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INDIA AND FRANCE: STRENGTHENING TIES FOR A SHARED FUTURE

WHY IN THE NEWS?

The French Carrier Strike Group's visit to India is making headlines due to its strategic significance in strengthening defence ties between India and France. This visit highlights key aspects like the Passage Exercise (PASSEX) at sea, which demonstrates enhanced interoperability between the Indian and French navies. The harbour engagements in Goa and Kochi, including professional exchanges and cross-deck visits, emphasize cooperation in maritime security and defence collaboration in the Indo-Pacific. With both nations prioritizing stability and security in the region, the visit underscores growing international defence partnerships in response to emerging global challenges.



FLOURISHING INDIA AND FRANCE RELATIONSHIPS:

1. Trade: Bilateral trade reached \$13.81 billion in 2022-23, with India's exports to France at \$7.7 billion and French exports to India at \$5.5 billion. France is India's 11th largest foreign investor, particularly in aerospace, defence, and renewable energy.

2. Defense: Rafale deal France's €7.8 billion deal for 36 Rafale fighter jets and joint projects like Scorpène-class submarines are key to India's defence modernization.

Technology transfers and defence collaborations continue to strengthen their strategic ties.

3. Space: The Strategic Space Dialogue (June 2023) and the Horizon 2047 roadmap (July 2023) deepen India-France collaboration in satellite technologies and space exploration.

4. Climate Change: The International Solar Alliance (ISA), co-founded by India and France, now includes 120+ countries, aiming to promote solar energy worldwide. Their Partnership for the Planet focuses on climate change, biodiversity, and public health under the Paris Agreement.

5. Smart Cities: Joint projects like the Chandigarh Smart City and initiatives in Puducherry, Nagpur, and Meerut highlight their focus on sustainable urban development.

6. Global Governance: France supports India's UNSC permanent membership, and both countries collaborate in global forums like the G7 and G20 on security and economic reforms.

7. Constitutions & Governance: Both countries have bicameral parliaments and share foundational values of liberty, equality, and fraternity from the French Revolution.

SIGNIFICANCE OF FRANCE FOR INDIA:

1. Foreign Policy: France supports India's UNSC membership and cooperates on global governance and regional issues.

2. Defense: Regular joint exercises (naval, air, army) and key projects like the Rafale jet deal (36 jets).

3. Space: India's ISRO and France's CNES partner in scientific and commercial space missions, strengthening bilateral space collaboration.

4. Civil Nuclear Energy: Both countries are advancing the 6-EPR power plant project in Jaitapur, reinforcing their commitment to nuclear energy.

5. Counter-Terrorism: GIGN (France) and India's National Security Guard are cooperating on counter-terrorism efforts.

6. Critical Technology: India and France are collaborating on digital technologies like cloud computing, artificial intelligence (AI), and quantum computing.

7. Civil Aviation: Both countries are expanding civil aviation routes, facilitating growth in India's aviation market.

8. Economic Cooperation: Bilateral trade reached \$13.4 billion in 2022-23. France is India's 11th largest foreign investor, with significant investments in aerospace, defence, and technology.

INDIA'S SIGNIFICANCE FOR FRANCE:

1. Strategic Partnership in the Indo-Pacific: As a key player in the region, India is central to maintaining regional stability and countering China's rise. France values India as a strategic partner, particularly in defence cooperation, joint military exercises, and security in the Indo-Pacific.

2. Economic and Trade Interests: France views India as a growing market with immense trade potential. With a bilateral trade of \$15.8 billion and substantial French investments in India, both countries aim to expand their economic cooperation, especially in sectors like aviation, defence, and technology.

3. Space and Technology Cooperation: France supports India's space ambitions, providing crucial components for missions like TRISHNA. France aids India's digital infrastructure, notably through initiatives like UPI and supercomputing advancements.

4. Global Governance and Multilateral Cooperation: France consistently backs India's global aspirations, including its bid for a permanent seat on the UN Security Council. Both countries also collaborate on climate change initiatives, particularly through the International Solar Alliance (ISA).

5. Cultural and People-to-People Ties: Cultural exchanges and agreements like the Migration and Mobility Agreement (2021) strengthen bilateral relations, fostering educational, professional, and people-to-people connections.

