UPSC Daily Current Affairs| Prelim Bits 31-12-2024

State Funeral

Why in News?

The former Prime Minister Manmohan Singh was recently given a state funeral and national mourning.

- **State funeral** – It is when a person of importance is laid to rest in an elaborate ceremony following laid-down rules, involving members of the public in the mourning.
- It can include a ***gun salute, draping of the coffin with the tricolour***, and laying of wreaths by mourners.
- **Gazette notification by** – Union *Home Ministry.*
- **Relevant arrangements by** – Union *Defence Ministry.*
- **Beneficiaries** – It is accorded in the event of the death of important personnel.
    - **For example**, the president, prime minister, former president or governor, sitting cabinet ministers, governors, lieutenant governors, Lok Sabha speaker, chief justice of the Supreme Court, chief ministers and Bharat Ratna awardees.
- Centre has the authority to *extend for other dignitaries* who have made significant contributions towards the nation.
    - **For examples**, it was given to late industrialist Ratan Tata and singer Lata Mangeshkar.
- **Participants** – It has to be attended by all the gazetted officers of government who may be present in the station.
- Service personnel will wear dress as for state functions.
- **Status of National flag** - At a time of 'state mourning', the national flag is *flown at half-mast* at different locations.

> *According to the Flag Code of India, the **national flag is flown at half-mast** throughout India in case of a sitting president, prime minister, vice-president and former president, and in Delhi in the case of the passing of the Lok Sabha speaker and the chief justice of India.*

- **Draping of national flag** – On the dignitary's body, over the coffin with the saffron towards the head of the coffin.
- It shall *not be lowered into the grave or burnt in the pyre*.
- **Public holiday** – It is restricted to the death of a sitting prime minister or president.
- However, there have been some departures from protocol.

State mourning	National mourning
Declared by the *state* governments.	Declared by the *centre or state* governments.

Observed in the event of Governor and Chief Minister.	Observed in the event of political leaders and others who have made an exceptional contribution to the country.

- No official entertainments are held during national or state mourning.

References

1. The Indian Express| State Funeral for late Manmohan Singh
2. The Print| Rules and Procedure of State Funeral

Belly Landing

Why in News?

Recently, 179 people were killed when Jeju Air flight 7C2216 made a belly-landing and overran the runway, smashed into the perimeter fence and burst into flames at the Muan International Airport in South Korea.

- **Belly-landing** – It is also referred as gear-up landing.
- It occurs when the aircraft lands without its landing gear fully extended and using its underside or its belly as landing site.
- **Conditions determining belly landings**
  - *Landing gear fails* to deploy.
  - A stricken aircraft cannot make it to an airport and landing is *done in a field*.
  - The pilot considers skidding the aircraft to a stop safer than touching down on wheels.
  - *Ditching*, when it makes an emergency landing on water.
  - Any other situation a pilot considers a belly-landing safer than landing on wheels.



- It also occur when pilots simply forgot to deploy the landing gear and landed aircraft on their belly.

- **Safety precautions during belly landings** - *Fire trucks and emergency services* must be ready to respond to a possible fire or evacuate passengers and crew after the aircraft comes to a stop.
- *Foaming the runway* with a chemical before belly-landings to suppress sparks and fire, which was in practice decades ago, is no longer required.
- **Damages to aircraft** – Even if the landing goes well, it results in considerable *damage to the plane, its engines and wings*.
- **Vulnerability of wings** – Wings are very close to the ground when an aircraft touches down and thus they must be held absolutely 'level' (parallel to the ground).
- With even a slight left or right bank either by the pilot or a strong gust of wind, a wing *could hit the ground, flip the jet, send it cartwheeling* or break it apart.
- The friction generated by the aircraft skidding on the runway can also *create sparks or result in a fire*.

Important terminologies

- **Landing long and fast** – It means an aircraft touches down far beyond the designated touchdown zone on the runway, leaving the crew with less runway length to stop the aircraft, and at a speed far exceeding the recommended landing speed.
- **Slats** – It is a *high-lift device* located on the leading edge of an aircraft's wing to increase the lift generated by the wing *at low speeds*, such as during take-off and landing.
- **Flaps** – It is located in the trailing edge of the wing that helps *to increases lift* by enhancing the wing's camber and surface area.
- **Stall** – It is a condition when an aircraft stops flying forward and starts dropping from the sky like a stone.

