ICRA

SOUTH-WEST MONSOON WRAPUP 2023

Sub-par, uneven South-west Monsoon rainfall poses risks to agri-GVA growth, rural demand in H2 FY2024

OCTOBER 2023

Highlights

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Rainfall was below normal at 94% of LPA in 2023 South-west Monsoon season

Kharif sowing up by 0.2% YoY at end-Sep 2023; lag in sowing of pulses, oilseeds to pose upside risks to inflation

Late monsoon withdrawal and sub-par reservoir levels likely to impact kharif yields and rabi sowing, respectively

Agri GVA growth expected to ease to ~2.0% in H2 FY2024

- Pan-India rainfall was below normal at 94% of Long Period Average (LPA) in the South-west Monsoon season of 2023. This was largely in line with the India Meteorological Department's (IMD's) projection of 96% of LPA, with a model error of +/- 4%.

- After recording 10% below-normal rains in June 2023, precipitation was 14% above LPA in July 2023. Subsequently, the country saw deficient rainfall at 36% below LPA in Aug 2023, before reverting to surplus rainfall at 13% above LPA in Sep 2023, exceeding the IMD's expectations.

- Boosted primarily by the excess rainfall in July 2023, the cumulative kharif sowing was up by a marginal 0.2% year-on-year (YoY) to 110.7 million hectare as on Sep 29, 2023. However, the YoY lag in sowing of pulses, oilseeds and cotton is likely to have inflationary implications.

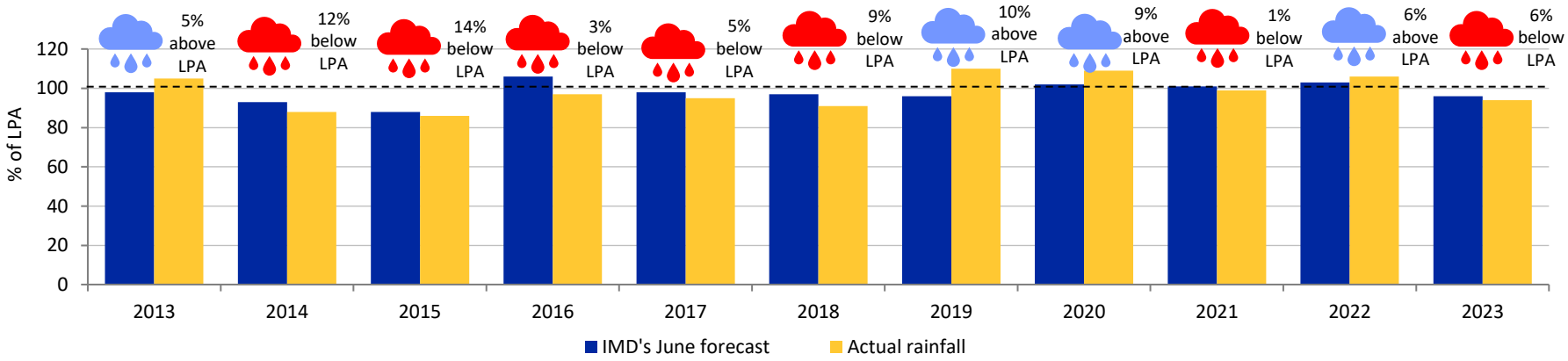
- The all-India reservoir storage stood at 73% of the live capacity at FRL as on Sep 29, 2023, sharply lower than the year-ago (89% of FRL) and historical levels (79% of FRL over past 10 years). Notably, storage improved slightly in Sep 2023, aided by pick-up in rains over the last 2-3 weeks.

- While a delay in the withdrawal of monsoon may postpone kharif harvest and/or dampen yields of such early-sown crops, healthy and well-distributed rainfall in Oct 2023 would help to replenish reservoir storage levels and support a timely onset of rabi sowing.

- ICRA expects agri GVA growth to moderate to ~2.0% in H2 FY2024 from the ~3.0% foreseen in H1 FY2024, amid the expected impact of delay in monsoon withdrawal and lags in reservoir levels vis-à-vis the historical average on kharif yields and rabi sowing, respectively. Additionally, ICRA expects rural sentiment and demand to be cautious in H2 FY2024.

Pan-India rainfall was below-normal at 94% of LPA in 2023 South-west Monsoon season, within the IMD's forecasted range

EXHIBIT: IMD's June Forecasts of Pan-India Monsoon Rainfall in the season vs. Actual Rainfall (% of LPA)

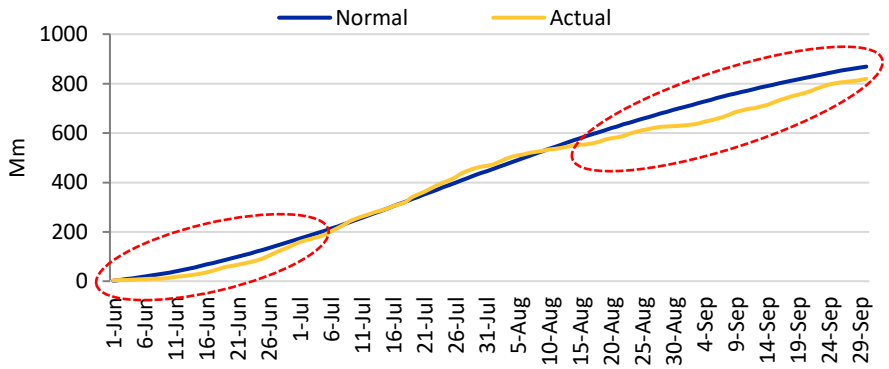


On a pan-India basis, rainfall between 96% and 104% of the LPA is considered to be normal. The other classifications are deficient (below 90% of LPA), below-normal (90-96% of LPA), above-normal (104-110% of LPA) and excess (more than 110% of LPA); Source: IMD; ICRA Research

