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3. Kharif 2026 Concerns – Fertiliser Crisis and Weak Monsoon Threatening Food Security – Geography

1. Why in News

1. Rising fertiliser prices and forecasts of weak monsoon intensified concerns over India's agricultural productivity, food security ahead of Kharif 2026 season
2. India's fertiliser imports, domestic production disrupted due to West Asia tensions, closure of Strait of Hormuz
3. Urea import prices nearly doubled; DAP prices rose sharply increasing subsidy burden
4. IMD forecast below-normal southwest monsoon rainfall at 92% Long Period Average (LPA)
5. Fertiliser subsidy bill exceeded revised estimates before Gulf crisis intensified

2. Key Concerns Regarding India's Agricultural Sector

Fertiliser Supply and Price Shock

1. India's fertiliser imports, domestic production disrupted due to -
 - West Asia tensions
 - Closure of Strait of Hormuz
2. Urea import prices nearly doubled; DAP (Di-ammonium Phosphate) prices rose sharply increasing subsidy burdens
3. Domestic urea production declined significantly March 2026 affecting Kharif preparedness
4. Supply shortages may lead farmers to reduce fertilizer use affecting productivity, foodgrain availability

Weakening Monsoon Risks

1. IMD forecast below-normal southwest monsoon rainfall at 92% LPA (Long Period Average)
2. Expected El Niño conditions may reduce rainfall during crucial crop growth period
3. **Rain-fed crops highly vulnerable** – Paddy, pulses, cotton, oilseeds
4. ~60% of India's net sown area rain-fed; 140 million hectares dependent on monsoon

Pressure on Food Security and Inflation

1. Rising fertiliser costs, weak agricultural output may increase food inflation
2. Affect rural incomes (agricultural households ~47% of India's workforce)
3. Lower crop yields adversely impacting India's progress towards SDG-2 (Zero Hunger)
4. Cascading effect on rural demand, consumption, economic growth

Rising Fiscal Burden

1. Fertiliser subsidy mechanism transfers global price shocks onto government finances
2. Fertiliser subsidy bill already exceeded revised estimates before Gulf crisis
3. Continued import dependence may strain fiscal stability if geopolitical tensions persist
4. India's annual fertiliser subsidy – ₹1.5-2 lakh crore (one of largest budget expenditure items)

3. Factors Causing the Distress

Dependence on Imported Fertilisers and LNG

1. India depends heavily on Gulf countries for LNG, fertiliser imports (especially urea, DAP)

2. **Natural gas** – Primary feedstock for urea production; domestic output vulnerable to energy disruptions
3. India imports ~30% urea requirements (despite world's 2nd largest urea producer)
4. DAP – ~50% imported (mainly from China, Jordan, Morocco, Saudi Arabia)

Strait of Hormuz Disruption

1. Critical global maritime chokepoint
2. Nearly one-third of global fertilizer trade passes through Strait of Hormuz
3. Restricted movement increased – Transportation costs, delayed supplies, raised global fertiliser prices
4. Also critical for – 20% global oil trade, LNG shipments from Qatar, UAE

Climate Variability and El Niño

1. Increasing frequency of El Niño events intensifying monsoon uncertainty
2. **El Niño mechanism** – Abnormal warming of central-eastern Pacific Ocean weakening Indian Ocean monsoon circulation
3. Climate change increasing frequency of extreme weather events affecting sowing cycles, crop yields

Structural Dependence on Urea-Intensive Agriculture

1. Indian agriculture highly dependent on chemical fertilisers, water-intensive crops
2. **Imbalanced fertilizer usage** – N -P -K ratio should be 4 -2 -1 but heavily skewed towards Nitrogen (urea overuse)
3. Monocropping patterns increasing ecological, economic vulnerabilities
4. Green Revolution legacy – High-yielding varieties requiring intensive inputs (water, fertilizers, pesticides)

4. About Kharif Season

Definition

1. Kharif = Summer/Monsoon season crops sown June-July, harvested September-October
2. **Major Kharif crops** – Paddy (rice), maize, cotton, sugarcane, groundnut, soybean, tur (arhar), moong, urad, bajra, jowar
3. Contributes ~50% of India's foodgrain production
4. Highly dependent on southwest monsoon (June-September)

