSPs) for most Rabi crops.

I.3.5 Sowing Operation Gains Momentum

After a slow start due to poor soil moisture conditions, irrigation shortages, and the fallouts of demonetisation, the planting of Rabi crops, mostly wheat, rapeseed/mustard, gram and other pulses picked up momentum in December 2016. The area sown to Rabi crops up to December 14, 2016, as compared with the area sown during the corresponding period of 2015, is shown in Table I.5. Except in the case of Rabi rice and coarse grains, the area coverage as of mid-December 2016 was significantly higher for wheat, pulses (mainly gram and lentil) and oilseeds (mainly rapeseed/mustard). The Rabi sowing is likely to continue for another month or so, and the area planted under most crops is expected to equal or exceed last year's level.

Table I.5: Progressive Planting of Rabi Crops up to December 14, 2016 as Compared to the Corresponding Period Last Year

Crop	Area Sown in 2016-17 (Lakh Ha)	Area Sown in 2015-16 (Lakh Ha)	Increase in 2016-17 over 2015-16 (Lakh Ha)	Increase in 2016-17 over 2015-16 (per cent)
Wheat	256.19	239.45	16.7	7.0
Rice	8.44	11.94	-3.5	-29.3
Pulses	131.80	117.06	14.7	12.6
Coarse Cereals	48.53	52.51	-4.0	-7.6
Oilseeds	74.31	69.53	4.8	6.9
Total	519.27	490.48	28.8	5.9

Source: Directorate of Economics and Statistics—<http://eands.dacnet.nic.in/>.

Table I.6: 2016–17 Crop Forecasts on the Basis of the Agricultural Year (Million Tonnes)

	2015–16 Official Fourth Advance Estimate	2016–17 Official First Advance Estimate	2016–17 NCAER Forecast August 2016	2016–17 NCAER Forecast December 2016
Kharif Rice	91.3	93.9	94.2-95.1	94.2
Kharif Jowar	1.7	2.4	1.9-2.3	2.1
Bajra	8.1	8.6	9.4-10.3	10.5
Kharif Maize	15.2	19.3	18.0-18.1	18.3
Kharif Coarse Cereals	27.2	32.5	31.3-33.0	32.8
Tur	2.5	4.3	2.8	3.1
Kharif Pulses	5.5	8.7	8.0	8.0
Kharif Foodgrains	124.0	135.0	132.9-133.5	133.6
Kharif Groundnut	5.3	6.5	5.8-5.9	5.9
Soybean	8.6	14.2	11.3-11.4	12.3
Rabi Rice	13.0	NA	NA	13.0-14.7
Wheat	93.5	NA	NA	96.0-98.7
Rabi Jowar	2.7	NA	NA	3.2
Rabi Maize	6.6	NA	NA	8.4
Barley	1.5	NA	NA	1.5
Rabi Coarse Cereals	10.8	NA	NA	8.8-11.4
Gram	7.2	NA	NA	8.1-9.1
Rabi Pulses	10.9	NA	NA	11.5-13.1
Rabi Foodgrains	128.2	NA	NA	132.5
Rabi Groundnut	1.4	NA	NA	1.6
Rapeseed and Mustard	6.8	NA	NA	7.1
Sugarcane	352.2	305.2	359.4-369.0	354.7
Potato*	43.8	NA	47.2	47.5
Onion*	20.9	NA	21.8	22.5
Banana*	29.1	NA	31.2	30.2

Note: * 3rd Advance Estimates.

Source: Official Advance Estimates from Directorate of Economics and Statistics-<http://eands.dacnet.nic.in/>.

I.4 Food Inflation

I.4.1 Wholesale Price Inflation Weakens

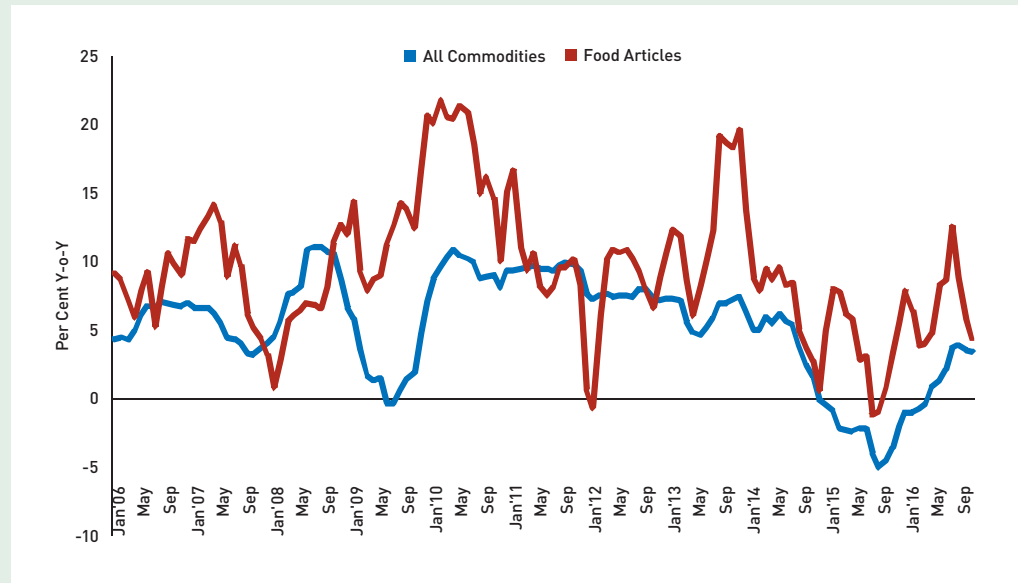
The y-o-y food inflation measured by the Wholesale Price Index (WPI), after peaking at 12.6 per cent in July 2016, exhibited a downward trend, plummeting to 1.5 per cent in November 2016, the lowest level since September 2015, and significantly lower than the food inflation of 5.6 per cent a year ago.

The overall headline inflation measured by WPI, after dipping to -5.1 per cent in August 2015, strengthened continuously to reach 3.9 per cent in August 2016, but then dipped to 3.6 per cent in September and further to 3.2 per cent in November 2016 (Figure I.4).

The major food commodities contributing to the weakening of food inflation in recent months are rice, pulses, fruits and vegetables, oilseeds and vegetable oils. While the price inflation for onion dipped sharply, price inflation for potato continued to remain strong (Figure I.5).

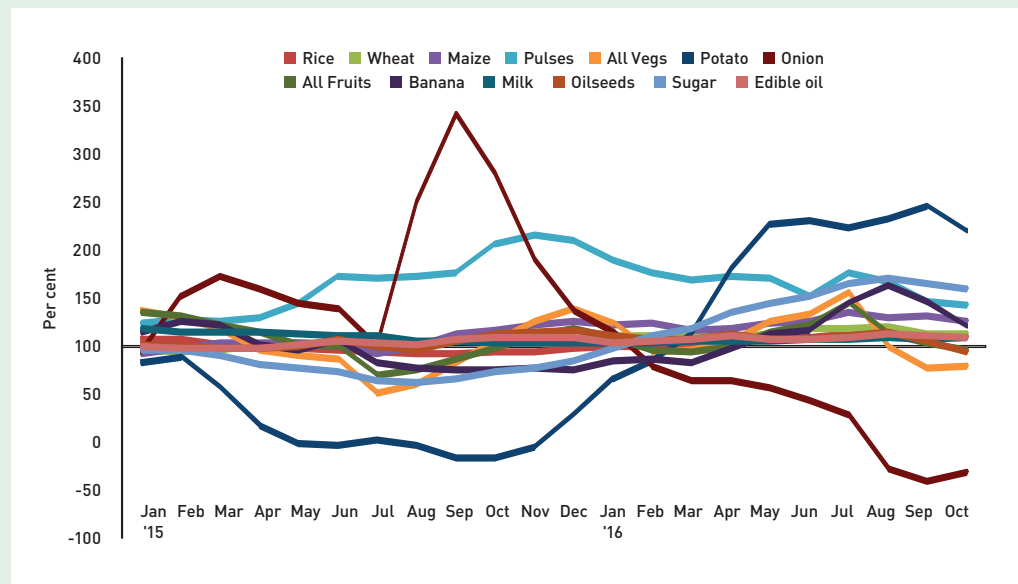
Figure 1.6 shows the wholesale price volatility in major food commodities, measured by the Coefficient of Variation (CV) using the WPI from January 2014 to November 2016.

Figure I.4: Headline Inflation and Food Inflation Weaken



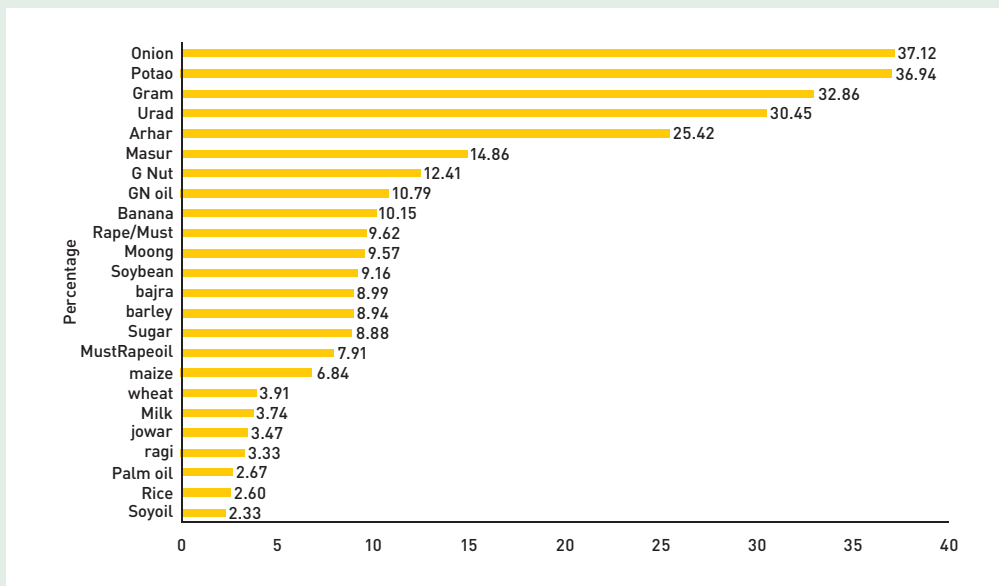
Source: Office of the Economic Advisor, Ministry of Commerce and Industry, Government of India.

Figure I.5: Food Items Contributing to Lower Food Inflation



Source: Office of the Economic Advisor, Ministry of Commerce and Industry, Government of India.

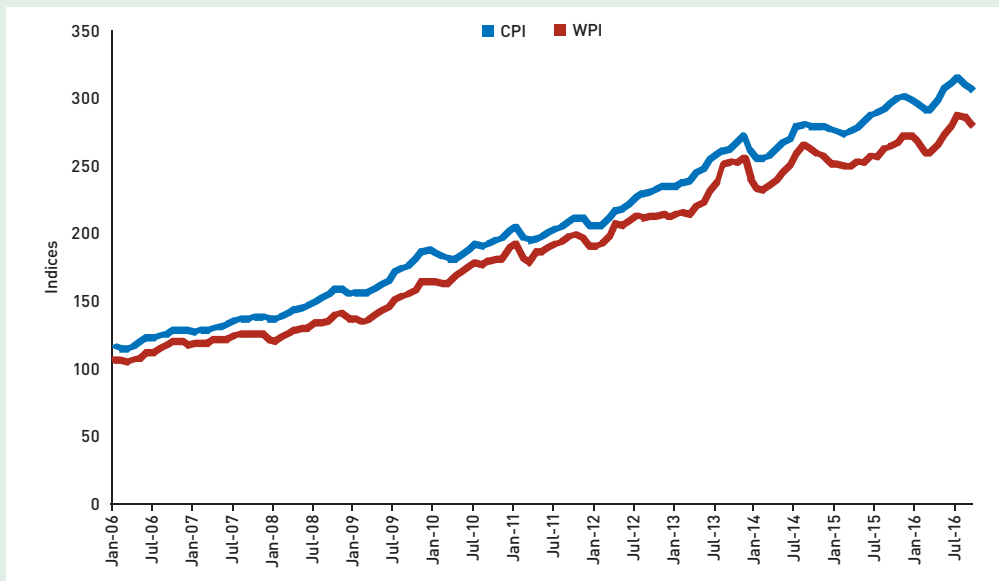
Figure 1.6: Wholesale Price Volatility in Major Food Commodities



Source: Office of the Economic Advisor, Ministry of Commerce and Industry, Govt. of India.

Figure I.7 shows the trend in WPI and CPI during the period January 2006 to November 2016.

Figure I.7: Trends in WPI (Base 2004-05) versus CPI (Base 2001)



Source: Office of the Economic Advisor, Ministry of Commerce and Industry, Govt. of India.

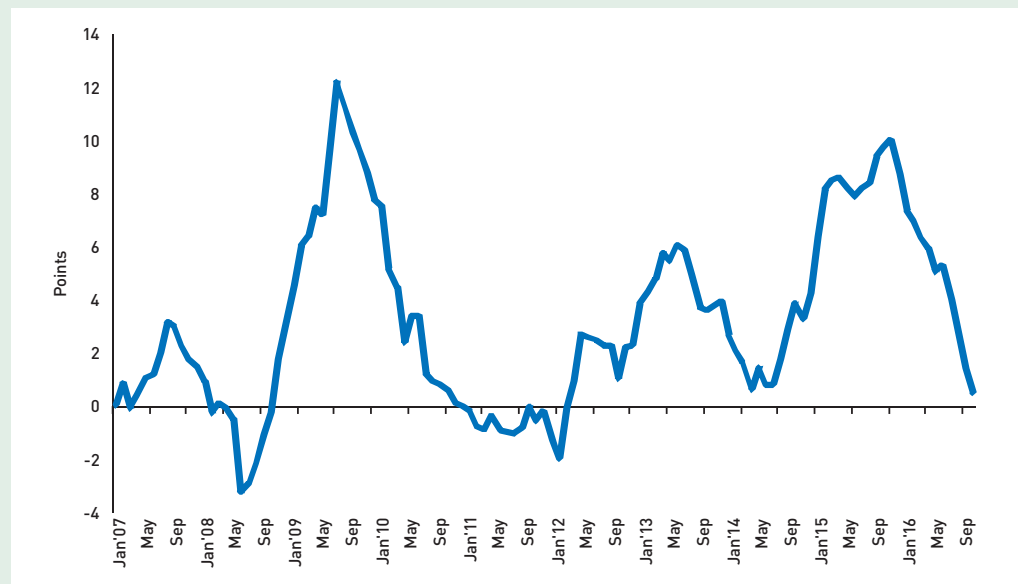
Figure I.8 shows the difference between the headline WPI-based y-o-y inflation and the CPI-based y-o-y inflation. Most of the time, the CPI-based headline inflation was a few points above the WPI-based headline inflation, while following it closely. However, since November 2014, the CPI- and the WPI-based inflations started diverging, peaking at 10 points in October 2015, and thereafter declining to 0.6 points in September 2016. Similar phenomena had occurred in 2009 and 2012. In 2009, the margin between CPI-based



inflation and WPI-inflation peaked to 12.2 points in July and then started declining. This has a significant implication as the new CPI (combined)-based inflation has been used as the key measure of inflation for all purposes since April 2014. Earlier, the RBI had given more weightage to WPI than CPI as the key measure of inflation for all policy purposes.

India's annual consumer price inflation eased to 3.63 per cent in November 2016, its lowest level in two years, helped by a sharp cooling in food prices. Food inflation was 2.11 per cent in November 2016, lower than the 3.32 per cent recorded in October, and 5.41 per cent a year ago. The higher the figure the previous year, the lower is the inflation in the current year due to the base effect.

Figure I.8: Difference between Headline WPI-based and CPI-based Y-o-Y Inflation

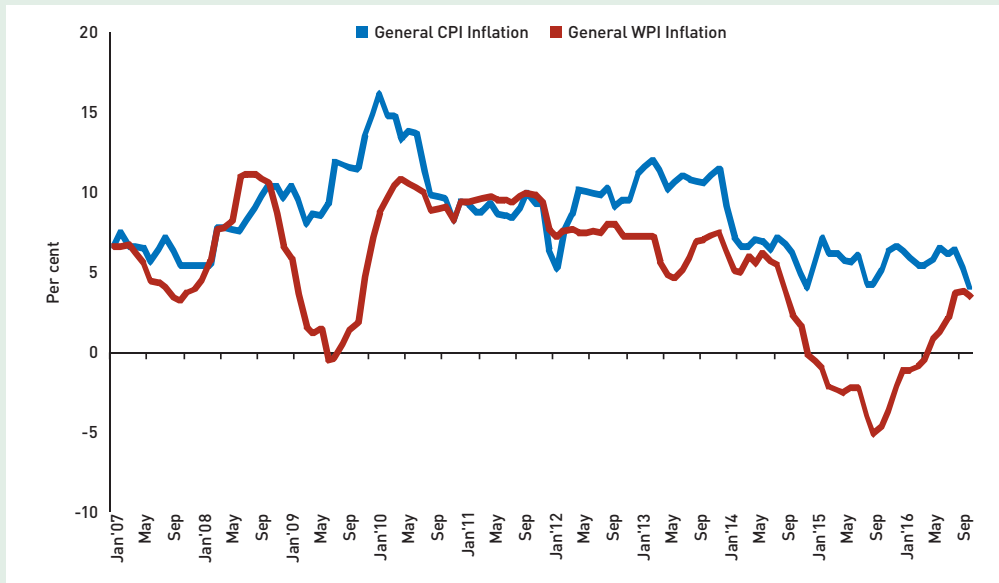


Source: Office of the Economic Advisor, Ministry of Commerce and Industry, Govt. of India.

While the CPI-based retail inflation has consistently moved upwards, the WPI-based headline inflation has dramatically contracted (Figure I.9), leaving a substantial gap of more than 8.0 percentage points between these two inflation estimates. When the WPI-based headline inflation turned negative during most of 2015, the CPI-based inflation continued to remain in the positive territory, creating a dilemma for policy-makers. According to some economists, the CPI should ideally be not more than one percentage point of the WPI on either side.⁶

6. <http://www.zeebiz.com/india/news-wholesale-and-retail-inflation-are-drawing-close-to-each-other-again-5067>.

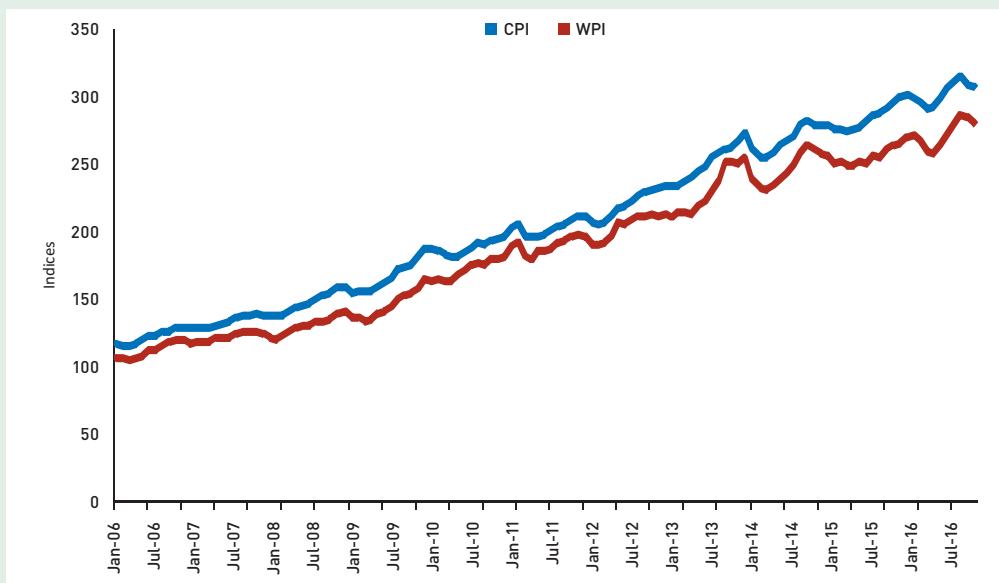
Figure I. 9: CPI- versus WPI-based Inflation



Source: Office of the Economic Advisor, Ministry of Commerce and Industry, Govt. of India.

However, as far as food inflation is concerned, both the CPI and WPI inflations were seen to move in tandem with each other barring the period July through September 2015, when the WPI inflation was negative while the retail inflation remained positive (Figure I.11). Figure I.10 shows the WPI- and CPI-based food inflation.

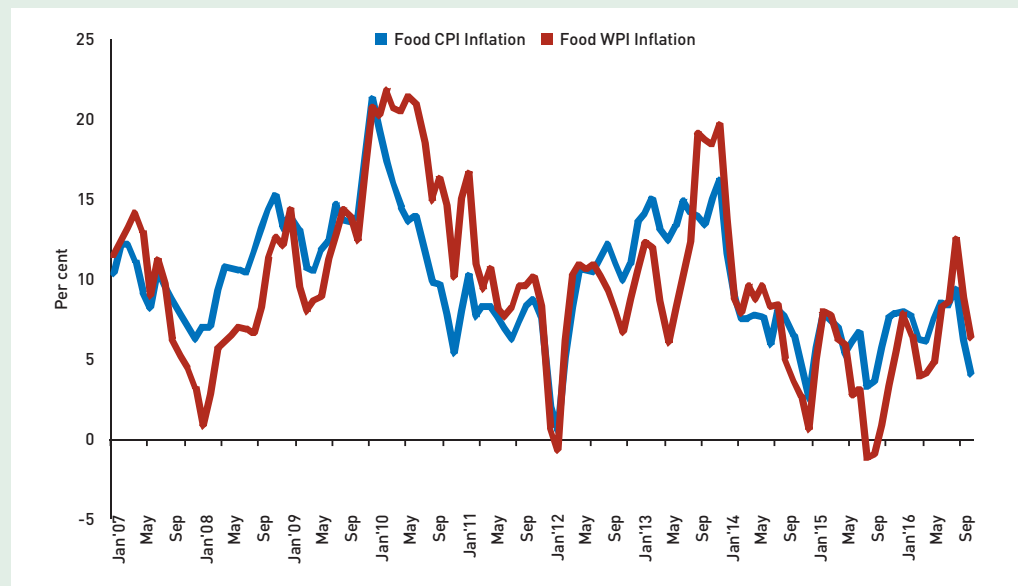
Figure I.10: WPI versus CPI Food Inflation (Y-o-Y)



Source: Office of the Economic Advisor, Ministry of Commerce and Industry, Govt. of India.



Figure I.11: Food WPI- versus CPI-based Inflation



Source: Office of the Economic Advisor, Ministry of Commerce and Industry, Govt. of India.

A statistical analysis of the monthly WPI and CPI data for food commodities from January 2014 to June 2016 shows a high degree of correlation (0.88) between the two, signifying the close association between the consumer food price inflation and the wholesale food price inflation. The estimated elasticity of food WPI (FWPI) to food CPI (FCPI) is 0.54, which implies that for a one per cent increase in wholesale food prices, on an average, the retail food prices increase by 0.54 per cent. The estimated equation is:

$$FWPI = 0.400 FCPI^{0.537} \quad R^2 = .657$$

Table I.7: Inflation Trend in Major Food Commodities: Percentage Change in WPI Y-o-Y

Months	Rice	Wheat	Maize	Pulses	Potato	Onion	Banana	Milk	Oilseeds	Sugar	Edible Oil
January 2014	13.4	6.8	-0.7	-7.1	16.0	0.5	18.3	7.2	-2.6	-5.5	-1.7
February 2014	13.6	6.6	-1.4	-5.7	7.7	-27.5	12.8	8.8	-0.6	-6.7	-1.5
March 2014	12.6	6.2	-1.0	-2.3	31.4	-15.0	13.2	9.5	0.9	-4.4	-0.1
April 2014	12.8	4.4	-1.7	-1.8	33.0	-10.6	18.0	9.2	0.2	-1.1	-0.7
May 2014	12.8	3.4	-2.6	-0.2	37.1	-3.5	20.5	9.6	5.0	-0.9	-0.8
June 2014	10.2	0.9	-4.7	0.6	46.5	-11.4	25.1	10.8	4.8	-0.7	-0.8
July 2014	8.1	1.1	-0.4	3.3	47.8	-8.3	34.0	10.5	6.3	2.0	1.0
August 2014	6.6	0.7	-2.4	7.9	65.8	-44.5	23.0	12.2	12.6	2.6	-0.2
September 2014	6.9	-1.5	-9.9	6.7	93.5	-58.1	17.9	11.6	8.1	2.1	-2.3
October 2014	6.5	-1.9	-6.7	4.0	82.8	-59.0	13.6	11.4	3.5	1.9	-2.8
November 2014	5.5	-2.2	-7.3	4.4	34.2	-55.3	8.0	10.2	-0.7	0.2	-3.3
December 2014	4.4	-2.4	-7.5	5.9	0.5	-19.7	13.5	9.4	-0.9	-1.3	-3.4
January 2015	4.0	-1.6	-2.9	12.6	-8.0	-3.3	7.3	9.6	0.5	-1.6	-0.4
February 2015	3.3	-2.4	-0.9	14.5	-5.2	26.0	13.4	8.0	-0.2	-2.2	-0.8
March 2015	0.6	-1.2	1.9	13.2	-21.5	36.5	11.1	7.5	-1.3	-4.9	-1.2
April 2015	0.0	1.6	1.8	15.5	-41.1	30.0	0.9	7.4	-1.5	-8.8	-1.2
May 2015	-1.4	2.6	2.5	23.1	-50.7	22.1	-2.4	6.9	-0.6	-11.2	0.8
June 2015	-1.6	1.8	1.5	36.8	-51.6	19.1	3.4	5.2	3.1	-13.3	2.8
July 2015	-2.9	2.0	-3.3	36.2	-48.9	-0.5	-9.2	5.3	-0.2	-17.6	1.4
August 2015	-3.9	2.1	0.0	36.5	-51.8	74.4	-11.8	2.1	-2.2	-18.4	1.2
September 2015	-3.8	3.3	7.1	38.9	-58.0	120.7	-12.4	2.2	2.5	-16.5	3.3
October 2015	-3.4	4.6	8.4	53.1	-58.1	89.5	-12.6	1.7	6.7	-13.1	4.7
November 2015	-3.3	4.4	11.6	58.1	-52.9	44.5	-11.8	1.6	7.0	-11.2	4.7
December 2015	-1.2	3.9	13.7	55.8	-35.4	18.3	-12.5	1.8	8.2	-7.5	4.7
January 2016	-0.1	5.5	11.4	45.0	-17.1	7.5	-8.2	1.4	5.8	-0.6	1.6
February 2016	-0.1	6.0	12.5	38.4	-7.4	-10.2	-7.2	1.7	3.5	5.2	2.4
March 2016	2.2	5.9	9.0	34.4	6.5	-17.7	-8.9	2.7	3.5	9.1	3.4
April 2016	1.8	5.0	9.2	36.5	40.8	-17.9	-0.7	2.8	6.1	17.3	5.4
May 2016	3.2	6.9	12.4	35.8	63.8	-21.7	6.3	2.4	3.3	22.4	4.0
June 2016	4.9	9.8	13.2	26.6	66.1	-28.6	8.8	3.2	3.2	26.4	3.6
July 2016	6.8	9.8	18.0	38.3	62.1	-36.3	22.9	3.8	5.6	33.0	4.9
August 2016	7.4	10.3	15.6	34.2	67.2	-64.2	32.4	4.2	7.2	35.4	6.5
September 2016	4.7	7.0	16.0	24.0	73.3	-70.5	23.3	3.7	2.2	32.9	5.9
October 2016	4.6	6.3	13.4	21.8	60.6	-66.0	10.7	4.2	-3.3	29.6	4.6
November 2016	4.7	10.7	6.9	21.7	30.7	-51.5	10.4	4.2	-5.0	31.8	4.0

Source: Office of the Economic Advisor, Ministry of Commerce and Industry, Govt. of India.

1.4.2 Price Forecast

Two approaches were adopted for the short-term projections of the prices of major food items, on the basis of which the y-o-y price changes were calculated.⁷ The projected y-o-y percentage change in the wholesale prices of major commodities in Delhi are shown in

7. The two time series techniques used here are: a) Harmonic Analysis, and b) Autoregressive Integrated Moving Average (ARIMA) method. While Harmonic Analysis is for indicative wholesale prices of selected food commodities in Delhi, the ARIMA projections take into consideration the all-India WPI for selected commodities.

Table I.8. The projected y-o-y and month-on-month percentage changes in the all-India wholesale price indices are summarised in Table I.9.

Based on the normal trend and cyclical components of prices using data from January 2009 to November 2016, the price rise during the next six months (December 2016 to May 2017) in the indicative Delhi wholesale market is expected to remain moderate and stable in the case of wheat, rice, chana dal, urad dal, tur dal, and milk. The forecast for the price rise in potato is that it will remain high and continue to increase while for onion, the y-o-y change is expected to decline till January 2017 and rise thereafter. In the case of both moong dal and sugar, the y-o-y price inflation is expected to decline after the year-end. In the case of soy oil and palm oil, on the other hand, the price inflation is expected to remain stable but at high levels.

Since the ARIMA projection is based on the figures at the all-India level, it may be at variance with the projections made by using Harmonic Analysis for the Delhi wholesale market. However, the projections for next six months based on the ARIMA technique follow almost the same direction as projected by the Harmonic Analysis for most of the commodities. Table I.8 shows that there will be a significant price rise during the next six months in the case of rice, jowar, maize, and rapeseed and mustard, whereas prices are expected to decline in the case of wheat (after March 2017), pulses (after March 2017), gram (after March 2017), potato (after January 2017) and onion. Whereas moderation in prices is expected in the case of tur dal and soybeans, on the other hand, a moderation in prices can be expected. Overall, in the case of food articles and food products, the price inflation in next 5-6 months is expected to remain moderate.

Table I.8: Projected Wholesale Price Trends for Selected Food Commodities in Delhi Based on Harmonic Analysis: Percentage Change Year-on-Year

Commodity	December 2016	January 2017	February 2017	March 2017	April 2017	May 2017
Wheat	3.39	3.37	3.37	3.38	3.39	3.41
Rice	3.62	3.62	3.62	3.63	3.63	3.62
Tur Dal	5.81	5.86	5.90	5.91	5.87	5.80
Chana Dal	4.58	4.67	4.76	4.84	4.86	4.81
Urad Dal	8.68	8.71	8.77	8.74	8.56	8.32
Masur Dal	-7.08	-6.27	-5.00	-3.29	-1.24	1.02
Mung Dal	0.51	0.05	-0.26	-0.42	-0.44	-0.31
Potato	24.00	29.38	33.44	34.17	31.18	26.19
Onion	-24.06	-28.35	21.81	18.10	11.52	4.28
Sugar	2.23	0.32	-1.56	-3.36	-5.02	-6.46
Soy oil 1/	11.10	11.94	12.58	12.99	13.16	13.06
Palm oil 1/	12.32	13.34	14.03	14.39	14.41	14.13
Milk	7.00	6.96	6.92	6.88	6.84	6.80

Note: 1. Retail price in packs. The harmonic method projects wholesale prices data for major agricultural commodities. The indicative Delhi wholesale price data is used for the analysis, except for soybean oil, palm oil, and milk, for which retail prices are used in the absence of wholesale prices.

2. The projections do not take into account the effects of government policy changes but reflect the average patterns in the trends and seasonal factors in each commodity price.

Source: Department of Consumer Affairs, Ministry of Consumer Affairs, Food and Public Distribution.

Table I.9: Projected Wholesale Price Indices Based on Time Series ARIMA Model

Commodity	Projected Percentage Change Year-on- Year					
	December 2016	January 2017	February 2017	March 2017	April 2017	May 2017
Rice	3.9	3.4	3.9	4.7	5.8	5.0
Wheat	11.6	11.2	12.4	11.7	9.6	8.5
Jowar	2.8	8.9	9.4	9.8	11.8	12.9
Bajra	10.9	11.4	11.3	10.9	10.6	10.1
Maize	4.9	7.2	7.9	8.7	9.8	8.1
Pulses	20.4	22.0	25.2	27.7	22.7	14.3
Gram	83.0	84.3	85.0	85.5	67.5	49.9
Tur	-22.7	-21.4	-18.4	-14.9	-16.1	-17.4
Potatoes	20.6	5.2	-3.5	-4.8	-8.8	-9.9
Onions	-45.2	-38.4	-34.0	-24.7	-24.0	-20.9
Groundnut	-2.9	0.6	2.3	-4.0	-7.4	-9.7
Rapeseed/Mustard	-3.1	-1.8	1.7	3.6	4.5	2.1
Soybean	-18.4	-15.4	-15.5	-15.9	-18.8	-14.4
Edible oils	5.1	5.8	5.2	4.7	4.0	3.6
Food Articles	-0.5	0.7	3.8	4.6	5.0	3.3
Food Products	11.1	10.6	10.1	9.4	7.7	7.9
Food Sector	3.5	4.2	6.0	6.0	5.4	4.3
	Projected Percentage Change Month-on- Month					
Rice	-0.9	0.2	0.4	0.7	0.8	0.8
Wheat	1.6	2.1	1.1	-0.8	-2.5	-0.7
Jowar	2.8	1.3	1.9	0.3	2.2	2.3
Bajra	2.1	3.8	1.5	3.0	4.4	3.2
Maize	0.8	3.0	2.4	0.8	0.7	-0.2
Pulses	-1.6	-0.8	-1.6	-0.4	0.0	-0.3
Gram	-2.1	-2.3	-3.9	-2.1	-3.0	-1.9
Tur	-2.0	-0.9	-1.4	0.1	1.1	1.0
Potatoes	-23.9	-23.9	-8.9	5.7	13.4	18.3
Onions	-8.6	-2.5	-6.5	0.8	-6.2	1.5
Groundnut	0.5	2.3	-0.1	1.3	2.7	0.5
Rapeseed/Mustard	0.1	-0.3	-3.0	-2.5	-0.1	2.3
Soybean	0.3	1.7	-0.6	1.3	3.8	3.4
Edible oils	0.6	0.0	-0.5	-0.1	0.9	0.3
Food Articles	-1.9	-0.1	0.0	0.3	2.5	0.9
Food Products	0.1	0.6	0.3	0.2	1.2	0.8
Food Sector	-0.9	0.1	-0.2	0.1	1.8	0.8

Note: (1) The price changes in the case of WPI for 'food products' is calculated as the weighted average of food articles and food products, with the weights based on wholesale price index weights. (2) As the projection is on an all-India level, it may be at variance with the projections made using Harmonic Analysis for the Delhi wholesale market.

Source: Office of Economic Advisor, Government of India, Ministry of Commerce and Industry.

I.5 Supply-Demand Balance Summary

Part III of the report discusses the short-term scenario for specific food commodities. The scenario that is developing in the supply-demand balance sheet of food commodities is summarised in Table I.10.

Table I.10: Food Balance Sheet (Million Tonnes)

Particulars	Rice	Wheat	Maize	Pulses	Edible oils 1/	Sugar *	Onion	Potato
	2016-17	2017-18	2016-17	2016-17	2016-17	2016-17	2016-17	2016-17
	Oct-Sep	Apr-Mar	Oct-Sep	Oct-Sep	Oct-Sep	Oct-Sep	July-June	July-June
Beginning stocks	15.90	6.50	0.50	0.20	1.41	7.7	Neg	Neg
	(14.20)	(14.54)	(1.00)	(0.01)	(1.22)	(9.6)	(Neg)	(Neg)
Production	107.00	96.00	25.30	21.80	6.83	23.4	22.50	47.50
	(104.32)	(93.50)	(21.81)	(16.47)	(5.77)	(25.1)	(20.99)	(43.77)
Imports	0	5.00	0.20	6.50	16.00	1.87	0	0
	(0)	(1.00)	(0.30)	(5.90)	(14.98)	(0.5)	(0.04)	0
Total supply	122.90	107.50	26.00	28.50	24.24	32.97	22.50	47.50
	(118.52)	(106.20)	(23.11)	(22.38)	(21.97)	(35.20)	(21.03)	(43.77)
Exports	10.5	0.50	0.10	0.50	0.003	1.16	0.95	0.20
	(10.20)	(0.30)	(0.40)	(0.05)	(0.004)	(1.19)	(1.20)	(0.17)
Domestic food use	92.40	94.00	4.20	27.50	21.63	25.0	21.55	47.3
	(90.42)	(93.40)	(4.00)	(22.00)	(20.07)	(26.31)	(19.82)	(43.6)
Total utilisation	94.40	100.00	24.90	27.80	22.77	32.97	21.55	47.3
	(92.42)	(99.40)	(22.21)	(22.13)	(20.56)	(35.20)	(19.82)	(43.6)
Closing stocks	18.00	7.00	1.00	0.50	1.46	6.81	Neg	Neg
	(15.90)	(6.50)	(0.50)	(0.20)	(1.41)	(7.7)	(Neg)	(Neg)
Total distribution	122.90	107.50	26.00	28.50	24.24	32.97	22.50	47.50
	(118.52)	(106.20)	(23.11)	(22.38)	(21.97)	(35.20)	(21.03)	(43.77)
Stocks to use per cent	19.0	7.0	4.0	1.8	6.4	27.24	Neg	Neg
	(18.60)	(6.50)	(2.3)	(0.9)	(6.9)	(29.27)	(Neg)	(Neg)

Note: The stocks in the case of commodities other than rice, wheat and sugar are notional and provided only to indicate the overall price or quantity adjustments needed to obtain the supply-demand balance. In the case of rice and wheat, the stocks are government stocks whereas in the case of sugar, the stocks are those held with the industry. Figures in parentheses allude to data for the previous marketing year.

I.6 Progress of the Government's New Initiatives on Agriculture

The Government has announced various out-of-the-box initiatives in agriculture during the past two years, as discussed in earlier reports, which include the Pradhan Mantri Krishi Sinchai Yojana (PMKSY), creation of a National Market for Agricultural produce (NAM) through an electronic platform, the Pradhan Mantri Fasal Bima Yojana (PMFBY), the Interest Subvention Scheme for farmers, and doubling of farmers' income in the next five years. In addition to these measures, the Government has initiated some new schemes to benefit farmers, which also include chalking out a national action plan to attract more foreign investment in the dairy sector. At present, FDI is allowed in most aspects of the dairy sector, including machines and equipment. Recently, the Government relaxed norms for FDI in animal husbandry by allowing research in non-controlled conditions as well.

As far as the progress of various schemes announced by the Government for farmers' welfare is concerned, the PMFBY launched in the country from the Kharif 2016 season onwards has made impressive progress in the first season itself. The scheme has provided coverage to 366.64 lakh farmers (26.50 per cent) and is expected to exceed the target of 30 per cent coverage for both the Kharif and Rabi seasons in 2016-17. The PMFBY was recast as a new insurance scheme by the Government as the earlier existing insurance schemes were not meeting all the requirements of the farmers for insurance coverage.

The PMFBY launched in the country from the Kharif 2016 season onwards has made impressive progress in the first season itself.

The Soil Health Card scheme, initiated in 2015 to increase the knowhow about soil and soil management, and to reduce the gaps existing between the scientist/extension personnel as well as farmers, is being operationalised to facilitate the dissemination of scientific information based on the requirements of the farmers. The Government aims to issue Soil Health Cards based on soil testing to all the 14 crore farmers on a cycle of two years. Soil Health Cards provide farmers with recommendations on the appropriate dosage of nutrients to be applied for cultivation of various crops along with soil amendments.

The Central Government had asked state governments to de-regulate the marketing of fruits and vegetables outside the Agricultural Produce Market Committee (APMC) yards. This was done in order to reduce the price gap between producers and consumers by minimising the number of intermediaries in the supply chain, to create alternative marketing channels, and to promote investment in the development of marketing infrastructure with private sector participation. Accordingly, 23 States/Union Territories in the country have amended their APMC Act to provide for direct purchase from farmers at their farm gates. The Government has integrated 250 agricultural mandis across 10 States into the online trading platform for agriculture produce, E-Nam, (the National Agriculture Market), which is a pan-India electronic portal for the sale and purchase of agricultural produce, launched by Prime Minister on April 14, 2016. The Government has decided to add 50 more farm commodities to the already existing 25, which could be traded through this portal.

The Food Safety and Standards Authority of India (FSSAI) is in the process of setting up a food safety standards review panel to identify gaps in the existing standards for safe and nutritious food against international standards. It has formulated a three-pronged strategy for ensuring safe and nutritious food for people in the country. The FSSAI is drawing up guidelines for fortifying rice, milk, wheat flour, edible oil and salt. The move acquires significance since it opens up the value-added market for branded commodity players.

There is an urgent need to develop agricultural infrastructure to provide facilities along the value chain from the farm to the table. Such infrastructure is also likely to promote organised contract farming in the catchment areas, moderating, to some extent, the negative impact of the shrinking size of farm holdings in India, provided contract farming is legalised. There is also a need to develop grades and standards for agricultural produce, which will help farmers realise a higher value for their produce. The existing lack of agriculture infrastructure, such as storage, processing, cold chains and logistics calls for increased private or public-private participation in these areas. Although the Government has played the vital role of encouraging/aggregating private investment with announcements of various policy level decisions and projects such as setting up mini-food parks, according to a report, private investments in the Indian food and agricultural space have hit a five-year low this year in terms of value, dragged down mainly by a plunge in deals in the food tech and online groceries space. The year 2016 has so far registered 62 private investments worth \$250 million in the food and agricultural space, revealed a News Corp VCCEdge Funding Insights report focused on India's food and agriculture sector.⁸ This compares with the deals worth a whopping \$1.15 billion that were struck in 2015.

I.7 Policy Developments during the Period September–December 2016

A summary of policy initiatives related to the agriculture and allied sectors introduced since the publication of our last Kharif Outlook Report, is provided in Table I.11.

8. <http://www.vccircle.com/news/others/2016/10/24/private-investments-food-agri-space-fall-5-year-low>.

Table I.11: Agricultural Policy Developments during the Period (September–December 2016)

Sl. No.	Policy Issue/ Commodity	Date /Month	Policy Instrument	Brief Detail
1.	Minimum Support Prices (MSPs) of Kharif crops to be applicable from September 1, 2016	16–9–16	M/O A&FW Release	<p>The decision to make the MSPs of Kharif crops applicable from September 1, 2016, has been taken as harvested crops sown in the Kharif season may reach the market even before October.</p> <p>http://pib.nic.in/newsite/erelease.aspx?relid=149850 http://www.business-standard.com/article/news-ani/govt-announces-msp-of-kharif-crops-applicable-from-sept-1-116091600841_1.html</p>
Remarks: The market arrival of Kharif crops usually starts in October. This time the Government expects the harvested crops sown in the Kharif season to reach the market even before October.				
2.	Price policy for Rabi crops of the 2016–17 season (Minimum Support Prices)	15–11–16	Cabinet Release	<p>The Cabinet Committee on Economic Affairs, chaired by Prime Minister Narendra Modi has given its approval for increasing the MSPs for all Rabi crops of the 2016–17 season. Further, in order to incentivise the cultivation of pulses and oilseeds, the Cabinet has decided to give a bonus of Rs.200/- per quintal for gram, a bonus of Rs. 150/- per quintal for masur/lentil and a bonus of Rs. 100/- per quintal each for Rabi oilseeds, viz. rapeseeds/mustards and safflower, over and above the approved MSP.</p> <p>http://pib.nic.in/newsite/erelease.aspx?relid=153644 http://www.business-standard.com/article/economy-policy/with-polls-in-mind-nda-announces-biggest-increase-in-wheat-msp-11611501816_1.html</p>
Remarks: The Government has announced the MSPs for all Rabi crops of the 2016–17 season and a bonus to incentivise the cultivation of pulses and oilseeds before the sowing season to enable farmers to take decisions regarding the sowing of particular crops.				
3.	Government cuts import duty on wheat, potato and palm oil	23–9–16	CBEC Notification No. 51/2016-Customs	<p>The Government has lowered the import duty on wheat to 10 per cent from 25 per cent at present till February 2017, while that on crude and refined palm oil was brought down by 5 percentage points each to 7.5 per cent and 10 per cent, respectively.</p> <p>The import duty on potatoes was brought down to 10 per cent from 30 per cent till October 2016.</p> <p>http://www.cbec.gov.in/resources/htdocs-cbec/customs/cs-act/notifications/notfns-2016/cs-tarr2016/cs51-2016.pdf http://www.business-standard.com/article/economy-policy/govt-cuts-import-duty-on-wheat-potato-palm-oils-116092300949_1.html</p>
Remarks: The Government cut the import duties on wheat, potato and palm oil to keep the prices of essential commodities under check ahead of the festival season.				

(Contd.)

Table I.11: Agricultural Policy Developments during the Period (September–December 2016) (Contd.)

Sl. No.	Policy Issue/ Commodity	Date /Month	Policy Instrument	Brief Detail
4.	Wheat import duty scrapped	8–12–16	CBEC Notification No. 60/2016–Customs	<p>The Government has scrapped the 10 per cent import duty on wheat amid rising domestic prices and concerns of a dip in buffer stocks following two consecutive drought years. Traders are of the opinion that this move could lift overseas purchases to their highest in a decade.</p> <p>http://www.cbec.gov.in/resources//htdocs-cbec/customs/cs-act/notifications/notfns-2016/cs-tarr2016/cs60-2016.pdf</p> <p>http://in.reuters.com/article/india-wheat-import-duty-idINKBN13X0GG</p> <p>http://economictimes.indiatimes.com/news/economy/foreign-trade/government-scraps-import-duty-on-wheat-source/articleshow/55870015.cms</p>
Remarks: The import duty on wheat was scrapped to check rising domestic market prices following concerns of a dip in buffer stocks.				
5.	Pulses buffer stock raised	12–9–16	Cabinet Release	<p>The Cabinet Committee on Economic Affairs has approved the proposal of the Department of Consumer Affairs for enhancing the buffer stock for pulses up to 20 lakh tonnes. The buffer stock will be built through domestic procurement and imports of 10 lakh tonnes each.</p> <p>The specific variety of pulses, their respective quantities for the buffer stock and their procurement will be decided on the basis of the price and availability position, both domestic and global.</p> <p>http://pib.nic.in/newsite/erelease.aspx?relid=149694</p> <p>http://pib.nic.in/newsite/erelease.aspx?relid=149695</p> <p>http://www.business-standard.com/article/news-ians/cabinet-nod-to-increase-pulses-buffer-stock-to-20-lakh-tonnes-116091200378_1.html</p> <p>http://www.thehindu.com/news/national/Pulse-buffer-stock-to-be-increased-to-20-lakh-tonnes/article14634933.ece</p>
Remarks: The rise in buffer stocks of pulses will augment the domestic availability of pulses, thereby stabilising their prices in the domestic market.				
6.	Export policy of potato	27–12–16	DGFT Notification No. 32/2015–2020	<p>The Government has removed the Minimum Export Price (MEP) on the export of potatoes, and now the export of potatoes, fresh or chilled shall be permitted without any Minimum Export Price (MEP).</p> <p>http://www.eximguru.com/notifications/export-policy-of-potato-removal-81513.aspx</p>

Remarks: This move is likely to benefit potato growers as the likely increase in potato exports will also boost domestic prices of the produce.

(Contd.)



Table I.11: Agricultural Policy Developments during the Period (September–December 2016) (Contd.)

Sl. No.	Policy Issue/ Commodity	Date /Month	Policy Instrument	Brief Detail
7.	Export Policy of Onion	30-12-16	DGFT Public Notice No. 49/2015-2020	<p>The Government has extended Merchandise Exports from India Scheme (MEIS) benefit at 5 per cent of the FOB for onions fresh or chilled' under ITC (HS) code 07031010 up to 31.03.2017.</p> <p>http://www.eximguru.com/notifications/extending-merchandise-exports-from-india-81523.aspx</p>
Remarks: The move is likely to benefit onion growers as the likely increase in onion exports will boost domestic onion prices as well.				
8.	Central Orders dated 28.09.2015 in respect of edible oils and edible oilseeds and Central Order No. S.O. No. 2857(E) dated 18.10.2015 in respect of pulses	21-9-16	Cabinet Release	<p>Cabinet approves extension of the validity of Central Orders dated 28.09.2015 in respect of edible oils and edible oilseeds and Central Order No. S.O. No. 2857(E) dated 18.10.2015 in respect of pulses for a further period of one year from 01.10.2016 to 30.09.2017.</p> <p>The main objective of this decision is to enable the State Governments to issue control orders with the prior concurrence of the Central Government, for fixing stock limits/licensing requirements in respect of pulses, oilseeds and edible oils, whenever the need is felt by them. This is expected to help in the efforts being taken to improve the availability of these commodities to the general public, especially the vulnerable sections, and to control the tendencies of hoarding and profiteering.</p> <p>http://pib.nic.in/newsite/PrintRelease.aspx?relid=150965</p> <p>http://pib.nic.in/newsite/erelease.aspx?relid=150966</p>
Remarks: These orders are intended to improve the availability of these commodities to the general public, especially the vulnerable sections, and to control the tendencies of hoarding and profiteering.				
9.	Ghee, butter and butter oil	29-9-16	CBEC Notification No. 53/2016-Customs	<p>The Government has decided to retain the basic customs duty on ghee, butter and butter oil at 40 per cent beyond 30.09.2016, for a further period up to 31.03.2017.</p> <p>http://www.cbec.gov.in/resources/htdocs-cbec/customs/cs-act/notifications/notfnns-2016/cs-tarr2016/cs53-2016.pdf</p>

Remarks: This move was aimed at keeping the prices of essential commodities under check ahead of the festival season.

(Contd.)

Table I.11: Agricultural Policy Developments during the Period (September–December 2016) (Contd.)

Sl. No.	Policy Issue/ Commodity	Date /Month	Policy Instrument	Brief Detail
10.	Sugar -imposition of stock limit	2-9-16	Department of Food and Public Distribution- Notification	<p>The Government imposed stock limits on sugar mills during the festival season till October-end. It was stipulated that the mills should not, at the end of September 2016, hold more than 37 per cent of the total sugar available with them during the entire 2015–16 marketing year.</p> <p>At the end of October, the sugar stock should not be more than 24 per cent of the total supply.</p> <p>Sugar marketing year runs from October to September.</p> <p>http://www.business-standard.com/article/economy-policy/govt-imposes-stock-limit-on-sugar-mills-116090200040_1.html</p> <p>http://dfpd.nic.in/writereaddata/images/notification-090916.pdf</p>
Remarks: The decision to impose stock limit on millers is expected to boost the availability of sugar in the open market and help control the price rise.				
11.	Export policy of sugar	28-09-16	DGFT Public Notice No. 34/2015-2020	<p>Allocation of quantity for the export of preferential quota sugar to EU under the CXL quota: The Government has allocated a quantity of 10,000 metric tonnes for the export of white sugar under CXL concessions to the European Union (EU) for the period October 2016 to September 2017.</p> <p>http://www.eximguru.com/notifications/allocation-of-quantity-for-export-81383.aspx</p>
Remarks: The quantity of sugar to be exported to EU under the CXL Quota up to 30.09.2017 has been notified.				
12.	Export policy of sugar	30-12-16	DGFT Public Notice No. 52/2015-2020	<p>Allocation of quantity for the export of preferential quota sugar to USA under the TRQ quota: The Government has allocated a quantity of 8,424 metric tonnes of raw sugar (at 98 degree pot), out of the non-levy (Free Sale) quota for export under the Tariff Rate Quota (TRQ) to USA for the US fiscal year 2017 (October 1, 2016 to September 30, 2017).</p> <p>http://www.eximguru.com/notifications/allocation-of-quantity-for-export-81526.aspx</p>
Remarks: The quantity of raw sugar, that is, 8,424 metric tonnes to be exported to USA under TRQ, up to 30.09.2017, has been notified.				

