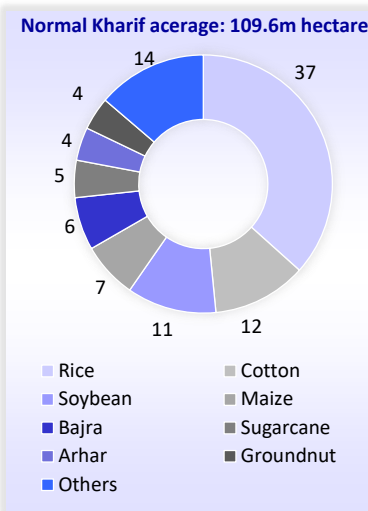
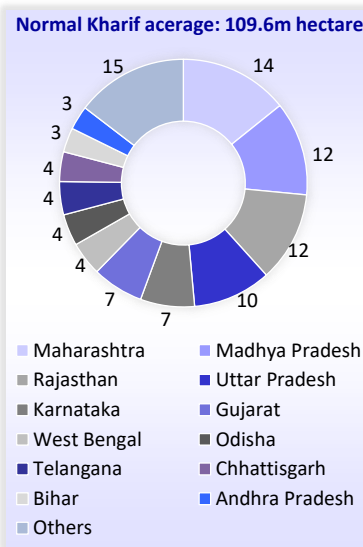


Crop-wise sowing area (average of the last five years, %)



State-wise sowing area (average of the last five years, %)



Farm profitability to be marginally higher for Kharif 2024-25

We interacted with various Farmer Produce Organizations (FPOs) and farmers across India to gauge the on-ground situation regarding crop conditions, yields, and farm profitability during the Kharif season in CY24. The key takeaways are:

- The northern belt of India witnessed higher crop yields YoY as higher rainfall supported the production of paddy. The southern belt and Gujarat were key laggards as the heavy downpours resulted in floods and significant crop losses.
- Overall, the production is expected to improve, led by higher sowing (up 1.9% YoY and 1.1% above the normal average area) and above-normal monsoon season (~8% above normal levels).
- According to the First Advanced Estimate of the Ministry of Agriculture & Farmers' Welfare, overall production of food grains/oilseed (cumulatively accounted for ~84% of the total acreage in CY24) is expected to increase 6%/7% YoY, while that for other key crops, such as sugarcane/cotton, is expected to decline 3%/8% YoY.
- However, the declining crop prices (prices of key food grains and oil seeds have declined 3.2% YoY) have partially offset the benefits from higher production during the year. Nonetheless, the cost of cultivation has marginally declined ~1.3% during the Kharif season due to controlled inflation and a high base effect.
- Accordingly, we expect overall farm profitability to be marginally higher on pan India basis for the Kharif season 2024-25. Further, the higher reservoir levels (filled at ~86% of their total capacity v/s 70% in the previous year and the average of ~73% in the last 10 years) and higher sowing of Rabi crops (up 2% YoY as per the latest available data) promise a brighter outlook for the Rabi season.

Farm profitability to be better in North India; Southern belt and Gujarat adversely impacted by heavy rains

- The overall farm profitability is expected to be marginally better across the **northern belt** of India (major states include Bihar, Punjab, Madhya Pradesh, Uttar Pradesh, Haryana, and Rajasthan), led by a healthy monsoon season and relatively lower crop damages. However, extreme heavy showers in the latter part of the season affected yields in states such as Rajasthan (rainfall of ~140%/83% above the normal level in Aug/Sep'24) and Haryana (~29%/36% above the normal level).
- The **southern belt** of India is likely to witness a muted Kharif season as yields are expected to decline due to a heavy downpour and flooding in several regions. This, coupled with lower prices of key crops, is likely to result in muted to marginally lower farm profitability.
- Farm profitability in the **western and eastern regions** of India is expected to be a mixed bag, with Maharashtra and West Bengal witnessing a decent Kharif season. Farm profitability in Gujarat was hampered by abnormally high rainfall, which impacted crop yields in the state. Meanwhile, erratic rainfall and the effects of cyclone also reduced crop yields in Odisha.
- **The overall farm profitability is expected to be marginally higher at the pan India level, with the northern belt performing relatively better than the southern belt, while the eastern and western belts were a mixed bag.**

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Higher sowing and above-normal monsoon (on pan India level) to lead to better output

- The total **area sown** in the CY24 Kharif season was slightly higher (up 1.9% YoY and 1.1% above the normal average area) at 110.9m hectares. Among the major crops, the area sown under arhar/groundnut witnessed the highest increase of 14%/9% YoY, while cotton witnessed the highest decline of 9%.
- According to IMD, **rainfall** during the CY24 monsoon season (from 1st Jun'24 to 30th Sep'24) stood at 935mm, 8% above normal rainfall levels of 869mm. However, it continues to be erratic (11% deficient in Jun'24 followed by 9%/15%/12% excess in Jul/Aug/Sep'24).
- At the sub-divisional level, 21 sub-divisions (covering 54% of the total area of India) experienced normal rainfall during the CY24 monsoon season, while 2/10/3 sub-divisions (covering 9%/26%/11% of the total area of India) experienced large excess/excess/deficient rainfall.
- According to the **First Advance Estimate of Crop Production** released by the Ministry of Agriculture & Farmers' Welfare for FY25, the production of Kharif food grains/oilseeds (cumulatively accounted for ~84% of the total acreage in CY24) is expected to increase 6%/7% YoY to ~165/26MMT.
- The increase in the production of food grains is supported by higher production of rice (up 6% YoY to ~120MMT) on account of the higher-than-normal rainfall during the current monsoon season.
- The sugarcane output is expected to decline 3% to ~440MMT in the current year, while cotton output is expected to decline 8% YoY to ~29.9m bales.

Lower crop prices partially offset higher production; lower cost of cultivation leads to marginally higher profitability

- **Overall input cost** is estimated to have marginally declined by ~1.3% YoY (*refer to Exhibit 14*) in the CY24 Kharif season (Jun-Sep'24) due to controlled inflation and a high base effect.
- Human labor costs account for ~51% of the total cost of cultivation (on average for key Kharif season crops). The same declined 1% YoY in the CY24 Kharif season. Apart from the cost of seeds and fodder (up ~4% YoY), other costs (including high-speed diesel, irrigation (electricity) charges, and insecticides) were largely flattish or down on a YoY basis.
- **Prices (as of Dec'24)** of key Kharif food grains and oilseeds such as rice, arhar, bajra, maize, soybean, and groundnut declined ~3.2% (*refer to Exhibit 17*) as compared to average harvest season prices of the previous year (Oct'23 to Jan'24, calculated on a weighted average basis of its estimated production). The Fair and Remunerative Price (FRP) of sugarcane rose 7.9% YoY to INR340 per quintal, while cotton prices grew ~3%.
- The production for Kharif season is expected to be higher on a YoY basis, driven by marginally better sowing and higher yields.
- Accordingly, lower crop prices will partially offset the benefits of higher production and lower cost of cultivation. **We expect the farm profitability for key Kharif crops to be marginally higher.**

Higher reservoir levels reflect brighter Rabi outlook

- Across our interactions with FPOs, the common commentary across the country was about the positive outlook on the upcoming Rabi season.
- The optimism was driven by higher groundwater levels coupled with healthy reservoir levels across India on account of higher-than-normal rainfall during the current monsoon season.
- **Reservoir levels** as of mid Nov'24 stood at 153 Billion Cubic Meters (BCM). This is significantly higher than 124 BCM recorded at the same time previous year and its last 10-year average of 130 BCM.
- In CY24, reservoirs are filled to 86% of their total capacity (v/s 70% in CY23 and 73% in the last 10 years).
- Further, the sowing of Rabi crops is progressing healthily (up 2% YoY till the first week of Dec'24, as per the latest data available)
- Accordingly, although we believe that the Kharif season was a mixed bag, with varying conditions across the country, the upcoming Rabi season is likely to yield good production. Farm profitability is likely to depend on changes in crop prices and inflation in the cost of cultivation.

View

- The prices of key Kharif crops have declined, impacting overall farm profitability for the Kharif season. However, this was offset by better production and lower cultivation costs, resulting in largely muted farm profitability across India for the Kharif season.
- The outlook for the upcoming Rabi season remains encouraging, as rainfall at the pan India level was over 8% of normal levels in CY24 southwest monsoon season (v/s 6% below normal levels in CY23), leading to higher reservoir levels (up 8% YoY) as of mid Nov'24.
- In the Fertilizer space, we have a BUY rating on CRIN. In the Agrochemicals space, we have a BUY rating on PI and GOAGRO and a Neutral rating on UPLL.

