

SOUTH-WEST MONSOON OUTLOOK 2023

ICRA pegs FY2024 agri GVA growth at 2.5% based on IMD's forecast of normal monsoon; El Nino occurrence poses downside to GVA and tractor volumes

APRIL 2023





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Since reservoir levels are healthy by historical standards, and El Nino conditions may only develop in the second half of the monsoon season, kharif sowing may not be sharply affected

If the monsoon turns out to be below normal, ICRA currently foresees a downside of up to 50 bps to the FY2024 GDP growth forecast of 6.0%

Coastal states, constituting ~40% of tractor sales at heightened risk of demand moderation



- Notwithstanding concerns regarding the development of El Nino conditions, the Indian Meteorological Department's (IMD's) first stage forecast for the 2023 South-West monsoon season has indicated a normal rainfall at 96% +/- 5% of the Long Period Average (LPA).



- The IMD has placed the probability of a normal rainfall at the highest 35%, amidst a 51% chance of a below-normal and deficient monsoon in 2023. The latest models predict El Nino conditions to develop in the monsoon season, with impact likely to be visible only in H2 (Aug-Sep 2023).



- The reservoir storage stood at 42% of live capacity at Full Reservoir Level (FRL) as on April 6, 2023, well above the historical average of 34%, which augurs well for a timely onset of kharif sowing activities.



- Even if weak El Nino conditions develop in the second half of the season, the likelihood of a sub-par South-West monsoon rainfall in 2023 appears high, based on trends for the last 20 years, which could weigh on the eventual crop yields and output.



- ICRA projects the GVA growth of agriculture, forestry and fishing at ~2.5% in FY2024, if the monsoon is normal. The downside from a sub-par monsoon to our FY2024 real GDP growth forecast of 6.0% is estimated at sub-50 bps.



- Food inflation may soften in Q1 FY2024, supported by a high base. The impact of a likely heatwave in Q1 on perishable prices, along with the possibility of El Nino conditions in H2 of monsoon season pose upside risks to the food inflation trajectory over the next few quarters.



- Domestic tractor industry growth is expected to moderate in FY2024 (0-2% YoY growth on a high base). Industry volumes represented a 12% YoY growth in FY2023, touching an all-time high of 9.45 lakh units. Downside risk to estimates may arise upon deficient monsoon precipitation.



IMD projects monsoon as normal despite El Nino in second half

IMD has predicted a normal rainfall at 96% +/-5% of LPA in 2023 monsoon season

EXHIBIT: IMD's forecasts for monsoon seasonal (June-September) rainfall

Year	IMD April Forecast	IMD June Forecast	Actual Rainfall (% of LPA)
2016	106% +/- 5% of LPA	106% +/- 4% of LPA	97%
2017	96% +/- 5% of LPA	98% +/- 4% of LPA	95%
2018	97% +/- 5% of LPA	97% +/- 4% of LPA	91%
2019	96% +/- 5% of LPA	96% +/- 4% of LPA	110%
2020	100% +/- 5% of LPA	102% +/-4% of LPA	109%
2021	98% +/- 5% of LPA	101% +/-4% of LPA	99%
2022	99% +/-5% of LPA	103% +/-4% of LPA	106%
2023	96% +/- 5% of LPA		

LPA rainfall over country as a whole on data of 1971-2020 is 87 cm; Source: IMD; ICRA Research

EXHIBIT: Probability forecasts for monsoon seasonal rainfall

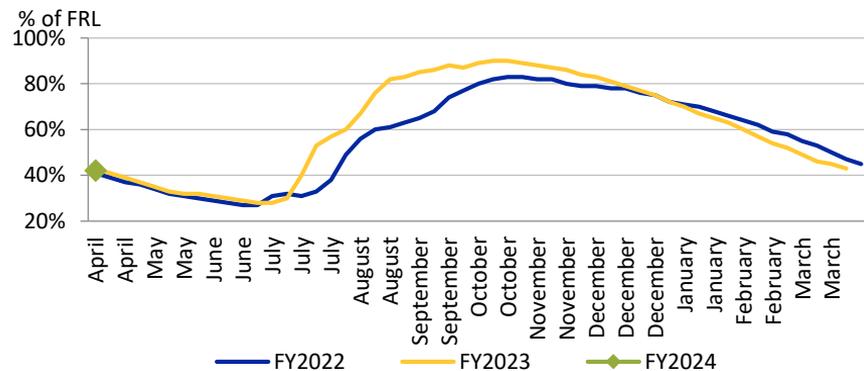
Category	Rainfall Range (% of LPA)	Forecast Probability (%)	Climatological Probability (%)
Deficient	<90	22	16
Below Normal	90-95	29	17
Normal	96-104	35	33
Above Normal	105-110	11	16
Excess	>110	3	17

