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DAILY CURRENT AFFAIRS



22nd January, 2024

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S.NO.	TOPIC
1.	DE-GLOBALISATION OF FOOD INFLATION IN INDIA
2.	INDIA- BANGLADESH RELATIONS
3.	PRELIMS POINTERS

DE-GLOBALISATION OF FOOD INFLATION IN INDIA

SOURCE: [INDIAN EXPRESS](#)

TAG: GS Paper III- *Indian Economy and issues relating to Planning, Mobilization of Resources, Growth, Development and Employment*

PRACTICE QUESTIONS

Mains

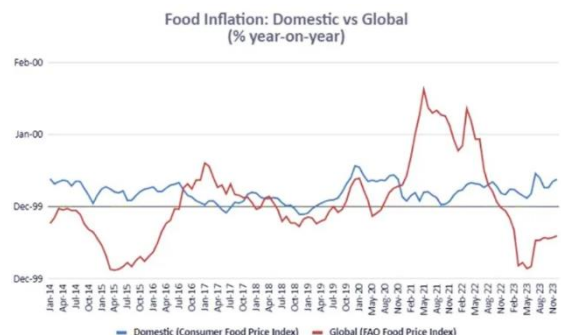
- Q. In light of the recent decline in world food prices, critically evaluate the challenges and opportunities posed by the de-globalized scenario of food inflation in India. (150 words)
- Q. Inflation in food prices is a pressing concern globally. Evaluate the key factors contributing to the rise in food price with respect to India. (150 words)

WHY IN NEWS?

- ❖ The **UN Food and Agriculture Organization's food price index** experienced a decline from 143.7 points in 2022 to 124 points in 2023.
- ❖ This decline is notably significant, marking a 25.8% reduction compared to the peak of 159.7 points in March 2022.
- ❖ While global food inflation has been negative since November 2022, **India's consumer food price index remained high at 9.5%** in December 2023.
- ❖ The domestic food inflation scenario shows **less volatility** than the fluctuating trends observed globally over the last decade.

TRANSMISSION OF GLOBAL PRICES IN INDIA

- ❖ India experienced limited transmission of international prices to its food inflation due to the **country's self-sufficiency** and export capacity in various commodities.
- ❖ However, disruptions caused by the Russia-Ukraine conflict did impact edible oil and cereal prices in India.
- ❖ **Current De-globalized Scenario:**
 - ☛ **India's food inflation is effectively de-globalized**, with minimal threat from imported inflation.
 - ☛ Government restrictions on exports and duty-free imports until March 31, 2025, have been instrumental in ensuring that low global prices have a limited impact on the Indian market.
- ❖ The ongoing disruptions in the Red Sea have had minor effects on major food item imports into India.
- ❖ **Edible oils and pulses** from non-Suez routes remain unaffected, providing stability to the domestic market.





- ❖ Potential pressure on cereal stocks due to weather conditions affecting **wheat**.
- ❖ **Sugar stocks** at a six-year low, and uncertainty about actual production.
- ❖ **Pulses** prices influenced by reduced planting area this rabi season.
- ❖ As per the FAO, **Current drivers of food inflation in India are more "domestic" than "global,"** emphasizing the importance of domestic production and factors in determining future trends

Stocks in Central Pool on January 1
(lakh tonnes)

	Wheat	Rice**	Total
2017	137.47	296.75	434.22
2018	195.62	332.52	528.14
2019	271.21	366.60	637.81
2020	327.96	423.99	751.95
2021	342.90	457.51	800.41
2022	330.12	541.12	871.24
2023	171.70	444.40	616.10
2024	163.53	516.48	680.01
Norm*	138.00	76.10	214.10

*Minimum operational stock plus strategic reserve for January 1;

**Includes rice equivalent of un-milled paddy.

Source: Food Corporation of India.

