

PRAGNYA BHARATHI: Detailed News Analysis (DNA)

Topic : Zoonotic Diseases and Their Prevention in Livestock Management

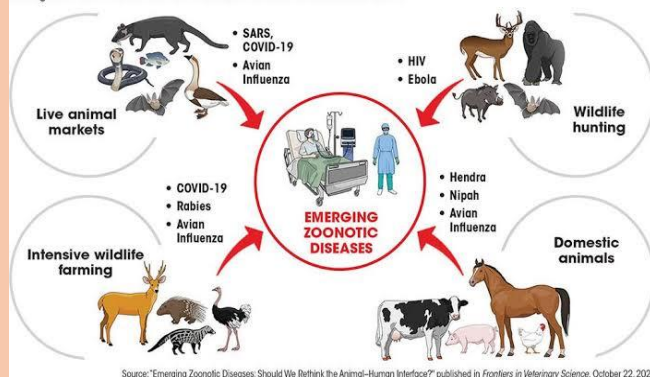
Relevance : GS Paper 3 Science and Technology

Source : Indian Express

Context :

HAZARDOUS INTERFACE

Emergence of zoonotic diseases at various animal-human interface



What are Zoonotic Diseases?

Zoonotic diseases (zoonoses) are infections that can be transmitted from animals to humans. These diseases can be caused by bacteria, viruses, fungi, and parasites. Transmission can occur through direct contact, consumption of contaminated food or water, or through vectors like mosquitoes and ticks.

They pose significant risks to public health, livestock productivity, and the economy. Preventive measures like vaccination, hygiene, biosecurity, and sustainable animal husbandry are essential. The Indian government has launched several initiatives to safeguard livestock health and minimize zoonotic risks. Awareness among farmers, proper training, and strict regulations are key to mitigating the impact of zoonotic diseases.

Common Zoonotic Diseases in India

Brucellosis – A bacterial infection that spreads from livestock to humans through unpasteurized dairy products or direct contact with infected animals.

Rabies – A viral disease spread through the bite of infected animals like dogs, bats, and foxes.

Anthrax – A bacterial disease that spreads through spores present in soil, infecting livestock and humans handling contaminated meat or wool.

Tuberculosis (Bovine TB) – A disease caused by *Mycobacterium bovis*, transmitted through raw milk and close contact with infected cattle.

Leptospirosis – A bacterial disease spread through contaminated water, affecting both animals and humans.

Avian Influenza (Bird Flu) – A highly contagious viral infection in poultry that can spread to humans.

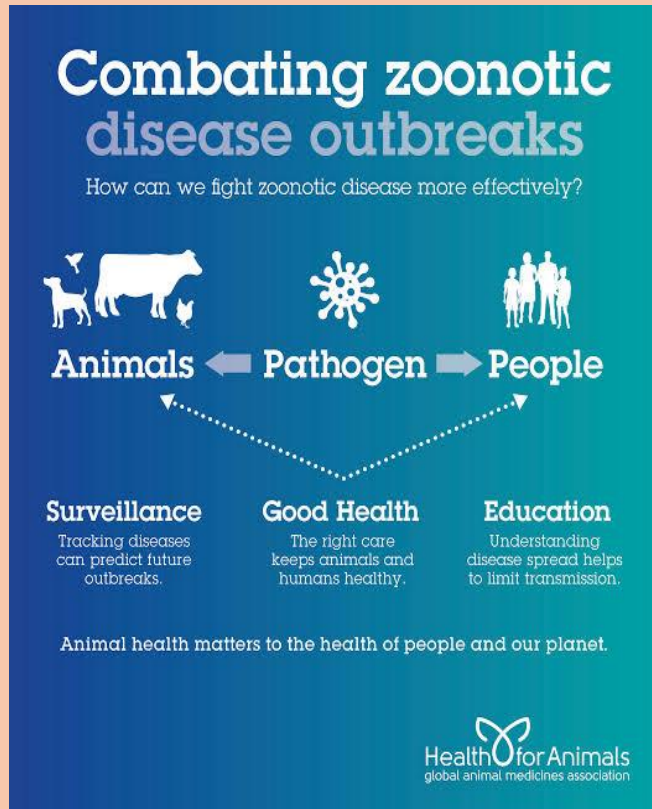
Nipah Virus – A viral disease that spreads from fruit bats to pigs and humans, leading to fatal respiratory and neurological complications.

Swine Flu (H1N1) – A viral disease transmitted from pigs to humans through respiratory droplets.

Q Fever – A bacterial disease caused by *Coxiella burnetii*, spread through inhalation of contaminated dust from livestock farms.

PRAGNYA BHARATHI: Detailed News Analysis (DNA)

Scrub Typhus – A rickettsial disease transmitted to humans through mite bites in rural areas.

**Prevention of Zoonotic Diseases****Good Animal Husbandry Practices**

- Regular vaccination of livestock against common zoonotic diseases like rabies, brucellosis, anthrax, and tuberculosis.
- Proper hygiene and sanitation in animal shelters to prevent bacterial growth.
- Safe disposal of animal waste to reduce contamination risks.

Clean Milk Production

- Boiling or pasteurizing milk before consumption to eliminate pathogens like *Mycobacterium bovis* (tuberculosis).
- Hygienic milking practices, including washing udders and using clean equipment.

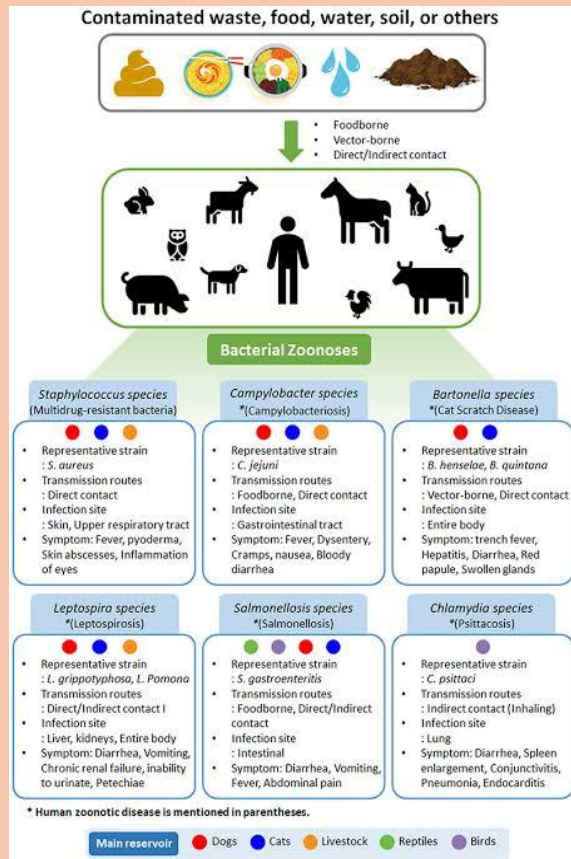
Biosecurity Measures

- Restricting the movement of livestock to prevent disease outbreaks.
- Quarantining newly acquired animals before introducing them to the main herd.
- Using protective gear (gloves, masks, and boots) for livestock handlers.

Safe Meat and Poultry Consumption

- Ensuring meat is properly cooked to eliminate harmful pathogens like *Salmonella* and *E. coli*.
- Avoiding the consumption of raw or undercooked animal products.

PRAGNYA BHARATHI: Detailed News Analysis (DNA)



Government Initiatives in India to Prevent Zoonotic Diseases

National Animal Disease Control Programme (NADCP)

- Aims to eradicate foot-and-mouth disease (FMD) and brucellosis by vaccinating 100% of cattle, buffaloes, sheep, goats, and pigs.