6. Counterterrorism and Security: France and India cooperate closely on counterterrorism, sharing intelligence and collaborating on maritime security to protect vital sea lanes in the Indo-Pacific.

WAY FORWARD:

1. Balancing Strategic Autonomy: Both countries should seek flexibility in aligning their strategic priorities, with India maintaining its non-alignment stance and France pursuing pragmatic alliances, especially in the Indo-Pacific.

2. Leveraging Cooperation Mechanisms: Utilize frameworks like the Joint Working Group on Counterterrorism to address shared security concerns, particularly in the Indo-Pacific region.

3. Expanding Defense Cooperation: Increase joint military exercises, co-development of defence technologies, and knowledge-sharing to enhance strategic defence ties.

4. Active Engagement in Multilateral Forums: Both nations should collaborate in forums like the Quad, I2U2, and UN, advocating for common interests in global security, climate change, and economic growth.

5. Boosting Trade and Investment: Strengthen economic ties by removing barriers to trade, increasing investments, and collaborating on key sectors like green energy, technology, and aerospace.

6. Cultural and Educational Exchanges: Foster deeper people-to-people connections through educational programs, cultural exchanges, and mobility agreements to strengthen bilateral ties.

CONCLUSION

The growing India-France partnership is strategically significant across multiple domains, including defence, trade, space, and global governance. The French Carrier Strike Group's visit underscores the importance of enhancing defence cooperation and maritime security in the Indo-Pacific. With both countries prioritizing stability in the region, this visit sets the stage for further strengthening bilateral ties. India and France have forged a robust relationship, with trade, defence deals (like Rafale jets and submarines), and joint space missions advancing steadily. They also collaborate on critical global challenges such as climate change, renewable energy, and counterterrorism.

PRELIMS QUESTION:

Q. With reference to the India-France relationship, consider the following statements:

1. France is India's 11th largest foreign investor, particularly in sectors such as aerospace, defence, and renewable energy.
2. The French Carrier Strike Group's visit to India in January 2025 aims to enhance bilateral trade ties and has no focus on defence cooperation.
3. France supports India's bid for a permanent seat on the United Nations Security Council (UNSC).

How many of the above-given statements are correct?

- A. Only one
- B. Only two
- C. All three
- D. None

Answer: B

MAINS QUESTION:

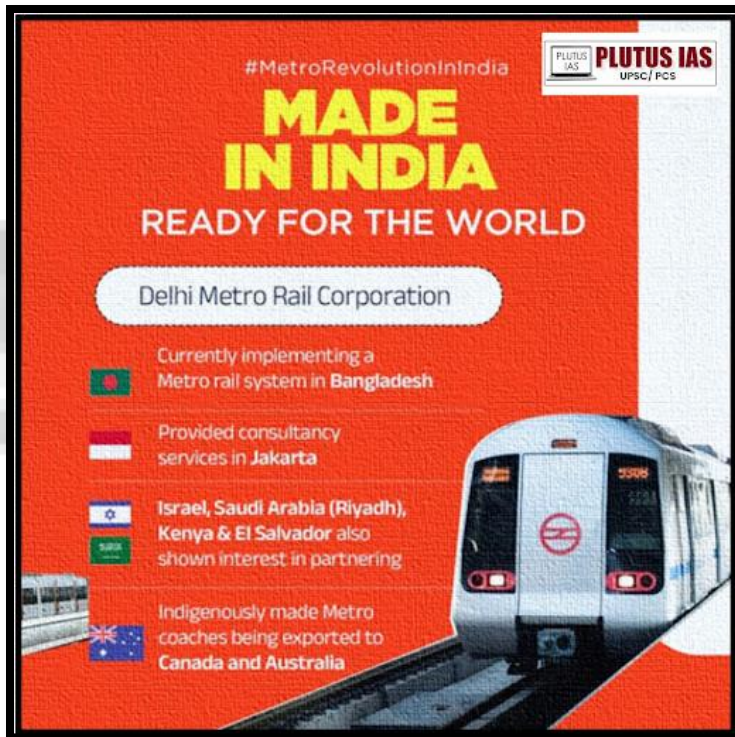
Q. The India-France partnership has grown significantly across multiple sectors, especially in defence, trade, space, and climate change. Analyze the key areas of cooperation and discuss the potential way forward for strengthening this relationship.”
(250 words, 15 marks)

[Ritik singh](#)

ENHANCING PUBLIC TRANSPORT: METROS FUELING URBANIZATION AND ECONOMIC GROWTH

WHY IN THE NEWS?

