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TODAY'S ANALYSIS

(08 November 2024)

TOPICS TO BE COVERED

- GLOBAL TB REPORT: INDIA SHINES
- ISRAEL'S IRON BEAM
- EXERCISE VINBAX
- MCQs



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GLOBAL TB REPORT 2024: INDIA PERFORMS

- The **World Health Organization (WHO)** released its **Global Tuberculosis (TB) Report 2024** on **October 29, 2024**.
- The report has **highlighted India's remarkable progress** in fighting **Tuberculosis (TB)**, particularly in closing the gap of **missed TB cases since 2015**.
- The **efforts made by India have been acknowledged globally**, as the country has made significant steps in improving TB diagnosis, treatment coverage, and **reducing both the incidence and mortality of TB**.

WHAT IS TUBERCULOSIS?

Tuberculosis (TB) is caused by a bacterium called Mycobacterium Tuberculosis. The bacteria usually attack the lungs, but TB bacteria can attack any part of the body such as the kidney, spine, and brain. Not everyone infected with TB bacteria becomes sick.

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Tuberculosis Symptoms



fever



fatigue



weight loss



persistent cough



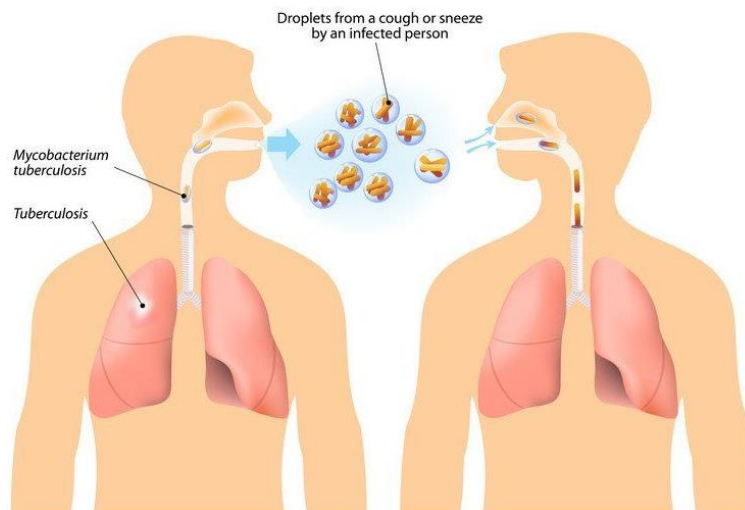
blood in cough



night sweats

HOW IS TB SPREAD?

TUBERCULOSIS



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INDIA'S PROGRESS

Improved Treatment Coverage

- In **2023**, India reported an estimated **27 lakh** TB cases.
- Of these, **25.1 lakh** people were diagnosed and began treatment.
- This has helped increase India's **treatment coverage** to **89%** in 2023, up from **72%** in **2015**.
- India's progress in **case detection** and **treatment coverage** has been one of the **fastest globally, bridging the gap of missed TB cases** and significantly improving outcomes for TB patients.

Decline in TB Incidence

- India achieved a **17.7% decline** in TB incidence, from **237 per lakh population** in **2015** to **195 per lakh** in **2023**.
- This is more than **double the global decline** of **8.3%** over the same period.

Reduction in TB Mortality

- India's efforts have resulted in a **21.4% reduction** in **TB-related deaths**, from **28 per lakh population** in **2015** to **22 per lakh** in **2023**.

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- This is consistent with the **country's sustained efforts to improve TB care** and treatment across the country.

KEY CONTRIBUTIONS

- **Increased Funding and Government Support**

- The Indian government has **increased the budget for TB control from Rs. 640 crores in 2015 to Rs. 3,400 crores in 2022-23**, representing a **5.3-fold increase** in funding.
- This financial boost has helped strengthen the **National TB Elimination Programme (NTEP)**, which now benefits from **sustained domestic financing**.

- **Enhanced Diagnostic and Treatment Infrastructure**

- India has scaled up its diagnostic capabilities, including the use of **molecular diagnostic tools** and **AI-enabled portable chest X-ray machines**.
- **India now has the world's largest TB laboratory network**, with over **7,767 rapid molecular testing** facilities and **87 culture and drug susceptibility testing labs**.