One Health Initiative

- Focuses on integrating human, animal, and environmental health to combat zoonotic diseases.
- Strengthens inter-sectoral coordination between the Ministry of Health and Family Welfare, Ministry of Agriculture, and the Ministry of Environment.

Rashtriya Gokul Mission (RGM)

- Promotes indigenous cattle breeds and improves overall animal health.

Vector Control

- Controlling ticks, fleas, and mosquitoes that act as vectors for diseases.
- Using insecticides and maintaining dry, clean animal housing.

Public Awareness and Education

- Conducting training programs for farmers and livestock handlers on zoonotic disease prevention.
- Encouraging farmers to report unusual livestock illnesses to veterinary authorities.

PRAGNYA BHARATHI: Detailed News Analysis (DNA)

5 FACTS ZOOONOTIC DISEASES

What are they?
Zoonotic diseases are infectious diseases that are transmitted between animals and humans. Some common zoonotic diseases include Ebola, rabies, salmonella, anthrax, Lyme disease, E. Coli, and bird flu. HIV began as a zoonosis but later mutated into human-only strains (1).

How do they spread?
Zoonotic diseases can spread through direct contact or indirectly through food, water, or the environment.

The role of changing habitats
Humans and domesticated animals are now more likely to have contact with wildlife due to loss of habitat by deforestation and other causes. Some of these encounters increase the possibility of disease transmission.

How common are they?
60% of pathogens (harmful germs like viruses, bacterial parasites, and fungi) that cause human diseases originate from domestic animals or wildlife. 80% of pathogens that are of bioterrorism concern come from animals (2).

A threat to livelihoods
More than 20% of global animal production losses are connected to animal diseases. Animal diseases endanger the livelihoods of rural communities that depend on livestock production (2).

ONEHEALTH TRUST
© One Health Trust, 2022

(1) World Health Organization (2020)
(2) World Organisation for Animal Health (2022)

Veterinary Infrastructure Development Fund (VIDF)

- Strengthens veterinary hospitals, diagnostic labs, and animal health services.

Assistance to States for Control of Animal Diseases (ASCAD)

- Funds vaccination campaigns against bacterial and viral infections in livestock.

National Rabies Control Programme (NRCP)

- Targets the elimination of rabies by vaccinating stray and domestic dogs.

Indian Council of Agricultural Research (ICAR) Initiatives

- Conducts research on livestock health, zoonotic disease control, and safe food production.

Ethnoveterinary Medicine Promotion

- Encourages traditional herbal remedies to prevent diseases in livestock and reduce antibiotic resistance.

FSSAI Regulations on Milk and Meat Safety

- Ensures strict hygiene standards in dairy and meat industries to prevent zoonotic infections.

Livestock Health & Disease Control Programme (LH&DCP)

- Provides financial assistance to state governments for controlling contagious livestock diseases.

PRAGNYA BHARATHI: Detailed News Analysis (DNA)

Prelims Practice Question

Disease (FMD) and Brucellosis, not Nipah Virus or Swine Flu.

Q. Consider the following statements regarding Zoonotic Diseases:

1. Zoonotic diseases can only be transmitted through direct contact with infected animals.
2. Brucellosis, Rabies, and Avian Influenza are examples of zoonotic diseases.
3. The National Animal Disease Control Programme (NADCP) in India aims to eliminate zoonotic diseases like Nipah Virus and Swine Flu.

Which of the statements given above is/are correct?

- (A) 1 and 2 only
 (B) 2 only
 (C) 1 and 3 only
 (D) 1, 2, and 3

Answer: (B) 2 only

Explanation:

- **Statement 1 is incorrect** – Zoonotic diseases can be transmitted through various means, including direct contact, contaminated food/water, and vector-borne transmission (e.g., mosquitoes, ticks).
- **Statement 2 is correct** – Brucellosis, Rabies, and Avian Influenza are well-known zoonotic diseases that can spread from animals to humans.
- **Statement 3 is incorrect** – The **National Animal Disease Control Programme (NADCP)** focuses on **Foot-and-Mouth**

Mains Model Question

Q. Zoonotic diseases pose a significant threat to public health, livestock productivity, and the economy. Discuss the causes, impact, and measures taken by the Indian government to prevent zoonotic diseases.

Zoonotic diseases, which are transmitted from animals to humans, have emerged as a major public health concern due to their ability to cause epidemics and economic losses. These diseases can be caused by bacteria, viruses, fungi, or parasites and are transmitted through direct contact, consumption of contaminated food or water, and vectors such as mosquitoes and ticks. In India, common zoonotic diseases include Brucellosis, Rabies, Avian Influenza, Nipah Virus, and Tuberculosis, many of which have led to significant health and economic challenges.

The impact of zoonotic diseases is multifaceted. They pose a severe threat to human health, particularly in rural areas where people live in close proximity to livestock. Outbreaks can disrupt the dairy and meat industries, leading to financial distress for farmers. Additionally, they can contribute to global health crises, as seen during the COVID-19 pandemic, which highlighted the importance of disease surveillance and prevention strategies.

Recognizing the gravity of the issue, the Indian government has implemented various measures. The **National Animal Disease Control Programme**

PRAGNYA BHARATHI: Detailed News Analysis (DNA)

(NADCP) focuses on eradicating Foot-and-Mouth Disease and Brucellosis through mass vaccination. The **One Health Initiative** promotes an integrated approach to human, animal, and environmental health. The **Livestock Health & Disease Control Programme (LH&DCP)** provides financial support to states for disease prevention, while the **National Rabies Control Programme (NRCP)** aims at eliminating rabies through vaccination and awareness. Efforts to improve biosecurity, clean milk production, and veterinary infrastructure are also being prioritized.

While significant progress has been made, strengthening disease surveillance, promoting research on ethnoveterinary medicine, and enhancing public awareness are crucial to mitigating the impact of zoonotic diseases in India.

Topic : India's Maritime Sector

Relevance : GS Paper 1 Geography

Source : The Hindu

Context :



The **Ministry of Ports, Shipping, and Waterways (MoPSW)** is spearheading India's maritime transformation with an ambitious vision outlined in the **Maritime Amrit Kaal Vision (MAKV) 2047**. The **Chintan Shivir 2025**, held in Srinagar, provided a platform to review ongoing projects, set new goals, and accelerate India's journey towards becoming one of the top five **shipbuilding nations by 2047**.

India's maritime sector is at the center of the country's **economic growth strategy**, with a clear roadmap for **port modernization, shipbuilding expansion, digital transformation, and green shipping**. The initiatives announced at **Chintan Shivir 2025** align with Prime Minister Narendra Modi's vision of **Atmanirbhar Bharat and Viksit Bharat**, aiming to position India as a **global maritime powerhouse** by 2047. By focusing on infrastructure, sustainability, innovation, and policy reforms, India is poised to achieve significant

PRAGNYA BHARATHI: Detailed News Analysis (DNA)

progress in the shipping and waterways sector, making it a key driver of economic growth and international trade.

Key Highlights of Chintan Shivir 2025**Infrastructure Development: 150 Projects by September 2025**

- The Ministry has set a target to complete **150 maritime projects by September 6, 2025** to enhance India's port capacity, shipbuilding potential, and inland waterway connectivity.
- These projects, worth **₹2 Trillion**, aim to improve port efficiency, attract global investments, and create employment opportunities.