Source: IMD; ICRA Research

- Notwithstanding concerns regarding the development of EL Nino conditions, the IMD's first stage forecast for the South-West monsoon rainfall for 2023 (June-September) has placed the volume of rainfall at 96% +/- 5% of the LPA, indicating a normal monsoon (96%-104% of LPA as per IMD's classification).
- In terms of the forecast probability, the department has placed the likelihood of a normal rainfall at a reasonable 35%, with excess and above normal pegged at a modest 3% and 11%, respectively, while the probability of below normal and deficient remains high at 51%.
- The IMD's Monsoon Mission Climate Forecast System (MMCFs) depicts that El Nino conditions are likely to develop during the monsoon season of 2023, after three years of La Nina conditions. As per the department, the impact of El Nino may be felt in the H2 of monsoon season i.e. August-September 2023.
- Nevertheless, while Indian Ocean Dipole (IOD) conditions are neutral over the Indian Ocean at present, the latest Climate models forecast indicates the development of positive IOD conditions during June-September 2023, which could be favourable for the South-West monsoon rainfall.

Reservoir storage remains above historical levels, suggesting onset of kharif sowing may be timely

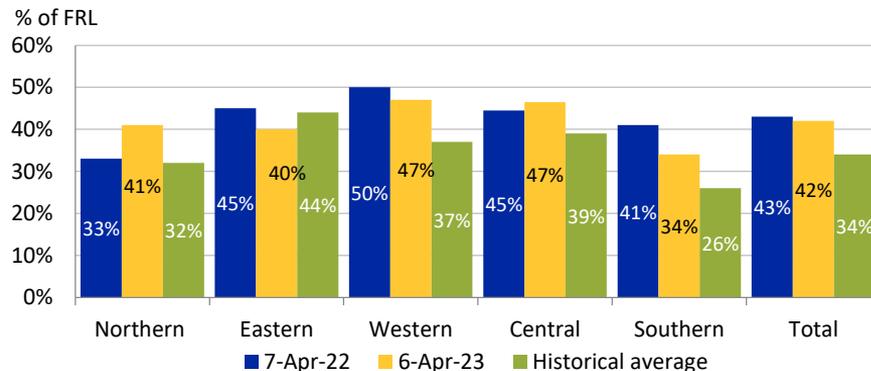
EXHIBIT: Reservoir storage levels as percentage of Live Capacity at Full Reservoir Level (FRL)



Source: Central Water Commission (CWC); CEIC; ICRA Research

- While displaying a seasonal downtrend, the all-India reservoir storage stood at 42% of live capacity at FRL as on April 6, 2023, mildly trailing the year-ago levels (43%).
- However, it is higher than the 34% recorded in the last 10 years on an average, which offers some insurance for a timely onset of kharif sowing activity, especially as El Nino conditions may develop only around the second half of the monsoon season.

