

## Mains Master

### West Asia on edge amid fears of Iran's hit

#### Tensions Escalate in West Asia: Iran-Israel Conflict

##### Context

- West Asia remained on high alert on Friday, April 13, 2024
- Fears of an imminent Iranian attack on Israel in retaliation for the April 1 airstrike on Iran's consular annex in Damascus, Syria

##### Background

- The airstrike on Iran's consular annex in Damascus resulted in the assassination of:
  - Mohammad Reza Zahedi, a high-ranking commander of the Quds Force
- The elite wing of Iran's Islamic Revolutionary Guard Corps (IRGC)
- Iran and Syria blamed Israel for the strike
- Israel has neither confirmed nor denied its role in the attack
- According to Michael Ronen, head of South and Southeast Asia Division at Israel's Ministry of Foreign Affairs: "They say Israel carried out the strike. Well, I don't know. What I can say is that Israel is ready for any response from Iran."

##### Iran's Retaliation Vows

"The question is not if but when. The Supreme Leader, the government, and senior military leaders have all warned that a response is coming. Iran cannot back off this time." - Strategic analyst based in Tehran with close links to the regime

- Iran's Supreme Leader Ayatollah Ali Khamenei vowed to punish the "evil regime" of Israel
- Reports suggest Iran is considering different options for retaliation:
  - Direct strikes using drones and missiles on Israel from Iran
  - Attacking Israeli assets in the region, either directly or through proxies like Hamas, Hezbollah, and Islamic Jihad
  - Israeli leaders have warned they will strike inside Iran if the origin of the attack is Iran

##### Historical Perspective

The Iran-Israel conflict has deep historical roots, stemming from:

- Ideological differences
- Israel's secular democracy vs. Iran's Islamic Republic
- Differing visions for the Middle East
- Regional power struggles
- Competing for influence and dominance in the region
- Proxy conflicts in countries like Syria, Lebanon, and Yemen
- The Israeli-Palestinian conflict
- Iran's support for Palestinian militant groups like Hamas and Islamic Jihad
- Israel's occupation of Palestinian territories

##### Both countries have:

- Engaged in proxy wars across the region
- Accused each other of supporting terrorist organizations and destabilizing the region

##### Regional Implications :

Israel has frozen leaves for combat units, ensuring troop readiness and high alert status - defensive moves that risk destabilizing the volatile region further. Potential involvement of Iran-backed groups like Hezbollah, Hamas, and Houthis, along with disruptions to trade and travel, loom.

To bolster defenses, Israel has drafted reservists and strengthened air defense systems. However, these preparations increase the risk of an all-out Iran-Israel war, with civilian casualties and infrastructure damage.

Scrambling GPS systems aims to confuse incoming Iranian weapons but could test regional alliances, leading to a wider conflict. Intervention by global powers like the U.S. and Russia is also a possibility in an escalated scenario.

The consequences of miscalculation are severe, with catastrophic implications for the entire region. Diplomatic efforts are crucial to prevent a military confrontation that could spiral out of control.

##### United States' Role

- Close ally of Israel
- Expressed concerns about the security situation
- Advised its citizens in Israel to avoid certain areas
- Could be drawn into the conflict if it escalates further

- Potential military support for Israel
- Diplomatic efforts to de-escalate tensions

##### Critical Outlook

- The ongoing conflict poses a significant threat to regional stability

- Far-reaching consequences for the broader Middle East
- Both sides have shown willingness to engage in direct and proxy conflicts

Diplomatic efforts crucial to de-escalate tensions and find a peaceful resolution

- Involvement of international mediators
- Reviving nuclear deal negotiations with Iran
- Addressing underlying issues like the Israeli-Palestinian conflict

##### Conclusion

The situation in West Asia remains tense, with the potential for further escalation between Iran and Israel. The international community must prioritize diplomatic efforts to prevent a broader conflict that could destabilize the entire region and have global implications. A military confrontation could lead to civilian casualties, economic disruption, and the involvement of other regional and global powers, exacerbating an already volatile situation.

### Risky premise

**Context:** India faces a crucial decision on how best to stimulate its economy. Should the focus be on simplifying trade rules to drive exports, or are other strategies more viable in light of the Asian Development Bank's (ADB) findings?