Reference

The Indian Express| Belly Landing of Aircraft

AR Gene Transfer by Nanoplastics

Why in News?

Recent study shows how discarded PET bottles can exacerbate the global menace of antibiotic resistance.

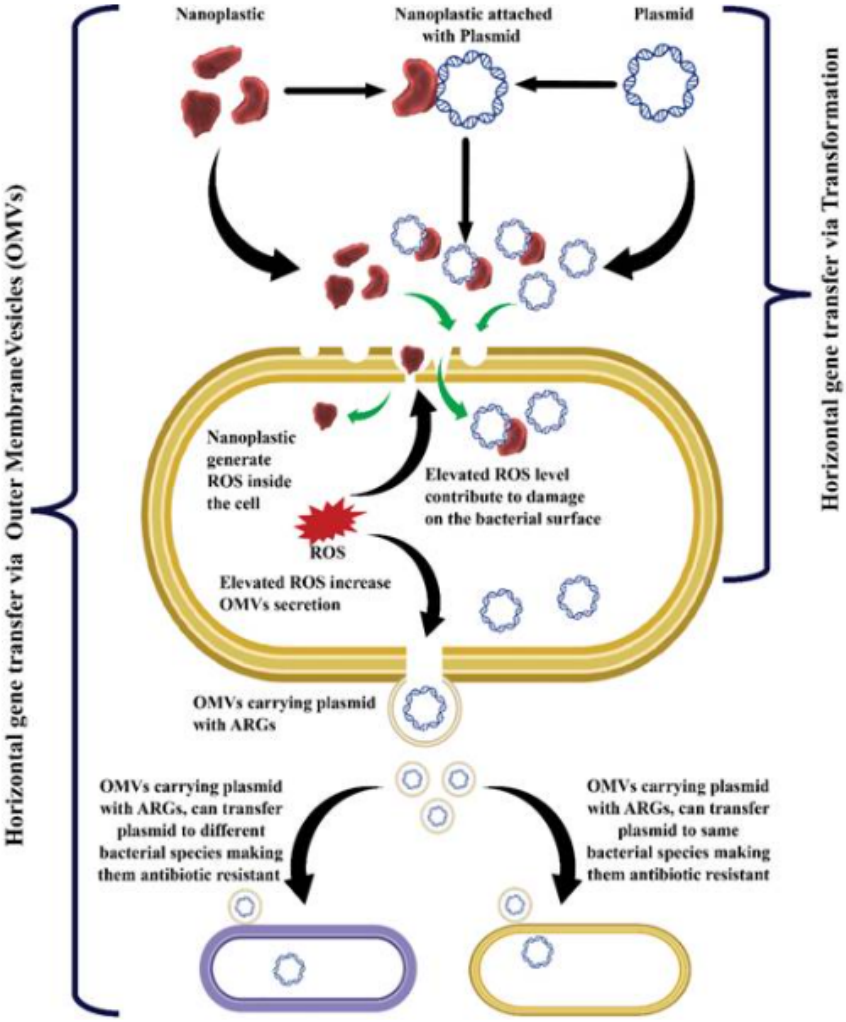
- **AR Gene transfer** – Antibiotic resistance gene transfer across the species.

> ***Antibiotic Resistance (AR)*** *also known as Antimicrobial Resistance (AMR) occurs when bacteria develop defenses against the antibiotics designed to kill them.*
>
> ***Nanoplastics*** *are a type of microplastic, ranging from 1 nanometre (10-9m) to 1 µm (10-6m).*

- **Nanaoplastics in AR gene transfer** – Polyethylene Terephthalate Bottle-Derived Nano-plastics (*PBNPs*) facilitate the cross-species gene transfer ***from E-coli to Lactobacillus acidophilus***.
- It is done through a process called *horizontal gene transfer (HGT)*.

E. coli and Lactobacillus acidophilus are a significant bacteria found in human gut microbiota. Protecting beneficial gut bacteria is crucial for immune support, digestion, and disease prevention.