Strengthening India's Shipbuilding Industry

- The government aims to make India one of the **top five shipbuilding nations by 2047** with an **additional shipbuilding capacity of 4 million Gross Registered Tonnage (GRT)**.
- **Policies and skill development initiatives** will be introduced to support the shipbuilding industry and enhance domestic production capabilities.
- Collaboration with **state governments and private players** will be encouraged to make India self-reliant in ship manufacturing.

Launch of Bharat Container Shipping Line

- To strengthen India's presence in **global container shipping**, a **new public-sector shipping company—Bharat Container Shipping Line**—will be established under the **Shipping Corporation of India (SCI)**.

THE VISION

The Maritime Amrit Kaal Vision 2047 pegs the total investment opportunity at **₹80 lakh crore** over the next 23 years



It aims to create four port clusters with capacity equal to or more than **300 MTPA**, and two with capacity of **500 MTPA** or more



Setting up transshipment hubs at **Vizhinjam and Galathea Bay**, both with **20 metre deep draft**



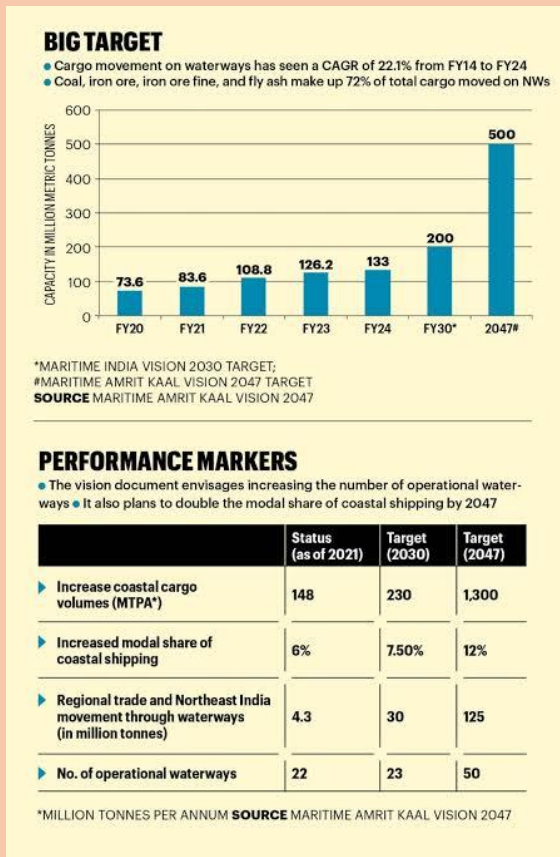
Targets increasing India's share of transshipment cargo to **95% by 2047** from the current **32%**



It also aims to enhance the modal share of coastal shipping and inland waterway transport from **109 MTPA in FY22** to **500 MTPA by 2047**

PRAGNYA BHARATHI: Detailed News Analysis (DNA)

- This initiative will reduce India’s dependence on foreign shipping lines, thereby cutting logistics costs and enhancing trade competitiveness.



Green Tug Policy & Coastal Green Shipping Corridor

- All major ports will tender for at least one Green Tug within the next three months, paving the way for environmentally friendly port operations.
- A Coastal Green Shipping Corridor will be established, with the **Kandla-Tuticorin route** being the first to be developed in collaboration with **Shipping Corporation of India (SCI)**, **Deendayal Port Authority (DPA)**, and **V.O. Chidambaranar Port Authority (VoCPA)**.

Boosting Inland Waterways and Connectivity

₹100 Crore Investment in Jammu & Kashmir Waterways

- The **Inland Waterways Authority of India (IWAI)** will invest **₹100 crore** in developing **three National Waterways in Jammu & Kashmir** to boost trade, tourism, and transportation:
 - **Chenab (NW-26)**
 - **Jhelum (NW-49)**
 - **Ravi (NW-84)**
- This initiative aligns with the ‘**Viksit Bharat**’ vision and aims to create jobs and improve economic activity in the region.

Promoting Green and Sustainable Shipping Harbour Craft Green Transition Programme

- This initiative will promote the use of **clean energy solutions in Indian ports** to reduce carbon emissions and encourage sustainable maritime practices.

PRAGNYA BHARATHI: Detailed News Analysis (DNA)



Digitization and Innovation in Maritime Sector

Sagarmala Digital Centre of Excellence (CoE)

- In collaboration with Centre for Development of Advanced Computing (C-DAC), this center will drive the **digital transformation of the maritime sector**, enhancing efficiency and automation.

Sagarmala Startup and Innovation Initiative (S2I2)

- This initiative will **support maritime startups** and promote innovation in **shipbuilding, port management, and logistics**.
- **Maritime Innovation Hubs (MIHs)** will be established to encourage technological advancements.

India Ports Services Limited (IPSL)

- A new national platform, **IPSL**, will be set up to **provide end-to-end services for all major ports**, enhancing efficiency and global competitiveness.

Boosting Cruise Tourism and Port Modernization

Mumbai International Cruise Terminal

- The terminal is set to begin **commercial operations by April 2025**, boosting cruise tourism and increasing international passenger traffic.

'Decade of Sagarmala' Celebration in March 2025

- The **Sagarmala Vision** has been instrumental in modernizing **port infrastructure, multimodal connectivity, and reducing logistics costs**.
- The government will celebrate a decade of the **Sagarmala Programme** to showcase its impact and future plans.

PRAGNYA BHARATHI: Detailed News Analysis (DNA)



- The Kandla-Tuticorin route is the first Coastal Green Shipping Corridor being developed in India.
- The Sagarmala Digital Centre of Excellence (CoE) will be set up in collaboration with the Indian Space Research Organisation (ISRO).

Which of the above statements are correct?

- (A) 1 and 2 only
 (B) 2 and 3 only
 (C) 3 and 4 only
 (D) 1, 2, and 4 only

Answer:

Correct option: (B) 2 and 3 only

Explanation:

- Incorrect:** The **Bharat Container Shipping Line** is being established under the **Shipping Corporation of India (SCI)**, not IWAI.
- Correct:** The government has set a **target to complete 150 maritime projects by September 2025** to enhance port capacity and shipbuilding.
- Correct:** The **Kandla-Tuticorin route** is indeed the first **Coastal Green Shipping Corridor** being developed under India's green shipping initiatives.
- Incorrect:** The **Sagarmala Digital Centre of Excellence (CoE)** is being developed in collaboration with the **Centre for Development of Advanced Computing (C-DAC)**, not ISRO.

Policy Reforms and Skill Development

- New **policy measures and financial incentives** will be introduced to attract private investment in shipbuilding and port operations.
- Skill development programs** will be launched to train professionals in the maritime sector, ensuring a ready workforce for India's expanding shipping industry.

Prelims Practice Question

Consider the following statements regarding India's maritime sector and recent government initiatives:

- The Bharat Container Shipping Line is being established under the Inland Waterways Authority of India (IWAI).
- The government has set a target to complete 150 maritime projects by September 2025.

PRAGNYA BHARATHI: Detailed News Analysis (DNA)

Mains Model Question

Discuss the recent initiatives taken by the Ministry of Ports, Shipping, and Waterways to enhance India's maritime sector. How do these initiatives contribute to India's goal of becoming a global maritime powerhouse by 2047?

India's maritime sector is undergoing a transformative shift with the Ministry of Ports, Shipping, and Waterways launching several strategic initiatives to enhance port infrastructure, shipbuilding, and inland waterways. The recently concluded **Chintan Shivir 2025** set ambitious targets, including the completion of **150 maritime projects by September 2025**. These projects, worth ₹2 trillion, aim to modernize ports, improve connectivity, and boost trade efficiency.

