PrepAlpine

The Next-Generation UPSC Institution

Where Research Meets Mentorship & Precision

Preparation Meets Precision

A Next-Generation Learning Institution

Copyright © 2025 PrepAlpine

All Rights Reserved

No part of this publication may be reproduced, distributed, or transmitted in any form or by any means—whether photocopying, recording, or other electronic or mechanical methods—without the prior written permission of the publisher, except in the case of brief quotations embodied in critical reviews and certain non-commercial uses permitted by copyright law.

For permission requests, please write to:

PrepAlpine

Email: PrepAlpine2025@gmail.com

Website: PrepAlpine.com

Disclaimer

The information contained in this book has been prepared solely for educational purposes. While every effort has been made to ensure accuracy, PrepAlpine makes no representations or warranties of any kind and accepts no liability for any errors or omissions. The use of any content is solely at the reader's discretion and risk.

First Edition: November 2025

Printed and published by PrepAlpine

PrepAlpine

PrepAlpine — Where Research-Grade Content Meets Mentorship, and AI Makes It Personal

PrepAlpine is India's next-generation UPSC institution — built by educationists, retired bureaucrats, IITians, and experienced educators, and powered by a 500+-member technology firm specialising in AI-driven education infrastructure.

We're not another coaching platform — we're a complete preparation ecosystem that unites:

- **Research-Grade Content:**
Every content is crafted and reviewed by civil servants, educators, and scholars, and follows UPSC's Intro–Body–Conclusion format. Content is built from official reports, verified data, and visual pedagogy — flowcharts, frameworks, maps, and comparative tables.

- **Two-Tier Mentorship:**
Interview-qualified mentors and Subject-Matter Experts provide structured strategy, accountability, doubt-solving, and exam-aligned depth — bridging the gap between preparation and performance.

- **AI Precision Engine:**
Developed with our 500+-member AI & EdTech partner firm, the PrepAlpine AI system integrates Retrieval-Augmented Generation (RAG), adaptive MCQ engines, AI-based answer evaluation, and intelligent revision tracking. It continuously identifies each learner's strengths, weaknesses, and learning patterns — ensuring preparation evolves dynamically with every step.

This fusion of research-grade content + expert mentorship + enterprise-grade AI technology has created a credible, scalable, and aspirant-first platform.

Every PrepAlpine module is built not just to inform, but to transform — converting effort into precision and hard work into predictable progress.

We're reimagining UPSC preparation as a research-led, mentor-guided, AI-personalised journey that adapts to every aspirant.

PrepAlpine — From Aspirant to Authority. Lead the State, Not the Struggle.

PrepAlpine

DAILY CURRENT AFFAIRS DATED 10.11.2025

GS Paper II: International Relations

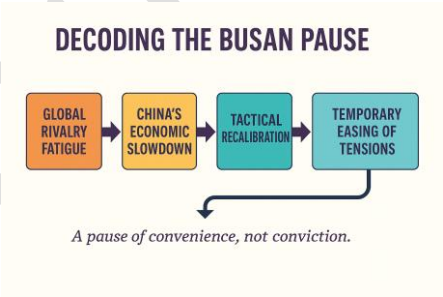
1. India And the Trump–XI "Busan Pause": Understanding Its Implications for New Delhi

a. Introduction

At the APEC Summit in Busan, South Korea (October 2025), a brief meeting between US President Donald Trump and Chinese President Xi Jinping marked what analysts have called the "Busan Pause"—a short but significant period of reduced tension between the two rival powers.

While the dialogue produced no major breakthrough, it symbolised a temporary cooling of great-power hostility. For India, positioned at the heart of Asia's shifting geopolitical landscape, this pause provides an opportunity to observe, consolidate, and recalibrate its diplomatic posture. In an era shaped by economic rivalry and strategic fluidity, moments of calm can often carry as much weight as moments of conflict.

b. Background: The US–China Rivalry



The rivalry between Washington and Beijing has dominated global politics for over a decade.

