

# Indian Agricultural Outlook

## Rabi Season

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## NCAER Research Team



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# Structure of the Rabi Outlook Report

**I. Coverage**

**II. Global Outlook**

**III. Domestic Outlook**

**IV. Implications and concluding remarks**

# I. COVERAGE



# Commodities for study

- Rice
- Wheat
- Coarse grains
- Pulses
- Edible Oilseeds and Oils
- Sugarcane and Sugar
- Potato
- Onion
- Banana
- Milk

# Coverage of the Study

- Global trends of production consumption, trade, stocks and prices
- Domestic production, utilisation, trade and prices:
  - Past trends and assessment of the Rabi season 2017

## II. GLOBAL OUTLOOK

# Global Situation and Outlook

- The global economy is estimated to have further weakened in 2016
- The lacklustre performance of the global economy in recent years has weakened trade growth
- India's exports of agriculture and allied products declined by 2.7 per cent in April-December 2016. Imports picked up by 6.1 per cent.



# Most Crops Set New Record (production MMT)

| Year                 | FAO   | USDA  | IGC   | ABARES |
|----------------------|-------|-------|-------|--------|
| <b>Wheat</b>         |       |       |       |        |
| 2015-16 E            | 734   | 736   | 737   | 736    |
| 2016-17 F            | 747   | 745   | 749   | 743    |
| <b>Rice</b>          |       |       |       |        |
| 2015-16 E            | 491   | 472   | 472   | 472    |
| 2016-17 F            | 498   | 484   | 485   | 483    |
| <b>Coarse Grains</b> |       |       |       |        |
| 2015-16 E            | 1,306 | 1,249 | 1,268 | 1,248  |
| 2016-17 F            | 1,326 | 1,320 | 1,324 | 1,305  |
| <b>Oilseeds</b>      |       |       |       |        |
| 2015-16 E            | 534   | 522   | NA    | 519    |
| 2016-17 F            | 557   | 551   | NA    | 538    |

