

SOUTHWEST MONSOON 2023 - UPDATE

**IMD's rainfall forecast for Sep 2023
implies below normal monsoon at
the end of the season**

SEPTEMBER 2023





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Rainfall was deficient at 64% of LPA in Aug 2023

IMD projects normal rains at 91-109% of LPA in Sep 2023; this implies that the South-west monsoon season as a whole will record below normal rainfall

Pickup in rainfall in Sep-Oct 2023 will help replenish reservoir storage, which is crucial to support rabi sowing

However, late withdrawal of monsoon may delay kharif harvest



- Pan-India rainfall was deficient at 64% of long period average (LPA) in Aug 2023, sharply weaker than the IMD's projection of below normal rainfall (<94% of LPA). Overall, the cumulative rainfall in the South-west monsoon season so far (up to Aug 2023) has been below normal at 90% of LPA.



- Owing to the sub-par rainfall in the recent period, the all-India reservoir storage stood at 63% of full reservoir level (FRL) as on Aug 31, 2023, significantly below the corresponding year-ago level. Moreover, reservoir storage trailed the historical average, albeit by a narrow margin.



- Kharif sowing was up by a marginal 0.3% YoY as on Aug 25, 2023, even as few major crops like pulses saw a sharp decline (led by Madhya Pradesh, Karnataka, etc.). Notably, the area sown under pulses would need to nearly triple on a year-on-year (YoY) basis between Aug 25, 2023 and end-Sep 2023 to reach last year's total area sown, which seems unlikely.



- The IMD has projected rainfall to be normal at 91-109% of LPA in Sep 2023. Even if rainfall in Sep 2023 prints at 109% of LPA, the overall rainfall in Jun-Sep would be below normal at 94% of LPA.



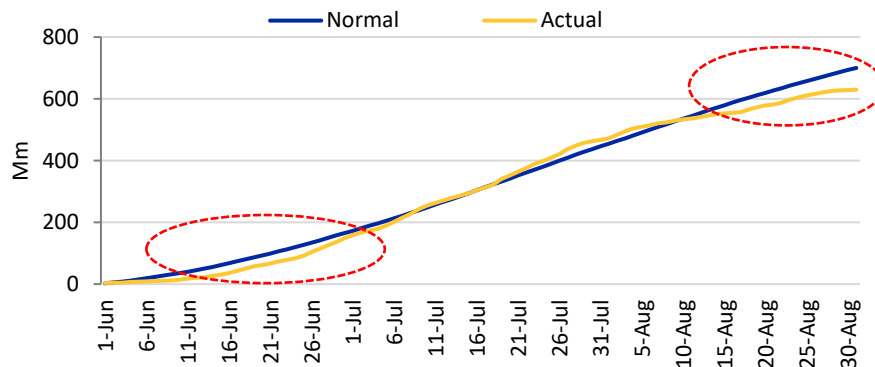
- Pickup in rainfall in Sep-Oct 2023 will help replenish reservoir storage, which is crucial to support rabi sowing. However, a late withdrawal of monsoon may delay kharif harvest.



- ICRA expects agri GVA growth to moderate in H2 FY2024, amid the expected impact of the deficient rainfall in August 2023 and the lags in reservoir levels vis-à-vis the historical average, on kharif yields and rabi sowing, respectively. ICRA remains watchful regarding the impact of below normal monsoon on overall crop output, farm incomes and rural consumption.

Pan-India rainfall was deficient at 36% below LPA in August 2023, in contrast to below normal forecast by the IMD

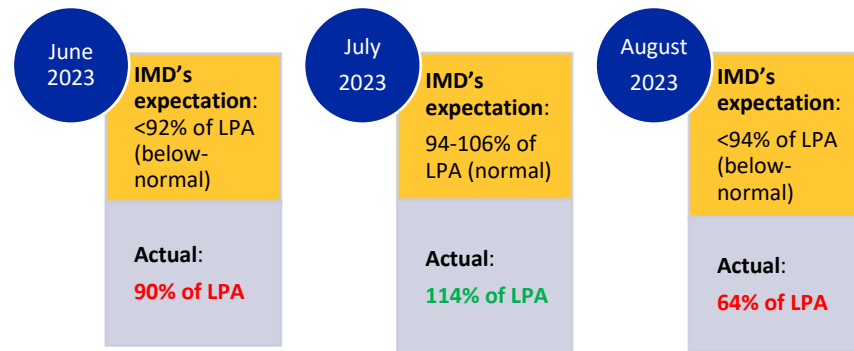
EXHIBIT: Cumulative normal vs. actual rainfall during June-Aug 2023



Source: IMD; CEIC; ICRA Research

- After recording sub-par rainfall in June 2023 (10.1% below LPA), the gap between the normal and actual cumulative rains narrowed in the first week of July 2023, with the actual cumulative rainfall exceeding the normal level by July 9, 2023. Thereafter, the deviation widened from (+)2.5% as on July 19 to (+)7.1% as on July 28, before easing to (+)4.8% as on July 31, 2023.
- However, the gap between the two declined to (+)0.4% as on Aug 9, before turning negative thereafter, with the actual cumulative rainfall printing 10.1% below the normal level as on Aug 31, 2023.

EXHIBIT: Actual vs. IMD's forecast of Monsoon rainfall during Jun-Aug 2023



Source: IMD; CEIC; ICRA Research

- The actual pan-India rainfall stood at 90% of the LPA in June 2023, in line with the IMD's below normal forecast for the month (<92% of LPA). Subsequently, the actual pan-India rainfall significantly overshoot the IMD's expectations (94-106% of LPA) in July 2023, and stood at 114% of LPA.
- Thereafter, the actual rainfall was deficient at 64% of LPA in Aug 2023, printing well below the IMD's projections of below normal rainfall (<94% of LPA) in the month.

