DAILY CURRENT AFFAIRS 19-07-2025

GS-3

1. **Foreign Portfolio Investors (FPIs)**
2. **Periodic Labour Force Survey (PLFS)**
3. **Senegal Declared Free of Trachoma by WHO**
4. **Blackhole merger**
5. **Recent Missile Tests**

Foreign Portfolio Investors (FPIs)

Syllabus: GS-3; Economy

Context

- During the first half of 2025, foreign portfolio investors (FPIs) pulled out a net of Rs 77,901 crore of shares from Indian markets, with the highest outflows seen in the IT sector, followed by fast moving consumer goods (FMCG) and power sectors.

Definition:

- **Foreign Portfolio Investors (FPIs)** are those investors who invest in **financial assets of a foreign country**, such as **stocks, bonds, mutual funds, etc.**, without gaining control over the companies.
- They do **not directly control the companies** they invest in.
- It is considered a **short-term investment** compared to Foreign Direct Investment (FDI).

Regulating Authority in India:

- **Securities and Exchange Board of India (SEBI)** regulates FPIs.
- The regulatory framework is governed under the **SEBI (FPI) Regulations, 2019**.

Categories of FPIs:

As per **SEBI (FPI) Regulations, 2019**, FPIs are categorized into **two broad categories**:

1. **Government and related investors** (e.g., central banks, sovereign wealth funds)
2. **Others** (e.g., mutual funds, pension funds, insurance/reinsurance firms, banks, and asset management companies)

FPI vs FDI:

Feature	FPI	FDI
Nature	Short-term	Long-term
Control	No control in management	Control/influence in management
Sectors	Financial markets (stocks, bonds)	Industrial/physical assets
Volatility	High (can exit quickly)	Low
Entry Routes	Through stock markets	Through automatic or government route

Investment Limits:

- FPIs can **own up to 24%** of the paid-up capital of an Indian company (can be increased to sectoral cap by company resolution).
- Government allows up to **100% FPI investment** in **government securities** and **corporate bonds** (subject to limits set by RBI).

Benefits of FPI to India:

- Increases **liquidity** in capital markets
- Enhances **foreign exchange reserves**
- Promotes **financial market development**
- Improves **global investor confidence**

Risks/Concerns:

- **Hot money**: FPIs can exit the market quickly, causing **volatility**
- **Currency fluctuations** can impact gains/losses
- FPIs may lead to **asset bubbles** in equity and bond markets

Periodic Labour Force Survey (PLFS)

Syllabus: GS-3: Indian Economy – Employment status.

Context:

- The **Periodic Labour Force Survey (PLFS)** has been revamped from **January 2025** to provide **monthly employment-unemployment indicators** at the **national level**, covering both **rural and urban** areas.
- The June 2025 Monthly Bulletin is the **third in the series**, following April and May 2025 releases.
- Indicators covered: **Labour Force Participation Rate (LFPR)**, **Worker Population Ratio (WPR)**, and **Unemployment Rate (UR)** in **Current Weekly Status (CWS)**.

Key Definitions

- **Labour Force Participation Rate (LFPR)**: % of people working or seeking work in the population.

- **Worker Population Ratio (WPR)**: % of employed persons in the population.
- **Unemployment Rate (UR)**: % of unemployed persons among the labour force.
- **Current Weekly Status (CWS)**: Activity status based on the **last 7 days** prior to the survey.

Key Findings – June 2025 (All-India, Age 15+ years)

A. Labour Force Participation Rate (LFPR)

- Overall LFPR: **54.2%** (↓ from 54.8% in May 2025)
- **Rural** LFPR: 56.1%; **Urban** LFPR: 50.4%
- **Male LFPR**: Rural – 78.1%; Urban – 75.0%
- **Female LFPR**: Rural – 35.2%

B. Worker Population Ratio (WPR)

- Overall WPR: **51.2%** (↓ from 51.7% in May 2025)
- **Rural** WPR: 53.3%; **Urban** WPR: 46.8%
- **Female WPR**: Rural – 33.6%; Urban – 22.9%
- Overall **Female WPR**: 30.2%

C. Unemployment Rate (UR)

- Overall UR: **5.6%** (unchanged from May 2025)
- Slight reduction in rural unemployment due to rise in **own-account workers** (petty trade, repair services, etc.)