NA= Not available

# Most Crop Set New Record (production MMT)

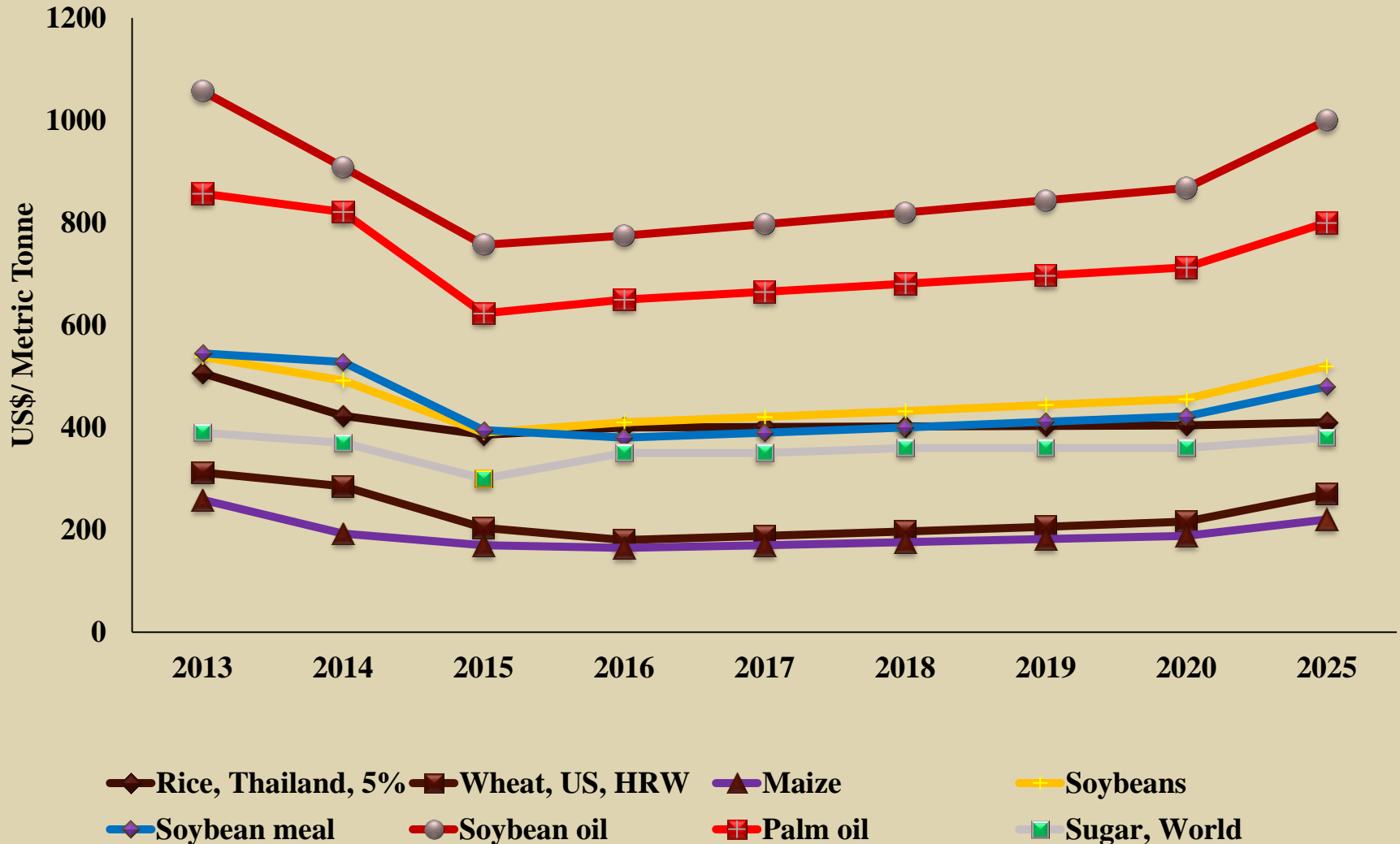
| Year                  | FAO | USDA | IGC | ABARES |
|-----------------------|-----|------|-----|--------|
| <b>Vegetable Oils</b> |     |      |     |        |
| 2015-16 E             | 207 | 177  | NA  | 180    |
| 2016-17 F             | 217 | 186  | NA  | 186    |
| <b>Oil meal</b>       |     |      |     |        |
| 2015-16 E             | 138 | 307  | NA  | 309    |
| 2016-17 F             | 144 | 318  | NA  | 320    |
| <b>Sugar</b>          |     |      |     |        |
| 2015-16 E             | NA  | 166  | NA  | 174    |
| 2016-17 F             | NA  | 171  | NA  | 177    |
| <b>Milk</b>           |     |      |     |        |
| 2015-16 E             | 809 | 494  | NA  | NA     |
| 2016-17 F             | 817 | 500  | NA  | NA     |

NA= Not available

# Global Production in 2016-17 (compared to 2015-16 level)

- Significant increase in production of wheat, rice, and coarse grains
- Modest increase in production of oilseeds, oil, oil meal, sugar and milk
- Pulse production outlook in major exporting countries better than in 2015-16

# Prices of Most Commodities Forecast to Strengthen in Coming Years (Source WTO)



# III. DOMESTIC OUTLOOK



## Rabi Outlook Mixed

- Monsoon (June-Sep 2016) rainfall near normal, 7 per cent below LPA
- Below normal post-monsoon rains, poor winter rains and early rise in temperature
- Lower than normal water level in major reservoirs
- Significant increase in the Minimum Support Prices of pulses and oilseeds and moderate increase in wheat

# Domestic Outlook

- Agriculture sector is projected to register a healthy growth rate of 4.1 percent from the drought-impacted growth rate of 2 per cent in 2015-16
- After a record or near record production of most Kharif crops in 2016-17, thanks to favourable monsoon rains after two years of deficient monsoon rains, India is heading for a record or near record production of most Rabi crops
- The government is working seriously for the betterment of farmers and farming through various innovative programs which include the Pradhan Mantri Krishi Sinchai Yojana (PMKSY), creation of a National Market for Agricultural produce through electronic platform (eNAM), and the Pradhan Mantri Fasal Bima Yojana (PMFBY) and is aiming at doubling farmers' income by 2022-23