**Background:** The ADB has upgraded India's GDP growth forecast for the fiscal year ending in March 2025 to 7%. It further projects a 7.2% growth in the following year. This optimism stems from robust public/private investment and the anticipated rebound in consumer demand.

##### ADB Findings:

- Optimistic Outlook:** The ADB's growth projections are noteworthy, especially compared to the National Statistical Office's 7.6% estimate for the previous fiscal year.
- Challenges:** Several risks could derail this trajectory:
  - Global economic volatility (rising oil prices, high Western interest rates).
  - India's heightened sensitivity to Western interest rate fluctuations.
  - Domestic concerns about stretched household savings.
  - The gap between project announcements and completions in the private sector.
  - Missing commentary from the ADB on data integrity controversies surrounding India's GDP reporting.
- Need for Reforms:** The ADB highlights an absence of substantial structural reforms in India, a trend particularly notable since the COVID-19 pandemic. This lack of reforms casts some doubt on the sustainability of the strong growth numbers.

**Way Forward:** The ADB offers key recommendations to bolster India's economic future:

- Special Economic Zones (SEZs):** Establishing SEZs with simplified policies could significantly boost exports.
- Global Supply Chains:** Deeper integration into global supply chains and enhancing India's logistics infrastructure would mitigate disruptions and protect trade.

**The Bigger Picture:** The ADB's report underscores India's unique position. It has achieved solid economic growth even without major recent reforms. The key question now is whether India can sustain or even accelerate this growth, and if simplifying trade regulations is the most viable path in a volatile global landscape.



### How a new platform will instantly disburse subsidies to farmers

#### CDP-SURAKSHA: A Game-Changer for Farmers

##### What it Means:

- System for Unified Resource Allocation: Knowledge, Assistance & Horticulture Assistance
- Instant subsidy disbursement to farmers under Cluster Development Programme (CDP)

##### Key Objectives:

- Promote horticulture crops
- Leverage geographical specialization of horticulture clusters
- Develop integrated value chains

##### How it Works:

- Farmer logs on to platform using mobile number
- Places an order for planting materials
- Demand raised by farmer
- System-generated amount automatically credited to farmer

##### Platform Features:

- Integration with PM-Kisan scheme database
- Cloud-based server space from NIC
- Content Management System
- Geotagging for tracking and monitoring

##### Benefits for Farmers:

- Easy access to subsidies
- Simplified ordering process
- Faster payment delivery
- Verification of delivery

##### Horticulture Sector Significance:

- Substantial contribution to Indian economy
- Nearly 1/3rd of agriculture gross value added (GVA)

##### CDP: Empowering Horticulture

- Component of central sector scheme of NHB
- Aims to leverage geographical specialization and promote integrated value chains
- Budget allocation of Rs 550 crore for medium clusters (5,000 to 15,000 hectares)
- Rs 100 crore for mega clusters (above 15,000 hectares)

#### Goldilocks Zone: The Cosmic Sweet Spot for Life

##### Definition:

- The Goldilocks Zone, also known as the Habitable Zone, is the perfect distance from a star where conditions are just right for liquid water to exist on a planet's surface
- Not too hot, not too cold, but just right for life to potentially thrive

##### Factors Affecting the Goldilocks Zone:

- Star's Size and Temperature
  - Larger, hotter stars have a Goldilocks Zone farther away
  - Smaller, cooler stars have a Goldilocks Zone closer in
- Planet's Atmosphere
  - Greenhouse gases can trap heat, extending the Goldilocks Zone
  - Lack of atmosphere can make a planet too cold for liquid water

##### Goldilocks Zone in Our Solar System:

- Earth: Our Perfect Home
  - Earth sits comfortably within the Sun's Goldilocks Zone
  - Liquid water, moderate temperatures, and a suitable atmosphere
- Mars: On the Edge
  - Mars lies on the outer edge of the Sun's Goldilocks Zone
  - May have had liquid water in the past, but now has a thin atmosphere
- Venus: Too Close for Comfort
  - Venus is too close to the Sun and has a thick, toxic atmosphere
  - Extreme temperatures and pressure make it uninhabitable