- India received below-normal rainfall at 94% of LPA or 82 cm in the entire South-west Monsoon season (June-September) of 2023, amidst sharp fluctuations between above-normal rainfall in July and September and deficient rainfall in June and August.
- This was largely in line with the IMD's second stage Long Range Forecast (LRF) for this season at 96% of LPA with a model error of +/-4%, released in May 2023. However, this was the lowest rainfall recorded during the South-west Monsoon season since 2018 (91% of LPA).
- The IMD highlighted that while El Nino conditions remained weak in July 2023, they turned moderate during Aug-Sep 2023. However, after remaining neutral till the third week of Aug, IOD conditions turned positive thereafter, which partly aided in offsetting the rainfall deficiency in the latter phase of the monsoon season. Consequently, the actual pan-India rainfall printed within the IMD's forecast range for this season.

Excess rainfall recorded in Sep 2023, surpassing IMD's projections

EXHIBIT: Cumulative normal vs. actual rainfall during Jun-Sep 2023



Source: IMD; CEIC; ICRA Research

- After recording sub-par rainfall in June 2023 (10.1% below LPA), the actual cumulative rainfall exceeded the normal level on July 9, 2023. Thereafter, the deviation from normal 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. Subsequently, it narrowed to (-) 5.6% as on Sep 30, 2023, amidst some pickup in rainfall in the month.

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

Jun 2023	Jul 2023	Aug 2023	Sep 2023
IMD's expectation: <92% of LPA (below-normal)	**IMD's expectation**: 94-106% of LPA (normal)	**IMD's expectation**: <94% of LPA (below-normal)	**IMD's expectation**: 91-109% of LPA (normal)
Actual: 90% of LPA	**Actual**: 114% of LPA	**Actual**: 64% of LPA	**Actual**: 113% of LPA

Source: IMD; CEIC; ICRA Research

- After printing in line with the IMD's forecast in June 2023 (actual: 90% of LPA vs. IMD's exp.: <92% of LPA), the actual pan-India rainfall significantly overshot the IMD's expectations (94-106% of LPA) in July 2023, and stood at 114% of LPA.
- In Aug 2023, the actual rainfall was deficient at 64% of LPA, sharply trailing the IMD's projections of below normal rainfall (<94% of LPA) for the month. Subsequently, actual pan-India rainfall was excess at 113% of LPA in Sep 2023, surpassing the IMD's forecast of 91-109% of LPA for that month.

Temporal and spatial distribution of rainfall was uneven

After recording above-LPA rains during Jun-Jul 2023, the **North-west** region saw below-LPA rainfall during Aug-Sep 2023, even as the departure from normal narrowed in Sep vis-à-vis Aug 2023

The **East and North-east** region recorded deficient rainfall during Jun-Jul 2023; thereafter, it received normal rainfall in Aug 2023, before reverting to a sharp deficiency in Sep 2023

Rainfall in the **Central** region oscillated between above and below-LPA over the course of four months of monsoon season: Jun – 6% below LPA; Jul – 22% above LPA; Aug – 47% below LPA; Sep – 49% above LPA

The **South Peninsula** witnessed rainfall below-LPA in Jun 2023, followed by a large surplus in Jul; thereafter, it recorded a sharp departure from normal (60% below LPA) in Aug 2023, before receiving excess rainfall in Sep 2023

The cumulative region-wise distribution of rainfall differed from the IMD's expectations for the South-west Monsoon season: rainfall was normal in North-west (101% of LPA vs. IMD's exp.: <92% of LPA) and Central India (100% of LPA vs. 94-106% of LPA), below-normal in the South Peninsula (92% of LPA vs. 94-106% of LPA), and deficient in the East and North-east region (82% of LPA vs. 94-106% of LPA).

EXHIBIT: Region-wise and Pan-India monthly rainfall departure from normal in 2023 monsoon season

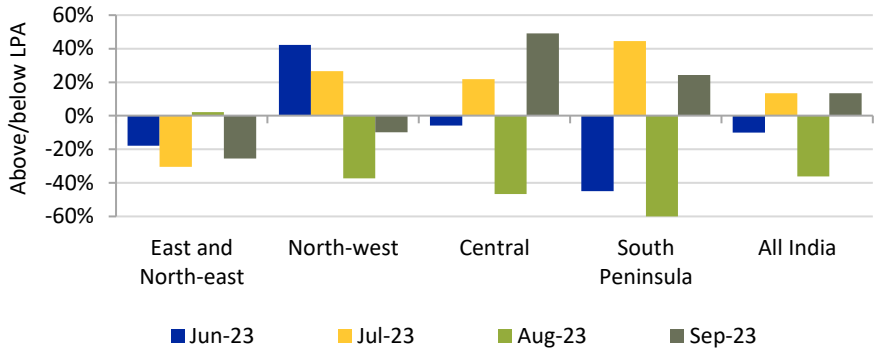


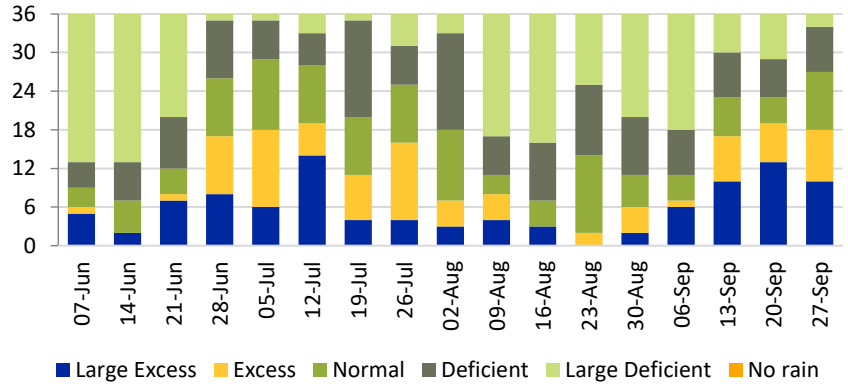
EXHIBIT: Actual vs. IMD's forecasts for region-wise distribution of rainfall in South-west Monsoon season

