

Current affairs 15th February 2025 by Saurabh Pandey Sir

U.S.-India Strategic Partnership Overview Key Initiatives and Collaborations Nuclear Collaboration

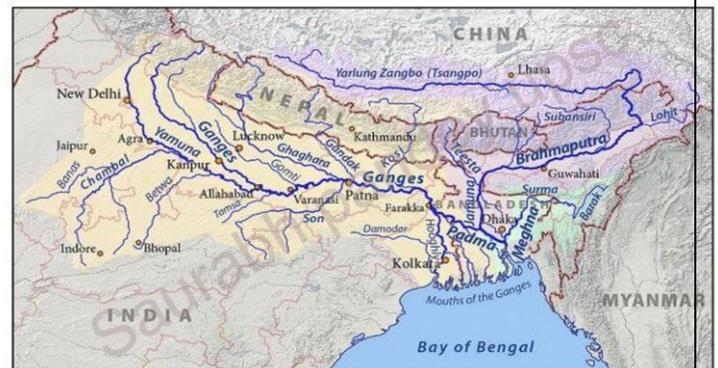
The U.S. and India are set to fully implement the 123 Civil Nuclear Agreement and collaborate on U.S.-designed nuclear reactors in India. Energy Partnership: The U.S. supports India's membership in the International Energy Agency as part of their energy partnership. TRUST Initiative: Aims to enhance cooperation in critical and emerging technologies across various sectors, replacing the previous ICET framework. Investment in Supply Chains: U.S. investments, including a semiconductor fabrication unit in India, will be part of the TRUST initiative to build resilient supply chains. AI Infrastructure: A roadmap for accelerating infrastructure for artificial intelligence is also in the works between the two nations.

Multilateral Cooperation: The U.S. and India plan to strengthen multilateral cooperation through the Quad and convene partners of IMEC and I2U2 to announce new initiatives. Legal Mobility and Migration: Both countries agreed to streamline legal mobility for students and professionals while combating illegal migration and human trafficking. Summary: The U.S. and India are enhancing their partnership through nuclear collaboration, technology initiatives, and multilateral cooperation while addressing migration issues.

The Teesta-3 Dam Rebuilding Proposal On January 27, 2025, an expert committee formed by the Ministry of Environment, Forests, and Climate Change made a significant recommendation: to rebuild the Teesta-3 dam on the Teesta River in Sikkim. This decision comes in the wake of a devastating glacial lake outburst flood (GLOF) that occurred in October 2023, which not only destroyed the dam but also claimed over 100 lives and affected more than

80,000 people across four districts. Background of the Teesta-3 Dam The Teesta-3 dam has been a crucial hydroelectric power generation facility in Sikkim. However, the catastrophic GLOF from the South Lhonak Lake highlighted the vulnerabilities of such infrastructure in the face of climate change. The floodwaters acted like a battering ram, carrying debris downstream and exacerbating the destruction.

The Ganges-Brahmaputra Basin



The 2023 GLOF Incident The GLOF was triggered by a slope failure on the moraine of the South Lhonak Lake, which sent rocks tumbling into the water and generated a massive ripple effect. Satellite data revealed that approximately 50 billion liters of water surged into the valley, leading to multiple landslides 30 to 40 kilometers downstream. Impact of the GLOF The aftermath of the GLOF was devastating. Not only did it result in loss of life, but it also caused extensive

damage to property and infrastructure. The event underscored the urgent need to reassess the risks associated with large hydroelectric projects in the Himalayas. Understanding Glacial Lake Outburst Floods (GLOFs) GLOFs are sudden releases of water from glacial lakes, often triggered by climate change. As global temperatures rise, glaciers melt, leading to the formation of new lakes or the expansion of existing ones. This increased water volume can destabilize geological formations, creating new risks.

Causes of GLOFs The primary causes of GLOFs include moraine failures, glacial retreat, and the accumulation of water in unstable lakes. The South Lhonak Lake, formed in the early 1960s, has grown significantly, raising concerns about its stability. The Role of Climate Change Climate change is a significant factor in the increasing frequency of GLOFs. The melting of Himalayan glaciers, accelerated by global warming and particulate matter like black carbon, contributes to the formation of glacial lakes. A report by the Central Water Commission noted a 10.8% increase in glacial lakes in the Himalayan region between 2011 and 2024. The Expert Committee's Recommendation Despite the risks, the expert committee recommended rebuilding the Teesta-3 dam, citing its previous success and commercial viability. However, this decision has raised eyebrows among environmental activists and hydrogeology experts