Exhibit 1: State-wise farm profitability

| State | Crop | % of states sowing area (DES) | YoY change in sowing area | Yield change YoY | Price change compared to the previous harvest season (PAN India) | Crop-wise farm profitability compared to LY | Overall state farm profitability compared to LY | Qualitative comment on yield impact |
|----------------|-----------|-------------------------------|---------------------------|------------------|--|---|---|---|
| Andhra Pradesh | Rice | 44% | 1% | Lower | -2% | Lower | Lower | ❖ The state witnessed heavy rainfall during the current monsoon season with certain regions witnessing floods, resulting in higher crop damages. |
| | Groundnut | 19% | -2% | Lower | -16% | Lower | | |
| | Cotton | 18% | -2% | Lower | 6% | Lower | | |
| Bihar | Rice | 84% | 0% | Higher | -2% | Higher | Higher | ❖ The state continued to witness rainfall deficit (especially in southern parts), though the monsoon was better than the previous year. |
| | Sugarcane | 6% | -3% | Higher | 8% | Higher | | |
| | Maize | 6% | -14% | Higher | -4% | Higher | | |
| Gujarat | Cotton | 34% | -12% | Lower | 6% | Lower | Lower | ❖ The abnormally high rainfall impacted the overall crop yield in the state. Some regions witnessed flash floods, leading to the destruction of crops. |
| | Groundnut | 24% | 17% | Lower | -16% | Lower | | |
| | Rice | 11% | 9% | Lower | -2% | Lower | | |
| | Castor | 3% | -16% | Lower | 3% | Lower | | |
| | Bajra | 5% | -15% | Lower | -2% | Lower | | |
| Haryana | Rice | 51% | 8% | Lower | -2% | Lower | Lower | ❖ The state experienced erratic monsoon with Jun/Jul'24 witnessing a dry spell, followed by excessive rain in Aug/Sep'24. |
| | Cotton | 24% | -28% | Lower | 6% | Lower | | |
| | Bajra | 18% | 4% | Lower | -2% | Lower | | |
| Karnataka | Arhar | 20% | 24% | Higher | 7% | Higher | Higher | ❖ The state witnessed good monsoon during the current year (~4-7% above normal levels) compared to deficient rainfall in the previous year (~10-28% below normal levels). |
| | Maize | 18% | -3% | Higher | -4% | Higher | | |
| | Rice | 13% | 2% | Higher | -2% | Higher | | |
| | Cotton | 10% | -2% | Higher | 6% | Higher | | |
| Madhya Pradesh | Soybean | 44% | 1% | Neutral | -9% | Lower | Lower | ❖ Madhya Pradesh witnessed healthy monsoon season, but heavy rainfall in Oct'24 led to crop damage in certain regions. |
| | Rice | 18% | 9% | Neutral | -2% | Lower | | |
| | Urdbean | 12% | -23% | Neutral | 3% | Higher | | |
| | Maize | 10% | 12% | Neutral | -4% | Lower | | |
| Maharashtra | Cotton | 28% | -3% | Higher | 6% | Higher | Higher | ❖ Maharashtra is likely to witness healthy production led by favorable conditions and lower crop losses this year. The state witnessed heavier-than-normal rainfall during the monsoon season, which led to crop losses, though the overall impact was not significant. |
| | Soybean | 28% | 2% | Neutral | -9% | Lower | | |
| | Rice | 10% | -5% | Higher | -2% | Neutral | | |
| | Arhar | 8% | 10% | Higher | 7% | Higher | | |
| | Sugarcane | 7% | 0% | Higher | 8% | Higher | | |
| Odisha | Rice | 81% | 1% | Lower | -2% | Lower | Lower | ❖ Paddy production across the state is expected to be affected in regions that experienced lower rainfall. Further, the state suffered damage from a cyclone in late Oct'24. |
| | Cotton | 4% | 7% | Lower | 6% | Neutral | | |
| | Arhar | 3% | 13% | Lower | 7% | Neutral | | |
| Punjab | Rice | 87% | 2% | Higher | -2% | Higher | Higher | ❖ The state is likely to witness better yield compared to last year (CY23 was impacted by floods in key regions) despite lower-than-normal rainfall. |
| | Cotton | 7% | -50% | Higher | 6% | Higher | | |
| | Sugarcane | 3% | 21% | Higher | 8% | Higher | | |
| Rajasthan | Bajra | 33% | -5% | Lower | -2% | Lower | Lower | ❖ Rajasthan experienced extremely heavy rainfall |
| | Moongbean | 19% | 5% | Lower | 3% | Lower | | |

| State | Crop | % of states sowing area (DES) | YoY change in sowing area | Yield change YoY | Price change compared to the previous harvest season (PAN India) | Crop-wise farm profitability compared to LY | Overall state farm profitability compared to LY | Qualitative comment on yield impact |
|---------------|-----------|-------------------------------|---------------------------|------------------|--|---|---|---|
| | Soybean | 8% | 13% | Lower | -9% | Lower | | during the current monsoon season, leading to significant crop losses across the state. |
| | Maize | 7% | 3% | Lower | -4% | Lower | | |
| Tamil Nadu | Rice | 58% | -23% | Higher | -2% | Higher | Higher | ❖ The lower sowing levels are likely to be offset by better yields this year on account of favorable crop conditions and the absence of significant crop losses/damage (excluding a few regions). |
| | Groundnut | 9% | -4% | Higher | -16% | Lower | | |
| | Sugarcane | 5% | -3% | Higher | 8% | Higher | | |
| Telangana | Cotton | 43% | -2% | Lower | 6% | Lower | Lower | ❖ The state witnessed very heavy downpour in Sep'24, leading to severe floods in multiple regions, adversely impacting overall production across the state. |
| | Rice | 38% | -18% | Lower | -2% | Lower | | |
| | Maize | 6% | 0% | Lower | -4% | Lower | | |
| | Arhar | 6% | 5% | Lower | 7% | Lower | | |
| Uttar Pradesh | Rice | 51% | 6% | Higher | -2% | Higher | Higher | ❖ UP witnessed a healthy monsoon season in CY24. However, some regions experienced floods led by the release of water from surrounding hilly areas. |
| | Sugarcane | 21% | 3% | Higher | 8% | Higher | | |
| | Bajra | 8% | 0% | Higher | -2% | Higher | | |
| | Maize | 6% | 18% | Higher | -4% | Higher | | |
| West Bengal | Rice | 86% | 4% | Higher | -2% | Higher | Higher | ❖ With a favorable monsoon and absence of major natural disasters, the state is expected to achieve much better yields on a YoY basis. |
| | Jute | 11% | -15% | Higher | 3% | Higher | | |
| | Urdbean | 1% | 16% | Higher | 3% | Higher | | |