EXHIBIT: Region-wise reservoir storage levels

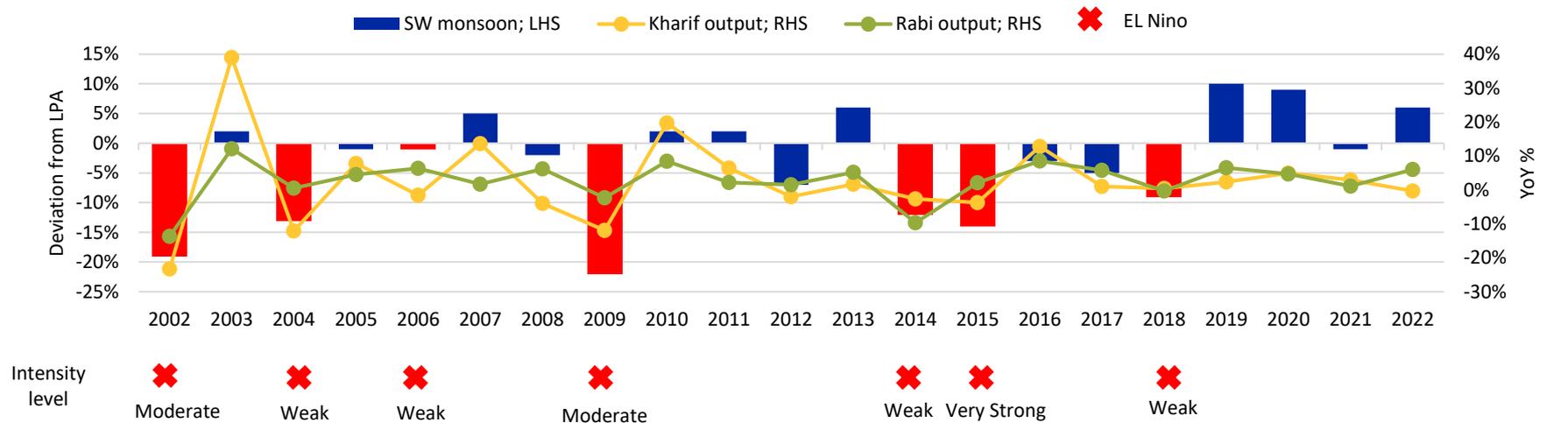


Source: CWC; CEIC; ICRA Research

- The region-wise distribution is mixed, with storage being higher than the year-ago levels in the northern (41% vs. 33%) and central (46.5% vs. 44.5%) regions, and lower in the southern (34% vs. 41%), western (47% vs. 50%) and eastern (40% vs. 45%) regions as on April 6, 2023.
- Nevertheless, when compared to historical levels, four of the five regions (barring Eastern) have higher storage as on April 6, 2023.

20-year trends suggest negative impact of El Nino on monsoons irrespective of intensity level

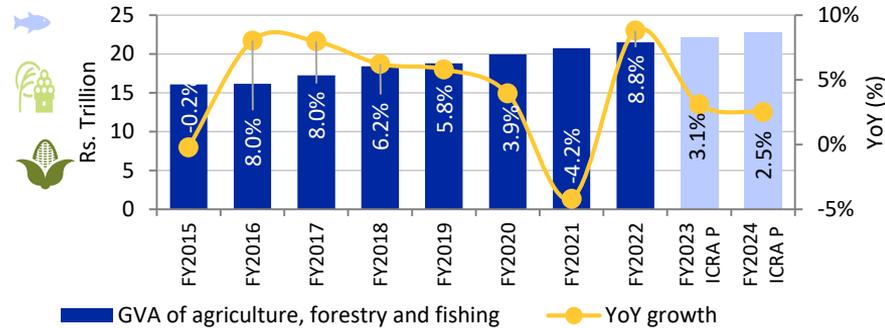
EXHIBIT: Vulnerability of Monsoon during El Nino years, and consequent impact on kharif and rabi production



- Over the last two decades, India has witnessed El Nino conditions in seven years (2002, 2004, 2006, 2009, 2014, 2015 and 2018) with varied intensity levels.
- The deficit rainfall from LPA in the South-west monsoon ranged between 1% to as high as 22%, which resulted in a YoY decline in the kharif output (foodgrains + oilseeds) in the El Nino years in the range of 1.6% (2006) to 23.3% (2002). Moreover, rabi output (foodgrains + oilseeds) contracted in four of such seven years particularly in 2002 (-13.7%), 2009 (-2.3%), 2014 (-9.7%) and 2018 (-0.3%) on a YoY basis.
- Even if weak El Nino conditions develop in the second half of the season, the likelihood of a sub-par South-West monsoon rainfall in 2023 appears high, based on trends for the last 20 years, which could weigh on the eventual crop yields and output.**

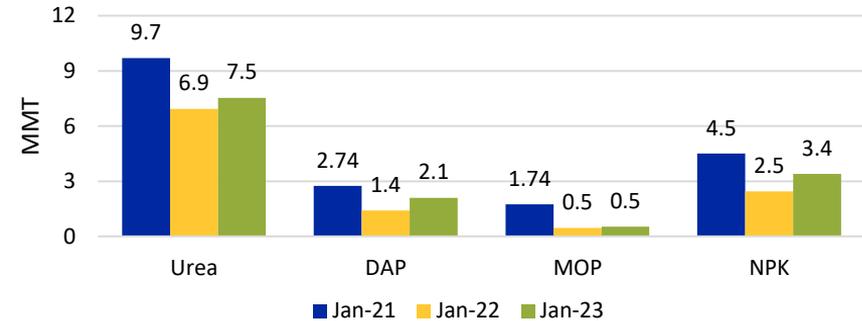
GVA growth of agriculture, forestry and fishing projected at 2.5% in FY2024, with downside stemming from potential El Nino, crop damage