Region	IMD's expectations	Actual Rainfall
East and North-east	94-106% of LPA (normal)	82% of LPA (deficient)
North-west	<92% of LPA (below-normal)	101% of LPA (normal)
Central	94-106% of LPA (normal)	100% of LPA (normal)
South Peninsula	94-106% of LPA (normal)	92% of LPA (below-normal)

Source: IMD; CEIC; ICRA Research

Number of sub-divisions receiving large deficient rainfall declined in Sep 2023, relative to previous month

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 South-west Monsoon season 2023

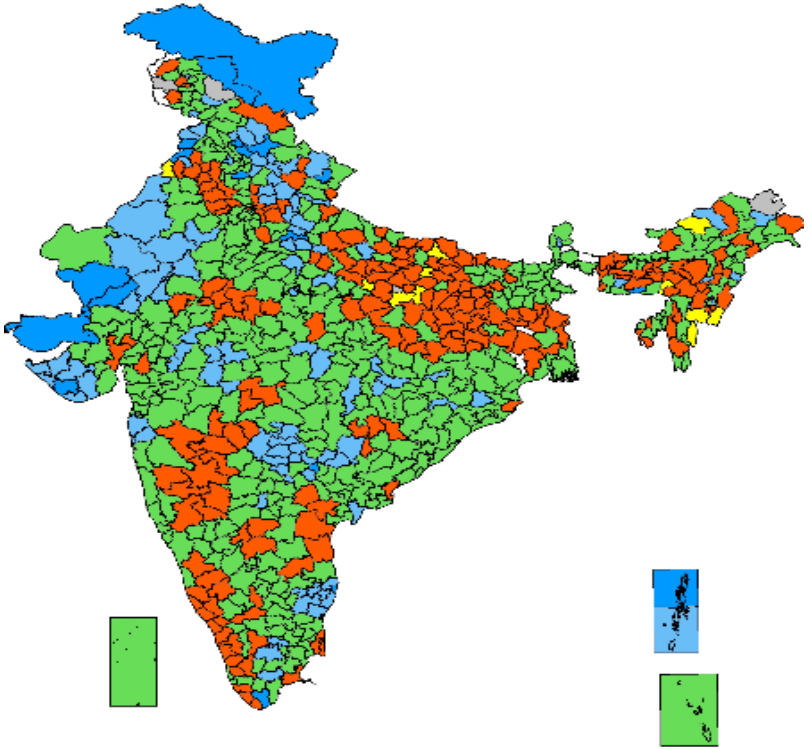
Category	% of LPA	No. of sub-divisions	% of Total
Large Excess	above 160	0	0%
Excess	120-159	3	9%
Normal	81-119	26	73%
Deficient	41-80	7	18%
Large Deficient	0-40	0	0%
No Rain	0	0	0%
Total		**36**	**100.0%**

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. In Sep 2023, the number of sub-divisions receiving large deficient rainfall declined, along with a rise in the number of sub-divisions witnessing large excess or excess rainfall.
- On a cumulative basis, out of the 36 sub-divisions, 73% received normal rainfall during June-Sep 2023, while 18% recorded deficient rainfall (including Jharkhand, Bihar, eastern Uttar Pradesh, etc.). Additionally, the share of sub-divisions reporting excess rainfall stood at 9%, while none of the subdivisions recorded large excess or large deficient rainfall during the South-west Monsoon season.

Majority of districts received normal or deficient rainfall in 2023 South-west Monsoon season

EXHIBIT: District-wise monsoon rainfall during June-Sep 2023



- The cumulative district-wise distribution of rainfall reveals that most of the districts in North-west India recorded excess or normal rainfall in the South-west Monsoon season of 2023.
- Most of the districts in the Central region have recorded normal rainfall up to Sep 30, 2023, while the trend was mixed in South Peninsula with a combination of deficient and normal rains.
- In contrast, most districts in the East and North-east regions received either deficient or large deficient rainfall during this period.

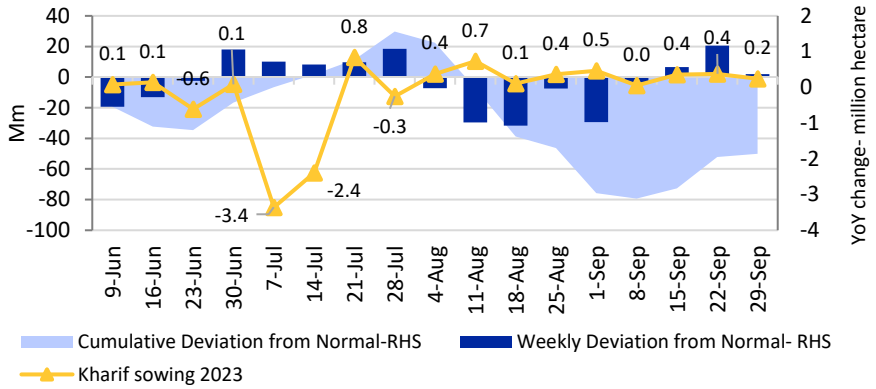
Classification on a disaggregated basis

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)