Source: Agricoop, AgMarknet, MOFSL

Exhibit 2: Indian agrochemical and fertilizer companies witnessed subdued 1HFY25

| Company | Revenue (INR m) | | | EBIDTA (INR m) | | | PAT (INR m) | | |
|--------------------------------|-----------------|-----------------|------------|----------------|---------------|-----------|---------------|---------------|-------------|
| | 1HFY24 | 1HFY25 | YoY | 1HFY24 | 1HFY25 | YoY | 1HFY24 | 1HFY25 | YoY |
| Agrochemical | | | | | | | | | |
| UPL Ltd | 1,91,330 | 2,01,570 | 5% | 31,670 | 24,980 | -21% | -230 | -9,690 | Loss |
| PI Industries Ltd | 40,273 | 42,899 | 7% | 10,192 | 12,114 | 19% | 8,634 | 9,570 | 11% |
| Best Agrolife Ltd | 16,273 | 11,714 | -28% | 2,741 | 2,016 | -26% | 1,854 | 1,159 | -37% |
| Rallis India Ltd | 16,140 | 17,110 | 6% | 2,430 | 2,620 | 8% | 1,450 | 1,460 | 1% |
| Paradeep Phosphates Ltd | 67,374 | 62,213 | -8% | 2,174 | 5,725 | 163% | -305 | 2,330 | L2P |
| DCM Shriram Ltd | 57,625 | 62,031 | 8% | 2,801 | 4,290 | 53% | 888 | 1,632 | 84% |
| Bayer CropScience Ltd/India | 33,568 | 33,688 | 0% | 7,295 | 4,978 | -32% | 5,514 | 3,905 | -29% |
| Deepak Fertilisers & Petrochem | 47,372 | 50,281 | 6% | 5,666 | 9,586 | 69% | 1,702 | 4,056 | 138% |
| Dhanuka Agritech Ltd | 9,870 | 11,476 | 16% | 1,852 | 2,317 | 25% | 1,347 | 1,669 | 24% |
| Insecticides India Ltd | 13,359 | 12,838 | -4% | 1,276 | 1,611 | 26% | 823 | 1,105 | 34% |
| India Pesticides Ltd | 4,034 | 4,494 | 11% | 497 | 621 | 25% | 350 | 455 | 30% |
| Anupam Rasayan India Ltd | 7,785 | 5,482 | -30% | 2,089 | 1,336 | -36% | 929 | 289 | -69% |
| Sharda Cropchem Ltd | 12,185 | 15,620 | 28% | -476 | 1,667 | L2P | -1,162 | 697 | L2P |
| Godrej Agrovet Ltd | 50,811 | 47,995 | -6% | 3,943 | 4,495 | 14% | 2,107 | 2,309 | 10% |
| Shivalik Rasayan Ltd | 1,315 | 1,571 | 19% | 210 | 211 | 1% | 68 | 83 | 22% |
| Jubilant Ingrevia Ltd | 20,798 | 20,305 | -2% | 2,340 | 2,283 | -2% | 1,151 | 1,077 | -6% |
| Aggregate | 5,90,112 | 6,01,284 | 2% | 76,701 | 80,850 | 5% | 25,119 | 22,107 | -12% |
| Fertilizer | | | | | | | | | |
| Coromandel International Ltd | 1,26,815 | 1,21,617 | -4% | 17,679 | 14,805 | -16% | 12,509 | 9,733 | -22% |
| Gujarat Narmada Valley Fertili | 37,320 | 39,380 | 6% | 2,740 | 2,430 | -11% | 2,700 | 2,230 | -17% |
| Gujarat State Fertilizers & Ch | 51,816 | 47,977 | -7% | 3,797 | 3,935 | 4% | 4,214 | 3,856 | -9% |
| Chambal Fertilisers and Chemic | 1,09,748 | 92,794 | -15% | 12,483 | 15,422 | 24% | 7,196 | 9,847 | 37% |
| Aggregate | 3,25,700 | 3,01,768 | -7% | 36,699 | 36,592 | 0% | 26,619 | 25,666 | -4% |

Source: BBG, Screener, MOFSL

Poor climatic conditions affect production in the southern belt; northern states better positioned in terms of farm profitability

We interacted with various FPOs and farmers across India to gauge the on-ground situation regarding crop conditions, quantum of rainfall, cost of cultivation, and farm profitability during the Kharif season in CY24. Below are the key highlights:

Crop yields in the northern belt of India are expected to be better than the previous year, with majority of the states expected to report improved farm profitability. However, extreme heavy showers in the latter part of the season (Aug/Sep'24) hampered production across Rajasthan and Haryana.

Uttar Pradesh (UP)

- Paddy/sugarcane are some of the key crops grown in the state during the Kharif season, accounting for 48%/22% of the total acreage in CY24. The state witnessed higher sowing in the current year (up 6% YoY).
- UP witnessed a healthy monsoon season in CY24, with west UP witnessing rainfall of ~11% above the normal level and east UP witnessing rainfall of ~7% below the normal level. However, certain regions witnessed floods led by the release of water from surrounding hilly areas.
- Overall, the state is likely to witness higher production due to healthy climatic conditions. The cost of cultivation has risen while crop prices are largely flattish. We expect the overall farm profitability to be slightly better on a YoY basis.

Bihar

- Paddy is the highest-grown crop in Bihar during the Kharif season, accounting for 82% of the total acreage in the current year. The sowing in the state was marginally down 1% YoY.
- The state continued to witness a rainfall deficit (~19% below normal levels), especially within the southern part of the state; although rainfall was slightly better than the previous year (~23% below normal levels in the monsoon season of CY23). Some of the regions in the state witnessed floods led by water release from hilly regions.
- According to our interactions with FPOs, production is expected to be slightly better than the previous year (as overall production in the state was impacted in the previous year too). This, coupled with the muted cost of cultivation, is likely to result in better farm profitability on a YoY basis.

Haryana

- The state witnessed lower sowing during the current Kharif season (down 2% YoY), led by lower acreage in bajra. Paddy/cotton/bajra are some of the highly grown crops in the state, accounting for ~57%/17%/16% of the sowings during the current year.
- The state experienced lower rainfall (3% below normal levels) in the CY24 monsoon season. However, the monsoon was very erratic as Jun/Jul'24 witnessed dry spells (rainfall of ~43%/41% below normal levels), followed by excessive rain in Aug/Sep'24 (~29%/36% above normal levels).
- The unfavorable climatic conditions are likely to lead to lower production during the current Kharif season. The cost of cultivation is largely similar or slightly higher within the state. Overall, we expect farmer profitability to be lower than last year.

Punjab

- Paddy is the highest-grown crop within the state during the Kharif season, accounting for 92% of the total acreage in CY24. The sowing in the state was marginally down 1% YoY.
- The state is likely to witness better production compared to last year despite the lower-than-normal rainfall (~28% below the normal level), as CY23 was impacted by severe floods in key regions. The cost of cultivation has not increased significantly.
- However, higher rainfall in Sep'24, followed by higher moisture content in crops, delayed harvesting and subsequent procurement. The overall farm profitability within the state is expected to be marginally better.

Rajasthan

- Bajra/mung bean are some of the key crops grown in the state during the Kharif season, accounting for 34%/18% of the total acreage in CY24. The state witnessed marginally lower sowing in the current year (down 1% YoY).
- Rajasthan experienced extremely heavy rainfall (~47%/71% higher than normal levels for East/West Rajasthan) during the current monsoon season, leading to significant crop losses in Rajasthan (~20-40% of the crops is expected to have been damaged). This will significantly hamper farm profitability in the state.

Madhya Pradesh (MP)

- Soybean/paddy/maize are some of the key crops grown in the state, accounting for 37%/25%/13% of acreage in CY24. The state witnessed flattish YoY sowing in the current year.
- Madhya Pradesh witnessed a healthy monsoon season (with regions receiving 13-23% higher rainfall than normal levels). However, heavy rain spells in Oct'24 resulted in crop damage in some regions.
- Overall production across the state is likely to be similar to last year. This, coupled with lower crop prices, is likely to result in a marginal dip in farm profitability.

Exhibit 3: Crop-wise sowing area mix in the northern belt of India for FY25 (%)

| Kharif crops | Bihar | YoY change | Haryana | YoY change | Madhya Pradesh | YoY change | Punjab | YoY change | Rajasthan | YoY change | Uttar Pradesh | YoY change |
|--------------|------------|------------|------------|------------|----------------|------------|------------|------------|------------|------------|---------------|------------|
| Bajra | 0 | 113 | 16 | 4 | 3 | 20 | 0 | | 34 | -5 | 8 | 0 |
| Cotton | 0 | | 17 | -28 | 4 | -5 | 3 | -50 | 4 | -33 | 0 | |
| Groundnut | 0 | 11 | 0 | | 4 | 9 | 0 | 25 | 7 | 1 | 2 | 20 |
| Maize | 7 | -14 | 0 | | 13 | 12 | 2 | -11 | 8 | 3 | 6 | 18 |
| Paddy | 82 | 0 | 57 | 8 | 25 | 9 | 92 | 2 | 2 | 21 | 48 | 6 |
| Soybean | 0 | -54 | 0 | | 37 | 1 | 0 | | 9 | 13 | 0 | -25 |
| Sugarcane | 5 | -3 | 3 | -15 | 1 | -11 | 3 | 21 | 0 | | 22 | 3 |
| Others | 5 | | 6 | | 14 | | 0 | | 37 | | 14 | |
| Total | 100 | -1 | 100 | -2 | 100 | 0 | 100 | -1 | 100 | -1 | 100 | 6 |