i. Core Dimensions of the Rivalry

1. The United States views China's rise as a direct challenge to its global leadership, particularly in areas of technology, trade, and the Indo-Pacific.
2. China, in turn, aspires to become a counterweight to Western dominance, expanding its influence through the Belt and Road Initiative (BRI), assertive diplomacy, and rapid military modernisation.
3. Major flashpoints—trade wars, technology export bans, and Taiwan tensions—have deepened mutual distrust.
4. For India, these global tensions intersect with its own security concerns. Episodes like the Doklam standoff (2017) and Galwan clashes (2020) underscore China's assertiveness along the border.

ii. China's Domestic Headwinds

Facing economic slowdown, youth unemployment, and a property market crisis, Beijing appears to be opting for a temporary recalibration—not withdrawal, but tactical adjustment.

c. What the "Busan Pause" Represents

The Busan encounter was more symbolic than substantive—a gesture of restraint, not reconciliation.

i. Nature of the Pause

1. China made modest gestures such as easing restrictions on rare-earth exports and signalling trade openness.
2. Sensitive issues—Taiwan, the South China Sea, and US technology sanctions—were consciously left untouched.
3. This selective engagement implies that China's motive was to buy time, stabilising its economy and diplomatic space.

ii. Underlying Message

The "pause" reflects a tactical manoeuvre, not a strategic shift—an interlude for regrouping rather than a retreat from confrontation.

PrepAhead

d. China's Current Strategy: A Tactical Recalibration

Analysts interpret China's conduct through three possible strategic lenses:

i. Strategic Pause
A deliberate attempt to lower tensions, rebuild partnerships, and stabilise domestic conditions before resuming assertive actions—mirroring Deng Xiaoping's dictum, *"hide your strength, bide your time."*

ii. Strategic Drift

A phase of internal uncertainty and mixed signals, with incomplete reforms and policy ambiguity generating confusion at home and abroad.

iii. Quiet Adaptation

A pragmatic recalibration, involving selective cooperation in trade and technology to sustain growth without direct confrontation with the West.

Whatever the variant, the essential message remains: China is regrouping, not retreating.

e. Implications for India

The Busan Pause offers India both strategic breathing space and potential risks.

i. Opportunities

1. Strategic Breathing Space: A temporary easing of great-power tensions allows India to modernise its military, secure borders, and attract foreign investment.
2. Scope for Balanced Diplomacy: India can deepen multi-alignment, engaging both Western and non-Western groupings such as the Quad, BRICS, and ASEAN.
3. Economic Openings: With global firms diversifying from China, India can position itself as a manufacturing and supply-chain alternative, accelerating *Make in India*.

ii. Challenges

1. Uncertain Duration: China's pauses have historically been short; assertiveness may return once domestic pressures ease.
2. Regional Influence Games: Beijing may intensify soft-power diplomacy in South and Southeast Asia to undermine India's influence.
3. Volatile US Policy: President Trump's personalised diplomacy underlines India's need to engage US institutions—Congress, the Pentagon, and industry—rather than depend solely on individuals.

f. India's Diplomatic Response

India's approach should blend strategic steadiness with pragmatic flexibility.

i. Engage the Wider US System

Deepen cooperation with American defence, technology, and trade institutions, ensuring continuity beyond presidential politics.

ii. Maintain Quiet Strength

Reinforce border infrastructure and deterrence capabilities without public provocation or escalation.

iii. Selective Cooperation

Collaborate with the US and allies on defence production, digital infrastructure, critical minerals, and resilient supply chains, while avoiding bloc alignment.

iv. Balance, Not Bandwagon

Preserve strategic autonomy, ensuring India is not perceived merely as Washington's "China card."

PrepAlpine

v. Practise Diplomatic Restraint

Refrain from celebrating China's internal troubles; measured diplomacy enhances India's image as a responsible regional power.

g. Way Forward

To leverage this interlude effectively, India should pursue a forward-looking agenda built on endurance and reform.

i. Strategic Patience

Use this window to strengthen defence, technology, and manufacturing capacity, reducing dependency on volatile global trends.

ii. Sustained Dialogue

Maintain communication channels with both Washington and Beijing to preserve flexibility amid uncertainty.

iii. Regional Leadership

Work closely with ASEAN, Japan, and Australia to shape a multipolar Indo-Pacific that ensures balance and stability.

iv. Economic Reform Momentum

Simplify regulations and improve logistics to attract industries relocating from China.

v. Subtle Signalling

Project a tone of quiet confidence—firm on sovereignty, open in dialogue, and credible in execution.