Trends & Observations – June 2025

- **Marginal decline** in LFPR and WPR due to:
  - **Seasonal agricultural slowdown**
  - **Intense summer heat** limiting outdoor work
  - Shift of **unpaid female helpers** to domestic duties
- **Rural females** saw the sharpest drop in workforce participation (~1 percentage point)
- **Female employment in agriculture** reduced: 70.2% → 69.8%

- **Unemployment remained stable**, but rural UR slightly dropped due to rise in **self-employment activities**

Age-wise Data Snapshot (15–29 years, June 2025)

Indicator	Rural	Urban	Total
LFPR	41.1%	40.8%	41.0%
WPR	35.5%	33.1%	34.7%
UR	13.8%	18.8%	15.3%

Gender Gap Highlights (June 2025)

- **LFPR gap** (15+ years): Male – 77.1%, Female – 32.0%
- **WPR gap** (15+ years): Male – 72.8%, Female – 30.2%
- **UR among females** (15+ years): 5.6%, same as males but higher in urban areas

Methodology – PLFS (Revamped, 2025)

- **Rotational Panel Sampling**: Each household visited **4 times** in **4 months**
- Ensures **75% overlap** of FSUs between consecutive months
- **Sample Size** (June 2025):
  - 7,520 FSUs: 4,144 rural, 3,376 urban
  - **89,493 households**: 49,335 rural, 40,158 urban
  - **3.8 lakh individuals surveyed**

Comparability of PLFS Estimates (Post-Jan 2025)

- **Changes in Sampling**:
  - FSUs: redesigned multistage stratification
  - Household sample size: **increased from 8 to 12**
- **Revised Schedule of Enquiry**
- **Users must not directly compare** post-Jan 2025 data with previous PLFS (till Dec 2024) due to design differences

Significance

- Highlights **seasonal and gender disparities** in employment.

- Indicates **structural challenges** in female labour force participation.
- Demonstrates utility of **high-frequency labour data** in policy-making.

Senegal Declared Free of Trachoma by WHO

Syllabus: GS-3: General Science – diseases.

Context:

Senegal was officially declared free of trachoma by the World Health Organization (WHO) in July 2025.

What is Trachoma?

- **Cause**: Bacterial infection by *Chlamydia trachomatis*.
- **Transmission**: Person-to-person; linked to poor hygiene and sanitation.
- **Impact**: Leading infectious cause of preventable blindness globally.
- **Global Burden**: Affects ~1.9 million people; ~1.4% of global blindness cases.

Senegal's Achievement

- **Declared Trachoma-Free**: July 2025 by WHO.
- **Global Rank**: 25th country to eliminate trachoma as a public health problem.
- **African Rank**: 9th in Africa; **2nd in West Africa after Gambia**.
- **Precedent**: Follows Guinea-worm disease elimination in Senegal (2004).

Senegal's Elimination Journey

- Recognized as a major cause of blindness by **1980s**.
- Joined WHO Alliance for Trachoma Elimination in **1998**.
- **National Survey**: First conducted in 2000.
- **Full Disease Mapping**: Completed by 2017.
- Integrated into **national eye health programs** with sustained efforts.

WHO SAFE Strategy (Implemented in Senegal)

SAFE = **S**urgery, **A**ntibiotics, **F**acial cleanliness, **E**nvironmental improvement.

- **Surgery**: For trichiasis (advanced disease).
- **Antibiotics**: Mass drug administration (mainly **azithromycin**).
- **Facial cleanliness**: Behavioural change efforts.
- **Environmental improvement**: Clean water and sanitation.
- **Coverage**: Reached 2.8 million people in 24 districts.
- **Support**: Antibiotics donated by **Pfizer** via International Trachoma Initiative.

Regional and Global Significance

- **Reflects**: Strong national commitment + effective international collaboration.
- **Other Countries that Eliminated Trachoma**:
  - **India**, **Morocco**, **Nepal**, **Gambia**, etc.
- Africa continues to bear the **highest burden** of trachoma globally.