Significance

1. Food security – Rice primary staple for >60% Indians
2. Economic importance – Agricultural GDP, rural employment, farmer incomes
3. Price stability – Poor Kharif directly causes food inflation (vegetables, pulses, oilseeds)

5. Fertiliser Ecosystem in India

Key Fertilisers

1. **Urea** – Most consumed; subsidized; nitrogen source; domestic + imported
2. **DAP** – Phosphorus-nitrogen source; largely imported; important for seed germination
3. **MOP (Muriate of Potash)** – 100% imported (India has no potash reserves)
4. **Complex fertilisers (NPK)** – Blended; partially domestic production

Subsidy Mechanism

1. **Urea** – Administratively controlled price; subsidy = difference between production cost and MRP
2. **P&K fertilisers** – Nutrient Based Subsidy (NBS) scheme; fixed per-nutrient subsidy
3. Subsidies transferred directly to manufacturers/importers; farmers pay capped prices

Domestic Production

1. Major producers – IFFCO, KRIBHCO, NFL, RCF, Chambal Fertilisers
2. Natural gas – Primary feedstock for nitrogen fertilizers (urea); LNG price volatility directly affects production cost
3. Neem coating of urea mandatory (reduces misuse, soil pollution, effectiveness improves)

6. Way Forward

Promote Sustainable and Balanced Agriculture

1. **Nano-urea** – Liquid urea (IFFCO innovation) requiring 500ml replacing one 45kg bag; reduces import dependence, soil pollution
2. **Biofertilizers** – Rhizobium, Azotobacter, mycorrhiza reducing chemical fertilizer need
3. **Organic farming** – Natural Farming (Zero Budget Natural Farming-ZBNF); PM Pranam scheme incentivizing states reducing chemical fertilizer use
4. **Crop diversification** – Less water-intensive, climate-resilient crops (millets, pulses)

Strengthen Domestic Capacity and Supply Chains

1. Expand domestic fertiliser production capacity (new urea plants using coal gasification, green ammonia)
2. **Diversify import sources beyond Gulf** – Morocco, Canada, Russia for potash; Jordan, OCP Group for phosphates
3. Build strategic reserves for critical agricultural inputs
4. Improve logistics resilience (port handling capacity, storage infrastructure)

Improve Climate Resilience

1. Expand irrigation infrastructure (Pradhan Mantri Krishi Sinchayee Yojana)
2. Micro-irrigation (drip, sprinkler) reducing water wastage
3. **Climate-smart agricultural practices** – Drought-resistant varieties, System of Rice Intensification (SRI)
4. Strengthen weather forecasting (district-level, extended range predictions)
5. **Crop insurance** – PM Fasal Bima Yojana strengthening coverage, claims settlement
6. Farmer advisory systems for real-time guidance

Policy Reforms

1. Nutrient-based subsidy (NBS) extension to urea incentivizing balanced fertilizer use
2. Direct Benefit Transfer for fertiliser subsidies reducing leakages
3. Soil Health Card scheme promoting soil testing, precise fertilizer application
4. Research investment in indigenous fertilizer innovations (nano-fertilizers, bio-stimulants)

7. Conclusion

Rising fertiliser prices due to West Asia tensions–Strait of Hormuz disruption and below-normal monsoon forecast (92% LPA, El Niño conditions) threaten India's Kharif 2026 food security. Urea import prices nearly doubled; DAP rose sharply; domestic urea production declined significantly increasing subsidy burden and fiscal strain. Structural vulnerabilities include heavy Gulf dependence for LNG-fertiliser imports (natural gas primary urea feedstock), Strait of Hormuz carrying one-third global fertilizer trade, urea-intensive imbalanced farming, and climate variability reducing rain-fed crop productivity. Way forward requires promoting nano-urea, biofertilizers, organic farming reducing import dependence, expanding domestic production capacity, diversifying import sources beyond Gulf, building strategic reserves, expanding micro-irrigation, strengthening climate-smart practices, crop insurance, farmer advisory systems ensuring India combines climate-resilient agriculture, fertiliser self-

reliance, sustainable farming reforms safeguarding food security, rural livelihoods from future geopolitical-climatic shocks.

Source - <https://millets.news/article/why-iran-war-monsoon-worries-could-make-2026-indias-year-of-millets>