FAO'S FOOD PRICE INDEX:

- ❖ The **FAO Food Price Index** serves as a metric tracking the monthly fluctuations in international prices for a selection of food commodities.
- ❖ Comprising five commodity group indices—**cereal, vegetable, dairy, meat, and sugar**—it is weighted based on average export shares, using the **base year 2014-16**.
- ❖ Food and Agricultural Organisation:
 - ☛ The Food and Agriculture Organization (FAO) is a **specialized agency of the United Nations**.
 - ☛ It spearheads global initiatives to combat hunger, enhance nutrition, and improve food security.
 - ☛ The primary goal of FAO is to attain food security globally, ensuring regular access to an ample supply of high-quality food for individuals to lead healthy, active lives.
 - ☛ FAO is **headquartered in Rome, Italy**.
 - ☛ With a membership comprising **195 countries**, including 194 individual nations and the European Union, FAO operates in over 130 countries worldwide.
 - ☛ **The World Food Programme (WFP) and the International Fund for Agricultural Development (IFAD)** are affiliated as sister bodies to FAO.
 - ☛ Noteworthy Reports Published by the FAO are the **State of the World's Forests (SOFO), the State of World Fisheries and Aquaculture (SOFIA), the State of Agricultural Commodity Markets (SOCO) and the State of Food Security and Nutrition in the World (SOFI)**.

WHAT IS CONSUMER FOOD PRICE INFLATION (CFPI):

- ❖ **Consumer Food Price Inflation (CFPI)** serves as a specialized metric within the broader framework of the Consumer Price Index (CPI), focusing exclusively on **monitoring the price fluctuations of food items in the consumer's basket of goods and services**.
- ❖ The **calculation and scope** of CFPI involve determining the rate at which prices of food products consumed by average households are increasing over time.
- ❖ CFPI operates as a **sub-component of the CPI**, with the **Reserve Bank of India (RBI)** utilizing the **CPI-Combined (CPI-C)** for this specific purpose.
- ❖ The index carefully tracks price changes in a specific basket of commonly consumed food items, encompassing cereals, vegetables, fruits, dairy products, meat, and other staples.

WHAT IS CONSUMER PRICE INDEX (CPI):

- ❖ The Consumer Price Index (CPI), also known as **retail inflation**, measures the rate at which prices of goods and services purchased for **personal use** by consumers increase.
- ❖ It reflects the change in the **cost of a basket of goods and services** typically acquired by households, covering aspects such as food, clothing, housing, transportation, and medical care.
- ❖ CPI is categorized into **four types**:



- ☛ **CPI for Industrial Workers (IW):** Measures inflation based on the cost of goods and services for industrial workers.
- ☛ **CPI for Agricultural Labourer (AL):** Reflects inflation by considering the expenses of goods and services for agricultural laborers.
- ☛ **CPI for Rural Labourer (RL):** Indicates inflation in rural areas by tracking the prices of essential items for laborers.
- ☛ **CPI for Urban Non-Manual Employees (UNME):** Gauges inflation for urban non-manual employees by analyzing the cost of living changes.

DIFFERENCE BETWEEN WPI &CPI :

Feature	Wholesale Price Index (WPI)	Consumer Price Index (CPI)
Definition	✓ It measures the average change in the price of goods at a wholesale level or in the wholesale market.	✓ It is a Price Index that calculates price changes of goods and services that a consumer has to pay for consuming a basket of goods.
Published by	✓ Office of Economic Advisor	✓ Central Statistics Office
Stage involved	✓ Measures the initial or first stage of a transaction	✓ Final or last stage of a transaction
Scope	✓ Covers only goods	✓ Covers goods and services
Area of Focus	✓ Focuses on goods that are traded only between wholesalers or businesses	✓ Focuses on goods that are being purchased by consumers.
Reference year for Calculation	✓ Uses Financial Year as a reference	✓ Uses the calendar year as a reference.

CAUSES OF FOOD PRICE INFLATION:

- ❖ **Supply and Demand Imbalances:**
 - ☛ Discrepancies between food supply and demand, influenced by factors like **extreme weather events, crop failures**, or increased demand, lead to price hikes.
- ❖ **Production Costs:**
 - ☛ Rising expenses for farmers, including **fuel, fertilizer, and labor costs**, contribute to higher food prices.
- ❖ **Energy Prices:**
 - ☛ **Fluctuations in energy prices, particularly fuel**, impact transportation costs within the food supply chain, influencing consumer prices.
- ❖ **Currency Exchange Rates:**
 - ☛ Exchange rate fluctuations, particularly for countries reliant on imported food, **can make imported goods more expensive, affecting inflation.**
- ❖ **Trade Policies:**
 - ☛ Trade policies and tariffs influence both **imported and domestically produced food prices**, impacting the variety and cost of available products.
- ❖ **Government Policies:**



- ☛ Interventions such as subsidies, price controls, or regulations can **influence food prices by affecting production costs and market dynamics.**
- ❖ **Global Events:**
 - ☛ Geopolitical conflicts, pandemics, and trade disruptions on a global scale can disrupt food supply chains, leading to price spikes.
- ❖ **Climate Change:**
 - ☛ Long-term climate changes, including severe weather events, can damage crops and reduce yields, resulting in higher food prices.