- **2 novel Mechanism** – PBNPs facilitate AR gene transfer by
  - Direct transformation pathway
  - OMV-induced transfer pathway
- **Direct transformation pathway** – PBNPs act as *physical carriers, transporting AR plasmids* across bacterial membranes and promoting direct gene transfer between bacteria.
- **OMV-induced transfer pathway** – PBNPs *induce oxidative stress and damage to bacterial surfaces*, which activates the stress response genes and triggers an increase in OMV secretion.
- The OMV loaded with genes AR, becomes a potent vector for gene transfer across bacterial species.



- **Health impacts** – Lactobacillus acidophilus could act as reservoirs for AR genes, potentially *transferring them to pathogenic bacteria* during the course of infections.

Reference

The Hindu Business line| Nano-plastics Contribution to AMR

Related News Articles - Anti-Microbial Resistance in India | Challenges of Plastic Degradation

Good Governance Index (GGI)

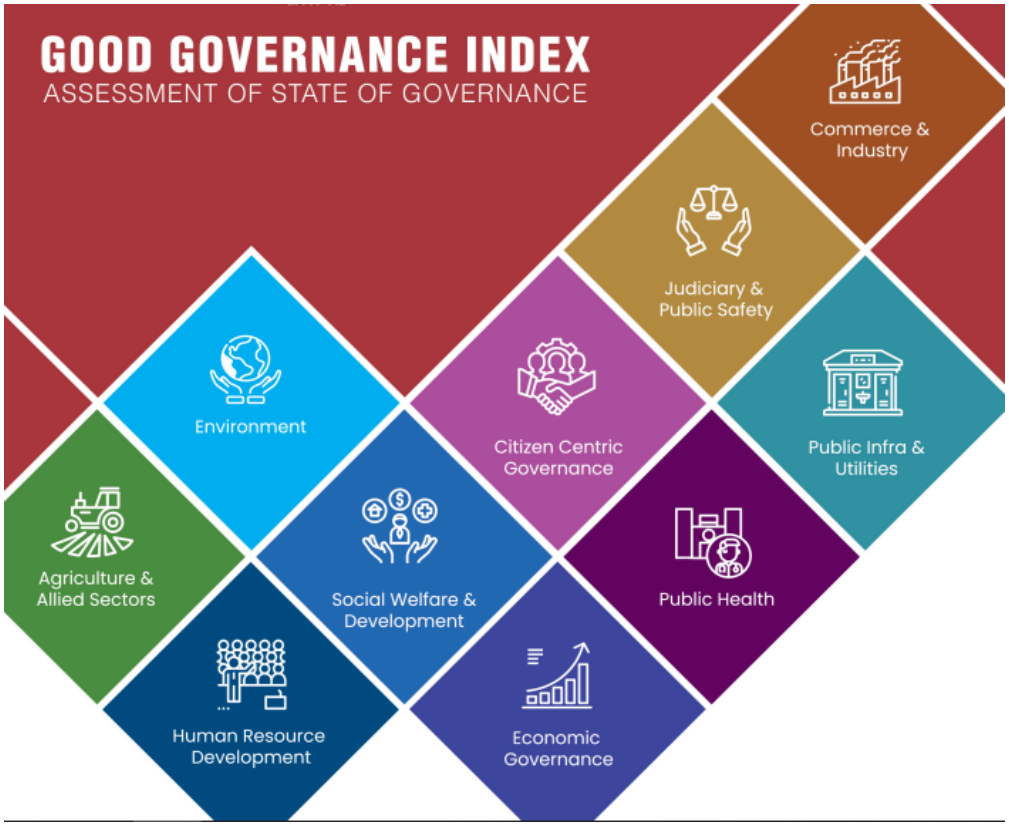
Why in News?

Recently, the central government has decided not to release the Good Governance Index 2023 (GGI) for this year, instead publishing the next edition in 2025.

- **GGI** – A comprehensive and implementable framework to *assess the State of Governance in all the States and UTs* which enables ranking of States/Districts and present a comparative picture.
- It provides a *biennial ranking* of states and Union territories (UT).
- **Launched in** – ***2019***, Union Home Ministry.
- It was launched on *25th of December* to mark the birth anniversary of former Prime Minister Atal Bihari Vajpayee, which is observed as Good Governance Day.
- **Prepared by** – Department of Administration Reforms and Public Grievances, Ministry of Personnel, Public Grievances & Pensions.
- **Objectives** – To create a tool which can be used uniformly across the States and to assess impact of various interventions taken up by the Central and State Governments including UTs.
- **Approach and Methodology –** They are guided by the *recommendations of GoS on Governance*.