EXHIBIT: Annual GVA of agriculture, forestry and fishing at 2011-12 prices



Source: NSO; ICRA Research

EXHIBIT: Trend in availability of key fertilisers in India



Source: DoF; ICRA Research

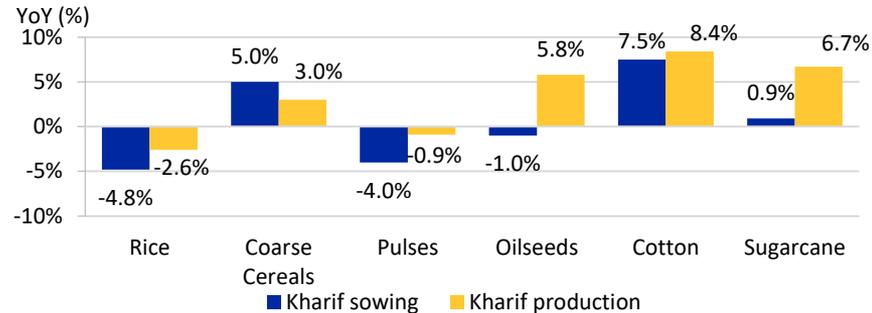
- While the IMD has forecast a normal monsoon at 96% of LPA, the probability forecasts suggest a 51% chance of a below normal or deficient monsoon. The volume of rainfall, its timing and dispersion will crucially influence crop sowing and output, as well as prices. Since reservoir levels are healthy by historical standards, a mild delay or sub-par monsoon in June 2023 may not be very challenging.
- ICRA projects the GVA growth of agriculture, forestry and fishing at ~2.5% in FY2024, if the monsoon is normal. The downside from a sub-par monsoon to our FY2024 real GDP growth forecast of 6.0% is estimated at sub-50 bps.
- In the event that the monsoon turns out to be below normal, ICRA currently foresees a downside of up to 50 bps to the FY2024 GDP growth forecast of 6.0%.



Food inflation may soften in Q1 FY2024; upside risks seen

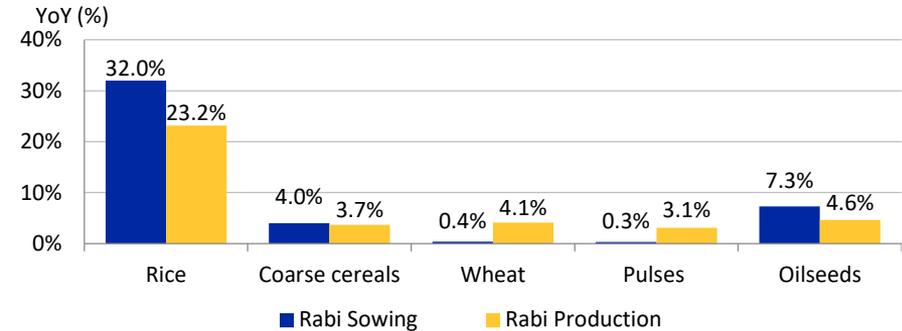
Second advance estimates (SAE) suggested healthy YoY rise in output of rabi crops in FY2023

EXHIBIT: YoY trends in kharif sowing as on September 30, 2022 and kharif production as per 2nd AE



Source: Department of Agriculture, Cooperation and Farmers Welfare, ICRA Research

EXHIBIT: YoY trends in rabi sowing as on February 3, 2023 and rabi production as per 2nd AE

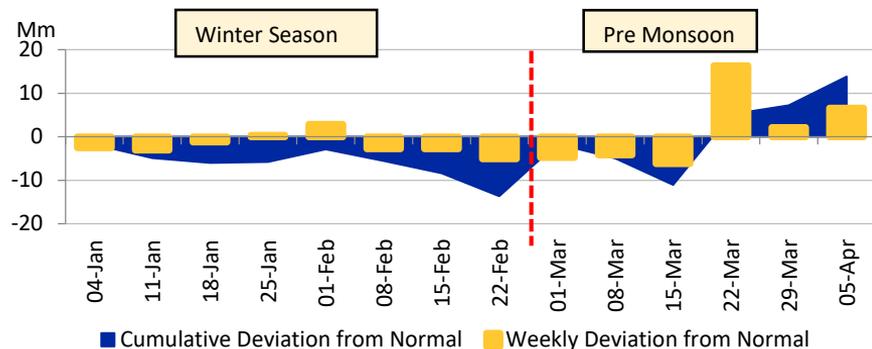


Source: Department of Agriculture, Cooperation and Farmers Welfare, ICRA Research