STRATEGIES FOR MITIGATION:

- ❖ **Increase Agricultural Productivity:**
 - ☛ Invest in research and technology for improved crop yields and sustainable farming practices.
- ❖ **Strengthen Food Supply Chains:**
 - ☛ Develop infrastructure for transportation and storage to reduce wastage.
- ❖ **Promote Trade and Market Integration:**
 - ☛ Facilitate international trade and remove trade barriers for a steady food supply.
- ❖ **Promote Competition and Reduce Monopoly Power:**
 - ☛ Enforce antitrust laws to prevent market concentration and price manipulation.

CONCLUSION:

- ❖ *Understanding and addressing the multifaceted causes of food price inflation requires a comprehensive strategy involving agricultural productivity enhancement, supply chain fortification, trade facilitation, and measures to foster healthy market competition.*
- ❖ *These initiatives collectively contribute to **ensuring a stable and affordable food market for consumers.***



INDIA BANGLADESH RELATIONS

SOURCE: THE HINDU

TAG: GS Paper I- GS Paper – 2, India and its Neighbourhood, Bilateral Groupings & Agreements

UPSC PYQs

Mains

Q. The protests in Shahbag Square in Dhaka in Bangladesh reveal a fundamental split in society between the nationalists and Islamic forces. What is its significance for India? (2013)

WHY IN NEWS?

- ❖ *The Prime Minister Sheikh Hasina returned to power in Bangladesh for a historic fourth straight term Prime Minister Narendra Modi was among the first world leaders to congratulate Ms.Hasina, illustrating the close bilateral relationship between the two countries.*

ABOUT INDIA-BANGLADESH RELATIONS

- ❖ India and Bangladesh share a special connection due to their common culture, language, and history.
- ❖ The bond is strengthened by the **shared pain of the 1947 Partition**, where families were separated.
- ❖ India played a crucial role in **Bangladesh's independence in 1971** and was the first to recognize it as a separate country.
- ❖ The **Liberation War's victory** on December 16 is celebrated as "**Vijay Diwas**" in India.
- ❖ The relationship is built on shared sacrifices and is currently referred to as a 'golden phase' by the Indian Prime Minister

SIGNIFICANCE OF BANGLADESH TO INDIA

- ❖ **Economic and Commercial Relations:**
 - ☞ India and Bangladesh hold the position of being each other's top trade partners in South Asia.
 - ☞ Bilateral trade has shown consistent growth over the past decade, with **Bangladesh's exports tripling to surpass \$1 billion in 2018-19.**
- ❖ **Connectivity Measures:**
 - ☞ Efforts are being made to revive pre-1965 **rail links** and other connectivity routes between India and Bangladesh.
 - ☞ The recently reinstated **Chilahati (Bangladesh) to Haldibari (India) railway link** was inaugurated in 2021.
 - ☞ Increased frequency of passenger trains like **Maitree Express and Bandhan Express** aims to enhance people-to-people contact.
 - ☞ The **Protocol on Inland Water Transit and Trade (PIWTT)** facilitates the transportation of goods and ensures navigability of respective waterways.
- ❖ **Development Partnership:**
 - ☞ Bangladesh stands as India's primary development partner, receiving three **Lines of Credit (LOC) totaling US\$ 8 billion since 2010.**
 - ☞ These funds contribute to infrastructure development in various sectors, including roads, railways, shipping, and ports.
- ❖ **Capacity Building and Human Resource Development:**



- ☞ India's development cooperation in Bangladesh includes ongoing training programs and scholarships.
- ☞ Notably, the **National Centre for Good Governance (NCGG) in Mussoorie** has been training 1800 Bangladesh Civil Service officials since 2019.