Temporal and spatial distribution of rainfall during June-August 2023 was highly uneven

EXHIBIT: Monthly Region-wise distribution of rainfall*

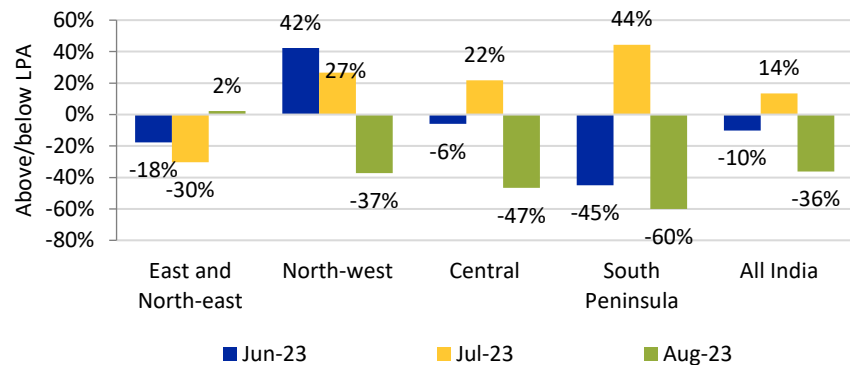
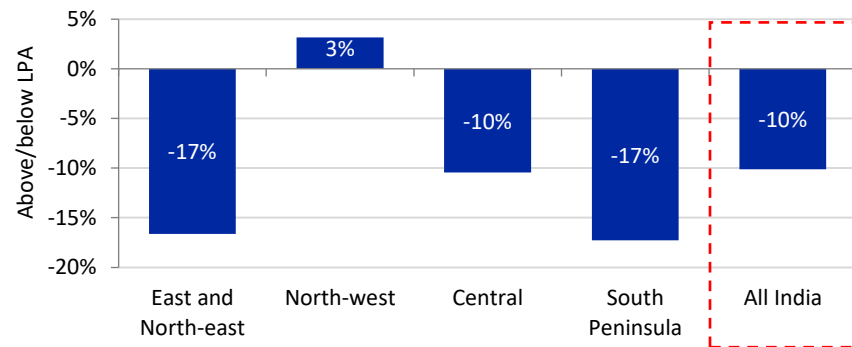


EXHIBIT: Cumulative Region-wise distribution of rainfall* in Jun-Aug 2023

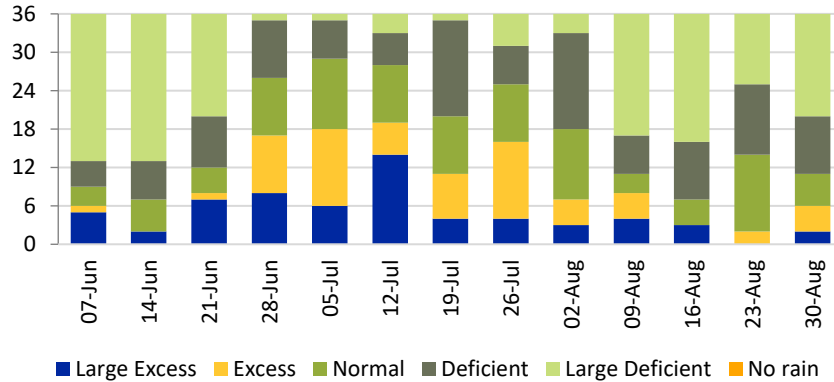


*On a pan-India basis, rainfall between 96% and 104% of the LPA is considered to be normal. The other classifications are deficient (below 90% of LPA), below-normal (90-96% of LPA), above-normal (104-110% of LPA) and excess (more than 110% of LPA); Source: India Meteorological Department (IMD); CEIC; ICRA Research

- Overall, India has witnessed deficient rainfall at 90% of LPA till Aug 31, 2023. Moreover, the spatial distribution of rainfall has been quite uneven. The excess rains in July 2023 were followed by a large deficient rainfall in most parts of the country in Aug 2023, including Central India (122% of LPA in Jul 2023 vs. 53% of LPA in Aug 2023), South Peninsula (144% of LPA vs. 40% of LPA), and North-west region (127% of LPA vs. 63% of LPA). Contrastingly, East and North-east India saw normal precipitation in Aug 2023 (102% of LPA), after recording deficient rainfall in the previous month (70% of LPA).
- Cumulatively, rainfall in Jun-Aug 2023 was deficient in the East and North-east region (83% of LPA) as well as South Peninsula (83% of LPA). Additionally, Central India (90% of LPA) saw below-normal rainfall during this period, while rainfall in the North-west region was normal at 103% of LPA, as per the IMD's classification.

Most of the 36 sub-divisions witnessed deficient or large deficient rainfall in August 2023

EXHIBIT: Weekly Distribution of Rainfall across sub-divisions*



*36 subdivisions in the country; Source: IMD; CEIC; ICRA Research

EXHIBIT: Cumulative distribution of rainfall over 36 sub-divisions during Jun-Aug 2023