- The SAE of crop production for FY2023 released by the Ministry of Agriculture and Farmers' Welfare on February 14, 2023, indicated a mixed trend in the production of kharif crops, relative to the Final Estimates for FY2022. The output of rice (-2.6%) and pulses (-0.9%) was estimated to decline in FY2023 in YoY terms, while that of coarse cereals (+3.0%), oilseeds (+5.8%), cotton (+8.4%) and sugarcane (+6.7%) was assessed to increase.
- In addition, the Ministry indicated a relatively favourable trend for the production of rabi crops in FY2023, relative to FY2022, with an expected rise in the output of all of the major crops including rice (+23.2%), oilseeds (+4.6%), wheat (+4.1%), coarse cereals (+3.7%) and pulses (+3.1%).

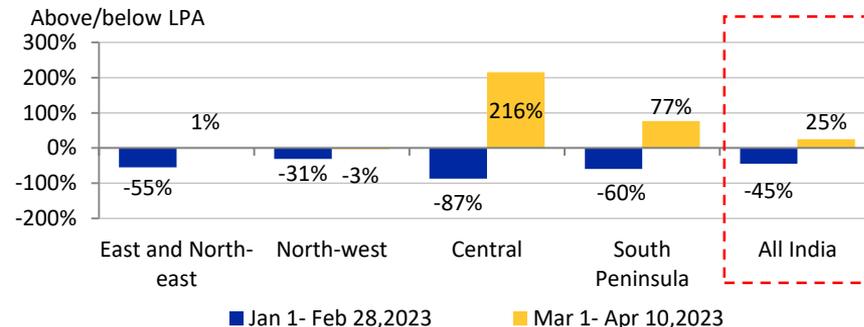
However, untimely rains in March 2023 pose downside risks

