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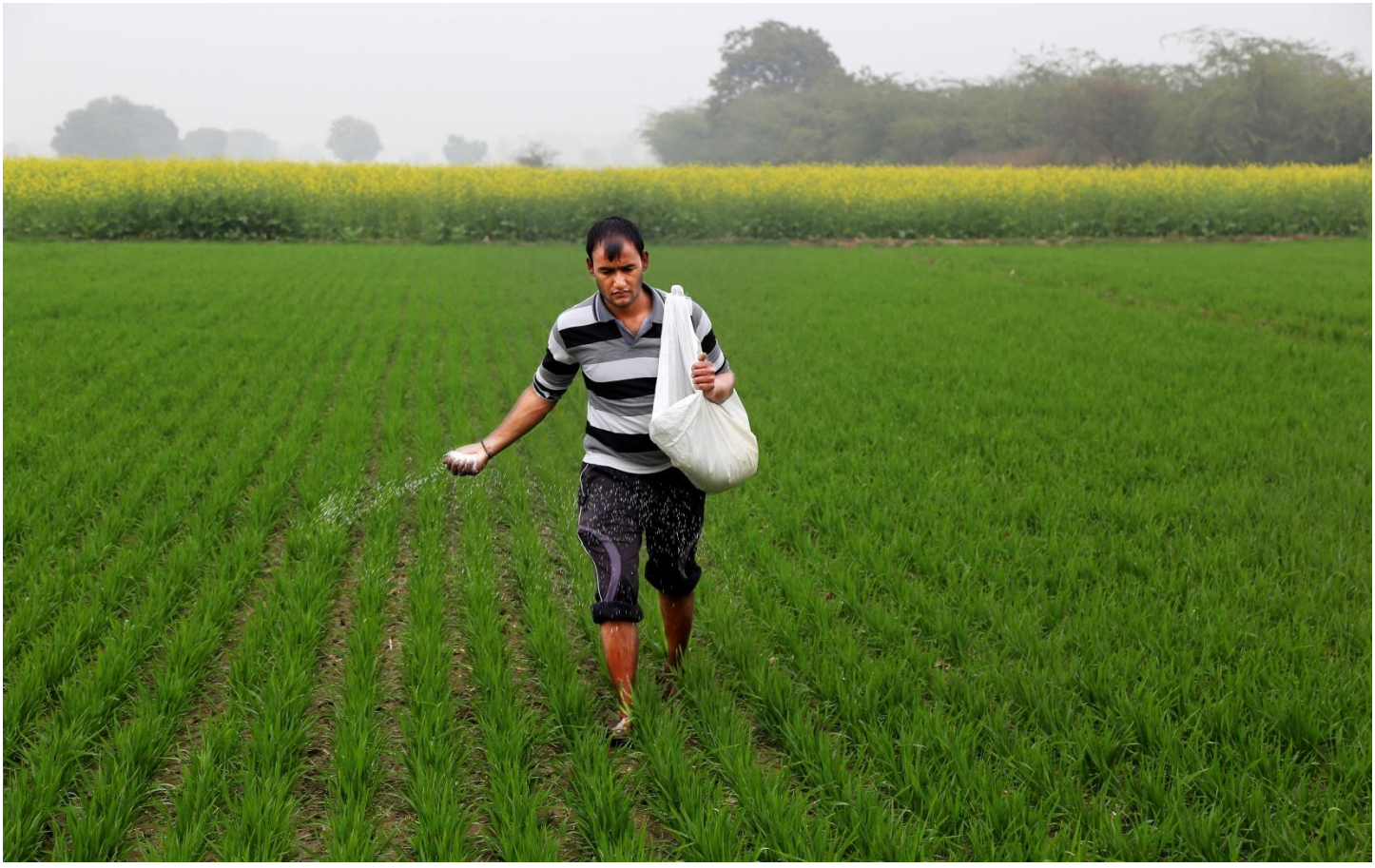
Cloud over kharif

Below-normal monsoon, pest outbreaks and fertiliser constraints the key risks this year

June 2026



by S&P Global

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Understanding the climate drivers

India is entering the 2026 kharif season under the influence of El Niño conditions, a climate phenomenon historically associated with weaker monsoon and heightened uncertainties regarding rainfall. With India typically receiving ~70-80% of its annual rainfall during the southwest monsoon, deviations in rainfall during this period will have significant implications for agricultural production. Consequently, El Niño remains one of the most closely monitored climate drivers for India's farm sector.

