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SOUTHWEST MONSOON OUTLOOK 2022

**Upward revision in IMD's rainfall forecast
boosts kharif outlook; fertiliser, labour
availability remain key**

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HIGHLIGHTS



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IMD's Second LRF for 2022 has predicted a normal southwest monsoon rainfall at 103% (+/-4%) of LPA, an improvement over the earlier forecast

The adverse impact of the heatwave on wheat output is likely to dampen the agri GVA growth in Q1 FY2023, containing farm sentiment and consumption in some states

We foresee a modest dip in the agri GVA growth to ~2.2-2.5% for FY2023 from 3.0% in FY2022

As per the India Meteorological Department's (IMD) second stage forecast, monsoon rainfall is projected at 103% of Long Period Average (LPA), with an error range of +/-4%, implying a normal monsoon, slightly better than the first stage forecast that had estimated the volume of rainfall at 99% +/-5% of the LPA. The upgraded forecast of the monsoon rainfall has provided some relief in light of the heatwave and the seasonal drop in the reservoir levels. A timely onset, favourable progress across the country and healthy distribution in the later months remain critical. Nevertheless, concerns linger regarding the availability of labour in specific states as well as fertilisers, which could affect acreage and yields.

- The IMD expects normal monsoon rainfall in 2022:** The IMD has released its second stage Long Range Forecast (LRF) for 2022, which has raised the estimate of the southwest monsoon rainfall to 103% of the LPA with a model error of +/-4% from the April 2022 first stage forecast of 99% +/-5% of LPA. The forecast probability of excess and above normal rainfall has been revised upwards to 19% and 26% respectively, from 17% and 16%, respectively, indicated in April 2022, while that for below normal and deficient precipitation has been reduced (below normal: to 14% from the earlier 17%; deficit: to 5% from the earlier 16%). The IMD has retained the likelihood of a normal monsoon at 33%.
- Reservoir levels slightly higher in May 2022 than year ago levels:** Reservoir storage has declined in line with seasonal trends and stood at 32% of FRL as on May 26, 2022, mildly exceeding the level as on May 27, 2021 (29% of FRL). The reservoir storage was higher than the year-ago levels in the Northern, Central and Southern regions and was mildly lower in the Western and the Eastern regions.
- Agricultural GVA growth expected to be subdued in Q1 FY2023:** Although the agri GVA growth in Q4 FY2022 has provided an upside surprise, we remain circumspect about the impact of the bleak wheat harvest on the pace of growth that is likely in Q1 FY2023. We currently peg the same at sub-2%, given the dominance of wheat in the rabi harvest. Subsequently, the progress of sowing for summer crops has been healthy, with the cumulative area sown exceeding the year-ago level by 5.1% as on May 27, 2022. Overall, we foresee a modest dip in the agri GVA growth to ~2.2-2.5% for FY2023 from 3.0% in FY2022, amid concerns regarding the availability of labour in specific states as well as fertilisers.
- CPI Inflation for food and beverages likely to remain elevated in FY2023:** The CPI inflation for the food and beverages sub-index rose to a 17-month high of 8.1% in April 2022 from 7.5% in March 2022, partly on account of supply disruptions triggered by the Russia-Ukraine conflict. The sequential rise in the retail prices of several food items in the early part of May 2022 is likely to keep the food inflation elevated in the month, although a high base may mildly soften the YoY inflation reading from April 2022 highs. Nevertheless, persistent supply-side disruptions owing to the geopolitical developments may impart stickiness to the food inflation trajectory during the period of the conflict, especially for items such as wheat and oilseeds, notwithstanding the hopes of a normal monsoon.

IMD's second long-range forecast estimates normal southwest monsoon rainfall in 2022:

The IMD's first stage LRF for the southwest monsoon rainfall for 2022 (June to September) that was released on April 14, 2022 (refer Exhibit 1), had estimated the volume of rainfall at 99% +/-5% of the LPA, indicating normal monsoon (96%-104% of LPA) rainfall. Subsequently, on May 31, 2022, the IMD has released its second stage LRF for 2022, which has raised the estimate of the southwest monsoon rainfall to 103% of the LPA with a model error of +/-4%. The IMD has retained the likelihood of a normal monsoon at 33%, in line with level forecasted in its first LRF. However, the forecast probability of excess (more than 110% of LPA), and above normal rainfall (104-110% of LPA) has been revised upwards to 19% and 26% respectively, relative to 17% and 16%, respectively, indicated in April 2022, while that for below normal (90-96% of LPA) and deficient (less than 90% of the LPA) precipitation has been reduced (below normal: to 14% from the earlier 17%; deficit: to 5% from the earlier 16%).