Source: Agricoop, MOFSL

Exhibit 4: Rainfall distribution in the northern belt of India (percentage of excess or deficiency over normal levels)

| Cumulative rainfall (in mm) | Jun'24 | Jun'23 | Jul'24 | Jul'23 | Aug'24 | Aug'23 | Sept'24 | Sept'23 | Monsoon'24 | Monsoon'23 | Oct'24 | Oct'23 |
|---------------------------------------|--------|--------|--------|--------|--------|--------|---------|---------|------------|------------|--------|--------|
| Uttar Pradesh | | | | | | | | | | | | |
| East Uttar Pradesh | -49 | -44 | -10 | -32 | 3 | -15 | 14 | -33 | -7 | -29 | -91 | 15 |
| West Uttar Pradesh | -4 | 30 | -6 | 11 | -18 | -17 | 105 | 7 | 11 | 3 | -99 | -55 |
| Bihar | -52 | -48 | -29 | -48 | -4 | 13 | 1 | -12 | -19 | -23 | -66 | 65 |
| Haryana, Chandigarh, and Delhi | -43 | 49 | -41 | 58 | 29 | -60 | 36 | -42 | -3 | -1 | -95 | 2 |
| Punjab | -46 | 21 | -44 | 44 | 7 | -62 | -45 | -17 | -28 | -5 | -70 | 202 |
| Madhya Pradesh | | | | | | | | | | | | |
| East Madhya Pradesh | -28 | 27 | 12 | -25 | 22 | -16 | 29 | 30 | 13 | -4 | -54 | -56 |
| West Madhya Pradesh | 7 | 1 | 16 | 19 | 11 | -61 | 70 | 110 | 23 | 3 | 20 | -94 |
| Rajasthan | | | | | | | | | | | | |
| East Rajasthan | 1 | 118 | 1 | 20 | 82 | -74 | 109 | 37 | 47 | -1 | -23 | -91 |
| West Rajasthan | -23 | 287 | 0 | 78 | 197 | -92 | 58 | 22 | 71 | 42 | -41 | 88 |
| Chhattisgarh | -28 | 11 | 25 | -10 | 1 | -34 | 26 | 52 | 9 | -6 | -60 | -51 |

Source: IMD, MOFSL

Crop yields in the southern belt of India are likely to be impacted by heavy rainfall and floods across several regions, resulting in muted to marginally lower profitability.

Karnataka

- Karnataka witnessed ~12% YoY rise in sowing, led by favorable environmental conditions during the sowing season. The rise in sowing was led by crops such as arhar (sowing up 24% YoY) and ragi (up 31% YoY).
- Arhar/maize/paddy/ragi are some of the key crops grown in the state, accounting for ~20%/20%/12%/9% of the total sowing.
- The state witnessed very good monsoon during the current year (~4-7% above normal levels) compared to rainfall deficiency in the previous year (~10-28% below normal levels).
- According to our interactions, the state was set to witness a strong year with increased production and better yields. However, the heavy rainfall in Oct'24 (~18-65 above normal levels) led to high crop losses in some regions. Nonetheless, farmers are still expecting better output led by higher yields during the year.
- The increase in crop prices is likely to be in line with the increase in the cost of cultivation. Overall, the farm profitability for the state is expected to be higher during the current year.

Andhra Pradesh

- Paddy/cotton/groundnut are the key crops grown in Andhra Pradesh, accounting for 52%/16%/12%. The state witnessed better sowing in the current year (up 5% YoY).
- Andhra Pradesh witnessed heavy rainfall during the current monsoon season (regions experiencing 18-33% higher rainfall than normal levels), with certain regions witnessing floods.
- Accordingly, overall production is expected to decline across the state. This, coupled with the increase in the cost of cultivation, is likely to result in a dip in farm profitability.

Tamil Nadu

- Tamil Nadu witnessed lower sowing during the current Kharif season (down 3% YoY) led by lower acreage in paddy.

- Paddy/groundnut/maize/sugarcane are some of the highly grown crops in the state, accounting for ~26%/17%/13%/13% of the sowings during the current year.
- The state experienced higher rainfall (18% above normal levels) in the CY24 monsoon season. According to the interaction, lower sowings are likely to be offset by better yields during the current year on account of favorable crop conditions and the absence of major crop losses/damage (excluding a few regions).
- However, the increasing cost of cultivation is likely to keep farm profitability muted during the year.

Telangana

- Paddy/cotton are the key crops grown across the state during the Kharif season (accounting for ~44%/40% of the total sowing area within the state). The state witnessed lower sowing compared to the previous year (down 8% YoY).
- Telangana witnessed 29% higher rainfall than normal levels during the current monsoon season. The state witnessed very heavy downpour in Sep'24 (~84% higher rainfall than normal levels), leading to severe floods in multiple regions, adversely impacting overall production across the state.
- Lower production, coupled with an increase in the cost of cultivation, will lead to a significant dip in farm profitability across the state.

Exhibit 5: Crop-wise sowing area mix in the southern belt of India for FY25 (%)

| Kharif crops | Andhra Pradesh | YoY change | Karnataka | YoY change | Tamil Nadu | YoY change | Telangana | YoY change |
|--------------|----------------|------------|------------|------------|------------|------------|------------|------------|
| Bajra | 1 | 30 | 2 | 6 | 3 | 8 | 0 | 50 |
| Cotton | 16 | -2 | 9 | -2 | 0 | | 40 | -2 |
| Groundnut | 12 | -2 | 4 | 4 | 17 | -4 | 0 | 271 |
| Maize | 5 | 17 | 20 | -3 | 13 | -3 | 5 | 0 |
| Paddy | 52 | 1 | 11 | 2 | 26 | -23 | 44 | -18 |
| Soybean | 0 | -31 | 6 | 6 | 0 | -50 | 4 | 2 |
| Sugarcane | 1 | -27 | 8 | 0 | 13 | -3 | 0 | -17 |
| Others | 13 | | 40 | | 28 | | 7 | |
| Total | 100 | 5 | 100 | 12 | 100 | -3 | 100 | -8 |

Source: Agricoop, MOFSL

Exhibit 6: Rainfall distribution in the southern belt of India (percentage of excess or deficiency over normal levels)

| Cumulative rainfall (in mm) | Jun'24 | Jun'23 | Jul'24 | Jul'23 | Aug'24 | Aug'23 | Sept'24 | Sept'23 | Monsoon'24 | Monsoon'23 | Oct'24 | Oct'23 |
|----------------------------------|------------|------------|-----------|------------|-----------|------------|------------|-----------|------------|------------|------------|------------|
| Karnataka | | | | | | | | | | | | |
| NI Karnataka | 26 | -34 | 20 | 90 | 5 | -72 | -27 | -8 | 4 | -10 | 18 | -90 |
| SI Karnataka | -1 | -42 | 74 | 60 | 12 | -77 | -45 | 17 | 7 | -28 | 65 | -35 |
| Andhra Pradesh | | | | | | | | | | | | |
| AP and Yanam | 36 | -34 | 52 | 49 | 7 | -47 | 40 | 16 | 33 | -3 | -10 | -90 |
| Rayalaseema | 122 | -28 | -24 | -5 | 49 | -55 | -33 | 23 | 18 | -13 | 51 | -90 |
| Tamil Nadu and Puducherry | 115 | 6 | 12 | -6 | 77 | -3 | -64 | 25 | 18 | 8 | 28 | -45 |
| Telangana | 17 | -50 | 33 | 120 | -7 | -65 | 85 | 39 | 29 | 15 | -40 | -93 |

Source: IMD, MOFSL

Crop yields in western India are expected to be a mixed bag; Maharashtra witnessed favorable conditions in most regions, while Gujarat was severely impacted by heavy rainfall and flash floods.

Maharashtra

- Soybean/cotton are the key crops grown across the state during the Kharif season, accounting for ~33%/26% of the sowing area in FY25.
- Maharashtra witnessed a marginal increase in sowing compared to the previous year (up 2% YoY), with maize/bajra witnessing the highest increase of ~17%/10%, respectively.
- According to IMD, Maharashtra witnessed heavy rainfall during the monsoon season, with Madhya Maharashtra/Konkan/Marathwada/Vidharbha experiencing 39%/29%/20%/17% higher rainfall than normal levels.
- According to our interactions with FPOs in the region, the on-ground situation is healthy. However, the production of soybeans within the state will be impacted due to the erratic nature of rainfall during the season. Very heavy rains, especially in Sep'24, led to significant crop losses in some regions. Farmers have not witnessed any significant damage caused to cotton crops by infestations. The overall yield within the state is expected to be healthy.
- Accordingly, better yields are likely to offset the lower crop prices, leading to better farm profitability across the state.