Conclusion

The Trump–Xi meeting in Busan marks a pause, not peace—a momentary thaw in rivalry as both powers recalibrate amid domestic and global challenges. For India, this interlude offers a rare and valuable opportunity to fortify its economy, enhance strategic autonomy, and refine global partnerships.

In geopolitics, pauses are seldom permanent—they are intermissions before the next act. New Delhi's task is to utilise this time wisely: to build strength quietly, maintain balance confidently, and act decisively when the next phase begins.

"Strategic pauses test not who shouts the loudest, but who prepares the best for what comes next."

GS Paper III: Environment

2. Indoor Air Quality (IAQ): The Invisible Half of India's Air Pollution Crisis

a. Introduction

When air pollution is discussed, attention typically turns to outdoor smog, vehicle emissions, and industrial smoke. Yet the air within our homes, offices, schools, and hospitals—where people spend nearly ninety percent of their daily lives—can be two to five times more polluted than the air outside.

This less visible but equally serious threat is known as Indoor Air Pollution. It has emerged as a major public health challenge in India, where urbanisation, poor ventilation, and unregulated construction materials combine to create hazardous living environments.

PrepAlpine

b. Understanding Indoor Air Pollution

Indoor Air Pollution refers to the accumulation of harmful substances within enclosed or semi-enclosed spaces. Unlike outdoor pollution, which is often linked to vehicles and factories, indoor pollution arises from everyday sources—cooking smoke, paints, cleaning products, and even the furniture we use.

Common Indoor Pollutants

i. **Particulate Matter ($PM_{2.5}$ and PM_{10}):** Emitted from cooking, dust, and construction residues.
ii. **Carbon Monoxide (CO):** Produced by gas stoves, heaters, and poorly ventilated combustion.
iii. **Volatile Organic Compounds (VOCs):** Released by paints, cleaning agents, glues, and air fresheners.
iv. **Benzene and Formaldehyde:** Toxic chemicals associated with long-term health risks, including cancer.

c. Why Indoor Air Quality Matters

i. Continuous Exposure
Since most people spend the majority of their time indoors, exposure to pollutants is constant and cumulative, even if unnoticed.

ii. Health Impacts
Poor indoor air quality is linked to:
1. Headaches, fatigue, and irritation—collectively termed Sick Building Syndrome.
2. Chronic respiratory diseases such as asthma and COPD (Chronic Obstructive Pulmonary Disease).
3. Long-term risks including cardiovascular diseases and certain cancers.
4. Greater vulnerability among women, children, and the elderly, especially in biomass-using households.

iii. Invisible Hazard
Unlike outdoor pollution, which can be seen and measured through Air Quality Index (AQI) reports, indoor air remains largely unmonitored, making it both silent and neglected.

d. India's First Indoor Air Quality (IAQ) Scale

In a pioneering step, researchers at BITS Pilani, Hyderabad, have created India's first comprehensive Indoor Air Quality Scale—a sensor-based system that measures multiple pollutants simultaneously.

Key Features

i. A simplified index format, comparable to the outdoor AQI, to help people interpret indoor safety levels.
ii. A machine learning model calibrated to Indian conditions such as climate, income, and housing types.
iii. The ability to provide real-time alerts, allowing households and institutions to take preventive measures.

This innovation transforms indoor air from an invisible concern into a measurable environmental parameter, paving the way for evidence-based policy intervention.

e. Why India Needs an IAQ Framework

- Absence of Standards – India's regulations cover only outdoor environments; there are no official limits for indoor pollutants.

Prepalpine

- Changing Urban Architecture – Modern sealed buildings restrict airflow and trap emissions from appliances and materials.
- Health and Economic Burden – Indoor pollution contributes to rising cases of asthma, heart disease, and healthcare costs.
- Policy Oversight – The National Clean Air Programme (NCAP) focuses exclusively on outdoor emissions, leaving indoor spaces unregulated.

f. Global Practices and Lessons for India

i. United States

The Environmental Protection Agency (EPA) runs the Indoor Air Quality Tools for Schools programme to safeguard children's health.

ii. European Union

Sets emission limits for building materials, paints, and adhesives to control indoor pollutants at the source.

iii. United Kingdom

Includes indoor air monitoring within public health standards.