Note: M/O A&FW: M/O Agriculture and Farmers Welfare; CBEC: Central Board of Excise and Customs
DGFT: Directorate General of Foreign Trade.





PART II

Overview of the Global Economic and Food Outlook

II.1 Global Economy on Course for Muted Growth in 2016 and 2017

The world economy stumbled in 2015, amid weak aggregate demand, falling commodity prices and increasing financial market volatility in major economies. In the aftermath of the Brexit referendum, the outlook for the global economy has further weakened, as rejected in downgrades of projections by multilateral agencies. A high level of uncertainty regarding the evolution of financial asset prices may further shadow the course of a fragile and slowing global recovery in the years ahead. Slowdown in global growth and the increasing share of services in the GDP would imply lower demand for imported products and services, which is bound to adversely affect exports from countries such as India. The World Bank, in its June 2016 Global Economic Prospects report,⁹ has revised Global economic growth for 2016 downward to 2.4 per cent, which is 0.5 per cent below its January 2016 forecast. Weaker growth among advanced economies and low commodity prices are also major drivers for the lower growth.

The United Nations, in its World Economic Situation and Prospects 2016 report,¹⁰ projects that the world economy would grow by 2.9 per cent in 2016 and 3.2 per cent in 2017, supported by generally less restrictive fiscal and still accommodative monetary stances worldwide. The IMF, in its World Economic Outlook, October 2016,¹¹ projected that global growth would slow down to 3.1 per cent in 2016 before recovering to 3.4 per cent in 2017. The forecast, revised down by 0.1 percentage point for 2016 and 2017 relative to April, reflects a more subdued outlook for advanced economies following the vote in favour of leaving the European Union (Brexit), in the UK in June 2016, an unfolding event whose impact on the global economy will become clear after several years, as also weaker-than-expected growth in the United States. Economic prospects differ sharply across countries and regions, with emerging Asia, in general, led by India showing robust growth. However, several emerging market and developing economies still face daunting policy challenges in adjusting to weaker commodity prices. Table II.1 summarises the latest global growth projections for 2016 and 2017 by various multilateral agencies.

Table II.1: Global Economic Y-o-Y Growth (per cent) Projections by Various Agencies

Year	World Bank	United Nations	IMF	WTO ⁹	OECD [#]
2016	2.4	2.9	3.1	2.2	2.9
2017	2.8	3.2	3.4	2.5	3.3

@ https://www.wto.org/english/news_e/pres16_e/pr779_e.htm.

<http://www.oecd.org/eco/economicoutlook.htm>.

9. <https://www.worldbank.org/en/publication/global-economic-prospects>.

10. http://www.un.org/en/development/desa/policy/wesp/wesp_current/2016wesp_ch1_en.pdf.

11. <http://www.imf.org/external/pubs/ft/weo/2016/02/pdf/text.pdf>.

II.2 Global Trade in 2016 was the Lowest Since 2009

Historically, trade in agricultural and food commodities became necessary to enable countries to supplement and complement their domestic production. The uneven distribution of land resources and the influence of climatic zones on the ability to raise plants and animals have led to trade between and within continents. Changes in consumer taste have encouraged the emergence of global markets and added to the significance of trade. Both trade and investment are important ingredients for global economic integration, growth and prosperity, and the two are very closely linked. Unlike in the past, services trade rather than merchandise trade is of paramount importance now and accounts for almost two-thirds of the global inward Foreign Direct Investment (FDI) stock.

The outlook for trade growth has weakened significantly in recent years. The FDI flows have also slowed. Economic and political developments around the globe are proving to be testing times for the global economy. According to the World Trade Organisation (WTO),¹² world trade in 2016 was estimated to grow by just 1.7 per cent, signifying a steep decline from its earlier estimate of 2.8 per cent. If realised, this would mark the slowest pace of trade growth since the financial crisis of 2009. This is, of course, largely due to the lacklustre performance of the global economy, and not the other way around. The forecast for 2017 has also been revised, with trade now expected to grow between 1.8 per cent and 3.1 per cent, down from 3.6 per cent previously. The downgrade follows a sharper than expected decline in merchandise trade volumes in the first quarter (-1.1 per cent quarter-on-quarter, as measured by the average of seasonally-adjusted exports and imports) and a smaller than anticipated rebound in the second quarter (+0.3 per cent). However, there are some indications that trade may be picking up in the second half of 2016, though the pace of expansion is likely to remain subdued. The contraction was driven by slowing GDP and trade growth in developing economies such as China and Brazil but also in North America, which had the strongest import growth of any region in 2014–15 but has decelerated since then. The dramatic slowing down of growth in trade growth is particularly of concern in the context of a growing anti-globalisation sentiment. In addition, a climate of continued accumulation of trade-restrictive measures poses a further risk to global trade.¹³

Despite positive growth in trade volume terms in 2015, the dollar value of world merchandise exports declined by 14 per cent in 2015, to US\$ 16.0 trillion, as export prices fell by 15 per cent. The weakness of trade in 2015 was due to a number of factors, including an economic slowdown in China, a severe recession in Brazil, falling prices for oil and other commodities, and exchange rate volatility. The demand for imports slowed in Asia and in resource-based economies in 2015 but strengthened in the USA and the EU. As regards trade in agricultural products, the ranking of the top six exporters remained unchanged in 2015 as compared with the previous year. India dropped two places to ninth position while Thailand and Australia improved their respective rankings. Argentina remained in the tenth position. All the major exporters of agricultural products experienced a decline in exports in 2015, with India recording the most significant fall (-19 per cent) and China the smallest decline (-2 per cent). The top ten exporters represented 72.7 per cent of the world's agricultural exports in 2015, down by 0.2 per cent on their share in 2014. Over the long term, trade has typically grown at 1.5 times faster than the GDP at market exchange rates. In recent years, however, trade elasticity (which measures the change in world trade as a result of the change in the global GDP) has

12. https://www.wto.org/english/news_e/pres16_e/pr779_e.htm.

13. For a complete list of trade restricting policies by various countries please refer to Overview of Developments in the International Trading Environment- Annual Report by the Director-General https://www.wto.org/english/news_e/news12_e/dgsummarynov12_e.pdf.

slipped towards 1:1, below both the peak of the 1990s (1:2) and the long-term average (1:1.5). Table II.2 shows the percentage y-o-y change in the volume of world merchandise exports and GDP during the period 2010 to 2015.

Table II.2: Y-o-Y Change (per cent) in the Volume of World Merchandise Exports and GDP, 2010–15

Particulars	2010–15	2013	2014	2015
World merchandise exports	3.2	2.7	2.7	3
Agricultural products	-	2.9	2.4	-
Fuels and mining products	-	0.6	1.0	-
Manufactures	-	2.7	3.9	-
World GDP	2.5	2.2	2.5	2.4

Source: World Trade Statistical Review 2016, WTO.

Table II.3 shows the y-o-y change in the merchandise trade volume and real GDP from 2012 to 2017 by the developed and developing countries.

Table II.3: Merchandise Trade Volume and Real GDP, 2012–2017

Particulars	Annual Percentage Change					
	2012	2013	2014	2015	2016#	2017#
Volume of world merchandise trade	2.2	2.4	2.8	2.7	1.7	1.8-3.1
Exports						
Developed economies	1.1	1.7	2.4	2.8	2.1	1.7-2.9
Developing economies	3.8	3.8	3.1	3.2	1.2	1.9-3.4
Asia	2.7	5	4.8	3.1	0.3	1.8-3.2
Imports						
Developed economies	-0.1	-0.2	3.5	4.6	2.6	1.7-2.9
Developing economies	4.8	5.6	2.9	1.1	0.4	1.8-3.1
Asia	3.7	4.8	3.3	1.8	1.6	2.0-3.3
Real GDP at Market Exchange Rates						
Real GDP at market exchange rates	2.3	2.2	2.5	2.4	2.2	2.5
Developed economies	1.1	1	1.7	1.9	1.5	1.7
Developing economies	4.7	4.5	4.2	3.4	3.4	4.1
Asia	4.4	4.3	4	4	3.9	3.9

Note: # Figures for 2016 and 2017 are projections.

Source: WTO Press Release 779 dated September 27, 2016.

Table II.4 shows the y-o-y growth (per cent) in the volume of world merchandise exports and production, by major commodity groups during the period 2010 to 2014.

Table II.4: Y-o-Y Growth (per cent) in the Volume of World Merchandise Exports and Production, 2010–2014

Particulars	2010–14	2012	2013	2014
World merchandise exports	3.5	2.5	3.0	2.5
Agricultural products	3.5	1.5	3.0	2.5
Fuels and mining products	1.5	3.0	0.5	1.0
Manufactures	4.0	2.0	2.5	4.0
World merchandise production	2.5	2.5	2.0	2.0
Agriculture	2.5	1.5	5.5	1.5
Mining	1.5	2.5	0.5	2.5
Manufacturing	2.5	2.5	1.5	2.5
World GDP	2.5	2.3	2.2	2.5

Source: WTO.

Table II.5 shows the top ten exporters and importers of agricultural products in 2015.

Table II.5: Top Ten Exporters and Importers of Agricultural Products, 2015 (Billion dollars and percentage)

Countries	Value	Share in World Exports/Imports				Annual Percentage Change				
	2015	1980	1990	2000	2015	2010-15	2013	2014	2015	
Exporters										
European Union (28)	585	41.9				37.1	2	8	1	-13
Extra-EU (28) Export	158	10				10	4	8	1	-11
United States	163	17	14.3	13	10.4	3	2	4	4	-10
Brazil	80	3.4	2.4	2.8	5.1	3	5	-3	-9	
China	73	1.5	2.4	3	4.6	7	6	6	6	-2
Canada	63	5	5.4	6.3	4	4	4	4	4	-7
Indonesia	39	1.6	1	1.4	2.5	2	-5	3	3	-10
Thailand	36	1.2	1.9	2.2	2.3	1	-4	-2	-2	-8
Australia	36	3.3	2.9	3	2.3	6	-2	3	3	-7
India	35	1	0.8	1.1	2.2	9	7	-3	-3	-19
Argentina	35	1.9	1.8	2.2	2.2	0	-3	-10	-10	-9
Above 10	1146			76.9	72.7					
Importers										
European Union (28)	590	42.7				35	1	6	2	-13
Extra-EU (28) Export	166	13.2				9.8	2	3	2	-9
China	160	2.1	1.8	3.3	9.5	8	6	3	3	-6
United States	149	8.7	9	11.6	8.8	5	3	7	7	-5
Japan	74	9.6	11.5	10.4	4.4	-1	-8	-5	-5	-10
Canada b	38	1.8	2	2.6	2.3	4	2	3	3	-5
Korea, Republic of	33	1.5	2.2	2.2	2	4	1	5	5	-6
India	28	0.5	0.4	0.7	1.6	9	-5	12	12	1
Mexico-b	28	1.2	1.2	1.8	1.6	3	8	3	3	-8
Russian Federation-b	28			1.3	1.6	-5	6	-8	-8	-33
Hong Kong, China	27					6	11	5	5	-6
retained imports-a	18	1	1	1.1	1.1	6	12	6	6	-9
Above 10	1154			77.6	67.9					

Note: a: Includes Secretariat estimates. b: Imports are valued f.o.b.

Source: WTO-World Trade Statistical Review 2016.

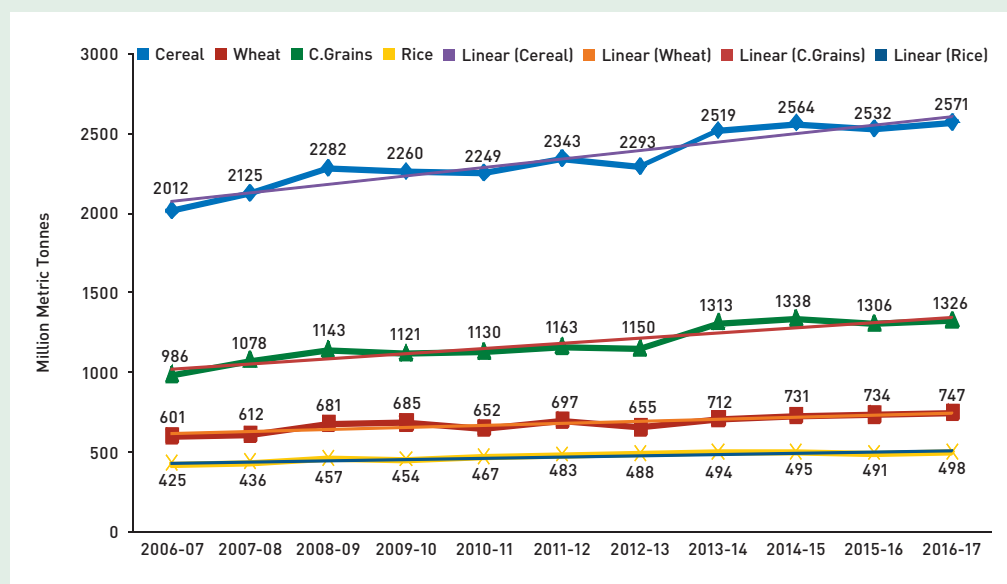
(https://www.wto.org/english/res_e/statis_e/wts2016_e/wts2016_e.pdf).

By withdrawing protectionist measures, improving market access, avoiding policies which distort competition and striving to ensure that reforms are in consonance with global trade rules, governments can boost trade and seize the resultant opportunities offered to everyone.

II.3 Global Agricultural Commodity Outlook

II.3.1 Production of Most Crops to Scale New Records in 2016-17

Bolstered by the increasing soil moisture, longer growing seasons, warmer winters, better seeds and the fertilising effects of more atmospheric carbon dioxide, global crop production continues its long and impressive run of ever-increasing yields despite the warming up of global temperatures. The production of most cereal crops during the past decade has been above the trend line in most years (Figure II.1).

Figure II.1: Long-term Trend in Global Cereal Production


Source: FAO.

Considering the near-term, production estimates for 2015–16 for most crops by all the agencies have tended to converge to record or near-record levels for the second consecutive year. The current 2016–17 forecasts for most crops by all the agencies point to a third consecutive record or near-record production level (Table II.6). Hence, global food markets are likely to continue to remain well stocked on the supply side and less volatile in 2016–17 like in the previous two years. Table II.6 shows the world production estimates of major crops for 2014–15 and 2015–16 and the latest forecast for 2016–17 by various agencies.

Table II.6: Production Estimates/Forecasts for Crops by Various Agencies

	FAO	USDA	IGC	ABARES
Wheat				
2014–15	730.5	728.3	730.0	730.0
2015–16 E	734.2	735.5	737.0	736.0
2016–17 F	746.7	744.7	749.0	743.0
Rice				
2014–15	494.8	478.7	479.0	479.0
2015–16 E	491.2	472.1	472.0	472.0
2016–17 F	497.9	483.8	485.0	483.0
Total Coarse Grains				
2014–15	1,338.3	1,306.1	1,319.7	1,305.0
2015–16 E	1,306.3	1,248.5	1,267.8	1,248.0
2016–17 F	1,326.2	1,319.6	1,324.1	1,305.0
Maize				
2014–15	973.6	1,014.2	1,019.0	1,014.0
2015–16 E	1,006.0	959.9	971.0	960.0
2016–17 F	1,029.3	1,030.5	1,035.0	1,011.0

(Contd.)

Global food markets are likely to continue to remain well stocked on the supply side and less volatile in 2016–17 like in the previous two years.

Table II.6: Production Estimates/Forecasts for Crops by Various Agencies (Contd.)

	FAO	USDA	IGC	ABARES
Total Oilseeds				
2014–15	549.0	536.9	NA	537.0
2015–16 E	534.1	522.1	NA	519.0
2016–17 F	556.9	551.2	NA	538.0
Soybeans				
2014–15	320.0	319.8	320.0	NA
2015–16 E	314.4	313.2	315.0	NA
2016–17 F	329.5	336.1	332.0	325.0
Total Vegetable Oils				
2014–15	210.8	177.0	NA	177.0
2015–16 E	207.3	177.1	NA	180.0
2016–17 F	216.5	185.7	NA	186.0
Soybean Oil				
2014–15	NA	49.1	NA	NA
2015–16 E	NA	51.8	NA	NA
2016–17 F	NA	53.7	NA	NA
Palm Oil				
2014–15	NA	61.6	NA	NA
2015–16 E	NA	58.8	NA	NA
2016–17 F	NA	64.5	NA	NA
Total Oilmeal				
2014–15	141.1	299.4	NA	300.0
2015–16 E	137.9	306.8	NA	309.0
2016–17 F	143.9	317.9	NA	320.0
Soybean Meal				
2014–15	NA	207.3	NA	NA
2015–16 E	NA	216.6	NA	NA
2016–17 F	NA	226.5	NA	NA
Sugar				
2014–15	NA	177.5	NA	181.8
2015–16 E	NA	165.8	NA	174.2
2016–17 F	NA	170.9	NA	176.6
Milk				
2014–15	793.7	484.3	NA	NA
2015–16 E	808.7	493.7	NA	NA
2016–17 F	817.2	499.8	NA	NA

The wheat production record continues to grow with MY 2016–17 production forecasts ranging from 743 million tonnes by ABARES to 749 million tonnes by IGC.

Wheat

The wheat production record continues to grow with MY 2016–17 production forecasts ranging from 743 million tonnes by ABARES to 749 million tonnes by IGC. USDA forecasts the world wheat production in 2016–17 at 744.7 million tonnes, up by 9.2 million tonnes (or 1.3 per cent) from the 2015–16 production. Table II.7 shows wheat production by country.

Table II.7: World Wheat Production Trend by Major Producing Countries (Million Tonnes)

Country	2012–13	2013–14	2014–15	2015–16	2016–17	Y-o-Y Change 2016–17	
						Quantity	Percentage
European Union	133.9	144.6	156.9	160	143.6	-16.4	-10.3
China	121	121.9	126.2	130.2	128	-2.2	-1.7
India	94.9	93.5	95.9	86.5	90	3.5	4
Russia	37.7	52.1	59.1	61	72	11	17.9
United States	61.3	58.1	55.1	56.1	62.9	6.7	12
Others	51.9	57.5	54.4	56.7	50.6	-6.1	-10.7
Canada	27.2	37.5	29.4	27.6	31.5	3.9	14.2
Australia	22.9	25.3	23.9	24.5	28.3	3.8	15.5
Ukraine	15.8	22.3	24.8	27.3	27	-0.3	-1
Pakistan	23.5	24.2	26	25.1	25.3	0.2	0.8
Turkey	16	18.8	15.3	19.5	17.5	-2	-10.3
Kazakhstan	9.8	13.9	13	13.7	16.5	2.8	20
Iran	13.8	14.5	13	15	15.5	0.5	3.3
Argentina	9.3	10.5	13.9	11.3	14.4	3.1	27.4
Egypt	8.5	8.3	8.3	8.1	8.1	0	0
Uzbekistan	6.7	6.8	7.2	7.2	7.2	0	0
Brazil	4.4	5.3	6	5.5	6.3	0.8	14.4
World Total	658.6	715.1	728.3	735.5	744.7	9.2	1.3

Source: USDA.

According to USDA, a significant decline in production in the largest producing European Union was more than offset by an increase in production in Russia, the United States, Argentina, Canada, Australia and India.

ABARES forecasts that world wheat production would increase by around 1 per cent in 2016–17 to 743 million tonnes, which is close to the USDA estimate. Record average yields of wheat are expected to more than offset a reduction in the world planted area to wheat. Wheat production in the northern hemisphere has been aided by seasonal conditions ranging from largely favourable to exceptional. US production is forecast to exceed 63 million tonnes in 2016–17, driven by favourable growing conditions, pushing yields to record levels. Production in the Black Sea region-Kazakhstan, the Russian Federation and Ukraine-is forecast to reach almost 110 million tonnes in 2016–17, up by 7 per cent, as seasonal conditions in the region have been largely favourable, with above average to record yields anticipated. Heavy rainfall over parts of Western Europe is expected to reduce production prospects in the region, particularly in France, where potential quality and yields are expected to have been adversely affected by rains. Similarly, wet weather hindered the harvest and quality of winter wheat in China also.

The IGC forecasts global wheat production in 2016–17 at a new record of 749 million tonnes, 12 million tonnes more than in the previous year. The planting of winter wheat was well advanced by late November in the northern hemisphere. Crop conditions were reported to be mostly favourable ahead of the winter, though dryness was a worry in the US and cold weather was a concern in parts of the EU and Black Sea region. The preliminary forecast for the entire wheat-harvested area in the world in 2017–18 suggests little y-o-y change.

The FAO forecast, at 746.7 million tonnes, is up by 1.7 per cent on a y-o-y basis, reflecting increases in the Russian Federation's output, now anticipated to touch a new record, and in Kazakhstan, where favourable weather boosted yield prospects.

The world rice production estimates for 2016–17 range from 498 million tonnes by FAO¹⁴ to around 484 million tonnes by other agencies.

All the agencies are forecasting a record or near-record total coarse grain production for 2016–17, ranging from 1,326.2 million tonnes by the FAO to 1,305 million tonnes by ABARES.

Rice

The world rice production estimates for 2016–17 range from 498 million tonnes by FAO¹⁴ to around 484 million tonnes by other agencies, around 12 million tonnes (2.5 per cent) higher than the 2015–16 production impacted by El Nino. USDA estimates the 2016–17 global rice production to touch a new record of 483.8 million tonnes, 11.7 million tonnes more than the 2015–16 harvest. Table II.8 shows the global rice production trend in major producing countries.

Table II.8: World Rice Production Trend by Major Producing Countries

Country	2012–13	2013–14	2014–15	2015–16	2016–17	Y-o-Y Change 2016–17	
						Quantity	Percentage
China	143	142.5	144.6	145.8	146.5	0.7	0.5
India	105.2	106.6	105.5	104.3	106.5	2.2	2.1
Others	38.8	39.9	40.3	40.7	42.1	1.4	3.4
Indonesia	36.6	36.3	35.6	36.2	36.6	0.4	1.1
Bangladesh	33.8	34.4	34.5	34.5	34.5	0	0
Vietnam	27.5	28.2	28.2	27.5	27.8	0.3	1.2
Thailand	20.2	20.5	18.8	15.8	18.6	2.8	17.7
Burma	11.7	12	12.6	12.2	12.5	0.3	2.5
The Philippines	11.4	11.9	11.9	11.4	12	0.7	5.7
Brazil	8	8.3	8.5	7.2	8	0.8	11.3
Japan	7.9	7.9	7.8	7.7	7.8	0.1	1.6
United States	6.3	6.1	7.1	6.1	7.5	1.3	22.1
Pakistan	5.5	6.8	6.9	6.7	6.9	0.2	3
Cambodia	4.7	4.7	4.7	4.7	4.7	0	-0.1
Egypt	4.7	4.8	4.5	4	4.6	0.6	13.9
Korea, South	4	4.2	4.2	4.3	4.2	-0.1	-2.9
Nepal	3	3.4	3.1	3.1	3.1	0	0
World Total	472.5	478.4	478.7	472.1	483.8	11.7	2.5

Source: USDA.

The November forecast of global rice production in 2016 by FAO has changed little over the October expectations of a 1.4 per cent annual recovery to a record of 497.9 million tonnes. At the country level, forecasts were raised in November for Thailand, mirroring an improved water supply situation. In contrast, the outlook regressed in Viet Nam, due to inclement weather and poor price expectations, with forecasts also being trimmed for various West African countries. With many Asian producers likely to harvest better crops, IGC has raised the 2016–17 rice production by 13 million tonnes to 485 million tonnes. ABARES forecasts the world rice production in 2016–17 to be 483 million tonnes, 11 million tonnes more than in 2015–16.

Coarse Grains

All the agencies are forecasting a record or near-record total coarse grain production for 2016–17, ranging from 1,326.2 million tonnes by the FAO to 1,305 million tonnes by ABARES, an increase ranging from 20 million tonnes (FAO) to 72 million tonnes (USDA). According to the USDA forecast, most of the increase is being predicted for maize (up by 70.6 million tonnes or 5.7 per cent) mainly in the United States and Brazil. Sorghum production increased by around 4 million tonnes to 64 million tonnes, whereas

14. The FAO's rice production estimates are typically significantly higher than production estimates by other agencies.

the production of oats and rye in 2016–17 remained more or less unchanged at 22.7 million tonnes and 12.9 million tonnes, respectively. Tables II.9 and II.10 show the production estimates of total coarse grains and maize by country in recent years.

Table II.9: Production of Total Coarse Grains by Major Producing Countries (Million Tonnes)

Country	2012–13	2013–14	2014–15	2015–16	2016–17	Y-o-Y Change 2016–17	
						Quantity	Percentage
United States	285.3	367.1	377.2	367.0	404.1	37.1	10.1
China	212.2	225.4	222.8	231.8	223.7	-8.1	-3.5
Others	145.6	147.6	158.8	151.7	153.4	1.7	1.1
European Union	146.2	159.2	170.9	151.8	152.0	0.1	0.1
Brazil	84.3	82.6	87.7	69.1	86.0	16.9	24.4
Argentina	37.2	35.7	35.7	37.9	44.1	6.2	16.3
India	39.9	43.2	43.1	38.0	42.3	4.2	11.1
Russia	28.7	35.7	40.4	37.4	40.0	2.6	6.9
Ukraine	29.5	40.0	39.4	33.4	38.1	4.7	14.1
Mexico	28.9	32.1	32.7	32.2	31.8	-0.4	-1.1
Canada	24.4	28.7	22.0	25.7	24.6	-1.1	-4.2
Nigeria	18.6	19.3	19.0	18.0	18.5	0.6	3.1
Australia	11.4	12.2	12.6	12.4	14.3	1.8	14.7
South Africa	12.9	15.5	11.1	8.4	13.5	5.2	61.7
Ethiopia	12.3	13.1	14.4	10.0	12.8	2.8	27.7
Turkey	10.6	13.1	9.4	14.3	10.9	-3.4	-23.5
Indonesia	8.5	9.1	9.0	9.3	9.6	0.3	3.2
World Total	1,136.5	1,279.6	1,306.1	1,248.5	1,319.6	71.2	5.7

Source: USDA.

Table II.10: Maize Production by Major Producing Countries (Million Tonnes)

Country	2012–13	2013–14	2014–15	2015–16	2016–17	Y-o-Y Change 2016–17	
						Quantity	Percentage
United States	273.2	351.3	361.1	345.5	386.7	41.3	11.9
China	205.6	218.5	215.6	224.6	216.0	-8.6	-3.8
Others	91.5	94.2	97.1	94.8	93.5	-1.3	-1.4
Brazil	81.5	80.0	85.0	67.0	83.5	16.5	24.6
European Union	59.1	64.9	75.8	58.5	60.3	1.8	3.1
Argentina	27.0	26.0	28.7	29.0	36.5	7.5	25.9
Ukraine	20.9	30.9	28.5	23.3	27.0	3.7	15.7
India	22.3	24.3	24.2	21.8	24.5	2.7	12.4
Mexico	21.6	22.9	25.5	25.8	24.5	-1.3	-5.0
Russia	8.2	11.6	11.3	13.2	14.5	1.3	10.1
South Africa	12.4	14.9	10.6	7.9	13.0	5.1	64.6
Canada	13.1	14.2	11.5	13.6	12.5	-1.1	-8.1
Indonesia	8.5	9.1	9.0	9.3	9.6	0.3	3.2
The Philippines	7.3	7.5	7.7	7.5	7.9	0.4	5.3
Nigeria	7.6	7.7	7.5	7.0	7.2	0.2	2.9
Serbia	3.8	5.9	7.7	6.0	7.0	1.0	16.7
Ethiopia	6.2	6.5	7.2	5.1	6.3	1.3	24.8
World Total	869.6	990.4	1,014.0	959.9	1,030.5	70.6	7.4

Source: USDA.

ABARES forecasts that the world coarse grain production would increase by 5 per cent in 2016–17 to 1,305 million tonnes, with the expected strong growth in maize and sorghum production to more than offset the slightly lower production of barley. World corn production is forecast to grow by 5 per cent in 2016–17 to 1,011 million tonnes. In the United States, maize production is forecast to increase by around 7 per cent in 2016–17 to 371 million tonnes as a result of a 7 per cent increase in the harvested area, with yields staying steady at around 10.6 tonnes per hectare. If realised, this would be the highest US corn production on record. Corn production in China is predicted to fall by almost 10 million tonnes in 2016–17 to 215 million tonnes, as the result of a significant contraction in the planted area following measures taken by the Chinese Government to reduce corn stocks. In March 2016, the Chinese Government announced that it would remove the domestic reserve price for corn, which had been in place since 2008. Its removal allows market conditions to determine the maize price.

IGC forecasts the total coarse grain production in 2016–17 at 1,335 million tonnes, signifying an increase of 68 million tonnes over the 2015–16 production. Maize production is forecast at 1,042 million tonnes, 71 million tonnes more than the production achieved in 2015–16.

FAO forecasts the production of coarse grains in 2016 to rise by 1.5 per cent to 1,326.2 million tonnes from the reduced 2015 harvest. Record maize outputs in the United States and Argentina, along with gains in a number of other major producing countries, are likely to boost the world's maize production in 2016 to 1,029.3 million tonnes.

Pulses

Most major pulse-exporting countries have increased pulse production in response to higher price realisation last year, mainly driven by enhanced demand from India, following a lower harvest. Consequently, pulse production in 2016–17 in the major exporting countries is expected to increase. The production outlook for pulses by type in major exporting countries is discussed below. The crop calendar for pulses in major producing countries is shown in Figure II.2.

Most major pulse-exporting countries have increased pulse production in response to higher price realisation last year, mainly driven by enhanced demand from India.

Figure II.2: Crop Calendar for Pulses



Canada¹⁵

Dry Peas

For 2016–17, the production is estimated to rise by 45 per cent to a record 4.7 million tonnes, due to the higher area seeded and yields in Saskatchewan where a majority of the peas are grown. Yellow pea production is forecast to rise from last year to 4.2 Mt, while the production of green peas fell to 0.5 Mt. Production of the other remaining dry pea types is also expected to fall sharply to about 50 thousand tonnes.

Lentils

For 2016–17, the production of lentils increased by 28 per cent to a record 3.2 million tonnes, as the record harvested area was partly offset by lower yields and higher abandonment. The production of large green lentils is estimated to be higher than last year at 0.6 million tonnes while the production of red lentils rose to nearly 2.5 million tonnes. The production of the remaining lentil types is, however, estimated to have fallen to 0.1 million tonnes.

The supply of lentils increased by only 16 per cent due to tight carry-in stocks. Exports are forecast to decrease to 2.0 million tonnes. To date India, Turkey and Bangladesh are the top export markets. Domestic use is expected to be higher than in the previous year due to a below average grade distribution. Carry-out stocks are forecast to rise sharply. The overall average price is forecast to fall sharply below the record levels achieved in 2015–16 due to larger carry-out stocks and a higher proportion of grade distribution below No.1 grade.

Dry Beans

The production of dry beans for 2016–17 is estimated to increase marginally to 255,000 tonnes. This includes 72,000 tonnes of white pea bean types and 183,000 tonnes of coloured bean types.

Chickpeas

For 2016–17, the production of chickpeas is estimated to rise sharply to 114,000 tonnes, due to higher area estimates. The production of desi types of chickpeas is estimated to be unchanged, while the production of kabuli chickpea production is expected to rise sharply as compared to the previous year. However, the supply is forecast to fall by 40 per cent due to lower carry-in stocks from the previous year. Exports are forecast to decrease from 2015–16, and as of August and September 2016, the EU, the US and Pakistan were the top markets. The carry-out stocks are expected to decrease. The average price is forecast to increase for the third consecutive year, as Canadian stocks continue to fall.

USA

Dry peas

The area seeded to dry peas for 2016–17 is estimated by the USDA to have risen to a record of 1.4 million acres. With estimates of above average yields, USDA estimates the dry pea production in the US to rise by 48 per cent to a record 1.2 million tonnes. Consequently, US dry peas are expected to compete, on a smaller scale, with Canadian export markets such as India and China.

15. For a detailed assessment of the pulse crop in Canada, see the December edition of outlook-for-principal-field-crops-in-canada.



Lentil

The area sown under lentils in the US for 2016–17 is forecast by the USDA to touch a record of over 0.9 million acres, up sharply from the corresponding area in 2015–16, with most of the increase being confined to Montana and North Dakota. Assuming normal yields and abandonment, the lentil production for 2016–17 in the US is forecast by Agriculture and Agri-food Canada (AAFC)¹⁶ to be nearly 0.5 million tonnes, which is more than twice the production in 2015–16.

Dry beans

The area under dry beans in the USA in 2016–17 is estimated by USDA to decline by 14 per cent to 1.3 million acres, with the decline mostly witnessed in Michigan. The total dry bean production (excluding chickpeas) in the US is forecast by the USDA to decrease to less than 1.1 million tonnes, down by 16 per cent from 2015–16. The largest decreases are expected for black beans and kidney beans.

Chickpeas

Due to record levels of abandonment, the production of chickpeas for 2016–17 fell by 9 per cent to 82,000 tonnes, as compared to the five and ten-year average. Due to wet and cold conditions leading to harvest delays in October, the crop quality is expected to be below average. However, the supply is forecast to decrease by nearly 50 per cent from the previous year due to a combination of lower production and carry-in stocks.

Exports are forecast to decrease sharply from 2015–16 due to the limited supply; the US and Pakistan are expected to be the leading markets for Canadian chickpeas. Carry-out stocks are expected to decrease to tight levels. The average price for all grades of chickpeas is forecast to rise for the second consecutive year due to lower world and Canadian stocks.

The area seeded under chickpeas in the US is estimated by the USDA to touch a record 0.32 million acres, up by 55 per cent from 2015–16. Assuming normal yields and abandonment, the chickpea production for 2016–17 in the US is forecast by AAFC at a record 0.21 million tonnes, up sharply from the previous year.

Australia

Australia is expected to harvest a record quantity of pulses this year, according to the latest crop forecast by the Australian Bureau of Agricultural and Resource Economics and Sciences (ABARES).¹⁷ If this estimate is realised, the production of all pulses will top 3.11 million metric tons, up by 0.7 million tonnes (or by 30 per cent) from the 2.40 million tonnes achieved the previous year (Table II.11).

The biggest gains were recorded by chickpeas, with the total output expected to total 1.234 million tonnes, up from 1.013 million tonnes last year. The output of fababeans (which is not popular in India) is seen to be advancing from 319,100 tonnes to 492,000 tonnes, while that of field peas will jump from 204,500 to 317,000 tonnes, and that of lentils from 258,200 tonnes to 365,000 tonnes.

16. <http://www.agr.gc.ca/eng/home/?id=1395690825741>.

17. http://data.daff.gov.au/data/warehouse/aucrpd9abcc003/aucrpd9abcc201609_NmxJS/AustCropRrt20160913_v1.0.0.pdf.

Table II.11: Pulse Production in Australia by Type

Crop	Area ('000 ha)			Production ('000 mt)			Y-o-Y Change 2016-17	
	2014-15	2015-16 s	2016-17 s	2014-15	2015-16 s	2016-17 f	Quantity ('000 mt)	Percentage
Chickpeas	425	661	822	555	1,013	1,234	221	21.8
Fababeans	164	282	293	284	319	492	173	54.2
Field peas	237	238	242	290	205	317	112	54.6
Lentils	189	232	253	242	258	365	107	41.5
Lupins	443	490	517	549	607	705	98	16.1
Total	1,458	1,903	2,127	1,920	2,402	3,113	711	29.6

Source: ABARES.

http://data.daff.gov.au/data/warehouse/aucrpd9abcc003/aucrpd9abcc201609_NmxJS/AustCropRrt20160913_v1.0.0.pdf.

Myanmar

Some seventeen different varieties of pulses are being cultivated in Myanmar, with the most significant among them being black matpe (urd), green mung bean (mung), chick pea (chana), pigeon pea (tur), cow pea (lobia), and red kidney bean (rajmah). Black matpe, mung bean, and pigeon pea together account for over 80 per cent of the total export value.

One of the principal factors responsible for the increased production of beans and pulses in Myanmar is the need to use the fallow land after the harvest of the paddy crop in the monsoon season for the cultivation of a suitable crop.¹⁸ Beans can be planted at the beginning of the winter season and can thrive on the leftover moisture of the monsoons, not requiring additional irrigation even in the absence of rains, making their cultivation cost-effective with no additional allocation of resources required. Their shorter growing period of just 3-4 months from plantation to harvest is another plus point. The higher margins at which they were then sold, thanks to increasing demand from India, provided a further impetus for pulse cultivation and encouraged farmers to shift more farm land from rice to pulses. As a result, the acreage under beans and pulses has been steadily increasing. The land area wherein pulses are cultivated increased four times in a single decade at the turn of the century, and is currently placed at 4.3 million hectares. About 70 per cent of all pulses are grown during the winter season, with yields ranging from 700 to 1,300 kg per hectare.

The higher prices for pulses that prevailed in 2015-16 due to a lower domestic crop and increased demand from India are likely to result in an increase in the area under bean and pulse cultivation in MY 2016-2017, which is estimated at 4.3 million hectares. Assuming a normal yield, the FAS/USDA estimates for pulse production in 2016-17 in Myanmar would be 5.16 million tonnes, which is about 5 per cent higher than the flood-damaged production of 4.92 million tonnes in 2015-16 but lower than the record production of 5.3 million tonnes in 2014-15.

Total Oilseeds

The USDA forecasts the total oilseeds production for 2016-17 to be a record 551.23 million tonnes, about 29 million tonnes (5.6 per cent) more than in 2015-16. Most of the increase is forecast in soybean production, at a record 336 million tonnes, with most of the increase being in the US. Table II.12 shows the trend in oilseed production and the increase in production in terms of both quantity and in 2016-17.

The USDA forecasts the total oilseeds production for 2016-17 to be a record 551.23 million tonnes, about 29 million tonnes (5.6 per cent) more than in 2015-16.

18. http://www.thuraswiss.com/sites/default/files/Beans_and_Pulses.pdf.

Table II.12: Production Trend in Total Oilseeds (Million Tonnes)

Oilseed	2012-13	2013-14	2014-15	2015-16	2016-17	Y-o-Y Change 2016-17	
						Quantity	Percentage
Copra	5.72	5.42	5.43	5.31	5.51	0.2	3.8
Cotton seed	46.35	45.02	44.37	36.8	39.08	2.28	6.2
Palm Kernel	15.09	15.97	16.57	15.85	17.22	1.37	8.6
Peanut	39.79	41.4	39.84	40.31	41.79	1.48	3.7
Rapeseed	64.06	71.67	71.45	70.24	67.81	-2.43	-3.5
Soybean	268.53	282.46	319.78	313.2	336.09	22.89	7.3
Sunflower	34.99	41.6	39.42	40.36	43.73	3.37	8.3
Total	474.53	503.53	536.87	522.07	551.23	29.16	5.6

Source: USDA.

Table II.13 shows the total oilseed production by country.

Table II.13: Total Oilseed Production by Major Producing Countries (Million Tonnes)

Country	2012-13	2013-14	2014-15	2015-16	2016-17	Y-o-Y Change 2016-17	
						Quantity	Percentage
United States	93.32	99.02	116.03	115.88	128.68	12.8	11.0
Brazil	84.55	90.01	100.11	99	104.81	5.81	5.9
Argentina	53.81	57.01	66.24	60.78	61.75	0.97	1.6
China	59.75	58.64	57.66	55.43	54.61	-0.82	-1.5
India	36.81	36.86	32.28	29.78	34.65	4.87	16.4
Other	146.29	162	164.55	161.2	166.73	5.53	3.4
Total	474.53	503.53	536.87	522.07	551.23	29.16	5.6

Source: USDA.

ABARES forecasts the world oilseed production to rise by 4 per cent to a record high of 538 million tonnes in 2016-17. The production of all major oilseeds except rapeseed (including canola) is expected to rise. The world's soybean and sunflower seed production is forecast to reach record high levels in 2016-17, while the production of peanuts and cottonseed is forecast to be the highest in several years. In contrast, the world production of rapeseed (including canola) is forecast to fall to a four-year low.

The world soybean production is forecast to increase by 4 per cent in 2016-17 to 325 million tonnes. Most of the increase is in the US where production is forecast to reach a record 111 million tonnes due to a record yield of 3.3 tonnes per hectare, as a result of generally favourable conditions in the major growing regions during July. Soybean production in Argentina is expected to rise marginally despite a reduction in the planted area because of assumed lower rates of crop abandonment as compared to the flood-damaged crop of 2015-16. In Brazil, expansion of soybean plantings (set to begin in September 2016) is expected to be relatively low in 2016-17 because of competition for land from corn. Despite this, production in Brazil is forecast to rise by 7 per cent to a record 102 million tonnes, assuming average yields.

The world's rapeseed (including canola) production is forecast to fall by 2 per cent in 2016-17 to 67 million tonnes. The rapeseed production in the EU is estimated to fall by 5 per cent in 2016-17, to around 21 million tonnes. Excessive rainfall late in the season in several key producing countries is expected to have reduced yields from the above-average yields of 2015-16. Rapeseed production in China is estimated to be lower because of reduced plantings following the removal of price support in 2015. In contrast, Indian production is forecast to rise assuming improved planting conditions following two drier

than average seasons. The total rapeseed (including canola) production in the major exporters is expected to remain largely unchanged in 2016–17. In Ukraine, rapeseed production is estimated to have fallen by 27 per cent to 1.3 million tonnes due to drier than average conditions during planting time, resulting in lower plantings. The canola production in Canada is forecast to fall by 1 per cent to 17 million tonnes because of the forecast of a lower planted area. Canola production in Australia is forecast to rise by 23 per cent to 3.6 million tonnes in 2016–17 due to favourable winter conditions.

According to FAO, the global oilseed production for 2016–17 is forecast to recover fully from last season's fall, climbing to a new record of 557 million tonnes. While the expansion would be led by soybeans, other oilseeds are also anticipated to post sizeable gains, with the exception of rapeseed. Soybean growth would be concentrated in the United States, where record-high yields are set to boost output. In South America, production might grow only moderately, as farmers are expected to reduce soybean plantings in favour of competing crops. In China and India, production could expand, reversing the downward trend observed in recent years. IGC, which covers only soybeans, forecasts the production of soybeans in 2016–17 at 336 million tonnes, some 21 million tonnes above the previous season's outcome and an all-time peak.

Vegetable Oil

According to USDA, a record world oilseed crush of 463.6 million tonnes, led by soybeans, combined with higher palm oil production in Indonesia and Malaysia, is expected to increase the total world vegetable oil production to a new record level of 185.7 million tonnes in 2016–17, signifying an increase of 8.7 million tonnes over the 2015–16 production. Most of the increase is in palm oil (up by 5.7 million tonnes at 64.5 million tonnes) and soybean oil (up by 1.25 million tonnes at 53.7 million tonnes), more than offsetting the decline in mustard/rapeseed oil (down by 0.92 million tonnes to 26.7 million tonnes). The production of sunflower seed oil is forecast to increase by 1.25 million tonnes at 16.74 million tonnes (Table II.14). ABARES forecasts the 2016–17 world vegetable oil production to touch a record 186 million tonnes, close to the USDA forecast, signifying an increase of 6 million tonnes over 2015–16. FAO anticipates the global vegetable oil output to rebound to 186 million tonnes, 6 million tonnes more than in 2015–16, underpinned by a recovery in soybean and palm oil production.

Table II.14: Vegetable Oil Production by Type

Production	2012–13	2013–14	2014–15	2015–16	2016–17	Y-o-Y Change 2016–17	
						Quantity	Percentage
Oil, Coconut	3.62	3.38	3.37	3.31	3.41	0.1	3
Oil Cottonseed oil	5.22	5.17	5.12	4.46	4.54	0.08	1.8
Oil Olive	2.5	3.19	2.4	3.07	2.82	-0.25	-8.1
Oil, Palm	56.38	59.27	61.63	58.84	64.5	5.66	9.6
Oil, Palm kernel oil	6.72	7.13	7.34	7.15	7.64	0.49	6.9
Oil peanut	5.3	5.61	5.44	5.33	5.63	0.3	5.6
Oil rapeseed	25.69	27.26	27.63	27.71	26.79	-0.92	-3.3
Oil, Soybean	43.12	45.14	49.06	51.76	53.65	1.89	3.7
Oil, Sunflower seed	12.9	15.51	14.99	15.49	16.74	1.25	8.1
Total	161.43	171.66	176.98	177.11	185.72	8.61	4.9

Source: USDA.

The vegetable oil production by country is shown in Table II.15.

FAO anticipates the global vegetable oil output to rebound to 186 million tonnes, 6 million tonnes more than in 2015–16.

Table II.15: Vegetable Oil Production by Country (Million Tonnes)

Production	2012-13	2013-14	2014-15	2015-16	2016-17	Y-o-Y Change 2016-17	
						Quantity	Percentage
Indonesia	32.72	35.02	37.78	36.71	39.98	3.27	8.9
China	23.05	24.31	25.04	26.3	26.6	0.3	1.1
Malaysia	21.7	22.63	22.29	20	22.49	2.49	12.5
European Union	16.15	18.3	17.93	18.35	17.6	-0.75	-4.1
United States	10.23	10.42	10.94	11.2	11.54	0.34	3
Argentina	7.45	7.84	8.98	9.72	9.82	0.1	1
Brazil	7.55	7.97	8.57	8.41	8.52	0.11	1.3
Other	42.59	45.17	45.47	46.42	49.16	2.74	5.9
Total	161.43	171.66	176.98	177.11	185.72	8.61	4.9

Source: USDA.

Oilseed Meal

USDA forecasts the total protein meal production in 2016-17 to be a record 318 million tonnes, (including 4.15 million tonnes of fish meal) as compared to 306.8 million tonnes in 2015-16, which included 4.3 million tonnes of fish meal. Most of the increase is in soybean meal, partly offset by a decline in rapeseed meal. The world oilseed meal production in 2015-16 is forecast by ABARES to increase by 3 per cent to 301.4 million tonnes. The forecast for a record soybean crush (particularly in Argentina and Brazil) is expected to result in the rise of soybean meal production by 5 per cent to 211 million tonnes. Based on the current crop forecast for 2016-17, FAO projects the global meal production to more than recover from last season's setback. With a growth of over 4 per cent, the output is pegged at an unprecedented 144 million tonnes (expressed in protein equivalent). The recovery primarily concerns soybean meal, which, along with higher production of sunflower, cotton, groundnut, palm kernel and fish meal production, would outweigh a drop in the rapeseed meal output. Table II.16 shows oilseed meal production by type.

Table II.16: Global Oilseed Meal Production by Type (Million Tonnes)

Production	2012-13	2013-14	2014-15	2015-16	2016-17	Y-o-Y Change 2016-17	
						Quantity	Percentage
Meal, Copra	1.92	1.8	1.8	1.76	1.82	0.06	3.4
Meal, Cotton seed	15.67	15.63	15.45	13.52	13.72	0.2	1.5
Meal, Fish	4.47	3.97	4.2	4.14	4.15	0.01	0.2
Mealpalm kernel	7.95	8.44	8.66	8.45	9.05	0.6	7.1
Meal Peanut	6.55	6.99	6.75	6.59	6.98	0.39	5.9
Meal Rapeseed	36.5	38.74	39.13	39.2	37.9	-1.3	-3.3
Meal Soybean	181.19	189.9	207.33	216.61	226.48	9.87	4.6
Meal Sunflower seed	14.09	16.87	16.11	16.53	17.81	1.28	7.7
Total	268.34	282.32	299.41	306.81	317.91	11.1	3.6

Source: USDA.

Sugar

In its November report on Sugar: World Markets and Trade, USDA forecasts the 2016-17 global sugar production to rebound to 171 million tonnes (raw value), up by 5 million metric tonnes, as gains recorded by Brazil, the EU and most of the top 25 producers more than offset the declines in India and Thailand (Table II.17).

Table II.17: Sugar (Raw Value) Production Estimates by Country (Tonnes)

Country	2012–13	2013–14	2014–15	2015–16	2016–17	Y-o-Y Change	
						Quantity	Percentage
Brazil	38,600	37,800	35,950	34,650	37,780	3,130	9.0
India	27,337	26,605	30,460	27,530	23,945	-3,585	-13.0
European Union	16,655	16,020	18,449	14,280	16,200	1,920	13.4
China	14,001	14,263	11,000	8,830	9,530	700	7.9
Thailand	10,024	11,333	10,793	9,743	9,270	-473	-4.9
United States	8,148	7,676	7,853	8,155	8,465	310	3.8
Mexico	7,393	6,382	6,344	6,484	6,678	194	3.0
Pakistan	5,000	5,630	5,164	5,265	5,725	460	8.7
Russia	5,000	4,400	4,350	5,200	5,600	400	7.7
Australia	4,250	4,380	4,700	4,900	5,100	200	4.1
Guatemala	2,778	2,862	2,975	2,975	3,050	75	2.5
Turkey	2,130	2,300	2,055	2,000	2,500	500	25.0
Colombia	1,950	2,300	2,350	2,250	2,320	70	3.1
The Philippines	2,400	2,500	2,150	2,100	2,250	150	7.1
Indonesia	2,300	2,300	2,100	2,025	2,200	175	8.6
Egypt	2,000	2,013	2,067	2,125	2,185	60	2.8
Argentina	2,300	1,780	2,150	2,060	2,100	40	1.9
Cuba	1,600	1,650	1,850	1,625	1,950	325	20.0
Ukraine	2,400	1,196	1,728	1,550	1,680	130	8.4
South Africa	2,020	2,435	2,192	1,684	1,665	-19	-1.1
Iran	1,300	1,225	1,450	1,625	1,650	25	1.5
Vietnam	1,650	1,725	1,545	1,650	1,650	0	0.0
Peru	1,080	1,150	1,480	1,350	1,500	150	11.1
Sudan	760	700	700	850	850	0	0.0
Japan	760	750	800	800	800	0	0.0
Other	14,082	14,651	14,824	14,124	14,298	174	1.2
Total	1,77,918	1,76,026	1,77,479	1,65,830	1,70,941	5,111	3.1

Source: USDA.