EXHIBIT: Cumulative and weekly rainfall deviation from normal



Source: IMD; CEIC; ICRA Research

EXHIBIT: Region-wise rainfall distribution of winter and pre-monsoon seasons

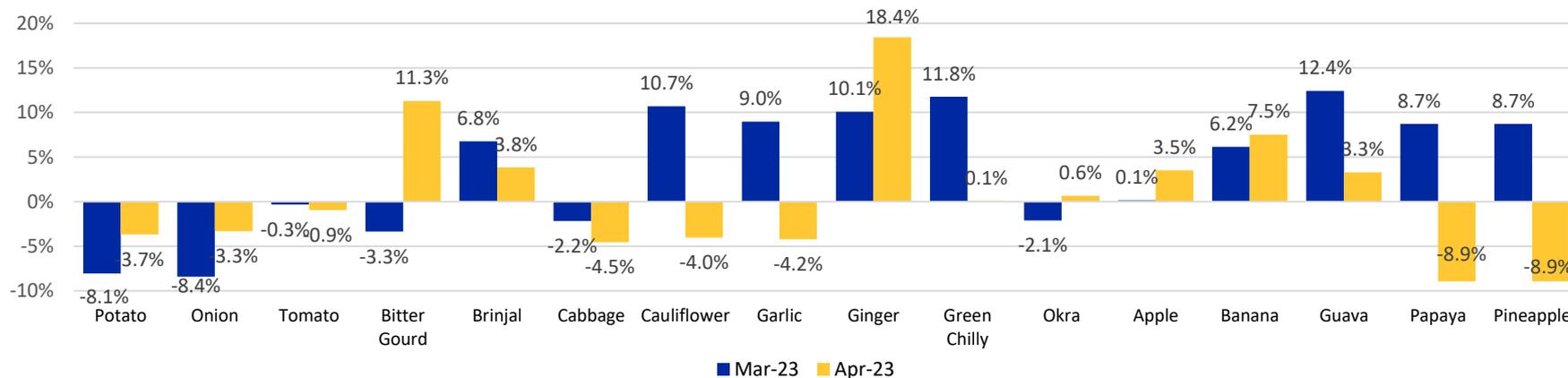


Source: IMD; CEIC; ICRA Research

- After recording an excess rainfall of 119% of LPA during the 2022 post-monsoon season (Oct-Dec 2022), India witnessed large deficient rains in the winter season (Jan-Feb 2023) at just 55% of LPA.
- However, the ongoing pre-monsoon season (March-May 2023) has witnessed above-LPA rains, with cumulative rainfall of 125% of the LPA till April 10, 2023. The region-wise rainfall distribution has been quite uneven, with excess rainfall in the Central India (316% of LPA) and South Peninsula (177% of LPA) regions, and normal rainfall in the North-west (97% of LPA) and East and North-east (101% of LPA) regions till April 10, 2023, as per the IMD's classification.
- The monthly rainfall forecast for April 2023 is estimated at 88-112% of LPA, and currently it stands at 124% of LPA in the initial 10 days.
- However, the unseasonal heavy rainfall and hailstorms across parts of North and Central India in March 2023 may have dampened yields and/or the quality of the output. The GoI has indicated a loss of 1-2 MT in the wheat production, which is roughly 0.9-1.8% of the 112.2 MT estimated output for FY2023, which could impact prices.

IMD predicts above-normal temperatures across most regions in Apr-Jun 2023, which may push up perishable prices

EXHIBIT: MoM trends in retail prices of perishables

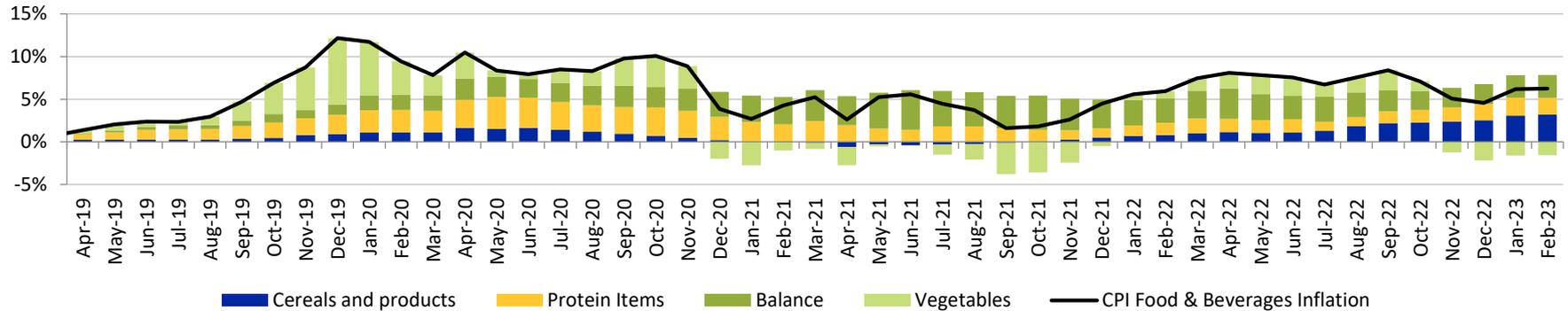


*Till April 10, 2023; Source: DCA; CEIC; ICRA Research

- Prices of several vegetables and fruits have witnessed a MoM decline in April 2023 so far (till April 10, 2023).
- As per the [press release](#) dated April 1, 2023, the IMD has predicted above normal maximum temperatures across most parts of the country (barring South Peninsula and some parts of North-west India), as well as heatwave days during Apr-Jun 2023, which may push up prices of perishables going ahead.

Possibility of El Nino phenomenon poses key upside risk to food inflation trajectory in near term

EXHIBIT: Composition of food and beverages inflation (YoY)