##### Discovering Goldilocks Zones Beyond Our Solar System:

- Exoplanet Exploration
  - Scientists search for planets in the Goldilocks Zones of other stars
  - Techniques include the transit method and direct imaging
- Promising Candidates
  - Kepler-186f: Earth-sized planet in the Goldilocks Zone of a red dwarf star
  - TRAPPIST-1 System: Seven Earth-sized planets, three in the Goldilocks Zone

##### Implications for Life in the Universe:

- The Goldilocks Zone is a crucial factor in the search for extraterrestrial life
- Planets within this zone have the potential to support liquid water and possibly life as we know it
- However, being in the Goldilocks Zone does not guarantee the presence of life
- Other factors, such as a planet's composition and history, also play a role

##### The Search Continues:

- As we continue to explore the universe, the hunt for planets in Goldilocks Zones remains a top priority
- Each discovery brings us closer to answering the age-old question: Are we alone in the universe?

## Disinflation

#### Disinflation: Understanding the Economic Phenomenon

##### Definition:

- Disinflation refers to a decrease in the rate of inflation over time
- Prices continue to rise, but at a slower pace compared to previous periods

##### Measuring Disinflation:

- Inflation Rate:** The percentage change in the price of goods and services over a given period
- A declining trend in the inflation rate indicates disinflation

- Consumer Price Index (CPI):** A measure of the average change in prices paid by consumers for a basket of goods and services
- A slowdown in CPI growth suggests disinflation

##### Causes of Disinflation:

- Monetary Policy:** Central banks raising interest rates to control inflation
- Economic Slowdown:** Reduced consumer spending and business investment
- Technological Advancements:** Improved productivity and efficiency, leading to lower production costs
- Globalization:** Increased competition and access to cheaper goods and services from abroad

##### Real-World Examples:

- United States
  - Disinflation during the Great Recession (2007-2009)
  - Inflation rate decreased from 4.1% in 2007 to 0.1% in 2008
- Japan
  - Prolonged period of disinflation since the 1990s
  - Inflation rate consistently below the central bank's 2% target

##### Impact on the Economy:

- Consumers: Lower inflation rates mean better purchasing power and more stable prices
- Businesses: Reduced pressure to raise prices, but potentially lower profits
- Investors: Lower interest rates may lead to increased borrowing and investment
- Government: Challenges in managing economic growth and maintaining price stability

##### Risks and Concerns:

- Deflation:** If disinflation persists and turns into deflation (negative inflation), it can lead to economic stagnation
- Liquidity Trap:** When interest rates are close to zero, monetary policy may become less effective in stimulating the economy
- Economic Uncertainty:** Prolonged periods of disinflation can create uncertainty and hinder economic growth

## Volcanic Vortex Rings

#### Volcanic Vortex Rings

The Fascinating Phenomenon at Mount Etna, Sicily

##### About Mount Etna:

- Largest active volcano in Europe
- Among the world's most active and iconic volcanoes
- Sending up almost perfect rings of smoke into the air

##### Etna's Eruptive History:

- Can be traced back 500,000 years
- At least 60 flank eruptions and many summit eruptions in recent years
- Summit eruptions occurred in 2006, 2007-08, on two occasions in 2012, in 2018, and 2021
- Flank eruptions have taken place in 2001, 2002-03, 2004-05, and 2008-09

##### How Volcanic Vortex Rings Form:

- Generated when gas, predominantly water vapour, is released rapidly through a vent in the crater
- The vent has opened up in Etna's crater is almost perfectly circular
- Circular shape allows rings to maintain form for up to 10 minutes

##### Scientific Findings:

- Paper published in February 2023 noted the phenomenon was first observed at Etna and Vesuvius in Italy in 1724, and has been documented in an engraved plate from 1755
- More recent times, rings have been observed at several other spots, including Redoubt in Alaska, Tungurahua in Ecuador, etc.

##### Etna's Latest Activity:

- On April 2, 2024, a small mouth opened on the northeastern edge of the Southeast Crater, producing gusts of incandescent gas
- Activity does not, however, mean Etna is going to erupt in a particularly spectacular way
- The activity from the new vent was slowing down, according to volcanologist Simona Scillo

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