A major step towards self-reliance in shipping is the establishment of the **Bharat Container Shipping Line** under the **Shipping Corporation of India (SCI)** to reduce dependence on foreign shipping companies. In shipbuilding, India has set a target of achieving an **additional 4 million Gross Registered Tonnage (GRT)** by 2047, with new policies and skill development initiatives supporting this expansion.

Green and sustainable shipping is also a key focus. The **Harbour Craft Green Transition Programme** promotes clean energy adoption at ports, while the **Kandla-Tuticorin Green Shipping Corridor** aims to establish India's first eco-friendly maritime route. Additionally, all major ports have been directed to introduce at least one **Green Tug** within three months to reduce emissions.

Inland waterways are being strengthened, with the **Inland Waterways Authority of India (IWAI)** investing **₹100 crore** in developing three **National Waterways in Jammu & Kashmir** to improve regional connectivity. Digital transformation is also being prioritized through initiatives like the **Sagarmala Digital Centre of Excellence (CoE)** in collaboration with **C-DAC**.

These initiatives align with the **Maritime Amrit Kaal Vision 2047**, positioning India as a **global maritime powerhouse**. By focusing on infrastructure, sustainability, innovation, and policy reforms, India is set to emerge as a key player in global shipping and trade.

Topic : e-Shram Portal and PM-JAY

Relevance : GS Paper 2 Polity and Governance

Source : PIB

Context :

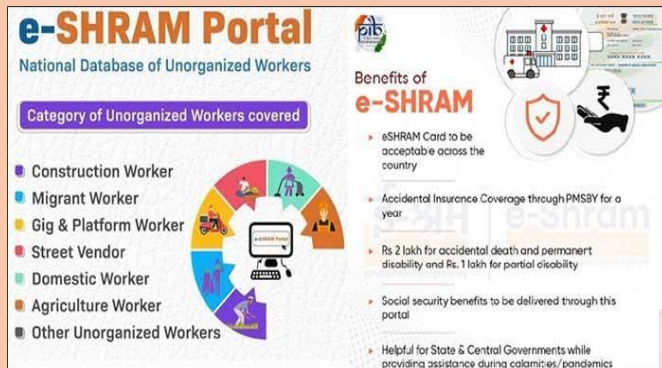
The Government of India has introduced various welfare initiatives to ensure social security and healthcare access to workers in the unorganized sector, including gig and platform workers. Two key schemes in this regard are **e-Shram** and **Ayushman**

PRAGNYA BHARATHI: Detailed News Analysis (DNA)

Bharat Pradhan Mantri Jan Arogya Yojana (AB-PMJAY).

What is e-Shram?

e-Shram is a **national database** launched by the **Ministry of Labour & Employment** to **register unorganized workers** in India. The portal aims to provide social security benefits and formal recognition to workers in sectors like construction, agriculture, domestic work, gig economy (platform-based jobs), and other informal jobs.

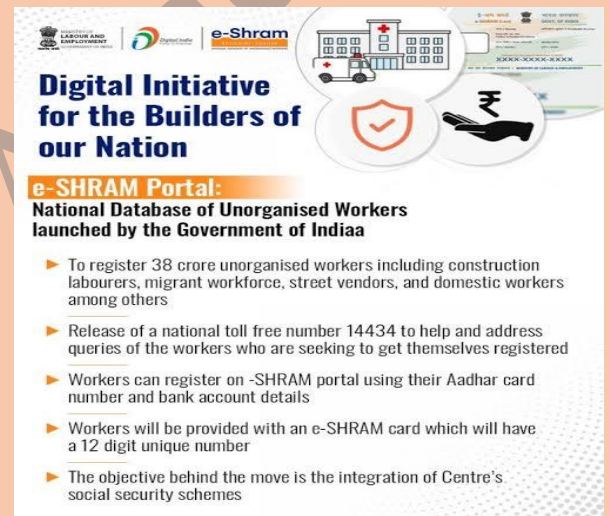


Objectives of e-Shram

- **Create a centralized database** of unorganized sector workers.
- **Provide social security benefits** such as insurance, pensions, and skill development programs.
- **Enable workers to access government schemes** directly through their registered accounts.
- **Facilitate employment opportunities** for unorganized workers by linking them to job portals.
- **Ensure financial inclusion** through bank account linking and digital payments.

Any worker from the unorganized sector can register, including:

- Gig and platform workers (e.g., delivery executives, ride-hailing drivers).
- Construction workers.
- Agricultural laborers.
- Domestic workers.
- Street vendors.
- Migrant workers.



PRAGNYA BHARATHI: Detailed News Analysis (DNA)

श्रम एवं रोजगार मंत्रालय
Ministry of Labour & Employment
भारत सरकार (Government of India)

Benefits for Unorganised workers registering on e-SHRAM Portal

- e-SHRAM Card received after registration will be accepted across the country
- Accidental Insurance coverage through PMSBY for a year.
- Rs. 2 lakh in case of accidental death and permanent disability.
Rs.1 lakh in case of partial disability.
- Social Security benefits will be delivered through e-SHRAM Portal.
- Helpful for Central & State Government while providing assistance during calamities/pandemic.

e-SHRAM SE JUDEIN, AAGE BADHEIN

www.labour.gov.in @labourministry LabourMinistry @LabourMinistry LabourMinistry @labourministry

What is Ayushman Bharat Pradhan Mantri Jan Arogya Yojana (AB-PMJAY)?

PM-JAY, also known as **Ayushman Bharat**, is the world's largest government-funded **health insurance scheme**. It provides **free health coverage of ₹5 lakh per family per year** to economically vulnerable groups.

Objectives of PM-JAY

- Provide **free hospitalization** for secondary and tertiary healthcare.
- **Reduce out-of-pocket medical expenses** for low-income families.
- **Ensure universal health coverage** for unorganized workers.
- **Improve access to quality healthcare** through empaneled hospitals.

Benefits of e-Shram Registration

1. **Issuance of a Unique Identification Number (UAN)** – A 12-digit UAN is issued for lifetime identification.
2. **Accidental Insurance** – ₹2 lakh coverage under **Pradhan Mantri Suraksha Bima Yojana (PMSBY)**.
3. **Access to Social Security Schemes** – Including pension, health insurance, and maternity benefits.
4. **Financial Inclusion & Direct Benefits Transfer (DBT)** – Eligible workers receive direct government aid.
5. **Future Employment Benefits** – Registered workers may receive job opportunities and skill training.

Who is Eligible for PM-JAY?

- Families listed under the **Socio-Economic Caste Census (SECC) 2011**.
- Workers in the **unorganized sector** who register under **e-Shram**.
- Beneficiaries of **National Health Protection Scheme (NHPS)**.
- Certain categories like **construction workers, street vendors, domestic helpers, and gig workers**.

PRAGNYA BHARATHI: Detailed News Analysis (DNA)



PM-JAY Benefits

1. **Cashless and Paperless Treatment** – No money is required at the time of treatment.
2. **Coverage for 1,500+ Medical Procedures** – Includes surgeries, diagnostics, and post-hospitalization expenses.
3. **Access to Over 31,000 Empaneled Hospitals** – Both government and private hospitals provide treatment.
4. **Covers Pre-Existing Diseases** – No exclusions for diseases that existed before enrollment.
5. **No Cap on Family Size** – Ensures coverage for all members of a family.

Key Announcements in Budget 2025-26

- **Mandatory Registration of Platform Workers on e-Shram** – This ensures that gig workers receive **formal recognition** and **social security benefits**.
- **Issuance of Identity Cards** – The government will issue unique ID cards to platform workers for better integration with welfare schemes.
- **Access to PM-JAY Healthcare Benefits** – Registered platform workers will be covered under **Ayushman Bharat**, securing ₹5 lakh in annual health insurance.