Typically, trade winds blowing from the South American coast in Peru towards Australia (in the Pacific Ocean) cause higher sea surface temperature in Australia. This warming leads to a cloud build-up around Australia, favouring monsoon in India.

During an El Niño event, however, the trade winds reverse, leading to a higher sea surface temperature around the South American coast. This results in lower rainfall in Australia and India and heavy showers in South America.

Historically, El Niño has posed significant risks to India's agriculture and water security. Since 1950, seven of sixteen El Niño years resulted in below-normal monsoon and widespread drought, making it a closely monitored phenomenon by Indian meteorological authorities.

Against this backdrop, as of May 2026, the India Meteorological Department (IMD) had forecast that the country will receive a below-normal rainfall, estimated at 90% of the long-period average (LPA), heightening concerns regarding the adequacy of rainfall during the kharif season. The outlook for rainfall distribution indicates a predominance of below-normal rainfall conditions across most of the country, while the probabilities of normal to above-normal rainfall are largely restricted to the western Himalayan region (primarily Ladakh and parts of Jammu & Kashmir), parts of the Northeast and some isolated pockets of Andhra Pradesh, Telangana and Odisha.

A stable start to kharif sowing amid agricultural shifts

Despite expectations of a below-normal southwest monsoon, the 2026 kharif season is expected to begin on a stable footing, supported by favourable pre-sowing conditions. As of May 29, 2026, reservoir storage levels across the country remained healthy, standing ~19% above the normal storage and marginally (~1%) higher than the corresponding period last year. Adequate availability of water is expected to facilitate timely land preparation and sowing activities across major agricultural regions.

Despite ~three-fourths of the kharif-sown area being projected to receive below-normal rainfall, the impact on early season crop establishment may remain relatively limited. Major agricultural states such as Punjab, Haryana, Rajasthan, Uttar Pradesh, Gujarat, Madhya Pradesh, Maharashtra and Karnataka are expected to witness rainfall deficits; however, reservoir storage remains comfortably above normal storage across key regions, at ~44% in the western region, ~34% in the northern region, ~20% in the central region and ~6% in the southern region. Combined with irrigation penetration, at ~48%, ~65%, ~76% and ~52%, respectively, these conditions are expected to support sowing activities and crop establishment despite weaker rainfall expected.

Although reservoir storage in eastern India remains ~11% below normal, favourable rainfall received over the past month has improved soil moisture conditions across the region. As a result, sowing and crop establishment activities are expected to progress on a stable footing, although the region remains relatively more dependent on the timely progression of monsoon and rainfall distribution compared with the other parts of the country.

Amidst anticipation of below normal rainfall conditions farmers will be prompted to make more strategic crop choices guided not only by the rainfall outlook but also by relative profitability, procurement support and prevailing market conditions.

Table 1 Expected crop-wise acreage shifts and key drivers of kharif 2026

Crop category	Sowing expectation	Key drivers
Cereals	Mixed	Paddy acreage is expected to expand in Punjab and Haryana, supported by assured procurement, favorable price realization, and extensive irrigation coverage of nearly 100% in Punjab and around 92% in Haryana. In Bihar, paddy sowing is also likely to increase, aided by relatively high irrigation coverage (~62%) and favorable conditions for early planting. In contrast, maize acreage is expected to decline across Punjab, Rajasthan, Madhya Pradesh, southern Karnataka, and Telangana, as farmers increasingly shift towards relatively more remunerative crops such as paddy, soybean, pulses, cotton, and chilli.
Pulses	High	Diversification away from maize, supported by lower cultivation costs and less water requirement coupled with relatively better profitability.
Cash crops	Mixed	Cotton acreage is expected to decrease in Punjab, Maharashtra and Gujarat due to lower profitability, however in Madhya Pradesh acreage is expected to rise owing to shift from soyabean, while jute acreage is expected to expand in West Bengal. This growth is primarily attributed to a shift away from maize cultivation, as cotton and jute offer more lucrative returns to farmers.
Fruits	High	Acreage across fruit crops such as banana and apple is expected to increase, led by stable demand.
Vegetables	Low	Low prices and expected deficit rainfall conditions are expected to keep vegetable acreage lower on year.
Spices	High	Acreage for chilli is expected to increase after lows of two consecutive years, supported by improved year-on-year prices.