Source: NSO; CEIC; ICRA Research

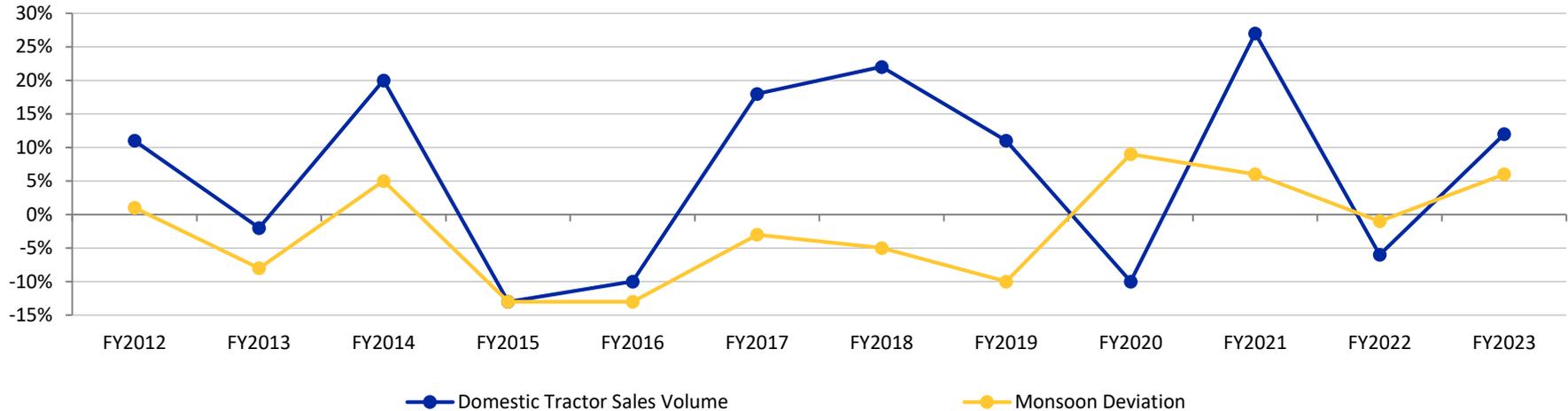
- While food inflation may soften in Q1 FY2024, supported by a high base (+7.8% in Q1 FY2023), the impact of a likely heatwave on the wheat crop and the consequent impact on wheat prices, along with the possibility of El Nino conditions in H2 of monsoon season could dampen the output of major crops, thereby posing a key upside risk to the food inflation trajectory over the next few quarters.
- By the time the MPC meets at its next scheduled meeting in June 2023, the monsoon rains would be underway, giving a little more clarity into the likely outcome for the first half of the monsoon season. This information would feed into whether the MPC's CPI inflation projection of 5.2% for FY2024 needs to be modified.



El Nino concerns likely to dampen tractor industry volumes

Weaker farm cash flows dampened tractor demand in most instances

EXHIBIT: Trend in Impact of monsoon deviation on tractor industry over the years

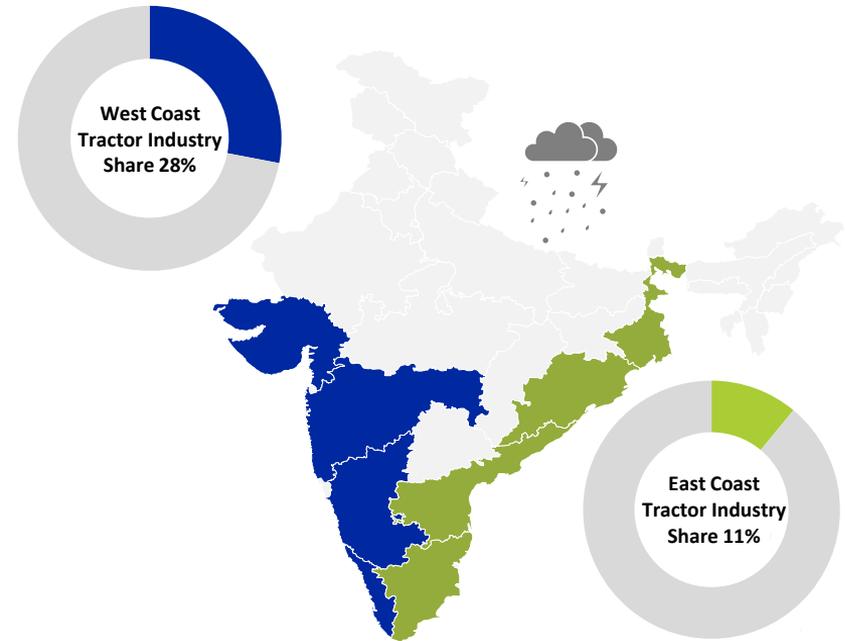
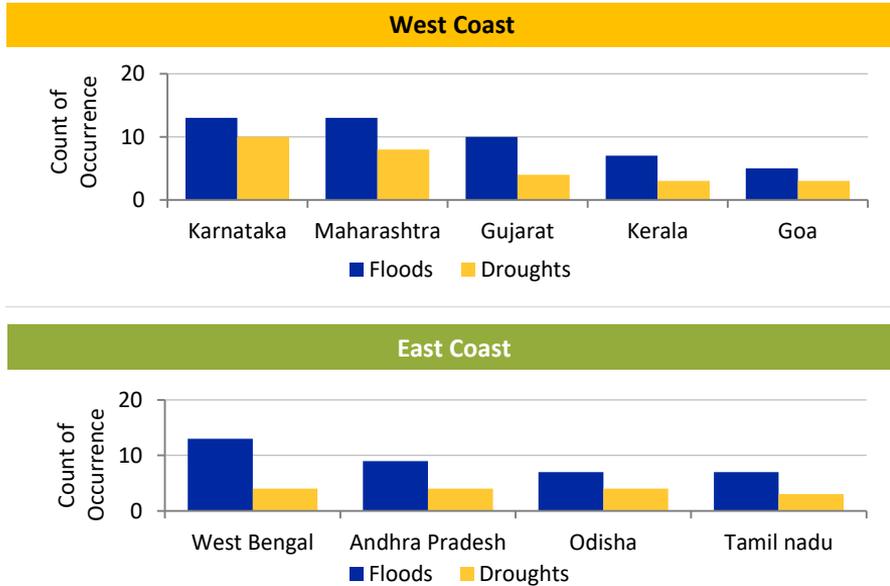