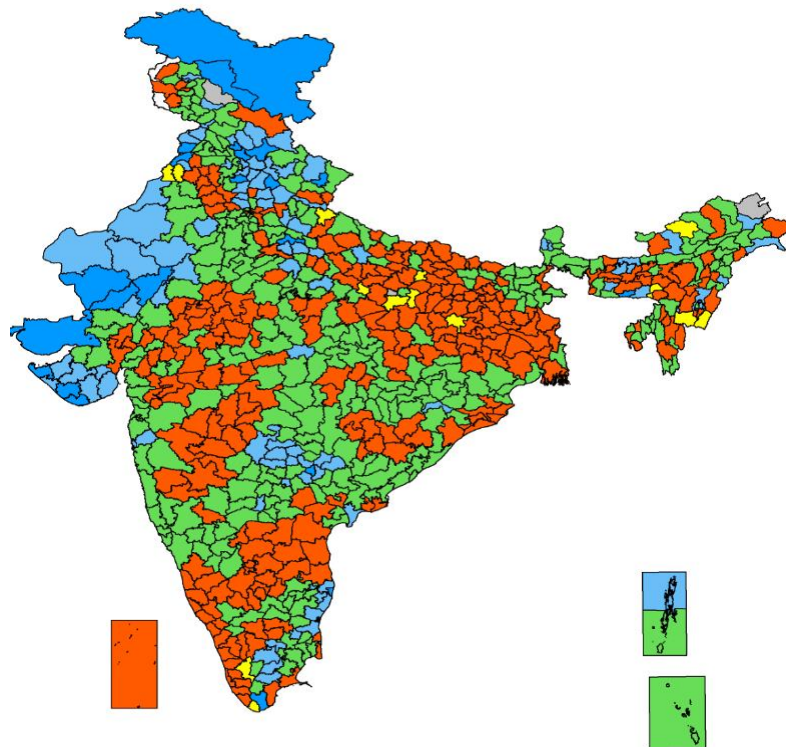
Category	% of LPA	No. of sub-divisions	% of Total
Large Excess	above 160	0	0%
Excess	120-159	4	11%
Normal	81-119	20	56%
Deficient	41-80	12	33%
Large Deficient	0-40	0	0%
No Rain	0	0	0%
Total		36	100.0%

Source: IMD; ICRA Research

- After recording large deficits in June 2023, most of the 36 sub-divisions witnessed either excess or normal rainfall in July 2023. However, this trend reversed in Aug 2023, with a rise in the number of sub-divisions recording deficient or large deficient rains in the month.
- On a cumulative basis, out of the 36 sub-divisions, 56% received normal rainfall during June-Aug 2023, while 33% recorded deficient rainfall. Additionally, the share of sub-divisions reporting excess rainfall stood at 11%, while none of the subdivisions have recorded large excess or large deficient rainfall during the monsoon season so far (till Aug 31, 2023).

Majority of districts received normal or deficient rainfall in June-August 2023

EXHIBIT: District-wise monsoon rainfall during monsoon season



As on Aug 31, 2023; Source: IMD; CEIC; ICRA Research

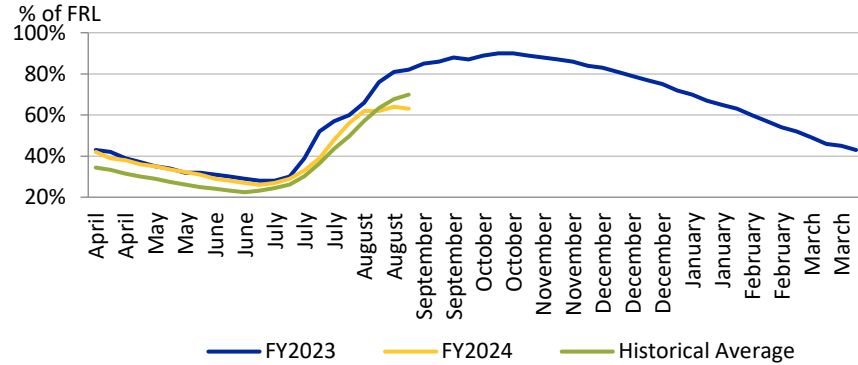
- The cumulative district-wise distribution of rainfall reveals that most of the districts in North-west India recorded large excess or excess rainfall in the first three months of the ongoing monsoon season.
- Most of the districts in the Central region have recorded normal rainfall up to Aug 31, 2023, while the trend is mixed in South Peninsula with a combination of deficient and normal rains in the season so far.
- In contrast, most districts in the East and North-east regions received either deficient or large deficient rainfall during this period.

Classification on a disaggregated basis

Large Excess (above 160% of LPA)
Excess (120% to 159% of LPA)
Normal (81% to 119% of LPA)
Deficient (41% to 80% of LPA)
Large Deficient (1% to 40% of LPA)
No Rain (0% of LPA)

Reservoir storage at end-August 2023 considerably lower than year-ago levels, moderately below historical average

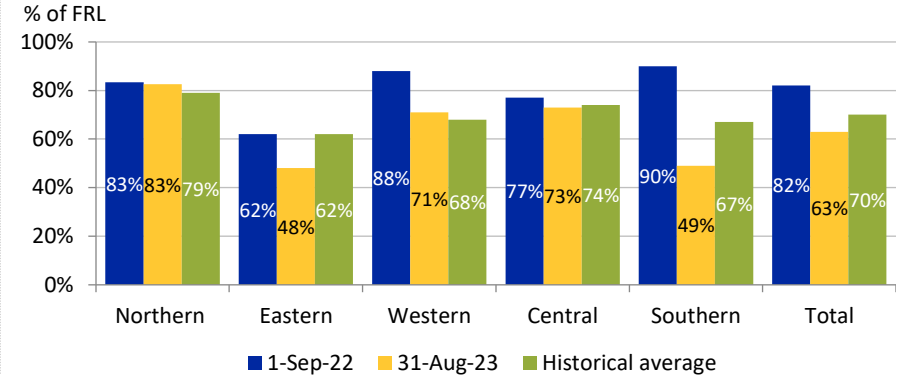
EXHIBIT: Reservoir storage levels as percentage of Live Capacity at Full Reservoir Level (FRL)



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

- While the all-India reservoir storage levels began charting a seasonal uptrend since the first week of July 2023, the gap from the FY2023 levels has widened since July 20, 2023. Subsequently, the all-India reservoir storage stood at 63% of FRL as on Aug 31, 2023, significantly below the corresponding year-ago level (82% of FRL as on Sep 1, 2022).
- Moreover, the reservoir level trailed the historical average of the last 10 years (70% of FRL), by a relatively narrower margin.