# Projected Range for Output

## The 2016-17 Rabi Production was derived based on two approaches

- Trend growth rate, the monsoon deviation from the LPA (7 per cent below LPA) and the incidence of El Nino in a year using a dummy variable and a cyclical trend variable in the case of sugarcane; in the case of rice and kharif pulses, a dummy variable is used for the period 2011-12 to 2015-16, individually to reflect the rise in output that was not captured by the trend and may reflect some of the shifts in production across states besides productivity improvements.
- No El Nino effect was specifically captured but crop specific rainfall indices were used to assess output based on assumption regarding monsoon period rainfall (kharif crops) and Post monsoon (for Rabi). In the case of onion, potato, banana and milk the second approach was used for estimation in which overall June-September rainfall was used as an explanatory variable rather than commodity specific rainfall index.



# Crop Forecasts on Production Year Basis (Million Tonnes)

| Crop           | 2016-17<br>Govt. 1 <sup>st</sup> Adv.<br>Estimates<br>As on<br>September 2016 | 2016-17<br>NCAER<br>Forecast<br>August<br>2016 | 2016-17<br>Govt. 2 <sup>nd</sup><br>Adv.<br>Estimates<br>February<br>2017 | 2016-17<br>NCAER<br>Forecast<br>December<br>2016 |
|----------------|---|--|---|--|
| Rice (kharif)  | 93.9  | 94.2-95.1                                      | 96.0  | 94.2-95.1  |
| Rice (rabi)    | NA  | NA   | 12.8  | 13.0-14.7  |
| Rice Total     | NA  | NA   | 108.9   | 107.2-109.8                                      |
| Wheat          | NA  | NA   | 96.6  | 96.0-98.7  |
| Maize (kharif) | 19.3  | 18.0-18.1                                      | 19.3  | 18.0-18.3  |
| Maize (rabi)   | NA  | NA   | 6.9   | 8.4  |
| Maize Total    | NA  | NA   | 26.2  | 26.4-26.7  |
| Bajra          | 8.55  | 9.4-10.3                                       | 9.4   | 9.4-10.5   |
| Jowar (kharif) | 2.4   | 1.9-2.3  | 1.9   | 2.1  |
| Jowar (rabi)   | NA  | NA   | 2.8   | 3.2  |
| Total Jowar    | NA  | NA   | 4.8   | 5.3  |

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|-------------------------------------|---|--|---|--|
| <b>Total coarse grains (Kharif)</b> | 32.5  | 31.3-33.0                                      | 32.8  | 31.3-32.8  |
| <b>Total coarse grain (Rabi)</b>    | NA  | NA   | 11.6  | 8.8-11.4   |
| <b>Total coarse grain</b>           | NA  | NA   | 44.3  | 40.1-44.2  |
| <b>Pulses (kharif)</b>              | 8.7   | 8.0  | 8.7   | 8.0  |
| <b>Pulses (rabi)</b>                | NA  | NA   | 13.4  | 11.5-13.1  |
| <b>Pulses (total)</b>               | NA  | NA   | 22.1  | 19.5-21.1  |
| <b>Total Foodgrain (kharif)</b>     | 135.0   | 132.9-133.5                                    | 137.5   | 135.0-135.9                                      |
| <b>Total Foodgrain (rabi)</b>       | NA  | NA   | 134.5   | 129.3-137.9                                      |
| <b>Total Foodgrain</b>              | NA  | NA   | 272.0   | 270.7-273.4                                      |

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|--------------------|---|--|---|--|
| Groundnut (kharif) | 6.5   | 5.8-5.9  | 7.1   | 5.9  |
| Groundnut (rabi)   | NA  | NA   | 1.4   | 1.6  |
| Total groundnut    | NA  | NA   | 8.5   | 7.5  |
| Soybean            | 14.2  | 11.3-11.4                                      | 14.1  | 12.3   |
| Rapeseed/mustard   | NA  | NA   | 7.9   | 7.1  |
| Sugarcane          | 305.3   | 359.4-369.0                                    | 310.0   | 354.7  |
| Onion*             | NA  | 21.8   | 19.7  | 22.5   |
| Potato*            | NA  | 47.2   | 43.9  | 47.5   |
| Banana*            | NA  | 31.2   | 30.4  | 30.2   |

\* First Advance Estimate of 2016-17.