The world sugar production is forecast by ABARES to increase to around 177 million tonnes in 2016–17, from an estimated 174 million tonnes in 2015–16. The area harvested for both cane and beet is expected to increase in response to the prevalence of relatively high sugar prices. Increased yields are also expected, assuming a return to average seasonal conditions following adverse seasonal conditions in some major producing countries in 2015–16. The forecast for higher sugar production in Brazil, Europe, China and Australia is expected to more than offset the declines forecast for India, Thailand and the United States. In 2015–16, the world sugar production fell by 4 per cent to an estimated 174.2 million tonnes. This was the lowest since 2010–11, when around 166 million tonnes of sugar was produced. Reduced beet planting in the EU, because of relatively low sugar prices at the time of planting and adverse seasonal conditions in India, China and Thailand, largely contributed to lower forecasts of world sugar production in 2015–16 by ABARES.

Milk

The world's milk production is forecast by FAO to grow by 1.1 per cent to 817 million tonnes in 2016. The output is set to expand in Asia and North and Central America, but

The world sugar production is forecast by ABARES to increase to around 177 million tonnes in 2016–17, from an estimated 174 million tonnes in 2015–16.

The world's milk production is forecast by FAO to grow by 1.1 per cent to 817 million tonnes in 2016.

USDA forecasts the global cow milk production in 2016 at 500 million tonnes, which is 6 million tonnes higher than that in 2015.

All global agencies forecast an increase in the global wheat consumption in 2016–17 over 2015–16.

stagnate in Europe and Africa, and decline in Oceania and South America. Most of the global increase would originate in Asia, principally India, where production is forecast to expand by 4.8 per cent, or by 7.3 million tonnes, to 160.4 million tonnes. Increased output is also anticipated in Pakistan, China and Turkey. Elsewhere in Asia, the Islamic Republic of Iran and Saudi Arabia may achieve slightly higher production levels than last year. In China, the output is expected to recover somewhat after stagnating last year. More emphasis is being placed on developing large farms and improving genetics, while low farm gate prices have led some smaller scale producers to leave the industry. In Japan and the Republic of Korea, poor profitability is likely to lead to a continued exodus from the sector.

USDA forecasts the global cow milk production in 2016 at 500 million tonnes, which is 6 million tonnes higher than that in 2015. The largest increase is being witnessed in India, where cow milk production increased from 64 million tonnes to 68 million tonnes in 2016.

II.3.2 Consumption Growth Strong for Most Commodities

Wheat

All global agencies forecast an increase in the global wheat consumption in 2016–17 over 2015–16. USDA forecasts a strong rise in global wheat consumption by 24.9 million metric tonnes (or 3.5 per cent) over the previous year's level to 736.5 million tonnes. Most of the increase is being seen in the USA, Canada, and India, while consumption declined in the EU, Turkey and Ukraine. Table II.18 shows the trends in wheat consumption by country.

Table II.18: Wheat Consumption by Country

Consumption	2012–13	2013–14	2014–15	2015–16	2016–17	Y-o-Y Change	
						Quantity	Percentage
Others	146.9	150.3	154.1	160.1	163.8	3.7	2.3
European Union	119.3	117.3	124.7	131.0	128.7	-2.3	-1.7
China	125.0	116.5	116.5	112.0	117.0	5.0	4.5
India	83.8	93.8	93.1	88.6	96.1	7.6	8.6
Russia	33.6	34.1	35.5	37.0	39.0	2.0	5.4
United States	37.8	34.3	31.3	32.0	35.2	3.1	9.8
Pakistan	23.9	24.1	24.5	24.4	24.5	0.1	0.4
Egypt	18.7	18.5	19.1	19.2	19.7	0.5	2.6
Iran	16.0	17.0	17.5	18.0	18.5	0.5	2.8
Turkey	17.7	17.8	17.5	18.0	17.8	-0.2	-1.1
Ukraine	11.4	11.5	11.5	12.3	11.8	-0.5	-4.1
Brazil	10.9	11.4	10.7	10.5	10.8	0.3	2.9
Algeria	9.5	9.9	10.1	10.3	10.5	0.2	2.0
Morocco	8.3	9.0	9.0	9.8	10.2	0.4	4.1
Canada	9.6	9.4	9.1	7.8	9.7	1.9	23.9
Uzbekistan	8.0	8.4	8.9	9.4	9.7	0.4	3.7
Indonesia	7.0	7.2	7.4	9.1	9.3	0.2	2.2
World Total	679.3	698.0	705.7	711.7	736.5	24.9	3.5

Source: USDA.

ABARES forecasts the world's wheat consumption to increase by 1 per cent to 728 million tonnes in 2016–17. This reflects the growth expected in human and animal feed consumption. Human consumption is expected to increase by 1 per cent in line with

population growth. However, long-term consumption patterns have been changing. Large population growth rates, increasing incomes and the substitution of traditional grains by wheat have contributed to rising wheat consumption in the developing regions of Asia and Africa. In contrast, most industrialised countries are trending towards steady or declining wheat consumption per person. Low wheat prices relative to other feed grains and an abundance of lower quality wheat are forecast to drive a 2 per cent increase in the consumption of feed wheat to 149 million tonnes in 2016–17.

The forecast of world wheat utilisation by IGC in 2016–17 is 735.6 million tonnes, signifying an increase of 15.3 million tonnes over the previous year. The 2016–17 utilisation includes 493.3 million tonnes for food use, implying an increase of 6.4 million tonnes over the corresponding utilisation in 2015–16. Feed use is expected to reach 151.1 million tonnes, and industrial use (mainly ethanol) to 22.5 million tonnes, at 3.5 per cent and 3 per cent, respectively, over the 2015–16 consumption levels due to the availability of ample supplies of low quality wheat.

FAO projects the world wheat consumption in 2016–17 to be 733.4 million tonnes, which is 17 million tonnes more than that achieved in 2015–16. The feed use of wheat is expected to reach 146.6 million tonnes, which is as much as 6.1 per cent more than that achieved in the previous season and representing an all-time high.

Rice

USDA forecasts the total rice utilisation in 2016–17 to increase by 8 million tonnes (1.7 per cent) over 2015–16 to a record 478.4 million tonnes. Consumption in 2016–17 has remained unchanged in most major rice-consuming countries (China, Indonesia, Bangladesh, Vietnam, Philippines, and Burma), but there was an increase in India, Thailand and the United States. Table II.19 shows the rice consumption trend in major countries.

Table II.19: Annual Rice Consumption Trend by Country (Million Tonnes)

Country	2012–13	2013–14	2014–15	2015–16	2016–17	Y-o-Y Change	
						Quantity	Percentage
China	141.0	143.0	144.5	144.0	144.0	0.0	0.0
India	94.0	98.7	98.2	93.5	97.0	3.5	3.7
Others	59.1	61.2	61.6	62.0	63.7	1.8	2.8
Indonesia	38.1	38.5	38.3	37.9	37.7	-0.2	-0.5
Bangladesh	34.5	34.9	35.1	35.1	35.0	-0.1	-0.3
Vietnam	21.6	22.0	22.0	22.0	22.2	0.2	0.9
The Philippines	12.9	12.9	13.2	13.2	13.3	0.1	0.8
Burma	10.4	10.5	10.5	10.7	10.9	0.2	1.9
Thailand	10.6	10.6	10.5	9.8	10.6	0.8	8.2
Japan	8.4	8.4	8.6	8.5	8.5	0.0	0.0
Brazil	7.9	7.9	7.9	7.8	7.9	0.1	1.3
Nigeria	5.3	5.5	5.4	5.2	5.0	-0.2	-3.8
Korea, South	4.5	4.4	4.2	4.4	4.5	0.1	2.5
United States	3.8	4.0	4.3	3.5	4.2	0.7	19.6
Egypt	4.1	4.0	4.0	3.9	4.0	0.1	2.6
Cambodia	3.6	3.7	3.6	3.7	3.7	0.0	0.7
Nepal	3.4	3.8	3.7	3.5	3.7	0.2	4.3
World Total	465.5	478.3	478.1	470.4	478.4	8.0	1.7

Source: USDA.

USDA forecasts the total rice utilisation in 2016–17 to increase by 8 million tonnes (1.7 per cent) over 2015–16 to a record 478.4 million tonnes.

The use of coarse grains in the world in 2016–17 is projected by USDA at a record 1,314.5 million tonnes, 5.3 per cent higher than the consumption recorded in 2015–16.

IGC projects the global rice consumption in 2016–17 at 483 million tonnes, signifying a nearly 2 per cent increase over 2015–16, when consumption had declined to 474 million tonnes. ABARES projects the world rice consumption in 2016–17 at 478 million tonnes, which is 1 million tonnes more than that achieved in 2015–16. The FAO's projection of rice consumption in 2016–17 is 501.2 million tonnes as compared to 495.1 million tonnes achieved during the previous year.

Coarse Grains

The use of coarse grains in the world in 2016–17 is projected by USDA at a record 1,314.5 million tonnes, 5.3 per cent higher than the consumption recorded in 2015–16 (Table II.20). Most of this increase was witnessed in the US, China, the EU, Brazil, and Iran. Turkey and Japan were the only countries for which a decline in utilisation has been forecast.

Table II.20: Coarse Grain Domestic Consumption Estimates by Country

Country	2012–13	2013–14	2014–15	2015–16	2016–17	Y-o-Y Change	
						Quantity	Percentage
United States	275.5	305.0	311.3	312.7	327.7	15.1	4.8
China	209.7	223.5	229.1	239.0	245.2	6.2	2.6
Others	219.0	227.9	240.9	240.4	244.4	4.0	1.7
European Union	153.3	164.4	162.6	157.0	160.5	3.5	2.2
Brazil	55.8	58.0	60.0	58.0	60.9	2.9	5.1
Mexico	36.2	40.9	42.1	44.2	45.8	1.6	3.6
India	35.1	37.6	40.4	39.5	40.9	1.4	3.4
Russia	25.1	28.6	31.1	29.8	30.9	1.0	3.4
Canada	20.3	22.3	21.3	22.0	22.3	0.3	1.3
Nigeria	18.7	19.4	19.0	18.2	18.5	0.4	1.9
Japan	17.8	17.6	16.9	17.3	17.2	-0.1	-0.4
Egypt	12.9	14.1	14.8	15.7	16.0	0.3	1.9
Iran	10.5	11.3	12.0	14.1	15.6	1.5	10.6
Argentina	12.1	13.7	14.2	14.4	15.5	1.1	7.8
Saudi Arabia	10.8	11.4	11.9	14.0	14.6	0.7	4.9
Ukraine	14.7	16.0	15.4	13.9	14.3	0.4	3.1
Turkey	13.0	13.4	13.1	14.4	13.2	-1.2	-8.3
World Total	1,134.5	1,232.4	1,272.0	1,248.3	1,314.5	66.2	5.3

Source: USDA.

IGC projects the total world coarse grain utilisation in 2016–17 at 1,320 million tonnes, signifying an increase of 57 million tonnes over the utilisation of 1,263 million tonnes achieved in 2016–17. Most of the increase is in maize, projected at 1,026 million tonnes, signifying an increase of 56 million tonnes over the previous year. Large supplies and attractive prices are expected to boost feeding, while population growth contributes to higher food demand. A solid gain in industrial processing is also anticipated, mainly for ethanol and starch. Maize continues to account for the bulk of industrial usage in coarse grains, with a major share used just for the production of fuel ethanol, mostly in the United States. A strong world demand for starch is seen to boost the use of maize for starch production with most of the increase seen in China.

FAO forecasts the total coarse grain utilisation in 2016–17 at 1327.6 million tonnes, which is close to the USDA forecast of an increase of 19 million tonnes over the utilisation

recorded in 2015–16. The total feed use of coarse grains is currently projected at 756.6 million tonnes, 2.1 per cent more than that achieved in 2015–16.

ABARES forecasts the world coarse grain consumption to increase by 2.5 per cent in 2016–17 to 1,294 million tonnes, largely resulting from a growth in the consumption of corn. The consumption of feed grains is expected to increase following a fall in the coarse grain prices over those prevalent in 2015–16, but the increase in coarse grain consumption will be constrained by competition resulting from the abundant availability of low-priced feed wheat. The world consumption of corn is forecast to increase by 3 per cent in 2016–17 to 1,002 million tonnes, with most of the growth expected in animal feed use. Corn consumption in China is expected to increase by 5 per cent in 2016–17 to around 228 million tonnes, the highest figure on record.

In the USA, corn consumption is forecast to increase by around 6 per cent in 2016–17, mainly as a result of the rise in feed consumption due to the expected growth in livestock production. Corn consumption in industrial uses such as ethanol production is forecast to be relatively flat as world oil prices remain low. The world's barley consumption is forecast to remain largely unchanged in 2016–17 at 146 million tonnes, with the lower consumption in China offset by consumption increases in Australia and the Middle East. Barley consumption in China is expected to fall by around 11 per cent to 8 million tonnes in 2016–17, as domestic corn prices become more competitive against the prices of imported barley.

Oilseeds

USDA forecasts the world oilseed consumption (mainly crush) in 2016–17 to increase to a record 464 million tonnes from 448 million tonnes in 2015–16. Almost the entire increase in oilseed consumption is in soybeans, estimated at 288.2 million tonnes, signifying an increase of 12 million tonnes (4.3 per cent) over that achieved 2015–16, more than offsetting the decline of 2.1 million tonnes in the consumption of rapeseed crush. Table II.21 shows the oilseed consumption (mainly crush) by type of oilseeds.

Table II.21: Oilseed Consumption by Type (Million Tonnes)

Commodity	2012–13	2013–14	2014–15	2015–16	2016–17	Y-o-Y Change	
						Quantity	Percentage
Soybean	230.6	242.3	263.2	276.2	288.2	12.0	4.3
Rapeseed	62.9	66.8	67.6	67.6	65.5	-2.1	-3.2
Sunflower	30.9	37.1	35.7	36.9	39.8	2.9	7.9
Cottonseed	34.4	34.2	33.8	29.5	29.9	0.4	1.4
Peanut	16.6	17.6	17.0	16.7	17.6	1.0	5.8
Palm Kernel	15.0	15.9	16.5	15.8	17.0	1.2	7.8
Copra	5.8	5.4	5.4	5.3	5.5	0.2	3.2
Total	396.2	419.4	439.4	448.0	463.6	15.5	3.5

Source: USDA.

The world's oilseed consumption (mainly crush) is forecast by ABARES to rise by 3 per cent in 2016–17 to 542 million tonnes, reflecting the higher demand for protein meals and vegetable oil. The world's soybean consumption is forecast to rise by 4 per cent to 329 million tonnes. In contrast, the world's rapeseed consumption is forecast to fall by 4 per cent to 68 million tonnes, reflecting reduced availability in major consuming countries. The ABARES forecast is higher than the USDA figure, mainly due to the higher consumption of soybean crush, which is taken into account by ABARES. IGC covers only soybeans, whose consumption in 2016–17 is projected at 332 million tonnes, 13 million tonnes more than that recorded in 2015–16, closer to ABARES projection.

USDA forecasts the world oilseed consumption (mainly crush) in 2016–17 to increase to a record 464 million tonnes from 448 million tonnes in 2015–16.

The world's vegetable oil consumption is forecast by USDA to rise by 3.3 per cent to 183.5 million tonnes in 2016–17, signifying a record high from the 2015–16 level of 177.7 million tonnes.

Vegetable Oil

The world's vegetable oil consumption is forecast by USDA to rise by 3.3 per cent to 183.5 million tonnes in 2016–17, signifying a record high from the 2015–16 level of 177.7 million tonnes. The forecast of higher use of vegetable oils in 2016–17 is expected to be driven by an increase of 3 million tonnes (5.1 per cent) in palm oil to 63 million tonnes, an increase of 2 million tonnes (3.8 per cent) in soybean oil to 53.6 million tonnes, and increase of 0.7 million tonnes (4.6 per cent) in sunflower seed oil, and consumption of marginal increases in palm kernel oil, peanut oil, coconut oil, and olive oil, which more than offset the decline in consumption of rapeseed oil and cotton seed oil (Table II.22).

Table II.22: Consumption of Vegetable Oils by Type (Million Tonnes)

Type of Oil	2012–13	2013–14	2014–15	2015–16	2016–17	Y-o-Y Change	
						Quantity	Percentage
Palm	55.42	58.05	58.39	59.94	63.00	3.06	5.11
Soybean	42.69	45.23	47.93	51.63	53.61	1.98	3.83
Rapeseed	24.29	26.27	27.15	28.10	27.71	-0.39	-1.39
Sunflower	12.98	14.30	14.22	15.01	15.70	0.69	4.60
Palm Kernel	6.40	6.69	7.27	7.03	7.19	0.16	2.28
Peanut	5.35	5.58	5.48	5.36	5.64	0.28	5.22
Cotton seed	5.21	5.08	5.05	4.51	4.46	-0.05	-1.11
Coconut	3.75	3.41	3.32	3.29	3.36	0.07	2.13
Olive	2.82	2.98	2.65	2.81	2.82	0.01	0.36
Total	158.90	167.57	171.46	177.68	183.50	5.82	3.28

Source: USDA.

Table II.23 shows the vegetable oil consumption by country. The largest increase in vegetable oil consumption in 2016–17 is expected to be seen in India, at 1.72 million tonnes (8.2 per cent), followed by that in China at 1.02 million tonnes (2.9 per cent), and Indonesia at 0.67 million tonnes (6.1 per cent). Only the EU registered a decline, albeit marginal, in consumption.

FAO forecasts the world's consumption of oils (including fish oil and oils of animal origin) to reach record levels in 2016–17, at 217.3 million tonnes, signifying an increase of 6 million tonnes, implying a more dynamic growth of 3 per cent as compared to that in 2015–16. As regards individual oils, soy and palm oils are projected to experience a sharp consumption growth, supported by adequate supplies and price discounts relative to other vegetable oils. A sizeable expansion is also forecast for sunflower seed oil, given the prospective pronounced gain in production. Conversely, the consumption of rapeseed oil could undergo a marked decline.

Table II.23 Vegetable Oil Consumption by Country

Country	2012–13	2013–14	2014–15	2015–16	2016–17	Y-o-Y Change	
						Quantity	Percentage
China	31.66	32.77	33.61	34.62	35.64	1.02	2.9
European Union	24.29	25.47	25.54	25.44	25.34	-0.1	-0.4
India	17.71	18.95	20.15	21.06	22.78	1.72	8.2
United States	13.06	13.5	13.68	14.52	14.81	0.29	2.0
Indonesia	10.08	11.05	9.8	11.01	11.68	0.67	6.1
Brazil	6.74	6.97	7.43	7.38	7.45	0.07	0.9
Malaysia	4.03	4.4	4.59	4.86	4.9	0.04	0.8
Pakistan	3.37	3.72	4.11	4.49	4.82	0.33	7.3
Argentina	2.93	3.42	3.21	3.49	3.57	0.08	2.3
Russia	3.07	3.16	3.23	3.35	3.46	0.11	3.3
Thailand	2.21	2.42	2.57	2.7	2.88	0.18	6.7
Mexico	2.37	2.41	2.6	2.68	2.76	0.08	3.0
Egypt	2.49	2.49	2.64	2.68	2.73	0.05	1.9
Bangladesh	1.7	1.87	2.06	2.29	2.5	0.21	9.2
Japan	2.26	2.3	2.33	2.4	2.41	0.01	0.4
Other	30.95	32.68	33.93	34.72	35.78	1.06	3.1
Total	158.90	167.57	171.46	177.68	183.5	5.82	3.3

Source: USDA.

Developing nations in Asia are expected to continue driving growth in the uptake of global oils/fats uptake. Steady expansion is forecast for India and several other Asian countries. In contrast, growth in China could falter following a possible slowdown in national economic growth. Also in Malaysia and Indonesia, consumption may grow at a slower pace than last year, considering that the demand from the biodiesel industry could expand at a reduced rate. Elsewhere, bumper supplies should support higher consumption in the USA, Brazil and Argentina, where the oil uptake could be fuelled, in part, by fresh demand from the biodiesel sector. In other developed countries, utilisation growth rates are expected to linger at around 1 per cent. ABARES forecasts the global vegetable oil consumption to increase by 3.9 per cent to 186 million tonnes, close to the USDA forecast.

Oilseed Meal

USDA forecasts the world's protein meal consumption (including that of fish meal) to increase to 316.4 million tonnes in 2016–17, signifying a 3.7 per cent increase over 2015–16, mostly led by soybean meal, which registered a growth of 10.8 million tonnes (5.0 per cent) over 2015–16. With the exception of rapeseed meal, all other oilseed meals recorded an increase ranging from 7.5 per cent in sunflower seed meal to 0.7 per cent in cottonseed meal. Fishmeal consumption increased by 0.7 per cent to 4.55 million tonnes. Table II.24 shows the trend in consumption patterns of oilseed meal, by type.

Table II.24: Oilseed Meal Consumption (Million Tonnes)

Country	2012–13	2013–14	2014–15	2015–16	2016–17	Y-o-Y Change	
						Quantity	Percentage
Soybean	177.68	186.99	202.18	214.41	225.20	10.79	5.0
Rapeseed	36.64	39.11	39.32	39.38	37.85	-1.53	-3.9
Sunflower	14.59	15.88	15.78	16.25	17.47	1.22	7.5
Cottonseed	15.56	15.61	15.41	13.59	13.69	0.10	0.7
Palm kernel	7.94	8.13	8.56	8.55	8.86	0.31	3.6
Peanut	6.52	7.00	6.72	6.56	6.95	0.39	5.9
Fish	4.51	4.65	4.64	4.52	4.55	0.03	0.7
Copra	1.94	1.78	1.71	1.73	1.79	0.06	3.5
Total	265.37	279.14	294.32	305.00	316.36	11.36	3.7

Source: USDA.

ABARES forecasts the world's oilseed meal consumption to increase to 318 million tonnes, close to the USDA forecast, signifying an increase of 3.9 per cent over the previous year.

ABARES forecasts the world's oilseed meal consumption to increase to 318 million tonnes, close to the USDA forecast, signifying an increase of 3.9 per cent over the previous year. FAO forecasts the world's protein meal/cake consumption (including that of fish meal) to rise further in 2016–17, albeit at a below average rate, pegged at a record 144 million tonnes (expressed in protein equivalent). The growing uptake by the livestock sector, arising from further economic growth in several countries, should continue to support meal consumption. The availability of bumper feed grain supplies worldwide is expected to weigh on the growth of meal utilisation. As in the previous years, much of this growth would be on account of soybean meal, though the consumption of sunflower seed meal could also rise conspicuously. In contrast, the uptake of rapeseed meal could drop to a three-year low.

Developing countries in Asia should remain the main engines of overall consumption growth. However, in China, the world's largest meal consumer, the economic slowdown could trim the expansion in poultry and pig-meat production and, with it, the demand for protein meals. In other Asian countries, including India, Indonesia, Pakistan, the Philippines, Turkey and Vietnam, consumption is anticipated to rise at about average rates. Elsewhere, the current forecasts point to a further expansion in demand in Argentina, while only moderate increases are expected in the USA and Brazil. In the EU, the world's second largest consumer, meal uptake could stall at last season's level, due to both reduced meal supplies and burgeoning availabilities of feed grain.

Sugar

The USDA's forecast for the world's sugar consumption in 2016–17 is 173.6 million tonnes, 1.1 million tonnes higher than the corresponding figure for 2015–16. Table II.25 shows the global sugar consumption by major consuming countries. Most of the increase, albeit modest, is projected in Russia, India, Pakistan, Iran, the Philippines, and Turkey. In Brazil and Indonesia, the consumption is forecast to decline marginally.

The USDA's forecast for the world's sugar consumption in 2016–17 is 173.6 million tonnes, 1.1 million tonnes higher than the corresponding figure for 2015–16.

Table II.25: Global Sugar Consumption by Major Consuming Countries

Country	2012–13	2013–14	2014–15	2015–16	2016–17	Y-o-Y Change	
						Quantity	Percentage
India	25.6	26.0	26.5	26.8	27.2	0.4	1.49
European Union	18.3	18.5	18.7	18.8	18.8	0.0	0.00
China	15.1	16.4	17.6	17.5	17.5	0.0	0.00
United States	10.4	10.7	10.8	10.8	10.9	0.1	0.80
Brazil	11.2	11.3	11.4	10.9	10.8	-0.1	-0.92
Russia	5.7	5.4	5.7	5.9	6.1	0.2	3.74
Indonesia	5.4	5.5	5.4	5.9	5.7	-0.3	-4.80
Pakistan	4.4	4.5	4.6	4.7	4.8	0.1	2.13
Mexico	4.5	4.2	4.6	4.7	4.7	0.0	0.68
Egypt	2.8	2.9	2.9	2.9	3.0	0.0	0.68
Thailand	2.5	2.5	2.5	2.6	2.7	0.1	1.92
Iran	2.8	2.8	2.0	2.3	2.4	0.1	3.37
Bangladesh	1.6	2.2	2.1	2.3	2.3	0.0	-1.25
The Philippines	2.2	2.3	2.2	2.2	2.3	0.1	2.27
Turkey	2.3	2.3	2.3	2.2	2.3	0.1	2.27
Vietnam	1.8	1.9	1.8	2.1	2.1	0.0	2.22
Japan	2.0	2.1	2.1	2.1	2.1	0.0	0.34
United Arab Emirates	1.9	1.4	1.9	2.0	2.0	0.0	1.50
South Africa	1.9	1.9	2.0	2.0	2.0	0.0	0.00
Argentina	1.8	1.8	1.8	1.8	1.8	0.0	1.71
Colombia	2.0	1.5	1.5	1.8	1.8	0.0	-2.27
Malaysia	1.6	1.6	1.8	1.7	1.7	0.0	-0.99
Peru	1.2	1.2	1.6	1.5	1.6	0.1	6.38
Sudan	1.6	1.2	1.7	1.6	1.5	0.0	-2.22
Korea, South	1.3	1.4	1.5	1.4	1.5	0.1	7.97
Other	34.0	33.5	33.4	34.0	34.2	0.2	0.46
Total	165.8	167.0	170.2	172.5	173.6	1.1	0.61

Source: USDA.

The world's sugar consumption in 2016–17 is forecast to exceed production for the second year in a row, reducing world stocks to their lowest levels since 2011–12. The world's sugar consumption is forecast by ABARES to increase by 2 per cent in 2016–17, to around 184 million tonnes (in raw value), reflecting the growth in the world income and population. Rising demand from food processing industries in countries such as India, China and Indonesia is expected to support sugar consumption growth in 2016–17. Higher consumption is forecast for all major sugar-consuming countries except Brazil.

II.3.3 Global Trade Outlook for Commodities is Mixed

All major exporters of agricultural products experienced a decline in exports in 2015–16. The situation is unlikely to improve in 2016–17 due to the global glut in most commodities, slow global economic growth, and foreign exchange fluctuations. The export outlook for major agricultural commodities projected by various agencies is discussed below.

The world's sugar consumption in 2016–17 is forecast to exceed production for the second year in a row, reducing world stocks to their lowest levels since 2011–12.

All major exporters of agricultural products experienced a decline in exports in 2015–16.

Global wheat exports in 2016–17 are forecast to increase to 173.6 million tonnes, signifying an increase of 1.43 million tonnes (0.8 per cent) over 2015–16.

The major increases in wheat imports in 2016–17 are projected to be witnessed in India, Syria, and Saudi Arabia.

Wheat

Exports: Global wheat exports in 2016–17 are forecast to increase to 173.6 million tonnes, signifying an increase of 1.43 million tonnes (0.8 per cent) over 2015–16. The largest increases in exports are expected to be from Russia, the USA, and Australia, which more than offset the massive decline in exports from the EU (down by 28 per cent), Canada, Ukraine, and Argentina (Table II.26).

Table II.26: Wheat Exports from Major Exporting Countries

TY Exports	2012–13	2013–14	2014–15	2015–16	2016–17	Y-o-Y Change	
						Quantity	Percentage
Russia	11.31	18.61	22.80	25.54	30.00	4.46	17.4
United States	27.73	31.52	23.00	21.86	26.00	4.14	19.0
European Union	22.79	32.03	35.42	34.68	25.00	-9.68	-27.9
Canada	18.58	22.16	24.88	22.14	21.50	-0.64	-2.9
Australia	21.27	18.34	16.58	15.78	20.50	4.72	29.9
Ukraine	7.19	9.76	11.27	17.43	15.50	-1.93	-11.1
Others	18.12	14.73	11.23	10.03	10.00	-0.04	-0.4
Kazakhstan	6.80	8.00	5.51	7.60	8.50	0.90	11.8
Argentina	7.45	1.68	4.20	8.86	8.00	-0.86	-9.7
by Turkey	3.58	4.29	4.13	5.61	5.60	-0.01	-0.2
Brazil	1.75	0.08	1.69	1.06	1.50	0.44	41.1
Mexico	0.73	1.32	1.10	1.57	1.50	-0.07	-4.3
World Total	147.30	162.51	161.80	172.16	173.60	1.43	0.8

Source: USDA.

Imports

The major increases in wheat imports in 2016–17 are projected to be witnessed in India, Syria, and Saudi Arabia. The topmost wheat-importing countries in 2016–17 are expected to be Egypt, Indonesia, Algeria, Brazil, the EU, and Japan, which recorded imports of over 5 million tonnes each. There were several countries whose imports are expected to range from 4.7 million tonnes to 2 million tonnes.

Table II.27 shows the importers of wheat ranked by the likely quantity of wheat imports during 2016–17 in descending order.

Table II.27: Wheat Imports by Major Importing Countries (Million Tonnes)

TY Exports	2012–13	2013–14	2014–15	2015–16	2016–17	Y-o-Y Change	
						Quantity	Percentage
Others	49.68	54.02	53.26	54.24	52.19	-2.05	-3.8
Egypt	8.40	10.15	11.30	11.93	11.80	-0.13	-1.0
Indonesia	7.15	7.39	7.48	10.12	8.50	-1.62	-16.0
Algeria	6.48	7.48	7.26	8.15	8.20	0.05	0.6
Brazil	7.55	7.06	5.87	5.93	6.60	0.68	11.4
European Union	5.28	3.98	5.98	6.92	6.50	-0.42	-6.0
Japan	6.60	6.12	5.88	5.72	5.80	0.09	1.5
Korea, South	5.44	4.29	3.94	4.42	5.00	0.58	13.1
Morocco	3.83	3.93	4.09	4.50	5.00	0.50	11.0
Philippines	3.62	3.48	5.06	4.85	5.00	0.15	3.1
Turkey	3.31	4.15	5.96	4.40	5.00	0.60	13.7
Bangladesh	2.73	3.35	3.93	4.69	4.70	0.01	0.1
Mexico	3.82	4.64	4.48	4.81	4.60	-0.21	-4.3
Nigeria	4.17	4.58	4.24	4.41	4.40	-0.01	-0.2
Thailand	1.84	1.68	3.49	4.81	3.60	-1.21	-25.2
China	2.96	6.77	1.93	3.48	3.50	0.02	0.7
Saudi Arabia	1.92	3.43	3.49	2.93	3.50	0.57	19.4
United States	3.45	4.76	3.96	3.06	3.40	0.34	11.3
Yemen	3.21	3.43	3.25	3.32	3.35	0.03	0.8
India	0.02	0.02	0.27	0.30	3.00	2.70	900.0
Vietnam	1.67	2.16	2.30	3.07	3.00	-0.07	-2.2
Afghanistan	1.60	2.05	2.00	2.70	2.70	0.00	0.0
Uzbekistan	1.86	2.22	2.23	2.65	2.70	0.05	1.7
Unaccounted	2.51	2.12	2.81	3.54	2.66	-0.88	-24.7
Iraq	3.95	3.25	2.25	2.22	2.30	0.08	3.6
Sudan	1.79	2.66	2.63	2.02	2.30	0.28	13.8
Syria	0.96	1.60	0.87	0.97	2.30	1.34	138.3
Colombia	1.51	1.73	1.63	2.03	2.00	-0.03	-1.6
World Total	147.30	162.51	161.80	172.16	173.60	1.43	0.8

Source: USDA.

In contrast, ABARES forecasts that the world's wheat trade would decline by 2 per cent from the record trade achieved in 2015–16 to 164 million tonnes in 2016–17. The major exporting countries have ample exportable supplies and the import demand largely reflects country-specific needs for certain types of wheat. Large local supplies from carry-over stocks and favourable growing conditions across much of the world are expected to drive the weaker import demand. IGC forecasts the world's wheat trade in 2016–17 to be 166 million tonnes, 2 million tonnes more than that achieved in 2015–16.

The world's wheat trade in 2016–17 (July–June) is envisaged by FAO to exceed the previous season's high level by 0.4 per cent (660 000 tonnes), reaching a new peak of 168.5 million tonnes. Ample export supplies and low prices are seen to be driving brisk trade in wheat this season, with Australia, the Russian Federation and the USA emerging as the main beneficiaries from the exporters' perspective.

USDA forecasts the global rice trade in the calendar year 2017 at 40.9 million tonnes, up by 0.8 million tonnes (2 per cent) from the exports recorded in calendar year 2016.

Rice

USDA forecasts the global rice trade in the calendar year 2017 at 40.9 million tonnes, up by 0.8 million tonnes (2 per cent) from the exports recorded in calendar year 2016. Most of the increase in exports has been recorded in Thailand, Vietnam and Burma. Although India continued to remain the largest exporter of rice in 2016, it witnessed a decline of 0.5 million in exports, though this was partly offset by a 0.3 million tonne increase in exports from Thailand, which remained the second largest exporter (Table II.28).

Table II.28: Rice Exports by Major Exporting Countries (Million Tonnes)

Country	2012-13	2013-14	2014-15	2015-16	2016-17	Y-o-Y Change	
						Quantity	Percentage
India	10.48	11.59	11.05	10.50	10.00	-0.50	-4.8
Thailand	6.72	10.97	9.78	9.20	9.50	0.30	3.3
Vietnam	6.70	6.33	6.61	5.40	5.80	0.40	7.4
Pakistan	4.13	3.70	4.00	4.20	4.20	0.00	0.0
United States	3.30	2.95	3.36	3.45	3.55	0.10	2.9
Burma	1.16	1.69	1.74	1.20	1.50	0.30	25.0
Others	1.12	1.08	1.09	1.14	1.12	-0.02	-2.0
Cambodia	1.08	1.00	1.15	0.90	1.00	0.10	11.1
Uruguay	0.94	0.96	0.72	0.90	0.84	-0.06	-6.7
Brazil	0.83	0.85	0.90	0.70	0.65	-0.05	-7.1
Argentina	0.53	0.49	0.31	0.56	0.55	-0.01	-1.8
Guyana	0.35	0.45	0.52	0.54	0.54	0.00	0.0
Paraguay	0.37	0.38	0.37	0.48	0.47	-0.01	-2.1
China	0.45	0.39	0.26	0.28	0.30	0.03	9.1
European Union	0.20	0.28	0.25	0.27	0.28	0.01	3.7
Egypt	0.70	0.60	0.25	0.20	0.30	0.10	50.0
Australia	0.46	0.40	0.32	0.15	0.25	0.10	66.7
World Total	39.49	44.11	42.66	40.07	40.85	0.78	2.0

Source: USDA.

The countries that are expected to increase their rice imports in 2017 are China, Indonesia, the Philippines, and Nepal, which will be partially offset by a decline in imports by Brail, Nigeria, Iran and some other countries (Table II.29).

Table II.29: Rice Imports by Major Importing Countries (Million Tonnes)

Country	2012–13	2013–14	2014–15	2015–16	2016–17	Y-o-Y Change	
						Quantity	Percentage
Others	11.57	13.54	11.70	11.00	11.20	0.21	1.9
China	3.50	4.45	5.15	4.60	5.00	0.40	8.7
Unaccounted	3.05	2.98	3.06	2.74	2.30	-0.44	-16.1
Nigeria	2.40	3.20	2.10	2.00	1.90	-0.10	-5.0
European Union	1.38	1.56	1.79	1.80	1.80	0.00	0.0
Saudi Arabia	1.33	1.46	1.60	1.55	1.55	0.00	0.0
The Philippines	1.00	1.80	2.00	1.00	1.40	0.40	40.0
Indonesia	0.65	1.23	1.35	1.10	1.25	0.15	13.6
Cote d'Ivoire	0.83	0.95	1.15	1.25	1.20	-0.05	-4.0
Iran	2.22	1.40	1.30	1.10	1.05	-0.05	-4.5
Iraq	1.29	1.08	1.01	0.90	1.05	0.15	16.7
Malaysia	0.89	0.99	1.05	1.02	1.05	0.03	2.9
Senegal	0.90	0.96	0.99	0.99	0.99	0.01	0.5
South Africa	0.99	0.91	0.91	1.00	0.93	-0.08	-7.5
United States	0.68	0.76	0.76	0.77	0.78	0.01	1.3
Mexico	0.75	0.69	0.72	0.70	0.75	0.05	7.1
Japan	0.69	0.67	0.69	0.70	0.70	0.00	0.0
Brazil	0.71	0.59	0.36	0.75	0.65	-0.10	-13.3
Ghana	0.73	0.59	0.50	0.65	0.65	0.00	0.0
United Arab Emirates	0.54	0.56	0.58	0.60	0.61	0.01	1.7
Mozambique	0.50	0.59	0.58	0.58	0.60	0.03	4.3
Nepal	0.34	0.51	0.53	0.45	0.55	0.10	22.2
Cameroon	0.55	0.61	0.53	0.53	0.53	0.00	0.0
Cuba	0.41	0.38	0.58	0.53	0.51	-0.02	-3.8
Haiti	0.42	0.39	0.45	0.47	0.49	0.02	4.3
Angola	0.43	0.50	0.45	0.45	0.48	0.03	5.6
Kenya	0.41	0.44	0.45	0.46	0.47	0.01	2.2
Benin	0.35	0.35	0.35	0.40	0.43	0.03	6.2
World Total	39.49	44.11	42.66	40.07	40.85	0.78	2.0

Source: USDA.

After tighter export availability and subdued import demand combined to depress deliveries in 2016, FAO anticipates the world's rice trade in 2017 to increase modestly by 1 million tonnes to 41 million tonnes, riding on a firm demand from African and Asian buyers. IGC forecasts the rice trade to expand modestly, to around 41 million tonnes, which is the same as the figures forecast by USDA and IGC, based on the firm demand from African and Asian buyers. With an excellent Kharif harvest boosting supplies for export, India's shipments could again exceed 10 million tonnes.

Coarse Grains

USDA forecasts a decline of around 4 per cent in the global total coarse grain trade in MY 2016–17, bringing it down to 177.7 million tonnes from the record exports of 184.4 million tonnes in 2015–16. Most of the decline in exports is confined to Brazil and the EU, which is partly offset by increased exports from the USA, Argentina, Ukraine and Australia (Table II.30).

USDA forecasts a decline of around 4 per cent in the global total coarse grain trade in MY 2016–17, bringing it down to 177.7 million tonnes from the record exports of 184.4 million tonnes in 2015–16.

Significant increases in the imports of total coarse grains are likely to be witnessed in the EU, Egypt, Turkey, Venezuela, Morocco, Chile and Indonesia, whereas imports are forecast to decline markedly in China, Vietnam, Brazil, Malaysia and Taiwan (Table II.31).

The exports of maize, the largest coarse grain produced and traded globally, are forecast to decline in 2016–17 by 4.2 million tonnes, to around 140 million tonnes from the record 2015–16 production of 144 million tonnes. Almost the entire decline is confined to Brazil, (down by 14.4 million tonnes), which will be partly offset by higher exports from the USA, Argentina, and Ukraine (Table II.32). The imports of maize in 2016–17 are likely to decline mostly in Malaysia, South Korea, Japan, and China and to increase in Turkey, Zimbabwe, and Venezuela (Table II.33).

IGC forecast the maize exports in 2016–17 to decline to 135 million tonnes, which is 1 million tonnes below the exports achieved in 2015–16. Exports are projected to increase by around 2.5 million tonnes in Argentina, by 7.5 million tonnes in Brazil, and by around 8 million tonnes in the USA.

FAO projects that the trade in maize would decrease by only 1.1 per cent or 1.5 million tonnes, from the near-record levels achieved in 2015–16, to reach 131 million tonnes. However, the trade is forecast to fall more markedly by almost 9 per cent for barley, falling to 25 million tonnes, as well as for sorghum, which is set to plunge by 27 per cent to 9 million tonnes. The leading factor behind the anticipated contraction of world trade in both grains is the decrease in imports by China. In contrast, trade in millet is projected to rise by 31 per cent.

According to ABARES, the exports of maize from Argentina in 2016–17 are forecast to grow by almost 21 per cent, to 23 million tonnes, following the removal of export taxes on maize in December 2015. Exports from Brazil are expected to remain largely unchanged at 23 million tonnes, with a poor second harvest in 2015–16 limiting the supply available for export in 2016–17. In the USA, corn exports are forecast to grow by 8 per cent in 2016–17 to touch 52 million tonnes. Corn exports from the EU are forecast to more than double in 2016–17 to 2.5 million tonnes, as supplies recover from poor production in 2015–16.

The world trade in barley, the second largest feed grain, is forecast to fall by 7 per cent in 2016–17 to 28 million tonnes. This reflects a significant fall in import demand from China as livestock producers switch to domestic corn for feed use. The fall would be partially offset by an expected increase in demand from Saudi Arabia for imported barley.

Table II.30: Coarse Grain Exports by Country of Origin (Million Tonnes)

Total CG Exports	2012-13	2013-14	2014-15	2015-16	2016-17	Y-o-Y Change	
						Quantity	Percentage
United States	20.59	56.78	56.42	59.30	63.10	3.80	6.4
Argentina	29.50	16.63	21.00	25.41	28.51	3.09	12.2
Ukraine	15.53	24.13	24.21	21.29	23.21	1.93	9.0
Brazil	26.08	22.06	21.95	35.42	21.03	-14.39	-40.6
Russia	4.37	7.07	9.16	8.16	8.76	0.60	7.4
European Union	8.94	7.84	15.07	11.69	8.26	-3.44	-29.4
Australia	6.42	7.01	7.29	6.50	7.98	1.48	22.7
Others	10.28	11.22	8.03	7.32	7.10	-0.22	-3.0
Canada	4.66	5.48	3.60	4.60	3.85	-0.75	-16.3
Paraguay	2.86	2.72	3.03	2.72	2.32	-0.40	-14.7
Serbia	0.61	1.80	3.00	1.64	2.26	0.62	37.8
South Africa	2.41	2.13	0.77	0.77	1.33	0.55	71.9
World Total	132.23	164.86	173.52	184.81	177.68	-7.13	-3.9

Source: USDA.

Table II.31: Total Coarse Grains Imports by Major Importing Countries (Million Tonnes)

Total CG TY	2012-13	2013-14	2014-15	2015-16	2016-17	Y-o-Y Change	
						Quantity	Percentage
Others	14.9	17.6	18.3	20.0	20.2	0.18	0.9
Japan	17.7	17.5	16.7	17.1	16.9	-0.20	-1.2
Mexico	7.6	11.3	11.6	14.7	14.8	0.08	0.5
Saudi Arabia	12.4	11.3	11.1	14.3	14.2	-0.11	-0.7
European Union	11.8	16.4	9.1	13.8	14.1	0.30	2.2
China	5.6	12.4	25.7	17.5	13.7	-3.80	-21.7
Korea, South	8.3	10.5	10.2	10.2	9.9	-0.30	-3.0
Egypt	5.1	8.8	7.9	8.7	8.9	0.18	2.0
Iran	4.8	6.6	8.0	8.5	8.1	-0.40	-4.7
Vietnam	1.6	4.3	6.7	8.6	6.5	-2.10	-24.4
Algeria	3.3	4.9	4.9	5.3	5.2	-0.03	-0.6
Colombia	4.1	4.8	4.7	4.9	4.8	-0.03	-0.6
Taiwan	4.4	4.3	3.9	4.6	4.3	-0.33	-7.0
Unaccounted	2.4	5.1	4.4	4.9	4.0	-0.96	-19.5
Malaysia	3.0	3.5	3.2	4.1	3.6	-0.50	-12.2
United States	6.5	3.3	3.3	4.0	3.4	-0.61	-15.2
Morocco	1.8	2.9	2.2	3.0	3.2	0.20	6.7
Peru	2.4	2.3	2.9	3.0	3.0	0.01	0.3
South Africa	0.1	0.2	0.7	2.8	2.7	-0.11	-4.0
Venezuela	2.2	2.6	2.4	1.8	2.2	0.40	22.2
Chile	1.3	1.6	1.7	1.8	2.0	0.22	11.9
Indonesia	2.7	3.5	3.4	1.8	2.0	0.20	11.1
Israel	1.6	2.1	1.6	1.7	1.8	0.12	7.1
Turkey	1.9	2.0	2.7	0.8	1.8	0.98	118.8
Tunisia	1.6	1.4	1.5	1.8	1.8	0.05	2.9
Canada	0.5	0.7	1.7	1.4	1.6	0.15	10.4
Brazil	1.2	1.2	1.0	2.1	1.6	-0.52	-25.2
Libya	1.2	1.5	1.7	1.7	1.5	-0.20	-11.8
World Total	132.2	164.9	173.5	184.8	177.7	-7.13	-3.9

Source: USDA.

Table II.32: Exports of Maize by Major Exporting Countries (Million Tonnes)

TY Exports	2012-13	2013-14	2014-15	2015-16	2016-17	Y-o-Y Change	
						Quantity	Percentage
United States	18.3	50.7	46.8	51.2	56.5	5.3	10.4
Argentina	22.8	12.8	18.4	21.7	25.5	3.8	17.7
Brazil	26.0	22.0	21.9	35.4	21.0	-14.4	-40.6
Ukraine	12.7	20.0	19.7	16.5	18.0	1.5	9.1
Others	9.7	10.5	5.6	6.0	4.8	-1.3	-20.9
Russia	1.9	4.2	3.2	4.4	4.7	0.3	6.8
Paraguay	2.9	2.7	3.0	2.7	2.3	-0.4	-14.8
Serbia	0.6	1.8	3.0	1.6	2.2	0.6	37.5
European Union	2.2	2.4	4.0	1.8	1.7	-0.1	-5.6
South Africa	2.4	2.1	0.7	0.8	1.3	0.5	72.0
Burma	0.6	0.7	0.9	0.9	1.0	0.1	5.6
Mexico	0.5	0.5	0.8	1.0	0.8	-0.2	-20.0
World Total	100.5	130.4	128.0	143.9	139.7	-4.2	-2.9

Source: USDA.

Table II.33: Maize Imports by Main Importing Countries (Million Tonnes)

Imports	2012-13	2013-14	2014-15	2015-16	2016-17	Y-o-Y Change	
						Quantity	Percentage
Others	11.0	14.2	14.5	16.9	16.1	-0.8	0.00
Japan	14.4	15.1	14.7	15.2	15.0	-0.2	0.00
Mexico	5.7	10.9	11.3	13.8	13.8	0.0	0.00
European Union	11.4	16.0	8.6	13.4	13.5	0.1	0.00
Korea, South	8.2	10.4	10.2	10.1	9.8	-0.3	0.00
Egypt	5.1	8.7	7.8	8.6	8.8	0.2	0.00
Iran	3.7	5.5	6.1	6.6	6.5	-0.1	0.00
Vietnam	1.6	4.3	6.7	8.6	6.5	-2.1	-0.02
Colombia	3.3	4.4	4.5	4.5	4.5	0.0	0.00
Algeria	2.9	4.2	4.1	4.3	4.3	0.0	0.00
Taiwan	4.2	4.2	3.8	4.5	4.2	-0.3	-0.01
Saudi Arabia	2.1	2.7	2.9	3.6	3.7	0.1	0.00
Malaysia	3.0	3.5	3.2	4.1	3.6	-0.5	-0.01
Unaccounted	1.4	3.7	2.7	5.3	3.2	-2.1	-0.04
China	2.7	3.3	5.5	3.2	3.0	-0.2	-0.01
Peru	2.3	2.2	2.7	2.9	2.9	0.0	0.00
South Africa	0.0	0.1	0.5	2.6	2.5	-0.1	0.00
Morocco	1.7	2.3	1.9	2.1	2.3	0.2	0.01
Venezuela	2.2	2.6	2.4	1.8	2.2	0.4	0.02
Indonesia	2.7	3.5	3.4	1.8	2.0	0.2	0.01
Chile	0.8	1.5	1.5	1.6	1.8	0.2	0.01
Canada	0.5	0.7	1.5	1.3	1.5	0.2	0.02
Israel	1.2	1.7	1.3	1.4	1.5	0.1	0.01
Turkey	1.7	1.4	2.4	0.7	1.5	0.8	0.11
Zimbabwe	0.7	0.6	0.7	0.8	1.4	0.6	0.08
Dominican Republic	1.0	1.0	1.2	1.3	1.3	-0.1	-0.01
United States	4.3	0.7	0.8	1.8	1.3	-0.5	-0.03
Tunisia	0.8	1.0	1.0	1.1	1.2	0.1	0.01
World Total	100.5	130.4	128.0	143.9	139.7	-4.2	0.00

Source: USDA.

Pulses

The global pulse export outlook for 2016–17 looks optimistic. Canadian dry pea exports are forecast to increase by 500,000 metric tonnes to 3.2 million tonnes. Lentil exports from Canada in 2016–17 are forecast to increase marginally to 2.2 million tonnes. However, chickpea exports are forecast to decline by 50 per cent to 75,000 tonnes from 150,000 the previous year due to low carryover stocks from the 2015–16 crop.

Pulse exports from Australia, mainly consisting of chickpeas, lentils and field peas, are expected to increase in 2016–17 due to an expected increase in production.

Myanmar exported 1.4 million metric tons of pulses in MY 2015–16. Black matpe, green mung and tur whole beans accounted for 80 per cent of the varieties exported. The exports of beans and pulses along the Myanmar and India border totalled 284, 262 million tonnes in 2015. Strong export demand, particularly from India and China, led domestic prices for all types of beans and pulses to increase sharply in 2015. Matpe bean prices steadily increased between January and November 2015 and reached a 20-year record high at

The global pulse export outlook for 2016–17 looks optimistic.

US\$1,640/MT in October when domestic supplies dwindled and the demand for matpe seeds for sowing increased. Bean and pulse exports from Myanmar are expected to increase to 1.45 million tonnes in 2016–17 mainly due to sustained demand in India. India is the largest importer of beans and pulses from Myanmar, accounting for 80 per cent of all imports.

Vegetable Oils

USDA forecasts the global vegetable oil exports to increase by about 4 million tonnes in MY 2016–17 to 78.6 million tonnes, with most of the increase expected to be in palm oil, which is forecast to increase to 47.8 million tonnes from 44.8 million tonnes. Soybean oil exports in 2016–17 are projected to remain more or less unchanged at 11.7 million tonnes. The exports of other oils in 2016–17 are also projected to remain more or less unchanged from the previous year. Exports by type in 2016–17 with the exports in 2015–16 given in parentheses in million metric tonnes are: rapeseed oil 4.11 (4.14); sunflower seed oil 8.80 (8.09); and coconut oil 1.78 (1.64). Table II.27 shows vegetable oil exports by major exporting countries. The largest increase in exports was observed from Indonesia, Malaysia and Ukraine. Indian soybean oil imports are expected to remain robust this year due to a deficit in domestic vegetable oil production and a slow recovery in global palm oil supplies. Indian soybean oil imports for 2016–17 are forecast at 4 million tonnes, which is marginally lower than the 4.4 million tonnes achieved in 2015–16. Global palm oil values have strengthened this year to their highest level since early 2014 and have narrowed their price advantage over soybean oil. Indian palm oil imports for 2016–17 are forecast at 10 million tonnes. This revised forecast still reflects a recovery in the Indian import demand for palm oil from the 2015–16 total of 8.7 million tonnes. Table II.34 shows the vegetable oil exports by major exporters during the period 2012–13 to 2016–17.