EXHIBIT: Region-wise reservoir storage levels

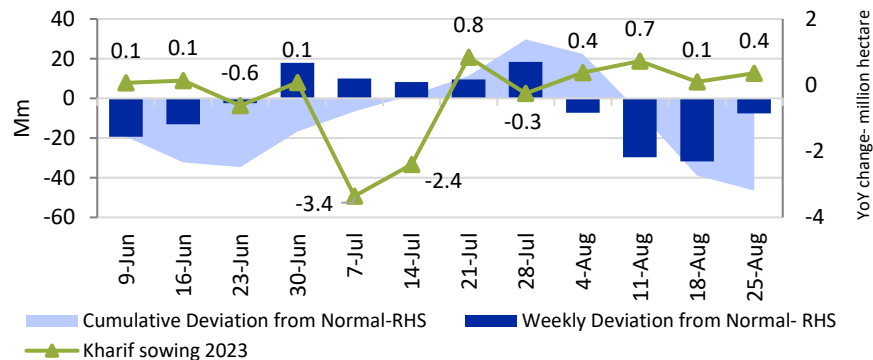


Source: CWC; CEIC; ICRA Research

- The region-wise storage was lower than the year-ago levels in all regions as on August 31, 2023, with the gap being particularly large in the Southern (49% vs. 90%), Eastern (48% vs. 62%), and Western (71% vs. 88%) regions, followed by the Central (73% vs. 77%) and Northern (82.5% vs. 83.3%) regions.
- Barring the North and the West, all other regions recorded lower reservoir storage relative to their respective historical levels as on Aug 31, 2023.

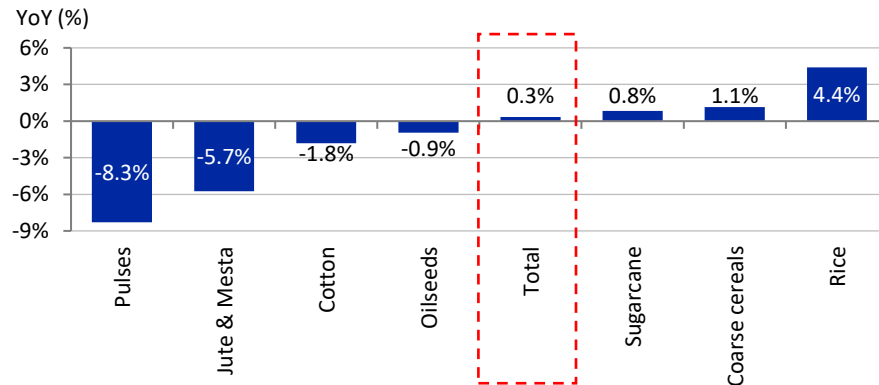
Kharif sowing up by 0.3% at end-Aug 2023

EXHIBIT: Weekly and Cumulative Rainfall deviation (mm) from Normal in 2023 and YoY change (million hectare) in kharif sowing



Source: IMD; Ministry of Agriculture and Farmers' Welfare; ICRA Research

EXHIBIT: YoY growth in Kharif Sowing as on Aug 25, 2023

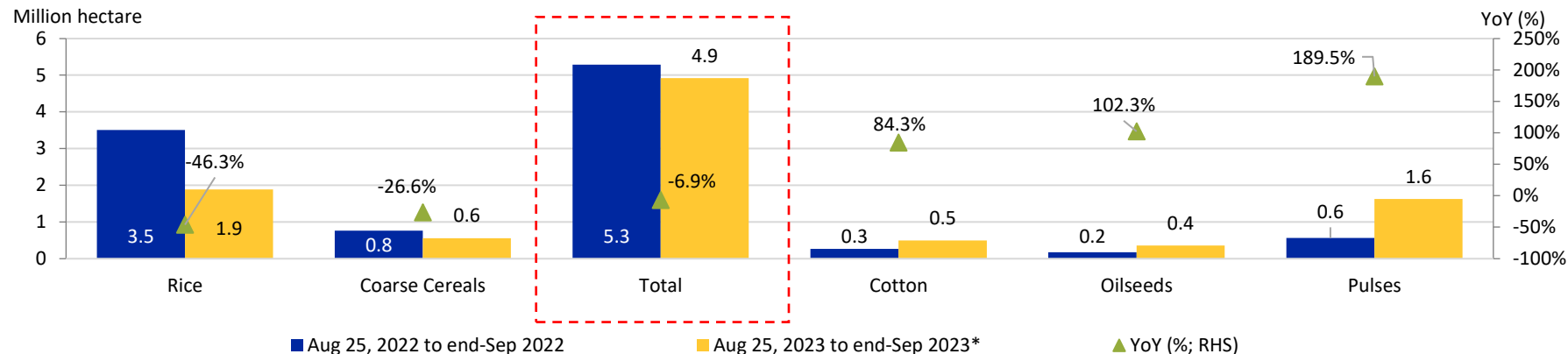


Source: Ministry of Agriculture and Farmers' Welfare, ICRA Research

- Boosted by the excess rainfall in July 2023, cumulative kharif sowing exceeded year-ago levels by a mild 0.3% as on Aug 25, 2023, at 105.4 million hectare, equivalent to ~96% of the total area sown in 2022 season.
- The crop-wise trends were mixed, with a higher sowing of rice (+4.4%), coarse cereals (+1.1%), and sugarcane (+0.8%) marginally outweighing the YoY decline in other major crops including pulses (-8.3%), jute and mesta (-5.7%), cotton (-1.8%) and oilseeds (-0.9%) up to August 25, 2023.