Gujarat

- Gujarat witnessed a marginal dip in sowing (down 1% YoY) as the increase in acreage in groundnut, soybean, and sugarcane was offset by lower sowing in bajra and cotton.
- Cotton/groundnut are the key crops during the kharif season, accounting for ~33%/27% of the sowing area in FY25.
- Gujarat experienced very heavy rainfall (30-75% higher than the normal level) during the current monsoon season, with Jul'24 witnessing ~48-158% higher than normal rainfall.
- According to our interaction and analysis, this abnormally high rainfall has impacted the overall crop yield across the state. Certain regions witnessed flash floods, leading to the destruction of crops.
- With an elevated cost of cultivation and lower farm income, the state is expected to witness a significant dip in farm profitability.
- However, with a good reservoir level, farmers are anticipating much better Rabi season.

Exhibit 7: Crop-wise sowing area mix in the western belt of India for FY25 (%)

| Kharif crops | Gujarat | YoY change | Maharashtra | YoY change |
|--------------|------------|------------|-------------|------------|
| Bajra | 2 | -15 | 3 | 10 |
| Cotton | 33 | -12 | 26 | -3 |
| Groundnut | 27 | 17 | 1 | 3 |
| Maize | 4 | 1 | 7 | 17 |
| Paddy | 12 | 1 | 9 | -5 |
| Soybean | 4 | 13 | 33 | 2 |
| Sugarcane | 3 | 10 | 7 | 0 |
| Others | 15 | | 14 | |
| Total | 100 | -1 | 100 | 2 |

Source: Agricoop, MOFSL

Exhibit 8: Rainfall distribution in the western belt of India (percentage of excess or deficiency over normal levels)

| Cumulative rainfall (in mm) | Jun'24 | Jun'23 | Jul'24 | Jul'23 | Aug'24 | Aug'23 | Sept'24 | Sept'23 | Monsoon'24 | Monsoon'23 | Oct'24 | Oct'23 |
|-----------------------------|--------|--------|--------|--------|--------|--------|---------|---------|------------|------------|--------|--------|
| Maharashtra | | | | | | | | | | | | |
| Marathwada | 18 | -69 | 35 | 71 | -15 | -74 | 45 | 2 | 20 | -11 | -3 | -91 |
| Vidarabha | -16 | -49 | 67 | 43 | -23 | -51 | 32 | 21 | 17 | -2 | -28 | -90 |
| Madhya Maharashtra | 10 | -51 | 70 | 33 | 53 | -64 | 3 | 27 | 39 | -12 | 31 | -72 |
| Konkan and Goa | 1 | -28 | 69 | 73 | -3 | -56 | 36 | 41 | 29 | 11 | 84 | -25 |
| Gujarat | | | | | | | | | | | | |
| Saurashtra and Kutch | -16 | 196 | 62 | 108 | 158 | -96 | 9 | 13 | 75 | 47 | 182 | -86 |
| Gujarat Region | -42 | 30 | 20 | 32 | 48 | -87 | 81 | 67 | 30 | -2 | 91 | -96 |

Source: IMD, MOFSL

Overall, the eastern region of India witnessed normal rainfall levels in the CY24 monsoon season; however, the erratic nature of rainfall and effects of the recent cyclone Dana are likely to lead to muted farm profitability in Odisha, while West Bengal is expecting better results compared to the previous year.

West Bengal

- Paddy is the single most grown crop within West Bengal, accounting for ~89% of the state's sowing area in FY25. The state witnessed slightly better sowing (up 2% YoY), led by 4% growth in acreage in Paddy.
- West Bengal witnessed normal monsoon this season as the deficiency in rainfall in Jun/Jul'24 (down 67%/2% YoY) was offset by heavy rainfalls in Aug/Sep'24 (up 39%/44% YoY). Meanwhile, in the previous year, the state witnessed a significant deficiency in rainfall (down 22% YoY in CY23).
- With a better monsoon and the absence of any significant natural disaster, the state is expected to witness much better production on a YoY basis. The impact of the recent Cyclone Dana (which occurred in late Oct) is yet to be fully quantified. However, most of the farmers did not witness any significant crop loss due to this cyclone.
- Farmers are witnessing better crop prices. Overall, the state is expected to experience higher farm profitability led by healthy production.

Odisha

- Odisha is also a paddy-dominant state, with the crop accounting for ~69% of the sowing area in the state in FY25. This is followed by cotton/maize at ~5% each.
- The state witnessed 5% below normal rainfall levels in the CY24 monsoon season. According to our interactions, monsoon was uneven in the state, with certain regions witnessing good monsoon while other regions witnessing rainfall deficient.
- Paddy production is expected to be impacted in regions that witnessed lower rainfall. Further, the state witnessed crop damages from the recent cyclone Dana. Accordingly, the state is likely to witness lower-than-normal production.
- With lower yields, muted crop prices, and a high cost of cultivation, overall farm profitability is expected to be lower.

Exhibit 9: Crop-wise sowing area mix in the eastern belt of India for FY25 (%)

| Kharif crops | Odisha | YoY change | West Bengal | YoY change |
|--------------|------------|------------|-------------|------------|
| Bajra | 0 | 7 | 0 | |
| Cotton | 5 | 7 | 0 | |
| Groundnut | 1 | -2 | 0 | 18 |
| Maize | 5 | -7 | 1 | -14 |
| Paddy | 69 | 1 | 89 | 4 |
| Soybean | 0 | | 0 | |
| Sugarcane | 0 | 0 | 0 | -20 |
| Others | 19 | | 10 | |
| Total | 100 | 0 | 100 | 2 |

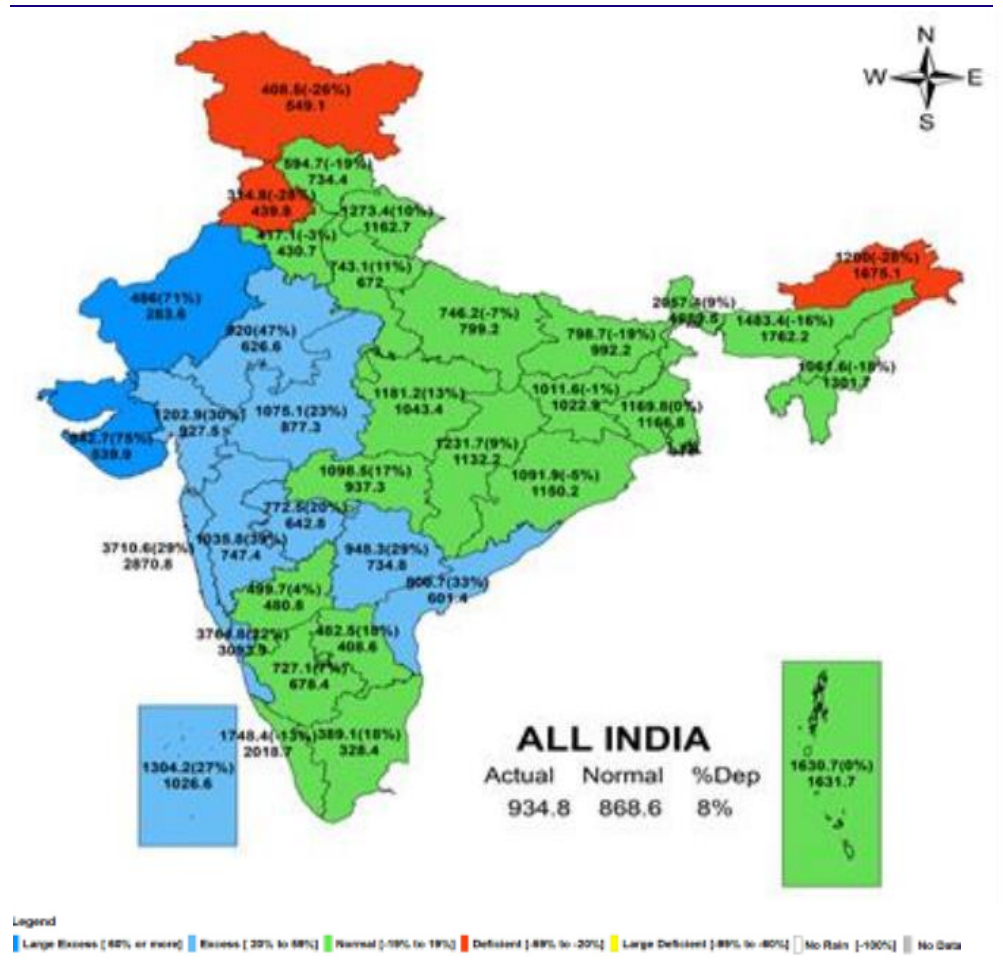
Source: Agricoop, MOFSL

Exhibit 10: Rainfall distribution in the eastern belt of India (percentage of excess or deficiency over normal levels)