The updated Multi Model Ensemble (MME) Forecasting System also suggests normal monsoon rainfall on a pan-India basis in 2022. In terms of region-wise distribution, the monsoon seasonal rainfall (June-September 2022) is most likely to be normal over Northwest India (92-108% of LPA) and Northeast India (94-106% of LPA), based on the MME Forecasting System. In addition, the seasonal rains are most likely to be above normal in South Peninsula (>106% of LPA) and Central India (>106% of LPA), during the monsoon season (refer Exhibit 2). The southwest monsoon seasonal rainfall over the monsoon core zone, which consists of most of the rainfed agriculture regions is most likely to be above normal (>106% of LPA).

In terms of the monthly projection, the MME probability forecast suggests that the pan-India rainfall in June 2022 is most likely to be normal (92%-108% of LPA), which should aid in timely sowing activities. Further, the outlook for the spatial distribution of rainfall in June 2022 suggests that many parts of Northwest and Central India, northern parts of South Peninsula and some parts of East and Northeast India are likely to witness normal or above normal rainfall in the month. On the other hand, many parts of Northeast India, and extreme Southern peninsular India and some parts of Central and East India are likely to witness below normal rainfall in June 2022.

EXHIBIT 1: IMD's forecasts for monsoon seasonal (June-September) rainfall

Year	IMD April Forecast	IMD June Forecast	Actual Rainfall (% of LPA)
2013	98% +/- 5% of LPA	98% +/- 4% of LPA	105%
2014	95% +/- 5% of LPA	93% +/- 4% of LPA	88%
2015	93% +/- 5% of LPA	88% +/- 4% of LPA	86%
2016	106% +/- 5% of LPA	106% +/- 4% of LPA	97%
2017	96% +/- 5% of LPA	98% +/- 4% of LPA	95%
2018	97% +/- 5% of LPA	97% +/- 4% of LPA	91%
2019	96% +/- 5% of LPA	96% +/- 4% of LPA	110%
2020	100% +/- 5% of LPA	102% +/- 4% of LPA	109%
2021	98% +/- 5% of LPA	101% +/- 4% of LPA	99%
2022	99% +/- 5% of LPA	103% +/- 4% of LPA	

Source: IMD; ICRA Research

EXHIBIT 2: Rainfall forecast over the four homogenous regions of the country in 2022*

Rainfall category	Northwest		Central		South Peninsula		Northeast	
	Range (% of LPA)	Forecast Probability (%)	Range (% of LPA)	Forecast Probability (%)	Range (% of LPA)	Forecast Probability (%)	Range (% of LPA)	Forecast Probability (%)
Below Normal	<92	21	<94	14	<94	18	<94	27
Normal	92-108	43	94-106	33	94-106	30	94-106	47
Above Normal	>108	26	>106	53	>106	52	>106	26

*Based on the MME Forecasting System; Source: IMD; ICRA Research

The climatological probabilities for excess (more than 110% of LPA), above normal (104-110% of LPA), below normal (90-96% of LPA) and deficient (less than 90% of the LPA) rainfall have been placed at 17%, 16%, 17% and 16%, respectively, in line with the projections made in April 2022.

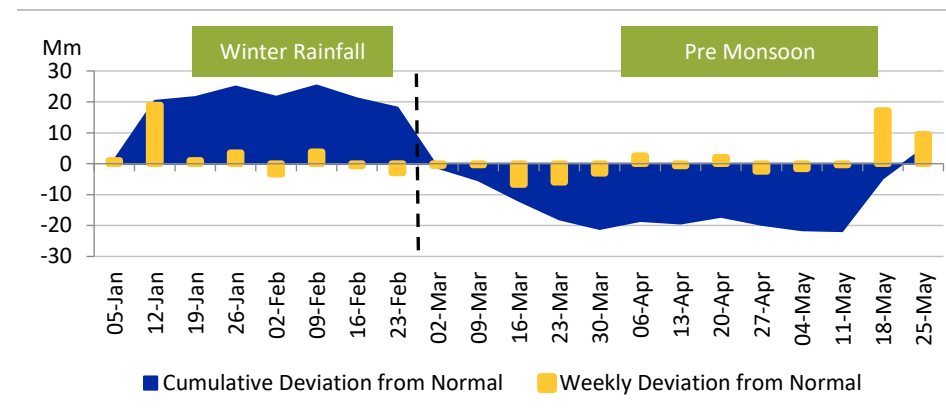
The IMD indicated that the prevailing moderate LA Nina conditions are expected to continue over the Equatorial Pacific Ocean, and that there is a possibility of development of negative IOD conditions over the Indian Ocean during the monsoon season.