Key productivity risks

While overall kharif acreage is expected to remain resilient, yields face three primary headwinds.

1. **Below-normal rainfall:** Below-normal rainfall during July-September is expected to create productivity risks across major kharif crops, as this period coincides with critical yield-forming stages. While July is primarily associated with crop establishment and vegetative growth, August and September coincide with flowering, fruit setting, pod development and boll formation stages, making crops increasingly vulnerable to moisture stress as the season progresses.

Table 2 Crop-wise yield vulnerability across critical kharif growth stages

Months		July		August		September	
Crops		Crop Stage	Yield Impact	Crop Stage	Yield Impact	Crop Stage	Yield Impact
Vegetables *(Tomato, Brinjal, Okra)*		Transplanting /Vegetative	⟺	Flowering/early fruit setting	↓	Fruit development	↓
		Vegetative	⟺	Flowering/early fruiting	↓	Maturity	↓
Pulses		Vegetative	⟺	Flowering/Pod formation	⟺	Pod filling/seed development	⟺
Oilseeds		Vegetative	⟺	Flowering/Pod formation	⟺	Seed filling/maturity	⟺
Cotton		Vegetative	⟺	Squaring/flowering	↓	Peak flowering /boll development	↓
Fruit Crop *(Apple)*		Fruit development	⟺	Fruit maturation	⟺	Fruit maturation	↓

⟺ Moderate yield risk ↓ High yield risk

Consequently, yield realisation across key crop categories is likely to come under pressure, underscoring the need for close monitoring, adaptive crop management and timely measures for mitigation. The spatial and temporal distribution of rainfall will remain the key determinant of final crop outcomes.

2. **Pest and disease pressure:** Higher temperatures, combined with uneven rainfall during the season's first half, are expected to intensify pest and disease outbreaks across crops such as chilli, cotton, soyabean, pulses and vegetables. This increased pest pressure is likely to boost demand for insecticides, supporting growth in the agrochemical sector. However, persistent dry spells may force farmers to delay or skip pesticide applications to reduce input costs, which could temporarily temper demand. Therefore, the spatial and temporal distribution of rainfall remains a critical factor to assess the impact on crop health and demand for crop protection inputs.

3. **Fertiliser constraints:** The West Asia conflict has raised concerns over India's fertiliser supplies for the upcoming kharif season. As per the latest available report dated April 27, 2026, stocks were 71.58 lakh metric tonne (LMT) of urea, 22.35 LMT of diammonium phosphate (DAP), 12.46 LMT of muriate of potash and 57.56 LMT of complex fertilisers. Despite these levels, availability is expected to be tight for urea and DAP, with inventories falling short of the projected demand of 120-125 LMT and 30-35 LMT, respectively, for May-August. Rising global raw material prices of sulphur, phosphoric acid and ammonia due to geopolitical uncertainties are driving up import costs. Recent tenders closed at $935-959/MT for urea and $930-935/MT for DAP, reflecting an increase of ~123% for urea and 39% for DAP compared with pre-conflict levels. While current stocks may suffice for the next 2.5-3 months, ongoing supply constraints and high raw material costs could curtail availability between mid-July and early August. This supply disruption poses a significant risk to crops requiring high nitrogen inputs, such as paddy, maize, cotton and sugarcane, while pulses and oilseeds are comparatively less affected.

Rainfall distribution, input availability to determine output

The 2026 kharif season is expected to begin on a stable note, supported by healthy reservoir levels and favourable early sowing conditions. However, El Niño-led rainfall variability and warmer conditions during the season could emerge as key headwinds for yields due to water scarcity and an increase in the number of pest infections and disease manifestation, especially during critical crop growth stages.

Concurrently, tighter fertiliser supplies and increased dependence on crop protection products may also add to input challenges. Ultimately, rainfall distribution and input availability will be the key determinants of the final kharif output.

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