These global practices show that indoor air quality is now seen internationally as a public health responsibility, not merely a personal concern.

g. Integrating Indoor Air into Policy and Planning

To address this neglected dimension of pollution, India should adopt a comprehensive strategy combining standards, awareness, and innovation.

i. Inclusion in National Building Code
Mandate minimum ventilation and the use of low-emission materials in all new constructions.

ii. Integration with NCAP
Expand the National Clean Air Programme (NCAP) to include indoor air quality monitoring and mitigation mechanisms.

iii. Promotion of Green Materials
Encourage low-VOC paints, natural materials, and certified eco-friendly products.

iv. Ventilation and Natural Design

Redesign buildings to enhance airflow and daylight, reducing dependence on air-conditioning systems.

v. Awareness and Education

Launch mass campaigns to inform citizens about indoor air hazards and healthy ventilation habits.

vi. Support for Innovation

Provide incentives under *Make in India* and *Digital India* to promote affordable IAQ sensors and monitoring devices.

Conclusion

Indoor air pollution represents the unseen half of India's pollution crisis. While smog-covered skylines and vehicular emissions capture media and policy attention, the pollutants circulating inside homes, schools, and offices may cause deeper and more chronic harm.

PrepAlpine

The creation of India's first Indoor Air Quality Scale is a landmark step, yet meaningful change will depend on integrating IAQ into national housing, health, and environmental policy frameworks.

Improving indoor air quality is not merely a matter of comfort—it is fundamental to achieving:

- SDG 3: Good Health and Well-being
- SDG 11: Sustainable Cities and Communities

"The air that sustains life indoors should never become the air that silently harms it."

GS Paper III: Environment

3. Measures Taken by the Commission for Air Quality Management (CAQM) To Control Pollution in NCR

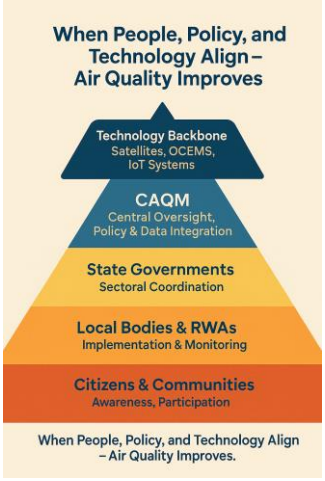
a. Introduction

The Commission for Air Quality Management (CAQM) serves as the apex coordinating authority for tackling air pollution across Delhi and the adjoining National Capital Region (NCR). For years, the region has faced severe and recurring pollution episodes, particularly during the winter months when stagnant winds and crop residue burning aggravate smog levels.

In 2025, however, CAQM's proactive, data-driven, and technology-led interventions produced measurable progress. Delhi's average Air Quality Index (AQI) between January and November declined from 189 in 2024 to 175 in 2025—a modest yet significant step toward cleaner air.

This progress signifies a shift from reactive crisis management to a framework of preventive, evidence-based environmental governance.

b. Understanding the Sources of Pollution



Air pollution in NCR arises from a combination of agricultural, industrial, transport, and construction-related activities, compounded by meteorological factors.

Key Contributors

i. **Stubble burning** in Punjab and Haryana during the post-harvest season.
ii. **Vehicular emissions** from Delhi's dense traffic networks.
iii. **Industrial pollution** from thermal plants, factories, and brick kilns.
iv. **Construction dust** generated by urban expansion.
v. **Open burning of waste** in urban and peri-urban settlements.

CAQM's core challenge is to synchronize actions across multiple states and agencies, ensuring a unified strategy for sustainable air quality improvement.

c. Major Proactive Measures by CAQM

i. Controlling Stubble Burning

Crop residue burning is among the most visible and damaging sources of NCR's winter smog. In 2025, Punjab achieved a 35% reduction and Haryana a 65% reduction in farm fires compared with 2024. This progress resulted from:

PrepAlpine

1. State coordination and accountability through district-level control rooms.
2. Village-level monitoring using satellite imagery and remote-sensing data.
3. Incentives for residue management, including support for bio-CNG and pelletisation projects.