Healthy precipitation recorded during the pre-monsoon season: The cumulative rainfall during the winter season (January-February) was excess, at 143.9% of the LPA, with all regions witnessing significantly higher precipitation relative to their respective LPAs. Subsequently, the rainfall during the ongoing pre-monsoon season (March-May) stood at 99% of the LPA on a pan-India basis (till May 31, 2022; refer Exhibit 3), albeit with significant spatial variation. The region-wise rainfall distribution in the ongoing season is large deficient in the Northwest (37% of LPA) region, deficient in Central India (61% of LPA) region, normal in East and Northeast (118% of LPA) region, and large excess in South Peninsula (163% of LPA) till May 31, 2022, as per the IMD's classification.

Reservoir levels slightly higher in May 2022 than year ago levels: Reservoir storage has declined in line with seasonal trends, and stood at 32% of FRL as on May 26, 2022, mildly exceeding the level as on May 27, 2021 (29% of FRL; refer Exhibit 4). In terms of the region-wise distribution, reservoir storage was higher than the year ago levels in the Northern (28% vs. 20%), Central (33% vs. 29%) and Southern (36% vs. 32%) regions and was mildly lower in the Western (32% vs. 36%) and the Eastern (21% vs. 24%) regions.

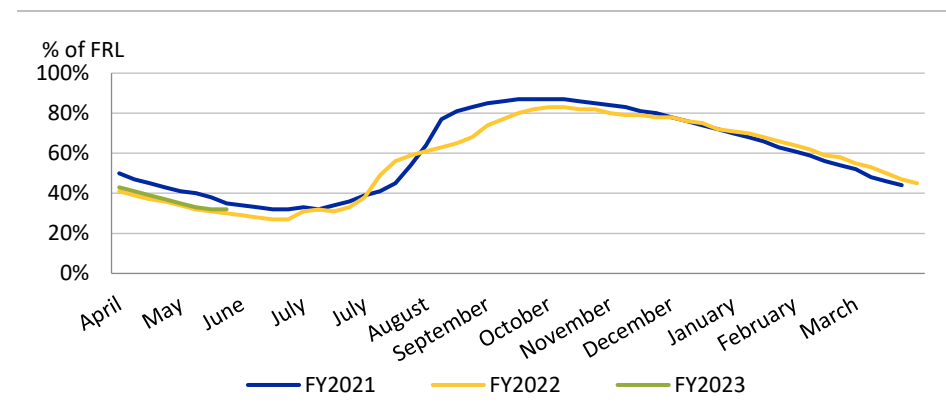
Agricultural GVA growth surprised on the upside in Q4 FY2022: The total area sown under rabi crops had recorded a mild YoY uptick of 1.5% as on Feb 4, 2022, with sowing of oilseeds and pulses exceeding the year-ago levels, while that of rice, coarse cereals and wheat trailed the year-ago levels. The 3rd Advance Estimate (AE) of crop production, released by the Ministry of Agriculture and Farmers Welfare on May 19, 2022 (refer Exhibit 5), indicate a mixed trend in the production of rabi crops relative to the Final Estimates for FY2021. While the output of pulses (+15.8%), oilseeds (+12.8%) and coarse cereals (+3.4%) is expected to have risen in FY2022, the output of wheat (-2.9%) and rice (-2.8%) is

EXHIBIT 3: Cumulative and weekly deviation of rainfall from normal



Source: IMD; ICRA Research

EXHIBIT 4: Trends in Reservoir Storage



Source: CWC; ICRA Research

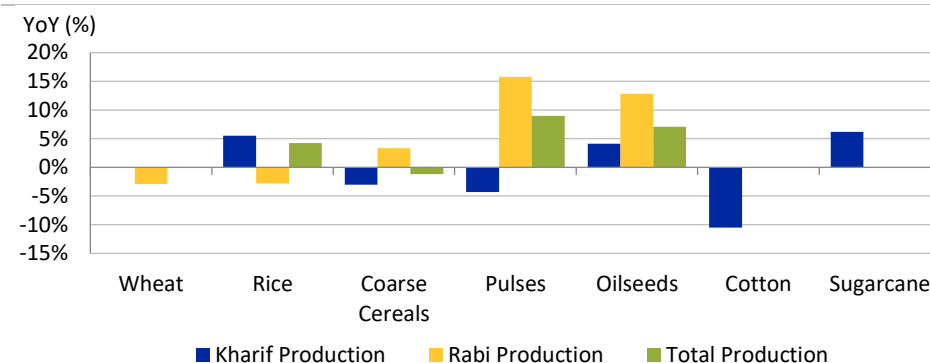
expected to have trailed the FY2021 levels. Notably, the rabi output for wheat estimated by the 3rd AE was significantly lower than the 2nd AE (-4.9MT) released on February 16, 2022; concerns persist regarding further downward revisions owing to a sharp drop in yields on account of the heat wave across parts of Northwest and Central India. **Despite this, the growth of GVA of agriculture, forestry and fishing surprised on the upside in Q4 FY2022, printing at 4.1% in the quarter (+2.8% in Q4 FY2021), higher than the 2.5% in Q3 FY2022 (+4.1% in Q3 FY2021).**