As on Sep 30, 2023; Source: IMD; CEIC; ICRA Research

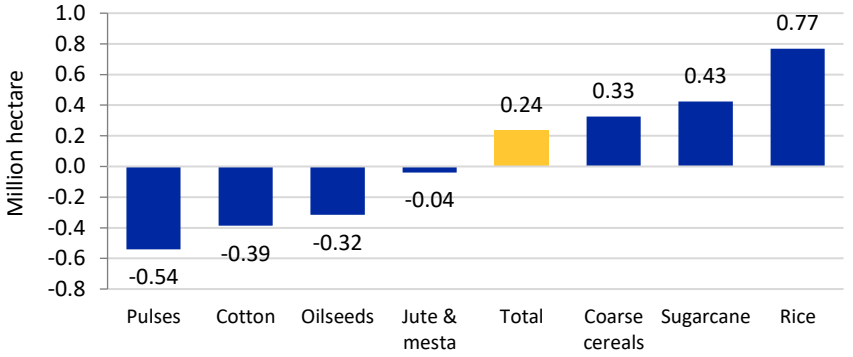
Kharif sowing up by 0.2% at end-Sep 2023, amidst mixed trends across crops

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 change in kharif sowing as on September 29, 2023



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

- Primarily boosted by the excess rainfall in July 2023, the cumulative kharif sowing rose by a mild 0.2% YoY to 110.7 million hectare from the corresponding year-ago level of 110.5 million hectare.
- However, the YoY trends were mixed across kharif crops, with a higher sowing of sugarcane (+7.6%), coarse cereals (+1.8%), and rice (+1.9%) marginally outweighing the YoY decline in other major crops including pulses (-4.2%), jute and mesta (-5.6%), cotton (-3.0%) and oilseeds (-1.6%).
- Although the cumulative kharif sowing in 2023 has surpassed last year's acreage, the lag in sowing of pulses, oilseeds and cotton is likely to have inflationary implications.

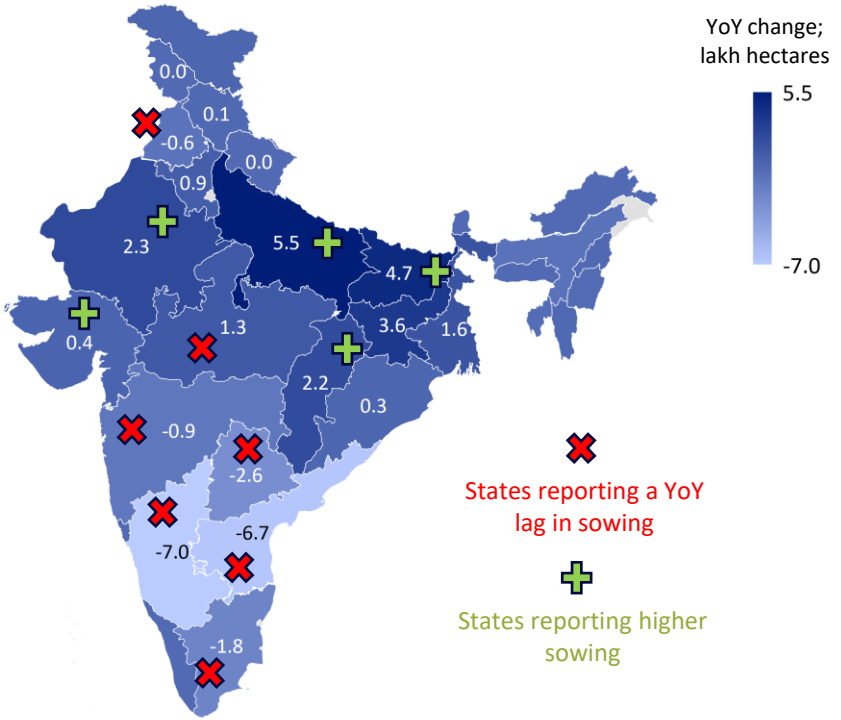
Owing to sub-par rainfall, Karnataka and Andhra Pradesh saw YoY decline in sowing of pulses, cotton, oilseeds and rice

	YoY change				
	-0.54 Million hectare	-0.39 Million hectare	-0.32 Million hectare	+0.33 Million hectare	+0.77 Million hectare
	Pulses	**Cotton**	**Oilseeds**	**Coarse Cereals**	**Rice**
					
Key states	**YoY rise in coverage area**: Rajasthan (+0.13), Madhya Pradesh (+0.07), etc. **YoY decline in coverage area:** Maharashtra (-0.27), Karnataka (-0.30), and Andhra Pradesh (-0.05)	**YoY rise in coverage area**: Gujarat (+0.13), Rajasthan (+0.11), etc. **YoY decline in coverage area:** Telangana (-0.21), Andhra Pradesh (-0.25), Karnataka (-0.13), etc.	**YoY rise in coverage area**: Maharashtra (+0.13), Madhya Pradesh (+0.02), etc. **YoY decline in coverage area:** Andhra Pradesh (-0.26), Karnataka (-0.21), etc.	**YoY rise in coverage area**: Madhya Pradesh (+0.17), Karnataka (+0.08), etc. **YoY decline in coverage area:** Maharashtra (-0.03), Tamil Nadu (-0.05), etc.	**YoY rise in coverage area**: Bihar (+0.49), Chhattisgarh (+0.12), Telangana (+0.02), etc. **YoY decline in coverage area:** Karnataka (-0.15), Andhra Pradesh (-0.09), etc.

As on Sep 29, 2023; Cotton includes both BT and Non-BT segments; Source: Ministry of Agriculture and Farmers' Welfare, GoI; ICRA Research

Higher sowing in Uttar Pradesh, Bihar, Jharkhand, Rajasthan and Chhattisgarh outweighed the fall in Karnataka, Andhra Pradesh and Telangana

EXHIBIT: State-Wise Progress of Kharif Sowing as on Sep 29, 2023



With a rainfall deficit of 10% from the LPA in this season, Karnataka witnessed the largest YoY decline of 0.7 million hectare in kharif sowing, led by rice, ragi, tur dal, cotton, etc.