- **Private Sector Participation**

- The **private sector** contributed to **32.9%** of the total TB cases reported in **2023**, **reflecting the growing involvement of private healthcare providers** in TB care.

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- Despite this, India has maintained a high **treatment success rate** of **87.6%** in **2024** (January-September).

NEW INITIATIVES TO TACKLE TB

Ni-Kshay Poshan Yojana (NPY) Enhancement

- In **October 2024**, the government announced an increase in the **Ni-Kshay Poshan Yojana (NPY)** support for TB patients, raising the amount from **Rs. 500 per month per patient** to **Rs. 1,000 per month** for the entire duration of treatment.
- The NPY has already disbursed **Rs. 3,202 crores** to **1.13 crore beneficiaries** through **Direct Benefit Transfer**.
- The increased financial support will benefit **25 lakh TB patients** annually and introduce **Energy Dense Nutritional Supplementation (EDNS)** for around **12 lakh undernourished TB patients**.

Ni-Kshay Mitra and Nutritional Support

- The government expanded **nutritional support** under the **Ni-Kshay Mitra** initiative, which now provides **food baskets** to household contacts of TB patients.

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- This aims to improve the **immunity** of **family members** and **reduce the economic burden** on TB patients.

New TB Treatment Regimen for MDR-TB

- In **September 2024**, the Ministry of Health & Family Welfare approved the introduction of a **novel regimen for Multi-Drug-Resistant Tuberculosis (MDR-TB)** called **BPaLM**.
- This treatment is **shorter** and **more effective** compared to older regimens, significantly improving the chances of **recovery for MDR-TB patients**.

KEY FACTS ABOUT TB

- **Notification and Treatment Success**
 - As of **September 2024**, India has notified **19.88 lakh** TB cases, a 4.2% increase from **19.08 lakh** cases in the same period in **2023**.
 - The **private sector** contributed to **7.22 lakh** notifications, an increase from **6.99 lakh** in **2023**.
 - India has achieved a **treatment success rate** of **87.6%** in 2024, reflecting the effectiveness of its TB care program.

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- **Pradhan Mantri TB Mukh Bharat Abhiyan (PMTBMBA)**
 - **54,448 new Ni-Kshay Mitras** have been registered under the **PMTBMBA** as of October 2024, and **8.3 lakh food baskets** have been distributed to support TB patients.
 - **TB Preventive Treatment (TPT)** has been administered to **12.23 lakh beneficiaries** in the first three quarters of 2024.
- **Adult BCG Vaccination Study**
 - In **January 2024**, India started an **adult BCG vaccination study** in collaboration with the **Indian Council of Medical Research (ICMR)**.
 - By October 2024, over **81.4 lakh doses** of the BCG vaccine had been administered in **14 states/UTs** as part of a trial to explore broader TB prevention strategies.

ABOUT PM TB MUKT BHARAT ABHIYAN (PMTBMBA)

Mission Start Date: **September, 2022.**

- The Pradhan Mantri TB Mukh Bharat Abhiyaan has been envisioned to **bring together all community stakeholders** to support those on TB treatment and accelerate the country's progress towards **TB elimination.**

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- According to the **United Nations Sustainable Development Goals**, all nations have set the **goal of eradicating TB by the year 2030**. But the **Government of India** has set the target of **eradicating TB by the year 2025**.
- TB causes the **largest number of deaths** among all other infectious diseases in India. India has a little less than 20 percent of the world's population, but has more than 27 percent of the total TB patients of the world.



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ISRAEL'S IRON BEAM



- In November 2024, Israel's Defence Ministry announced a **\$500 million deal to begin the production of Iron Beam, a laser interception system**
 - It is **designed to target and destroy incoming rockets, missiles, and drones.**
- This innovative system **will be developed by Rafael Advanced Defence Systems and Elbit Systems**
- It is **expected to be operational within a year.**

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WHAT IS IRON BEAM?