Table II.34: Vegetable Oil Exports by Origin (Million Tonnes)

Country	2012–13	2013–14	2014–15	2015–16	2016–17	Y-o-Y Change	
						Quantity	Percentage
Indonesia	22.6	23.9	28.5	26.4	28.4	2.0	7.58
Malaysia	20.0	18.8	18.8	17.8	19.0	1.1	6.39
Other	11.4	11.3	12.1	11.7	11.8	0.1	1.03
Argentina	4.7	4.6	5.7	6.4	6.3	-0.2	-2.34
Ukraine	3.3	4.4	4.1	4.8	5.3	0.5	9.56
Canada	2.6	2.5	2.5	2.9	3.0	0.1	3.77
Russia	1.4	2.5	2.2	2.2	2.5	0.3	13.57
European Union	2.4	2.3	2.5	2.4	2.4	-0.1	-3.29
Total	68.4	70.1	76.5	74.7	78.6	3.9	5.19

Source: USDA.

India is projected to continue to remain the largest importer of vegetable oils in 2016–17, with its imports for this item increasing by 1.3 million tonnes (8.5 per cent) over 2015–16 to reach 16.3 million tonnes. Most of this is in palm oil. Imports of vegetable oils also increased in China, the second largest vegetable oil importing country, but declined marginally in the EU (Table II.35).

USDA forecasts the global vegetable oil exports to increase by about 4 million tonnes in MY 2016–17 to 78.6 million tonnes.

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Table II.35: Vegetable Oil Imports by Major Importing Countries

Imports	2012-13	2013-14	2014-15	2015-16	2016-17	Y-o-Y Change	
						Quantity	Percentage
Other	20.33	22.18	22.74	22.71	23.73	1.0	4.49
India	10.73	11.57	14.2	15.06	16.34	1.3	8.50
European Union	9.95	9.98	9.53	9.88	9.74	-0.1	-1.42
China	10.84	9.1	8.63	7.81	8.38	0.6	7.30
United States	3.8	4.02	4.23	4.54	4.49	0.0	-1.10
Pakistan	2.3	2.84	2.98	3.2	3.58	0.4	11.88
Egypt	1.92	2.08	2.25	2.4	2.35	0.0	-2.08
Bangladesh	1.44	1.68	1.79	2.13	2.07	-0.1	-2.82
Turkey	1.35	1.46	1.53	1.38	1.63	0.3	18.12
Malaysia	1.5	0.85	1.68	1.53	1.47	-0.1	-3.92
Iran	1.45	1.6	1.14	1.1	1.22	0.1	10.91
Total	65.6	67.37	70.68	71.74	74.98	3.2	4.52

Source: USDA.

FAO forecasts the total vegetable oil (including fish and animal oil) imports in 2016-17 at 86.1 million tonnes, which is 3 million tonnes more than in 2015-16. Most of the increase is expected to be in India and China. Malaysia and Indonesia account for most of the increase in exports, mostly palm oil.

Oilseed Meal

According to USDA, the world's oilseed meal exports (which do not include fish meal) in 2016-17 are expected to increase by around 5 million tonnes to 91.7 million tonnes, with most of the increase expected to be in soybean meal and sunflower seed meal. The growth in exports is expected to be concentrated in South America (provided the current soybean production forecasts materialise), as well as in the USA and India. South America's export expansion would be led by Argentina and Brazil (Table II.36).

With regard to oil meal imports, Asian countries would continue to dominate demand. However, in China, the purchases are forecast to rise by only 2 per cent, the lowest rate in four years. The slowdown would stem from the anticipated rebound in domestic soy production, continued sales from state stockpiles, and faltering growth in local meal demand. Robust growth in import demand is expected to continue in other Asian countries. As regards the developed countries, the anticipated tightening in the domestic supplies of rapeseed meal in the EU could propel overseas purchases upwards (Table II.37).

Table II.36: Protein Meal Exports by Country (Million Tonnes)

Country	2012-13	2013-14	2014-15	2015-16	2016-17	Y-o-Y Change	
						Quantity	Percentage
Argentina	24.0	25.4	29.2	31.0	33.3	2.28	7.35
Brazil	13.2	14.0	14.4	15.4	15.5	0.09	0.58
Other	18.2	18.4	15.3	13.5	14.9	1.36	10.05
United States	10.5	10.8	12.1	11.2	11.2	0.02	0.18
Ukraine	3.1	3.8	3.7	4.4	5.2	0.88	20.23
Indonesia	3.8	3.9	4.3	4.2	4.5	0.26	6.13
Canada	3.7	3.7	3.9	4.4	4.3	-0.09	-2.06
Paraguay	2.2	2.5	2.5	2.7	2.7	0.05	1.87
Total	78.6	82.4	85.5	86.8	91.7	4.84	5.57

Source: USDA.

Table II.37: Oilseed Meal Imports by Country (Million Tonnes)

Country	2012–13	2013–14	2014–15	2015–16	2016–17	Y-o-Y Change	
						Quantity	Percentage
Other	31.5	34.6	34.1	35.5	36.0	0.4	1.15
European Union	23.4	24.6	25.3	25.6	27.6	2.1	8.06
Vietnam	3.7	4.0	5.2	5.3	5.8	0.5	9.45
Indonesia	3.6	4.2	4.0	4.4	4.8	0.4	9.50
United States	3.4	3.8	3.9	4.1	4.0	-0.1	-1.23
Thailand	3.3	3.1	3.7	3.0	3.6	0.6	21.62
Korea, South	3.5	3.7	3.4	3.4	3.6	0.1	3.80
Philippines	2.0	2.4	2.3	2.6	2.8	0.2	7.72
Total	74.4	80.4	81.7	83.8	88.2	4.3	5.15

Source: USDA.

FAO forecasts the protein meal trade to grow only moderately in 2016–17. Thanks to ample supplies and competitive prices, soybean meal should continue to drive expansion, aided by sunflower meal. Moderate rises are also expected for the other meals, except rapeseed meal, which could tumble to a four-year low in transactions.

Sugar

ABARES forecasts the world sugar exports in 2016–17 to touch 60 million tonnes, up from around 58 million tonnes in 2015–16. This is largely based on an expected increase in sugar production in Brazil and on Thailand's carry-over stocks increasing the exportable supplies. Strong import demand from the USA and Indonesia is expected to support higher exports from the major exporting countries. Brazilian sugar exports are forecast to increase by 9 per cent in 2016–17 to reach 30.5 million tonnes, reflecting an expected increase in Brazil's sugar production and a strong import demand from Indonesia. Sugar exports from Thailand are forecast to reach a record of around 9 million tonnes in 2016–17, up from 8.6 million tonnes in 2015–16. This forecast is based on increased exportable supplies and higher import demand from the USA and Indonesia. Although domestic production is forecast to decline, carry-over stocks from 2015–16 are expected to increase the supply available for export. Sugar exports from the EU are forecast to remain at around 1.4 million tonnes in 2016–17, the maximum permitted under its World Trade Organisation obligations. Sugar imports into the EU are forecast to fall by 2 per cent to 3 million tonnes because of higher domestic production. Sugar exports from India are forecast to almost halve in 2016–17 to 1.5 million tonnes, reflecting the forecast of a decline in domestic production and an expected increase in domestic consumption. Sugar imports into China are forecast to decline by 6 per cent in 2016–17 to 6.3 million tonnes, reflecting the forecast for higher domestic production. Sugar imports into Indonesia are forecast to increase by 10 per cent in 2016–17 to 4.3 million tonnes as domestic sugar consumption increases faster than production.

II.3.4 Most Commodity Stocks Rise

Wheat

According to USDA, global wheat ending stocks in 2016–17 are forecast to increase to a record level of 252 million tonnes from 240.6 million tonnes in 2015–16. Most of the increase is in China, the EU, the United States and Iran. A significant increase in stocks is projected for Russia from 5.6 to 10.1 million tonnes. In India, the stocks are forecast to plummet to 11.0 million tonnes from 14.5 million tonnes during the previous year, signifying a continuous decline since 2012–13. The ending stocks are also projected to

ABARES forecasts the world sugar exports in 2016–17 to touch 60 million tonnes, up from around 58 million tonnes in 2015–16.

According to USDA, global wheat ending stocks in 2016–17 are forecast to increase to a record level of 252 million tonnes from 240.6 million tonnes in 2015–16.

Global rice ending stocks in 2016–17 are projected by USDA to reach 120.2 million tonnes, the highest in recent years and about 4 million tonnes more than the ending stocks in 2015–16.

USDA projects the 2016–17 ending stocks of coarse grains at 255 million tonnes, 10 million tonnes more than the figures achieved a year ago.

The ending stocks of pulses in Canada in 2016–17 are projected at 1.2 million tonnes, almost three times the stocks recorded a year ago.

USDA projects the 2016–17 carryover stocks of total oilseeds at 94.6 million tonnes, which is a record high figure.

decline sharply in the EU from 14 million tonnes to 10.3 million tonnes.

ABARES forecasts the world's wheat stocks to reach a record 231 million tonnes in 2016–17, 7 per cent higher than the closing stocks in 2015–16. Despite rising global consumption, increased production is expected to result in a continuous rise in closing stocks. In 2015–16, China was estimated to hold more than one-third of the world's stocks. Stocks in China are forecast to grow by 15 per cent in 2016–17 to reach more than 90 million tonnes. This would be the largest volume of stocks held by China since 1999–2000. Closing stocks in the USA have been growing since 2013–14 and are expected to reach 30 million tonnes in 2016–17, the highest in almost 30 years. The rate at which global stocks are increasing is expected to outstrip the growth of global consumption, leading to a forecast of a rise in the stocks-to-use ratio.

IGC also forecasts that the 2016–17 ending stocks of wheat would increase to 235 million tonnes from 222 million tonnes a year ago. FAO projects the 2016–17 ending stocks of wheat to touch 234.6 million tonnes, which is 13 million tonnes more than the stocks achieved in 2015–16.

Rice

Global rice ending stocks in 2016–17 are projected by USDA to reach 120.2 million tonnes, the highest in recent years and about 4 million tonnes more than the ending stocks in 2015–16. Most of the increase in rice stocks is expected to be in China (up by 5.6 million tonnes) but in most other countries, including India, the stocks are projected to decline. At 118 million tonnes, the aggregate rice inventories are predicted by IGC to expand by 2 per cent on a y-o-y basis, as a slight drawdown in reserves in leading exporters is more than offset by increases elsewhere. FAO projects the world's rice ending stocks in 2016–17 to be 169.9 million tonnes, 1 million tonnes lower than the stocks of a year ago. The forecast by ABARES of rice ending stocks in 2016–17 is 115 million tonnes, 5 million tonnes more than the corresponding figures of 2015–16.

Coarse Grains

USDA projects the 2016–17 ending stocks of coarse grains at 255 million tonnes, 10 million tonnes more than the figures achieved a year ago. Most of the increase is in the USA, where the stocks rose by about 17 million tonnes to 65 million tonnes, which was partly offset by the decline in China and the EU. FAO forecasts a decline in global coarse grain stocks in 2016–17 to 257.2 million tonnes from 261.5 million tonnes in 2015–16. The IGC's projection of the ending stocks of coarse grains in 2016–17 is 269 million tonnes, up by 16 million tonnes from the stocks available a year ago.

Pulses

The ending stocks of pulses in Canada in 2016–17 are projected at 1.2 million tonnes, almost three times the stocks recorded a year ago, which were estimated at 309,000 metric tonnes. Most of the increase in these stocks is in dry peas and lentils. In the other producing countries too, the carryover stocks in 2016–17 are expected to be higher than those achieved during the previous year because of higher production.

Oilseeds

USDA projects the 2016–17 carryover stocks of total oilseeds at 94.6 million tonnes, which is a record high figure and 5.6 million tonnes more than that achieved in 2015–16. Most of the increase is in the USA, partly offset by the decline in China. The increase in soybeans, estimated at 82.8 million tonnes, also signifies a rise of 5.5 million tonnes from the previous year. IGC, which covers only soybeans, projects an increase of 4 million

tonnes in the soybean carryover stocks in 2016–17 to 38 million tonnes, which is significantly below the USDA projection. ABARES is forecasting a decline in soybean stocks in 2016–17.

Vegetable Oils

USDA projects the vegetable oil ending stocks in 2016–17 to reach 18 million tonnes, which is 1.5 million tonnes lower than the ending stocks of the previous year, with most of the decline witnessed in rapeseed oil and soybean oil. Palm oil stocks are projected to register a marginal increase. The ending stocks in 2016–17 are projected to be less than the level achieved in 2015–16 in China, the EU, and Indonesia.

Oil Meals

USDA forecasts a decline of 0.8 million tonnes in the total ending stocks of oil meals in 2016–17, to touch 13.5 million tonnes, mostly in soymeal in Argentina and Brazil,

Sugar

USDA forecasts the world closing stocks of sugar to decline to 30.8 million tonnes (on a raw value basis) in 2016–17, signifying a decline of about 7 million tonnes from 2015–16. Most of the declines have occurred in China, India, Thailand and the EU. Some increase is forecast in Mexico and Pakistan.

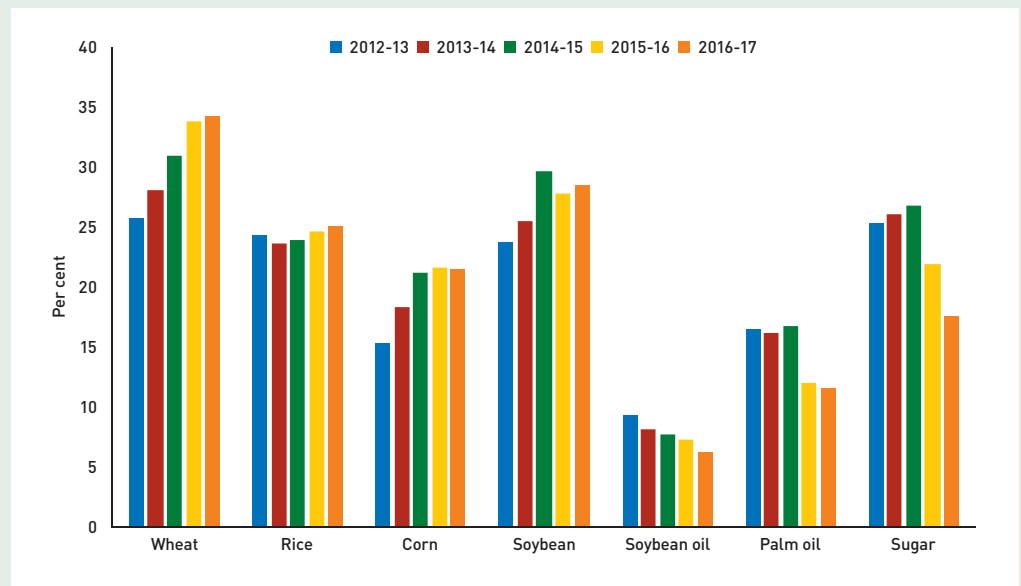
ABARES also forecasts the world closing stocks of sugar to fall by 10 per cent in 2016–17 to 67 million tonnes, reflecting the forecast that the world's consumption of sugar would exceed production for the second consecutive year. If this projection is realised, the forecast for world stocks will be the lowest since 2011–12 when the stocks were 64.4 million tonnes.

Figure II.3 shows the global stocks-to-use ratio (a convenient measure of the supply and demand inter-relationships of commodities) of major commodities. This implies that while the stocks-to-use ratio continues to remain comfortable in the case of wheat, rice, maize and soybeans, the ratio has deteriorated in the case of soybean oil, palm oil, and sugar, making these commodities more vulnerable in case the 2017–18 crop turns out to be lower than that of the previous year.

USDA projects the vegetable oil ending stocks in 2016–17 to reach 18 million tonnes, which is 1.5 million tonnes lower than the ending stocks of the previous year.

USDA forecasts the world closing stocks of sugar to decline to 30.8 million tonnes (on a raw value basis) in 2016–17, signifying a decline of about 7 million tonnes from 2015–16.

Figure II.3: Global Stocks to Use of Major Commodities



	Wheat	Rice	Corn	Soybean	Soybean oil	Palm oil	Sugar
2012-13	25.8	24.5	15.4	23.9	9.3	16.5	25.5
2013-14	28.2	23.8	18.4	25.5	8.2	16.3	26.2
2014-15	31.0	24.0	21.2	29.8	7.8	16.9	26.8
2015-16	33.9	24.8	21.8	27.9	7.4	12.2	22.0
2016-17	34.3	25.2	21.7	28.6	6.4	11.6	17.7

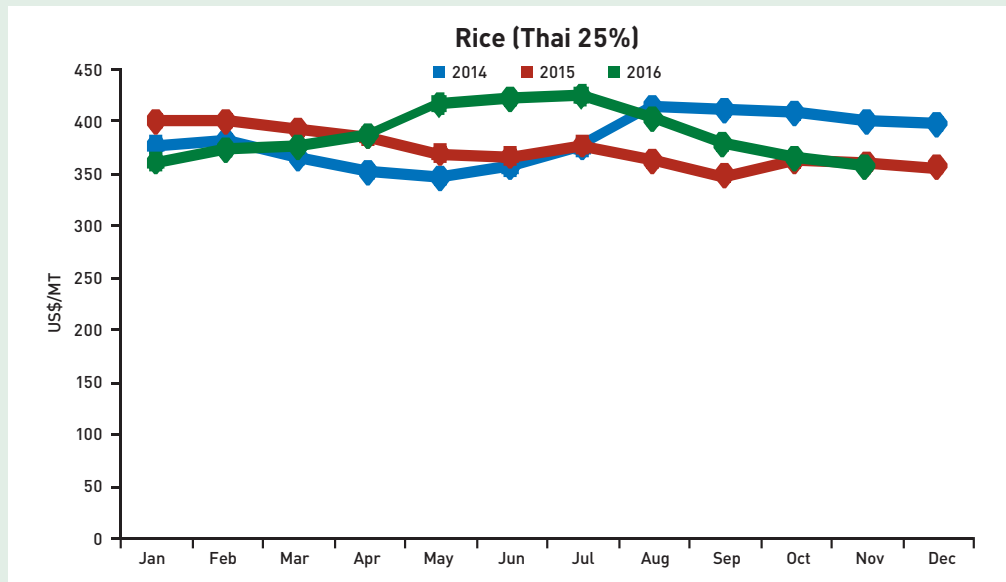
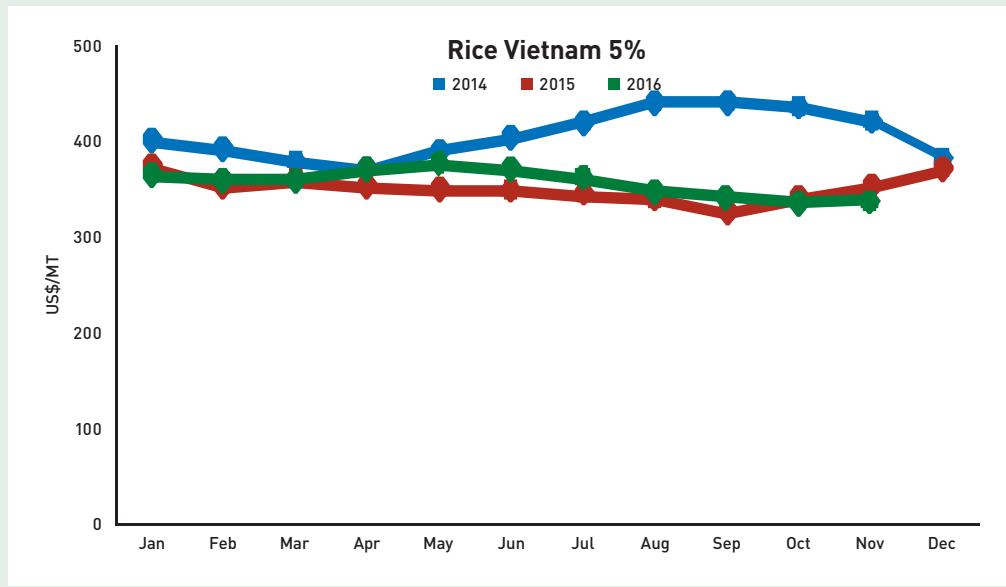
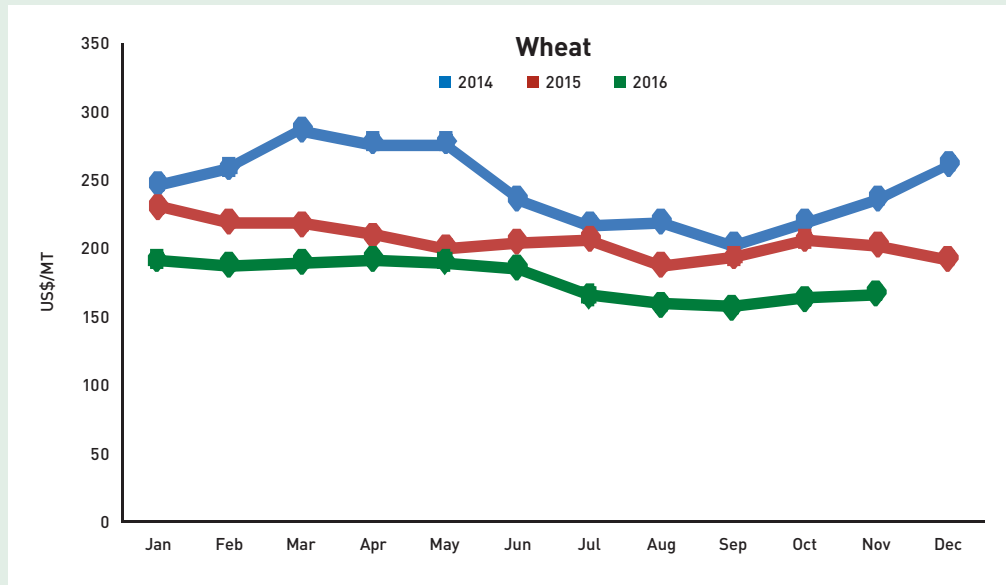
Source: <http://eands.dacnet.nic.in>.

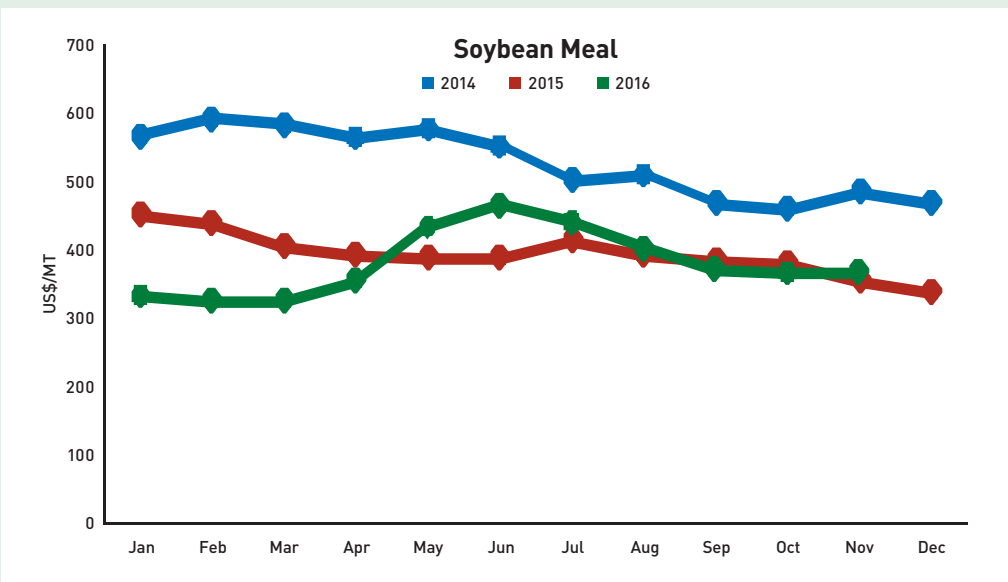
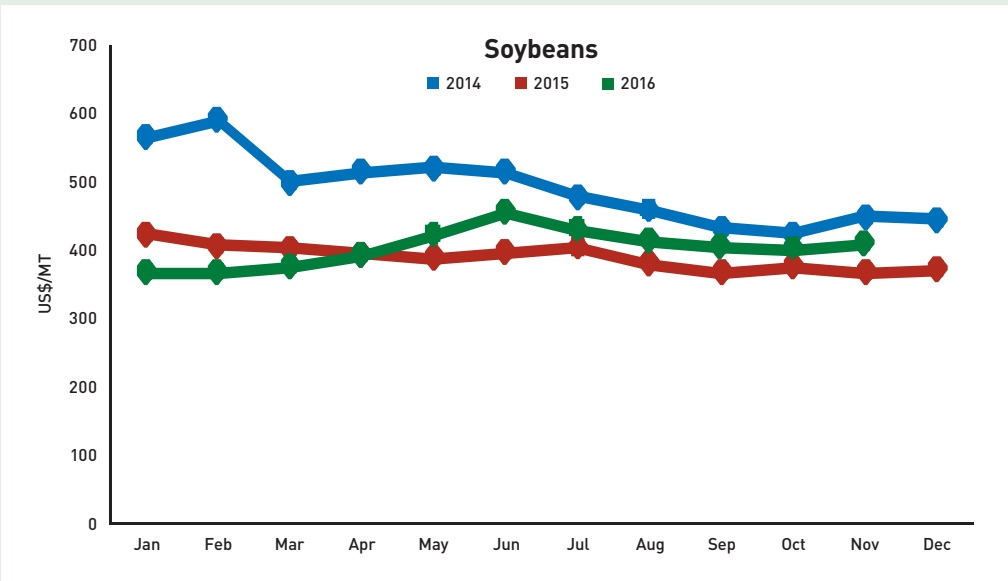
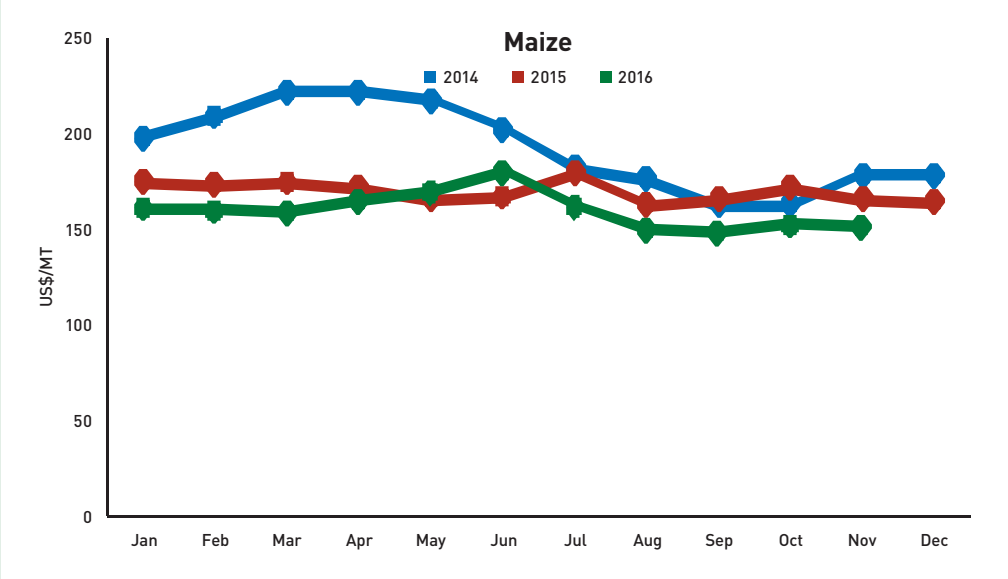
II.3.5 Cereal Prices in 2016-17 Continue to Remain Subdued but Strengthen for Oilseeds and Sugar

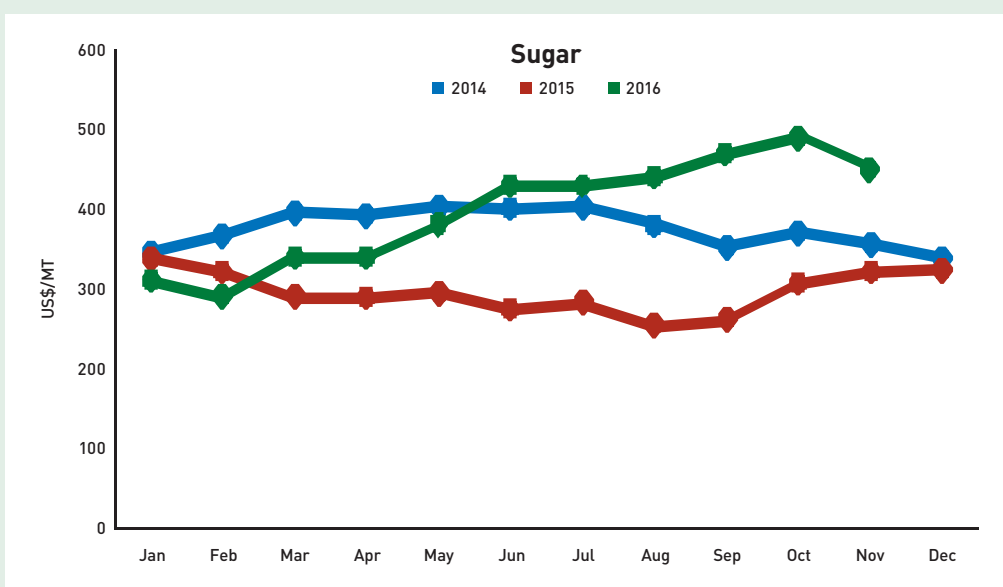
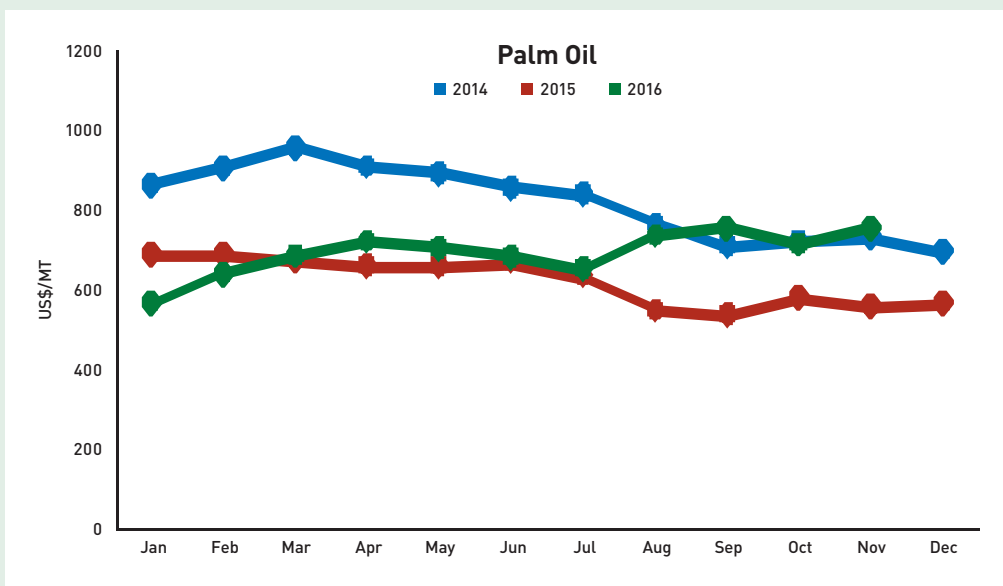
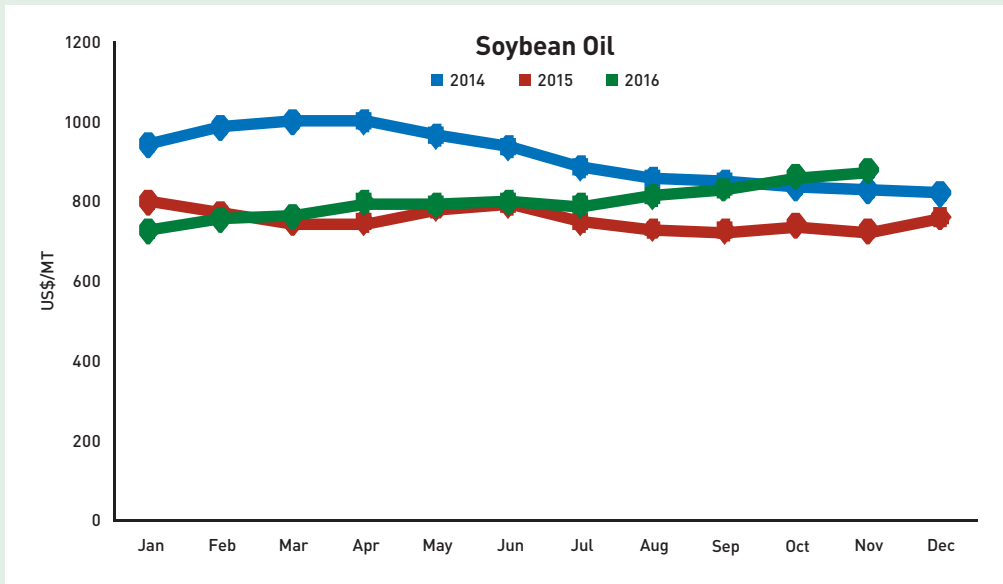
The global prices of most cereals in 2016 remained well below the prices prevalent a year ago. Record or near-record productions in 2015-16 and large carryover stocks, combined with an optimistic production outlook for most crops in 2016-17, are weighing on the international prices of cereals (Figure II.4). However, international indicative prices of most cereals have shown some strengthening in recent months though they are still below the 2015 level.

The global prices of most cereals in 2016 remained well below the prices prevalent a year ago.

Figure II.4: Global Price Trend of Major Commodities (US\$/Metric Tonne)







Source: World Bank.
http://siteresources.worldbank.org/INTPROSPECTS/Resources/334934-1304428586133/pink_data_m.xlsx

The FAO Food Price Index Fell Slightly in November

The FAO Food Price Index averaged 171.3 points in November 2016, which was 0.4 per cent below its October level, but was still 10.4 per cent higher than in November 2015. The small month-to-month decline marked a departure from an almost uninterrupted rising trend in the Index since the start of the year. November's easing was driven by a sharp dip in sugar prices, which more than offset a strong rebound in the prices of vegetable oils.

The FAO Cereal Price Index averaged 141.4 points in November, down by 0.6 per cent from October and by as much as 12 points (7.9 per cent) below the previous year's level. The strengthening of the US dollar and ample supplies contributed to the generally weak tone lingering in cereal markets.

The FAO Vegetable Oil Price Index rose to 175.6 in November 2016, up by 7.6 points (or 4.5 per cent) from October, and marking the highest level since August 2014. The strong rebound was primarily driven by palm oil, whose prices strengthened amid lower than anticipated production in Southeast Asia and prospects of continued global supply tightness. Soybean oil quotations also appreciated, reflecting firm global import demand coupled with below-potential crushing in South America. Prospects of rising demand for vegetable oils from the biodiesel sector also lent support to prices.

The FAO Dairy Price Index averaged 186.4 points in November 2016, up by 3.6 points (1.9 per cent) from October. Quotations rose for Whole Milk Powder (WMP) in particular; and also for butter. Sustained import demand by markets in the Middle East and North Africa, as also China, combined with limited availability from New Zealand, the main world supplier, led to a jump of 9 per cent in the WMP prices.

The FAO sugar price index averaged 287.1 points in November 2016, down by nearly 28 points (8.9 per cent) from October, and marking the first decline after increases for six consecutive months. The fall in international sugar prices was largely imputable to a weakening of the Brazilian currency (Real) with respect to the US\$, which stimulated sugar exports from Brazil, the world's largest sugar producer and exporter. Reports of a higher than expected harvest in the Centre South, Brazil's main producing region, also pushed sugar prices downward.

II.3.7 Most Commodity Prices to Firm up Modestly in 2017

Although, on an average, the Agricultural Price Index is expected to remain broadly stable in 2017, the outlook for its components varies depending on supply conditions (Table II.38).¹⁹ A small increase of 1.5 per cent in the Food Price Index largely reflects an anticipated 2.9 per cent rebound in the prices of grains. This is expected to be a correction from the price decline in 2016, which resulted from larger-than-expected crops of maize in the USA, and of wheat in Australia and Central Asia. Upside risks to the agricultural price forecasts include worsening weather conditions in South America and East Asia, and a larger-than-expected increase in energy prices, a key cost component. Risks of disruptions from the La Niña weather pattern are limited. The downside price risks include the possibility of increased agricultural subsidies, which would encourage greater supplies as well as a diminished diversion of food commodities to the production of biofuels.

19. <http://pubdocs.worldbank.org/en/143081476804664222/CMO-October-2016-Full-Report.pdf>.

Table II.38: World Bank Commodities Price Forecasts, Nominal U.S. Dollars per MT

Type of Oil	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	Y-o-Y Percentage Change in 2017 over 2016
Palm oil	600	619	640	660	682	704	727	750	775	800	3.2
Soybean meal	370	381	392	404	415	428	440	453	466	480	3.0
Soybean oil	775	797	820	844	868	893	919	945	972	1000	2.8
Soybeans	400	412	424	437	449	463	476	491	505	520	3.0
Maize	170	175	180	185	191	196	202	208	214	220	2.9
Rice, Thailand, 5 per cent	370	374	379	383	387	392	396	401	405	410	1.1
Wheat, US, HRW	185	193	201	210	219	228	238	248	259	270	4.3
Sugar	330	320	320	320	320	310	310	310	310	300	-3.0

Source: http://siteresources.worldbank.org/INTPROSPECTS/Resources/334934-1304428586133/Price_Forecast_Jan14.pdf.

The latest ABARES forecasts of commodity prices are detailed below.

In 2016–17, the world's wheat indicator price (US no. 2 hard red winter, fob Gulf) would be predicted to average at US\$ 190 a tonne, as compared with US\$ 212 a tonne in 2015–16. If realised, this will be the lowest annual average price in real terms since 2001–02.

According to FAO, in the short run, international rice quotations could remain under downward pressure, as the main crop harvests gather pace in the northern hemisphere in the next few months. Still, much is likely to hinge on the demand-side factors. Depreciated currencies and generally adequate domestic availabilities dampen expectations of marked improvements in the demand for imports.

The world's coarse grain indicator price (US no. 2 yellow corn, fob Gulf) is forecast to fall by 6 per cent in 2016–17 to US\$ 156 a tonne. From July 2015 to May 2016, the corn prices averaged at US\$ 166 a tonne, 5 per cent lower than during the same period the previous year. This forecast is expected to be applicable for 2016–17 too as growth in the world's coarse grain production is expected to help maintain ample world supplies.

The world's oilseed indicator price (US no. 2 soybeans, fob Gulf) is forecast to rise by 8 per cent in 2016–17 to average at US\$400 a tonne. This forecast of price rise largely reflects a second year of declining world oilseed stocks and is underpinned by the forecast for lower closing stocks of soybeans in major exporting countries and robust demand for soybean imports from China.

Among the major globally traded pulses in 2016–17, the prices of Canadian dry peas are forecast to range from Canadian \$ 260 to 290 per metric tonne, significantly down from the 2015–16 average price of Canadian \$ 365 per tonne, indicative of a record production despite a decline in the carry forward stocks from the previous season. Similarly, the Canadian lentil prices are also forecast to plummet to Canadian \$ 585–615 from a record average price of Canadian \$ 965 per tonne, again due to record production. The prices of chickpeas are forecast to touch an average of Canadian \$ 900 to 930 per tonne, significantly higher than the average 2015–16 prices of Canadian \$ 815 per tonne.

The prices of most pulses in Myanmar are likely to remain stable or soften due to the expected larger crop and larger global supplies.

Large wheat imports would become necessary, either on private account or on government account in view of the shortfall in wheat stocks with the government.

The larger global supplies of pulses in the major exporting countries and a decline in international prices for most pulses should also benefit India.

Due to record global rice production and stocks, and higher production in most countries, Indian non-basmati rice will face increased competition in the global market in 2016–17.

Indian soymeal exports are set to make a comeback in the world market after two years of a poor showing.

II.3.8 Implications for India

The current global agricultural outlook scenario, characterised by abundant supplies of wheat, rice, maize, and a larger than normal supply of pulses but likely higher prices for vegetable oils, and sugar, points to mixed blessings for India, which is a major exporter of rice, wheat, maize, sugar and soybean meal, and importer of vegetable oils and pulses.

Large wheat imports would become necessary, either on private account or on government account in view of the shortfall in wheat stocks with the government, strengthening domestic wheat prices in recent months, and the likely higher wheat and rice offtake from government stocks, as most states have started implementing the National Food Security Act. In order to facilitate wheat imports by private traders and flour mills, the government abolished the wheat import duty on December 8, 2016. In this context, the prevailing lower global prices for wheat should prove beneficial for India.

The larger global supplies of pulses in the major exporting countries and a decline in international prices for most pulses should also benefit India. With the expected large domestic pulse production this year, the quantity of pulse imports is also likely to decline in both quantity and value. The larger Indian pulse crop will have a sobering impact on global pulse prices. There could be a small window of opportunity for exporting small quantities of high quality pulses such as kabuli chana from India.

Due to record global rice production and stocks, and higher production in most countries, Indian non-basmati rice will face increased competition in the global market in 2016–17 from Thailand, Vietnam, and Burma. However, there have been some positive developments which herald cause for optimism for Indian rice exports. Indonesia is reportedly working on signing an MoU for imports of rice from India. Details about the quantities and prices are not available. In another positive development, China has agreed to provide market access for Indian rice, including both non-basmati and basmati varieties, from 17 registered mills in India, following the Indian Government's efforts to ensure market access for Indian products in China. India had repeatedly sought market access for items including non-basmati rice, pharmaceuticals and many fruits and vegetables among others, citing the country's widening goods trade deficit with China. Although China is the world's largest rice importer, the Chinese Government had so far not granted market access to India's non-basmati rice, claiming that the item had failed to meet Chinese norms on quality, health and safety. Its apprehensions included the possibility of the khapra beetle (or cabinet beetle) pest getting transported along with Indian non-basmati rice consignments to China. The Egyptian Government has reportedly stated that it will look to import 500,000 tonnes of rice in order to boost strategic stocks and keep prices down. India has reportedly expressed interest in providing Egypt with any amount of high-quality Indian rice at competitive prices.

According to trade sources, aided by weakening of the Indian currency against the US dollar and lower domestic prices, Indian soymeal exports are set to make a comeback in the world market after two years of a poor showing.

As India is unlikely to import sugar during the 2016–17 season despite a drop in production, the higher sugar prices forecast for 2017 are unlikely to impact India. Although there is an opportunity for India to export sugar, the imposition of a 20 per cent export duty on sugar in a bid to rein in domestic sugar prices, will preclude sugar exports from India.

The prevailing low domestic prices for onion present an opportunity for the export of onion, provided no export-restrictive measures such as the levy of a Minimum Export Price or export duty are imposed by the Government.

Notes

Most recent detailed country by country analysis of the commodity situation and outlook which we have used in this report are:

Food and Agriculture Organization of the United Nations

FAO Cereal Supply and Demand Brief December 2016

<http://www.fao.org/worldfoodsituation/csdb/en/>

Food Outlook, October 2016

<http://www.fao.org/3/a-i6198e.pdf>

International Commodity Prices

<http://www.fao.org/worldfoodsituation/foodpricesindex/en/>

<http://www.fao.org/giews/pricetool/>

OECD/FAO Agricultural Outlook Report 2016–2015

OECD/FAO (2016), OECD-FAO Agricultural Outlook 2016–2025, OECD Publishing, Paris.

DOI: http://dx.doi.org/10.1787/agr_outlook-2016-en

Oil crops Food Outlook port October 2016

http://www.fao.org/fileadmin/templates/est/COMM_MARKETS_MONITORING/Oilcrops/Documents/Food_outlook_oilseeds/Oct_2016_oilcrops_food_outlook.pdf

Rice- Market Monitor Report

<http://www.fao.org/economic/est/publications/rice-publications/rice-market-monitor-rmm/en/>

United States Department of Agriculture – Foreign Agricultural Service

Grain: World Markets and Trade December 2016

Oilseeds: World Market and Trade December 2016

Dairy: World Market and Trade July 2016

<https://www.fas.usda.gov/commodities>

Canada: Outlook for Principal Field Crops, December 2016

<http://www.agr.gc.ca/eng/industry-markets-and-trade/statistics-and-market-information/by-product-sector/crops-industry/outlook-for-principal-field-crops-in-canada/canada-outlook-for-principal-field-crops-2016-12-21/?id=1482940873764>

International Grains Council (IGC)

Grain Market Report, November 2016

<http://www.igc.int/en/downloads/gmrsummary/gmrsumme.pdf?>

ABARES

Agricultural Commodities Outlook, September Quarter 2016

http://www.agriculture.gov.au/abares/publications/display?url=http://143.188.17.20/anrd1/DAFFService/display.php?fid=pb_agcomd9abcc20160920_TTncR.xml

Australian Crop Report December 2016

http://www.agriculture.gov.au/abares/publications/display?url=http://143.188.17.20/anrd1/DAFFService/display.php?fid=pb_aucrpd9aba_20161206_CNWym.xml



World Bank

Commodity Markets

<http://www.worldbank.org/en/research/commodity-markets>.

PART III

Outlook for 2016–17 Rabi Crops Mixed

III.1 Rice

III.1.1 2016–17 Kharif Rice Production, a Record

The occurrence of near-normal monsoon rains in 2016 after two consecutive poor monsoon rains in 2014 and 2015, combined with various pro-farm programmes initiated by the government, helped herald a significant recovery in the Kharif season rice production in 2016–17. According to the Ministry of Agriculture's 1st AE, 2015–16, (MY 2016–17) the Kharif rice production achieved was 93.88 million tonnes, which is a record, as compared to the 91.31 million tonnes achieved in 2014–15 (MY 2015–16).

III.1.2 Rabi Rice Production Outlook Mixed

Rabi rice is normally sown during the period November to February and harvested during the period March to June. The area under Rabi rice in recent years has ranged from 4.0 to 4.8 million hectares (about 7 to 9 per cent of the total area under rice cultivation in the country). It is known by different names in different states: Boro in Assam and West Bengal, Dalua in Odisha, Dalwa in Andhra Pradesh, Punja in Kerala, Navarai in Tamil Nadu, and Garma in Bihar. Early maturing varieties are typically planted in the Rabi season. As the water requirement of Rabi rice is more than that of Kharif rice, the horizontal expansion of the area under Rabi rice is not normally encouraged.

Rice planting has been lagging in the ongoing Rabi season in parts of the southern states, with the acreage dipping to 8.44 lakh hectares through mid-December as compared to 11.94 lakh hectares during the corresponding period last year, signifying a decline of close to 30 per cent. Poor North-east monsoon rains in the major Rabi rice-growing areas of South-east and North-east India this year, and lower water tables in irrigation dams and wells, combined with the adverse impact of demonetisation, which temporarily disrupted the supply of farm inputs including labour, might have negatively impacted Rabi rice planting. However, a severe cyclonic storm, Vardah, which hit the South-east coastal regions on December 12, 2016, brought much-needed rains in the water-stressed areas of Tamil Nadu, Andhra Pradesh and Karnataka. These rains are expected to give a fillip to Rabi rice planting as the sowing operation could typically continue for another couple of months. Hence, it is unlikely that the total area under Rabi rice this year will be significantly below last year's level. However, it is unclear whether the cyclonic storm, accompanied by high velocity winds, has caused any significant damage to the standing crop and if so, what the extent of the damage was. Assuming a better than normal yield of about 3,200 kg./ha, Rabi rice production this year is forecast at 13 million tonnes, taking the total 2015–16 rice production to a record 107 million tonnes as compared to 104.3 million tonnes in 2015–16 (4th AE).

III.1.3 Modest Dip in Rice Price

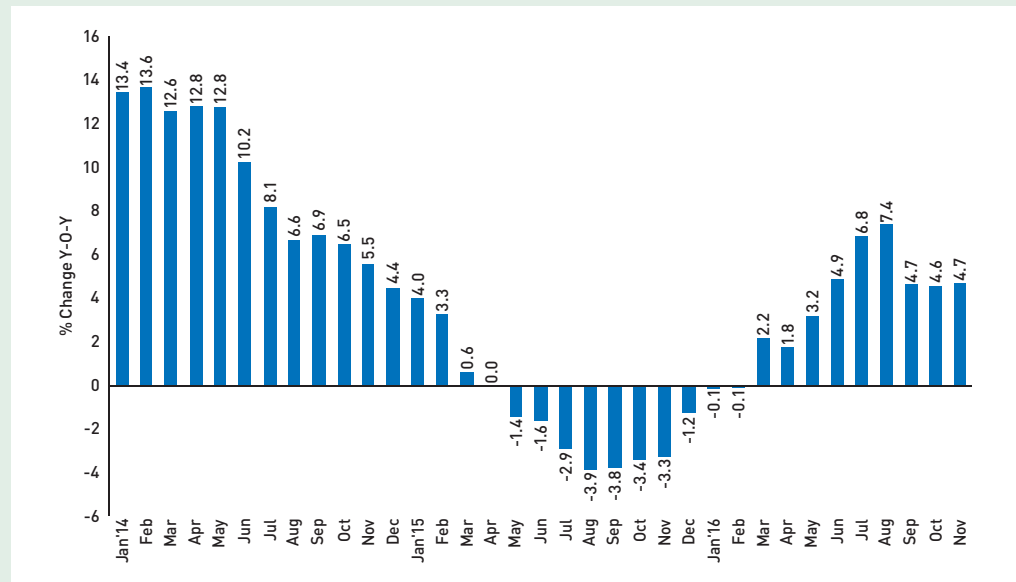
The year-on-year wholesale price index-based rice inflation, after remaining in the negative territory during April 2015 to February 2016, started strengthening, peaking at 7.4 per cent



Rice planting has been lagging in the ongoing Rabi season in parts of the southern states, with the acreage dipping to 8.44 lakh hectares through mid-December.

in August 2016, but declined and stabilised at around 4.6 per cent during the period September through November, coinciding with the harvest of the Kharif crop (Figure III.1.1).

Figure III.1.1: Percentage Year-on-Year Increase in the Rice Wholesale Price Index



Source: Office of Economic Advisor

Rice consumption, based on the food balance sheet analysis, is projected to have increased by around 2.2 per cent in MY 2016–17 to around 94.4 million tonnes. However, this consumption estimate may not be precise as the balance sheet approach does not take into consideration the change in privately-held stocks for which estimates are not available. This projected consumption for 2016–17 is lower than the 2014–15 record consumption.