These interventions marked a move toward sustainable agricultural practices while curbing seasonal air quality collapse.

ii. Solid Waste and Landfill Management

1. Over 23 lakh tonnes of legacy waste cleared through bio-mining.
2. New waste-to-energy (7,000 tonnes/day) and bio-CNG (750 tonnes/day) plants under construction.
3. CCTV cameras and methane detectors installed to prevent landfill fires.

These efforts curtailed the frequent landfill infernos that previously released large volumes of methane and toxic particulate matter into the air.

iii. Cleaner Transport Network

1. All intercity buses entering Delhi now operate on CNG, electric, or BS-VI diesel.
2. Entry of BS-III and older commercial vehicles has been banned.
3. From January 2026, only CNG or electric three-wheelers will operate in shared and delivery fleets.

Vehicular pollution—responsible for nearly 40% of PM2.5 during peak months—is thus being systematically reduced through cleaner fuels and tighter regulation.

iv. Industrial Emission Controls

1. Piped Natural Gas (PNG) coverage expanded to 224 of 240 industrial areas in NCR.
2. Over 96% of industries now use cleaner fuels.
3. Online Continuous Emission Monitoring Systems (OCEMS) installed for real-time tracking.
4. 1,500+ non-compliant units shut down after inspection.

This transition from manual checks to digital enforcement ensures that industrial growth aligns with environmental accountability.

v. Dust Management at Construction Sites

1. All sites above 500 sq. metres must register online and follow dust-control norms.
2. Measures include anti-smog guns, dust barriers, water sprinkling, and debris covering.
3. Over 6,000 sites registered and 30,000 inspections conducted in 2025.

Construction-related dust—a major PM10 contributor—has seen visible reduction, improving local air quality in several urban sectors.

vi. Greening and Urban Afforestation

1. 4.37 crore saplings planted till September 2025, including Miyawaki forests and green buffers along highways.
2. Treated wastewater utilised for irrigation to conserve freshwater.
3. Schools, RWAs, and civic bodies engaged in plantation and awareness campaigns.

These measures transform grey urban spaces into natural air filters, enriching biodiversity and absorbing carbon dioxide.

vii. Implementation of the Graded Response Action Plan (GRAP)

The GRAP functions as an emergency protocol activated based on AQI thresholds.

1. Stage I (Moderate) and Stage II (Poor) enforced from October 2025.
2. Road cleaning, water sprinkling, and DG set bans implemented in non-essential sectors.
3. Anti-smog guns and mechanised sweepers deployed using IMD forecasts for targeted operations.

This ensures a data-led, time-bound escalation mechanism rather than ad hoc responses.

d. Results Achieved in 2025

PrepAlpine

Parameter	2024	2025	Change
Average AQI (Jan–Nov)	189	175	↓ 7.4%
PM2.5 Concentration	87 µg/m³	75 µg/m³	↓ 13.8%
PM10 Concentration	191 µg/m³	170 µg/m³	↓ 11%
Farm Fires – Punjab	6,266	4,062	↓ 35%
Farm Fires – Haryana	959	333	↓ 65%

The results reflect multi-agency coordination and science-based enforcement, moving Delhi-NCR closer to sustainable air management.

e. Why These Measures Are Significant

i. Structural Transformation

Policies now focus on root causes—not temporary bans—shifting from reactive control to proactive prevention.

ii. Multi-Sectoral Integration

Agriculture, transport, waste, and industry are addressed simultaneously, ensuring synergistic impact.

iii. Technological Enforcement

Satellite tracking, IoT devices, and OCEMS bring real-time transparency to pollution management.

iv. Citizen Participation

Schools, RWAs, and social campaigns create shared ownership of environmental outcomes, embedding civic responsibility in governance.

f. Challenges That Persist

i. **Seasonal Dependence:** Air quality deteriorates sharply in winter due to weather patterns and residue burning.
ii. **Behavioural Resistance:** Sustained behavioural change among farmers, citizens, and builders remains difficult.
iii. **Institutional Fragmentation:** Multiple jurisdictions cause overlap and delay in policy execution.
iv. **Funding Sustainability:** Long-term monitoring, greening, and enforcement require stable financing mechanisms.