| Cumulative rainfall (in mm) | Jun'24 | Jun'23 | Jul'24 | Jul'23 | Aug'24 | Aug'23 | Sept'24 | Sept'23 | Monsoon'24 | Monsoon'23 | Oct'24 | Oct'23 |
|-----------------------------|--------|--------|--------|--------|--------|--------|---------|---------|------------|------------|--------|--------|
| West Bengal | -67 | -30 | -2 | -48 | 39 | -6 | 44 | -3 | 0 | -22 | 50 | 27 |
| Odisha | -27 | -22 | -20 | -6 | -8 | -18 | 13 | 41 | -5 | -3 | -36 | -33 |

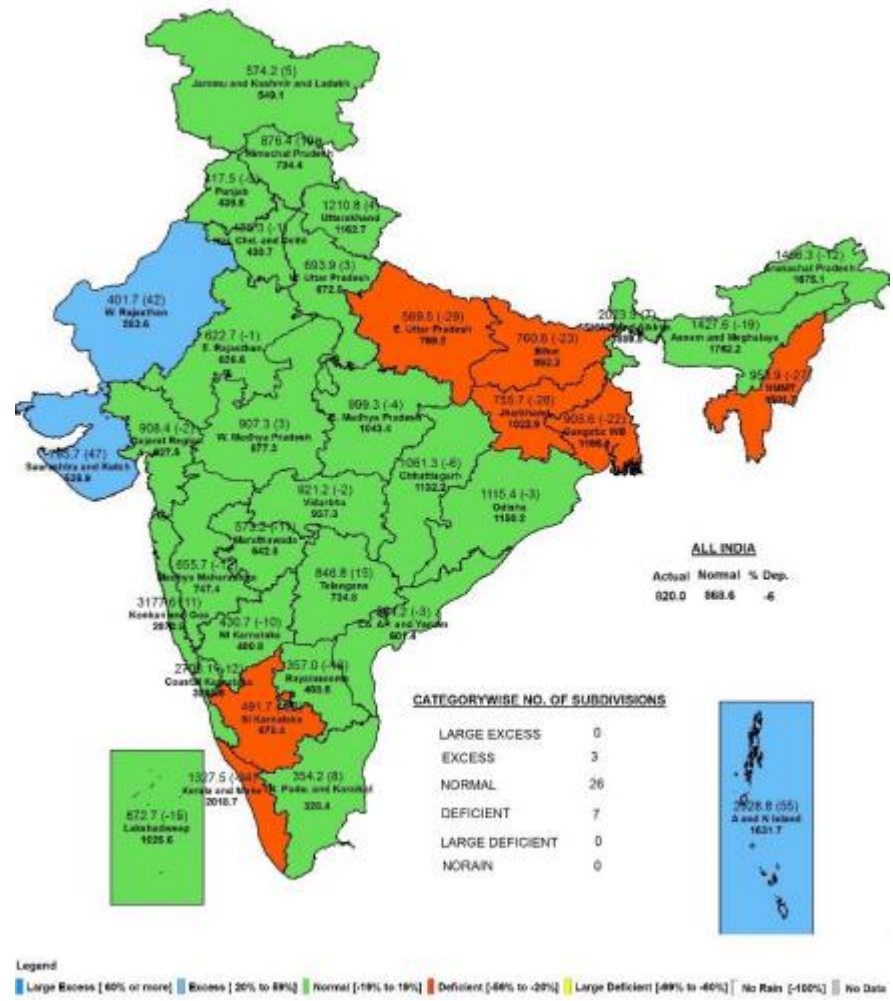
Source: IMD, MOFSL

Exhibit 11: Monsoon was 8% above average in CY24...