❖ Cultural Cooperation:

- ☞ The **Indira Gandhi Cultural Centre (IGCC)** in Dhaka plays a crucial role in celebrating cultural ties between the two nations.
- ☞ Training programs offered cover **Yoga, Kathak, Manipuri dance, Hindi language, and Hindustani classical music.**

❖ Defence Cooperation:

- ☞ High-level exchanges encompass activities such as the India-Bangladesh **CORPAT 'Bangosagar' exercise, Coast Guard meetings, and the Annual Defence Dialogues.**

❖ Countering China's Influence:

- ☞ Strengthening India's ties with Bangladesh involves assistance in nuclear technology, artificial intelligence, modern farming methods, and the exchange of flood data to counterbalance China's influence.

❖ Water Sharing and Border Cooperation:

- ☞ The **Kushiyara Pact** facilitates the sharing of waters from the transboundary Kushiyara river.
- ☞ A **Joint Rivers Commission (JRC)** addresses issues related to shared river systems, focusing on flood control measures and advance flood warnings.
- ☞ Border haats, such as the **Kamalasagar-Tarapur Border Haat**, have been established as trading posts on the Bangladesh-India border.

❖ Multilateral Cooperation:

- ☞ India and Bangladesh collaborate on various multilateral platforms, including SAARC and BIMSTEC.

❖ Energy and Rohingya Crisis Cooperation:

- ☞ The construction of the **Rooppur Nuclear Power Plant** in Bangladesh is a result of India-Russia cooperation.
- ☞ India's "**Operation Insaniyat**" provides relief assistance for refugee camps in Bangladesh during the Rohingya crisis.
- ☞ The Indian Oil Corporation Limited is recognized by Bangladesh for government-to-government supply of refined petroleum products.



CHALLENGES IN INDIA BANGLADESH RELATIONS

❖ Border Disputes:

- ☞ Ongoing disputes persist over the demarcation of the shared border, particularly in Assam and Tripura.

❖ Illegal Immigration:

- ☞ Unrest in Bangladesh has led to an influx of migrants across the border, creating tensions and socio-economic-political challenges for Indian border states.

❖ Economic Challenges:

☞ Non-Tariff Barriers:

- ☞ Both countries face hindrances in trade due to non-tariff barriers, including lengthy customs procedures and bureaucratic red tape.

❖ River Water Sharing:



- ☞ Disagreements over the sharing of **waters from 54 cross-border rivers** pose a significant economic challenge.

CONNECTIVITY CHALLENGES:

❖ Border Disputes:

- ☞ Unresolved border disputes, particularly along the 6.5-kilometer **Comilla–Tripura land border**, contribute to ongoing tensions.

❖ Lack of Infrastructure:

- ☞ Insufficient infrastructure and connectivity impede the **development of economic ties between India and Bangladesh**.

SECURITY CHALLENGES:

❖ Terrorism:

- ☞ **India accuses Bangladesh-based terrorist groups** of conducting attacks and calls for increased cooperation in counter-terrorism efforts.

❖ Insurgency:

- ☞ Media reports suggest that insurgent groups like **ULFA, National Democratic Front of Bodoland, and National Liberation Front of Tripura** operate camps in Bangladesh, possibly funded through income-generating ventures.

❖ China Factor:

- ☞ China's growing investments in Bangladesh, particularly in infrastructure, energy, and telecommunications, raise concerns about its influence in the region.

ENERGY CHALLENGES:

❖ Water Sharing:

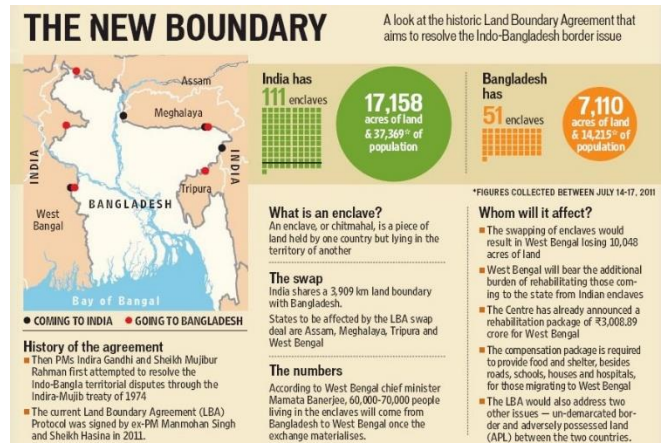
- ☞ Disputes over the distribution of common river waters, such as the Brahmaputra and Ganges, contribute to tension.