While total area sown may surpass year ago levels in 2023, pulses are likely to lag











EXHIBIT: Crop-wise trends in area sown in Sep 2022 and area that is required to be sown in Sep 2023*



*Area required to be sown between Aug 25 and end-Sep 2023, to meet the cumulative area sown for rabi crops in the previous year; Source: Ministry of Agriculture and Farmers' Welfare, ICRA Research

- To reach last year's total area sown (110.3 million hectare in 2022), an additional 4.9 million hectare needs to be sown between Aug 25, 2023 and end-Sep 2023, which is ~7% lower than the corresponding year-ago level (5.3 million hectare in Sep 2022).
- However, on a crop-wise basis, the area sown under pulses would need to nearly triple between Aug 25, 2023 and end-Sep 2023 to reach last year's total area sown (1.6 million hectare during Aug 25, 2023 to end-Sep 2023 vs. 0.6 million hectare during Aug 25 to end-Sep 2022). Additionally, area sown under oilseeds (0.4 million hectare vs. 0.2 million hectare) is required to double to reach the total area sown in 2022, while that for cotton (0.5 million hectare vs. 0.3 million hectare) needs to rise by a significant ~84% YoY during Aug 25, 2023 to end-Sep 2023.

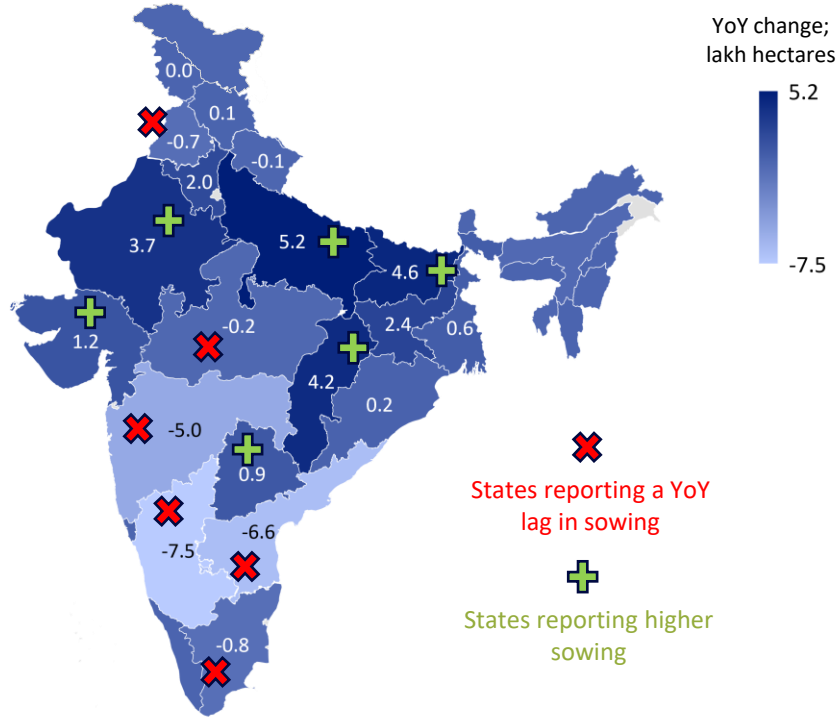
Owing to sub-par rainfall, Karnataka and Andhra Pradesh saw YoY decline in sowing of pulses, cotton, oilseeds and rice

YoY change					
Key states	 -1.06 Million hectare	 -0.23 Million hectare	 -0.18 Million hectare	 +0.20 Million hectare	 +1.62 Million hectare
	Pulses	Cotton	Oilseeds	Coarse Cereals	Rice
					
	YoY rise in coverage area: Rajasthan (+0.14), Jharkhand (+0.02), etc.	YoY rise in coverage area: Gujarat (+0.14), Rajasthan (+0.14), etc.	YoY rise in coverage area: Maharashtra (+0.12), Rajasthan (+0.08), etc.	YoY rise in coverage area: Madhya Pradesh (+0.16), Karnataka (+0.06), etc.	YoY rise in coverage area: Bihar (+0.51), Chhattisgarh (+0.43), Telangana (+0.26), etc.
	YoY decline in coverage area: Madhya Pradesh (-0.36), Karnataka (-0.32), Maharashtra (-0.27) and Andhra Pradesh (-0.04)	YoY decline in coverage area: Andhra Pradesh (-0.20), Telangana (-0.13), Karnataka (-0.12), etc.	YoY decline in coverage area: Andhra Pradesh (-0.26), Karnataka (-0.20), etc.	YoY decline in coverage area: Maharashtra (-0.05), Tamil Nadu (-0.03), etc.	YoY decline in coverage area: Karnataka (-0.17), Andhra Pradesh (-0.12), etc.

As on Aug 25, 2023; Cotton includes both BT and Non-BT segments; Source: Ministry of Agriculture and Farmers' Welfare, GoI; ICRA Research

However, this was offset by higher acreage in Uttar Pradesh, Bihar, Chhattisgarh and Rajasthan

EXHIBIT: State-Wise Progress of Kharif Sowing as on August 25, 2023



With a rainfall deficit of 22% below the LPA (up to Aug 31), Karnataka witnessed the steepest YoY decline of 0.75 million hectare in kharif sowing, led by rice, ragi, tur dal, cotton, etc.