Source: IMD, Agricoop, MOFSL

Exhibit 12: ... while it was 6% below average in CY23

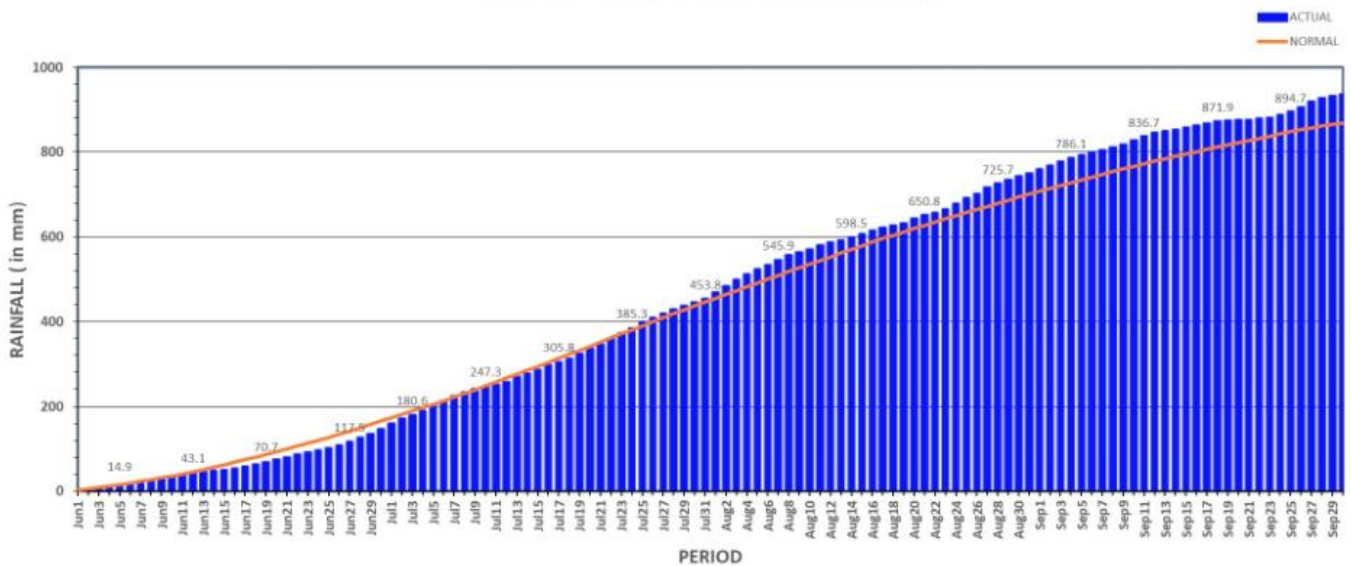


Source: IMD, Agricop, MOFSL

Exhibit 13: Rainfall was deficient in Jun'24 but excessive in Aug-Sep'24

DISTRIBUTION OF CUMULATIVE RAINFALL - GRAPH COUNTRY INDIA

ACTUAL AND NORMAL FOR THE PERIOD OF 01-06-2024 to 30-09-2024



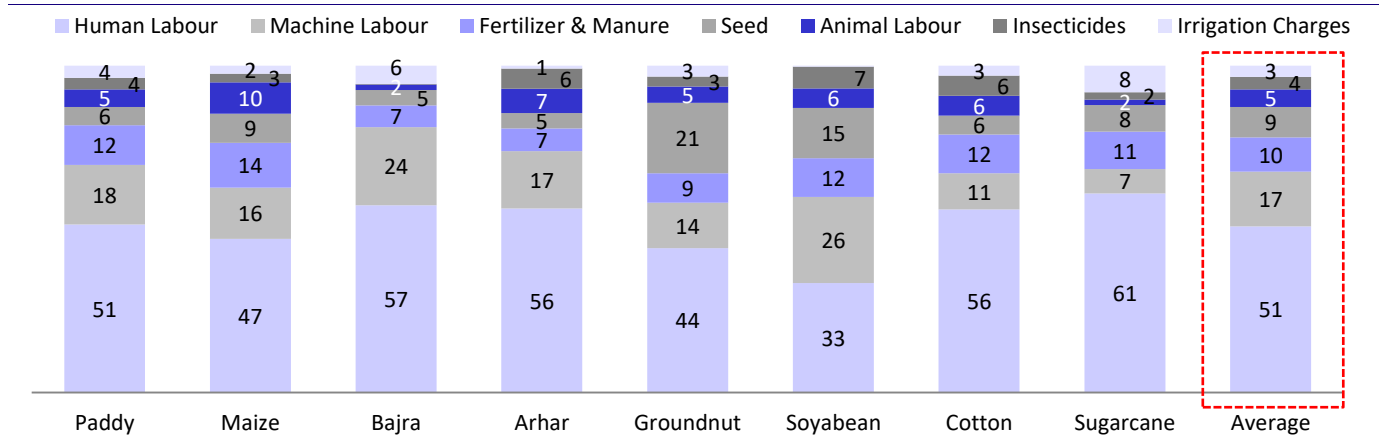
Source: IMD, MOFSL

Exhibit 14: Change in cost of cultivation on YoY basis

| Particulars | Cost of cultivation | | Change in Cost (%) |
|-----------------------|---------------------|-------------|--------------------|
| | Old | New | |
| Human labor | 51 | 50.7 | -0.6 |
| Machine labor | 17 | 16.6 | -2.5 |
| Fertilizer and Manure | 10 | 10.0 | -0.1 |
| Seed | 9 | 9.4 | 4.0 |
| Animal labor | 5 | 5.2 | 4.0 |
| Insecticides | 4 | 3.8 | -4.1 |
| Irrigation charges | 3 | 3.0 | -0.3 |
| | 100 | 98.7 | -1.3 |

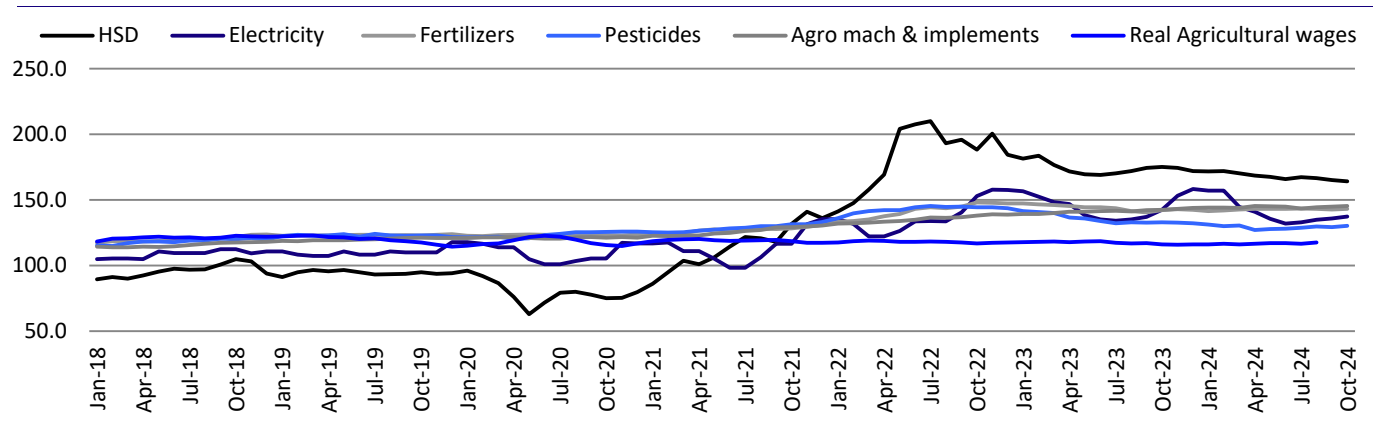
Source: eands.dacnet, WPI, Ministry of Labor and Employment, MOFSL

Exhibit 15: Expense-wise breakup of the cost of cultivation (%)



Source: eands.dacnet, MOFSL

Exhibit 16: Trend of cost of cultivation



Source: MOFSL

Exhibit 17: Price rise in key food grains over the previous Kharif harvest season

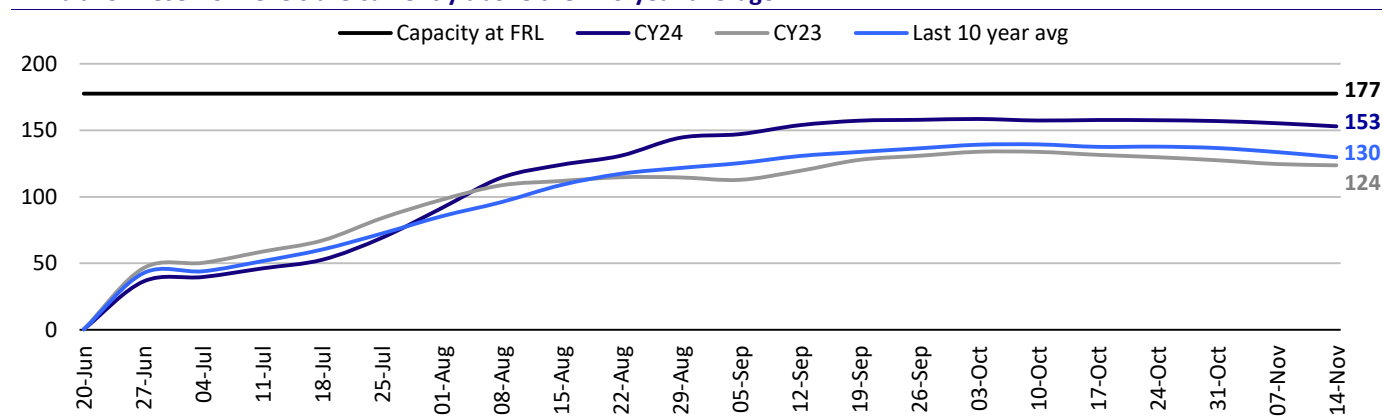
| Particulars | Production (in MMT) | Weightage | | YoY price Change (%) |
|--------------|---------------------|------------|-------------|----------------------|
| | | Old | New | |
| Paddy | 119.9 | 66 | 64.9 | -2% |
| Tur | 3.9 | 2 | 2.3 | 7% |
| Bajra | 9.4 | 5 | 5.1 | -2% |
| Maize | 24.5 | 14 | 13.0 | -4% |
| Soyabean | 13.4 | 7 | 6.8 | -9% |
| Groundnut | 10.4 | 6 | 4.8 | -16% |
| Total | 181.5 | 100 | 96.8 | -3.2% |

Source: Agmarknet, MOFSL

Exhibit 18: Kharif sowing grew 2% YoY in CY24

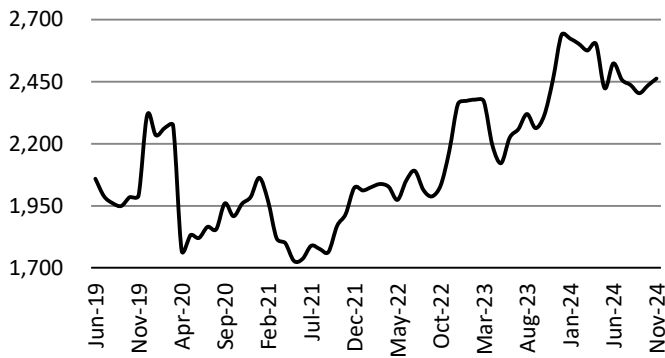
| Sr No | Crop (m hectare) | Normal Area (DES) | Area Sown | | % Change YOY |
|----------|--|-------------------|--------------|--------------|--------------|
| | | | CY24 | CY23 | |
| 1 | Paddy | 40.2 | 41.5 | 40.5 | 2 |
| 2 | Pulses | 13.6 | 12.8 | 11.9 | 7 |
| a | Arhar | 4.6 | 4.7 | 4.1 | 14 |
| b | Urdbean | 3.7 | 3.0 | 3.3 | -8 |
| c | Moongbean | 3.7 | 3.6 | 3.1 | 13 |
| d | Kulthi | 0.2 | 0.1 | 0.0 | 37 |
| e | Moth bean | 1.0 | 1.1 | 0.9 | 12 |
| f | Other pulses | 0.4 | 0.5 | 0.5 | 7 |
| 3 | Shree Anna & Coarse Cereals | 18.1 | 19.3 | 18.6 | 4 |
| a | Jowar | 1.6 | 1.6 | 1.4 | 13 |
| b | Bajra | 7.3 | 7.0 | 7.1 | -1 |
| c | Ragi | 1.1 | 1.3 | 1.1 | 20 |
| d | Small millets | 0.4 | 0.6 | 0.6 | 9 |
| e | Maize | 7.7 | 8.9 | 8.5 | 5 |
| 4 | Oilseeds | 19.0 | 19.6 | 19.1 | 3 |
| a | Groundnut | 4.5 | 4.8 | 4.4 | 9 |
| b | Soybean | 12.3 | 12.7 | 12.4 | 2 |
| c | Sunflower | 0.1 | 0.1 | 0.1 | 5 |
| d | Sesamum | 1.0 | 1.1 | 1.2 | -7 |
| e | Niger | 0.1 | 0.1 | 0.1 | 15 |
| f | Castor | 0.9 | 0.8 | 1.0 | 0 |
| 5 | Sugarcane | 5.1 | 5.8 | 5.7 | 1 |
| 6 | Jute & Mesta | 0.7 | 0.6 | 0.7 | -14 |
| 7 | Cotton | 12.9 | 11.3 | 12.4 | -9 |
| | Total | 109.6 | 110.9 | 108.8 | 2 |