## Food Inflation Dips

- Y-o-Y food WPI inflation peaked at 12.6 per cent in July 2016, exhibited a downward trend plummeting to -0.6 per cent in January 2017, the lowest level since September 2015, significantly lower than the food inflation of 6.5 per cent a year ago.
- CPI-based food inflation also dipped to 0.5 per cent in January 2017, lower than 1.4 per cent recorded in December, and 6.9 per cent a year ago.

# Inflation Trend in Major Food Commodities: WPI per cent Change Y-o-Y

|                      | Aug 16 | Sept 16 | Oct 16 | Nov 16 | Dec16 | Jan 17 |
|----------------------|--------|---------|--------|--------|-------|--------|
| <b>Food Articles</b> | 8.9    | 6.4     | 4.3    | 1.5    | -0.7  | -0.6   |
| <b>Food Products</b> | 11.9   | 11.4    | 10.5   | 10.7   | 10.7  | 10.1   |
| <b>Rice</b>          | 7.4    | 7.1     | 4.6    | 4.8    | 4.4   | 3.0    |
| <b>Wheat</b>         | 10.3   | 10.0    | 6.3    | 10.7   | 12.8  | 9.5    |
| <b>Jowar</b>         | 8.1    | 12.1    | 4.3    | 3.1    | 3.0   | 13.1   |
| <b>Bajra</b>         | 22.9   | 16.8    | 13.1   | 12.3   | 10.4  | 6.1    |
| <b>Maize</b>         | 15.6   | 14.7    | 13.4   | 6.9    | 3.7   | 4.1    |
| <b>Pulses</b>        | 34.2   | 24.0    | 21.8   | 21.7   | 18.1  | 6.2    |

# Continued...

|                   | Aug 16 | Sept 16 | Oct 16 | Nov 16 | Dec 16 | Jan 17 |
|-------------------|--------|---------|--------|--------|--------|--------|
| <b>Vegetables</b> | 0.2    | -10.9   | -10.0  | -24.1  | -33.1  | -32.3  |
| <b>Potatoes</b>   | 67.2   | 73.6    | 60.6   | 37.0   | 26.4   | -0.2   |
| <b>Onions</b>     | -64.2  | -70.6   | -66.0  | -51.5  | -37.2  | -28.9  |
| <b>Fruits</b>     | 13.9   | 14.1    | 6.4    | 2.5    | 0.0    | 3.6    |
| <b>Milk</b>       | 4.2    | 4.4     | 4.2    | 4.2    | 4.1    | 4.2    |
| <b>OilSeeds</b>   | 7.2    | 2.3     | -3.3   | -5.0   | -3.3   | -1.7   |
| <b>Sugar</b>      | 35.4   | 32.9    | 29.6   | 31.8   | 28.0   | 22.8   |
| <b>Edible Oil</b> | 6.5    | 6.1     | 4.6    | 4.0    | 4.9    | 6.2    |

# Commodities Influencing Food Price Inflation

- Food commodities contributing to the weakening of food inflation are rice, pulses, fruits and vegetables, oilseeds, vegetable oils and onion
- Potato price inflation, however, continued to remain strong. Wheat price also strengthens
- Pulses, onion, and potato prices (measured by WPI) exhibited high degree of volatility, whereas most cereals, milk, and vegetable oils showed low volatility