❖ Teesta River Dispute:

- ☞ **An agreement reached in 2011 to allocate water from the Teesta River** has not been implemented due to disagreements, causing ongoing challenges.

❖ Farakka Barrage Dispute:

- ☞ Bangladesh expresses concerns over the diversion of Ganges water to the **Hooghly River** through the Farakka Barrage, a recurring issue in bilateral relations.



MEASURES COULD ENHANCE INDO-BANGLADESH RELATIONS

❖ Addressing the Teesta River Water Dispute:

- ☞ Strive for consensus on **the delineation of Teesta river water sharing, aiming for a mutual agreement within a defined timeframe**.

❖ Enhancing Connectivity:

- ☞ Focus on improving regional connectivity by strengthening cooperation in coastal connectivity, roads, railways, and inland waterways.

❖ Energy Security:

- ☞ Collaborate on utilizing clean and green energy to achieve energy self-sufficiency in South Asia amid the global energy crisis.

❖ India-Bangladesh Friendship Pipeline:

- ☞ Expedite the establishment of the India-Bangladesh Friendship Pipeline, facilitating the efficient transport of high-speed diesel to Northern Bangladesh from India.



- ❖ **Comprehensive Economic Partnership Agreement (CEPA) Negotiations:**
 - ☞ Shift attention towards advancing **Comprehensive Economic Partnership Agreement (CEPA)** negotiations initiated in 2018, aiming to bolster economic ties between India and Bangladesh.
- ❖ **Countering China:**
 - ☞ Strengthen the relationship by providing critical technologies and financial assistance to Bangladesh, enhancing India's influence and countering China's growing presence.
- ❖ **Tackling the Refugee Crisis:**
 - ☞ Collaborate on encouraging other South Asian Association for Regional Cooperation (SAARC) nations to develop a **SAARC declaration on refugees**. This declaration should outline a specific procedure for determining the status of refugees and economic migrants.





PRELIMS POINTERS:

22nd January, 2024

TOPIC	DISCRIPTION
<p>INDIA-MYANMAR BORDER FREE MOVEMENT REGIME</p>	<p>WHY IN NEWS?</p> <ul style="list-style-type: none"> ❖ Union Home Minister Amit Shah announced the decision to fence the entire length (1,643 km) of the India-Myanmar border to restrict free movement. <p>FREE MOVEMENT REGIME (FMR)</p> <ul style="list-style-type: none"> ❖ The Free Movement Regime (FMR) is a bilateral agreement allowing border tribes to travel without a visa, emphasizing enhanced regional engagement and people-to-people contact. <p>FMR) ON INDIA-MYANMAR BORDER</p> <ul style="list-style-type: none"> ❖ FMR Agreement (2018): <ul style="list-style-type: none"> ☛ Allowed visa-free travel for tribes within 16 km along the India-Myanmar border, enhancing local interactions and trade. ❖ Border Demarcation Issue: <ul style="list-style-type: none"> ☛ Border drawn in 1826 divided people of the same ethnicity without consent, necessitating cross-border measures. ❖ Ethnic Ties: <ul style="list-style-type: none"> ☛ FMR aimed at boosting local trade and easing travel, essential for livelihoods. ❖ Criticism and Concerns: <ul style="list-style-type: none"> ☛ FMR criticized for aiding unintended issues like illegal immigration and drug trafficking. <p>CURRENT BORDER CONFLICTS</p> <ul style="list-style-type: none"> ❖ Migration Issues: <ul style="list-style-type: none"> ☛ Manipur facing illegal migration, raising concerns about settling migrants and environmental impact. ❖ Myanmar's Political Situation: <ul style="list-style-type: none"> ☛ Post-military coup, persecution led to an influx of Myanmarese tribals into India, creating security challenges. ❖ Security Threats: <ul style="list-style-type: none"> ☛ Insurgent groups near the border engage in illegal activities, taking advantage of porous borders and FMR misuse. ❖ Drug Trafficking Concerns: <ul style="list-style-type: none"> ☛ Increased cases in Manipur under NDPS Act, seizing narcotics worth over Rs 1,227 crore.
<p>ARICAL MUNAI</p>	<p>WHY IN NEWS?</p> <ul style="list-style-type: none"> ❖ Prime Minister Narendra Modi visited Arichal Munai, the commencement point of the Ram Setu, a structure with profound significance in Prabhu Shri Ram's life. <p>ABOUT ARICAL MUNAI</p>





