

Current Affairs 10th August 2025 by Right IAS**Union Cabinet approved PM Dhan-Dhaanya Krishi Yojana (PMDDKY)**

Union Cabinet approved PM Dhan Dhaanya Krishi Yojana (PMDDKY) on July 17, 2025. Objective: Enhance agricultural productivity and promote sustainable agricultural practices. Budget and Duration: Total outlay: ₹24,000 crore annually. Duration: 6 years (2025–26 to 2030–31). Target beneficiaries: 1.7 crore farmers. Convergence Model: Merges 36 schemes from 11 central ministries/departments. Similar to the Aspirational District Programme. District Selection Criteria: 100 districts to be selected based on: Low productivity Low cropping intensity Low credit disbursement Each State/UT to have at least one district chosen, based on share of Net Cropped Area and operational holdings

Key Focus Areas: Post-harvest infrastructure at panchayat/block levels. Irrigation improvements. Access to long-term and short-term credit. Promotion of natural and organic farming. Emphasis on crop diversification and soil-water conservation. Implementation Structure: Committees at district, State, and national levels. Each district to create a District Agriculture and Allied Activities Plan. Involvement of progressive farmers in planning (District Dhan Dhaanya Samiti). Monitoring: Monthly progress review. Goals include self-reliance, livelihood generation, and value addition in agriculture.

Expert Opinion: CEEW calls it a significant step, promoting resilience via diversification and sustainability. **Critique:** Using low credit disbursement as a criterion

may be flawed; reliance on external credit should reduce in resilient farming systems.

The Hindu

CP violation in baryons

Matter vs Antimatter Mystery After the Big Bang, scientists believe equal amounts of matter and antimatter were created. But today, the universe is full of matter, and antimatter has almost disappeared. One of the biggest unsolved mysteries in physics is: Why is matter more common than antimatter? What is CP Violation? CP stands for: C (Charge Conjugation) – swapping a particle with its antiparticle. P (Parity) – flipping the system like a mirror image. CP symmetry says that if you do both (C + P), the physics should look the same. But sometimes, this symmetry is broken this is called CP violation. CP violation is important because it helps explain why more matter exists in the universe than antimatter.

What Are Sakharov Conditions?

Physicist Andrei Sakharov said three things are needed to explain the matter-antimatter imbalance: Baryon number violation more matter than antimatter must be created.

CP violation – matter and antimatter must behave differently. Out-of-equilibrium conditions – the process must happen in a way that doesn't allow equal amounts to be created.

In particle physics, CP violation is the violation of CP-symmetry, which is a fundamental symmetry stating that the laws of physics should remain the same when a particle is swapped with its antiparticle (C-symmetry) and its spatial coordinates are

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inverted (P-symmetry). CP violation occurs when processes involving particles and antiparticles differ, indicating a lack of perfect mirror-image symmetry between matter and antimatter.

The Hindu

Pigment cells on a squid's skin**What Was the Study About?**

Scientists wanted to understand how the pigment cells on a squid's skin called chromatophores form patterns as the squid grows. These cells help squids change the colour and appearance of their skin. Unusual Pattern with Growth: Normally, in many natural systems, as something grows, its patterns become more organized or regular. But in squid skin, the opposite happened the pattern became more random and chaotic as the squid grew. Scientists called this new behaviour "hyper disorder."

Why Hyper disorder Happens: The disorder was caused by two things: The random placement of new pigment cells. The growth of the squid's skin, which stretches the space between cells and prevents a neat pattern from forming.

The Hindu

Tectonic shift

India lies in a highly active earthquake zone, where the Indian Plate is colliding with the Eurasian Plate forming the Himalayas. A major quake (8.0+ magnitude), called the "Great Himalayan Earthquake," is expected in the future and could affect over 300 million people in India, Nepal, and Bhutan. Areas in Seismic Zone V (very high risk) include: Northeast

India: Manipur, Mizoram, Nagaland Andaman & Nicobar Islands Gujarat's Kutch region Tibet, Sikkim, and even distant Greece felt tremors in 2025, showing global tectonic movement.

What Needs to Be Done Strict enforcement of seismic building codes like IS 1893:2016. Retrofitting old buildings using safer construction methods (e.g., steel jacketing). Avoid building on soft, flood prone soils (e.g., Brahmaputra floodplain in Guwahati). Use of modern earthquake-safe technologies like base isolation. Expand early warning systems, including apps like India Quake. Raise public awareness about emergency kits, safe buildings, and evacuation drills. Lessons from Other Countries Bangkok used strong materials and better codes after 2007, reducing damage. In Myanmar, lack of code enforcement caused worse damage. India must learn from others and spend wisely on annual safety upgrades (₹50,000 crore estimated).

Final Message Earthquakes are getting more frequent and intense worldwide. India, especially places like Delhi and the Northeast, must act urgently. Preparedness is not optional it's a responsibility to protect lives and livelihoods. A national campaign for seismic safety is urgently needed before the next big earthquake strikes.