Reasons for Rebuilding

The committee argued that the power-generating equipment of Teesta-3 was largely intact after the GLOF, making it a viable option for reconstruction. They proposed a new design that would address some of the previous vulnerabilities. Concerns Raised by Experts Experts have expressed concerns about the wisdom of rebuilding in a disaster-prone area. The dam's location in an earthquake and landslide-prone region raises questions about its

long-term safety and sustainability. The New Design of Teesta-3 2.0 The proposed Teesta-3 2.0 aims to incorporate lessons learned from the GLOF. The new design will utilize concrete alone, feature a spillway nearly three times more voluminous, and include an early-warning system for flooding. Key Features of the New Design The new design is based on a "worst-case scenario" model, taking into account the maximum possible rainfall in the region over the next century. However, experts caution that climate change is a risk-multiplier, and the new design may not adequately address all potential hazards

Risk Assessment and Mitigation

A comprehensive risk assessment is crucial for the success of the new dam. Experts emphasize the need for a robust framework that includes a risk determination matrix and a response plan to minimize potential disasters. The Bigger Picture The rebuilding of the Teesta-3 dam is not just a technical issue; it has significant socio-economic implications for the region. The livelihoods of residents depend on the stability and safety of such infrastructure.

Socio-Economic Implications

In the event of another disaster, the social security of the region's residents must be prioritized. The rebuilding decision should consider the long-term impacts on local communities and their ability to recover from disasters

The Need for a Comprehensive Framework

As Brian Stone, Jr. noted, we cannot engineer our way out of climate change. A comprehensive framework that prioritizes risk minimization and socio-economic resilience is essential for the future of the Teesta-3 dam and the communities it serves. Conclusion The proposal to rebuild the Teesta-3 dam raises critical questions about the balance between energy needs and

environmental safety. As climate change continues to pose risks, it is imperative to prioritize the well-being of local communities and the sustainability of our infrastructure.

China's Travel Ban and Its Impact on Foxconn's Operations in India
China's Travel Ban: An Overview The recent travel restrictions imposed by China on its engineers working at Foxconn's facilities in India have raised significant alarms. This ban not only affects the workforce but also has far-reaching implications for the manufacturing ecosystem in India.
Travel Restrictions: Chinese engineers and technicians have been recalled, causing immediate shortages in skilled labor.
Export Curbs: The ban includes restrictions on the export of specialized manufacturing equipment, crucial for production.
Geopolitical Implications of China's Actions China's zero-sum approach to this situation demonstrates a strategic maneuver to maintain its dominance in global manufacturing. By limiting the flow of knowledge and resources, China aims to:
Weaken India's Manufacturing Aspirations: This move is seen as an attempt to undermine India's growing influence in the tech manufacturing sector.
Control Knowledge Transfer: The restriction hampers the transfer of vital skills and expertise to Indian engineers.

India's Manufacturing Ambitions: The Role of Foxconn
Foxconn's strategic importance cannot be understated. The company has been pivotal in Apple's plans to diversify its production. Recent developments include:
Investment in India: The government has been actively working to attract Foxconn and has allocated substantial budgets to support manufacturing initiatives.
Assembly of iPhone 15 Models: This year marked a significant milestone with the assembly of iPhone 15 models in India

Future Directions for India's Manufacturing Sector
Looking ahead, India must adopt a multifaceted approach to mitigate the impact of these geopolitical tensions:
Strengthening Local

Manufacturing: India should invest in local production capabilities and create a robust supply chain.
Attracting Investments: Engaging companies like Apple and Foxconn in negotiations with the Chinese government may yield positive outcomes.
Skill Development: Enhancing worker training and knowledge sharing will be crucial for sustaining growth.

What prompted China to impose a travel ban on Foxconn workers in India?

The ban was primarily a strategic move to control the flow of skilled technicians and maintain its manufacturing dominance. How does this travel ban affect India's manufacturing sector? It creates labor shortages and restricts access to essential machinery and expertise, hindering production capabilities. What is the significance of the Production-Linked Incentive (PLI) scheme? The PLI scheme encourages local manufacturing by providing financial incentives to companies that meet specified production targets. How is Apple responding to the situation? Apple is reportedly scrambling to fill the labor gap with Taiwanese workers while seeking government support in India. What are the long-term implications of the China-India relationship on manufacturing? The relationship remains complex with competition intensifying, affecting global chains and manufacturing strategies.

How can India improve its manufacturing capabilities? By investing in infrastructure, enhancing skill development programs, and fostering local manufacturing ecosystems. What role does Foxconn play in India's electronics manufacturing? Foxconn is a key player in assembling major products like the iPhone, making it vital for India's manufacturing ambitions. How does geopolitical competition influence manufacturing strategies? Nations may impose trade restrictions or influence corporate decisions to protect their economic interests, impacting global supply chains. What

are the potential impacts of the travel ban on global supply chains? Disruptions in skilled labor and equipment may lead to delays in production and increased costs for companies relying on Indian manufacturing. What strategies can India adopt to mitigate risks associated with its dependency on China? Diversifying supply sources, investing in local capabilities, and improving diplomatic relations are essential strategies for long-term resilience.