❖ **Geographic Significance:**

- ☛ Arichal Munai beach marks the extreme tip of India.
- ☛ Last motorable/accessible point, providing a **unique geographical experience.**

❖ **Coastal Border Perspective:**

- ☛ Located approximately **18 km from the Sri Lankan Sea border.**
- ☛ **Not visible to the naked eye** due to the vast **expanse of the merging Indian Ocean and Bay of Bengal.**



❖ **Spectacular Ocean Confluence:**

- ☛ Confluence of the **Indian Ocean and the Bay of Bengal.**
- ☛ Unending blueness surrounds the area, **creating a mesmerizing visual panorama.**

❖ **Cultural Significance:**

- ☛ The Prime Minister highlighted the **special importance of Arichal Munai** as the **starting location of the Ram Setu**, underscoring its **cultural and historical relevance.**
- ☛ The visit symbolizes recognition and reverence for the **sacred site associated with Lord Ram in Hindu mythology.**

BLACK HOLE OR NEUTRON STAR

WHY IN NEWS?

- ❖ *Researchers using a **South African telescope found an object in the Milky Way, weighing between 2.09 to 2.71 solar masses. It could be the most massive neutron star or least massive black hole observed.***

KEY FINDINGS

❖ **Telescope Discovery:**

- ☛ Researchers in South Africa report Milky Way object, **mass between 2.09 and 2.71 solar masses.**

❖ **Ambiguous nature:**

- ☛ potentially most **massive neutron star or least massive black hole.**



MASS GAP CHALLENGE

- ☛ **Heaviest neutron stars:** 2.2 to 2.5 solar masses;
- ☛ **lightest black holes:** rare below 5 solar masses.
- ☛ Detected object challenges conventional mass gap understanding.

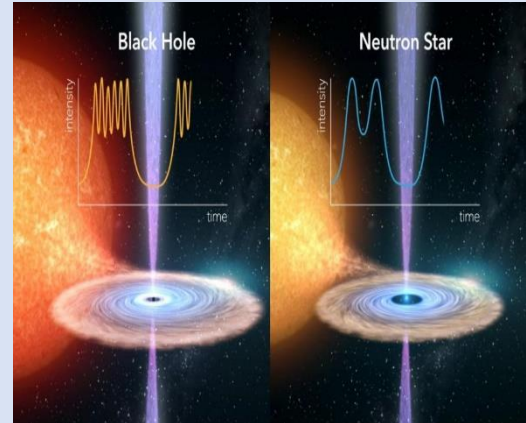
NEUTRON STARS

❖ **Origins and Mass:**

- ☛ Formed from collapsed cores of **supergiant stars with a mass of 10-25 solar masses.**



- ☛ Possibly **higher mass** if the originating star was **exceptionally metal-rich**.
- ❖ **Compactness:**
 - ☛ **Smallest and densest known class of stellar objects**, excluding black holes.
- ❖ **Size and Mass:**
 - ☛ Radius approximately **10 kilometers (6 miles)**.
 - ☛ Mass around **1.4 solar masses (M_{\odot})**.
- ❖ **Formation Process:**
 - ☛ Results from a **supernova explosion of a massive star**.
 - ☛ Gravitational collapse compresses the **core beyond white dwarf density to that of atomic nuclei**.
- ❖ **Post-Formation State:**
 - ☛ Neutron stars cease **active heat generation after formation**.
 - ☛ Cooling over time, with **potential evolution through collision or accretion**.