The Hindu

India needs to diversify its energy sources to keep trade deficit low

Areas of Concern: Flat Overall Merchandise Exports in June 2025: \$35.14 billion vs \$35.16 billion last June no significant growth. Widening Merchandise

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Trade Deficit: Deficit in Q1FY26: \$67.26 billion, up from \$62.1 billion in Q1FY25. Heavy Dependence on Petroleum Products: Refined petroleum products make up ~15% of India's goods exports. India now largest importer of Russian crude (36% of oil imports), surpassing China. U.S. (Trump) threat of 100% "secondary tariffs" on buyers of Russian crude poses a risk. Lack of Diversification in Goods Exports: Exports excluding petroleum and gems/jewellery showed little to no growth. Reliance on refined petroleum creates vulnerability.

Strategic Implications & Challenges: Urgency to Diversify Fuel Sources: Geopolitical risks (e.g., Russia sanctions) make it vital to shift towards renewables and electrified transport. Need to Broaden Goods Export Base: Focus on labour-intensive MSME sector, which accounts for 46% of total goods exports. U.S. Trade Relationship Crucial: U.S. accounts for 17.7% of India's total exports (largest single-country destination). India is racing against time to finalize a 'mini deal' as part of a Bilateral Trade Agreement, with only a few rounds of negotiations left before the autumn deadline.

The Hindu

"Reinforced One-Front War"

Overview: Indian strategists are increasingly concerned about the deepening China-Pakistan security ties. A new concern is the idea of a "reinforced one-front war" where India might face a combined China-Pakistan military challenge.

What is a "Reinforced One Front War"?

Refers to a hypothetical scenario where: China and Pakistan coordinate militarily against India. China enables Pakistan with technology, intelligence, and even personnel. India is forced to fight a unified threat on one major front.

Extent of China-Pakistan Military Partnership: China is Pakistan's largest arms supplier, providing: Drones, missiles, naval assets. BeiDou satellite system for navigation and missile targeting. China offers diplomatic shielding, such as: Blocking UN sanctions. Supporting Pakistan in international forums. Reports of intelligence sharing and monitoring of Chinese weapons used by Pakistan. Why "One-Front War" May Be Overstated: Arms transfers ≠ operational integration. India also buys weapons from Russia, France, Israel, and the US. Arms sales don't imply joint war planning. Monitoring weapons performance is normal supplier behavior, not alliance activity. No evidence of: Joint command structures. Unified war doctrine between China and Pakistan. China-Pakistan military drills lack the scale and integration of NATO or U.S.-South Korea exercises.

China and Pakistan Have Diverging Strategic Interests: Pakistan sees India as an existential threat. China views India as a regional competitor, not an enemy. China's focus is primarily on the United States. It prefers an India that is cautious and distracted, not engaged in open conflict. China is risk-averse regarding escalation on India's western border. Implications for India: The China-Pakistan partnership increases the complexity of India's threat environment. Requires India to: Enhance preparedness. Invest in sophisticated

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countermeasures. But overemphasizing a “unified front” can lead to: Over-investment in rigid military doctrines. Diplomatic rigidity and lost opportunities for engagement with China. Risk of self-fulfilling prophecy —treating worst-case as inevitable

Strategic Recommendations for India: Maintain strategic clarity, avoid oversimplification. Recognize China’s interest in avoiding escalation. Leverage diplomatic channels with China to prevent collusion. Avoid reacting to every China Pakistan development with maximalist defence postures. Treat the relationship as a complex asymmetric challenge, not a formal alliance. Conclusion: The China-Pakistan nexus is serious but not an integrated war front. India needs to be vigilant, but also realistic in assessing threats. Balanced strategic thinking, not alarmism, is key to safeguarding national interests.

The Hindu

U.S. Dollar’s Decline in 2025

Worst Start for the Dollar: In the first half of 2025, the U.S. dollar had its worst performance ever in the era of floating exchange rates. Traditional Drivers Failed: Usual reasons that affect the dollar’s strength, like interest rate differences, safe haven demand, or stock/commodity trends, didn’t work as expected. Reasons for the Fall: Uncertainty in U.S. policies under President Donald Trump. Stronger economic performance in foreign markets after years of U.S. dominance. Trump administration’s intentional push to weaken the dollar to improve trade balance and boost U.S. manufacturing.

1. Extreme Market Sentiment: Anti-Bubble? Investor Sentiment Has Flipped: According to a Bank of America survey, “shorting the U.S. dollar” (betting against it) is now the most crowded trade for the first time in a decade. Investors are more heavily invested in the euro than at any time in the past 20 years. Anti-Bubble Formation: HSBC’s strategist Paul Mackel warns of an “anti-bubble” – meaning the market may be too negative on the dollar, just as it was once overly positive. Irrational Bias: Even though some negative factors (like tax proposals for foreign investors) were removed, negative sentiment remained showing that traders may be ignoring facts and stuck in a negative mindset.

The Hindu