g. Way Forward

i. Integration of CAQM and NCAP

Develop a unified data and enforcement platform for NCR states to enhance accountability.

ii. Expansion of Electric Mobility

Build charging infrastructure, offer fiscal incentives, and promote cleaner public transport.

iii. Support for Farmers' Alternatives

Scale up bioenergy projects and provide direct financial aid for stubble management.

iv. Urban Planning for Clean Air

PrepAlpine

Mandate green buffers, low-emission zones, and dust-free materials in city development plans.

v. Public Engagement and Education

Promote citizen-based monitoring and integrate air quality modules into school curricula to build awareness early.

Conclusion

The year 2025 stands out as a turning point in NCR's fight for clean air—reflecting the success of data-backed enforcement, cleaner fuels, industrial transition, and civic participation. The CAQM has demonstrated that effective governance can transform air quality management from seasonal firefighting to sustained prevention.

Though challenges persist, Delhi-NCR's experience illustrates that measurable progress is achievable when policy, technology, and people act in unison.

"Clean air is not a seasonal aspiration—it must become a year-round right for every citizen."

PrepAlpine

Reader's Note — About This Current Affairs Compilation

Dear Aspirant,

This document is part of the PrepAlpine Current Affairs Series — designed to bring clarity, structure, and precision to your daily UPSC learning.

While every effort has been made to balance depth with brevity, please keep the following in mind:

1. Orientation & Purpose

This compilation is curated primarily from the UPSC Mains perspective — with emphasis on conceptual clarity, analytical depth, and interlinkages across GS papers.

However, the PrepAlpine team is simultaneously developing a dedicated Prelims-focused Current Affairs Series, designed for:

- factual coverage
- data recall
- Prelims-style MCQs
- objective pattern analysis

This Prelims Edition will be released separately as a standalone publication.

2. Content Length

Some sections may feel shorter or longer depending on topic relevance and news density.
To fit your personal preference, you may freely resize or summarize sections using any LLM tool (ChatGPT, Gemini, Claude, etc.) at your convenience.

3. Format Flexibility

The formatting combines:

- paragraphs
- lists
- tables
- visual cues

—all optimised for retention.

If you prefer a specific style (lists → paras, paras → tables, etc.), feel free to convert using any free LLM.

4. Monthly Current Affairs Release

The complete Monthly Current Affairs Module will be released soon, optimized to a compact 100–150 pages — comprehensive yet concise, exam-ready, and revision-efficient.

5. Join the PrepAlpine Discord Community

Be part of India's Smartest UPSC Peer Ecosystem → https://discord.gg/yrcDpXxv

What You'll Experience

- **Peer-to-Peer Discussions**
  Subject-wise channels for GS papers, Ethics, Economics, Polity, Geography, Environment, and Optional subjects.

PrepAlpine

- **Focused Study Circles**
  Deep-dive groups for Optionals (PSIR, Sociology, Geography, Anthropology, etc.) and critical GS themes.

- **Insight Threads**
  Collaborative micro-notes, doubt resolutions, PYQ-linked discussions, and peer-reviewed clarity.

- **Community Sessions**
  Weekly "Open Mic" sharing sessions where learners discuss strategies, mistakes, breakthroughs, and lessons from their UPSC journey.

- **An Evolving Learning Culture**
  A serious, supportive, and intelligent peer environment — no noise, no clutter. Learning grows here through interaction, reflection, and structured peer collaboration.

"From Isolation to Interaction — Learn the UPSC Way, the Smart Way."

6. Suggest Topics for Coverage

If you feel any important theme is missing or under-covered, simply post it in the "Suggestions" channel on our Discord server.

Our content team regularly reviews inputs and includes relevant suggestions in upcoming Monthly Current Affairs Modules.

Beyond daily updates, the PrepAlpine Discord functions as a complete UPSC learning ecosystem — offering free peer mentorship, structured discussions, practice threads, AI-powered micro-learning tools, and a community of serious aspirants working together.

Together, these resources embody the PrepAlpine vision:

Better Content. Smarter Mentorship. Intelligent Preparation.

PrepAlpine

PrepAlpine