Source: Agricoop, MOFSL

Exhibit 19: Reservoir levels are currently above their 10-year average

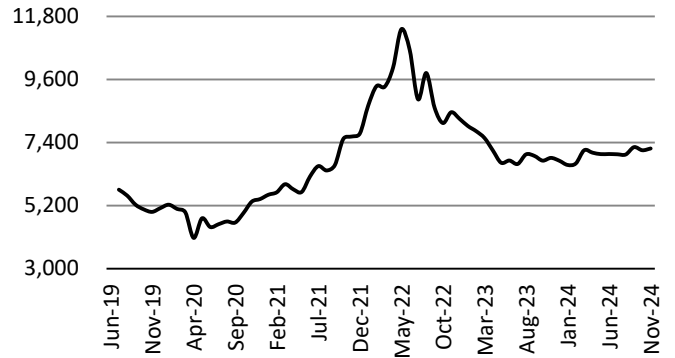
Source: Agricoop, MOFSL

Exhibit 20: Rice price trend (INR/quintal)



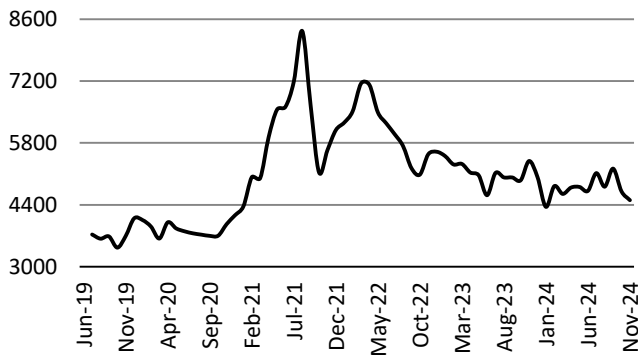
Source: AgMarknet, MOFSL

Exhibit 21: Cotton price trend (INR/quintal)



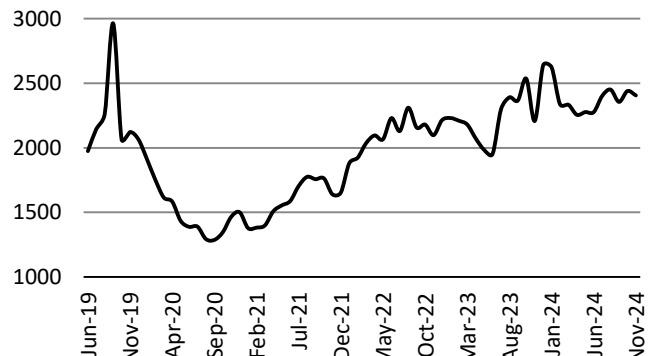
Source: AgMarknet, MOFSL

Exhibit 22: Soybean price trend (INR/quintal)



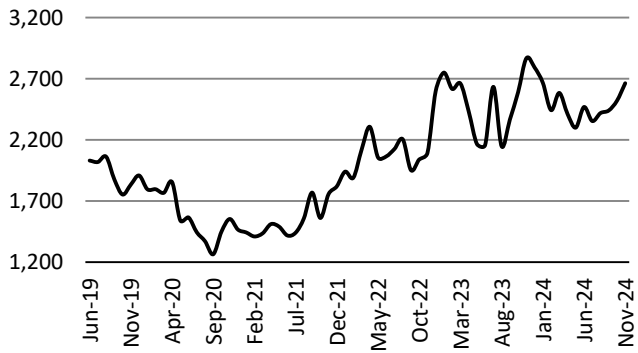
Source: AgMarknet, MOFSL

Exhibit 23: Maize price trend (INR/quintal)



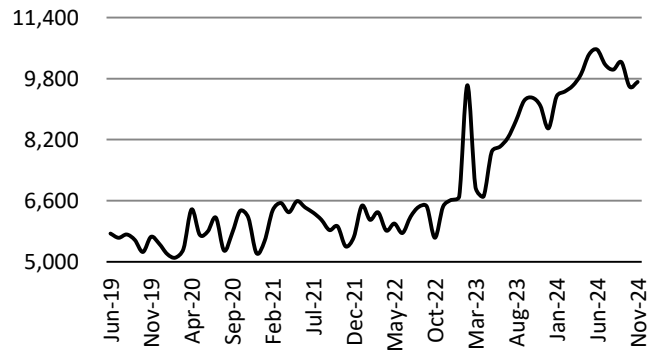
Source: AgMarknet, MOFSL

Exhibit 24: Bajra price trend (INR/quintal)



Source: AgMarknet, MOFSL

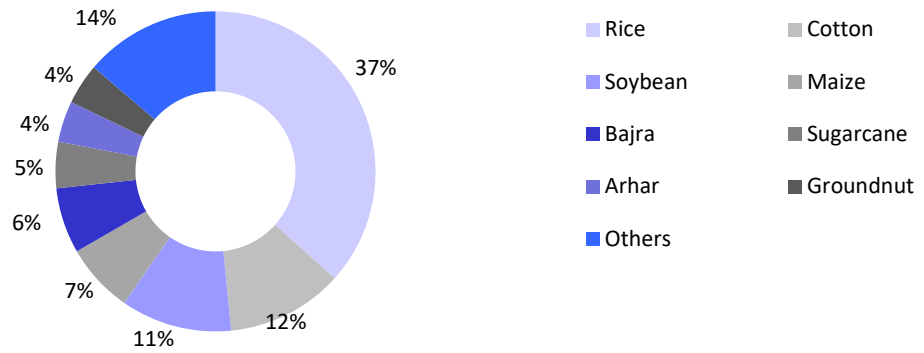
Exhibit 25: Arhar price trend (INR/quintal)



Source: AgMarknet, MOFSL

Exhibit 26: Crop-wise sowing area (average of the last five years)

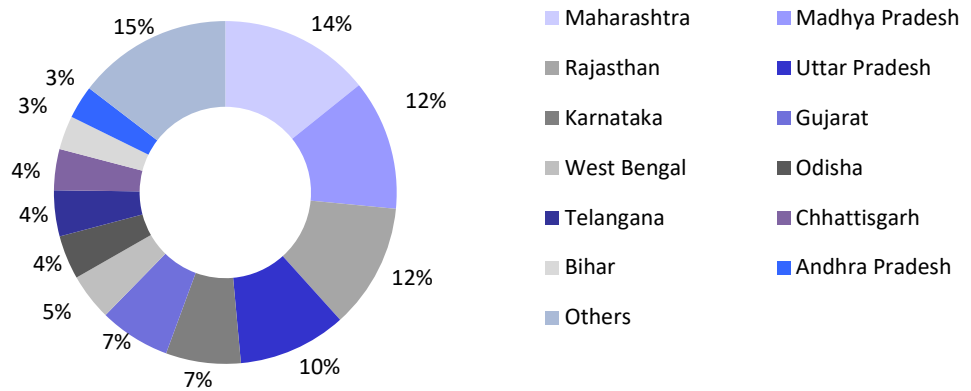
Normal Kharif acentage:
109.6m hectare



Source: Agricoop, MOFSL

Exhibit 27: State-wise sowing area (average of the last five years)

Normal Kharif acentage:
109.6m hectare



Source: Agricoop, MOFSL

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