

## UPSC Daily Current Affairs| One Liners 17-02-2026

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#### History, Art and Culture

##### Herath (Shivaratri in Kashmir)

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**Festival** - Herath, celebrated by Kashmiri Pandits (displaced and those still in Kashmir).

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**Tradition** - Unique to Kashmir—Pandits prepare mutton and fish dishes.

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**Past Brotherhood** - Hindus gave walnuts to Muslim neighbours; Muslims reciprocated with lotus stems (nadru) on Nowruz, symbolizing shared culture.

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**Current Situation** - Walnut-sharing rare now due to 1990s migration.

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**Celebrations** - Pandits thronged Srinagar temples (Hanuman, Sharika Devi, Sankaracharya).

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**Sentiment** - Nostalgic recollections of harmony shared by elders and on social media.

#### Geography

## **Annual Streamflow**

- **Period** - 1980-2021.

- **Methodology** -

- Used a high-resolution, physics-based hydrological model.

- Factors included - Rainfall, groundwater, river flow, irrigation pumping.

- **Indus Basin Trends**

- **Overall streamflow** - Modest increase (~8% over four decades).

- **Main drivers** - Rising precipitation (Western Disturbances, variable monsoon.)

- **Strongest increases** - Indus, Jhelum, Chenab rivers.

- **Declines** - Ravi and Sutlej (eastern tributaries).

- **Ganga Basin Trends**

- **Streamflow** - Sharp and sustained decline (~17% reduction)

- **Rainfall** - Decreased by ~10%

- **Temperatures & atmospheric water demand** - Increased

- **Dominant factor** - Intensive groundwater pumping for irrigation.

## **Social Issues**

## **Urban Challenge Fund (UCF)**

- Implemented by - Ministry of Home and Urban Affairs.

### **Central Assistance**

- Allocation - Rs.1 lakh crore

### **Funding Model**

- Centrally sponsored scheme.

- Operates in competitive “challenge mode”.

### **Project Cost Coverage**

- Central assistance covers *25% of project costs*.

### **Market Funding**

- Cities must raise at least 50% from the market

- Sources - Municipal bonds, bank loans, PPPs

### **Expected Investment**

- Total projected investment - Rs.4 lakh crore in the urban sector over 5 years.

### **Eligibility**

- Cities with population  $\geq$  10 lakh (2025 estimates).

- All State/UT capitals.

- Major industrial cities with population  $\geq$  1 lakh.

- All ULBs in hilly/NE States and smaller ULBs (<1 lakh population) under Credit Repayment Guarantee Scheme.

### **Operational Period**

- FY 2025-26 to 2030-31.

- Extendable up to 2033-34.

### **Polity & Governance**

## Delhi's Bhu-Aadhaar Scheme

- **Initiative under** - Ministry of Home and Urban Affairs.
- **Implementation** - Revenue Department's IT division with support from Survey of India.
- **Objective** - To create a digital land map of the city.
- **Technology** - Drone surveys and high-resolution imaging.
- **Identification** - Each land parcel gets a 14-digit ULPIN; owners receive a Bhu-Aadhaar card.
- **Benefits** - Safeguards property rights, curbs corruption, prevents disputes, simplifies ownership verification, enables departmental data coordination, and reduces fraudulent transactions.
- **Background** - Part of the Digital India Land Records Modernization Programme (DILRMP), introduced in 2016; pilot completed in Tilangpur Kotla village

## Economy

### 2G bioethanol plant

- It is the *World's 1<sup>st</sup> commercial-scale 2G bioethanol plant* using bamboo as feedstock.
- **Location** - Numaligarh, Assam.
- **Company** - Assam Bio Ethanol Private Limited (ABEPL), a joint venture of Numaligarh Refinery Limited (NRL), Chempolis Oy (Finland), and Fortum.
- **Investment** - Rs.4,930 crore.
- **Feedstock** - Requires 5 lakh metric tonnes of bamboo annually.
- **Output**
  - Produces 49,000 metric tonnes of ethanol annually.
- **By-products** - Furfural, acetic acid, liquid CO<sub>2</sub>, bio-coal.
- **Significance**
  - Made from non-food farm waste/residue.
  - More sustainable with a lower carbon footprint.
  - Ensures food security (unlike 1G ethanol from food crops).

## Environment

## Bio-based Chemicals

- **Definition** - Bio-based chemicals derived from biological feedstocks such as sugarcane, corn, starch, and biomass residues.

- **Processes** - Typically produced through *fermentation or enzymatic methods*.

- **Bio-based enzymes** - Naturally sourced enzymes (from microbes/plants) applied in biofuels, food processing, textiles; e.g., amylases in brewing, cellulases in biofuel production.

- **Examples** - It includes organic acids (e.g., lactic acid), bio-alcohols, solvents, surfactants, and intermediates used in plastics, cosmetics, and pharmaceuticals.

- **Significance** - Both reduce environmental impact, support sustainable industrial processes, and provide alternatives to fossil fuel-based chemicals.

## India's Position in Bio-Based Chemicals and Enzymes

- **Strengths** - Large agricultural base, strong fermentation expertise (pharma, vaccines), expanding manufacturing sector.

- **Policy** - Prioritized under the Department of Biotechnology's BioE3 policy.

- **Key Players (Chemicals)** - Praj Industries, Godrej Industries, Godavari Biorefineries, Jubilant Ingrevia, StringBio.

- **Key Players (Enzymes)** - Novozymes India, DuPont, DSM, Advance Enzyme Technologies.

- **Market** - Enzymes sector is consolidated, with top players holding *over 75% market share*.

## 'Anupam' Decentralized Waste Management Model

- **Anupam means** - "incomparable".
- **Implemented by** - New Delhi Municipal Council (NDMC).
- **Objective** - To decentralize waste management and promote sustainable urban living.

### **Key Features**

- **Source segregation** -Wet, dry, and sanitary waste separated.

- **On-site composting** - Wet & horticultural waste composted in parks/green belts.

- **Dry waste** - Sorted and sent to recyclers.

- **E-waste** - Sent to CPCB-authorized recyclers.

- **Reduced transport** - Wet waste no longer sent to NDMC plants.

- **Community involvement** - Awareness drives, RWA meetings, penalties for mixed waste.

- **Dedicated staff** - Sanitation inspectors and NDMC staff for composting & mechanised cleaning.

### **Pilot Project**

- Successfully implemented in 6 residential colonies, including Chanakyapuri.

## **Science**

## Inhaled Nitric Oxide for Drug-Resistant Pneumonia

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### **Problem**

- Drug-resistant pneumonia is a major ICU complication.

- Particularly severe with *Pseudomonas aeruginosa*.

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**Research Conducted by** - Massachusetts General Hospital and Harvard Medical School.

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**Discovery** - High-dose inhaled nitric oxide (NO) reduced drug-resistant *P. aeruginosa* in a large-animal ICU model.

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### **Nitric Oxide Use**

- Naturally produced in the human body.

- Traditionally used at low doses (20-80 ppm) in neonatal care to widen blood vessels.

- Study tested much higher doses (300 ppm) for antimicrobial activity.

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**Animal Study (Pigs)** - 16 ventilated pigs with *multidrug-resistant P. aeruginosa pneumonia*.

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### **Treated animals showed -**

- 99% lower bacterial counts in lungs.

- Improved oxygenation and lung function.

- Evidence that NO helps restore chemical signalling in infected lungs.

## Epibatidine

*Five European states concluded Alexei Navalny was killed using epibatidine, a rare poison dart frog toxin, directly implicating the Russian state.*



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