III.1.4 Exports Likely to Maintain Status Quo

India's rice exports in MY 2015 –16 (October 2015–September 2016) are estimated to have declined to 10.2 million tonnes, almost one million tonnes below the 2014–15 exports. Rice exports from India in 2016–17 will face increased competition from other major exporters such as Thailand, Vietnam, and the relatively new players like Myanmar and Cambodia, and a better supply situation in most rice-importing countries. Nevertheless, rice shipments out of India in 2016–17 are likely to be more or less the same as in 2015–16, enabling the country to still retain its position as the world's largest exporter. Its closest rival, Thailand, is potentially set to export around 9.5 million tonnes in 2017, followed by Vietnam, Pakistan and the USA.

There has been a recovery in the export demand for both basmati and non-basmati rice, largely due to competitive prices (Figure III.1.2), and the revival of demand for non-basmati rice in African countries. If Nigeria, which is traditionally an important market for Indian rice, sorts out its licence issues and comes back into the market, India's exports should increase further. India's main export markets for long grain rice are mainly West Africa, and to a lesser extent, South Africa. For basmati, India's main target markets are Saudi Arabia, UAE, Iran and the Gulf. If China starts buying Indian rice under the newly worked out phytosanitary modality,²⁰ and Indonesia, under the proposed bilateral agreement,²¹ rice

20. <http://www.thehindu.com/business/Economy/China-agrees-to-import-rice-from-17-mills-in-India/article16680955.ece#/>

21. <http://www.deccanchronicle.com/business/in-other-news/010216/india-set-to-ink-rs-3-000cr-rice-export-deal-with-indonesia.html>

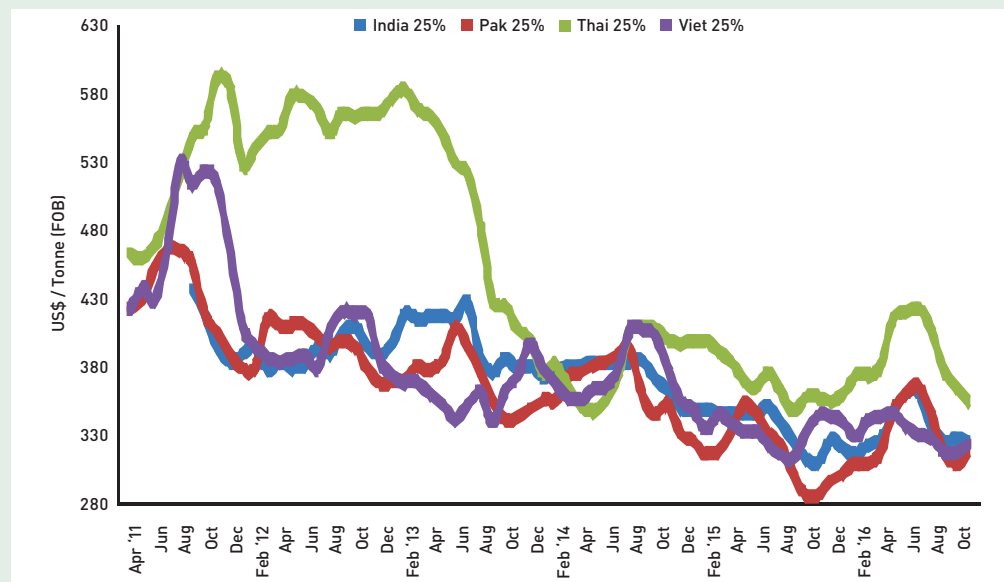
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exports in 2016–17 could increase further. However, Prime Minister Narendra Modi's announcement on November 8, 2016, that larger denomination bank notes would immediately cease to be legal tender, has disrupted the market and could potentially stall exports temporarily.

Figure III.1.2: Rice Export Price – India vis-a-vis International



Source: FAO.

Table III.1.1: Government Operations in Rice

[October 2015– September 2016]	Beginning Stocks (MMT)	Government Procurement (MMT)	MSP for Paddy (Rs per MT)		PDS Monthly Offtake*	PDS Issue Price for Milled Rice (Rs per MT)			Ending Stocks MMT
			Common	Grade A		APL Grade A	BPL	AAY	
2003–04	5.2	22.9 (25.9)	5,500	5,800	2.092	8,300	5,650	3,000	6.1
2004–05	6.1	24.7 (29.7)	5,600	5,900	1.733	8,300	5,650	3,000	4.8
2005–06	4.8	27.6 (30.1)	5,700	6,000	2.000	8,300	5,650	3,000	6.0
2006–07	6.0	25.1 (26.9)	6,200	6,500	2.067	8,300	5,650	3,000	5.5
2007–08	5.5	28.7 (29.7)	7,450	7,750	2.100	8,300	5,650	3,000	7.9
2008–09	7.9	34.1 (34.4)	9,000	9,300	2.058	8,300	5,650	3,000	15.3
2009–10	15.3	32.0 (35.9)	10,000	10,300	2.300	8,300	5,650	3,000	18.4
2010–11	18.4	34.2 (35.6)	10,000	10,300	2.494	8,300	5,650	3,000	20.4
2011–12	20.4	35.0 (33.2)	10,800	11,100	2.847	8,300	5,650	3,000	23.4
2012–13	23.4	34.0 (32.3)	12,500	12,800	2.711	8,300	5,650	3,000	23.1
2013–14	23.1	31.9 (29.9)	13,100	13,450	2.420	8,300	3,000 #	3,000 #	18.6
2014–15	18.6	32.1 (30.6)	13,600	14,000	2.964	8,300	3,000 #	3,000 #	14.2
2015–16	14.2	34.2 (32.8)	14,100	14,500	2.650	8,300	3,000 #	3,000 #	15.9
2016–17 F	15.9	36.0 (33.6)	14,700	15,100	2,800	8,300	3,000 #	3,000 #	18.0

Notes: * Fiscal year basis; # Under NFSA; F Forecast; APL- Above Poverty Line; BPL - Below Poverty Line
Figures in parentheses indicate the percentage figures for production.

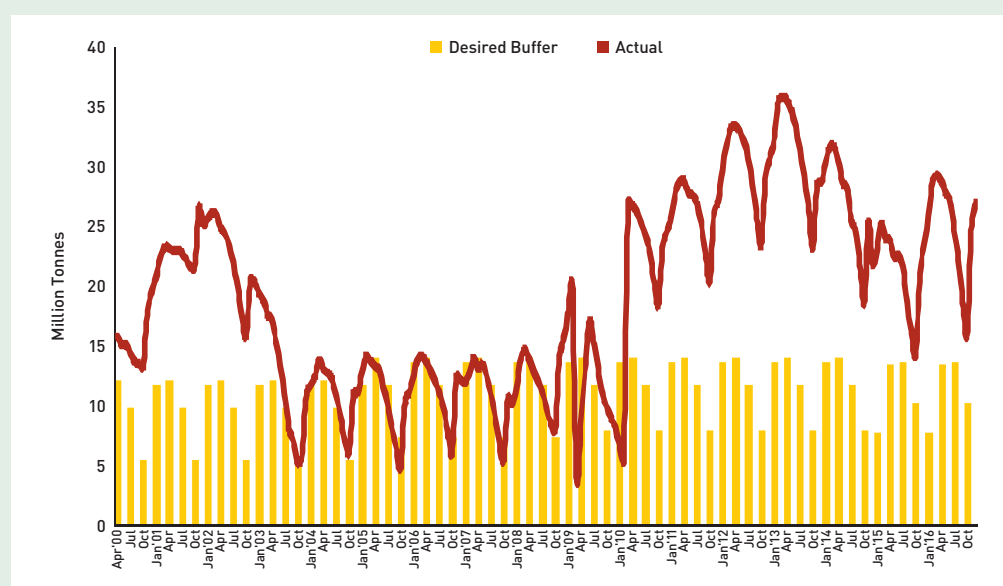
Source: Department of Food and Public Distribution and Food Corporation of India.

Government-held rice stocks by the end of MY 2016–17 on October 1, 2017, are projected to increase to around 18 million tonnes.

III.1.5 Stocks are Comfortable

Government rice stocks (including the milled rice equivalent of 23.73 million tonnes of unmilled paddy rice) on December 1, 2016, stood at 26.9 million tonnes, up by 14.5 per cent from 23.5 million metric tonnes (including the milled rice equivalent of 20.4 million tonnes of paddy rice) a year ago, and well above the required buffer and strategic stocks norm of 8.6 million tonnes for January 1 (Figure III.1.3). The increase in stocks was mainly due to a 2.1 million tonnes increase in rice procurement in MY 2015–16 over the previous year at 34.2 million tonnes and lower offtake through the PDS. With a larger rice crop forecast for MY 2016–17 and likely larger government rice procurement, government-held rice stocks by the end of MY 2016–17 on October 1, 2017, are projected to increase to around 18 million tonnes.

Figure III.1.3: Government-held Rice Stocks vis-à-vis Desired Buffer + Security Stocks



Source: <http://dfpd.nic.in/basic-plan-overview.htm>

Table III.1.2: Supply and Demand Balance for Rice (1000 Tonnes)

Particulars	2014–15	2015–16 E	2016–17 F
	October 2014– September 2015	October 2015– September 2016	October 2016– September 2017
Production	1,05,480	1,04,320	1,07,000
Beginning Stocks (with government)	18,600	14,200	15,900
Imports	0	0	0
Total Supply	1,24,080	1,18,520	1,22,900
Exports	11,200	10,200	10,500
Food Use	96,680	90,420	92,400
Seed, Feed, Waste, Other	2,000	2,000	2,000
Total Use 1/	98,680	92,420	94,400
Ending Stocks (with government)	14,200	15,900	18,000
Total Distribution	1,24,080	1,18,520	1,22,900
Stocks to Use Ratio per cent	14.4	18.6	19.0

Note: Stocks are only government stocks. Total use is the residual and includes private stocks change. E- Estimate; F- Forecast. 1/ Residual, includes PDS and other programs +storage losses

Assessment

Despite some setback to the Rabi rice production outlook, the total MY 2016–17 rice production is forecast to increase by about 3 million tonnes from the MY 2015–16 drought-impacted production of 104.3 million tonnes. Rice consumption, based on the food balance sheet analysis, is projected to have increased by around 2.2 per cent in MY 2016–17 to around 94.4 million tonnes. Rice price inflation, based on the wholesale price index after remaining in the negative territory during the period April 2015 to February 2016, started strengthening, peaking at 7.4 per cent in August 2016, but declined and stabilised at around 4.6 per cent during the period September through November 2016, coinciding with the harvest of the Kharif crop. Rice exports from India in 2016–17 will face increased competition from other major exporters such as Thailand, Vietnam and the relatively new players like Myanmar and Cambodia, and a better supply situation in most rice-importing countries. Nevertheless, rice shipments out of India in 2016–17 are likely to be more or less the same as in 2015–16, enabling the country to still retain its position as the world's largest exporter. If China starts buying Indian rice under the newly worked out phytosanitary modality, and Indonesia does so under the proposed bilateral agreement, rice exports from India in 2016–17 could increase further. With a larger rice crop forecast for MY 2016–17, and likely larger government rice procurement, government-held rice stocks by the end of MY 2016–17 on October 1, 2017, are projected to increase to around 18 million tonnes.

III.2 Wheat

III.2.1 2017 Wheat Production Outlook is Positive

Despite poor post-monsoon (October–December) rains (which were 45 per cent below the long period average [LPA]), a somewhat lower water table in irrigation dams, and the conundrum created by the demonetisation of Rs. 500 and Rs. 1,000 currency notes in November 2016, which partly disrupted the supplies of farm inputs, farmers have sown more area than normal to the wheat crop. As on December 30, 2016, the area sown to wheat was 29.2 million hectares, which is 2 million hectares (7.7 per cent) more than the area planted during the corresponding period last year and 2 per cent more than the normal planting during this period.

Although wheat sowing is nearing its end, there is still a small window of opportunity to plant wheat, particularly in Uttar Pradesh, where wheat is typically sown after the harvest of the sugarcane crop and could continue through the month of January. However, late planting results in a lower yield potential as the critical flowering period and grain filling stage coincide with rising temperature. Apparently, the higher minimum support price (MSP) for wheat established by the government for MY 2017–18 (Rs. 1,625 per quintal), which is Rs. 100 per quintal higher than the MSP for MY 2016–17, and high open market prices at planting time, might have prompted farmers to bring more area under wheat. Currently, we forecast the total wheat planted area at 31 million hectares and assuming a better than normal yield of about 3,100 kg/ha, 2017 (MY 2017–18), wheat production is forecast at a record level of around 96 million metric tonnes, as compared to the official 4th AE of 93.50 million tonnes in 2016 (MY 2016–17).²² The downward risks are higher temperatures at the critical grain filling stage in February–March, and rains and hail storms at harvest time, which could impact both the quantity and quality of the wheat crop.

Since 2005, India has been registering a more or less steady growth in wheat production,

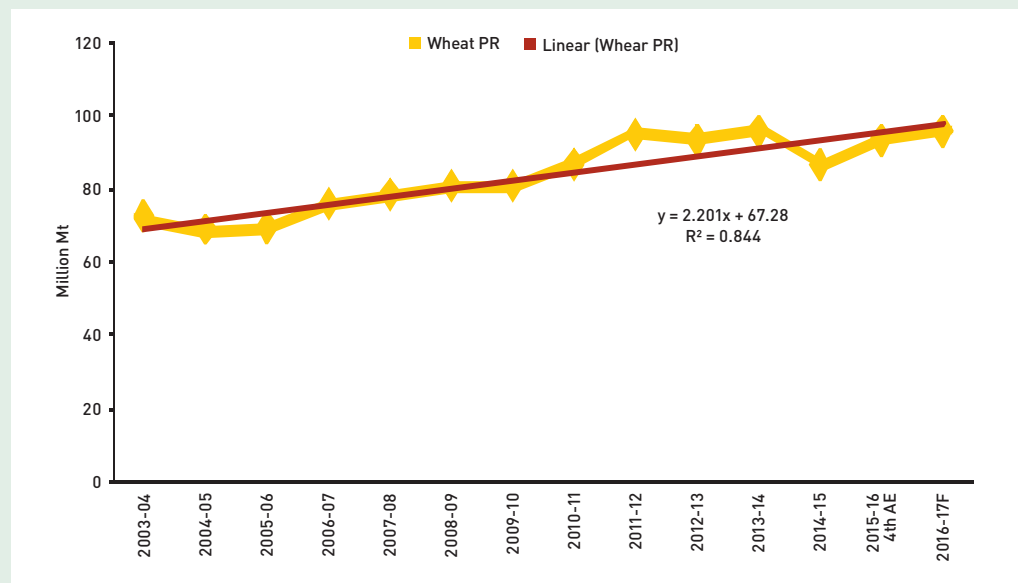
22. Considering the significant decline in wheat procurement by the government at the MSP and continuing high open market prices, private trade sources differ with the government estimate and forecast a much lower production (84 to 87 million tonnes). NCAER's current estimate is 90.7 million tonnes.

The total MY 2016–17 rice production is forecast to increase by about 3 million tonnes from the MY 2015–16 drought-impacted production of 104.3 million tonnes.

Wheat production is forecast at a record level of around 96 million metric tonnes, as compared to the official 4th AE of 93.50 million tonnes in 2016.

except in 2012–13, signifying the stability that the county has achieved in wheat production (Figure III.2.1).

Figure III.2.1: Wheat Production Trend (Production Year Basis)



Source: Ministry of Agriculture; F- NCAER forecast

Wheat consumption in MY 2017–18 is estimated to increase marginally to 100 million tonnes due to the larger availability of wheat in the open market.

III.2.2 Consumption is Up

Based on an analysis of the food balance sheet, wheat consumption in MY 2017–18 is estimated to increase marginally to 100 million tonnes due to the larger availability of wheat in the open market following record production without a corresponding increase in government procurement (Table III.2.1).

Table III.2.1: Government Operations in Wheat

MY (April–March)	Beginning Stocks (MMT)	Government Procurement (MMT)	MSP for Wheat	PDS Monthly Offtake*	Exports	PDS Issue Price Stocks			Ending MMT
			Rs/MT	MMT	MMT	APL	BPL	AAY	
2010–11	16.1	22.5 (25.9)	11,000	1.93		6,100	4,150	2,000	15.3
2011–12	15.3	28.3 (32.0)	11,700	2.02	0.1	6,100	4,150	2,000	20.0
2012–13	20.0	38.1 (40.1)	12,850	2.51	2.973	6,100	4,150	2,000	24.2
2013–14	24.2	25.1 (26.8)	13,500	2.35	2.647	6,100	2,000**	2,000**	17.8
2014–15	17.8	28.0 (29.2)	14,000	2.43	0.327	6,100	2,000**	2,000**	17.2
2015–16	17.2	28.1 (31.6)	14,500	2.65	0	6,100	2,000**	2,000**	14.5
2016–17 E	14.5	23.0 (24.6)	15,250	2.60	0	6,100	2,000**	2,000**	6.5
2017–18 F	6.5	28.0 (29.2)	16,250	2.70	0	6,100	2,000**	2,000**	2.1

Notes: * On Fiscal Year (April–March) basis and includes open market sale.

** Under NFSA

PDS = Public Distribution System; APL = Above Poverty Line

BPL = Below Poverty Line; AAY = Antyodaya Anna Yojana (Poorest of the Poor)

Figures in parentheses show government procurement as a percentage of the production.

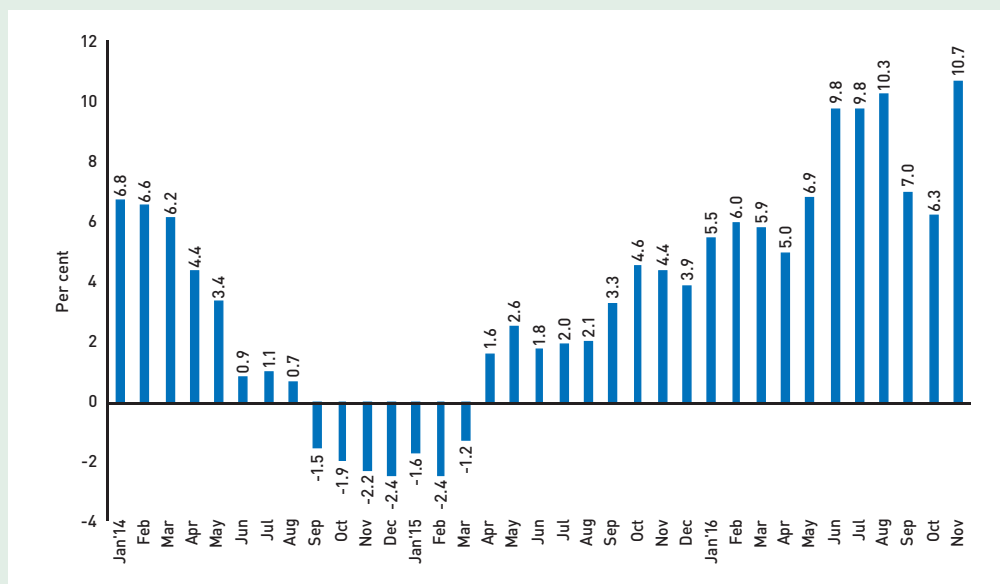
Source: Department of Food and Public Distribution and Food Corporation of India.

III.2.3 Wheat Price Inflation Peaks

Since April 2015, the wheat price y-o-y inflation measured by the WPI experienced a generally upward thrust, peaking at 10.3 per cent in August 2016. Inflation softened in September and October but rose again in November to a new high of 10.7 per cent (Figure III.2.2). This has prompted the government to abolish import duty on wheat effective December 8, 2016, which could result in larger imports by private trade and soften domestic wheat prices as international wheat prices delivered at Indian ports are lower than domestic prices, particularly in the southern states. It is unclear whether imports will be resorted to only by private traders/millers or the government will also import wheat to re-build stocks.

Since April 2015, the wheat price y-o-y inflation measured by the WPI experienced a generally upward thrust.

Figure III.2.2: Wheat Price Inflation: WPI (%Y-o-Y)



Source: Office of Economic Advisor.

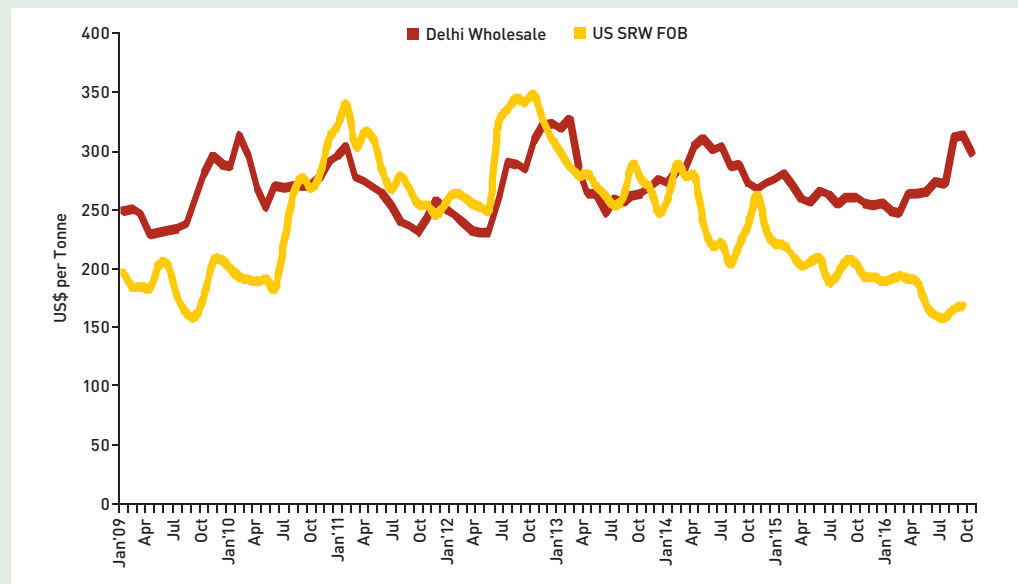
III.2.4 Export Unlikely, Imports to Surge

In view of the domestic and global situation, it is unlikely that India would undertake significant wheat exports in MY 2016–17 and MY 2017–18. Lower wheat stocks with the government, higher domestic prices (Figure III.2.3), combined with low world prices due to a global glut, have led to uncertainty with regard to Indian wheat exports. However, limited wheat exports may take place on a private account. On the other hand, the zero import duty announced by the government may lead to a spurt in wheat imports. According to trade sources, India's wheat imports in MY 2016–17 (April–March) could surge to 5 million tonnes, which is the highest in a decade. In MY 2015–16, India's wheat imports were around 500,000 tonnes.

It is unlikely that India would undertake significant wheat exports in MY 2016–17 and MY 2017–18.

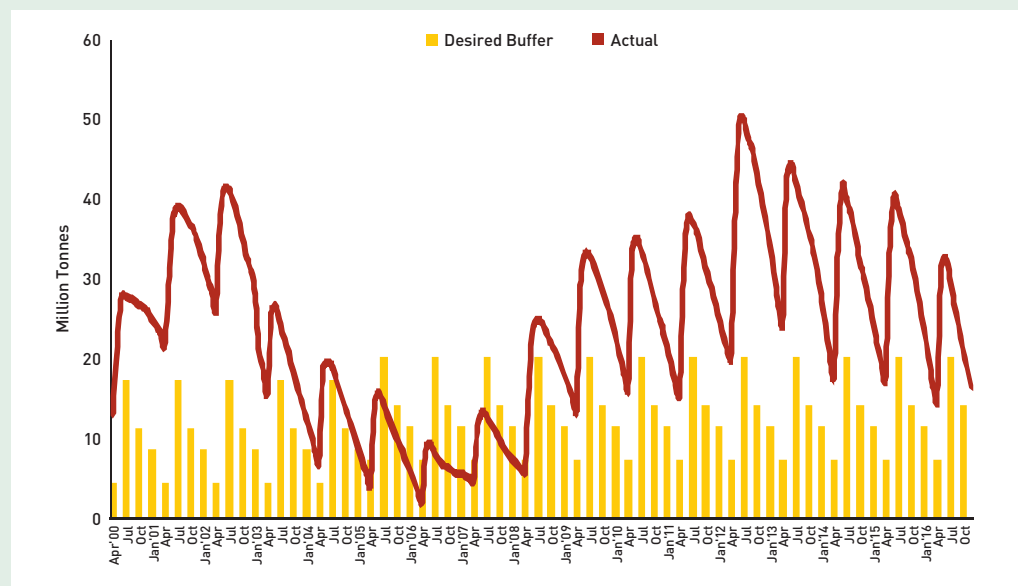
According to trade sources, India's wheat imports in MY 2016–17 (April–March) could surge to 5 million tonnes, which is the highest in a decade.

Figure III.2.3: Indian Wholesale Wheat Price vis-à-vis US SRW Wheat Price FoB



Source: US Price-World Bank; Indian Price-Department of Consumer Affairs.

Figure III.2.4: Stocks Plummet



Source: <http://dfpd.nic.in/basic-plan-overview.htm>.

Following a steep decline in the government wheat procurement in MY 2016–17 and increased offtake through the PDS and open market sale programme, the government's wheat stocks declined to 16.5 million tonnes on December 1, 2016, as compared to 26.9 million tonnes a year ago (Figure III.2.4). With four more months to go before the 2017 crop starts arriving in the market and government procurement operation begins, combined with the likely higher offtake of wheat through the PDS and other programmes during this four-month lean period, government stocks are projected to dip to 6.5 million tonnes on April 1, 2017. This would be the lowest level of April 1 stocks since 2008 and below or close to the desired April 1 stocks of 6.46 million tonnes (operational 4.46 MMT+ strategic 2 MMT). Unless large imports take place in MY 2017–18, stocks could plummet even lower even if the government manages to procure a significantly larger quantity of wheat, say 28 million tonnes, in MY 2017–18.

Government stocks are projected to dip to 6.5 million tonnes on April 1, 2017.

Unless large imports take place in MY 2017–18, stocks could plummet even lower.

Table III.2.2: Supply and Demand Balance for Wheat (1000 Metric Tonnes)

	2014–15 (April–March)	2015–16 (April–March)	2016–17 E (April–March)	2017–18 F (April–March)
Production	95,850	86,530	93,500	96,000
Beginning Stocks (with the Government)	17,830	17,220	14,540	6,500
Imports	30	700	1,000	5,000
Total Supply	1,13,710	1,06,860	1,06,200	1,07,500
Exports	3,000	700	300	500
Food Use	87,490	86,660	93,400	94,000
Seed, Feed, Waste, Other	6,000	5,000	6,000	6,000
Total Use	93,490	91,660	99,400	1,00,000
Ending Stocks (with the Government)	17,220	14,500	6,500	7,000
Total Distribution	1,13,710	1,06,860	1,06,200	1,07,500
Stocks to Use Ratio %	18.4	15.8	6.5	7.0

Notes: E-Estimate; F - Forecast; Note: Stocks are government stocks. Total use is residual and would include private stocks change.

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

Assessment

Based on the progressive planting report and taking into consideration various negative and positive factors impacting wheat production this year as discussed in Part I of this report, the wheat production for 2017 (MY 2017–18) is forecast at a record 96 million tonnes, 2.5 million tonnes more than the 2016 (MY 2016–17) government estimate of 93.5 million tonnes, assuming normal weather conditions through harvest. A significant fall in the government's wheat procurement in MY 2016–17 at 23 million tonnes, 5 million tonnes lower than the MY 2015–16 procurement, combined with larger offtake through the PDS and other programmes, has resulted in a steep decline in government wheat stocks, which on December 1, 2016, were officially placed at 16.5 million tonnes, 10 million tonnes lower than the stocks on December 1, 2015. The stocks are projected to dip to 6.5 million tonnes on April 1, 2017, which would be the lowest level of April 1 stocks since 2008 and below or close to the desired April 1 government stocks of 6.46 million tonnes. Domestic prices have surged over the last two months to record levels due to tight domestic markets. Unless large imports take place in MY 2017–18, stocks could plummet even lower even if the government manages to procure a larger quantity of wheat, say 28 million tonnes, in MY 2017–18. Sensing the looming supply crunch, the government has abolished import duty on wheat effective December 8, 2016, which could result in larger imports by private trade and soften domestic wheat prices, as international wheat prices delivered at Indian ports are lower than the domestic prices, particularly in the southern states. Trade sources project 5 million tonnes of wheat imports in MY 2017–18.

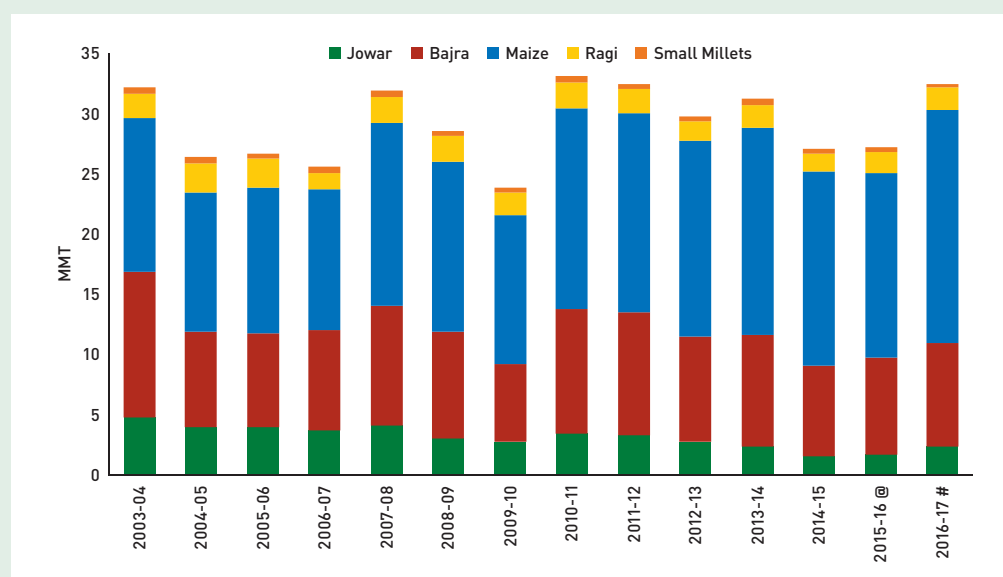
III.3 Coarse Grains

III.3.1 2016–17 Coarse Grain Production Outlook is Good

The Kharif coarse grain production in MY 2016–17 is officially placed at a near record 32.5 million tonnes (1st AE), 20 per cent higher than the drought-reduced 2015–16 production of 27.17 million tonnes (4th AE). The composition of Kharif total coarse grain by type is shown in Figure III.3.1. The main reason for the higher production in 2016–17 Kharif coarse grains production is the well distributed rains in main growing regions, as the coarse grain crops are grown mostly under non-irrigated conditions. The largest increase was in maize, which reached a record level of 19.3 million tonnes, 4 million tonnes more than in 2015–16.

The wheat production for 2017 (MY 2017–18) is forecast at a record 96 million tonnes, 2.5 million tonnes more than the 2016 (MY 2016–17).

Trade sources project 5 million tonnes of wheat imports in MY 2017–18.

Figure III.3.1: Kharif Coarse Grain Production Trend


Kharif	2003-04	2004-05	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16 @	2016-17 #
Small Millets	0.56	0.48	0.47	0.48	0.55	0.44	0.38	0.44	0.45	0.44	0.43	0.38	0.37	0.34
Ragi	1.97	2.43	2.35	1.44	2.15	2.04	1.89	2.19	1.93	1.57	1.98	1.46	1.79	1.85
Maize	12.73	11.48	12.16	11.56	15.11	14.12	12.29	16.64	16.49	16.19	17.14	16.03	15.24	19.3
Bajra	12.11	7.93	7.68	8.42	9.97	8.89	6.51	10.37	10.28	8.74	9.25	7.54	8.06	8.55
Jowar	4.84	4.04	4.07	3.71	4.11	3.05	2.76	3.44	3.29	2.84	2.39	1.64	1.71	2.42

Source: <http://eands.dacnet.nic.in/>.

The outlook for Rabi coarse grains is less promising, as the area brought under most Rabi coarse grains, except maize and barley, is lower than that of last year.

The outlook for Rabi coarse grains is less promising, as the area brought under most Rabi coarse grains, except maize and barley, is lower than that of last year (Table III.3.1). Farmers shifted the area from coarse grains to oilseeds and pulses because of significant hikes in the MSPs for pulses and oilseeds. Weather conditions have also been generally less-favourable for Rabi coarse grains as the post-monsoon rains through December 2016 have been significantly below normal, which could negatively impact yields. Considering these factors, we forecast the 2016–17 Rabi coarse grain production at 8.8 million tonnes as compared to 10.8 million tonnes in 2015–16., taking the total coarse grain production in 2016–2017 to 41.3 million tonnes, which is 8.7 per cent higher than the corresponding production in 2015–16.

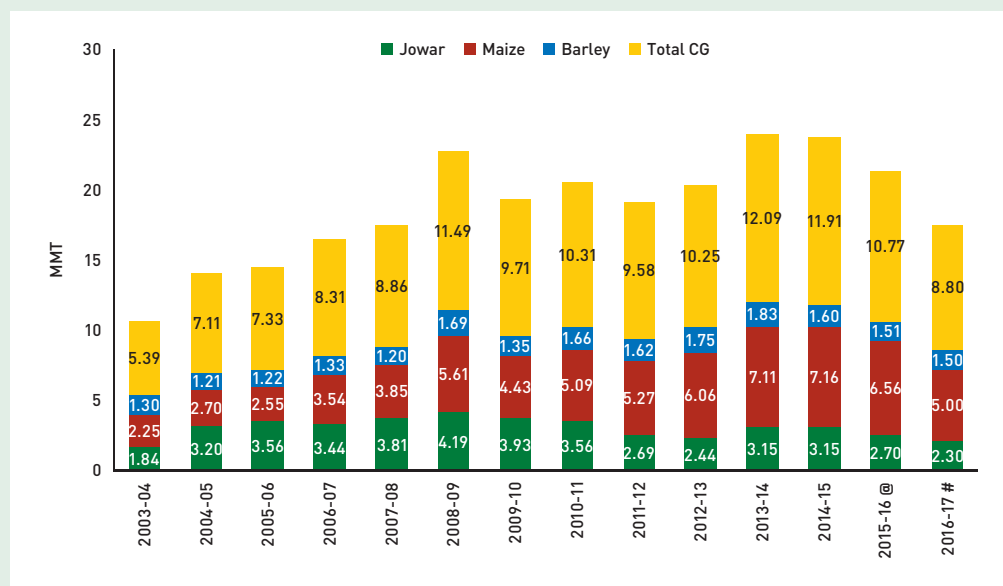
Table III.3.1: Area Covered under Rabi Coarse Grains as of end-December 2016

Rabi	(Lakh Ha)		Y-o-Y Change	
	2016-17	2015-16	Quantity	Percentage
Total Coarse Grains	50.6	54.9	-4.3	-7.8
Jowar	30.4	36	-5.6	-15.7
Bajra	0.2	0.2	0.1	35.3
Ragi	0.2	0.4	-0.2	-52.5
Maize	12.2	11.4	0.8	6.9
Barley	7.6	6.9	0.7	10.4

Source: <http://eands.dacnet.nic.in/>.

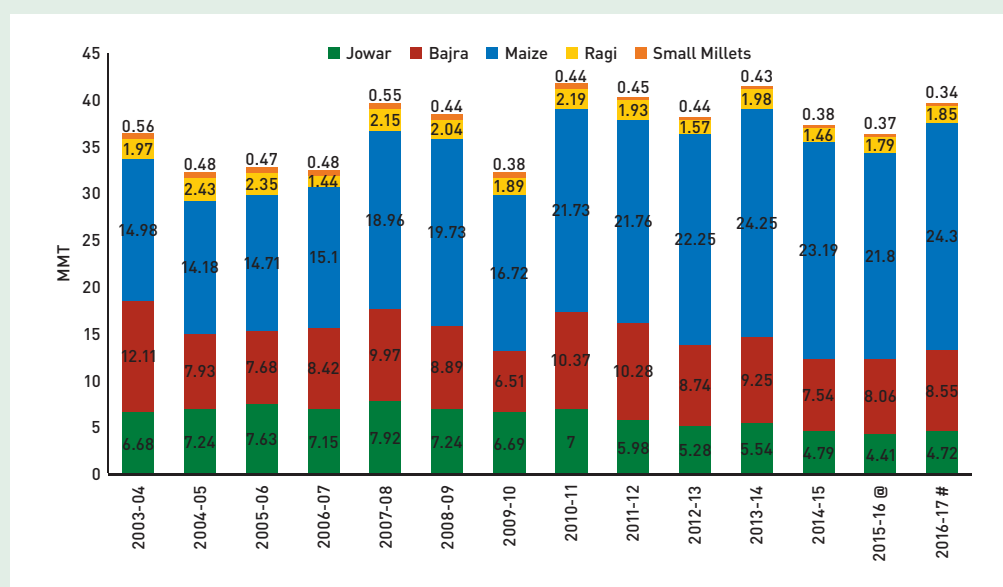
Figure III.3.2 shows the trend in coarse grain production for the Rabi season, by type of grains and Figure III.3.3 shows the total coarse grain production by type.

Figure III.3.2: Rabi Coarse Grain Production Trend by Type



Source: <http://eands.dacnet.nic.in/>.

Figure III.3.3: Total Coarse Grain Production Trend by Type of Grains



Source: <http://eands.dacnet.nic.in/>.

Coarse grain production has shown a mixed growth trend over the past years. With the exception of maize, most other coarse grains have lost their growth momentum due to lower productivity and profitability, wide year-to-year fluctuations in yields due to dependence on monsoon rains, and the lack of an effective market support mechanism unlike that for wheat and rice. Competition from commercial crops such as soybeans and cotton, and this year from pulses, has caused erosion in the planted area under most of these crops. However, maize has been an exception as increasing demand from the growing feed and starch

industry, increased use of hybrid seeds and increasing export demand gave a fillip to production, which has registered a steady growth over the past few years (Figure III.3.3). Scientists are now realising that there is a great potential to expand production and consumption of millets particularly ragi (finger millets), as they are highly nutritious, use less water and have high drought tolerance.

IV.3.2 Consumption, Price and Trade

The demand for coarse grains as a food source is shrinking, as with increasing income and larger availability of wheat and rice through the Public Distribution System (PDS), consumers are shifting from coarse grains to finer grains. Although the government has included coarse grains in the National Food Security Act to be distributed through the PDS at a subsidised rate of Rs. 1 per kg, no substantial distribution is likely unless the government starts procuring coarse grains. While the use of maize as food has shrunk, there has been a significant increase in the non-food usage of corn, mainly for feed and starch and starch derivatives in recent years. According to industry sources almost two-thirds of the annual maize production goes for feed use and about 16 per cent for industrial use mainly starch. A growing poultry sector is generating increased demand for maize for feed use.

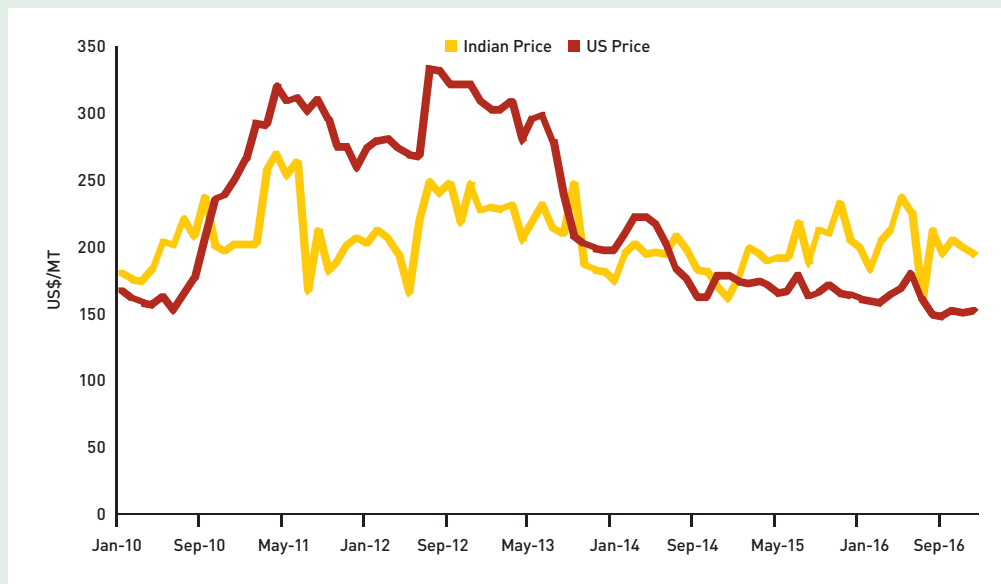
The International Crops Research Institute for the Semi-Arid Tropics (ICRISAT), Indian Institute of Millets Research (IIMR), and the Karnataka Government together are reportedly planning to form a consortium along with other stakeholders to promote the use of millets. The consortium will work on product development and build a brand for Karnataka ragi. Developing appropriate consumer products is a key component towards the promotion of millet production and consumption.

Indian domestic prices of maize (in US\$ terms) remained somewhat below the global prices for several months during the period November 2010 through July 2014 (Figure III.3.4), facilitating large exports, mostly to neighbouring countries. However, with a steep fall in global prices in recent years, the prices of Indian maize in US\$ terms ruled well above world prices, negatively impacting exports and leading to imports.

From a net exporter, India turned into a net importer of corn in MY 2015–16 due to a decline in domestic output and rising consumption. In order to check prices and prevent hoarding, the government has approved the import of 500,000 tonnes of maize under the Tariff Rate Quota (TRQ) by state trading enterprises such as PEC, MMTC, and STC. Under the TRQ, government allows the imports of maize (corn) at concessional rates of import duty. Although maize attracts a 50 per cent import duty, under the TRQ, imports of up to 500,000 tonnes are duty-free. According to trade sources, India has so far imported around 200,000 tonnes of maize. Although India is heading for a record or near-record maize production in 2016–17, the country's re-entry into the world corn export market seems unlikely due to the prevalence of significantly lower global prices.

Although India is heading for a record or near-record maize production in 2016–17, the country's re-entry into the world corn export market seems unlikely.

Figure III.3.4: Maize Price Comparison- India versus the US



Note: Indian price - month-end modal wholesale price at Nizamabad market, Telangana. U.S. Price # 2 yellow FoB.

Source: World Bank and Agricultural Marketing Information Network, Ministry of Agriculture.

Table III 3.2: Demand Supply Balance Sheet for Maize ('000 Tonnes)

Particulars	2014-15	2015-16 E	2016-17 F
	October-September	October-September	October-September
Opening Stocks	1,000	1,000	500
Production	24,170	21,810	25,300
Imports	20	300	200
Domestic Availability	25,190	23,110	26,000
Exports	1,100	400	100
Domestic Utilisation	23,090	22,210	24,900
Closing Stocks	1,000	500	1,000

Assessment

The Kharif coarse grain production MY 2016–17 was a near-record 32.5 million tonnes, signifying an increase of almost 20 per cent, due to fairly well distributed monsoon rains. However, the coarse grain production in the Rabi season is expected to decline by about 18 per cent to 8.8 million tonnes due to a decline in the planted area and poor post-monsoon and winter rains. Thus, the total 2016–17 coarse grain production is projected at a near record 41.3 million tonnes, implying an increase of 8.8 per cent from the drought-reduced 2015–16 output of 37.9 million tonnes. The maize production in 2016–17 is estimated at a record 25.3 million tonnes, signifying an increase of 16 per cent over the 2015–16 drought impacted production of 21.8 million tonnes. A marginal increase in other coarse grain production is expected. The demand for coarse grains, particularly maize, as a food source is shrinking with increasing income and larger availability of wheat and rice through the PDS. However, there has been a significant increase in the non-food usage of corn, mainly for feed and starch, and starch derivatives in recent years. With a steep fall in global maize prices in recent years, Indian maize prices in US\$ terms are ruling well above world prices, thereby negatively impacting exports. From a net exporter, India has turned into a net importer of corn in MY 2015–16. In order to check prices, the government has approved

The Kharif coarse grain production MY 2016–17 was a near-record 32.5 million tonnes.

However, the coarse grain production in the Rabi season is expected to decline by about 18 per cent to 8.8 million tonnes.

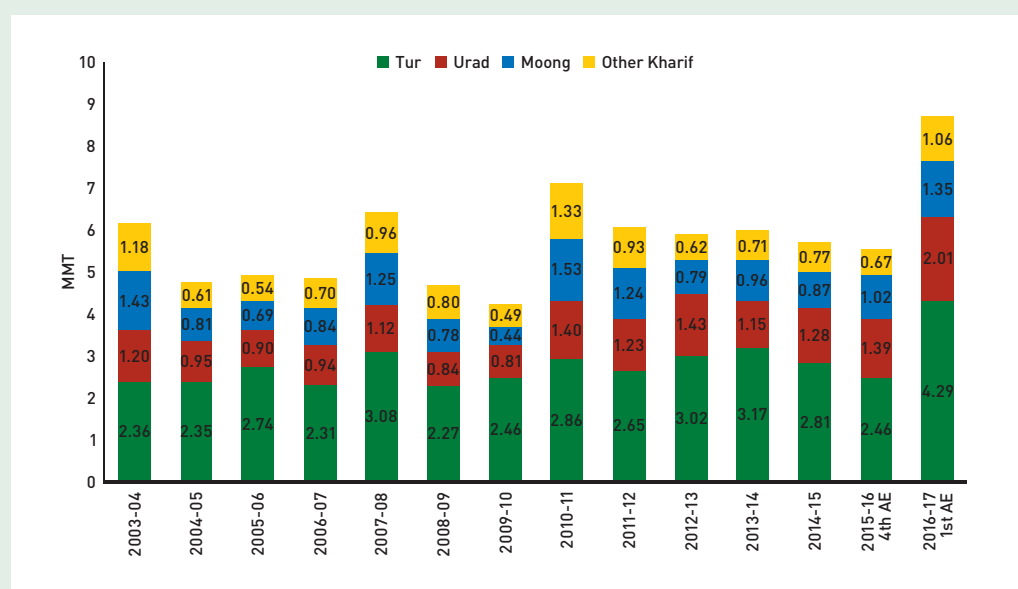
the duty-free imports of 500,000 tonnes of maize under the Tariff Rate Quota (TRQ) by state trading enterprises. According to trade sources, India has so far imported around 300,000 tonnes of maize. Despite the fact that India is heading for a record maize production in 2016–17, the country's re-entry into the world corn export market seems unlikely due to the possibility of a large disparity with world prices.

III.4 Pulses

III.4.1 Record Kharif Pulse Production Expected

India has been in the grip of a pulses crisis over the last few years following two successive years of poor rainfall in 2014 and 2015, resulting in a significant decline in pulse production and the skyrocketing of pulse prices. However, bountiful rains across the country in 2016 boosted pulse production for the 2016–17 Kharif season to a record 8.7 million tonnes (1st AE), as compared to 5.54 million tonnes in 2015–16. Following are the Kharif pulse production figures by type in 2016–17 with the 2015–16 production in parentheses (in million metric tonnes): tur - 4.29 (2.46); urad - 2.01 (1.39); urad - 1.35 (1.02); other Kharif pulses - 1.06 (0.67) (Figure IV.4.1). A significant increase in the MSP for pulses combined with assured purchasing through government agencies to create a buffer seem to have motivated farmers to shift from other crops, mainly soybeans and Bt cotton towards pulses in some states. The open market prices of most pulses during planting time have stayed at over Rs. 100/kg. The increase in production is attributed to an increase in both area and better yields.

Figure III.4.1: Kharif Pulse Production by Type



Source: <http://eands.dacnet.nic.in/>.

The outlook for pulse production in the Rabi season, which consists of mainly gram (chickpeas), masur (lentil) and small quantities of mung and urad, and other minor pulses, appears promising considering the area brought under pulse cultivation. As on December 30, 2016, 14.81 million hectares were covered under Rabi pulses, which was 1.7 million hectares (13 per cent) higher than during the corresponding period of 2015. The area coverage under various types of Rabi pulses in MY 2016–17 and MY 2015–16 is shown in Table IV.1.1.

Table III.4.1: Area Coverage under Rabi Pulses up to December 30, 2016

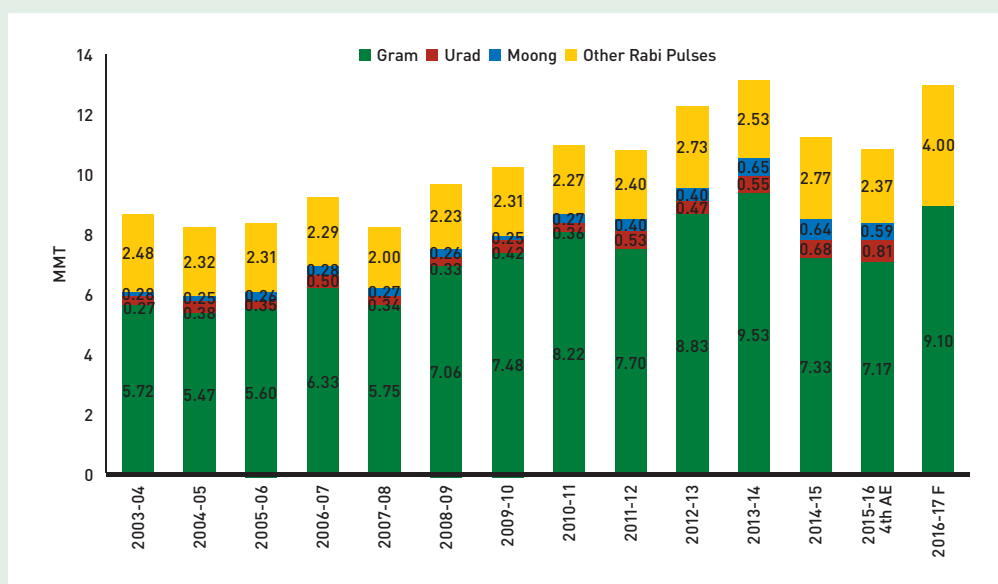
Crops	(Lakh Ha)		Y-o-Y CHANGE	
	MY 2015–16	MY 2016–17	Quantity	Percentage
Gram	82.9	94.8	11.9	14.4
Lentil	13.5	16.1	2.6	18.9
Field Pea	9.2	10.9	1.8	19.6
Kulthi	4.0	3.4	-0.6	-15.8
Urad	6.6	7.0	0.4	5.6
Mung	3.7	3.8	0.0	0.5
Lathyrus	3.7	4.1	0.3	8.8
Other Pulses	7.4	8.0	0.6	8.2
Total	131.1	148.1	17.0	12.9

Source: <http://eands.dacnet.nic.in/>.

Most of the increase in the cultivated area is in gram (up 1.2 million hectares), followed by that in masur (up 0.26 million hectares).