On January 5, 2025, Prime Minister Narendra Modi launched metro development projects worth over ₹12,200 crore in Delhi. Key highlights include the inauguration of a 13 km stretch of the Delhi-Ghaziabad-Meerut Namo Bharat Corridor to ease travel, a 2.8 km section of Delhi Metro Phase-IV benefiting West Delhi, and the foundation of the 26.5 km Rithala-Kundli section to strengthen Delhi-Haryana connectivity.



METRO SYSTEMS IN INDIA: KEY STATISTICS

Operational Network: Covers over 1,000 km across 11 states and 23 cities.

Passenger Impact: Serves over 1 crore passengers daily.

Global Ranking: India has the 3rd largest operational metro network in the world (as of 2022). Surpassed Japan in metro rail projects in 2022, on track to become the 2nd largest metro network globally.

Historical Milestones:

- 1984: Kolkata Metro launched India's first metro line (3.4 km).
- 1995: Delhi Metro Rail Corporation (DMRC) was established.
- 2002: DMRC opened its first corridor (Shahdara to Tis Hazari).
- 2011: Namma Metro (Bengaluru) began operations.
- 2017: Chennai Metro inaugurated its first underground section (Green Line).
- 2020: Phase 1 of Kochi Metro completed (Thykooodam-Petta stretch).



ADVANCEMENTS IN METRO SYSTEMS IN INDIA

Under-Water Metro: Inaugurated in 2024, India's first underwater metro tunnel in Kolkata runs beneath the Hooghly River (Esplanade-Howrah Maidan section), showcasing remarkable engineering achievements.

Driverless Metro: Launched on December 28, 2020, on Delhi Metro's Magenta Line, this innovation marked India's entry into fully automated metro operations, setting new standards in urban mobility.

Kochi Water Metro: Introduced in December 2021, Kerala's Kochi became the first city in India to operate a water metro, connecting 10 islands with electric hybrid boats for eco-friendly and seamless transportation.

Metro Neo Project: A cost-effective and international-standard metro system, set to debut in Nashik, Maharashtra, under Maha Metro. This innovative initiative offers an affordable alternative for smaller cities.

Approval of New Metro Rail Projects: Expansion plans for metro networks in Bengaluru (44 km), Chennai, and Pune (5.5 km) to enhance urban connectivity and reduce traffic congestion in key cities.

Integrated Mobility Solutions: Intelligent Transport Systems (ITS) are being developed for real-time updates, traffic management, and seamless integration of metro, buses, and last-mile connectivity via smart digital platforms.

IMPORTANCE OF METRO RAIL SYSTEMS IN CITIES

Reduce Pollution: Metro systems emit 60-70% less CO₂ per passenger-kilometer compared to private vehicles (CSE). Delhi Metro saves 2.5 lakh tons of CO₂ emissions annually (UNFCCC).

Improve Transportation: Delhi Metro carries over 60 lakh passengers daily (DMRC, 2023), with commuters saving an average of 45 minutes per trip due to reduced traffic (Ministry of Housing and Urban Affairs, 2022).

Promote Economic Growth: The World Bank estimates every \$1 billion invested in metro systems creates 50,000-100,000 jobs. Metro connectivity has boosted commercial activity by 30% in hubs like Gurugram and Noida.

Improve Property Values: Properties within 500 meters of metro stations see a 20-25% value increase (Knight Frank India). Mumbai's Metro Line 1 raised real estate prices by 10-20% in 3 years.

Be Affordable: Metro fares are 50-60% cheaper than private vehicle commuting. Delhi Metro offers passes reducing per-trip costs to ₹10-15 (DMRC, 2023).

Enhance Urban Mobility: India's metro network spans 1,000 km across 20 cities (Ministry of Housing and Urban Affairs, 2023). Kolkata's metro expansion reduced travel time by 20% (World Bank, 2022).

Reduce Road Accidents: Cities with metro systems report a 25% reduction in road accidents (NCRB). Chennai Metro's adoption reduced traffic by 15-20%, enhancing road safety (Chennai Metro, 2023).

Support Sustainable Urbanization: India ranks 3rd globally in metro infrastructure expansion (UITP), aligning with the UN's Sustainable Development Goal 11 for sustainable urban growth.