Source: TMA, IMD, ICRA Research

- Tractor Industry volume growth largely tracked monsoon performance over the years, barring some aberrations.
- Weak monsoon precipitation is likely to lead to a decline in agricultural production, which in turn would dampen demand for tractors. The farmer community could delay or cancel tractor purchases if they anticipate a poor harvest or lower farm realisations.

Coastal states at heightened risk of demand disruption led by rainfall vagaries

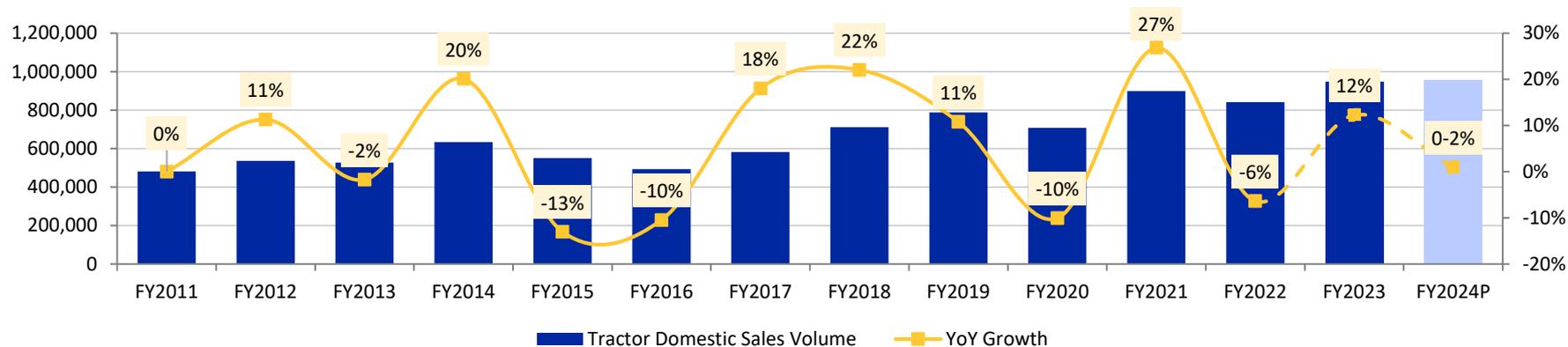
EXHIBIT: State-wise frequency of Floods and Droughts (1951-2020)



- Coastal states constitute ~40% of the overall tractor market and are exposed to higher probability of occurrence of floods and droughts led by global climate events, such as El Nino/La Nina, accordingly tractor demand in these regions is likely to be materially impacted.

Tractor industry volume growth expected to moderate over near term

EXHIBIT: Annual trend in tractor domestic sales volume



Source: ICRA Research

- Tractor sales remained robust in FY2021; industry touched a high of ~9 lakh domestic industry volumes. Given the high base and a moderation in demand in H2 FY2022, the industry size contracted by 6% in FY2022.
- Domestic tractor industry volumes remained healthy and represented a 12% YoY growth in FY2023, touching an all-time high of 9.45 lakh units. The growth is expected to moderate in FY2024 (0-2% YoY growth on a high base), led by a high base. The downside risk to estimates may arise upon crop damage on account of recent bout of unseasonal rainfall or deficient monsoon precipitation.



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