Environment & Ecology · GS - III

Assess the limitations of city-centric approaches to air pollution control in addressing the growing air-quality challenges of smaller cities and Himalayan urban settlements.

EXAM YEAR	PAPER	SUBJECT
DAILY PRACTICE 26/11/2026	GS - III	Environment & Ecology

MARKS	WORD LIMIT
15	~250 words

Answer Hint

Urban air pollution, geographical factors, temperature inversion, particulate matter, winter heating, waste management, regional airsheds, NCAP

Model Answer

Air pollution in India is no longer confined to metropolitan centres. Smaller cities and Himalayan settlements also face deteriorating air quality due to local emissions, geographical conditions and seasonal atmospheric processes.

Why Conventional Approaches Fall Short

1. **Geographical vulnerability:** Valley cities such as Srinagar can experience temperature inversions and limited atmospheric dispersion, allowing pollutants to accumulate near the surface.
2. **Local emission sources:** Vehicular traffic, construction dust, waste burning and household combustion of coal and wood contribute to particulate pollution.
3. **Seasonal variations:** Winter heating requirements increase fuel consumption, while low temperatures and stagnant air aggravate pollution episodes.
4. **Inadequate monitoring:** Smaller urban centres often lack sufficiently dense air-quality monitoring networks and source-apportionment studies.

5. **Fragmented governance:** Municipal bodies, transport authorities and pollution-control agencies frequently operate without adequate coordination.

Limitations of Existing Policy Approaches

The National Clean Air Programme (NCAP) provides a framework for improving urban air quality, but uniform interventions may not address the distinct emission profiles and meteorological conditions of different cities.

A Location-Sensitive Strategy

1. Develop city-specific emission inventories and strengthen continuous air-quality monitoring.
2. Promote cleaner household heating and affordable alternatives to solid fuels.
3. Improve public transport, vehicle-emission enforcement and dust management.
4. Prevent open waste burning through scientific waste collection and processing.
5. Adopt regional airshed-based planning to address pollution beyond municipal boundaries.

Conclusion

Effective air-quality governance requires moving beyond a narrow metropolitan focus. Localised interventions based on geography, emission sources and seasonal conditions are essential for protecting public health across India's diverse urban settlements.

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