Ongoing Challenges – Neglected Tropical Diseases (NTDs)

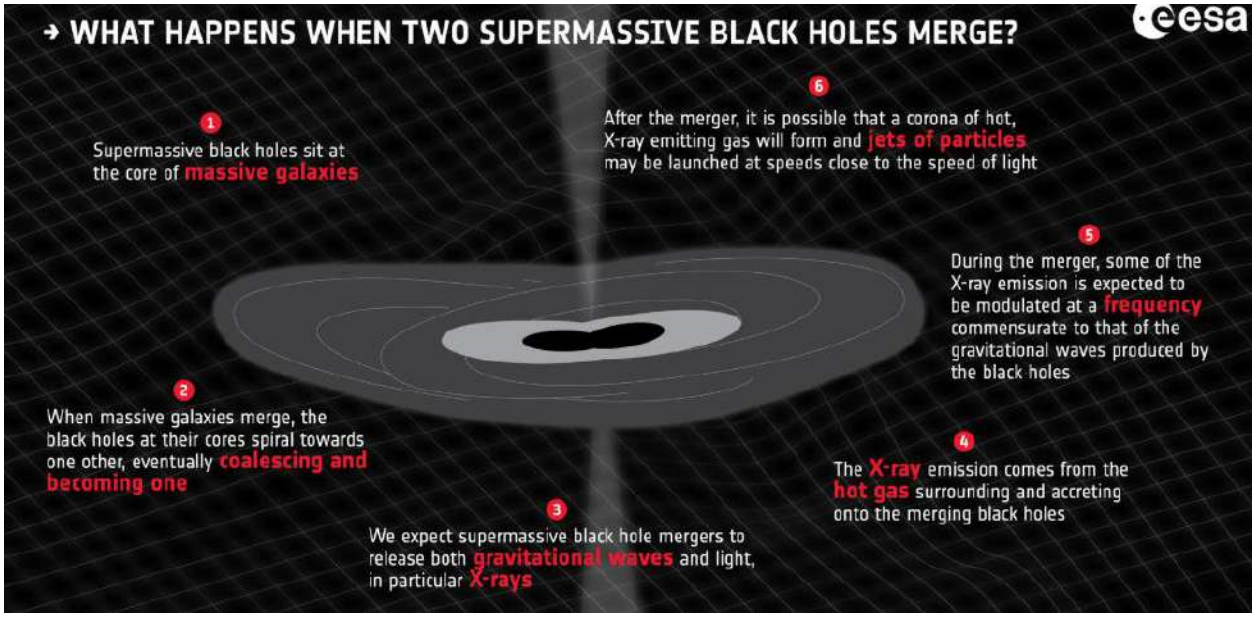
- **Threat**: Recent funding cuts, especially:
  - **USAID NTD Program freeze**: $114.5 million (affecting 26 countries including Senegal).
- **Risk**: Affects control of diseases like:
  - **Lymphatic filariasis**, **Onchocerciasis (river blindness)**, **Schistosomiasis**, etc.
- **Roadmap**: Senegal continues efforts under WHO's **2021–2030 NTD elimination roadmap**.
- **Strategy**: Mass drug administration + community outreach remains central.

Blackhole merger

Syllabus: GS-3; Science & Technology

Context

- LIGO Detects Most Massive Black Hole Merger to Date.



What is a Black Hole Merger?

- A **Black Hole Merger** occurs when two black holes in a **binary system** orbit each other and eventually **collide**, forming a **single, more massive black hole**.
- This highly energetic event releases immense energy in the form of **gravitational waves** — ripples in the fabric of spacetime predicted by **Einstein's General Theory of Relativity**.

Phases of Black Hole Merger

1. **Inspiral**: Two black holes lose orbital energy via gravitational wave emission and spiral closer.
2. **Merger**: The black holes collide and merge.
3. **Ringdown**: The final black hole settles into a stable form, emitting gravitational waves as it stabilizes.

Scientific Significance

- Confirms Einstein's theory of General Relativity.
- Helps understand:
  - Formation and evolution of black holes.
  - High-energy astrophysical processes.
  - Structure and dynamics of the early Universe.
- Opens a new era in gravitational wave astronomy.

Detection of Black Hole Mergers

Detected via **Gravitational Wave Detectors**:

Observatory	Country
LIGO	USA
Virgo	Italy
KAGRA	Japan
LIGO-India	India (under construction)

These use **laser interferometry** to detect minute ripples in spacetime.