The **e-Shram portal** and **PM-JAY scheme** are major steps towards formalizing the **gig and unorganized workforce** in India. By registering, workers can secure **financial protection, healthcare benefits, and access to government schemes**. The recent Budget 2025-26 initiatives further strengthen these efforts by ensuring **platform workers receive due recognition and welfare support**.

Prelims Practice Question

Q. Consider the following statements regarding the e-Shram portal and Ayushman Bharat Pradhan Mantri Jan Arogya Yojana (AB-PMJAY):

1. The e-Shram portal is designed exclusively for gig and platform workers in India.
2. Workers registered on the e-Shram portal are automatically eligible for AB-PMJAY benefits.

PRAGNYA BHARATHI: Detailed News Analysis (DNA)

3. Under AB-PMJAY, eligible beneficiaries receive annual health coverage of ₹5 lakh per family.
4. AB-PMJAY covers both government and private hospitals under its network.

Which of the above statements are correct?

- (a) 1 and 2 only
- (b) 3 and 4 only
- (c) 2, 3, and 4 only
- (d) 1, 3, and 4 only

Answer:

Correct Option: (b) 3 and 4 only

Explanation:

- **Statement 1 is incorrect:** The e-Shram portal is not exclusive to gig and platform workers; it covers all unorganized sector workers, including construction workers, agricultural laborers, street vendors, etc.
- **Statement 2 is incorrect:** Registration on e-Shram does not automatically make a worker eligible for AB-PMJAY; eligibility is based on SECC 2011 criteria and specific government policies.
- **Statement 3 is correct:** AB-PMJAY provides ₹5 lakh per family per year for hospitalization expenses.
- **Statement 4 is correct:** AB-PMJAY covers both government and private empaneled hospitals across India.

Mains Model Question

Q. The gig and platform economy is expanding rapidly in India, but workers in this sector often lack social security and healthcare benefits. Discuss the role of the e-Shram portal and Ayushman Bharat Pradhan Mantri Jan Arogya Yojana (AB-PMJAY) in addressing these challenges.

India's gig and platform economy is witnessing significant growth, providing employment opportunities in sectors such as ride-sharing, food delivery, and logistics. However, workers in this sector often lack formal recognition, job security, and access to essential welfare benefits like health insurance and pension schemes. The government has taken steps to address these issues through initiatives such as the e-Shram portal and the Ayushman Bharat Pradhan Mantri Jan Arogya Yojana (AB-PMJAY).



WELFARE OF MIGRANT WORKERS

Objectives of e-SHRAM

- ▶ Integration of Social Security Schemes e.g. PM-SYM, PMJJBY, PM-SBY, PMJAY
- ▶ Providing a comprehensive database to Central and State Governments for tackling any National Crises like COVID-19 in future
- ▶ Ascertaining status and address/current location of migrant workers
- ▶ Ascertaining their movement from formal to informal sector and vice versa
- ▶ Sharing of information with other Ministries/State Governments for delivery of social security schemes
- ▶ Portability of welfare benefits to migrant and construction workers

PRAGNYA BHARATHI: Detailed News Analysis (DNA)

श्रम एवं रोजगार मंत्रालय
Ministry of Labour & Employment
भारत सरकार (Government of India)

e-Shram

Shramev Jayate

NATIONAL DATABASE OF UNORGANISED WORKERS

Documents required for Registration on e-SHRAM Portal

Self-Registration on Portal:

- Aadhaar Number
- Bank Account Details
- Mobile Number linked with Aadhaar

Registration through Common Service Centers (CSCs):

- Aadhaar Number
- Bank Account Details

e-SHRAM SE JUDEIN, AAGE BADHEIN

www.labour.gov.in @labourministry LabourMinistry @LabourMinistry LabourMinistry @labourministry

registered e-Shram workers further strengthens their social security framework.

While these initiatives are commendable, challenges remain in ensuring widespread awareness and seamless implementation. Many workers in the gig sector remain unaware of these benefits, and platform aggregators must play a proactive role in encouraging registrations. Strengthening outreach efforts, improving digital accessibility, and integrating these schemes with other labor welfare policies will be crucial in securing a comprehensive safety net for India's growing gig workforce.

Topic : Namami Gange Programme

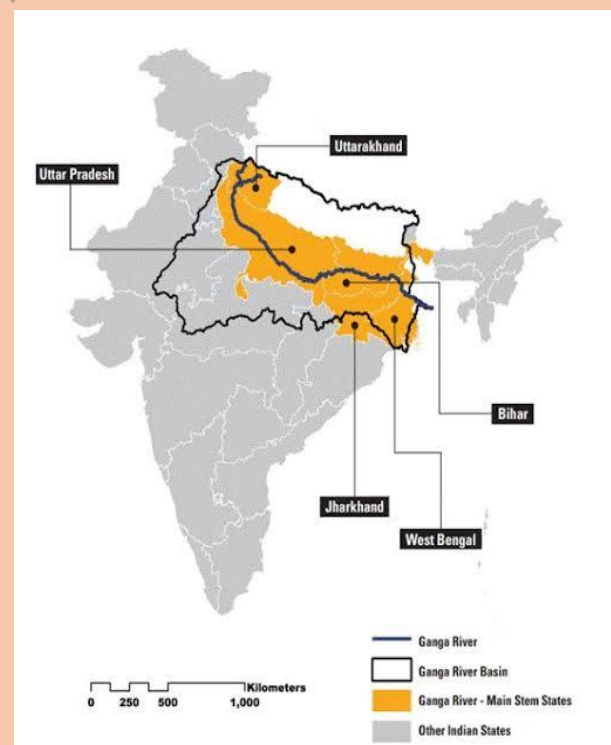
Relevance : GS Paper 3 Environmental Science

Source : Indian Express

Context :

The e-Shram portal is a national database aimed at registering unorganized workers, including gig and platform workers, ensuring their formal inclusion in welfare schemes. Through this initiative, workers receive a unique identification number (UAN), accident insurance, and potential access to government social security programs. It helps create a structured approach to labor welfare by enabling policymakers to design targeted schemes for vulnerable workers.

On the healthcare front, AB-PMJAY provides financial protection by covering hospitalization expenses up to ₹5 lakh per family per year. By ensuring cashless treatment in over 31,000 empaneled hospitals, including private facilities, the scheme significantly reduces out-of-pocket healthcare expenses for low-income workers. The recent decision to extend AB-PMJAY benefits to



PRAGNYA BHARATHI: Detailed News Analysis (DNA)

The **Namami Gange Programme**, launched in **2014**, is the **flagship initiative** of the Government of India for **cleaning and rejuvenating the River Ganga**. It is implemented by the **National Mission for Clean Ganga (NMCG)** under the **Ministry of Jal Shakti** and is one of the most ambitious river conservation projects globally.

The Ganga, a **lifeline for over 40% of India's population**, has faced severe **pollution, habitat destruction, and flow reduction** due to urbanization, industrialization, and religious practices. Namami Gange aims to restore the **ecological, economic, and spiritual significance** of the river through a **multi-sectoral and multi-stakeholder approach**.



Key Objectives of the Namami Gange Programme

Pollution Abatement

Reduction of **untreated sewage and industrial effluents** entering the Ganga.
Construction and upgradation of **Sewage Treatment Plants (STPs)**.
Strengthening of **industrial effluent monitoring and enforcement of regulations**.

Riverfront Development

Beautification and development of **ghats and crematoriums** along the river.
Promotion of eco-tourism and cultural conservation.