Wearable Technology **Wearable devices** have evolved from mere gadgets into essential tools for enhancing our daily lives. These devices, which include smartwatches, fitness trackers, and health monitors, have become indispensable in tracking fitness metrics, managing health conditions, and even providing entertainment. With the integration of advanced technology like AI and IoT, the landscape of wearable tech is continually transforming. Recent Innovations in Wearable Devices AI-Enabled Sensors Recent innovations include the introduction of AI-enabled sensors that leverage vibrations to alleviate nocturnal scratching, particularly beneficial for individuals with skin conditions. These sensors not only enhance the comfort of users but also provide crucial health monitoring capabilities.

Electronic Skin The advancement of electronic skin has opened new avenues in health monitoring, allowing for real-time tracking of various health parameters such as hydration levels and temperature. This innovation signifies a leap in the way we interact with health technology, offering seamless integration with our bodies. Market Trends and Changes The wearable device market is currently experiencing fluctuations. Notably, India's wearable device market saw an unprecedented decline of 11.3% year-on-year in 2024, marking the first downturn in growth. Factors contributing to this decline include market saturation and increased competition from

global brands. Conversely, global trends indicate a robust increase in the wearable tech market, with a projected growth of USD 99.4 billion from 2025 to 2029, primarily driven by the rising popularity of wearable payments and health monitoring devices

Wearable Tech for Kids Innovations tailored for children, such as smartwatches and fitness trackers, have gained popularity. These devices emphasize safety features, such as GPS tracking and emergency alerts, making them appealing for parents. Additionally, they encourage physical activity and healthy habits among children, blending fun with functionality. The Future of Wearable Devices The future of wearable technology appears promising, with continuous advancements in AI and machine learning poised to redefine user interaction and personalization. Expectations include more sophisticated health monitoring capabilities, improved battery life, and even more seamless integration with other smart devices.

Fratricide encompasses a range of events where military personnel unintentionally harm their allies. This phenomenon has been documented throughout history, with notable incidents still resonating in military lore. Analyzing these events sheds light on the myriad factors leading to these tragic outcomes. Definition and Historical Context Fratricide: The act of a military member causing the death or injury of a fellow soldier

Human Factors Contributing to Fratricide Human factors play a pivotal role in the occurrences of fratricide. Stress, cognitive overload, and decision-making under pressure can lead to catastrophic errors. Decision-Making Under Pressure High-Stress Environments: Combat scenarios often induce extreme stress, leading to hasty decisions. Cognitive Overload: The burden of information and rapid decision-making can lead to critical errors. Cognitive Overload and Stress Effects on Performance: Stress negatively

impacts cognitive functions, leading to misjudgments. Training Importance: Regular training can help mitigate the effects of stress on decision-making. Communication Breakdowns Clear and effective communication is essential in preventing fratricide. Miscommunication can lead to devastating consequences in high-stakes environments.

Importance of Clear Communication Command Clarity: Clear orders can alleviate confusion on the battlefield. Use of Technology: Implementing advanced communication tools can enhance clarity and reduce errors. Case Studies of Miscommunication Historical Examples: Analyzing past incidents of fratricide reveals patterns of miscommunication and their consequences. Technological Influences The integration of advanced technology in warfare presents both opportunities and challenges. Understanding its role can help mitigate risks associated with fratricide

Role of AI and Automation Benefits of Automation: AI can assist in decision-making processes, potentially reducing human error. Risks of Over-Reliance: Heavy reliance on technology can lead to complacency, increasing the risk of fratricide. Advantages and Disadvantages of Modern Warfare Technologies Pros: Enhanced situational awareness and real-time information. Cons: Potential for misinterpretation of data leading to friendly fire incidents. Situational Awareness Situational awareness is critical in combat scenarios to prevent fratricide. Understanding the battlefield dynamics can save lives. Importance in Combat Scenarios Continuous Assessment: Soldiers must constantly assess their surroundings to make informed decisions. Training for Awareness: Regular drills can enhance soldiers' situational awareness.

Strategies to Enhance Awareness Use of Technology: Employing advanced reconnaissance tools can provide real-time

intelligence. Team Coordination: Regularly updating team members on positions can reduce the risk of friendly fire. Conclusion Fratricide remains a complex challenge within military operations. By understanding the factors contributing to these incidents—human error, communication breakdowns, technological influences, and situational awareness—military leaders can implement strategies to mitigate these risks effectively