The sowing in other states like Andhra Pradesh (-0.66 million ha), Telangana (-0.26 million ha) and Tamil Nadu (-0.18 mn ha) also lagged the year-ago levels

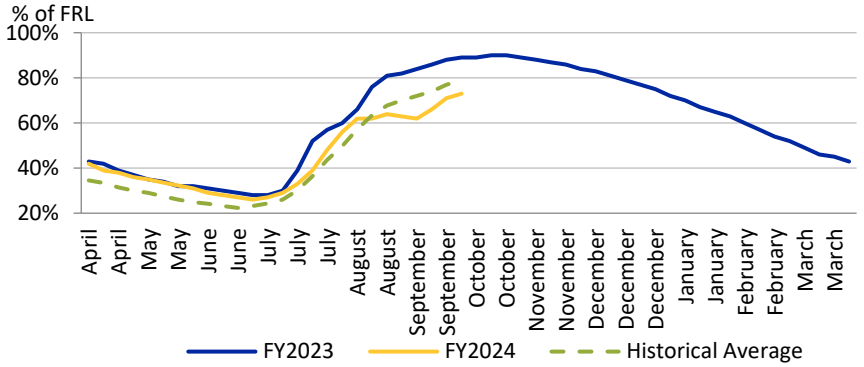
While Maharashtra ended the kharif season with a YoY decline in sowing, the magnitude of the same has narrowed to just 0.09 mn ha at end-Sep 2023 from 0.50 mn ha at end-Aug 2023, amid surplus rainfall in Sep 2023

Encouragingly, the sowing in U.P. (+0.55 million ha), Bihar (+0.47 mn ha), Jharkhand (0.36 mn ha) and Rajasthan (+0.23 mn ha) increased at end-Sep 2023, relative to the year-ago levels, which outweighed the YoY lag in sowing in other states

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

Pick-up in rains aided in narrowing YoY deficit in reservoir storage levels in Sep 2023; late monsoon retreat a positive for narrowing such gap

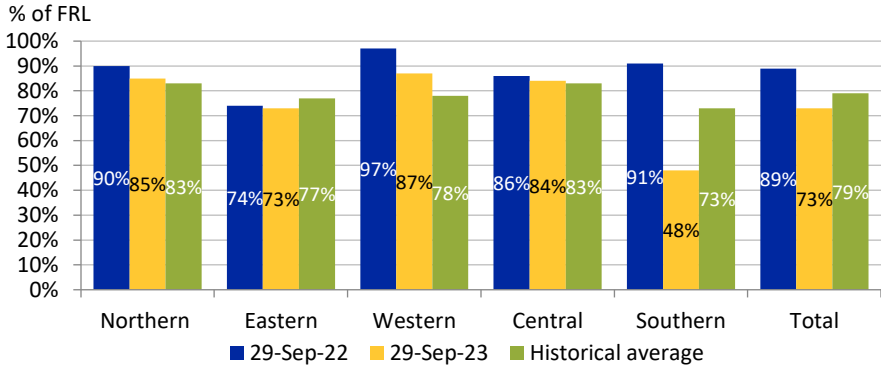
EXHIBIT: Reservoir storage levels as percentage of Live Capacity at Full Reservoir Level (FRL)



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

- The all-India reservoir storage stood at 73% of the live capacity at FRL as on September 29, 2023, sharply lower than the year-ago (89% of FRL) as well as historical levels (79% of FRL over past 10 years).
- Unlike the usual uptrend seen in the monsoon season, the pan-India reservoir storage level was steady through August 2023, amid the large rainfall deficit seen in the month (36% below LPA). In Sep 2023, the YoY gap in reservoir storage narrowed to 16pp in the week ended Sep 29 from 22pp in the week ended Sep 7, aided by healthy pick-up in rains over the last 2-3 weeks.

EXHIBIT: Region-wise reservoir storage levels

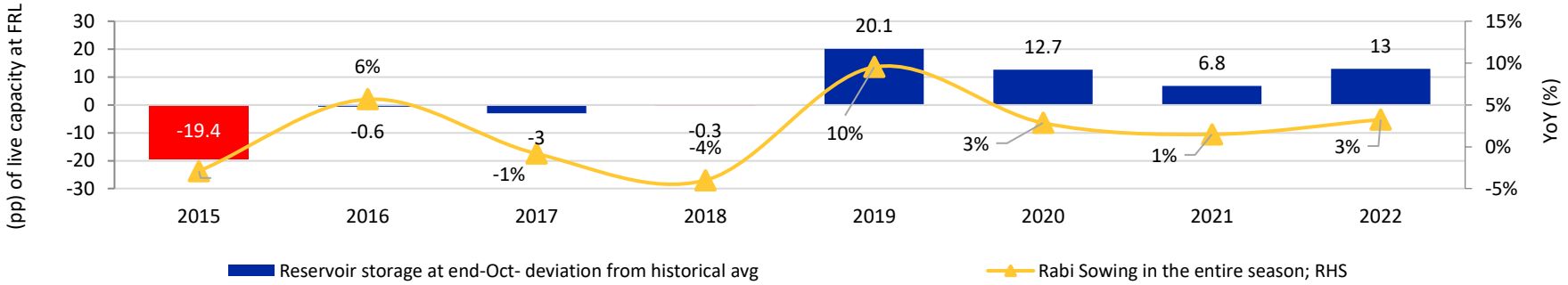


Source: CWC; CEIC; ICRA Research

- The YoY decline in reservoir storage was broad-based, with a large gap in southern (48% vs. 91%) and western (87% vs. 97%) regions as on September 29, 2023. This was followed by modest lags in the northern (85% vs. 90%), eastern (73% vs. 74%) and central (84% vs. 86%) regions, compared to the year-ago levels in this period.
- Two of the five regions, namely, southern (-25 pp) and eastern (-4 pp) regions have lower reservoir storage relative to their respective historical levels as on September 29, 2023.