- **Iron Beam** is Israel's cutting-edge **laser defense system**, designed to protect the country from a wide range of **airborne threats, including missiles, drones, rockets, and mortars.**
- The system is **set to become operational within a year**, according to reports from the Israeli Ministry of Defence.
- It represents a major leap forward in military technology, marking a "**new era of warfare**" as stated by Israeli officials.

KEY FEATURES OF IRON BEAM

Laser Technology for Missile Defense

- **Iron Beam** uses **high-powered lasers** to neutralize incoming projectiles at the speed of light.
- It has the **capability to engage threats from hundreds of meters to several kilometers away.**
- The system operates with an **unlimited magazine**, meaning it doesn't require reloading, and boasts **almost zero cost** per interception, making it **highly cost-effective compared to traditional missile defense systems.**

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INTEGRATION WITH EXISTING DEFENCE SYSTEM

- The **Iron Beam** will **complement** Israel's existing **Iron Dome** and **Arrow 2 & 3 interceptors**, which target larger, more advanced threats like **ballistic missiles**.
- While the **Iron Dome** is **effective against larger projectiles**, the **Iron Beam** will focus on **intercepting smaller, faster, and harder-to-detect targets** such as **drones, rockets, and mortars**.

Cost-Efficiency

- Each interceptor missile launched by the **Iron Dome** can cost around **\$50,000**.
- In contrast, the **Iron Beam** operates at **a fraction of this cost due to its laser-based interception technology**.
- This makes the Iron Beam a **more affordable** and **sustainable solution** for defending against high-volume, low-cost threats like drones and mortars.

ADVANTAGES & LIMITATIONS

Advantages:

- **Cost-Effectiveness:** Iron Beam's laser system offers **almost zero cost per interception**, which significantly reduces operational costs compared to traditional missile defense systems.

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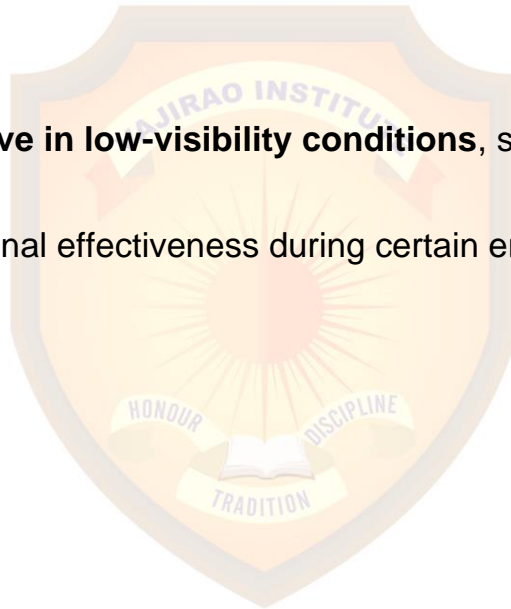


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- **High-Speed Interception:** Being based on lasers, the system can **intercept threats at the speed of light**, making it highly effective against rapid, incoming projectiles.
- **Minimal Collateral Damage:** The precision of laser targeting minimizes **collateral damage**, ensuring that only the intended threats are neutralized.

Limitations:

- The system is **less effective in low-visibility conditions**, such as **bad weather** or **fog**.
- This could limit its operational effectiveness during certain environmental conditions.



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EXERCISE VINBAX

- The **5th edition** of the **India-Vietnam Joint Military Exercise** titled **VINBAX 2024** began at **Ambala**, Haryana.
- The exercise, which will run from **November 4 to 23, 2024**, is being conducted in **Ambala** and **Chandimandir**.
- This joint military training is a continuation of the successful exercises held between the two nations, with the last one conducted in **Vietnam in 2023**.
- VINBAX 2024 marks a significant milestone in the **defence cooperation** between **India** and **Vietnam** and reflects the growing strength of their **bilateral military ties**.

KEY FEATURES

- **Expanded Scope and Participation:**
 - This year's exercise is notable for its **expanded scope**, which now includes **Bi-Service participation** for the first time.
 - Personnel from both the **Indian Army** and the **Indian Air Force**, along with their Vietnamese counterparts, will be taking part.