Agricultural GVA growth expected to be modest in Q1 FY2023: The progress of sowing for summer crops has been healthy, with the cumulative area sown exceeding the year-ago level by 5.1% as on May 27, 2022 (refer Exhibit 6). While the area sown for rice has declined by 3.3% YoY, that for pulses (+17.3%), coarse cereals (+9.6%) and oilseeds (+2.7%) has increased. **Although the agri GVA growth in Q4 FY2022 has provided an upside surprise, we remain circumspect about the impact of the bleak wheat harvest on the pace of growth that is likely in Q1 FY2023. We currently peg the same at sub-2%, given the dominance of wheat in the rabi harvest**

While the forecast for a normal monsoon, coupled with seasonally healthy reservoir levels augurs well for the agri outlook for FY2023, there are concerns around a shift in availability in labour away from agriculture following the revival of contact intensive services. This is likely to impact acreage, which has played an important role in driving agri output during FY2021 and FY2022. Besides, inadequate availability of fertilisers poses a concern for agriculture, as systemic inventory is below year-ago levels across all segments, on account of lower imports amid limited availability in the international market, and elevated prices. Accordingly, we project agri GVA growth at ~2.5% in Q2-Q3 FY2023, with a base effect led rise to 4-5% in Q4 FY2023. **Overall, we foresee a subdued agri GVA growth of ~2.2-2.5% for FY2023 as against the 3.0% in FY2022 (refer Exhibit 7).**

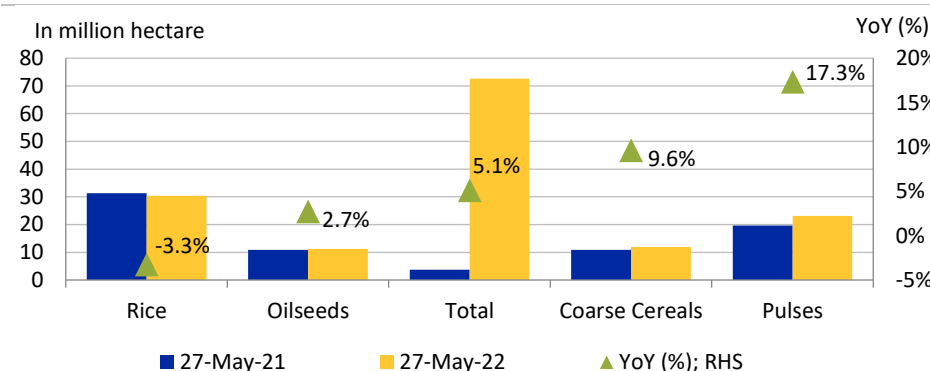
CPI Inflation for Food and Beverages is likely to remain elevated in FY2023: As expected, the CPI inflation for the food and beverages sub-index (with a weight of 45.9% in the CPI) rose to a 17-month high of 8.1% in April 2022 (+2.6% in April 2021) from 7.5% in March 2022 (+5.2% in March 2021), partly on account of supply disruptions triggered by the Russia-Ukraine conflict.

EXHIBIT 5: YoY growth of crop production in FY2022 as per 3rd AE for FY2022 relative to Final Estimates for FY2021



Source: Ministry of Agriculture and Farmer's Welfare; ICRA Research

EXHIBIT 6: Trends in summer sowing



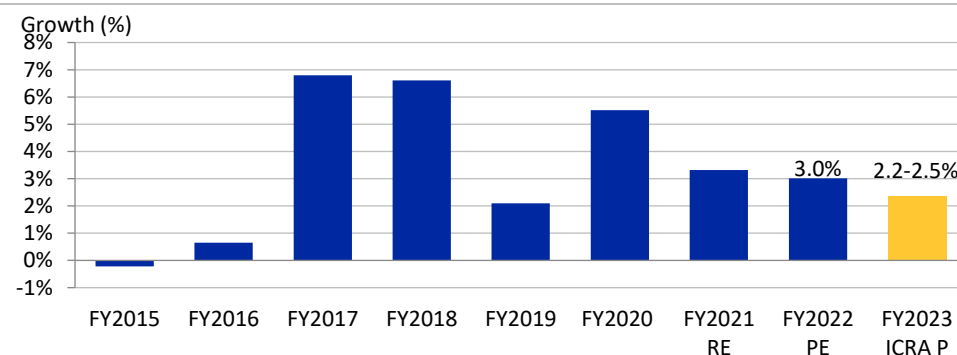
Source: Ministry of Agriculture and Farmer's Welfare; ICRA Research