Late monsoon withdrawal may delay harvesting of kharif crops and/or dampen yields of such early sown crops, while supporting onset of rabi sowing

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

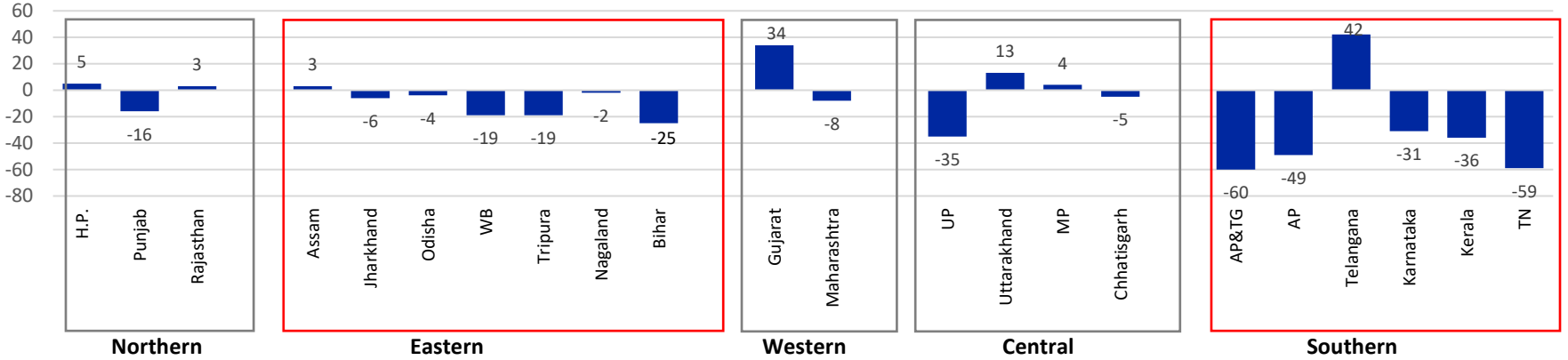


*Red bars denote El Nino years; Source: Department of Agriculture and Farmers' Welfare; CWC; ICRA Research; *computed as reservoir storage levels as % of Live Capacity at FRL at end-October minus historical average levels at end-October; Source: IMD; Central Water Commission (CWC); CEIC; ICRA Research*

- **The late onset of withdrawal of the South-west Monsoon (Sep 25 vs. normal date of withdrawal of Sep 17) may delay the kharif harvesting activities and/or dampen yields of such crops that were sown early in the season.**
- 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) 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 Nino 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.
- **Healthy and well-distributed rainfall in Oct 2023 would help to replenish reservoir storage levels and support a timely onset of rabi sowing.**

Tamil Nadu, Karnataka, UP, Bihar and AP experiencing large gaps in reservoir storage levels vis-à-vis historical averages

EXHIBIT: State-wise % Departure in Reservoir Storage from Historical Levels i.e. 10-year averages

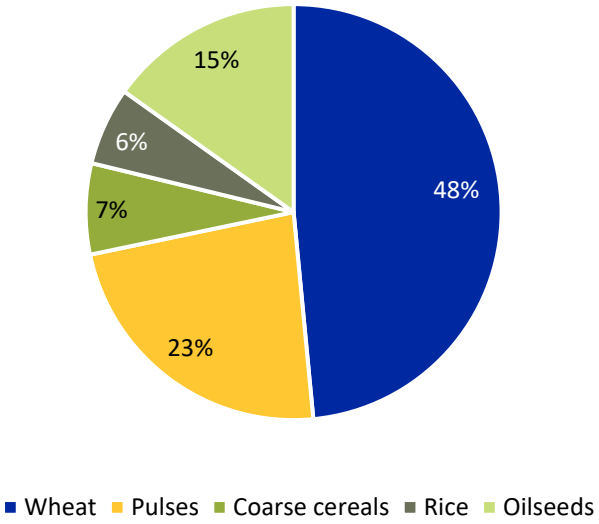


- The deficit in reservoir storage is large across the southern and eastern regions as on Sep 29, 2023, compared to the respective 10-year averages. In particular, states such as Tamil Nadu (-59pp), Andhra Pradesh (-49pp) and Kerala (-36pp) in the southern region and Bihar (-25pp) and West Bengal (-19pp) in the eastern region are experiencing large gaps in their reservoir storage positions vis-à-vis the historical levels at present.
- Rainfall in the aforementioned states in October 2023 could help to bridge the deficit in the reservoir storage levels, which would support the prospects for rabi crops that are typically grown in such regions including rice, wheat, coarse cereals, etc. Notably, UP and Bihar have recorded considerable YoY lags in their reservoir storage levels, where ~36% of cumulative area for wheat was sown in the 2022 rabi season.
- On a positive note, reservoir levels in states like Rajasthan, Telangana, Gujarat, Uttarakhand, Madhya Pradesh and Chhattisgarh are either trending higher than the historical levels or running with low deficit, thereby auguring well for a timely onset of sowing in these states.