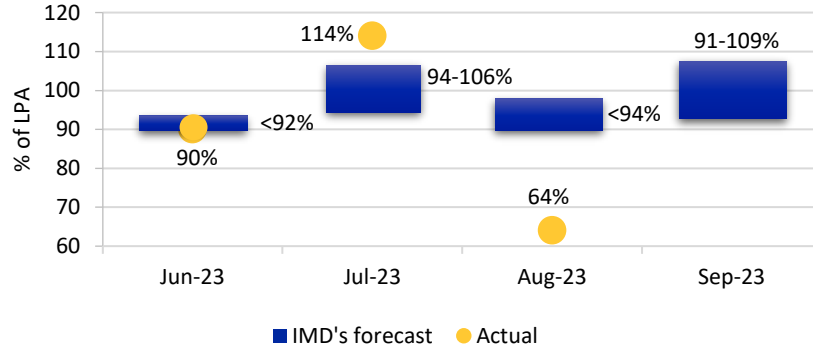
Other states like Andhra Pradesh (-0.66 million ha) and Maharashtra (-0.50 million ha, led by pulses) also reported lower sowing, with the latter partly attributable to delayed pick up in rains

Encouragingly, the sowing in Bihar (+0.46 million ha) and Chhattisgarh (+0.42 million ha) has trended higher than year-ago levels, led by the pick-up in the area sown under paddy in August 2023

Moreover, the overall trend was supported by higher sowing in other states including Uttar Pradesh (+0.52 million ha) and Rajasthan (+0.37 million ha) up to Aug 25, 2023, relative to the year-ago levels

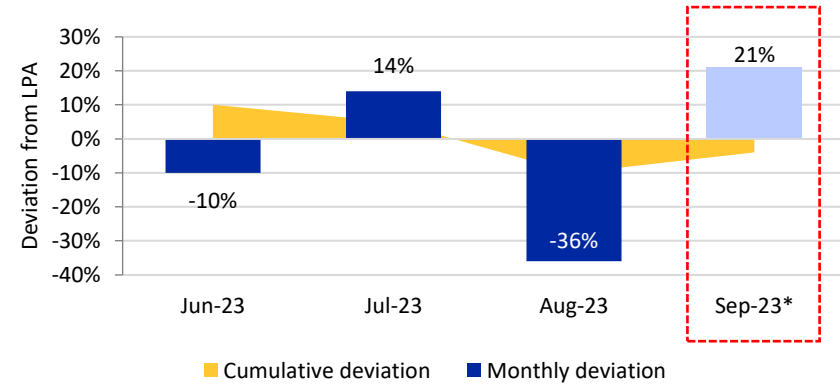
IMD expects rainfall at 91-109% of LPA in Sep 2023; rainfall to be below normal in monsoon season even if higher end of IMD's range is achieved in the month

EXHIBIT: Monthly forecast of monsoon rainfall by the IMD and actual precipitation in the month



Source: IMD; ICRA research

EXHIBIT: Month-wise trends in Pan-India Monsoon Rainfall in 2023 season

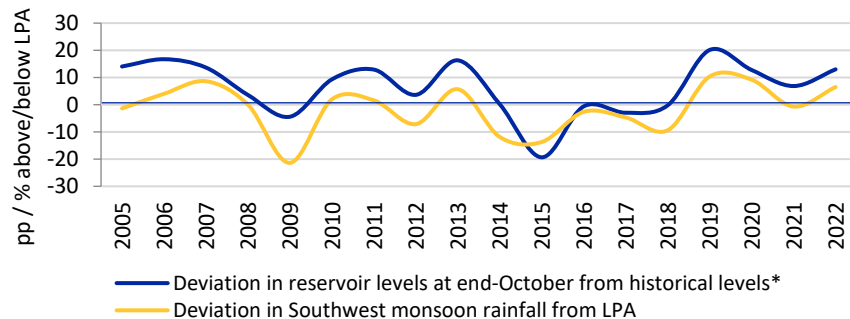


*Rainfall needed in Sep 2023 to achieve lower end of normal monsoon range (96-104% of LPA) in the entire 2023 season; Source: IMD; ICRA Research

- On Aug 31, 2023, the IMD released its forecast for September 2023, estimating the volume of rainfall to be normal (91-109% of the LPA) in the month.
- To achieve the lower end range of the IMD's criteria for a normal monsoon in the entire season (96-104% of LPA; June-September 2023), a surplus rainfall of 21% above the LPA is needed in September 2023, which seems unlikely in ICRA's view, given the ongoing El Nino conditions. Additionally, to achieve 100% of LPA for the entire monsoon season, a substantial surplus of 42% above the LPA is needed in September 2023, which appears highly unlikely.
- Even if rainfall prints at 109% of LPA (upper range of IMD's projection) in September 2023, the pan-India rainfall in the South-west (SW) monsoon season would be below normal at 94% of LPA.

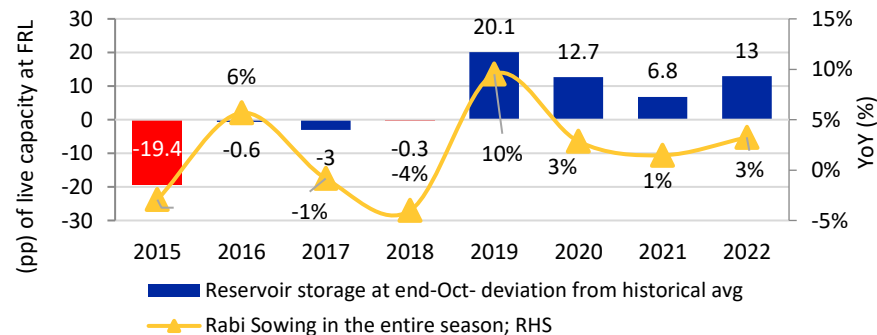
Pick up in rainfall in Sep-Oct 2023 necessary to replenish reservoirs

EXHIBIT: Deviations in reservoir storage levels at end-October from historical averages and deviations in Southwest monsoon rainfall from LPA (%)



*computed as reservoir storage levels as % of Live Capacity at FRL at end-October minus historical average levels at end-October; Source: IMD; Central Water Commission (CWC); CEIC; ICRA Research