BLACK HOLES

- ❖ **Gravity's Dominance:**
 - ☛ Region in spacetime where gravity is overwhelming, **preventing escape of anything, including light**.
- ❖ **General Relativity Prediction:**
 - ☛ General relativity theory suggests that a **compact mass can deform spacetime, leading to black hole formation**.
- ❖ **Event Horizon Boundary:**
 - ☛ **No-escape boundary known as the event horizon** marks the point of gravitational dominance.
- ❖ **Influence on Objects:**
 - ☛ Significant impact on objects crossing the event horizon, **altering their fate and circumstances**.
- ❖ **General Relativity Features:**
 - ☛ Lacks locally detectable features according to general relativity.
 - ☛ Acts as an **ideal black body, reflecting no light**.
- ❖ **Formation Mechanism:**
 - ☛ Majority form from remnants of **large stars undergoing supernova explosions**.
 - ☛ Smaller stars evolve into **dense neutron stars, lacking the mass to trap light**.

NISAR MISSION

WHY IN NEWS?

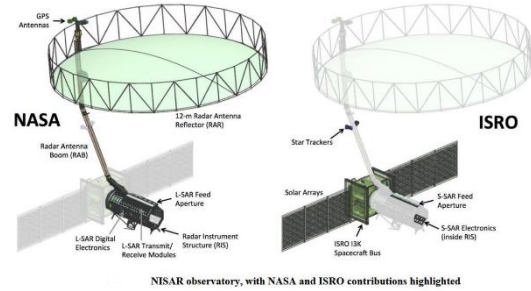
- ❖ *The **NASA-ISRO Synthetic Aperture Radar (NISAR) Mission**, designed for observing natural processes and changes in Earth's ecosystems, is set for an "early 2024" launch. The final tests, except for acoustic tests, have been*



completed, according to Paul A. Rosen, Project Scientist for NISAR at NASA's Jet Propulsion Laboratory (JPL).

NISAR MISSION OVERVIEW

- ❖ **Partnership:** Joint effort by the US and India under a 2014 agreement.
- ❖ **Launch:** Scheduled for January 2024 from Satish Dhawan Space Centre
- ❖ **Lifespan:** Operational for at least three years in Low Earth Orbit.
- ❖ **Mapping:** Covers the entire globe in a 12-day cycle.



KEY FEATURES

- ❖ **Dual-Frequency Radar:** 2,800 kg satellite with L-band and S-band Synthetic Aperture Radar.
- ❖ **Collaboration:** NASA provides L-band radar, GPS; ISRO contributes S-band radar and launch system.
- ❖ **S-Band Radar:** Operates at 8-15 cm wavelength, 2-4 GHz frequency, ideal for weather observation.
- ❖ **Antenna Reflector:** 39-foot stationary gold-plated mesh for focusing radar signals.
- ❖ **SAR Imaging:** Utilizes Synthetic Aperture Radar for high-resolution images, penetrating clouds day and night.
- ❖ **Specific Roles:** NASA uses L-band radar for global science for three years; ISRO uses S-band radar for a minimum of five years.

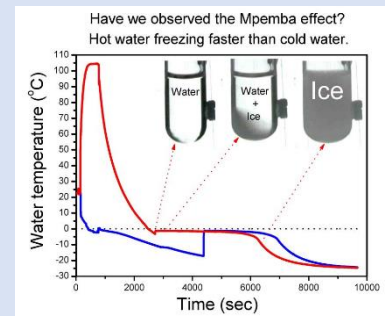
MPEMBA EFFECT

WHY IN NEWS?

- ❖ **The Mpemba Effect, named after Tanzanian student Erasto Mpemba, who highlighted this phenomenon in 1969, is drawing attention due to its curious nature.**

ABOUT THE MPEMBA EFFECT

- ❖ **Discovery:** Named after Erasto Mpemba, the effect was observed centuries earlier by philosophers like Aristotle but gained scientific attention in recent years.
- ❖ **Phenomenon:** Hot water freezing faster than cold water, contrary to common belief.
- ❖ **Scientific Interest:** Ongoing experiments to understand the causes; **no consensus yet.**



POTENTIAL CAUSES

- ❖ **Microbubbles and Convection:** Microbubbles from boiling may enhance convection and heat transfer.
- ❖ **Evaporation:** Warmer water evaporates more, aiding faster cooling.
- ❖ **Density Effect:** Less dense warmer water experiences accelerated heat transfer.
- ❖ **Insulating Role of Frost:** Frost in cold water may act as an insulator, slowing heat loss.