Biodiversity Conservation and Afforestation

Protection of **Gangetic Dolphins, turtles, otters, and gharials**.
Large-scale **plantation drives** along the riverbanks to prevent soil erosion.

Rural Sanitation and Community Engagement

Implementation of the **Ganga Gram Yojana** for **solid and liquid waste management in villages** along the river.
Mass awareness campaigns and stakeholder participation.

Surface Cleaning and Waste Management

Deployment of **trash skimmers** to remove floating waste.
Establishment of waste treatment facilities.

Ensuring Continuous and Aviralta (Uninterrupted) Flow

Conservation of **groundwater and tributaries** to maintain the natural flow of the Ganga.
Sustainable water management policies.

PRAGNYA BHARATHI: Detailed News Analysis (DNA)

Achievements of the Namami Gange Programme



1. Infrastructure Development for Pollution Control

- 127 completed projects, leading to a sewage treatment capacity of 3,446 MLD (million liters per day).
- Hybrid Annuity Model (HAM) introduced to ensure better long-term maintenance of STPs.

2. Water Quality Improvement

- Reduction in Biochemical Oxygen Demand (BOD) levels, making the river healthier.
- Example:
 - In Varanasi, sewage treatment capacity increased from 100 MLD to 420 MLD, and untapped drains reduced from 8 to 1.

- In Prayagraj, water quality improved from PRS IV to PRS V, with all 60 drains tapped.

3. Biodiversity Conservation

- Gangetic Dolphin population increased from 3,330 (+/- 630) in 2018 to 3,936 (+/- 763) in 2024.
- Reappearance of dolphins in previously unrecorded stretches of the Ganga.

4. Recognition and Global Impact

- Recognized as one of the Top 10 World Restoration Flagship Initiatives by the United Nations Decade on Ecosystem Restoration (2022).
- Awarded the "Climate Smart Utility" title by the International Water Association.

5. Community Participation and Awareness

- Over 100,000 volunteers and local communities engaged in cleaning activities.
- Ganga Task Force battalions deployed for long-term monitoring and conservation.

Challenges in Ganga Rejuvenation

Despite significant progress, several challenges remain:

- Over 3,000 MLD of untreated sewage still enters the river daily.

PRAGNYA BHARATHI: Detailed News Analysis (DNA)

- Industrial compliance needs stricter enforcement.
- Illegal construction and sand mining disrupt the river's natural ecosystem.
- **Idol immersion, ritual bathing, and mass gatherings** increase biological and solid waste.
- Over-extraction for **agriculture and hydropower projects** reduces the river's self-cleaning ability.
- Strict regulations for industries to **treat and reuse wastewater**.
- **Afforestation and Wetland Conservation**
 - Large-scale **tree plantation** along the riverbanks.

The **Namami Gange Programme** has made **significant strides in restoring the Ganga**, improving **water quality, biodiversity, and infrastructure**. However, **continued public participation, stricter enforcement of regulations, technological advancements, and sustainable urban planning** are essential for ensuring the river's **long-term health and ecological balance**. The success of **Namami Gange** serves as a **model for river conservation worldwide**, but **constant vigilance and adaptive strategies** will be crucial to achieving the goal of a **clean and rejuvenated Ganga**.



Complementary Initiatives for Ganga Rejuvenation

- **Ganga Action Plan (GAP) - 1985**
 - First major river-cleaning initiative; later integrated into Namami Gange.
- **National Ganga River Basin Authority (NGRBA) - 2009**
 - Policy and planning body for Ganga conservation.
- **Ganga Gram Yojana**
 - Focus on rural sanitation and preventing direct waste disposal.
- **Zero Liquid Discharge (ZLD) Policy**

Prelims Practice Question

Q. Consider the following statements regarding the Namami Gange Programme:

1. It is a flagship program of the Government of India launched in 2014 for Ganga rejuvenation.
2. The program is implemented by the National Ganga River Basin Authority (NGRBA).
3. It follows a multi-sectoral approach, including sewage treatment, biodiversity conservation, and riverfront development.
4. The program has been recognized as one of the Top 10 World Restoration Flagship Initiatives by the United Nations.

Which of the statements given above are correct?

PRAGNYA BHARATHI: Detailed News Analysis (DNA)

- (a) 1 and 2 only
- (b) 1, 3, and 4 only
- (c) 2, 3, and 4 only
- (d) 1, 2, 3, and 4

Answer:

Correct Option: (b) 1, 3, and 4 only

Explanation:

- **Statement 1 is correct:** The **Namami Gange Programme** was launched in **2014** to clean and rejuvenate the Ganga River.
- **Statement 2 is incorrect:** The program is **implemented by the National Mission for Clean Ganga (NMCG)**, not the National Ganga River Basin Authority (NGRBA), which was dissolved in 2016.
- **Statement 3 is correct:** The program adopts a **multi-sectoral approach**, including **sewage treatment, riverfront development, afforestation, and biodiversity conservation**.
- **Statement 4 is correct:** The **United Nations Decade on Ecosystem Restoration (2022)** recognized Namami Gange as one of the **Top 10 World Restoration Flagship Initiatives**.

Thus, the correct answer is **(b) 1, 3, and 4 only**.

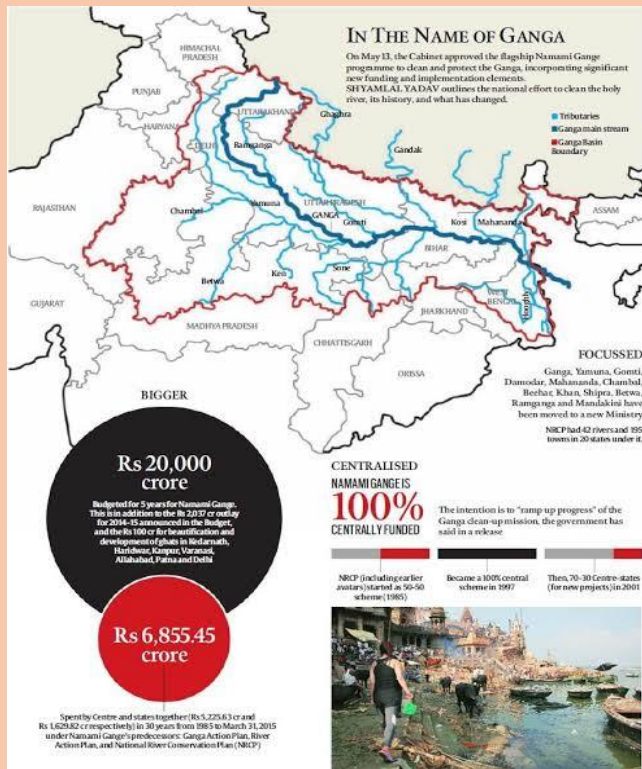
Mains Model Question

Q. The Namami Gange Programme has been a landmark initiative in India's efforts to rejuvenate the Ganga River. Discuss its

achievements, challenges, and the way forward for ensuring long-term sustainability of the river.

The Namami Gange Programme, launched in 2014, is a comprehensive initiative aimed at restoring the ecological health of the River Ganga. It integrates sewage treatment, industrial pollution control, biodiversity conservation, and riverfront development while engaging local communities in its implementation. Over the years, the program has made significant strides, particularly in pollution abatement, with the creation of 3,446 MLD of sewage treatment capacity and the implementation of the Hybrid Annuity Model (HAM) to ensure long-term maintenance of treatment plants. Water quality has shown improvement, with Biochemical Oxygen Demand (BOD) levels decreasing in critical stretches, and previously untapped drains being brought under control. The initiative has also contributed to an increase in the population of Gangetic dolphins, indicating a positive impact on the river's biodiversity. The program has received global recognition, with the United Nations listing it as one of the Top 10 World Restoration Flagship Initiatives.