EXHIBIT: Deviations in reservoir storage at end-Oct from historical averages and YoY trends in cumulative area sown under rabi crops

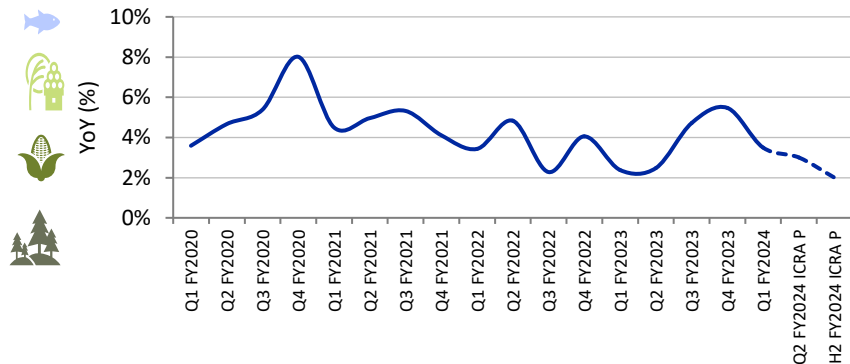


Red bars denote El Niño years; Source: Department of Agriculture and Farmers' Welfare; CWC; ICRA Research

- Rainfall during the South-west monsoon plays an important role in replenishing the reservoir levels, which peak in Sep-Oct 2023, ahead of the rabi season.
- Comparing the past-year trends, there is a strong correlation between the deviation in reservoir storage at end-Oct from their historical levels (10-year average), the deviation in South-west monsoon from the LPA and the YoY changes in cumulative area sown for rabi crops. For instance, reservoir storage was 19 pp lower than historical average at the end of Oct 2015, amid deficient South-west monsoon rains (-13.7%) owing to El Niño conditions, which translated into a 3% YoY decline in the area sown during the ensuing rabi season. In contrast, the area sown for rabi crops rose by a healthy ~10% YoY in the 2019 season, partly supported by elevated reservoir storage vis-à-vis the historical levels (+20 pp) amid healthy SW season (10.4% above LPA), and a low base.
- Based on these trends, the reservoir storage, which stood at 63% of FRL as on Aug 31, 2023 (trailing historical levels), needs to improve sharply to provide support to rabi sowing, which would influence the prospects for rabi output and farm consumption. To achieve that, rainfall needs to pick up in Sep-Oct 2023, although a late withdrawal of the monsoon may delay the kharif harvest.

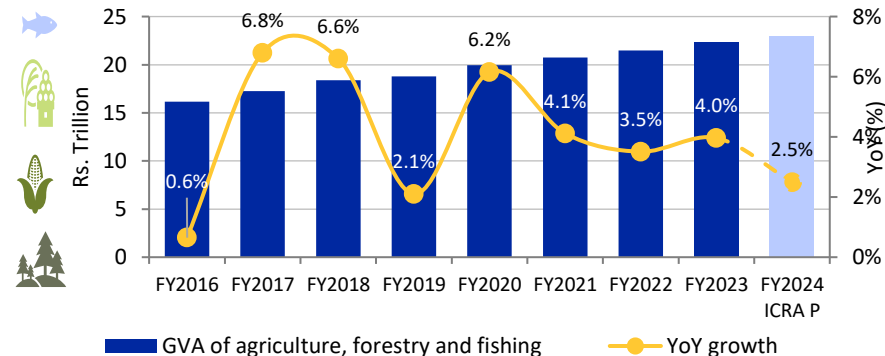
Agri GVA to grow by 2.5% in FY2024; growth to moderate in H2 owing to impact of sub-par monsoon

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



*Dotted line represents ICRA's projections; Source: National Statistical Office (NSO); ICRA Research

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

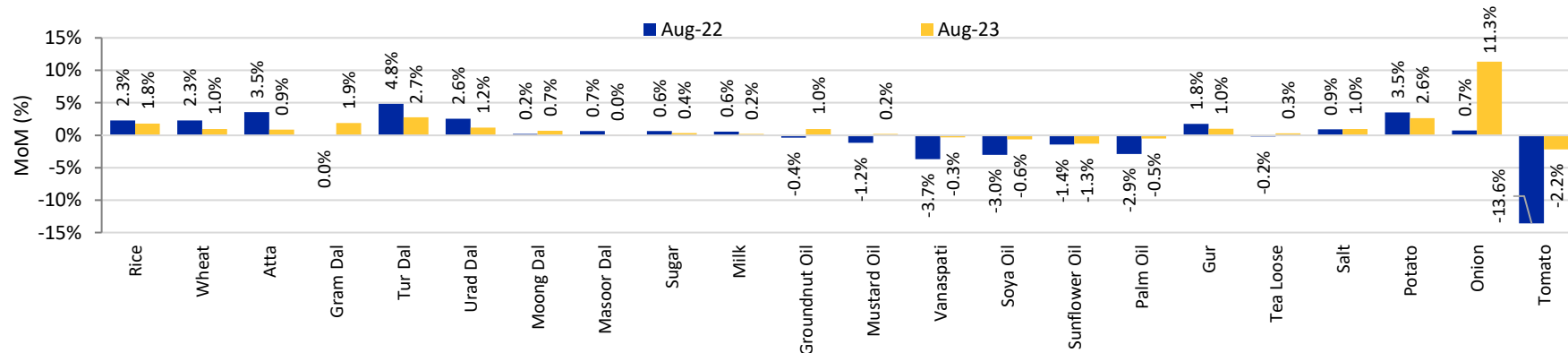


P: Projected; Source: NSO; ICRA Research

- The NSO has pegged the GVA growth in agriculture, forestry and fishing at a three-quarter low of 3.5% in Q1 FY2024 (+5.5% in Q4 FY2023; +2.4% in Q1 FY2023). While the 3rd Advance estimates (AE) of crop production had revealed a healthy trend in rabi crop output, unseasonal rains in Apr-May 2023 had led to concerns around yields.
- Going ahead, the GVA growth of this sector is likely to moderate to 3.0% in Q2 FY2024, and further average at a lower 2.0% in H2 FY2024, amid the expected impact of the deficient rainfall in August 2023 and the lags in reservoir levels vis-à-vis the historical average, on kharif yields and rabi sowing. ICRA remains watchful regarding the impact of below normal monsoon on overall crop output, farm incomes and rural consumption.