India's Role – LIGO-India

- India is part of the **LIGO Scientific Collaboration (LSC)**.
- **LIGO-India** will be operational by the late 2020s, located in Maharashtra.
- It will enhance global capability in gravitational wave triangulation and astrophysical discoveries.

Latest Discovery – GW231123: The Largest Black Hole Merger in History

Key Features:

Aspect	Details
Mass of Black Holes	~100 and ~140 solar masses
Final Black Hole Mass	~225 solar masses
Previous Record	GW190521 (60% smaller)
Challenge to Science	Black holes fall in the "mass gap" (60–130 M⊙)
Spin	Near the maximum allowed by relativity (extremely high angular momentum)
Possible Origin	Successive mergers (hierarchical mergers)
Estimated Distance	Possibly ~12 billion light-years

Why It Challenges Physics

1. **Mass Gap Violation**: Supernova physics says black holes between 60–130 solar masses shouldn't form — GW231123 defies this.
2. **Extreme Spin**: Both black holes were spinning near the relativistic limit, making modeling difficult.

3. **Hierarchical Mergers**: Indicates that these could be black holes formed from earlier black hole collisions.
4. **Limits of General Relativity**: Such high-spin, high-mass events push current theories to their limits.

Prelims Practice Question

Q. Which of the following statements about the black hole merger event GW231123 is correct?

A) It was the first merger detected by gravitational waves.
B) The black holes involved were within the typical mass range of stellar collapse.
C) It challenged current theories by involving black holes in the mass gap.
D) It was detected by ISRO's AstroSat observatory.

Answer: C

Recent Missile Tests

Syllabus: GS-3: Science and Technology – Defence Technology.

Context:

- India successfully test-fired **three missiles**:
  - Prithvi-II
  - Agni-I
  - Akash Prime
- These tests demonstrate India's **strategic deterrence capability** and advancements in **indigenous missile technology**.

Prithvi-II Missile

- **Type**: Short-range ballistic missile
- **Range**: ~350 km
- **Payload Capacity**: Up to 500 kg
- **Warhead Types**: Capable of carrying **both conventional and nuclear** warheads

- **Deployment**: Part of India's **Strategic Forces Command (SFC)**
- **Test Site**: Integrated Test Range (ITR), Chandipur, Odisha
- **Operational Status**: Integral to India's **nuclear deterrent arsenal**
- **Date of Test**: July 17, 2025

Agni-I Missile

- **Type**: Short-range ballistic missile
- **Range**: 700–900 km
- **Payload Capacity**: Up to 1,000 kg
- **Warhead Types**: Nuclear-capable
- **Deployment**: Under the **Strategic Forces Command**
- **Purpose**: Strengthens India's **second-strike capability**
- **Test Outcome**: All technical and operational parameters validated

Strategic Forces Command (SFC)

- **Role**: Conducts and oversees the operational use of nuclear-capable systems
- **Relevance**: Ensures India's **credible minimum deterrence** and **second-strike capability**
- **Affiliation**: Operates under India's **Nuclear Command Authority (NCA)**

Akash Prime Missile

- **Type**: Surface-to-air missile (SAM)
- **Variant**: Upgraded version of the **Akash Weapon System**
- **Test Location**: Ladakh region, near the **Line of Actual Control (LAC)**
- **Altitude**: Customised to operate **above 4,500 metres**
- **Key Feature**: Equipped with an **indigenously developed radio frequency seeker**
- **Target Capability**: Successfully destroyed **two high-speed unmanned aerial targets**
- **Significance**:
    - Reflects adaptability to **high-altitude warfare**

- Enhances **India's air defence capabilities**

Indigenous Defence Capability Highlights

- **Development Agency**: Defence Research and Development Organisation (DRDO)
- **Operational Feedback Integration**: Upgrades based on **real-time user feedback**
- **Strategic Importance**:
  - Reinforces **self-reliance in defence (Atmanirbhar Bharat)**
  - Aligns with India's modernisation of **armed forces** and indigenous ecosystem

Official Recognition

- **Defence Minister Rajnath Singh**:
  - Congratulated Indian Army, DRDO, and Indian defence industry
  - Called the achievement "**remarkable**"