PRAGNYA BHARATHI: Detailed News Analysis (DNA)



Despite these achievements, challenges persist. Untreated sewage and industrial waste continue to pollute the river, and urban encroachments have led to habitat destruction. Religious practices such as idol immersion and mass bathing add to pollution levels, while seasonal variations in water flow reduce the river’s self-cleansing capacity. Strict enforcement of environmental regulations, enhanced public participation, and sustainable urban planning are essential for addressing these challenges. Future efforts should focus on decentralized wastewater treatment, stricter industrial compliance, and promoting eco-friendly religious practices. Additionally, integrating advanced technology for real-time monitoring and expanding afforestation efforts along the riverbanks will ensure the long-term sustainability of the Ganga. While Namami Gange has set a strong foundation, continuous

vigilance and adaptive strategies are required to achieve the goal of a clean and rejuvenated river.

Topic : Graded Response Action Plan (GRAP)

Relevance : GS Paper 3 Environmental Science

Source : Indian Express

Context :

Graded Response Action Plan (GRAP)

GRAP Stages

State	Category	AQI	AQI Color Code
Stage 1	Poor	201-300	
Stage 2	Very poor	301-400	
Stage 3	Severe	401-450	
Stage 4	Severe plus	451 and above	

Health Statements for AQI Categories

AQI	Category	Possible health impact
0-50	Good	Minimal impact
51-100	Satisfactory	Minor breathing discomfort to sensitive people
101-200	Moderate	Discomfort to people with lung, asthma, and heart diseases
201-300	Poor	Discomfort to most people on prolonged exposure
201-400	Very poor	Respiratory illness on prolonged exposure
401-500	Severe	Affects healthy people and seriously impacts those with existing diseases

Source: Central Pollution Control Board

The **Graded Response Action Plan (GRAP)** is a comprehensive framework implemented in the **National Capital Region (NCR)** to combat air pollution. Introduced in 2017 by the **Supreme Court-mandated Environment Pollution (Prevention and Control) Authority (EPCA)** and now overseen by the **Commission for Air Quality Management (CAQM)**, GRAP categorizes

PRAGNYA BHARATHI: Detailed News Analysis (DNA)

pollution levels into different stages and prescribes specific actions accordingly.

GRAP is divided into four stages based on the Air Quality Index (AQI):

- Stage I (Poor AQI: 201-300)** – Focuses on vehicle maintenance, C&D (Construction and Demolition) dust control, solid waste management, and industrial compliance.
- Stage II (Very Poor AQI: 301-400)** – Implements restrictions on diesel generators, enhances road dust control, and intensifies enforcement of industrial pollution norms.
- Stage III (Severe AQI: 401-450)** – Stops C&D activities, restricts vehicular movement, and mandates mechanical road sweeping.
- Stage IV (Severe+ AQI: Above 450)** – Enforces closure of industries, bans entry of heavy vehicles, and advises work-from-home measures.

GRAP is **dynamic and preventive**, ensuring that actions are taken **before** pollution worsens rather than as a reactionary measure.

Air Quality Index (AQI)

The **Air Quality Index (AQI)** is a standard measurement used to assess air pollution levels based on **eight major pollutants**, including **PM2.5, PM10, NO₂, SO₂, CO, Ozone (O₃), NH₃, and Lead (Pb)**.

The **AQI categories** are:

- 0-50 (Good)** – Minimal impact on health.
- 51-100 (Satisfactory)** – Minor breathing discomfort for sensitive people.
- 101-200 (Moderate)** – Issues for children and those with respiratory conditions.
- 201-300 (Poor)** – Breathing discomfort for most people.
- 301-400 (Very Poor)** – Severe impact on respiratory health.
- 401-500 (Severe)** – High risk of cardiovascular and respiratory illnesses.

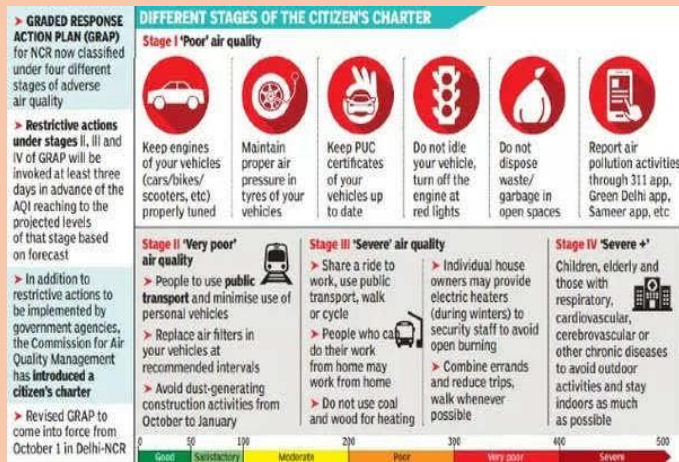
Delhi often experiences **‘Severe’ or ‘Very Poor’ AQI**, particularly in winter due to **stubble burning, vehicular emissions, industrial pollution, and unfavorable weather conditions**.

Other Initiatives to Tackle Delhi’s Pollution

Odd-Even Traffic Rule – Implemented periodically to **reduce vehicle congestion and emissions**, restricting odd-numbered vehicles to odd dates and even-numbered vehicles to even dates.



PRAGNYA BHARATHI: Detailed News Analysis (DNA)



Ban on Firecrackers – The **Delhi government and Supreme Court** have imposed restrictions on firecracker sales and usage to curb air pollution during festive seasons.

Closure of Thermal Power Plants – Several coal-based thermal power plants around **Delhi-NCR** have been shut down to **reduce industrial emissions**.

Promoting Electric Vehicles (EVs) – The **Delhi EV Policy** incentivizes the adoption of electric vehicles to cut down vehicular emissions.

Anti-Smog Guns & Water Sprinkling – Used extensively during peak pollution months to **settle dust particles in the air**.

Pusa Bio-Decomposer – A microbial solution developed by **IARI (Indian Agricultural Research Institute)** to **convert stubble into manure**, reducing stubble burning incidents.

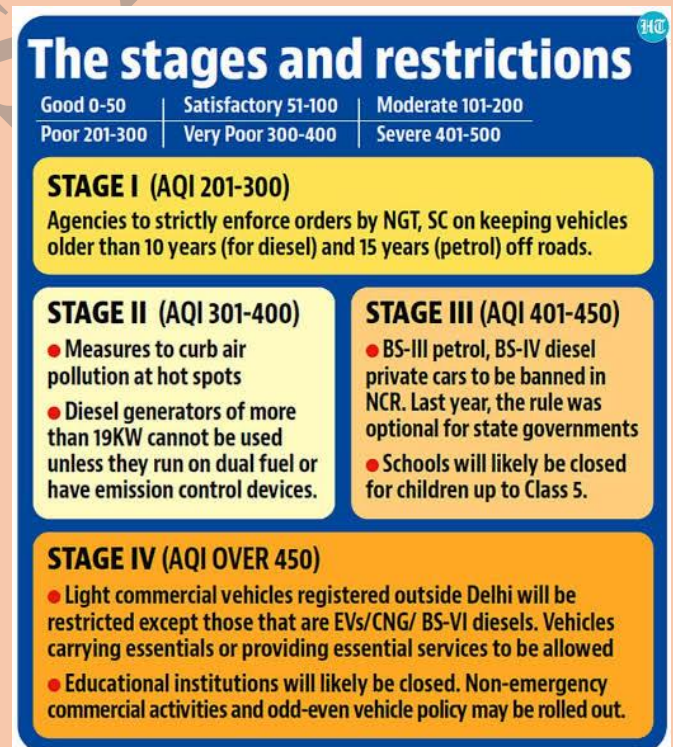
Construction and Demolition Waste Management – Strict enforcement of **dust control**

norms at construction sites, including **mandatory dust suppression and debris management**.