However, as Rabi pulses are grown mostly under unirrigated conditions, poor post-monsoon rains during the period October through December 2016, which was 45 per cent below the LPA as compared with 23 per cent below the LPA in 2015 and the lowest since 2011, combined with a temporary cash crunch created by demonetisation of Rs. 500 and Rs. 1,000 currency notes in November 2016, could be detrimental the realisation of the potential yield. Assuming an average yield, we forecast the total Rabi pulse production in the crop year 2016–17 at 13.1 million tonnes, which is expected to include 9.1 million tonnes of gram and 1.2 million tonnes of masur and 2.8 million tonnes of other Rabi pulses, as compared to 10.9 million tonnes (7.2 million tonnes of gram, 1.1 million tonnes of lentils and 2.66 million tonnes of other Rabi pulses) in the crop year 2015–16. Thus, the total MY 2016–17 pulse production is forecast at a record high of 21.8 million tonnes (including 8.7 million tonnes of Kharif and 13.1 million of Rabi pulses), as compared to 16.47 million tonnes in 2015–16 (including 5.54 million tonnes of Kharif and 10.93 million tonnes of Rabi pulses).

The total MY 2016–17 pulse production is forecast at a record high of 21.8 million tonnes (including 8.7 million tonnes of Kharif and 13.1 million of Rabi pulses).

Figure III.4.2: Trends in Rabi Pulse Production by Type


Note: The 2016–17 figures for the production of other pulses include lentil, mung, and urad, as separate area figures for these pulses are not available.

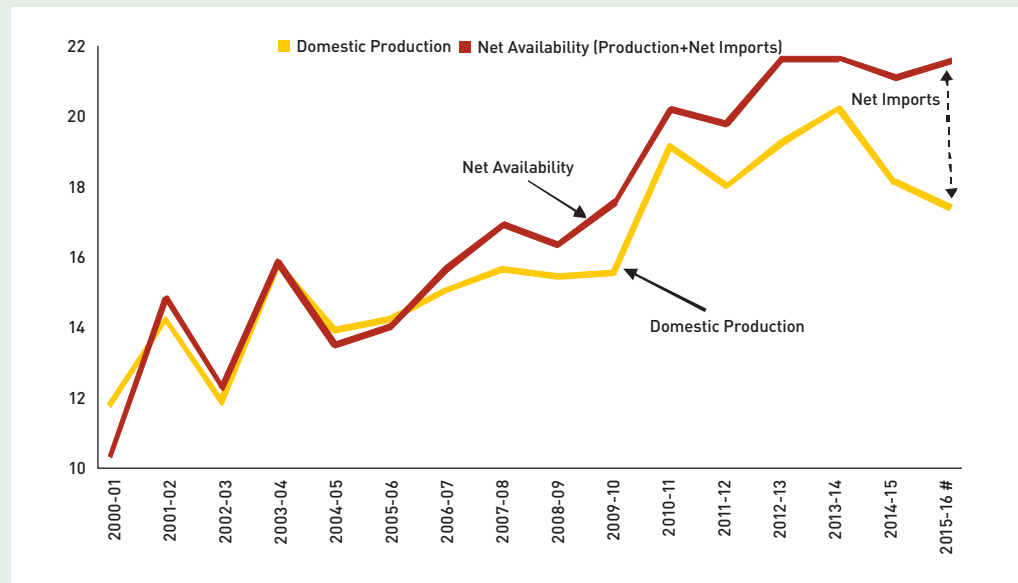
Source: <http://eands.dacnet.nic.in/>.

India's pulse consumption in 2016–17 is forecast at a record 27.8 million tonnes, implying a significant increase over the 2015–16 consumption of 22.3 million tonnes.

III.4.2 Consumption and Price

India's pulse consumption in 2016–17 is forecast at a record 27.8 million tonnes, implying a significant increase over the 2015–16 consumption of 22.3 million tonnes, leading to a higher per capita consumption. Figure III.4.3 shows the trends in domestic production and the net availability of pulses.

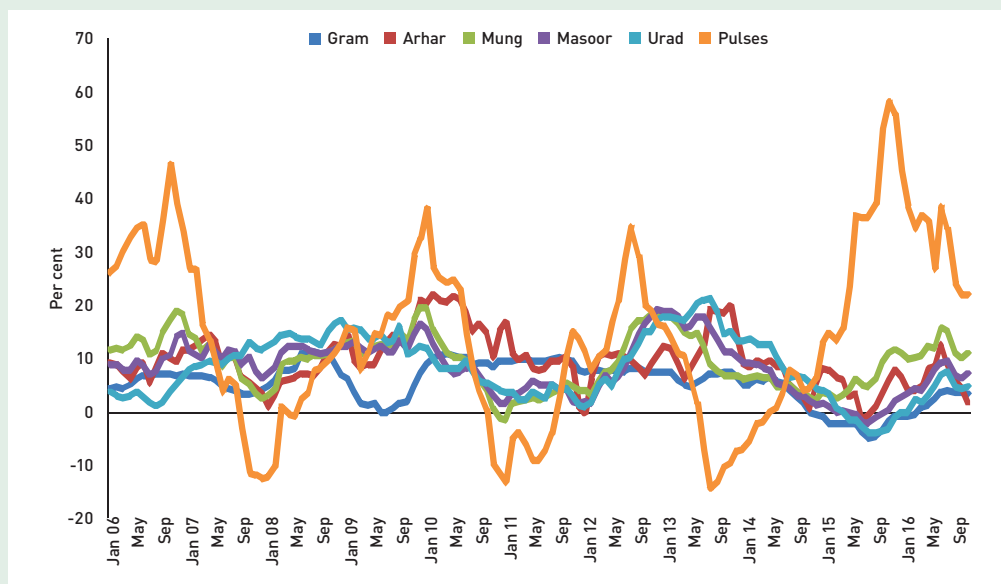
Figure III.4.3: Domestic Production and Net Availability of Pulses (Million Tonnes)



Source: "Incentivising Pulses Production through Minimum Support Price (MSP) and Related Policies", Report Prepared by Arvind Subramanian, Chief Economic Adviser, Ministry of Finance, Government of India.

The domestic year-on-year price inflation for pulses as a group measured by the WPI, after remaining in the negative territory during the period July 2013 through May 2014, started strengthening from June 2014 onwards and peaked at 58.1 per cent in November 2015 (Figure III.4.4). Thereafter, the prices started weakening, following large imports of pulses by the government and private traders, with the government taking various de-hoarding measures such as imposing a stocks limit on private trade and millers, combined with a bright outlook for the 2016 Kharif pulse production. In November 2016, y-o-y pulse inflation was 21.7 per cent as compared to the peak inflation of 58.1 per cent a year ago. The prices of almost all the pulses registered high inflation, with arhar and mung topping the chart. The retail price inflation of pulses is reported to be even higher. Enhancing domestic productivity and the production of pulses rapidly and sustainably is the only reliable way of minimising volatility in the pulses market, lowering the import bill, and safeguarding the interests of farmers and consumers.

Figure III.4.4: Y-o-Y Change (2016 over 2015) in Pulse Prices Based on WPI



Source: Office of Economic Advisor, Ministry of Finance, Government of India.

III.4.2.1 Measures Taken to Contain Pulse Price Inflation

In order to give a boost to pulse production, out of the total allocation of Rs. 1700 crores under the National Food Security Mission (NFSM) for 2016–17, Rs. 1,100 crore (the Central share) was allocated for pulses, which amounts to more than 60 per cent of the total allocation. To contain the rise in the prices of pulses, a major source of protein in the Indian diet, the Central Government initiated various policy measures on a war footing. These included authorising government trading companies such as MMTC and STC to import pulses in large quantities for supplying through the PDS and other distribution channels at subsidised prices with the government absorbing the losses, imposing stocks limit on pulses under the Essential Commodities Act, and asking state governments to intensify de-hoarding operations, confiscating pulses from private importers (under the provisions of the Essential Commodities Act) and selling it in the open market at reasonable prices, building up buffer stocks of pulses and allocating large funds for price stabilisation operations, which will be used to buy pulses directly from farmers. The government plans to create a buffer stock of two million tonnes of pulses through domestic procurement at the MSP and imports for making intervention in the market to control prices. So far, about 700,000 tonnes of pulse buffer stock has been created under the Price Stabilisation Fund (PSF) scheme utilising budgetary allocation and other means. Subsidised un-milled pulses from the buffer stock are being offered to states and state government agencies for direct distribution to consumers at reasonable rates. In order to provide a long-term solution to India's pulses crisis, the government constituted a high-powered panel under the Chief Economic Adviser to the Government of India with the objective of revisiting the MSP and bonus mechanism for pulses. The Panel submitted its report on September 20, 2016, which can be accessed at http://finmin.nic.in/reports/Pulses_report_16th_sep_2016.pdf.

III.4.3 Pulse Imports to Touch a Record High

Pulse imports in FY 2015–16 (April 2015–March 2016) are officially placed at a record high of 5.9 million tonnes, signifying an increase of 27 per cent over 2014–15. Most of the increase in pulse imports was in dry peas, masur, and chick peas. The imports were mostly from Canada, Myanmar, Australia and the USA. Table III.4.2 shows the imports of pulses

In order to give a boost to pulse production, out of the total allocation of Rs. 1700 crores under the National Food Security Mission (NFSM) for 2016–17, Rs. 1,100 crore (the Central share) was allocated for pulses.

by type.

The imports of pulses during the period April 2016 to October 2016 are officially placed at 2.75 million tonnes, the same as imports during the corresponding period of 2015. With government agencies and private trade importing large quantities of pulses, for arrival in India during the period November 2016 to April 2017, imports in FY 2016–17 are projected at 6.5 million tonnes. The Indian Prime Minister has signed a definitive agreement with Mozambique for the import of 200,000 tonnes of tur on a government-to-government basis over a period of three years. The pulses would be imported at MSP-plus freight. The government is also in talks with Brazil to produce pulses in Brazil for India. With larger domestic production, and carry-over imports in FY 2017–18, are projected to decline to 5 million tonnes.

Table III.4.2: Pulse Imports by Type during FY 2015–16 ('000 Tonnes)

Type of Pulse	
Peas	2,245
Chickpeas	1,031
Mung	582
Kidney Beans +White Pea	112
Cow Peas	81
Other Beans	58
Masur	1,260
Pigeon Peas (Tur)	463
Other Pulses	47
Total	5,878

Table III.4.3: Demand and Supply Balance Sheet for Pulses ('000 Tonnes)

Total Pulses	2014–15	2015–16 E	2016–17 F
Production	17,150	16,470	21,800
Imports	4,640	5,900	6,500
Total Supply	21,790	22,370	28,300
Total Exports	100	50	500
Domestic Use	21,690	22,320	27,800
Total Utilisation	21,790	22,370	28,300
% Imports to Domestic Use	21	26	23

Note: E-estimate; F - Forecast.

Assessment

Ample rains across most parts of the country during the 2016 monsoon season and government initiatives to increase production by offering higher MSP, and other policy measures have boosted the pulse production during the Kharif season to a record 8.7 million tonnes (1st AE). The outlook for pulse production in the 2016–17 Rabi season also looks favourable mainly due to a significant increase in the pulse sown area (up 1.7 million hectares), though the crucial post-monsoon rains have been significantly below normal, which could negatively impact the yield. The 2016–17 Rabi pulse production is forecast at 13.1 million tonnes, taking the total 2016–17 pulse production to a record 21.8 million tonnes. India's pulse consumption in 2016–17 is forecast at a record 27.8 million tonnes, a significant increase over the 2015–16 consumption of 22.4 million tonnes, leading to a higher per capita consumption. The domestic year-on-year price inflation for pulses as a group measured by the WPI after peaking at a peak of 58.1 per cent in November 2015 led by arhar, has softened due to large imports by private trade and government agencies and

various policy decisions taken by the government to contain price rise. The pulse price inflation dipped to 21.7 per cent in November, which is still high, but is likely to decline further due to large imports in the pipeline and an optimistic outlook for Rabi pulse production. The import of pulses in 2016–17 are projected at 6.5 million tonnes, 0.6 million tonnes more than the official import figure of 5.9 million tonnes in 2015–16.

III.5 Oilseeds and Edible Oils

III.5.1 Kharif Oilseeds

Even as the farm sector is widely believed to be facing the unintended consequences of the recent currency demonetisation, ground reports of planting for the upcoming Rabi harvest provide some consolation. Five weeks after the decision to withdraw high-denomination currencies was announced, the impact on Rabi planting appears rather limited.

According to the latest data available from the Ministry of Agriculture, the total area under Rabi oilseeds is 7.43 million hectares, up by 6.84 per cent from 6.95 million hectares during the corresponding period last year. This is due to the higher coverage in groundnut, rapeseed and mustard and linseed. Higher area coverage was reported from the states of Uttar Pradesh, Rajasthan and Bihar. The progressive sowing of various Rabi oilseed crops as on December 16, 2016, with the corresponding sowing a year ago, is summarised in Table III.5.1.

Table III.5.1: Sowing of Rabi Oilseeds (Lakh Hectare)

Crop	December 16, 2015	December 16, 2016	Percentage Change
Rapeseed and Mustard	59.71	65.52	9.73
Groundnut	2.87	3.31	15.33
Safflower	1.02	0.83	-18.63
Sunflower	2.53	1.22	-51.78
Sesamum	0.32	0.26	-18.75
Linseed	2.48	2.71	9.27
Other Oilseeds	0.61	0.45	-26.23
Total Oilseeds	69.5	74.31	6.84

Source: Weather Watch Reports, Directorate of Economic and Statistics, Ministry of Agriculture and Farmers Welfare.

III.5.2 Consumption and Price

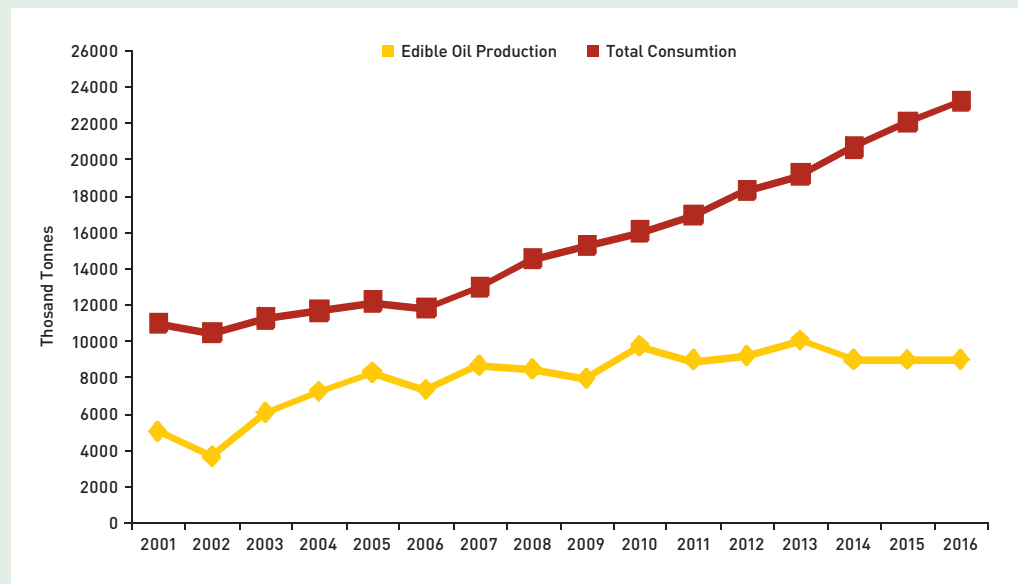
The demand for edible oil is mainly driven by the increase in per capita consumption of the commodity, rising income levels and improvement in living standards. India's edible oil consumption is estimated in the range of 19 to 20 million tonnes in 2015–16. Although consumption has grown steadily over the past few decades, and is projected to increase at the same pace over the medium term, the year-on-year consumption growth rate has varied depending on availability and price. Factors such as rising population and increasing prosperity are stoking the demand for vegetable oil in India. The demand-supply gap is becoming wider mainly due to the limited availability of oilseeds, shifting of acreage to other crops, and increase in the demand of edible oil. A continuous increase in the gap between demand and supply has forced India to go in for huge imports from leading exporter countries of edible oil.

During the oil year (October–September) 2004–05 to 2016–17, the production of edible oil grew at the rate of 3.96 per cent per year and consumption increased at 4.81 per cent. Edible oil production in 2016–17 is estimated at 8.99 million tonnes.

The import of pulses in 2016–17 are projected at 6.5 million tonnes, 0.6 million tonnes more than the official import figure of 5.9 million tonnes in 2015–16.

Edible oil production in 2016–17 is estimated at 8.99 million tonnes.

Figure III.5.1: Edible Oil Production and Consumption (Oil Year November–October)

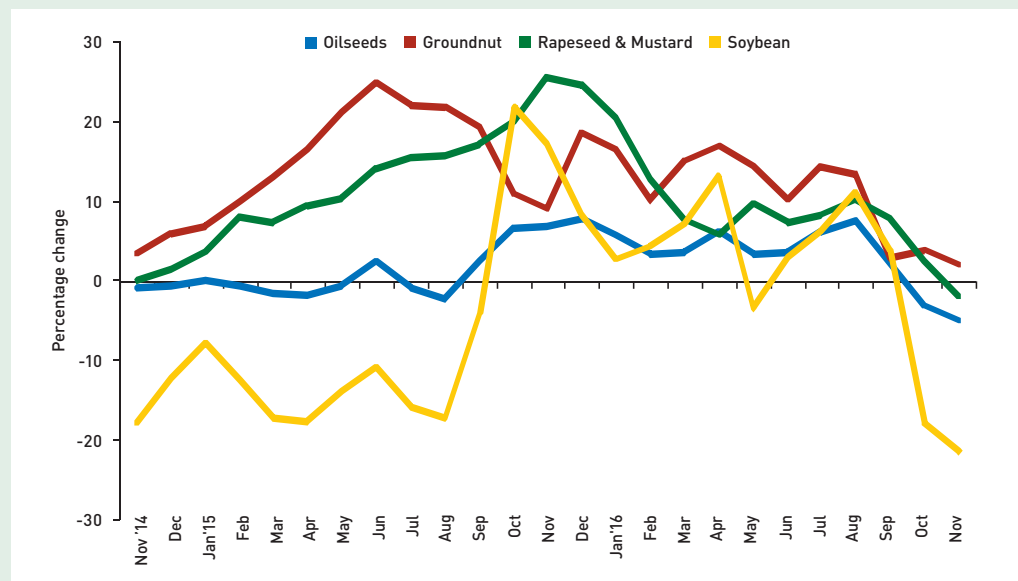


Source: The Solvent Extractors' Association of India.

Price

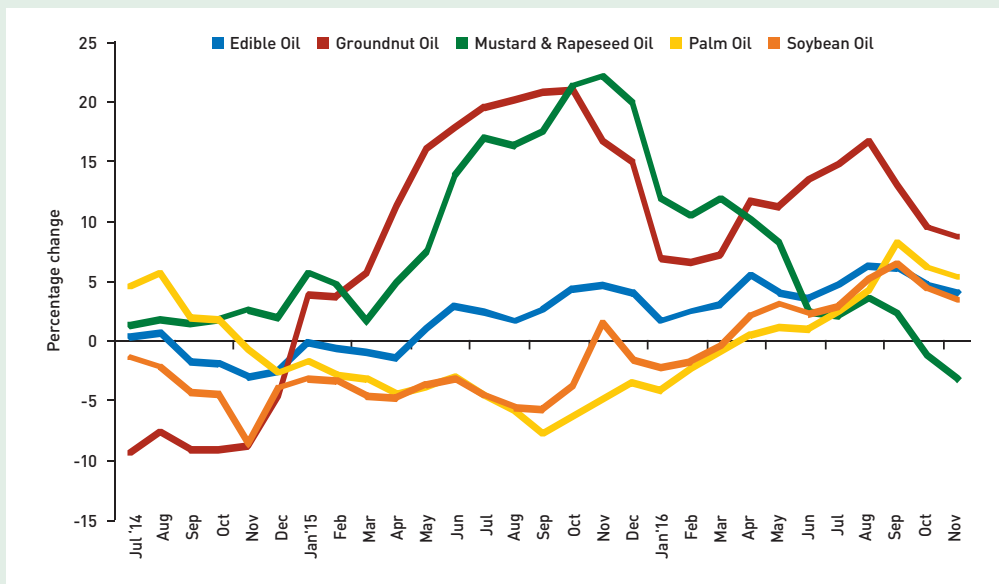
The y-o-y oilseeds and vegetable oil price inflation measured by the WPI was in negative territory from September 2014 to May 2015 due to larger imports but strengthened after May 2015. It remained firm till August 2016 and thereafter showed a declining trend. The price trend by the type of oilseeds and edible oils is shown in Figures III.5.2 and III.5.3.

Figure III.5.2: Oilseed Price Inflation (Y-o-Y Percentage Change)



Source: <http://eaindustry.nic.in/>.

Figure III.5.3: Vegetable Oil Price Inflation (Y-o-Y Percentage Change)



Source: <http://eaindustry.nic.in/>.

The Cabinet Committee on Economic Affairs has recently approved the MSPs for Rabi oilseeds crops for MY 2016–17. The MSP of the Rabi oilseeds for MY 2016–17 were increased from the previous year's level to give a boost to domestic production. The MSP of rapeseed and mustard has been increased by 10.4 per cent to Rs. 3700/quintal (including Rs. 100/quintal bonus) for the 2016–17 season from Rs. 3350/quintal in 2015–16, and of safflower by 12.1 per cent to Rs. 3700/quintal (including Rs. 100/quintal bonus) from Rs. 3300/quintal in 2015–16.

III.5.3 Market Arrivals and Prices

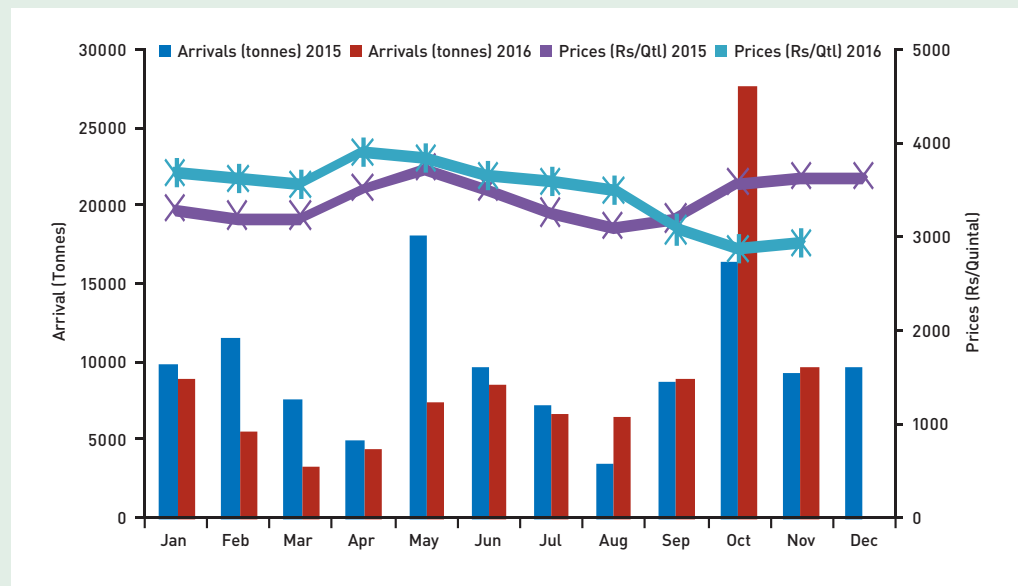
The market arrivals and prices during 2015 and 2016 of important oilseeds in some major markets are shown in Figures III.5.4 to III.5.8. The Kharif oilseed supplies are strong after the new harvesting of soybean and groundnut seed. However, the soybean arrivals are gradually falling from the peak achieved in mid-October. As expected, soybean prices took correction during October but they rebounded in November. The arrivals of groundnut in Gondal, a major groundnut-producing region in Gujarat, has increased, resulting in a decrease in prices.

The supplies of rapeseed/mustard in key spot markets across Rajasthan are falling due to the lean season; they are lower than during the corresponding period last season due to lower production. The supplies are expected to fall further in the coming weeks.

Rapeseed/mustard seed prices in key spot markets across Rajasthan witnessed a firm trend. Rapeseed prices are currently facing pressure as the demand for oils is moderate, which has led to weak seed buying from stockists and mills in addition to the advancing rapeseed sowing under way. It is expected that the approaching winter season may uplift the demand for oils and is likely to lend some support to the market.

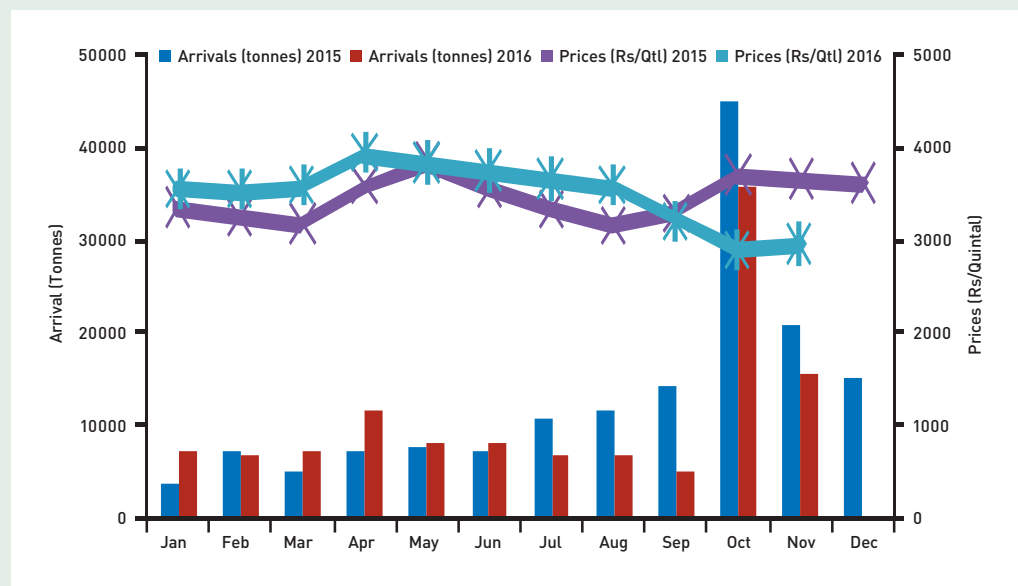


Figure III.5.4: Arrival and Prices of Soybean in the Indore Market in MP



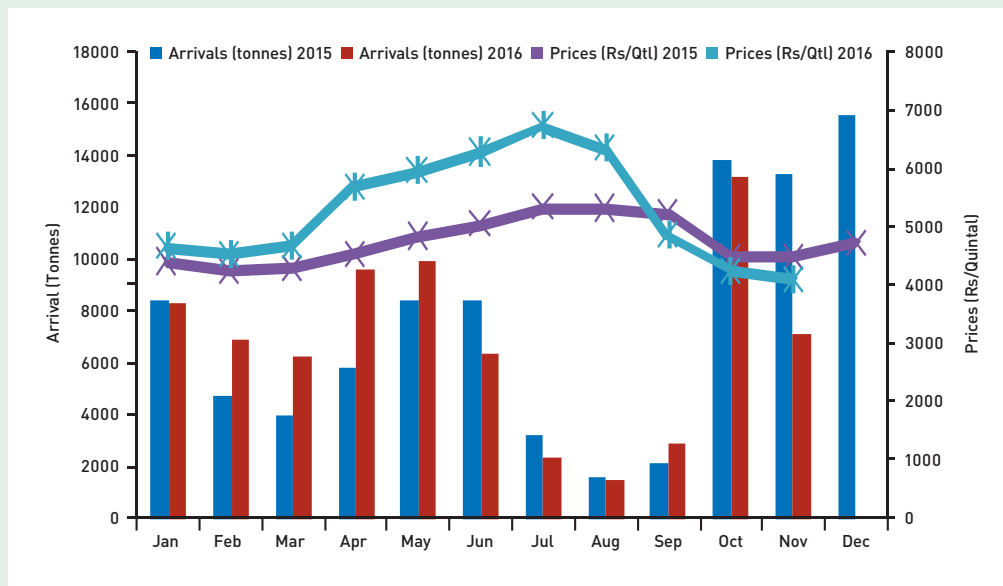
Source: <http://agmarknet.gov.in/>.

Figure III.5.5: Arrival and Prices of Soybean in the Kota Market in Rajasthan



Source: <http://agmarknet.gov.in/>.

Figure III.5.6: Arrival and Prices of Groundnut in the Gondal Market in Gujarat



Source: <http://agmarknet.gov.in/>.

Figure III.5.7: Arrival and Prices of Mustard in the Nagar Market in District Bharatpur of Rajasthan

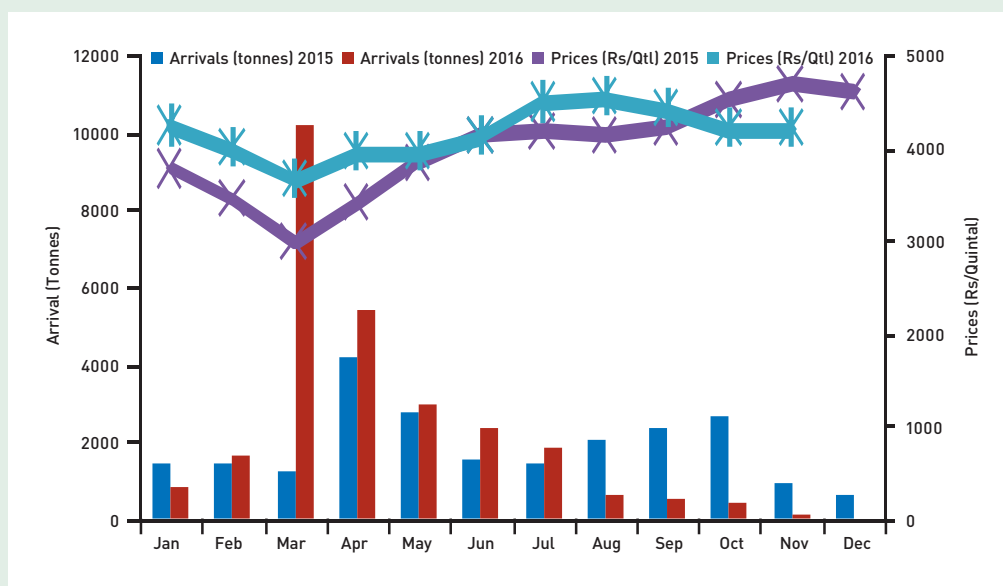
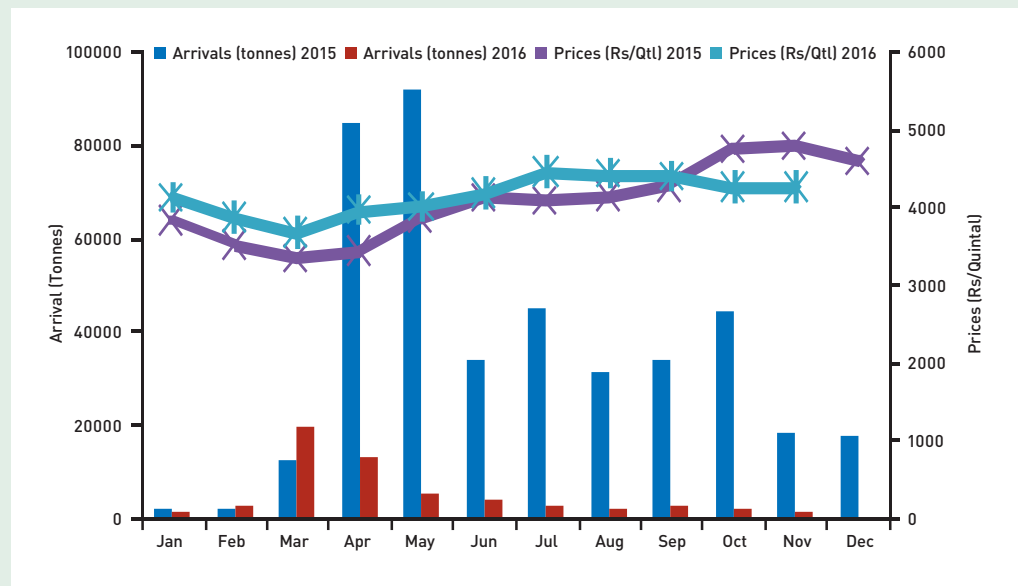


Figure III.5.8: Arrival and Prices of Mustard in the Alwar Market in Alwar District of Rajasthan



III.5.4 Trade

Over the years, the imports of edible oils have increased sharply as domestic production has failed to match the increasing demand. Data compiled by the Solvent Extractors' Association (SEA)²³ show that edible oil imports during the period November 2015 to October 2016 at 14.74 million tonnes as compared to 14.61 million tonnes during the corresponding period of 2014–15 practically remained stagnant from the previous year. The import of edible oil during November 2016 is reported at 1.18 million tonnes as compared to 1.33 million tonnes in November 2015, that is, it was down by 11.3 per cent. Imports have fallen due to the expected bumper Kharif oilseeds crop and better domestic availability of edible oils. Also, the currency crunch due to demonetisation has slowed down the purchases by end-consumers besides affecting the demand, and even imports to some extent.

During the period November 2015 to October 2016, imports of crude palm oil decreased to 5.75 million tonnes from 7.72 million tonnes during the corresponding period of last year due to the higher import of RBD palmolein at the cost of crude palm oil. Meanwhile, the imports of RBD palm oil increased to 2.62 million tonnes from 1.66 million tonnes due to an unfavourable duty difference between crude and refined oils. There has also been a significant increase in the imports of soybean oil, which stood at 4.23 million tonnes during the period November 2015 to October 2016 as compared to 2.99 million tonnes during the corresponding period last year due to a stagnant domestic soybean crop, coupled with attractive prices in the international market resulting from heavy supply. Sunflower oil imports stood at 1.52 million tonnes as compared to 1.54 million tonnes during the period November 2014 to October 2015. The major sources of India's oil imports are Indonesia and Malaysia for palm oil, Argentina and Brazil for soybean oil, and Ukraine and Mexico for sunflower oil.

The import of non-edible oils during the period November 2015 to October 2016 is reported at 1.67 million tonnes as compared to 1.91 million tonnes during the same period last year.

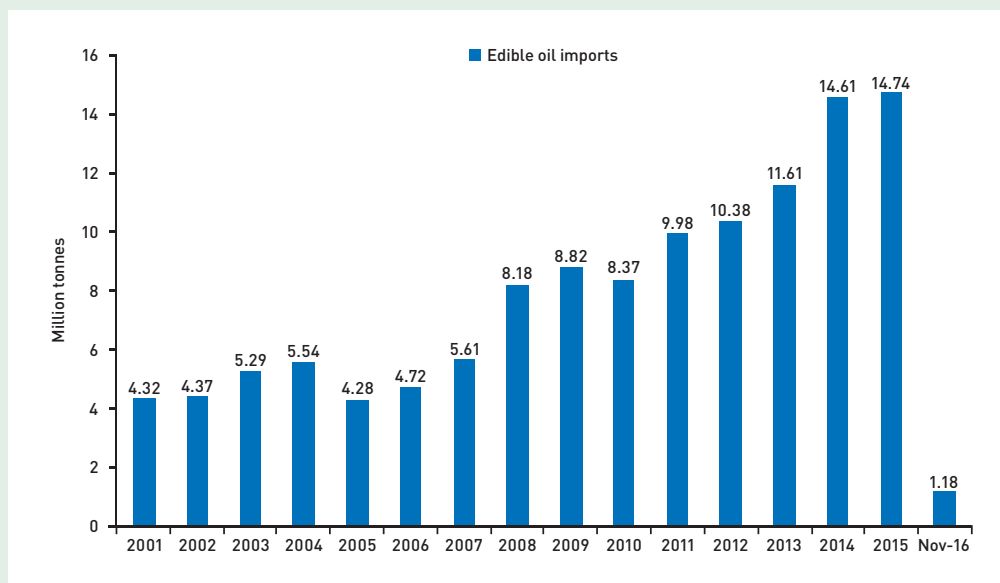
On September 17, 2015, the Indian Government raised the import tax on crude edible oils and refined oils by 5 percentage points each to 12.5 per cent and 20 per cent, respectively,

23. <http://seaofindia-com.experiencesense.com/cdn/gallery/1388.pdf>.

to protect Indian farmers and the oil-refining industry from the rising imports of low-priced palm oil from Malaysia and Indonesia. However, according to industry sources, the hike in import duty is not enough to protect the interests of farmers and the industry. Malaysia and Indonesia are exporting palm oil at zero per cent export duty as the Malaysian ringgit is performing weak against the US dollar, making it attractive for importers.

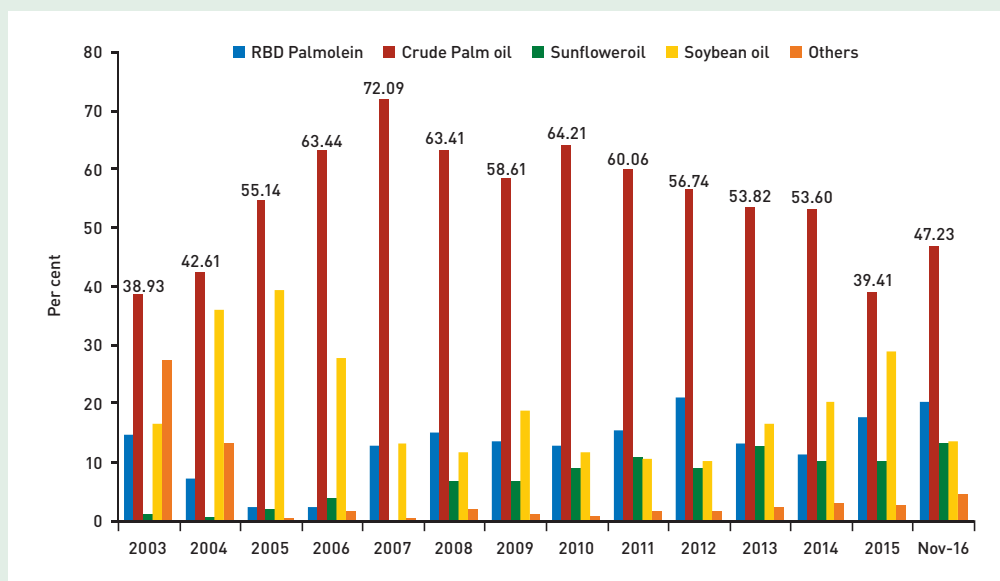
As per the Notification No 17/2015-20, the Ministry of Commerce, Government of India, dated August 6, 2015, rice bran oil is now permitted to be exported in bulk. Also, the ceiling on the export of organic edible oils has been removed. The export of edible oils in branded consumer packs of up to five kilograms is permitted with a minimum export price of \$900 per MT.

Figure III.5.9: Imports of Edible Oils (Oil Year from November-October)



Source: The Solvent Extractors' Association of India.

Figure III.5.10: Share of Various Oils in Total Imports during Oil Years (November-October)



Source: The Solvent Extractors' Association of India.

Table III.5.2: Supply and Demand Balance for Vegetable Oils ('000 Tonnes)

Particulars	2013-14	2014-15	2015-16	2016-17
	October-September	October-September	October-September (Estimated)	October-September (Forecast)
Beginning Stocks	1,472	1,176	1,224	1,411
Production	4,688	6,277	5772	6826
Imports	12,646	14,002	14,980	16,005
Total Supply	18,806	21,455	21,976	24,242
Exports	13	26	37	27
Industrial Domestic Consumption	685	880	831	940
Food Use Domestic Consumption	16,914	19,072	20,071	21,632
Domestic Consumption	17,599	19,952	20,902	22,572
Ending Stocks	1,176	1,477	1,224	1,456

Note: USDA vegetable oil marketing year for India is October-September. The production estimate includes 2.2 MMT of rapeseed oil, 1.2 MMT of cottonseed oil, 1.51 MMT of soybean oil, 1.13MMT of peanut oil, 447,000 MT of coconut oil, 200,000 MT of palm oil, and 141,000 MT of sunflower oil.

Source: USDA.

Assessment

The government has announced a bonus on pulses and oilseeds to give a strong price signal to farmers to increase acreage and invest for bringing about an increase in the productivity of these crops. In oilseeds, mustard was the predominant crop, being planted on a 10 per cent higher acreage than the previous year, when it was planted on 59.7 lakh hectares. A higher area coverage was reported from Uttar Pradesh, Rajasthan and Bihar. Indian farmers will likely reclaim the planted area lost due to abnormal weather conditions in the last two years and yields will rebound as a result. Edible oil imports in MY 2016-17 will rise from 14.98 million tonnes to 16.0 million tonnes. Palm oil is the principal commodity in the vegetable oil basket and the share of refined oil import has been rising steadily.

III.6 Sugarcane and Sugar

III.6.1 Significant Decline in Sugarcane Production

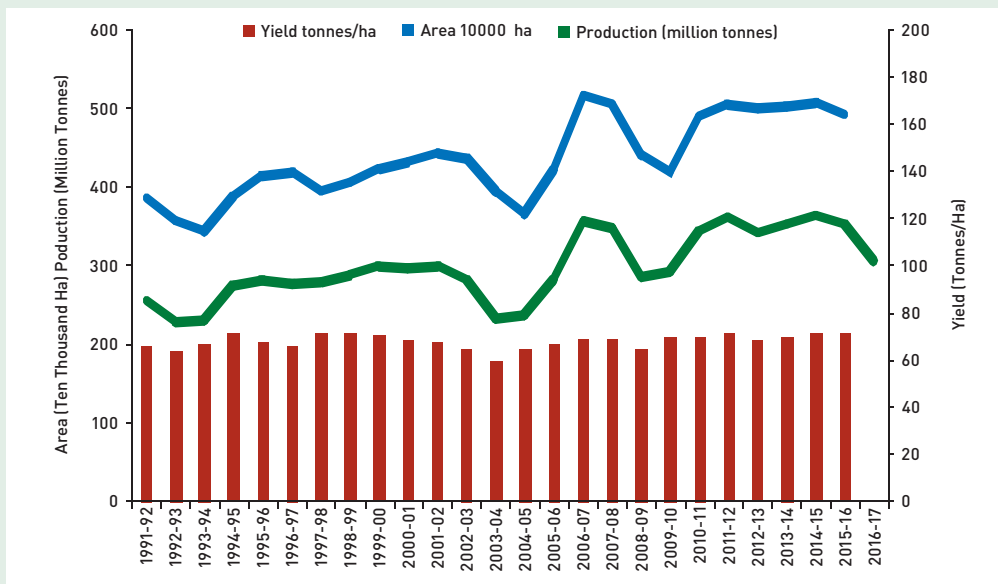
The Government's 1st Advance Estimates (AE) of agricultural production released on September 22, 2016, had pegged the 2016-17 sugarcane production at 305.25 million tonnes, which is 46.91 million tonnes less than the 2015-16 4th AE of 352.16 million tonnes. The area under sugarcane in 2016-17 is reported at 4.58 million hectares, which is 0.38 million hectares less than that of last year's (All India Crop Situation-Kharif 2016-17 as on September 30, 2016). The marginal decline in the planted area in 2016-17 is due to lesser rainfall and the prevalence of a drought-like situation in the major producing states of Maharashtra and Karnataka. In Maharashtra, reduced area by 3.54 lakh hectares and in Karnataka, by 1.04 lakh hectares has been planted as on September 30, 2016, as compared to the corresponding period of 2015-16. A record sugarcane production of 361 million tonnes was achieved in 2011-12, when the sown area was 5.04 million hectares, and the yield was 71.7 tonnes per hectare. NCAER's own estimates of production in 2016-17 are placed at 354.7 million tonnes higher than the official 1st AEs.

The sugar recovery rate in recent years has averaged at about 10.22 per cent. Figure III.6.1 shows the trend in area, production and yield of sugarcane over the past three decades.

Edible oil imports in MY 2016-17 will rise from 14.98 million tonnes to 16.0 million tonnes.

NCAER's own estimates of production in 2016-17 are placed at 354.7 million tonnes higher than the official 1st AEs.

Figure III.6.1: Sugarcane Area, Production and Yield Trends



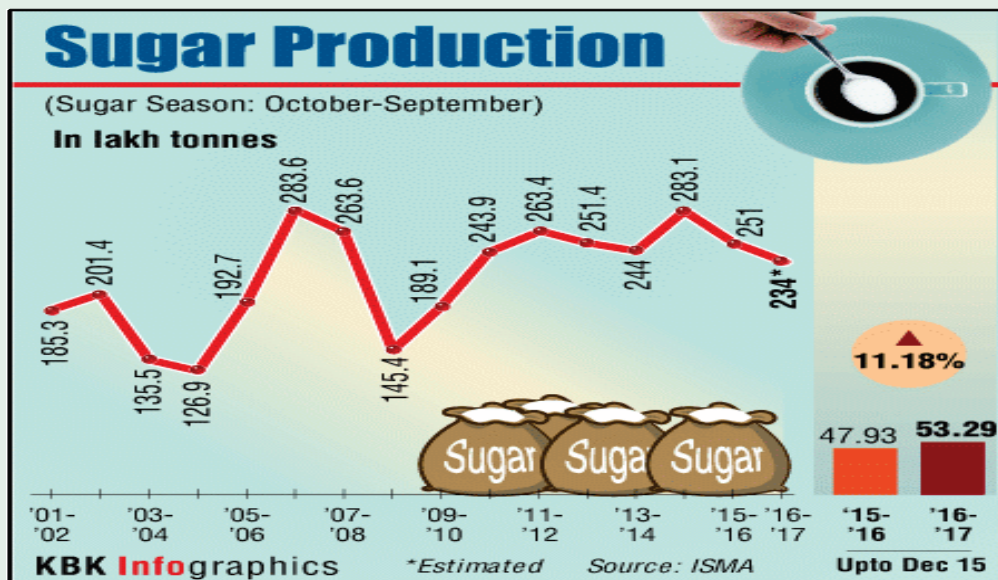
Note: Sugarcane production 2015-16 Government 4th Advance Estimate.
 Source: Directorate of Economic and Statistics and Indian Sugar Mills Association.

Sugar Production Also Expected to Decline

The estimate of sugar production by the Indian Sugar Mills Association's (ISMA) for 2016-17 is 23.4 million tonnes, which is 7 per cent less than the estimated sugar production of around 25.1 million tonnes in the sugar season 2015-16, as back-to-back droughts ravaged the cane crop in the top producing western state of Maharashtra. The sugar season begins in October in India and ends in September of the subsequent year.

According to an update by the ISMA, sugar production in India for 2016-17 rose by 11.18 per cent to 53.29 lakh tonnes between October 1 and December 15 this year in comparison to the corresponding period of last year, despite an earlier estimate that the world's biggest sugar consuming country would post a fall in production for the second straight year. The production was 47.93 lakh tonnes in the sugar season 2015-16.

The estimate of sugar production by the Indian Sugar Mills Association's (ISMA) for 2016-17 is 23.4 million tonnes.

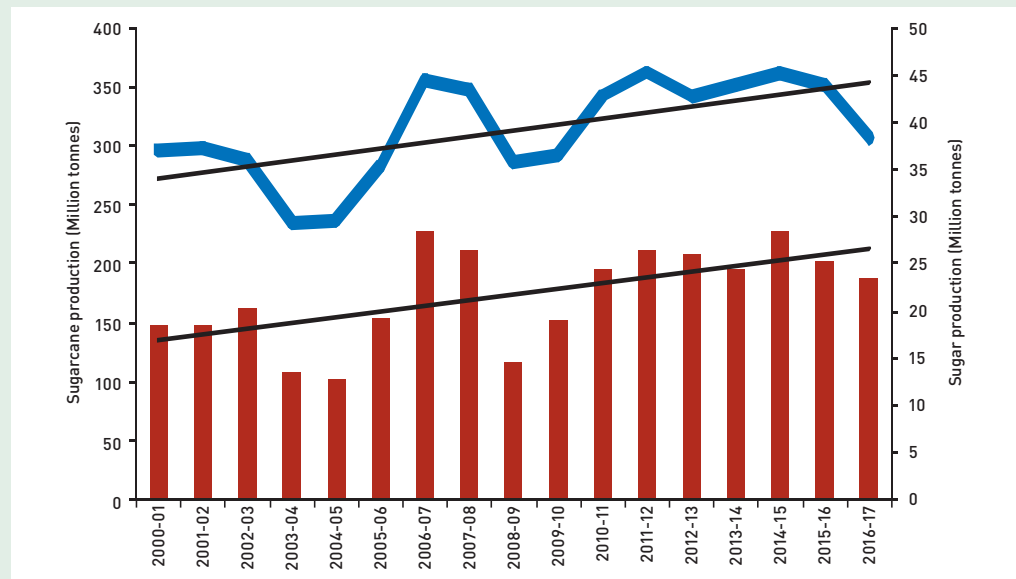


Source: <http://www.ibtimes.co.in/December 16, 2016>.

According to ISMA, "As on December 15, [2016], 440 sugar mills were crushing sugarcane for the year 2016–17 sugar season, and they have produced 53.29 lakh tonnes of sugar till that date, which is 5.36 lakh tonnes (11 per cent) higher than the sugar production on the corresponding date of previous sugar season, when same number of sugar mills were in operation and had produced 47.93 lakh tonnes of sugar. In Maharashtra, 144 sugar mills are in operation and they have produced 17.25 lakh tonnes of sugar till December 15, 2016. In the 2015–16 sugar season, there were 164 sugar mills in operation as on December 15, 2015, and they had produced 22.50 lakh tonnes of sugar. In Uttar Pradesh, 115 sugar mills have produced 17.66 lakh tonnes of sugar till December 15, double of last season's production of 8.52 lakh tonnes during the corresponding period when 105 sugar factories were operating."

India's sugar production has increased from 19.1 million tonnes in TE 2002–03 to 25.60 million tonnes in TE 2016–17 (Figure III.6.2). Sugarcane and hence sugar production in India is characterised by a well-marked cyclical trend of three to four years as farmers and sugar mills respond to sugarcane prices. However, this cyclical movement has become less obvious in recent years.

Figure III.6.2: Sugarcane and Sugar Production Trend



Source: Directorate of Economic and Statistics and Indian Sugar Mills Association.

The country's sugar consumption in the new season, which started on October 1, 2016, is estimated to be between 24.5 million tonnes and 25 million tonnes.

III.6.2 Consumption and Price

India's sugar consumption in 2016–17 is likely to remain steady while the government's move to scrap high-value currency notes has affected demand. The country's sugar consumption in the new season, which started on October 1, 2016, is estimated to be between 24.5 million tonnes and 25 million tonnes, as compared to 24.8 million tonnes a year ago. The sugar industry had earlier expected consumption to rise to 25.5 million tonnes during the year. India is the world's biggest sugar consumer and the second-biggest producer.

According to the Indian Sugar Mills Association, due to demonetisation, sugar sales in the first fortnight of December 2016 have been badly affected and the depressed demand may continue till January 2017.