# Projected Y-o-Y Change in Wholesale Price Indices based on Time Series ARIMA Model

|                      | Oct-16 | Nov-16 | Dec-16 | Jan-17 | Feb-17 | Mar-17 | Apr-17 | May-17 |
|----------------------|--------|--------|--------|--------|--------|--------|--------|--------|
| <b>Food Articles</b> | 4.3    | 1.5    | -0.5   | 0.7    | 3.8    | 4.6    | 5.0    | 3.3    |
| <b>Food Products</b> | 10.5   | 10.7   | 11.1   | 10.6   | 10.1   | 9.4    | 7.7    | 7.9    |
| <b>Food Sector</b>   | 6.3    | 4.4    | 3.5    | 4.2    | 6.0    | 6.0    | 5.4    | 4.3    |
| <b>Rice</b>          | 4.6    | 4.8    | 3.9    | 3.4    | 3.9    | 4.7    | 5.8    | 5.0    |
| <b>Wheat</b>         | 6.3    | 10.7   | 11.6   | 11.2   | 12.4   | 11.7   | 9.6    | 8.5    |
| <b>Jowar</b>         | 4.3    | 3.1    | 2.8    | 8.9    | 9.4    | 9.8    | 11.8   | 12.9   |
| <b>Bajra</b>         | 13.1   | 12.3   | 10.9   | 11.4   | 11.3   | 10.9   | 10.6   | 10.1   |
| <b>Maize</b>         | 13.4   | 6.9    | 4.9    | 7.2    | 7.9    | 8.7    | 9.8    | 8.1    |
| <b>Pulses</b>        | 74.8   | 86.5   | 83.0   | 84.3   | 85.0   | 85.5   | 67.5   | 49.9   |



# Projected Y-o-Y Change in Wholesale Price Indices based on Time Series ARIMA Model

|                    | Oct-16 | Nov-16 | Dec-16 | Jan-17 | Feb-17 | Mar-17 | Apr-17 | May-17 |
|--------------------|--------|--------|--------|--------|--------|--------|--------|--------|
| Gram               | 83.0   | 84.3   | 85.0   | 85.5   | 67.5   | 49.9   | 83.0   | 84.3   |
| Tur                | -22.7  | -21.4  | -18.4  | -14.9  | -16.1  | -17.4  | -22.7  | -21.4  |
| Potatoes           | 20.6   | 5.2    | -3.5   | -4.8   | -8.8   | -9.9   | 20.6   | 5.2    |
| Onions             | -45.2  | -38.4  | -34.0  | -24.7  | -24.0  | -20.9  | -45.2  | -38.4  |
| Grndnutseeds       | -2.9   | 0.6    | 2.3    | -4.0   | -7.4   | -9.7   | -2.9   | 0.6    |
| Rapeseed & Mustard | -3.1   | -1.8   | 1.7    | 3.6    | 4.5    | 2.1    | -3.1   | -1.8   |
| Soybean            | -18.4  | -15.4  | -15.5  | -15.9  | -18.8  | -14.4  | -18.4  | -15.4  |
| Edible Oil         | 5.1    | 5.8    | 5.2    | 4.7    | 4.0    | 3.6    | 5.1    | 5.8    |

# IV. IMPLICATIONS AND CONCLUDING REMARKS

# India and the Global Scenario

- Global supplies of major food commodities are adequate to meet overall demand and continue to remain less volatile
- Global prices, mostly of sugar and oilseeds and products likely to remain firm in 2017
- Exports of agricultural commodities from India could face tough competition
- Weakening exchange rate of the rupee implies imports maintain upward pressure on domestic prices

# Implications for India

- In view of the shrinking government wheat stocks, projected to dip to 6.5 million tonnes on April 1, 2017, the lowest April 1 stocks level since 2008, and strengthening domestic wheat prices, large scale wheat imports are taking place on private account. As global wheat prices are likely to strengthen, imports are likely to become costlier
- The recent weakening Indian rupee exchange rate against U.S. dollar will also prove disadvantageous for Indian consumers of food items such as vegetable oils and pulses but should support exports

## Concluding Remarks (India)

- After record or near record production of most Kharif crops in 2016-17, thanks to favourable monsoon rains in 2016 after two years of deficient monsoon rains, India is heading for a record or near record production of Rabi crops.
- Agriculture sector is projected to register a robust growth rate of 4.1 per cent from the drought- reduced growth rate of 2 per cent in 2015-16.
- The government is working seriously for the betterment of farmers and farming through various innovative programs with the aim of doubling farmers' income in five years.
- Higher inflation expected in the next six months for rice, jowar, maize, rapeseed and mustard, and a decline in the prices of wheat, pulses, potato and onion.

**Thank You**