HP: Himachal Pradesh, WB: West Bengal; UP: Uttar Pradesh; MP: Madhya Pradesh; AP&TG: Andhra Pradesh and Telangana; TN: Tamil Nadu; Source: CWC; ICRA Research

Sowing of coarse cereals may witness late onset with top 3 contributing states trailing historical reservoir levels at end-Sep 2023

EXHIBIT: Composition of area sown for Rabi crops in 2022 season



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

Wheat

- Top 3 contributing states in terms of sowing: Uttar Pradesh, Madhya Pradesh and Punjab

Rice

- Top 3 contributing states in terms of sowing: Telangana, Tamil Nadu and Andhra Pradesh

Coarse cereals

- Top 3 contributing states in terms of sowing: Maharashtra, Bihar and Tamil Nadu

Pulses

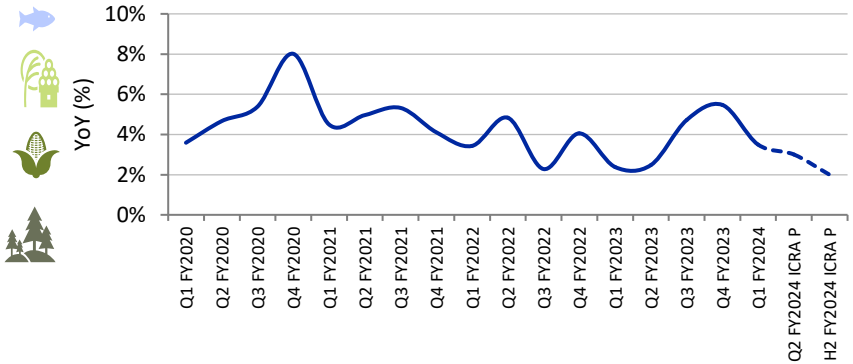
- Top 3 contributing states in terms of sowing: Madhya Pradesh, Maharashtra and Rajasthan

Oilseeds

- Top 3 contributing states in terms of sowing: Rajasthan, Madhya Pradesh and Uttar Pradesh

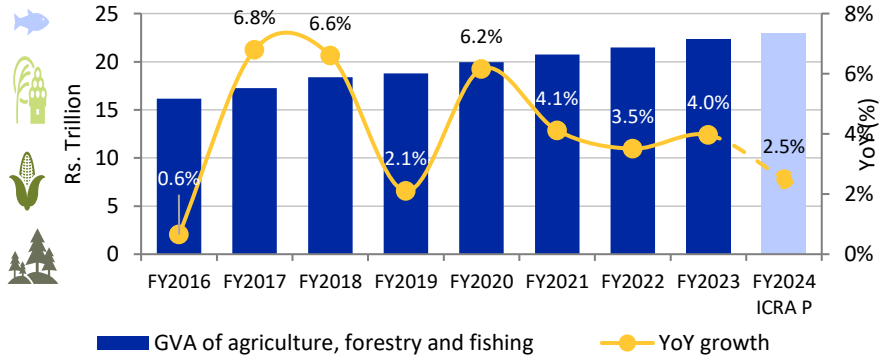
Agri GVA growth may temper to 2% in H2 FY2024, amid concerns regarding rabi sowing, mixed kharif crop trends

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

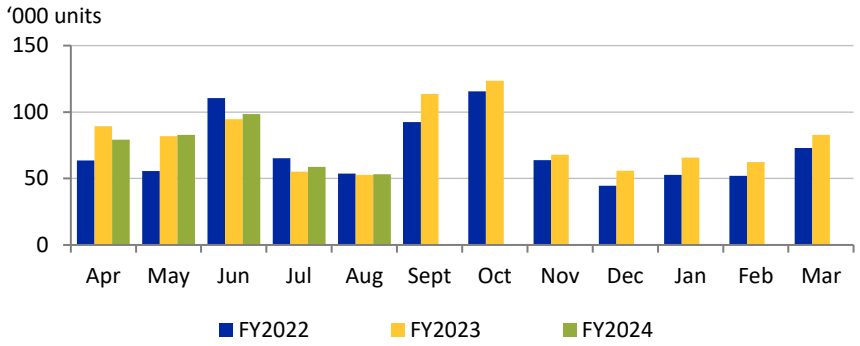


P: Projected; Source: NSO; ICRA Research

- 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 of crop production had revealed a healthy trend in rabi crop output, unseasonal rains in Apr-May 2023 had led to concerns around yields.
- The unevenness in South-west Monsoon rainfall has manifested into mixed trends across kharif sowing, with some crops like pulses trailing the area sown in the year-ago period, which may also impact yields and thereby, kharif output and farm incomes. While the IMD has predicted normal rainfall in Oct 2023 (85-115% of LPA) and the North-east Monsoon season (88-112% of LPA), the reservoir storage in southern and eastern regions must improve over the coming weeks, to support the sowing of rabi crops. However, the delayed onset of monsoon withdrawal may postpone the kharif harvest and/or dampen the yields of crops that were sown early in the season.
- **While we await the updated Advance Estimates, ICRA projects the GVA growth of agriculture, forestry and fishing to dip to ~2.0% in H2 FY2024 from the ~3.0% expected in H1 FY2024. We expect rural sentiment and demand to be cautious in H2 FY2024, reversing the signs of nascent improvement in the recent months.**

Sub-par monsoon poses downside risk to tractor and 2W volumes in FY2024

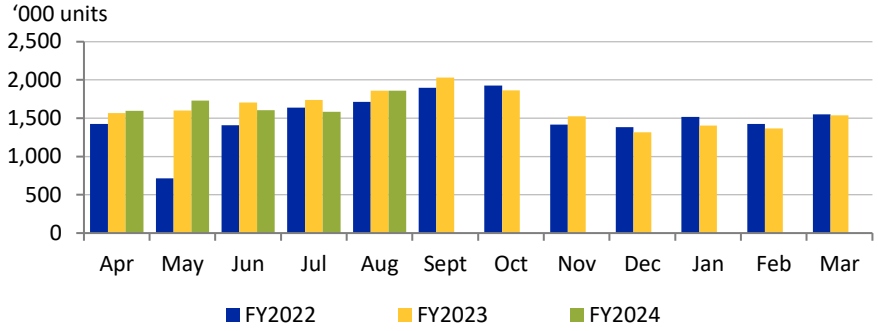
EXHIBIT: Trends in domestic tractor retail volumes