Food inflation likely to ease modestly in August 2023; likely to cool off materially in Sep 2023

EXHIBIT: Month-on-month (MoM) trends in prices of essential commodities

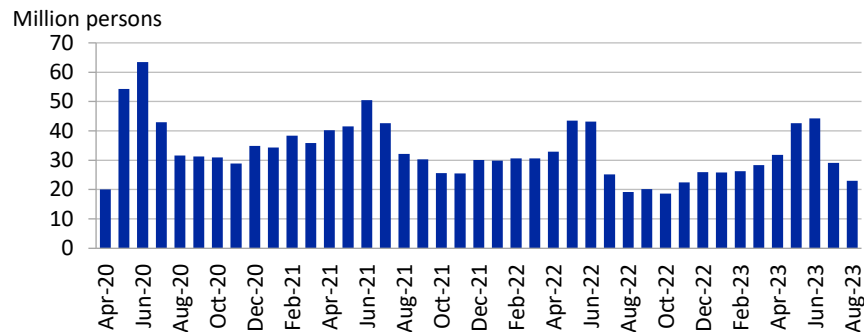


Source: DCA; ICRA Research

- As per the data released by the Department of Consumer Affairs (DCA), the average retail prices of as many as 12 of the 22 essential commodities saw a sharper MoM uptick in August 2023 vs. August 2022.
- Notwithstanding the muted 2.2% correction in the average retail price levels of tomatoes in August 2023, the correction in such prices has been quite sharp in the past two weeks with the arrival of fresh produce. While average prices of other vegetables (onion and potato), rice, wheat, milk (demand outpacing supply) and most pulses (amid large YoY lag in the kharif sowing of arhar, urad and moong) have risen modestly in August 2023 in sequential terms, the average prices of edible oils continued to soften. The Centre's decision to off-load stocks of rice (2.5 MT) and wheat (5.0 MT) augurs well in limiting the uptrend in the prices of these items.
- The continuing YoY lag in the sowing of pulses would continue to put an upward pressure on prices of those items, even as the arrival of fresh produce would further soften the prices of some veggies. Overall, ICRA expects the CPI-food and beverages inflation to ease from 10.6% in July 2023 to 9.5% in August 2023, before cooling off materially to 6.0% in Sep 2023.**

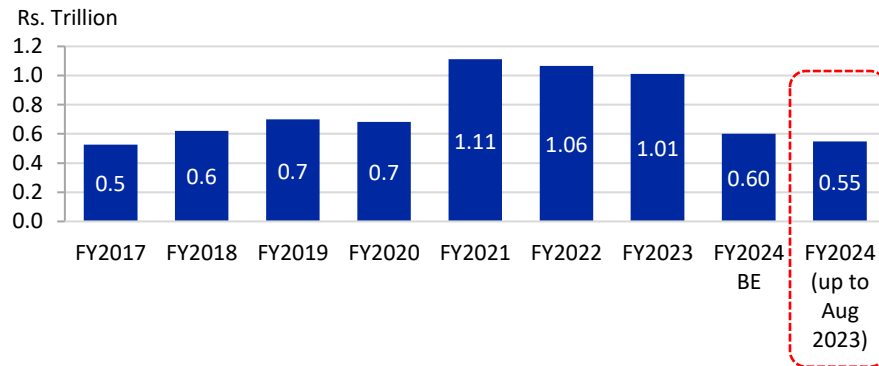
Given the sizeable outlay exhausted within H1 FY2024, additional allocation of Rs. 250-300 billion may be needed under MGNREGS for FY2024

EXHIBIT: Work demand under Mahatma Gandhi National Rural Employment Guarantee Scheme (MGNREGS)



Source: NREGA portal; ICRA Research

EXHIBIT: Annual outgo under MGNREGS



BE: Budget estimates; Source: NREGA portal; ICRA Research

- The average work demanded under MGNREGS declined sharply to 26.0 million people during Jul-Aug 2023 from 39.6 million people in Q1 FY2024, amid the onset of kharif sowing season, while displaying a YoY growth of 17.3%. While the demand was slightly higher than the levels seen in Jul-Aug 2019, it significantly trailed the trends seen in the Covid affected years of FY2021-22, indicating no significant signs of rural distress at present.
- The person days generated under this scheme stood at 1.7 billion in FY2024 so far (till Aug 2023), relative to 2.9 billion seen in FY2023 and a record 3.9 billion in FY2021. However, the average wage has risen by 10.4% to Rs. 238.6/person/day in FY2024 so far (up to Aug 2023) from Rs. 220.1/person/day recorded in FY2023 after a hike of 2-10% in wages w.e.f. Apr 1, 2023, thereby pushing up the total cost.
- The GoI had provided an outlay for MGNREGS of Rs. 0.6 trillion in FY2024 BE, lower than the actual spending incurred in FY2021-23. In the first five months of FY2024, more than 90% of budgeted amount or Rs. 0.55 trillion has already been spent, indicating that additional allocations may be made though the supplementary demand for grants. **ICRA estimates the outgo under MGNREGS in FY2024 to exceed the BE by Rs. 250-300 billion.**



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