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- The **Indian contingent** consists of **47 personnel** from the **Indian Army**, including a Regiment of the **Corps of Engineers** and personnel from other arms and services.
- The **Vietnamese contingent**, also comprising **47 personnel**, will be represented by troops from the **Vietnam People's Army**.
- **Focus on UN Peacekeeping Operations:**
 - The primary goal of **VINBAX 2024** is to enhance the **joint military capabilities** of both countries, particularly in the areas of **engineering tasks** and **medical support** during **United Nations Peacekeeping Operations**.
 - The exercise will simulate tasks outlined under **Chapter VII of the United Nations Charter**, which deals with peacekeeping operations in conflict zones.
- **Field Training and Disaster Relief:**
 - This year's exercise will be conducted as a **field training exercise**, featuring a **48-hour validation exercise**.
 - This will include demonstrations of **Humanitarian Assistance & Disaster Relief (HADR)** operations, showcasing the combined efforts of both countries to provide assistance in the wake of natural disasters or humanitarian crises.

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- Both the Indian and Vietnamese contingents will display their **technical military skills** while executing military operations similar to those conducted in **UN missions**.
- **Strengthening Mutual Confidence and Interoperability:**
 - The exercise aims to strengthen **mutual confidence** and improve the **interoperability** between the **Indian Army** and the **Vietnam People's Army**.
 - A major component of the exercise is the **sharing of best practices** between the two forces, particularly in the areas of **engineering** and **medical support** during peacekeeping operations.
- **Cultural Exchange:**
 - In addition to military training, the exercise will also provide both contingents with the opportunity to learn about each other's **social and cultural heritage**. This is part of a broader effort to build closer ties and mutual understanding between India and Vietnam.

SIGNIFICANCE

- **Strengthening Bilateral Military Cooperation:**
 - The **VINBAX exercise** series has become an important tool in enhancing **defence cooperation** between **India and Vietnam**.

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- With both countries sharing common interests in **regional security**, this exercise provides a platform to discuss and improve their military strategies, particularly concerning **peacekeeping operations** under the **United Nations**.
- **Strategic Partnership:**
 - India and Vietnam have been steadily deepening their **strategic partnership**, with a strong focus on **defence ties**, **security cooperation**, and joint **military training**.
 - This joint exercise also reflects India's commitment to supporting **peacekeeping operations** worldwide and furthering its role in **global security initiatives**.
- **Regional Security and Stability:**
 - Given the evolving security situation in the **Indo-Pacific region**, this exercise also contributes to ensuring peace and stability in the region.
 - **India and Vietnam** share mutual concerns over regional security, particularly in relation to issues such as **freedom of navigation** and **maritime security** in the **South China Sea**.

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MCQs

1. Consider the following statements and mark the correct one:

1. The Global Tuberculosis Report is released by WHO.

2. India has increased the gap in the missed TB cases since 2015 as per the report.

(A) Only 1

(B) Only 2

(C) Both 1 & 2

(D) Neither 1 nor 2



Ans. (A)

2. Which of these microbes cause Tuberculosis?

(A) Virus

(B) Protozoa

(C) Bacteria

(D) Fungus

Ans. (C)

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3. Which of the following can be considered as the objectives of PM NI-KSHAY Poshan Program?

1. Better Nutritional Outcome for the notified TB Patients.
2. Reducing Out of Pocket Expenditure.
3. Better Treatment outcome.

- (A) Only 1
(B) Only 1 & 3
(C) Only 1 & 2
(D) All of the above.



Ans. (D)

4. Consider the following statements wrt Iron Beam missile defence systems and mark the correct one:

1. It is being developed by Rafael & Elbit Defence Systems.
2. It is a more expensive & reliable missile defence system than Iron Dome.

- (A) Only 1
(B) Only 2
(C) Both 1 & 2
(D) Neither 1 nor 2

Ans. (A)

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5. Which one of the following is a key feature of Exercise VINBAX?

1. Develop Interoperability
2. Focus on UN Peacekeeping Operations
3. Disaster Relief

- (A) Only 1 & 2
- (B) Only 2 & 3
- (C) Only 1 & 3
- (D) All of the above

Ans. (D)



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