A. Consulative and Citizen Centric	• National and State-level Consultations
B. 360 Degree and Pragmatic	• Within the entire spectrum of governance, only the most critical aspects are finalised allowing pragmatic measurement
C. Generic-to-Specific	• Broad sectors encompass the entire governance spectrum; furhter divided into indicators that get measured
D. Simple and Quantitative	• Indicators identified can be measured quantitatively majorly based on the available secondary data

- **Components -** It assess *over 50 indicators across sectors* like agriculture, public health, economic governance, and citizen-focused services.



The editions of GGI released have been for the years 2019 and 2021. Tamil Nadu topped the rankings for big states in 2019, while Gujarat secured the top spot in 2021.

References

1. Business Standard| Good Governance Index (GGI)
2. NCGG| Summary of GGI

One Liners 31-12-2024
History, Art and Culture
Yadgir Fort • It is one of the *largest hill forts in Karnataka*. • **Construction** - Originally built by - Kalyana Chalukyas - Strengthened by - Yadava rulers - Expanded under – Muslim rulers
Geography

Pangong Lake

• It is also known as Pangong Tso.
• **Located in** – Himalayas.
• One-third of it lies in India and the other two-thirds in China.
• The Line of Actual Control (LAC), which separates Indian-controlled territory from Chinese-controlled territory, passes through the lake.
• **Notable features** – Ever-changing shades, ranging from deep blue to turquoise.
• It is the *world's highest saltwater lake*.

Social Issues

Total fertility rate (TFR)

• **Definition** – It estimates the *average number of children a woman* would have during her childbearing years.
• **Calculated by** – Adding up age-specific fertility rates, usually for women aged 15 to 49.
• **Current status** – According to the UN, the total fertility rate *dipped in many countries*.
• Two-thirds of the global population lives in a country or area where fertility is below 2.1 births per woman, the level where population can be stabilised.

Polity & Governance

National Human Rights Commission (NHRC)

Shri Justice V Ramasubramanian*, former judge of the Supreme Court of India joins as the new Chairperson of the National Human Rights Commission, (NHRC).*

• **Established in** – 1993.
• **Statutory body** – Established under Protection of Human Rights Act, 1993.
• **Aim** – To promote and protect human rights.
• **Selection Committee** – It recommends candidates to the President for the NHRC which includes
- Prime Minister (Chairman)
- Speaker of Lok Sabha
- Union Home Minister
- Deputy Chairman of Rajya Sabha
- Leaders of the Opposition in both Houses of Parliament.

International Relations and Issues

Durand Line

• It is the border line *between Afghanistan and Pakistan*.
• **Established by** – An agreement between Sir Mortimer Durand, the British Indian government's foreign secretary, and Abdur Rahman Khan, the Emir of Afghanistan.
• **Signed in** - 1893, in Kabul, Afghanistan.

McMahon Line

• It is de facto border *between China and India* in the Eastern Sector.

Radcliffe line

• It is the border line divides India and Pakistan.

Science

Bletchley Declaration

• It is an international agreement signed at the AI Safety Summit in Bletchley Park, United Kingdom in *2023*.
• **Signed by** - 28 countries and the European Union.
• The United States, China, Japan, the United Kingdom, France, and *India* are signatories.
• **Declaration** – It is the 1st global pact on *tackling the risks of frontier artificial intelligence (AI)*.

Index

Migration and Development Brief

• It provides an update on recent developments in migration, remittance flows, and related policies.

• **Prepared by** - *World Bank's* Development Economics (DEC) Migration and Remittances Unit.

• **Zelinsky Model of Migration Transition** – It suggests that the type of migration that occurs within a country is dependent on the country's development level and society type.

Miscellaneous

Kaamya Karthikeyan

• She became the youngest female (17 years) to ascend *the 7 Peaks of the Continents.*

• **7 mountains** – Mt Kilimanjaro (Africa), Mt Elbrus (Europe), Mt Kosciuszko (Australia), Mt Aconcagua (South America), Mt Denali (North America), Mt Everest (Asia), and Mt Vinson (Antarctica).

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