Source: CMIE; ICRA Research

- Domestic tractor retail volumes rose by 1.1% on a YoY basis in Aug 2023, while being ~9% lower on a sequential basis, reflecting seasonal trends.
- **While tractor industry volumes have been steady so far (-0.3% on a YoY basis in Apr-Aug FY2024), concerns are emerging on the impact of a sub-par and uneven monsoon on rural cash flows and demand. As a result, ICRA sees downside risks emerging to its forecast of a 0-2% YoY growth in FY2024, on an enlarged and healthy base.**

EXHIBIT: Trends in two-wheeler (2W) volumes*

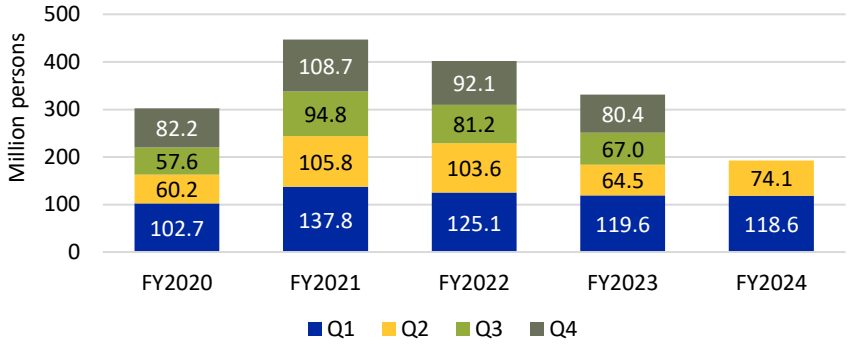


**Domestic + exports; Source: CMIE ICRA Research*

- 2W volumes grew by a sharp 17.3% MoM in Aug 2023 on account of inventory stocking ahead of the festive season, even as these volumes were a marginal 0.2% lower on a YoY basis. The cumulative volumes recorded a YoY dip of 1.2% in Apr-Aug FY2024.
- **Going ahead, the sub-par monsoon is expected to constrain domestic market recovery while the export outlook remains weak. Based on these trends, ICRA has lowered 2W volumes (domestic + exports) growth expectation to 4-7% YoY in FY2024 from 6-9% projected earlier.**

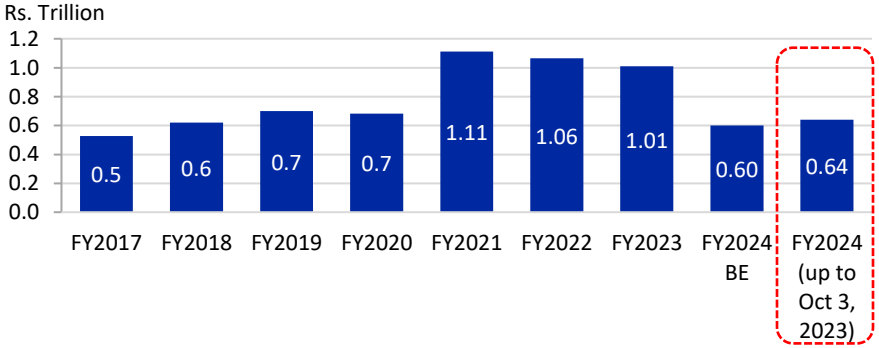
Given exhaustion of budgetary support in H1 FY2024, additional allocation of Rs. 250-300 billion may be needed for MGNREGS for FY2024

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 monthly work demanded under MGNREGS declined sharply to 24.7 million people in Q2 FY2024 from 39.6 million people in Q1 FY2024, with the onset of kharif sowing season. While the demand trailed the trends seen in the Covid affected years of FY2021-22, it displayed a YoY growth of 14.8%, indicating some early signs of rural distress at present, owing to a sub-par monsoon.
- The persondays generated under this scheme stood at 2.0 billion in FY2024 so far (till Oct 3, 2023), 11.3% higher than the year-ago levels and ~63% of the amount generated in FY2023 (2.9 billion). However, the average wage has risen by 7.9% to Rs. 237.5/persondays in FY2024 so far (up to Oct 3, 2023) from Rs. 220.1/persondays 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 H1 FY2024, the outgo has surpassed the entire budgeted amount, 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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Analytical Contact Details

Name	Designation	Email	Contact Number
Aditi Nayar	Chief Economist, Head-Research and Outreach	aditin@icraindia.com	0124- 4545 385
Rahul Agrawal	Senior Economist	rahul.agrawal@icraindia.com	022 – 6114 3425
Aarzoo Pahwa	Senior Associate Economist	aarzoo.pahwa@icraindia.com	0124 – 4545 835
Tiasha Chakraborty	Senior Associate Economist	tiasha.chakraborty@icraindia.com	0124- 4545 848
Diksha Bansal	Associate Economist	diksha.bansal@icraindia.com	0124- 4545 399

Business Development/Media Contact Details

Name	Designation	Email	Contact Number
L Shivakumar	Chief Business Officer	shivakumar@icraindia.com	022-61693304
Neha Agarwal	Head – Research Sales	neha.agarwal@icraindia.com	022-61693338
Rohit Gupta	Head Business Development - Infrastructure Sector	rohitg@icraindia.com	0124-4545340
Vivek Bhalla	Head Business Development - Financial Sector	vivek.bhalla@icraindia.com	022-61693372
Vipin Saboo	Head Business Development – Corporate Sector - West & East	vipin.saboo@icraindia.com	022-61693348
Shivam Bhatia	Head Business Development – Corporate Sector - North & South	shivam.bhatia@icraindia.com	0124-4545803
Naznin Prodhani	Head – Media & Communications	communications@icraindia.com	0124-4545860

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Thank You!