Green Delhi App – Launched by the Delhi government, this app allows citizens to **report pollution violations in real-time**.

Peripheral Expressways – The **Eastern and Western Peripheral Expressways** were constructed to **divert heavy traffic away from Delhi**, reducing congestion and emissions.

Switching to Cleaner Fuels – **Industries and restaurants** are mandated to use **CNG, PNG, or electricity-based appliances** instead of coal or wood-based fuels.



Despite these measures, **Delhi's pollution remains a complex issue** due to **geographical constraints**,

PRAGNYA BHARATHI: Detailed News Analysis (DNA)

meteorological conditions, and cross-border pollution. Long-term solutions require coordinated efforts across NCR states, stringent enforcement, and public cooperation.

Prelims Practice Question

Q. Consider the following statements regarding the Graded Response Action Plan (GRAP):

1. GRAP is implemented only during the winter season in Delhi-NCR.
2. It categorizes pollution levels into four stages based on the Air Quality Index (AQI).
3. The implementation of GRAP is managed by the National Green Tribunal (NGT).
4. GRAP includes measures such as stopping construction activities, restricting vehicle movement, and banning diesel generators during severe pollution levels.

Which of the statements given above are correct?

- A) 1 and 3 only
 B) 2 and 4 only
 C) 1, 2, and 3 only
 D) 2, 3, and 4 only

Answer:

Correct Option: B) 2 and 4 only

Explanation:

- **Statement 1 is incorrect** – GRAP is implemented **throughout the year** based on pollution levels, not just in winter.
- **Statement 2 is correct** – GRAP has four stages based on AQI: **Poor (201-300), Very**

Poor (301-400), Severe (401-450), and Severe+ (above 450).

- **Statement 3 is incorrect** – GRAP is managed by the **Commission for Air Quality Management (CAQM)**, not the **National Green Tribunal (NGT)**.
- **Statement 4 is correct** – GRAP includes **severe measures** such as **banning construction activities, restricting diesel generators, and controlling vehicular pollution** in extreme cases.

Thus, the correct answer is **B) 2 and 4 only**.

Mains Model Question

Q. The problem of air pollution in Delhi-NCR has persisted despite multiple regulatory frameworks. Discuss the effectiveness of the Graded Response Action Plan (GRAP) in addressing air pollution and suggest additional measures for long-term improvement.

Delhi-NCR has been facing severe air pollution due to vehicular emissions, industrial pollutants, biomass burning, construction dust, and unfavorable meteorological conditions. To tackle this crisis, the **Graded Response Action Plan (GRAP)** was introduced in 2017 as a dynamic framework that activates pollution control measures based on the Air Quality Index (AQI). GRAP categorizes air quality into four stages—**Poor, Very Poor, Severe, and Severe+**, with escalating interventions such as restricting construction activities, banning diesel generators, limiting vehicle movement, and shutting down industries during extreme pollution levels.

PRAGNYA BHARATHI: Detailed News Analysis (DNA)

WHAT WILL HAPPEN NOW
Thinking ahead | Air quality to be forecast and restrictions/actions implemented three days in advance

Four stages of restrictions based on AQI

- 1 Poor
- 2 Very poor
- 3 Severe
- 4 Severe+

Action from stages II to IV to be imposed (three days in advance)

- > Restrictive action under previous stages to continue in the next stage if AQI worsens
- > Regular review of GRAP implementation by a group of experts
- > Cars (LMVs) running on BS-IV diesel to be restricted under 'severe+' category' projections
- > IITM developed an 'Air Quality Early Warning System' for air quality forecast for Delhi-NCR

How old GRAP worked - After air quality worsened

PM2.5 and PM10 were monitored for 48 hours	Action/restrictions implemented only when PM2.5 remained severe for at least two days	If pollutants dispersed right before 48-hours cycle due to factors like wind, the restrictions were not
--	---	---

AQI to be forecast daily by the Indian Institute of Tropical Meteorology (IITM)

While GRAP has been instrumental in **providing a structured response** to seasonal pollution spikes, it remains **reactive rather than preventive**. It effectively curtails emissions during peak pollution periods but does not address the **root causes** such as unregulated urban expansion, excessive vehicle dependence, and reliance on polluting fuels. Moreover, enforcement remains inconsistent, with industries and construction projects often violating regulations. The lack of regional cooperation among neighboring states also hampers its effectiveness, as pollutants from **Punjab, Haryana, and Uttar Pradesh** contribute significantly to Delhi's deteriorating air quality.

For long-term improvement, **sustainable urban planning, expansion of green cover, stricter vehicle emission norms, and promotion of electric mobility** must be prioritized. Strengthening public transport, imposing **higher penalties for polluters**, and advancing **clean energy alternatives** in industries are essential steps. Additionally, controlling **stubble burning** through incentives for alternative crop management and improving waste disposal methods can significantly reduce seasonal pollution spikes.

What is prohibited under the revised Grap

STAGE 1: 'Poor' AQI category (AQI 201-300)
Same as earlier Grap's 'Poor' category

80 DAYS LAST YEAR

STAGE 2: 'Very Poor' AQI category (AQI 301-400)

- Banning diesel generator sets (Except for emergent and essential services)
- Ban on coal or firewood including in tandoors in hotels, restaurants, open eateries

65 DAYS LAST YEAR

STAGE 3: 'Severe' AQI category (AQI 401-450)

- Ban on C&D activities in NCR, except essential projects (like railways, metros, airports, ISBTs, national security/defence related /projects of national importance) and non-polluting/non-dust generating activities such as plumbing, interior decoration, electrical works etc
- Regulate operations of industries in NCR not running on PNG, cleaner fuels, biomass fuels to maximum five days per week (staggering 'off days' for different sets of industries in the entire week)
- Shutting down of brick kilns, hot mix plants, stone crushers not operating on clean fuels
- Ban on mining and associated activities in NCR
- State governments in NCR/GNCTD may impose restrictions on BS-III petrol and BS-IV diesel light motor vehicles (LMVs) (four-wheeler vehicles)

20 DAYS LAST YEAR

STAGE 4: 'Severe+' AQI category (AQI > 450)

- Stop entry of truck traffic into Delhi (Except trucks carrying essential commodities or providing essential services and CNG or electric trucks).
- Ban on plying of Delhi registered diesel-run medium and heavy goods vehicles in Delhi (except those with essential commodities or providing essential services)
- Ban on plying of four-wheeler diesel light motor vehicles (LMVs) in Delhi and the bordering districts of NCR (except for BS-VI vehicles and vehicles used for essential or emergency services)
- Ban on industries in NCR, which are not running on clean fuels (except essential industries like milk and dairy or involved in manufacturing of life-saving medical equipment/devices, drugs)
- Ban on C&D activities in linear public projects such as highways, roads, flyovers, over bridges, power transmission and pipelines
- State governments to decide on allowing 50% staff strength to work from home (WFH) in public, municipal and private offices
- State governments may consider additional emergency measures like closure of schools, colleges, educational institutions, plying of vehicles on an odd-even basis

4 DAYS LAST YEAR

While GRAP is a necessary emergency response mechanism, Delhi-NCR needs a **multi-pronged, year-round strategy** that focuses on long-term environmental sustainability rather than temporary pollution control measures.