ISSUES WITH THE METRO RAIL NETWORK IN INDIA

High Initial Cost and Financial Viability: Metro systems require large investments, with projects like Mumbai's Metro Line 5 costing ₹8,416 crore.

Low Ridership and Underutilization: Many metro systems operate below 50% of their projected ridership. For instance, Delhi Metro's daily ridership of 60 lakh is much lower than the 80 lakh forecasted.

Poor Planning and Technical Challenges: Delays in metro projects are common, with cities like Chennai and Kolkata facing missed timelines. Technical issues, such as system failures in Chennai Metro, exacerbate operational disruptions.

Impact on Existing Road Infrastructure: Metro construction often disrupts road networks, leading to traffic congestion. For example, Delhi Metro Phase-IV caused significant delays, affecting commuters reliant on road transport.

Limited Focus on Smaller Cities: As of 2023, India has 986 km of metro rail under construction in major cities, neglecting urban mobility needs in smaller areas.

Safety and Public Awareness Concerns: While metro systems reduce road accidents by 25%, safety concerns persist, particularly for women.

Cost Variations and Land Acquisition Issues: Metro costs vary significantly due to land acquisition challenges. For example, Mumbai's metro corridors cost ₹12,721 crore, while cities like Lucknow and Kochi have lower costs due to easier land access.

Choice Between Elevated and Underground Routes: The decision to build elevated or underground corridors involves complex trade-offs. In Delhi, the underground metro costs 1.5 to 2 times more than elevated sections, making financial and spatial planning challenging.

WAY FORWARD FOR METRO RAIL SYSTEMS IN INDIA

Public-Private Partnership (PPP): Emulating the success of the railway network, metro projects should increasingly adopt public-private partnerships (PPP) to share costs and risks, improving operational efficiency and ensuring financial sustainability.

Generating Revenue Through Space Utilization: Metro operators should explore additional revenue streams by effectively utilizing station spaces for retail, advertising, and commercial leasing.

Taking Preventive Measures for Safety: Enhanced safety measures, including CCTV surveillance, better lighting, and emergency response systems, are crucial to prevent accidents, particularly for women passengers.

Long-term Planning: Metro projects should focus on long-term planning, considering urban growth over the next 10-20 years. Forecasting population growth and transportation demand will ensure that metro systems evolve in line with the needs of expanding cities.

Feasible Land Acquisition Costs: Efforts must be made to streamline land acquisition processes to make them more predictable and cost-effective.

Exploring Alternative Transportation Systems: Exploring alternatives like hyperloop, electric buses, and cable cars can complement metro systems in densely populated cities. These solutions can reduce traffic congestion and improve overall urban mobility.

Expanding to Tier-3 and Tier-4 Cities: To ensure balanced urban growth, metro projects should focus on Tier-3 and Tier-4 cities, where public transport options are limited.

Dedicated Metro Division in Urban Ministry: Establishing a dedicated metro division within the Ministry of Urban Affairs can expedite project clearance, streamline approvals, and ensure more effective implementation of metro systems across the country.

Prioritizing Elevated Metro Construction: To avoid environmental degradation and minimize disruption to existing infrastructure, cities should prioritize elevated metro corridors over underground ones. Elevated metro systems are faster to construct, less disruptive, and more cost-effective.

CONCLUSION:

India's metro network is set to become a key part of urban transportation as the country faces rapid urbanization. With over 600 million people expected to live in cities by 2030, the need for efficient, sustainable transport systems is crucial. The government's Vision 2025 plan and investments from the National Infrastructure Pipeline (NIP) focus on expanding metro networks and Mass Rapid Transit Systems (MRTS), positioning metros as a vital solution to India's urban mobility challenges.

PRELIMS QUESTIONS:

Q. Consider the following statements:

1. Delhi is the first city in India to operate a driverless metro system.
2. Mumbai is the first city in India to run a metro on water.
3. Kochi is the first city in India to feature an underwater tunnel for its metro system.

How many of the above-given statements are correct?

- (a) Only one
- (b) Only two
- (c) All three
- (d) None

ANSWER: a

MAINS QUESTION:

Discuss the role of the metro network in driving urbanization and fostering economic growth in India.

(Answer in 150 words)

[Munde Dhananjay Navnath](#)

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