There was a sharp increase in the YoY inflation of vegetables (to +15.4% from +11.6%, led by tomatoes, lemon, cauliflower, etc.), followed by fruits (to +5.0% from +2.5%), spices (to +10.6% from +8.5%), cereals and products (to +6.0% from +5.0%), milk and products (to +5.5% from +4.7%), and prepared meals, snacks and sweets (to +7.1% from +6.6%). In contrast, there was a moderation in the YoY inflation for oils and fats (to +17.3% from +18.7%; solely on the back of a high base), meat and fish (to +7.0% from +9.6%), pulses and products (to +1.9% from +2.6%), non-alcoholic beverages (to +5.5% from +5.6%) and sugar and confectionary (to +5.2% from +5.5%) in April 2022, relative to the previous month. The index for eggs in April 2022 was unchanged compared to the year-ago level, after recording an inflation of 2.4% in March 2022 (refer Exhibit 8).

The daily data for May 2022 released by the Department of Consumer Affairs revealed a continued sequential uptrend in the average retail prices of edible oils, atta and wheat, reflecting the fallout of global supply disruptions triggered by the geopolitical conflict, including the palm oil export ban by Indonesia (which has now been reversed). Moreover, there has been an uptick in the average prices of some vegetables (tomatoes, potatoes, ginger, etc.), iodised salt, and fruits (apples, papaya, etc.) in the ongoing month, even as the prices of pulses have eased, relative to Apr 2022. **The sequential rise in the retail prices of several food items in May 2022 is likely to keep the food inflation elevated in the month, although a high base may mildly soften the YoY inflation reading from April 2022 highs. The recent measures taken by the by the Indian government (ban on wheat exports, limitation on sugar exports, as well as scrapping of customs duties on the import of crude soyabean and sunflower oils for two years) and Indonesia's decision to lift the ban on palm oil exports is expected to cool the prices of such items in the near-term. Nevertheless, persistent supply-side disruptions owing to the geopolitical developments may impart stickiness to the food inflation trajectory during the period of the conflict, especially for items such as wheat and oilseeds, notwithstanding the hopes of a normal monsoon.**

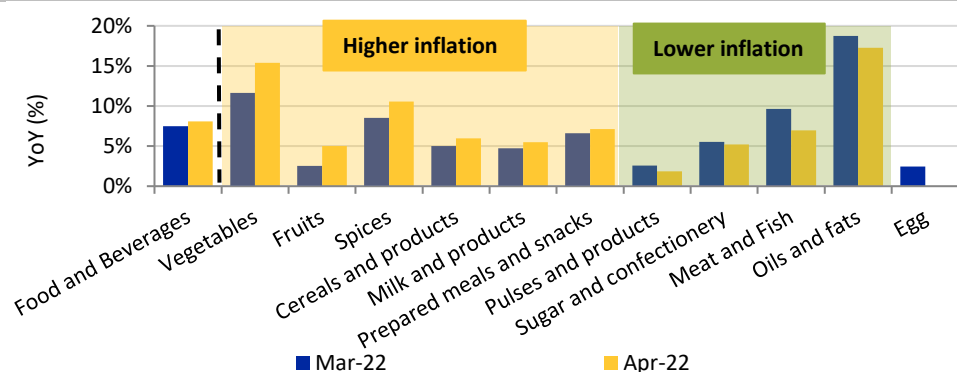
Looking ahead, a normal pattern of monsoon rainfall should also help to boost foodgrain output. However, a good monsoon may not be able to douse the prices of items such as edible oils and wheat (which is a rabi crop), that are currently pushing up food inflation in India.

EXHIBIT 7: Trends in YoY growth of agriculture, forestry and fishing GVA and ICRA's forecasts for FY2023



RE: First Revised Estimates; PE: Provisional Estimates; P: Projected; **Source:** NSO; CEIC; ICRA Research

EXHIBIT 8: YoY trends in CPI inflation for food and beverages in March-April 2022



Source: NSO; CEIC; ICRA Research



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