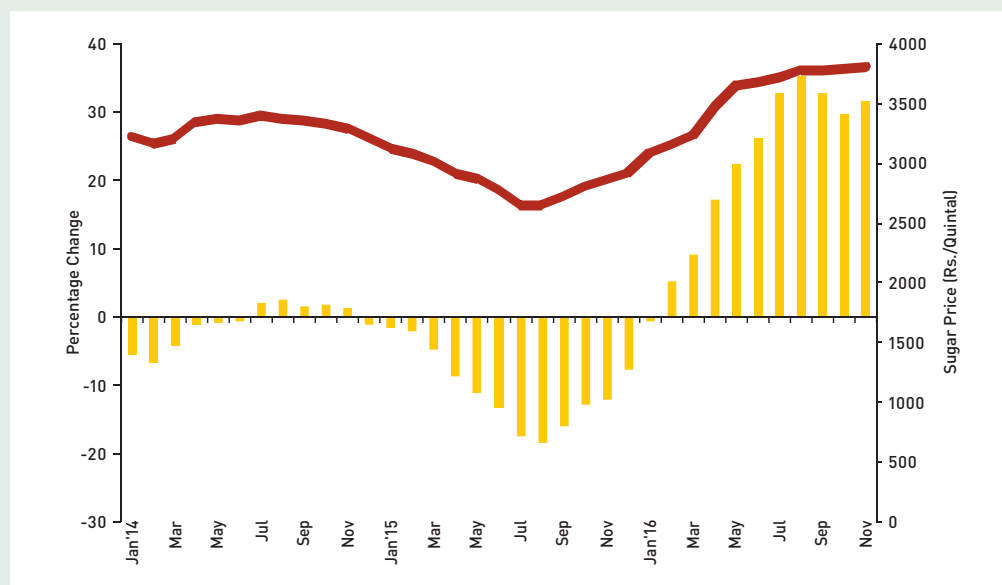
The y-o-y sugar price inflation measured by the WPI was negative during the period

December 2015 to January 2016 but from February 2016 onwards, sugar prices have shown an upward trend (Figure III.6.5). With a view to control the soaring hoarding of sugar within the country and to keep sugar prices under check, the Government has decided to extend the present sugar stock holding limit of the Indian states by another six months, which is likely to end on April 28, 2017. The Centre had decided to impose a sugar stock holding limit (1,000 tonnes for West Bengal and 500 tonnes for others) on all the Indian states for a period of six months from April to October 2016.

Domestic sugar prices have remained firm, having increased from around Rs. 31,500/MT in March 2016 to Rs. 36,000/MT in August 2016. After remaining stable at Rs. 36,000/MT in September 2016, the surge in prices continued in October 2016, with prices reaching their highest level of Rs. 36,200/MT in the last five years. The prices continued to remain healthy in November 2016 at Rs. 35,500/MT, albeit with a marginal dip.

Government has decided to extend the present sugar stock holding limit of the Indian states by another six months, which is likely to end on April 28, 2017.

Figure III.6.3: All India Sugar Price and Y-o-Y Change in the WPI of Sugar

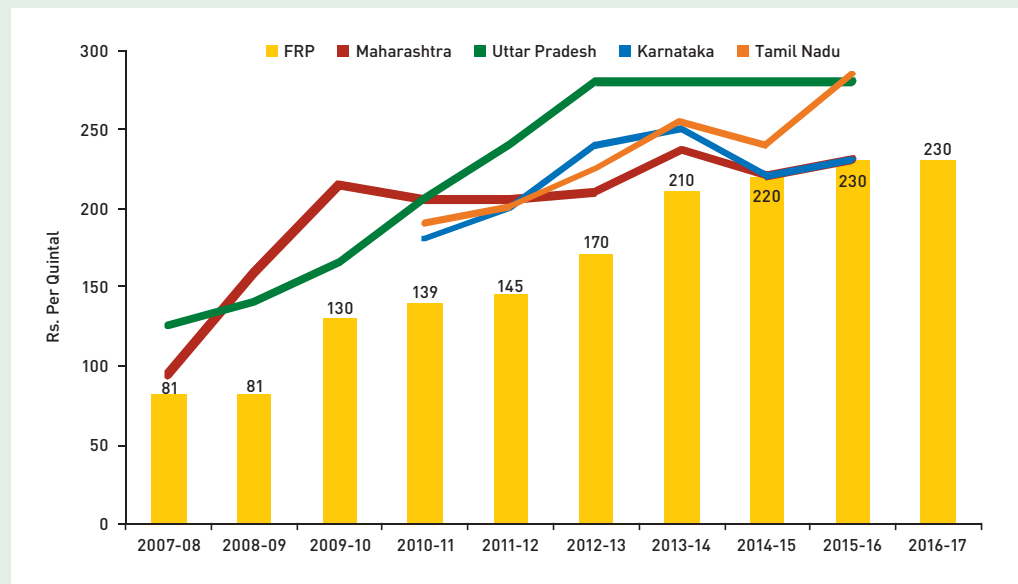


Source: Office of Economic Advisor and Department of Consumer Affairs.

On the recommendation of the Commission for Agricultural Costs and Prices (CACPC), the Centre had fixed the all-India sugarcane Fair Remunerative Prices (FRPs) at Rs. 230/quintal linked to an average sugar recovery rate of 9.5 per cent for the crop year 2016-17 (October-September). The FRP is the minimum price that sugarcane farmers are legally guaranteed. However, state governments are free to fix their own state-advised prices (SAPs) and millers can offer any price above the FRP. The FRP is fixed after taking into consideration the margins for sugarcane farmers, based on the cost of production of sugarcane, including the cost of transportation.

The Uttar Pradesh government announced a cane SAP of Rs. 305/quintal for the general variety of cane having an average recovery rate of 9.5 per cent. On the other hand, the SAP for the early variety of cane has also been increased from Rs. 290/quintal to Rs. 315/quintal for 2016-17. The Karnataka government had fixed a cane SAP ranging from Rs. 230 to Rs. 305 per quintal for MY 2016-17 (October 1, 2016-September 30, 2017). Notably, the SAP has been fixed as Rs. 230/quintal for 9.5 per cent recovery, Rs. 255/quintal for 10.5 per cent recovery, Rs. 280/quintal for 11.5 per cent recovery and Rs. 305/quintal for a 12.5 per cent recovery rate of cane.

Figure III.6.4: Fair Average Price for Sugarcane and Actual Price Paid to Famers



Source: Directorate of Economics and Statistics and Directorate of Sugar, DFPD.

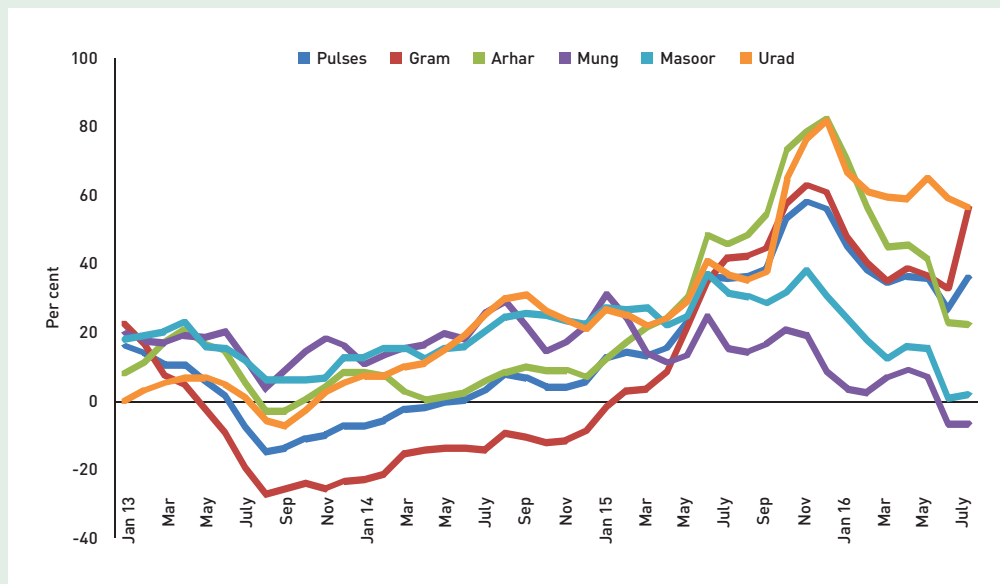
III.6.3 Trade

During the last ten years, India has been a net exporter of sugar, despite an off-and-on ban on exports due to domestic production volatility. However, since May 14, 2012, free exports of sugar have been permitted subject to the prior registration of quantity.

According to ISMA, India exported 0.99 lakh tonnes of sugar while it imported 2.90 lakh tonnes of sugar in November 2016. The quantum of sugar exports was 0.60 lakh tonnes in October and 0.81 lakh tonnes in September 2016. Sugar imports were worth 3.76 lakh tonnes in October 2016 and 2.37 lakh tonnes in September 2016. Sugar exports fell by 57 per cent in the month of June as the Government imposed an export duty of 20 per cent on the exports of sugar (raw, white or refined).

An y-o-y comparison shows that the country's sugar imports rose by 143 per cent from 1.19 lakh tonnes the previous year while exports fell by 50 per cent from 1.98 lakh tonnes in November 2015. Notably, Myanmar, Somalia and Sudan were amongst the top sugar-importing nations from India, which imported 38.8 thousand tonnes, 10 thousand tonnes and 7.8 thousand tonnes of sugar, respectively, in the month of November 2016.

Figure III.6.5: Export and Import of Sugar for India during 2000-01 to 2016-17



Source: ISMA.

III.6.4 Stocks

ISMA estimates the opening stocks of sugar for MY 2016-17 on October 1, 2016, at 7.7 million tonnes, which is about 2.5 million tonnes less than the MY 2015-16 opening stocks of 9.6 million tonnes. However, according to industry sources, with an estimated opening balance of 7.7 million tonnes and the estimated production of 23.4 million tonnes, sugar availability during the 12 months of the next season will be enough to meet the domestic sugar consumption requirement of 25 million tonnes during the 2016-17 season. Currently, sufficient sugar stock is available to meet the domestic requirement. However, in order to ensure the availability of sugar at a reasonable price, the government has imposed customs duty on the export of sugar to conserve sugar stocks in the country and to ensure its availability at reasonable price. It has also imposed a sugar stock holding limit on stockists/dealers and producers of sugar to check any speculative tendencies and possible hoarding of sugar.

Table III. 6.1: Sugar Supply Demand Balance Sheet (Million Tonnes)

Particulars	2013-14	2014-15	2015-16	2016-17 F
Beginning stock	9.3	7.5	9.6	7.7
Production	24.2	28.3	25.1	23.4
Imports	0.2	0	0.5	1.87
Total Supply	33.7	35.8	35.2	32.97
Exports	2.46	1.95	1.19	1.16
Domestic Consumption	23.74	24.25	26.31	25
Ending Stocks	7.5	9.6	7.7	6.81

Source: ISMA and NCAER Estimates.

Sugar availability during the 12 months of the next season will be enough to meet the domestic sugar consumption requirement of 25 million tonnes during the 2016-17 season.

The closing stock at the end of the season is expected to be 6.81 million tonnes, which would be sufficient to meet consumption in the initial period of the 2017–18 sugar season.

Assessment

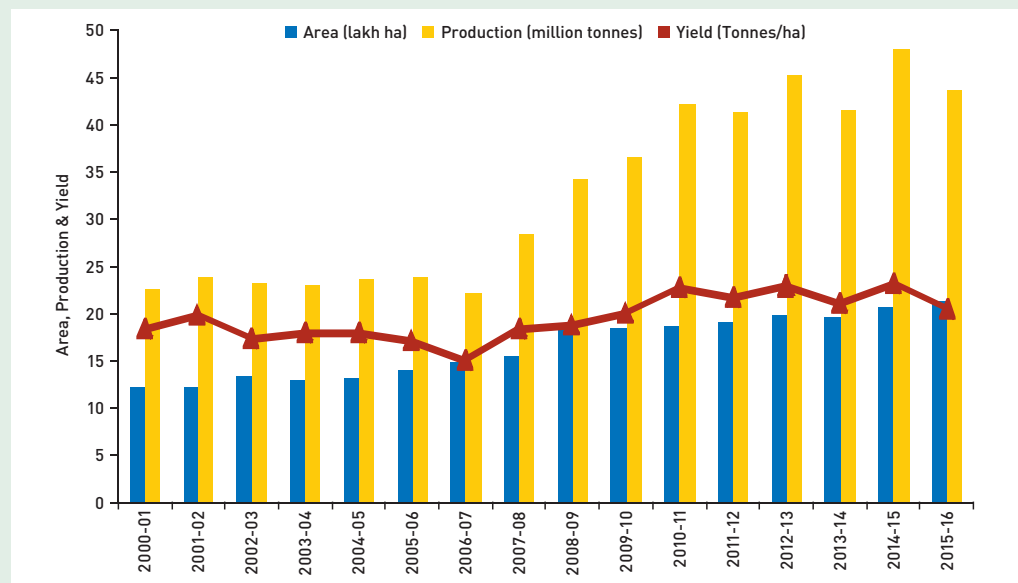
Sugar production in the next season (2017–18) is not only expected to be good but is also likely to start early and, therefore, there will be no shortage of domestically produced sugar in India. With the onset of the crushing season, domestic sugar prices are expected to fell during the months of December 2016 and January 2017. However, prices are expected to climb up after that as the country could face supply shortage in the domestic market. With an estimated opening balance of 7.7 million tonnes and the estimated production of 23.4 million tonnes, sugar availability during the 12 months of the next season will be 32.97 million tonnes, which is enough to meet the domestic sugar consumption requirement of 25 million tonnes during the 2016–17 season. Thus, the closing stock at the end of the season is expected to be 6.81 million tonnes, which would be sufficient to meet consumption in the initial period of the 2017–18 sugar season.

III.7 Potato

III.7.1 Area and Production Trends

India ranks as the world's second largest potato-producing nation after China, with a production of around 45.3 million tonnes in 2013. Of the total potato production in India, about 90 per cent of the production is done in the Rabi season. According to the 3rd AE by the National Horticultural Research and Development Foundation (NHRDF), India's total potato production in 2015–16 declined to 43.8 million tonnes from 48 million tonnes in 2014–15, signifying a decline of around 8.8 per cent. The area and productivity of potato in 2015–16 is 21.3 lakh hectares and 20.5 tonnes/ha, respectively, implying a growth of 2.8 per cent and decline of 11.5 per cent over the previous year (Figure III.7.1).

Figure III.7.1: Area, Production and Yield of Potato in India

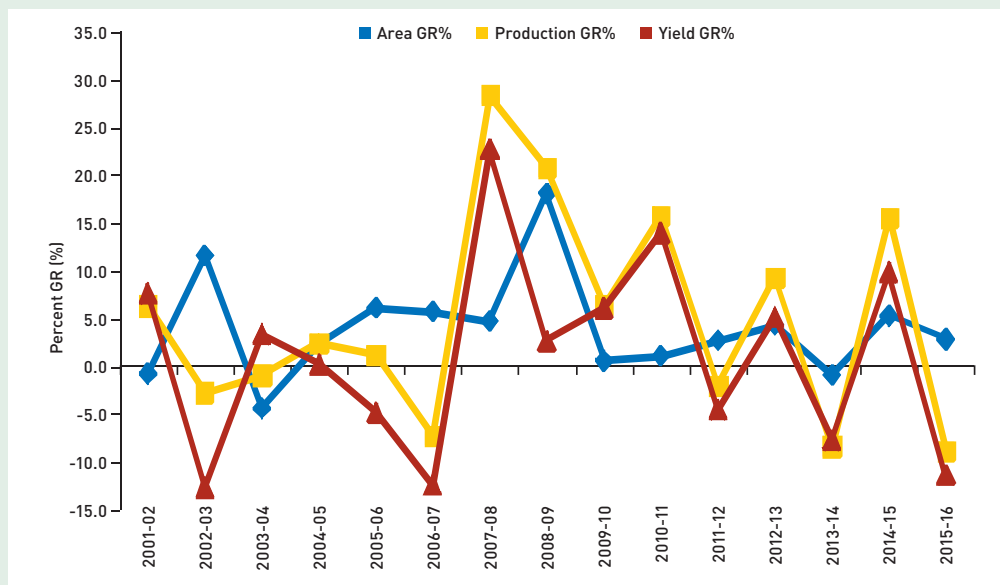


Source: Directorate of Economics and Statistics, Ministry of Agriculture, 3rd AE 2015–16.

The all-India trends show that potato production grew at a compound annual growth rate of 6.2 per cent during the last decade (2005–06 to 2015–16), while it stood at 4.3 per cent and 1.9 per cent in the case of area and yield, respectively. It is a matter of concern that the rate of growth of production has been much lower in the second half of the decade as

compared to the first half. During the first half of the decade, that is, 2005–06 to 2010–11, the production of potato increased by nearly 12 per cent on an annual basis, whereas during the period 2011–12 to 2015–16, it grew by just 1.4 per cent annually. Unfavourable weather conditions and late blight disease in some pockets of Uttar Pradesh and West Bengal (the states that are the largest and second largest producers of tuber, respectively) are among the major reasons for lower production levels during 2015–16. The year-wise growth trends of potato are given in Figure III.7.2.

Figure III.7.2: Percentage Change in Area, Production and Yield of Potato



Source: Author's calculation.

More than 80 per cent of the potato production in 2014–15 was concentrated in five states, viz. Uttar Pradesh, West Bengal, Bihar, Madhya Pradesh and Gujarat. Within the top five states, more than 31 per cent of the production was concentrated in Uttar Pradesh itself, while West Bengal and Bihar accounted for 25 per cent and 13.2 per cent of the total potato production in India, respectively.

III.7.2 Supply and Demand

Almost 99.6 per cent of the potato production in India is consumed domestically. Potato production is likely to improve from 43.7 million tonnes in 2015–16 to 47.5 million tonnes in 2016–17, but would still remain lower than the 2014–15 production level of 48 million tonnes. Exports are estimated at 199 thousand tonnes in 2016–17 and as a percentage of production, they are expected to remain at 0.42 per cent in 2016–17, similar to that witnessed in 2015–16 (Table III.7.1). Potato imports are negligible.

Potato production is likely to improve from 43.7 million tonnes in 2015–16 to 47.5 million tonnes in 2016–17.

Table III.7.1: Potato Supply and Demand ('000 Tonnes)

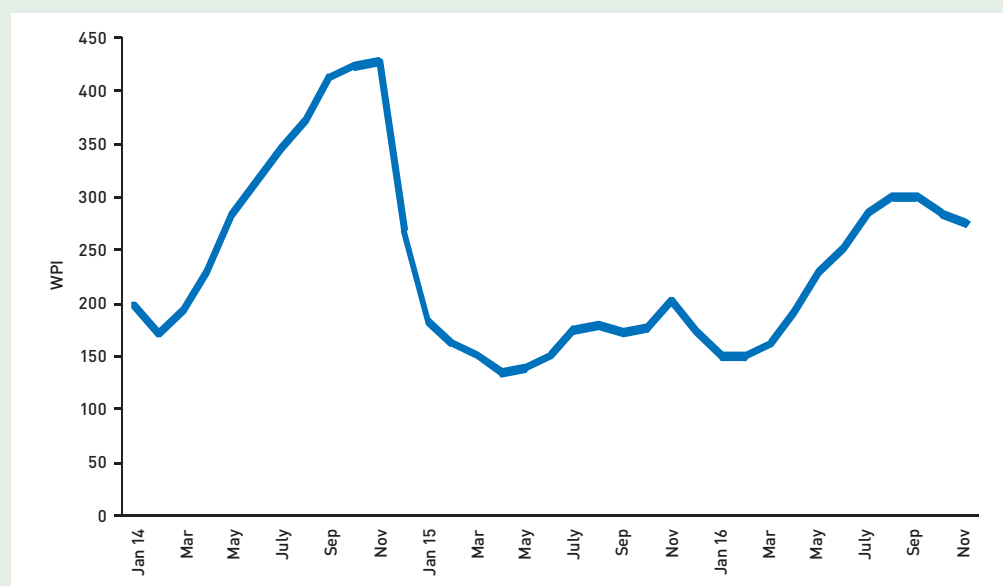
Particulars	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16E	2016-17F
Production	42339	41483	45343	41555	48009	43770	47500
Imports	0	0	0	0	0	0	0
Total Supply	42339	41483	45343	41555	48009	43770	47500
Exports	158.6	171.3	114.2	166.6	306.0	180.8	199.0
Total Domestic Use	42180	41312	45229	41388	47703	43589	47301
Exports as per cent of Production	0.37	0.41	0.25	0.40	0.64	0.41	0.42
Domestic Use as per cent of Total Supply	99.6	99.6	99.7	99.6	99.4	99.6	99.6

Notes: E - Estimate; F- Forecast;

Source: NHRDF and National Horticulture Board.

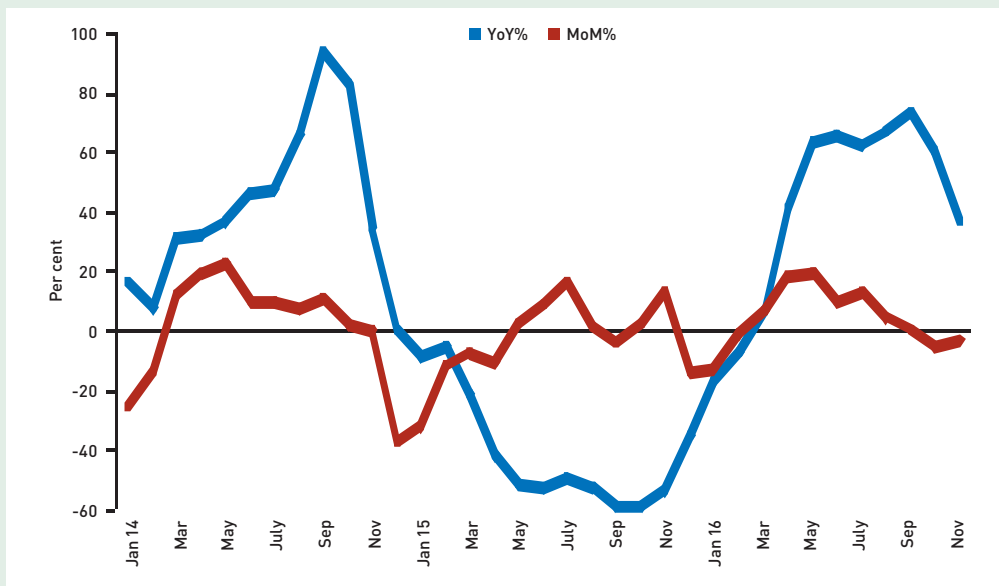
III.7.3 Prices

The annual average WPI for potato increased by around 62.6 per cent in 2016-17 (April–November). In contrast, potato prices in 2015-16 were comparatively lower than in 2014-15 (April–November) (Figure III.7.3). The hike in potato prices in 2016-17 is mainly on account of lower production due to bad weather affecting the output, particularly in the major producing states of Uttar Pradesh and West Bengal. Another factor that has put the squeeze on potato supply this year is the late blight disease that swept across potato fields in West Bengal. In the recent two months, however, the WPI shows a decline as new crop began to arrive in the markets. The M-o-M and Y-o-Y percentage changes are given in Figure III.7.4.

Figure III.7.3: WPI Trends in Potato


Source: Office of the Economic Adviser, Government of India.

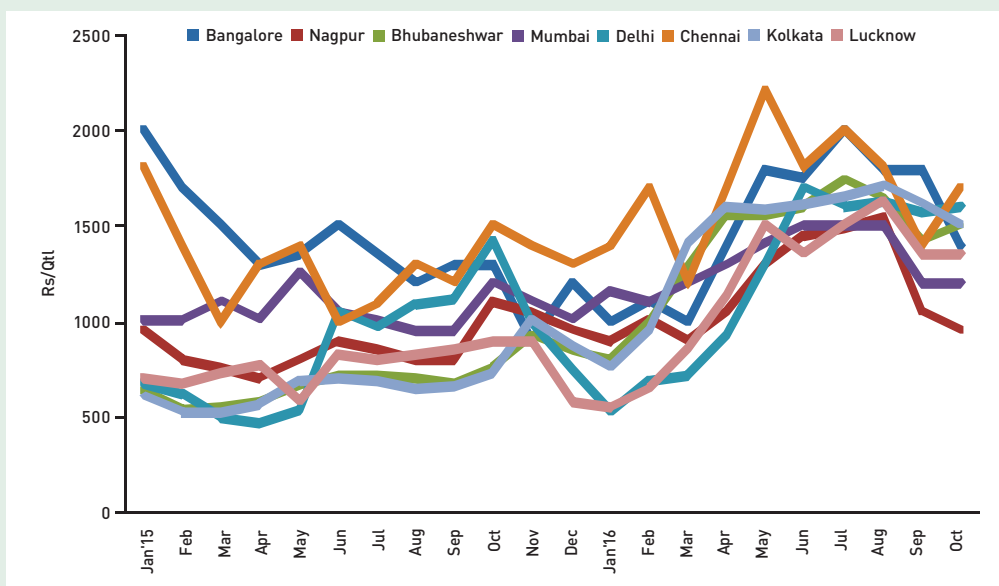
Figure III.7.4: Percentage Change in WPI M-o-M and Y-o-Y



Source: Calculations based on data from Office of the Economic Adviser, Government of India.

For the month of October, the wholesale prices were highest in Chennai, followed by those in Delhi, Bhubaneswar and Kolkata. The average prices for 2016 (April–October) are comparatively higher than those in 2015 (April–October) in all the major markets (Figure III.7.5). The reason for the high prices is the sudden increase in demand from the states of Bihar, Jharkhand, Odisha, and Assam, as also from South India where heavy rains have damaged the crops and the consequent increase in demand is being met from distribution of the old stock. In terms of the y-o-y percentage change, the prices have remained the highest in Kolkata, Bhubaneswar and Lucknow during the months of April–October 2016 over the corresponding period last year.

Figure III.7.5: Wholesale Prices of Potato in Major Cities

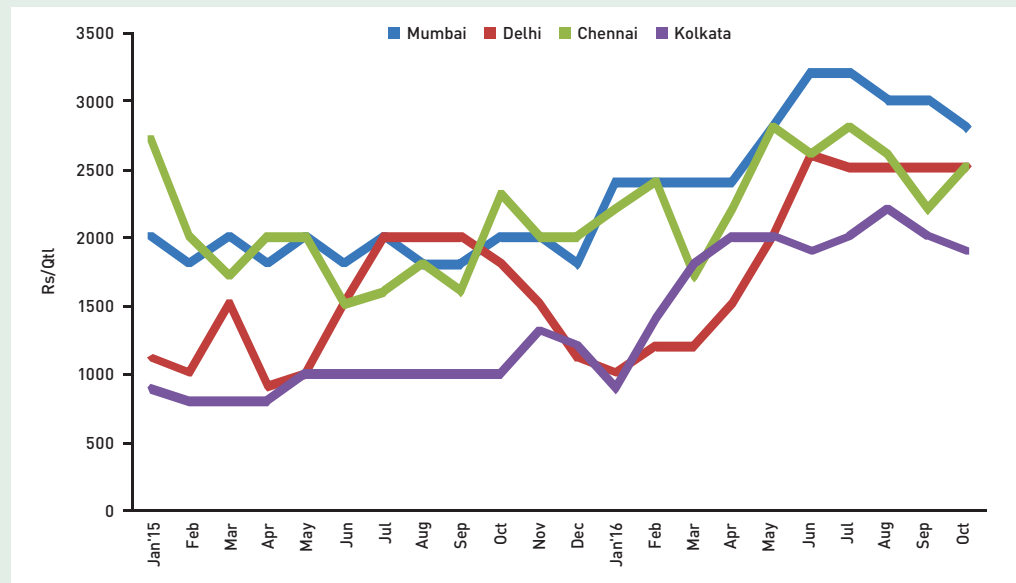


Source: Directorate of Economics and Statistics, Ministry of Agriculture.



The retail price, on an average, also shows an increase in all the four major metropolitan cities in 2016 over 2015 for the months of April to October (Figure III.7.6).

Figure III.7.6: Retail Prices of Potato in Metro Cities



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

The Government stepped in by taking the following measures during 2016 to control prices and improve exports:

- Concerned over the rising retail prices amid production shortfall, the government has cut import duty on four items including potatoes ahead of the festival season to boost supplies and ensure that prices remain under check. The Central Board of Excise and Customs (CBEC) issued a notification on September 23, 2016 to cut the import duty on potatoes to 10 per cent from the previous rate of 30 per cent till October 2016.
- Recently, in the last week of December 2016, the government announced the removal of the minimum export price (MEP) of potato to boost shipments of the kitchen staple. The MEP of \$360 (about 24,000) per tonne was imposed on potato in July 2016 to increase domestic availability and cool down prices.

III.7.4 Market Arrivals

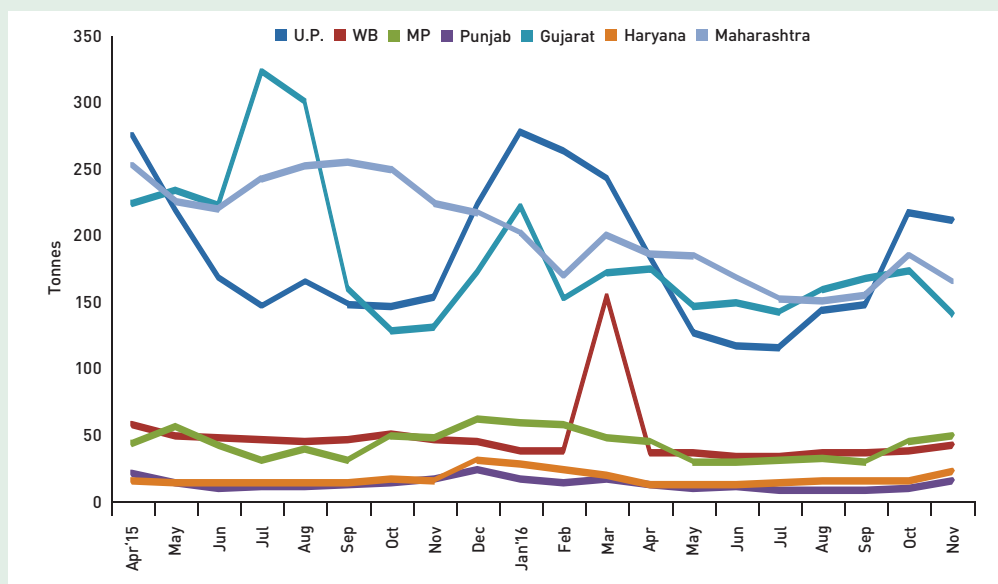
The average market arrival of potato has declined for all the major markets in 2016 (April–November) as compared to the corresponding month during the previous year, except for Bangalore, where it shows an increase of 5.4 per cent in 2016 over 2015. The market arrivals show a declining trend in most of the major markets till September 2016. Kolkata recorded a continuous decline in market arrivals during the period April–October 2016 except for the month of July. Even Lucknow reported a continuous decline in the arrivals of potato during the period February–August 2016. The months of October and November 2016, however, reflect improvements in market arrivals of potato in most of the major cities, which has further resulted in price moderation (Table III.7.2).

Table III.7.2: Monthly Arrival of Potatoes in Wholesale Markets (Tonnes)

Centres	April 2016	May 2016	June 2016	July 2016	August 2016	September 2016	October 2016	November 2016
Delhi	43851	35070	29960	38285	37248	34438	50813	60584
Mumbai	27825	24974	28710	24584	31016	28320	30391	28808
Kolkata	516	299	232	245	220	161	60	161
Bangalore	21690	23643	24691	22954	26442	26826	30734	27119
Lucknow	5250	4384	2713	2487	341	1468	2915	3733

Source: AGMARKNET.

The average per day market arrival of potatoes also reveals a decline in almost all major states during the period April–November 2016 over the corresponding period in 2015, except for Haryana, where it shows a slight improvement (Figure III.7.7). On a y-o-y basis, there was a decline in arrival of potatoes in the states of Maharashtra followed by West Bengal and Punjab in November 2016 over the corresponding period last year. On a m-o-m basis, Maharashtra, Gujarat and Uttar Pradesh recorded a decline in November 2016 over October 2016. Overall, the situation indicates an improvement in the per day average market arrivals from October onwards.

Figure III.7.7: Per Day Average Market Arrival of Potatoes (Tonnes)


Source: AGMARKNET.

Assessment

As per the 3rd AE by the NHRDF, the all-India production of potato during 2015–16 declined by 8.8 per cent from 48 million tonnes in 2014–15 to 43.8 million tonnes. As a result of lower production levels, the arrivals in all major markets have also declined, which has further resulted in higher prices throughout 2016. However, for 2016–17, the production is likely to be higher at 47.5 million tonnes. Due to improved expectations of production levels in the current financial year, potato prices may moderate in the short run. However, a sudden increase in demand from the states of Bihar, Jharkhand, Odisha, and Assam as also from South India have recently pushed up the prices. The potato crop has been damaged in these areas due to heavy rains and the demand is being met from the old stock. Therefore, prices may remain volatile without government intervention. The recent announcement on the removal of minimum export prices of \$360 per tonnes on potatoes is likely to improve the export situation in 2016–17.

NCAER has projected the production of onion at 22.5 million tonnes for the year 2016–17, which is higher by 7.2 per cent, as compared to the 3rd AE by NHB for 2015–16.

III.8 Onion

III.8.1 Higher Production in 2016–17

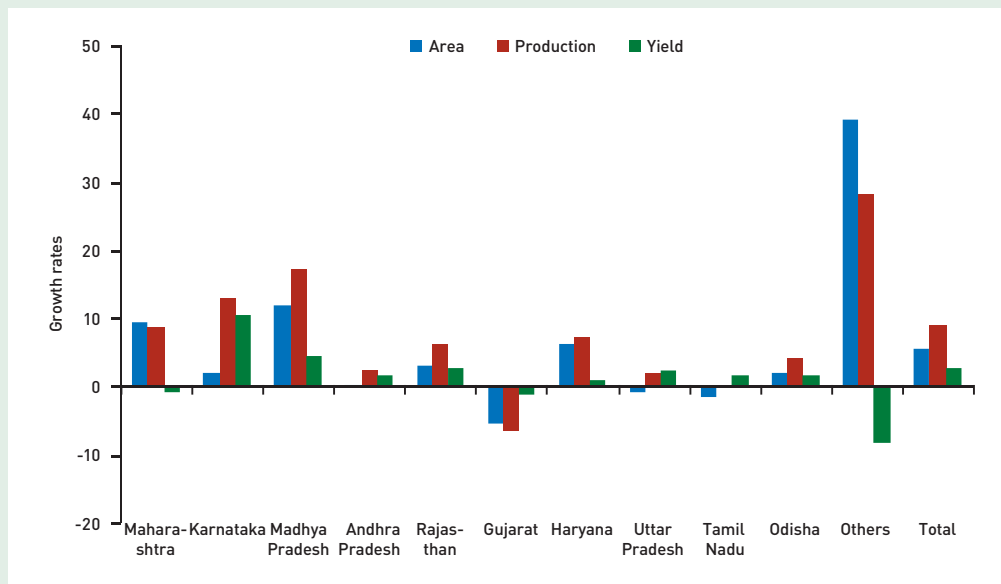
NCAER has projected the production of onion at 22.5 million tonnes for the year 2016–17, which is higher by 7.2 per cent, as compared to the 3rd AE by NHB for 2015–16. The 3rd AE of production of onion by NHB is 20.99 million tonnes in 2015–16 as compared to 18.93 million tonnes in 2014–15, signifying an increase of 11 per cent. The growth of area has contributed 40.37 per cent whereas increase in yield has contributed a little higher at 57.12 per cent, due to favourable climate conditions for the crop in the major onion-producing states. The area and productivity of onion in 2015–16 is estimated at 12.25 lakh hectares and 17.1 tonnes/ha respectively. Maharashtra (27.6 per cent) contributes the largest share in national onion production, followed by Karnataka (14.7 per cent), Madhya Pradesh (13.6 per cent), Bihar (10.2 per cent), Gujarat (5.4 per cent) and Andhra Pradesh (4.3 per cent) (Table III.8.1).

Table III.8.1: Area, Production and Yield of Onion by States, 2015–16 (3rd AE)

States	Area (000 Ha)	Production (000 MT)	Yield (Tonnes/Ha)	Percentage Share of Production
Maharashtra	441.9	5803.0	13.1	27.6
Karnataka	187.0	2985.8	16.0	14.2
Madhya Pradesh	117.9	2848.0	24.2	13.6
Bihar	54.3	2142.0	39.4	10.2
Gujarat	44.3	1126.6	25.4	5.4
Andhra Pradesh	38.4	895.6	23.3	4.3
Rajasthan	61.4	800.1	13.0	3.8
Haryana	28.7	667.1	23.3	3.2
Uttar Pradesh	24.5	413.6	16.9	2.0
Other states	226.74	2651.3	11.7	12.6
All states	1225.0	20991.1	17.1	100.0

Source: National Horticulture Board.

The annual average growth rate of area and production during the years 2005–06 to 2015–16 has varied across states (Figure III.8.1). Despite a decline in the area under onion cultivation, Uttar Pradesh and Tamil Nadu showed positive growth of production, while Gujarat showed negative growth in the area, yield and production during the same period.

Figure III.8.1: Annual Average Growth of Area, Production and Yield of Onion (per cent) (2005-06-2015-16)


Note: * 3rd AE.

Source: National Horticulture Board.

III.8.2 Onion Supply and Demand

The domestic consumption of onion increased from 87.7 per cent in 2008-09 to 95.8 per cent in 2016-17 from the total supply (Table III.8.2). Onion production is forecast by NCAER to increase at 22.5 million tonnes in 2016-17 as compared to 20.99 million tonnes in 2015-16. The share of onion export decreased from 12.31 per cent in 2008-09 to 4.21 per cent in 2016-17. The decline of exports may be due to the increased MEP (Minimum Export Price) for onions to \$ 700 per metric tonne from \$ 425 per metric tonne during the previous years. However, the Government has reduced the MEP in December 2015 to enhance exports following pressure from farmers, which has curtailed the drop in onion prices.

Table III.8.2: Onion Supply and Demand ('000 Tonnes)

Particulars	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16 E	2016-17F
Production	13565	12159	15118	17511	16813	19402	18927	20991	22500
Imports	0.09	0.63	12.51	0.01	0.45	17.84	0.39	34.36	-
Total Supply	13565	12159	15131	17511	16813	19420	18928	21025	22500
Exports	1670	1665	1182	1310	1667	1482	1238	1201	946.8
Total Utilisation	11895	10494	13948	16201	15147	17937	17690	19824	21553
Percentage Share of Export to Production	12.31	13.69	7.82	7.48	9.91	7.64	6.54	5.72	4.21
Percentage Share of Domestic Use to Total Supply	87.7	86.3	92.2	92.5	90.1	92.4	93.5	94.3	95.8

Note: *E-advance Estimates, F-Forecast

Source: National Horticulture Board and APEDA * April-September-2016.

III.8.3 Prices of Onion

The price of onion is expected to follow the pattern of seasonality-related to the crop sowing and harvesting. The average annual wholesale price of onion measured by the WPI was lower at 249.5 in 2016 as compared to 453 in 2015. During the period April to

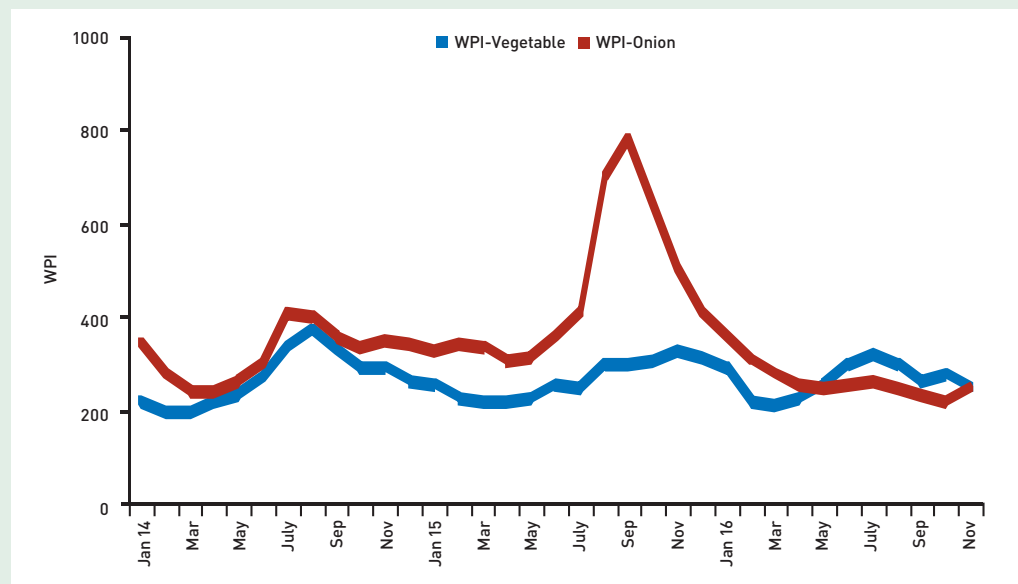
The price of onion is expected to follow the pattern of seasonality-related to the crop sowing and harvesting.

October 2016, the average annual WPI for onion was approximately 92 per cent lower than that of the average WPI of onion during the period April to October 2015.

The average WPI for onion increased from 330.2 in January to 332.5 in March 2015 with an amplitude of 2.3. In 2015, the rise and fall of the WPI of onion is confined within an extremely high range from 309.6 in April to 782.8 in September with an amplitude of 473.2.

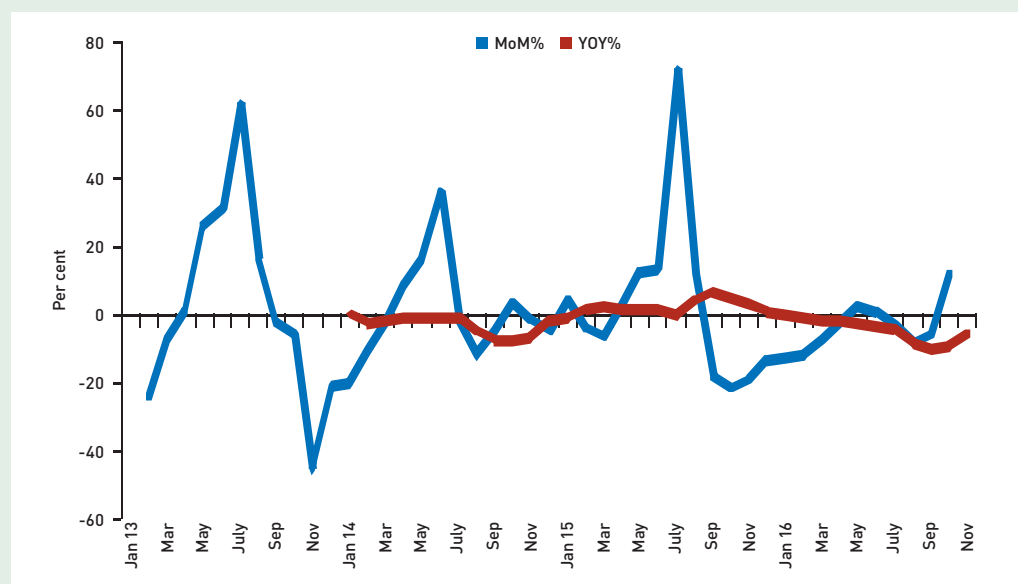
The WPI of onion started declining continuously from 642.3 in October 2015 to 230.8 in September 2016. The WPI of onion is more volatile as compared to the WPI of all other vegetables (Figure III.8.2).

Figure III.8.2: WPI Trends of Onion



Source: Office of the Economic Adviser, Government of India.

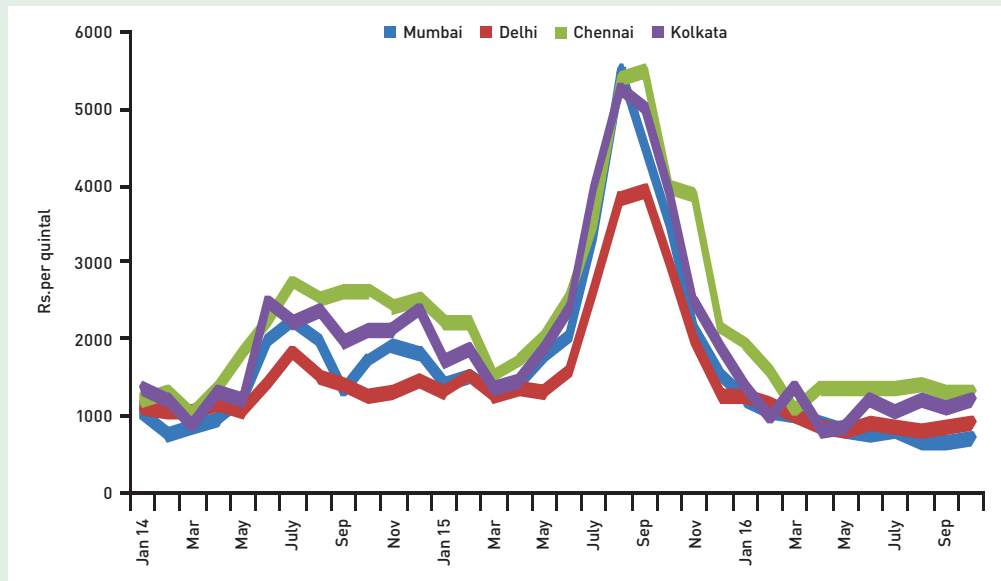
Figure III.8.3: Change in WPI in Onion M-o-M (per cent) and Y-o-Y (per cent)



Source: Office of the Economic Adviser, Government of India.

The M-o-M percentage change of WPI for onion showed more volatility as compared to the normal cyclical trend. Similarly, the y-o-y percentage change of WPI of onion depicts a similar pattern and has been declining continuously from February to October 2016 (Figure III.8.3).

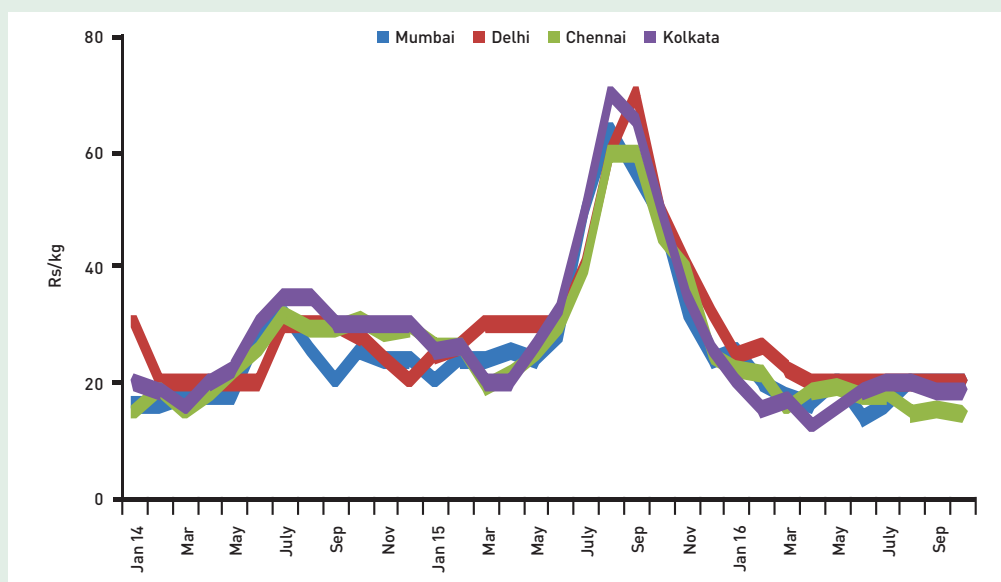
Figure III.8.4: Wholesale Prices of Onion in Metro Cities (Rs./Quintals)



Source: Office of the Economic Adviser, Government of India.

The seasonal pattern of the movement of onion prices seems to have been considerably influenced in major metro cities. The wholesale price of onion declined in all major markets in the metro cities between January and March in 2014, 2015 and 2016, which were the low price seasons. The wholesale price of onion was extremely high in 2015 between May and October 2016 due to low production in the previous year and inadequate market arrivals (Figure III.8.4). The retail price of onion also shows a similar pattern (Figure III.8.5).

Figure III.8.5: Retail Prices of Onion in Metro Cities



Source: Office of the Economic Adviser, Government of India.



Although the price of onion started declining from November 2015 in all the major markets, including Ahmedabad, Mumbai, Delhi, Chennai, Kolkata, Lucknow, Bengaluru and Bhubaneswar, the inter-market variations of the price of onion per quintal were quite high (Table III.8.3). In October 2016, the price of onion per quintal was highest (Rs 1300.00) in Chennai and lowest was at Rs 700 quintals in Mumbai. Among all selected major markets, the price of onion per quintal declined significantly from January to October 2016. The decline of price of onion per quintal over January to October in 2016 is as high as 5.4 per cent in Lucknow, 5.2 per cent in Mumbai, 3.4 per cent in Delhi, 3.7 per cent in Chennai and 1.01 per cent in Kolkata. The low wholesale price of onion per quintal may be attributed to better domestic production over the previous years as well as better market arrivals.

Table III.8.3: Monthly Wholesale Prices of Onions in 2015 and 2016 (Rs./Quintals)

State	Nov-15	Dec-15	Jan-16	Feb-16	Mar-16	Apr-16	May-16	Jun-16	Jul-16	Aug-16	Sep-16	Oct-16
Ahmadabad	1625	1050	950	850	855	750	650	700	675	650	600	950
Mumbai	2100	1500	1200	1050	1000	900	800	750	800	650	650	700
Delhi	1950	1275	1275	1163	1025	875	800	900	863	800	850	900
Chennai	3900	2100	1900	1567	1067	1367	1367	1333	1333	1400	1300	1300
Kolkata	2500	1875	1400	975	1375	825	900	1238	1095	1250	1125	1250
Lucknow	2250	1300	1400	1000	1100	1000	875	740	800	925	890	800
Bengaluru	1200	1200	1000	750	750	850	750	900	1000	900	850	950
Bhubaneswar	1200	1200	1000	750	750	1100	1080	1200	1180	1100	850	1050

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

III.8.4 Market Arrivals

The arrival of onion in the wholesale market seems to have been considerably influenced by the crop calendar. In Maharashtra, the market arrivals were the highest in February (596 tonnes) and the lowest in November (258 tonnes); similarly, in Gujarat, the market arrivals were the highest in February (681 tonnes) and the lowest in July (99 tonnes); whereas in Karnataka, the market arrivals were the highest in October (968 tonnes) and the lowest in May (241 tonnes). The average market arrival was 250 tonnes during the period January to March, declining to 23 tonnes during the period April to June, and falling further to 192 tonnes during the period July to September.

The average daily arrivals of onion in the wholesale markets show stability in Uttar Pradesh, Rajasthan, Delhi and West Bengal as against the pattern of market arrivals in Maharashtra, Gujarat and Karnataka (Table III.8.4).

Table III.8.4: Average Daily Arrival of Onion in Wholesale Market (Tonnes)

State	Nov 2015	Dec 2015	Jan 2016	Feb 2016	Mar 2016	Apr 2016	May 2016	Jun 2016	Jul 2016	Aug 2016	Sep 2016	Oct 2016	Nov 2016	Dec 2016
Gujarat	287	222	588	681	455	498	148	318	99	100	117	114	105	188
Maharashtra	525	448	476	596	425	353	402	472	447	369	498	411	258	433
Delhi	390	363	440	378	405	390	478	420	433	464	439	481	414	517
UP	48	35	47	48	44	45	47	55	45	42	41	52	50	41
Karnataka	313	543	320	310	299	295	241	292	286	247	525	968	962	592
MP	89	171	82	88	138	109	244	104	109	94	95	74	58	124
Rajasthan	84	93	30	39	37	34	33	42	28	29	27	32	48	112
West Bengal	26	33	28	27	30	31	28	29	32	28	35	32	35	35
Average	220	239	251	271	229	219	203	217	185	172	222	270	241	255

Source: AGMARKNET.

The monthly arrivals of onion show an increase in January 2016 over December 2015 in Ahmedabad and Kolkata and a decrease in Delhi and Bengaluru. The highest increase was registered in Ahmedabad (24 per cent), and Kolkata (14.8 per cent), whereas the highest decrease was observed in Bengaluru (24.2 per cent) and in Delhi (1.8 per cent) during the same period (Table III.8.5). Based on the average monthly arrivals between January and March in the two metro cities, viz., Delhi, and Kolkata, it is observed that the arrival of onion during the period January to March is 18 per cent higher than the arrivals of onion between April and June. This depicts the coincidence with the pattern of seasonality of the crop calendar, which considerably influences seasonal price variation.

Table III.8.5: Monthly Arrival of Onion in the wholesale Market (Tonnes), 2015 and 2016

State	Nov-15	Dec-15	Jan-16	Feb-16	Mar-16	Apr-16	May-16	Jun-16	Jul-16	Aug-16	Sep-16	Oct-16	Nov-16
Ahmedabad	18092	17162	21278	18854	15752	17650	17322	15459	15683	15647	16728	16249	16061
Delhi	28331	28470	27948	33419	30797	32434	32772	32990	27452	23927	29856	38923	24394
Kolkata	6000	4655	5345	3608	5054	3636	4294	4638	5440	6456	52560	1460	3572
Bengaluru	77276	55668	42204	37443	52905	43854	48528	45580	47097	56282	85916	166840	18335
Average	32033	27361	27021	23370	26444	24683	23610	24481	21195	25421	40478	48282	17386

Source: AGMARKNET.

III.8.5 Trade Status of Onion

India has been the second largest producer of onion and is also a major exporter to 54 countries in the world. The export of onion for the year 2016–17 is much higher as compared to the export volume of the year 2015–16. South Asia, Asian, West Asia-GCC, East Africa and EU countries are the major importers of onion from India. India exported about 45 per cent of onion to South Asian countries alone during the period April to September 2016–17 (Table III.8.6).

Table III.8.6: Onion Export Status, April–September 2016–17 by Region

Region	Quantity (MT)	Percentage of the Total	(Rs Crores)	Percentage of the Total
South Asia	421666.5	44.5	514.6	42.7
Asian	233087.7	24.6	309.1	25.7
West Asia-GCC	262079.7	27.7	328.7	27.3
East Africa	11399.6	1.2	22.2	1.8
EU Countries	5046.52	0.5	9.9	0.8
Other countries	13115.54	1.4	19.26	1.6
Total	946755	100.0	1204.3	100.0

Source: APEDA.

Assessment

Despite the low price of onion due to the bumper crop last year, NCAER projected the production of onion for 2016–17, to be 7.2 per cent higher than the 3rd AE by the NHB for 2015–16. The export of onion also increased from 133.4 thousand tonnes in January to 292.44 thousand tonnes in September 2016. This year, the export volume increased by 19 per cent in January to 990 per cent in September 2016 as compared to the corresponding period during 2015. The Government has extended the export incentive of 5 per cent to exporters under the Merchandise Exports from India Scheme (MEIS) on onion till March 31, 2017, which will further enhance the export of onion in the next few months. However, the price of onion is more volatile than that of the other vegetables.

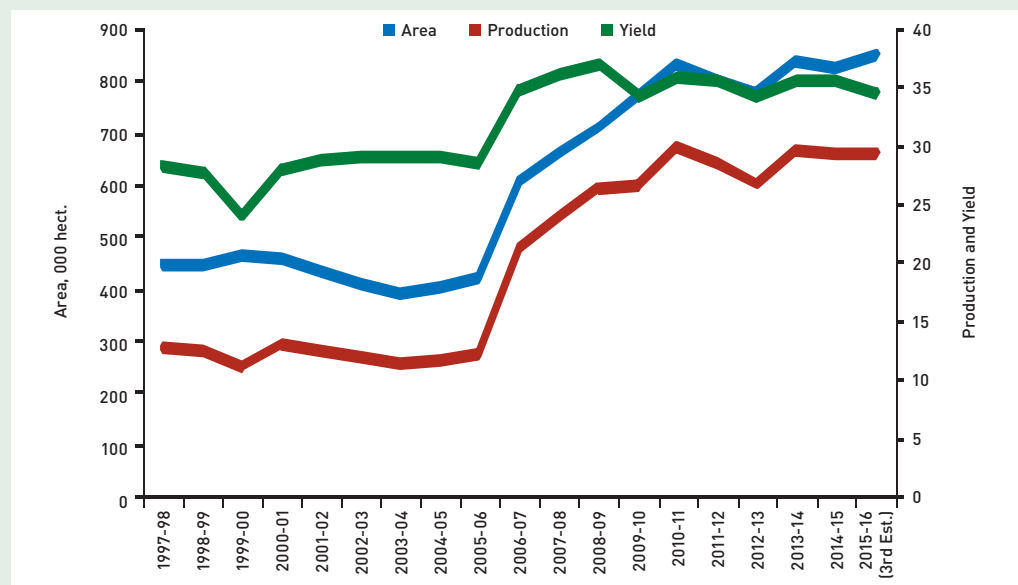
III.9 Banana

III.9.1 Marginal Increase in Production in 2016–17

As per NCAER's projection, the production of banana is estimated at 30.2 million tonnes, which is higher by 3.69 per cent, as compared to the 3rd AE by NHB for 2015–16.

The production of banana is estimated at 29.12 million tonnes for 2015–16 by NHB, which is lower by 0.33 per cent than the final production of 2014–15. The growth in the production of banana is accounted for mainly by the growth in area, which has increased by 2.94 per cent from 822 thousand hectares in 2014–15 to 846.0 thousand hectares in 2015–16, while the yield declined by (-3.2 per cent) during the same period (Figure III.9.1). The yield remained stagnant around 35 tonnes/ha- from 2009–10 to 2015–16.

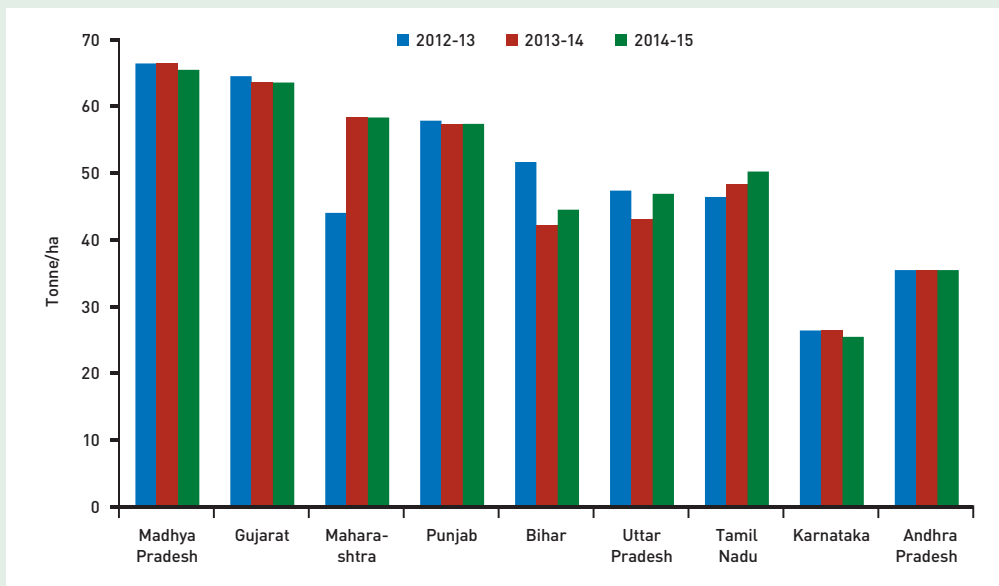
Figure III.9.1: Area ('000 Ha), Production (Million Tonnes) and Yield (Tonnes/Ha) of Banana



Source: National Horticultural Board.

The yield of banana in the major banana-producing states, viz., Madhya Pradesh, Gujarat, Punjab, Andhra Pradesh and Karnataka, has remained stagnant continuously for the last three years, that is, 2012–13 to 2014–15, while in Uttar Pradesh and Tamil Nadu, there was some improvement in productivity during the same period (Figure III 9.2).

Figure III.9.2: State-wise Trend of Productivity of Banana in the Major Banana Producing States

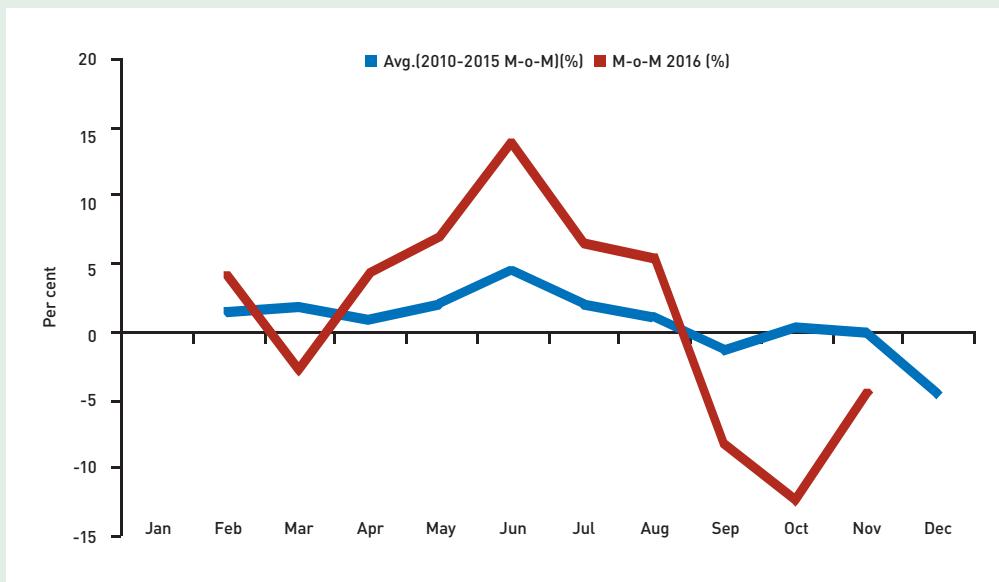


Source: National Horticultural Board.

III.9.2 WPI of Banana

The rise and fall of the WPI of banana is confined within a narrow range from WPI 281.8 in February 2015 to 242.8 in December 2015 with an amplitude of 39. The WPI of banana showed a continuous increase from March to September 2016. However, the M-o-M average (for 2010–2015) percentage change of the WPI of banana was more stable as compared to the actual M-o-M percentage change for 2016 (Figure III.9.3).

Figure III.9.3: Change in WPI in Banana (per cent)



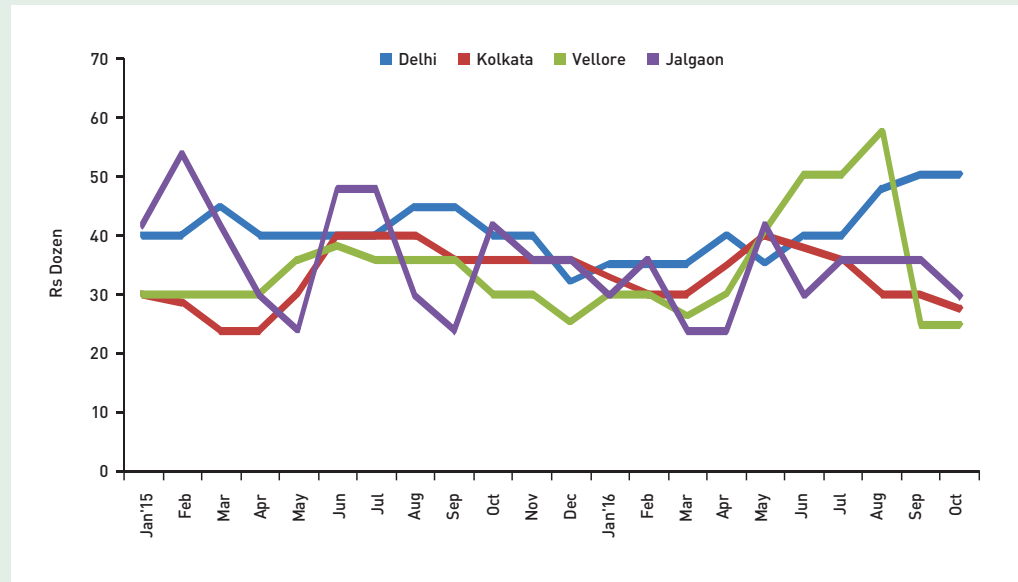
Source: Office of the Economic Adviser, Government of India.

The wholesale price of banana per dozen declined significantly from November 2015 to July 2016 in Delhi, Kolkata and Jaalgaon. In Vellore, it increased from May 2016 to August



2016, and declined sharply in September 2016. The Vellore and Jalgaon markets have a very high volatility with regard to the wholesale price per dozen of banana due to inadequate market arrivals as compared to the more populous metro cities like Delhi and Kolkata (Figure III.9.4).

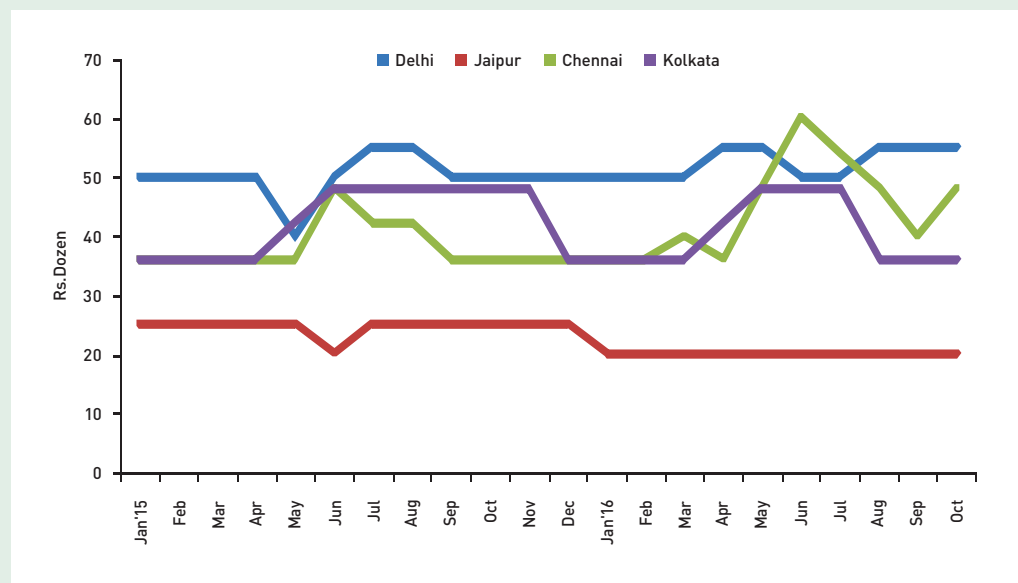
Figure III.9.4: Wholesale Prices of Banana in Selected Cities (Rs./Dozen)



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

The data pertaining to the retail price of banana per dozen showed wide market variations among the four metro cities, viz. Delhi, Kolkata, Chennai and Jaipur. Jaipur has the lowest price per dozen of banana as compared to Delhi, Kolkata, and Chennai for the same variety (Figure III.9.5).

Figure III.9.5: Retail Prices of Banana in Selected Cities (Rs./Dozen)



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

Table III.9.1 presents the extent of regional variation of the average wholesale and retail price of banana per dozen among the metro cities over the periods September 2015 to September 2016 and October 2015 to October 2016. In the wholesale market, the price of banana per dozen increased in Delhi, Kanpur and Vijayawada, while it decreased in Kolkata, Vellore and Jalgaon during the period October 2015 to October 2016. In the retail market, the price of banana per dozen increased in Chennai and Delhi, while it decreased in Jaipur and Kolkata during both the periods under consideration.

Table III.9.1: Monthly Price Differential (Rs/dozen): Wholesale

Cities	September 2015	October 2015	September 2016	October 2016	Percentage Change September 2015–16	Percentage Change October 2015–16
Delhi	45	40	50	50	0.9	1.9
Kolkata	36	36	24	28	-3.3	-2.1
Vellore	36	30	25	25	-3.0	-1.5
Jalgaon	24	42	36	30	3.4	-2.8
Kanpur	23	18	22	23	-0.2	1.9
Vijayawada	25	25	48	48	5.5	5.5
Nagpur	66	66	66	66	0.0	0.0

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

Table III.9.1a: Monthly Price Differential (Rs/Dozen): Retail

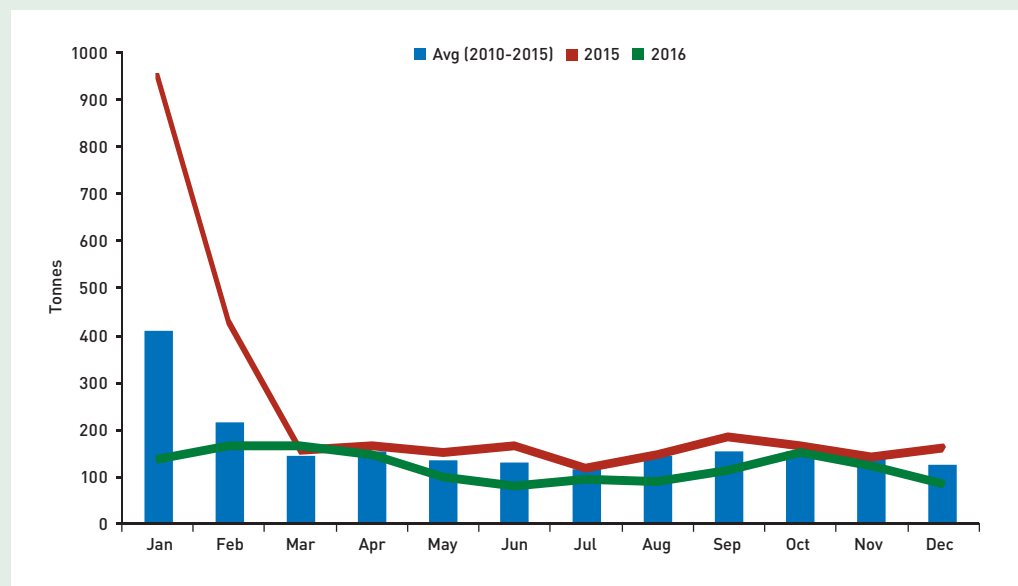
Cities	September 2015	October 2015	September 2016	October 2016	Percentage Change September 2015–16	Percentage Change October 2015–16
Delhi	50	50	55	55	0.8	0.8
Jaipur	25	25	20	20	-1.8	-1.8
Chennai	36	36	40	48	0.9	2.4
Kolkata	48	48	36	36	-2.4	-2.4
Bhubaneswar	20	20	30	20	3.4	0.0

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

III.9.3 Pattern of Market Arrivals

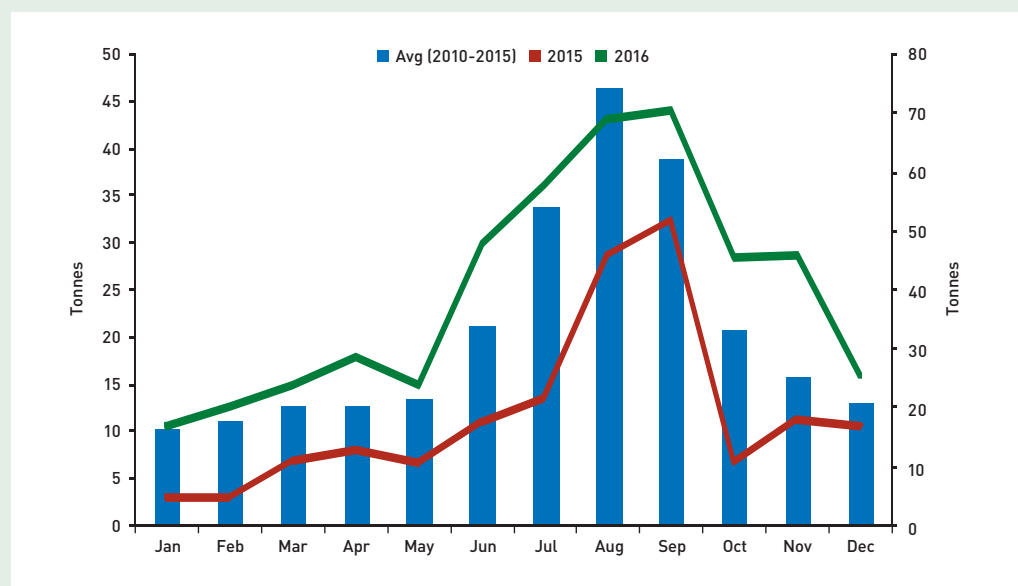
The average arrivals of banana in the wholesale market are higher during the period August to September in Delhi, Jalgaon, and Ahmedabad, as compared to the average arrivals during the periods January to March, April to June, and October to November. Jalgaon, known as the hub of banana production in Maharashtra, accounts for about 70 per cent of the total production of Maharashtra. Surprisingly, the average market arrivals are very low in Jalgaon, and remained at 2 to 4 tonnes throughout the year (Figures III.9.6.1-III.9.6.4).

Figure III.9.6.1: Banana-Per Day Average Arrivals in Bengaluru (Tonnes)

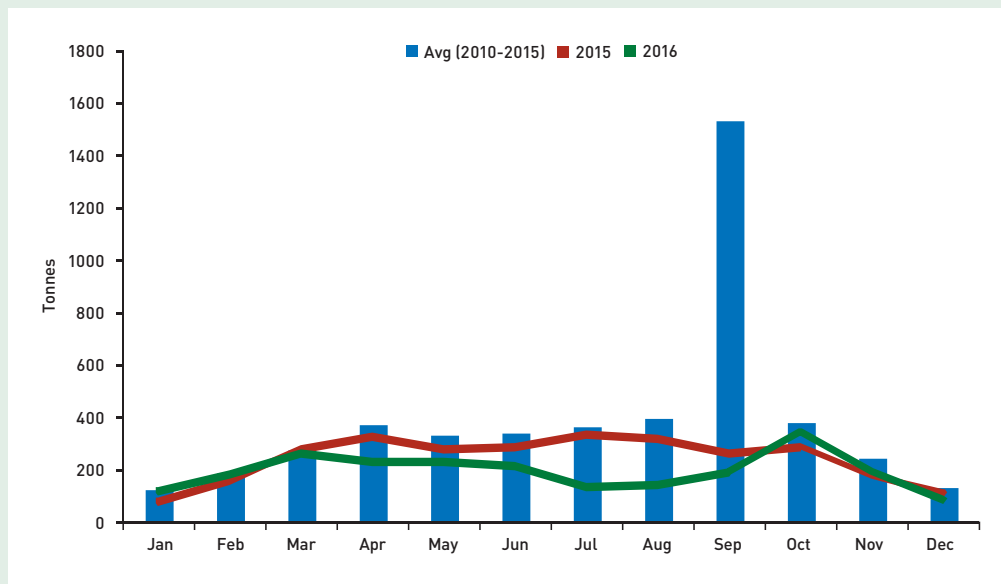


Source: AGMARKNET.

Figure III.9.6.2: Banana-Per Day Average Arrivals in Ahmedabad (Tonnes)



Source: AGMARKNET.

Figure III.9.6.3: Banana—Per Day Average Arrivals in Delhi (Tonnes)


Source: AGMARKNET.

VI.9.4 Supply and Demand for Banana

India is the largest grower of banana in the world and produces enough for domestic consumption. NCAER has projected that India would be producing 30.2 million tonnes of banana in 2016–17, which is higher by 3.69 per cent over the previous year. The export of banana has increased from 50 thousand tonnes in 2012–13 to 94 thousand tonnes in 2015–16, which is less than one per cent of the total production (Table III.9.2).

Table III.9.2: Supply and Demand for Banana ('000 Tonnes)

	2012–13	2013–14	2014–15	2015–16	2016–17F
GProduction	26509	29725	29222	29565	30200
Import	0	0	0	0	0
Total supply	26509	29725	29222	29565	30200
Export	50	35	63	94	59
Total Consumption	26459	29690	29159	29471	30141
per cent Share of Export to production	0.19	0.12	0.22	0.32	0.20

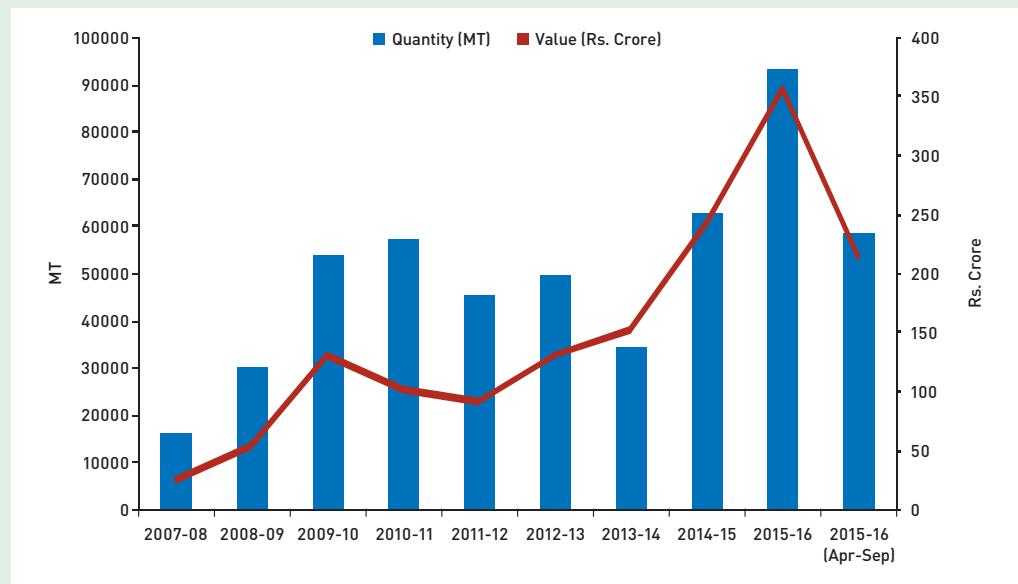
Source: APEDA * April–September–2016–17.

III.9.5 Export of Banana

India had exported 16,662.54 MT of banana in 2007–08, which increased to 93,673 MT (21 per cent) in 2015–16. The country exported 51,646 MT of banana during the last five months, that is, from April–August in the year 2016–17, which is more than 50 per cent of the export volume of the previous year (Figure III.9.7).

NCAER has projected that India would be producing 30.2 million tonnes of banana in 2016–17, which is higher by 3.69 per cent over the previous year.

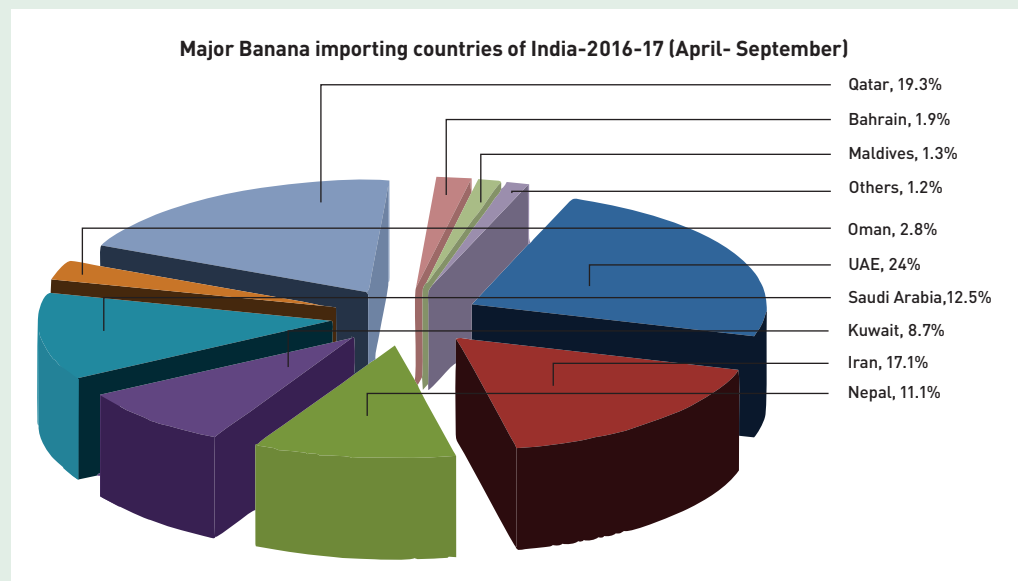
Figure III.9.7: Trend of Banana Export (MT) and Value (Rs. Crore)



Source: APEDA.

The main destinations of India's banana export countries are UAE, Iran, Saudi Arabia, Oman, Kuwait and Nepal. In 2016–17, about one-fourth of the total export of banana is scheduled to go to UAE, followed by Iran, Nepal, Saudi Arabia and Oman, respectively (Figure III.9.8).

Figure III.9.8: Share of the Total Export of Banana by Countries (per cent)



Source: APEDA.

Assessment

The growth of banana production may be mainly attributed to the growth of area. The yield remained stagnant in the major banana-producing states, which indicates a substantial requirement for investment in marketing infrastructures in the major banana-

The yield remained stagnant in the major banana-producing states.

producing states. Farmers should be encouraged to produce high quality products. In order to achieve the growth potential of banana, it is essential to prepare value added products with more export potential.

III.10 Milk

III.10.1 Production

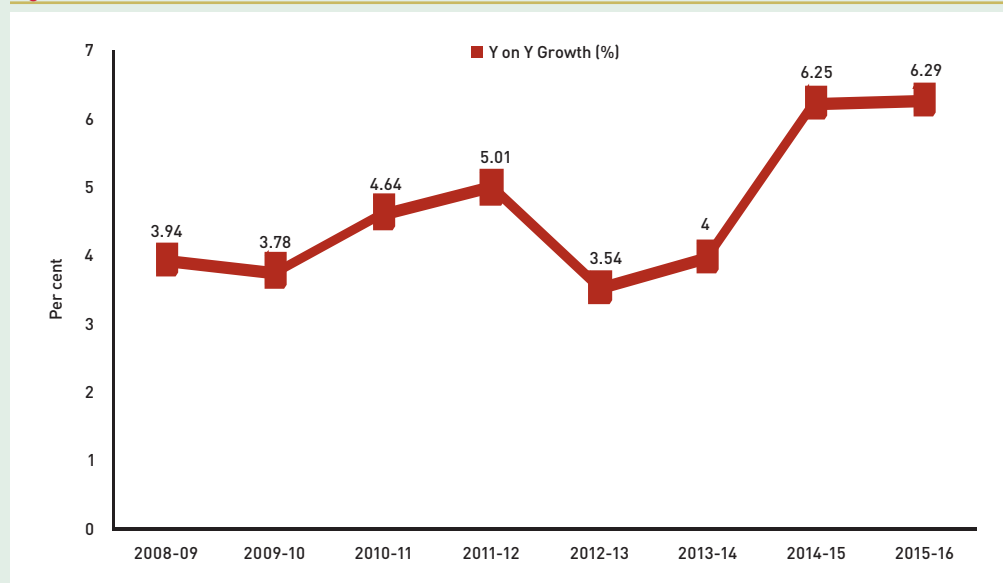
The dairy sector has witnessed a quantum jump in all areas, including milk production, processing and/or marketing during the last two years, compensating dairy farmers to some extent from the losses in crop sector and elsewhere due to two consecutive poor monsoon years. Milk production has gone up from 112.2 million tonnes during 2008-09 to 146.3 million tonnes during 2014-15, and further to 155.5 million tonnes in 2015-16 with an annual growth rate of 6.3 per cent achieved over the previous year during the last two years. It has achieved a significant jump in the annual growth rate over the previous year from 3.94 per cent during 2008-09 to 6.3 per cent during 2015-16. Table III.10.1 below presents the production and y-o-y growth rate in milk production since 2008-09.

Table III.10.1: Milk Production and Annual Growth Rate since 2008-09

Year	Milk Production (Million Tonnes)	Year on Year Growth (Per cent)
2008-09	112.2	3.94
2009-10	116.4	3.78
2010-11	121.8	4.64
2011-12	127.9	5.01
2012-13	132.4	3.54
2013-14	137.7	4.00
2014-15	146.3	6.25
2015-16	155.5	6.29

Source: Department of Animal Husbandry, Dairying and Fisheries, Government of India.

Figure III.10.1: Y-o-Y Growth in Milk Production (2008-09 onwards)



Source: Department of Animal Husbandry, Dairying and Fisheries, Government of India.



The growth in milk production varies widely in various regions and among states within the regions.

However, all the states are not doing well and the growth in milk production varies widely in various regions and among states within the regions. The western and central Indian states have done well in terms of growth in milk production during 2015–16, while the North-eastern and eastern states, due to their regional peculiarities, are trying to catch up. Rajasthan (9.25 per cent) and Maharashtra (6.4 per cent) have achieved a higher growth rate during 2015–16 among all the western regional states whereas Madhya Pradesh has achieved a significantly higher growth rate (12.7 per cent) in milk production among the two central regional states of Madhya Pradesh and Chhattisgarh during 2015–16. Bihar (6.6 per cent) in the eastern region and Sikkim (33.5 per cent), Arunachal Pradesh (8.8 per cent), Tripura (7.8 per cent) and Mizoram (7.4 per cent) in the North-eastern region have performed better during the year.

Andhra Pradesh (12 per cent) in the southern region and Jammu & Kashmir (16.5 per cent), Himachal Pradesh (9.4 per cent) and Haryana (6.1 per cent) among the northern regional states have achieved a growth rate that is higher than the national average during 2015–16.

In terms of the Compound Annual Growth Rate (CAGR) during 2009–10 to 2015–16, the central and western Indian regions have done well in milk production at 8.7 per cent and 7.8 per cent, respectively. Table III.10.2 presents the region-wise and state-wise milk production and regional growth rate (2015–16).

Table III.10.2: Region-wise and State-wise Milk Production and Regional Growth Rate and CAGR

States	('000 Tonnes)							Growth during 2015–16 over 2014–15 to 2015–16	CAGR (per cent) during 2009–10 to 2015–16
	2009–10	2010–11	2011–12	2012–13	2013–14	2014–15	2015–16		
Southern States									
Andhra Pradesh	10429	11203	12088	12762	13007	9656	10817	12.02	
Tamil Nadu	5778	6831	6661	7005	7049	7132	7244	1.56	
Karnataka	4822	5114	5447	5718	5997	6121	6344	3.64	
Kerala	2537	2645	2716	2791	2655	2711	2650	-2.26	
Puducherry	46	47	45	47	47	48	48	0.84	
A & N Islands	24	25	22	21	14	16	15	-0.84	
Lakshadweep	2	2	2	2	6	4	3	-22.43	
Total	23638	25867	26981	28346	28776	25688	27121	5.58	2.32
Northern States									
Uttar Pradesh	20203	21031	22556	23330	24194	25198	26387	4.72	
Punjab	9389	9423	9551	9724	10011	10351	10774	4.08	
Haryana	6006	6267	6968	7040	7442	7901	8381	6.07	
Jammu & Kashmir	1604	1609	1614	1631	1615	1951	2273	16.53	
Uttarakhand	1377	1383	1417	1478	1550	1565	1656	5.78	
Himachal Pradesh	836	1102	1119	1139	1151	1172	1283	9.44	
Delhi	466	480	502	287	284	280	281	0.27	
Chandigarh	46	45	45	44	44	44	43	-1.86	
Total	39927	41340	43772	44673	46291	48464	51078	5.40	4.19

(Contd.)

Table III.10.2: Region-wise and State-wise Milk Production and Regional Growth Rate and CAGR (Contd.)

States	[000 Tonnes]							Growth during 2015-16 over 2014-15	CAGR (per cent) during 2009-10 to 2015-16
	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16		
Western States									
Rajasthan	9548	13234	13512	13946	14573	16934	18500	9.25	
Gujarat	8844	9321	9817	10315	11112	11691	12262	4.89	
Maharashtra	7679	8044	8149	8734	9089	9542	10153	6.40	
Goa	59	60	60	61	68	67	54	-18.41	
D&N Haveli	10	11	11	11	11	9	9	0.00	
Daman & Diu	1	1	1	1	1	1	1	-2.44	
Total	26141	30671	31550	33068	34854	38243	40979	7.15	7.78
Eastern States									
Bihar	6124	6517	6643	6845	7197	7775	8288	6.60	
West Bengal	4300	4471	4672	4859	4906	4961	5038	1.56	
Orissa	1651	1671	1721	1724	1861	1903	1930	1.44	
Jharkhand	1463	1555	1745	1679	1700	1734	1812	4.54	
Total	13538	14214	14781	15107	15664	16373	17070	4.26	3.94
North Eastern States									
Assam	756	790	796	800	815	829	843	1.69	
Tripura	100	104	111	118	130	141	152	7.79	
Manipur	78	78	79	80	82	82	79	-3.89	
Meghalaya	78	79	80	81	82	83	84	1.19	
Nagaland	78	76	78	79	81	76	77	1.73	
Sikkim	46	43	45	42	46	50	67	33.51	
Arunachal Pradesh	26	28	26	23	43	46	50	8.81	
Mizoram	11	11	14	14	15	20	22	7.37	
Total	1173	1209	1229	1237	1293	1328	1374	3.49	2.68
Central Indian States									
Madhya Pradesh	7167	7514	8469	8838	9599	10779	12148	12.70	
Chhattisgarh	956	1029	1120	1165	1209	1232	1277	3.71	
Total	8123	8543	9589	10003	10808	12011	13426	11.78	8.74

Source: Department of Animal Husbandry, Dairying and Fisheries, Government of India.

The sector is witnessing more action from private dairies, which are likely to continue, especially in the area of milk procurement. They are now shifting their strategies to source milk directly from farmers and not through contractors. Simultaneously, they are continuing their focus on production and the marketing of value added milk and milk products.

III.10.2 Consumption

With the sustained growth of the Indian economy and the consequent rise in the purchasing power during the last two decades, more people today are able to afford milk and other value added dairy products. The food basket of both rural and urban consumers has changed significantly during the period with an increase in the consumption of milk

The sector is witnessing more action from private dairies, which are likely to continue, especially in the area of milk procurement.

More people today are able to afford milk and other value added dairy products.

Western dairy products like packaged milk, cheese, ultra-high temperature (UHT) milk, yogurt with a high shelf life and new product launches will gain ground and provide a boost to farm incomes.

Traditionally, the WPI for eggs, meat and fish was higher than that for both milk and food products, but the trend is changing and milk inflation has been slightly edging higher.

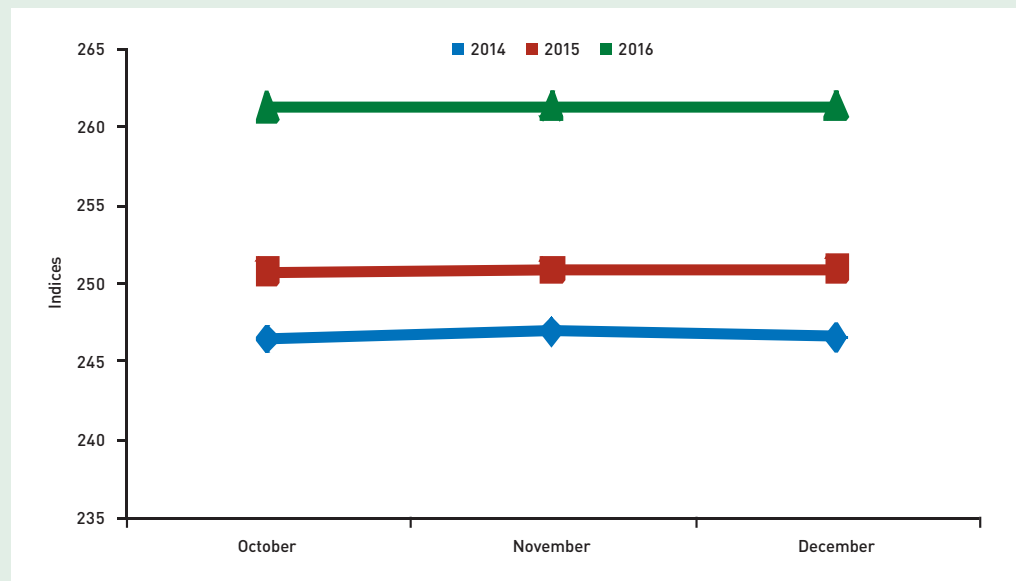
and milk products and that of eggs, meat and fish. There has been an increase of 125 and 130 per cent in the total food expenditure of an average rural and urban Indian during the period 2001–02 to 2011–12, whereas the increase in the expenditure on milk and milk products in rural and urban India has been of the order of 170 per cent and 147 per cent, respectively. Similar is the case in the expenditure on eggs, meat and fish, which is based on the Level and Pattern of Consumer Expenditure Surveys of the National Sample Survey Office (57th and 68th Rounds).

In line with the growing demand for packaged milk and other dairy products, dairy cooperatives and other dairy companies have also stepped up investment in cold-chain facilities for the procurement and marketing of milk and milk products. This growing trend in the demand for milk and milk products is expected to continue with the sector experiencing robust growth in the short and medium runs. With rising incomes, changing tastes and increasing urbanisation, Western dairy products like packaged milk, cheese, ultra-high temperature (UHT) milk, yogurt with a high shelf life and new product launches will gain ground and provide a boost to farm incomes.

III.10.3 Prices

The Rabi 2016 season is a flush season for dairy (when animals start producing more milk), which usually starts from September–October. During this period, milk production improves and prices tend to stabilise. This can be seen from Figure III.10.2.

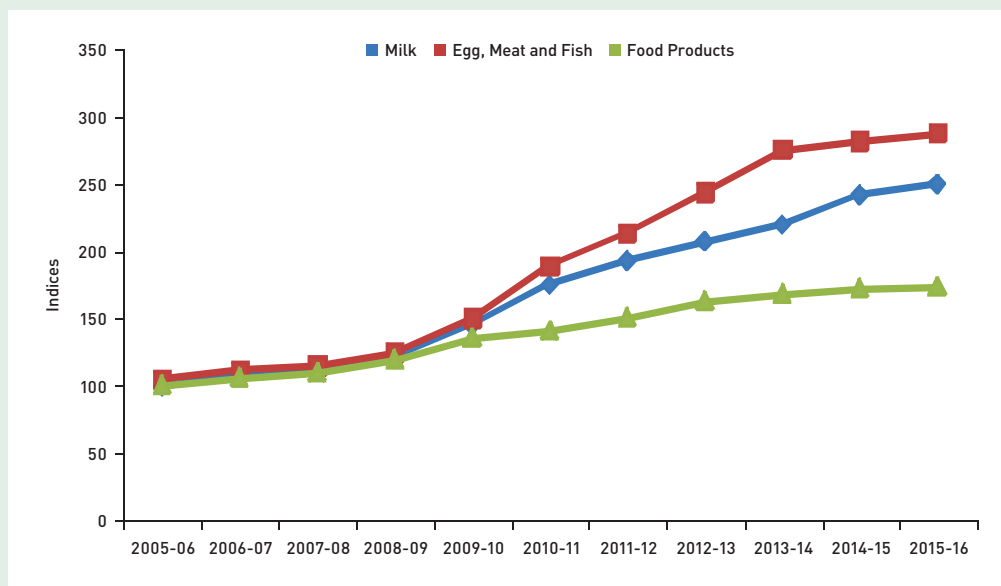
Figure III.10.2: Trend in WPI of Milk during the Period October–December for the Last Three Years



Source: Office of the Economic Adviser, DIPP, Gol. Base Year: 2004–05. The WPI for December 2016 has been presumed at the November 2016 level.

Further, inflation measured in terms of the WPI annual series is higher in the case of milk as compared to food products. Traditionally, the WPI for eggs, meat and fish was higher than that for both milk and food products, but the trend is changing and milk inflation has been slightly edging higher than that for eggs, meat and fish since 2013–14 (Figure III.10.3).

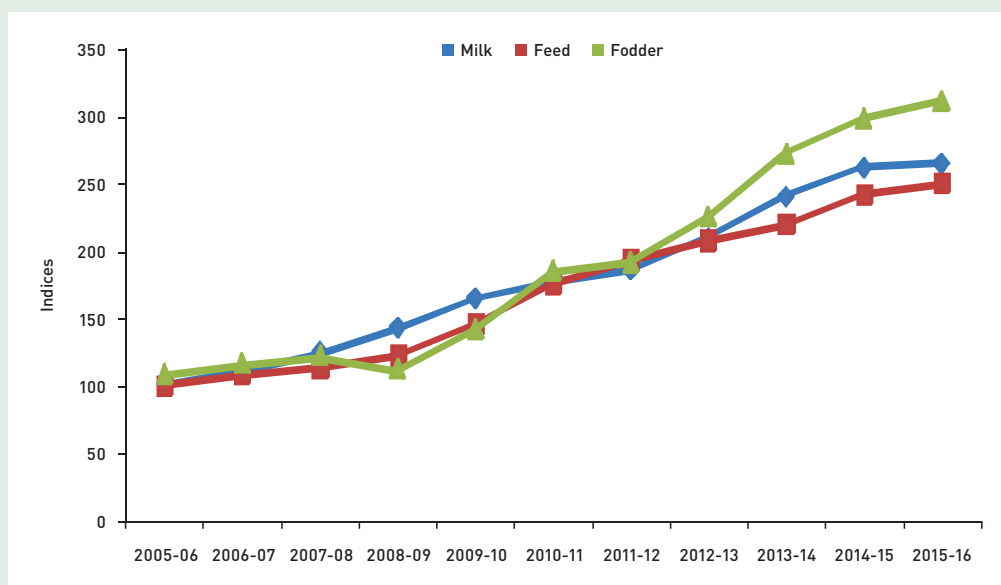
Figure III.10.3: Movement in WPI for Milk, Egg, Meat & Fish and Food Products



Source: Office of the Economic Adviser, DIPP, Government of India. Base Year: 2004-05.

When compared to inflation in terms of the WPI for milk, feed and fodder, fodder inflation edges higher than that for milk and feed since 2011-12 (Figure III.10.4).

Figure III.10.4: Movement in WPI for Milk, Feed and Fodder



Source: Office of the Economic Adviser, DIPP, GOI. Base Year: 2004-05.

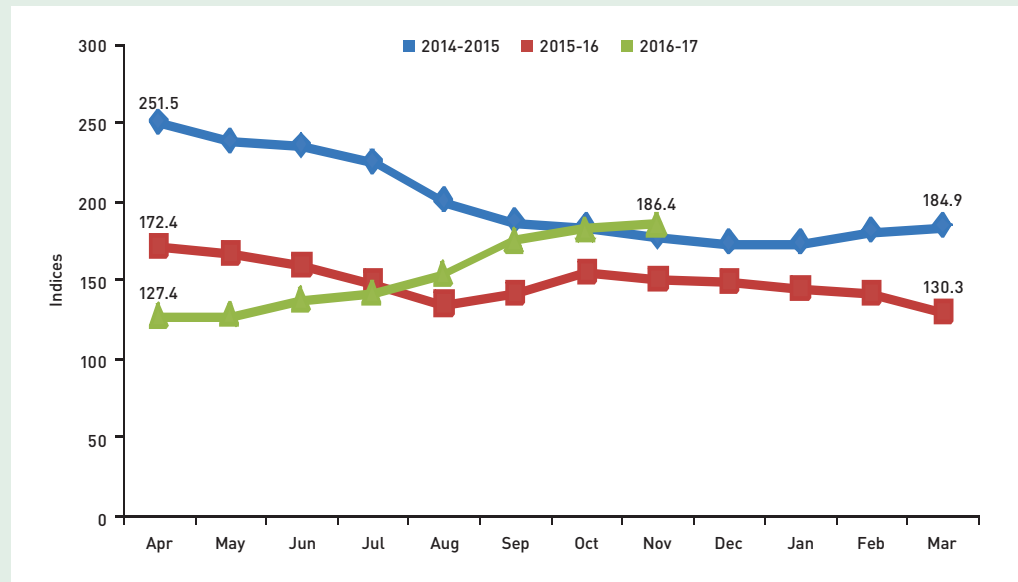
III.10.4 Trade

FAO estimates the world trade of milk equivalent of dairy products to expand marginally at 72.3 million tonnes during 2016 (signifying a 0.4 per cent increase over 2015). However, the trade share of production is expected to decline by 0.7 per cent at 8.9 per cent of global output. The initiation of a declining milk output trend in the European Union and an



unexceptional opening in Oceania pointing to tighter export supply prospects, coupled with sustained import demand by markets in the Middle East, North Africa and China, led to international dairy prices surging since the middle of 2016. International dairy prices rose for all dairy commodities comprising the index, particularly cheese, SMP and butter. Figure III.10.5 presents the uptrend since June 2016, after the prevalence of two years of declining international dairy prices.

Figure III.10.5: FAO International Dairy Price Index (2014-2016)



Note: The Index consists of butter, SMP, WMP and Cheese Price Quotations. The average is weighted by the world average export trade shares for 2002-04.

Source: FAO Food price Index.

Milk processors can now expect to clear their powder stocks and pay better prices to the farmers.

Investment in the coming years in the private sector is likely to lead to more procurement of milk from farmers than cooperatives.

The uptrend in international dairy prices is good for India's dairy industry, which has seen exports plunge from a peak of 1.30 lakh tonnes (valued at Rs 2,717.56 crore) in 2013-14 to a mere 15,930 tonnes (Rs 293.01 crore) in 2015-16, and mounting milk powder stocks. Milk processors can now expect to clear their powder stocks and pay better prices to the farmers.

Assessment

The dairy companies are stepping up investment in cold-chain facilities for the procurement and marketing of milk and milk products. Hence, investment in the coming years in the private sector is likely to lead to more procurement of milk from farmers than cooperatives and offer more value added dairy products to the consumers.

Disclaimer: The information and projections contained in this report are result of study conducted by NCAER and the views expressed do not necessarily reflect those of Ministry of Agriculture and Farmers Welfare.

The findings, interpretations, and conclusions expressed are those of the authors and do not necessarily reflect the views of the Governing Body or Management of NCAER.



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