**KHELO INDIA
YOUTH INDIA
GAMES 2023**

- ❖ **Chemical Factors:** Compounds like **calcium carbonate** may influence freezing point.

WHY IN NEWS?

- ❖ *The 6th Khelo India Youth Games 2023 from January 19-31 are being held at the Jawaharlal Nehru Stadium in Chennai. This is the first time that Khelo India Youth Games are being held in South India.*

WHAT IS KHELO INDIA YOUTH GAMES (KIYG)?

- ❖ These **annual, national-level multi-disciplinary sports events** take place in India.
- ❖ KIYG is a component of the Khelo India Programme.
- ❖ **Objective:** To rejuvenate India's grassroots sports culture by constructing a robust framework for all sports and positioning the country as a prominent sporting nation.
- ❖ **Edition:** The inaugural edition was conducted in Delhi in 2018.
- ❖ The event is divided into **two categories: under-17 school students and under-21 college students.**



KIYG- 23

- ❖ The Games are being played across four cities of **Tamil Nadu**, namely **Chennai, Madurai, Trichy and Coimbatore.**
- ❖ The **mascot for the Games is Veera Mangai. Rani Velu Nachiyar**, fondly called Veera Mangai, was an Indian queen who waged a war against British colonial rule.
- ❖ The **mascot symbolizes the valour and spirit of Indian women, embodying the strength of women power.** The logo for the games incorporates the **figure of poet Thiruvalluvar.**
- ❖ The **26 sporting disciplines** are a diverse mix of **conventional sports such as football, volleyball, badminton** etc. and traditional sports such as **kalaripayattu, gatka, thang ta, kabaddi and yogasana.**
- ❖ **Silambam, a traditional sport of Tamil Nadu,** is being introduced as a demo sport for the first time in the history of Khelo India Youth Games.



MOSQUITOFISH

WHY IN NEWS?

- ❖ *Mosquitofish (**Gambusia affinis and Gambusia holbrooki**) are in the news due to their detrimental ecological impact and widespread introduction for mosquito control, despite being designated as **invasive alien species in India.***

BIODIVERSITY EFFECTS

- ❖ Genetic study in India reveals dominance, especially in **northeast ecosystems.**
- ❖ Government and NGOs in **Andhra Pradesh, Odisha, and Punjab** respond.
- ❖ **Mosquitofish was Introduced in 1928** during British rule to control mosquito larvae.
- ❖ ICMR and various government bodies facilitated widespread introduction.
- ❖ **U.S.-origin Gambusia** causing ecological harm in India.
- ❖ Infamous for displacing native fauna and causing environmental issues.

CURRENT STATUS IN INDIA



- ❖ Despite harm, government and NGOs continue introducing mosquitofish for control.
- ❖ **WHO stopped recommending Gambia in 1982.**
- ❖ In **2018, National Biodiversity Authority** designated *G. affinis* and *G. holbrooki* as invasive.



CONTROL MEASURES

- ❖ Focus on **river basins** to compile lists of native species for larval control.
- ❖ Release of relevant native species to prevent invasive alien species' ecological impact.
- ❖ Remove recommendation on **National Centre for Vector Borne Diseases Control website.**
- ❖ Emphasize local solutions and expert collaboration to protect indigenous aquatic biodiversity.



PLACES IN NEWS - BALTIC SEA

WHY IN NEWS?

- ❖ *Ukraine strikes kill 25 in donetsk, cause blaze in Baltic Sea terminal*

LOCATION & FEATURES

- ❖ **Northern Europe's** Baltic Sea, is an arm of the **Atlantic Ocean**, is a shelf and marginal sea.
- ❖ Limited water exchange with the Atlantic makes it an inland sea, among the **largest brackish inland seas.**
- ❖ It is enclosed by **Denmark, Estonia, Finland, Germany, Latvia, Lithuania, Poland, Russia, Sweden, and the North and Central European Plain.**
- ❖ Maximum depth of 459 m on the Swedish side of the center.
- ❖ It's northern part is known as the **Gulf of Bothnia**; the more rounded southern basin is the **Bothnian Sea**, followed by the **Sea of Åland.**
- ❖ **Gulf of Finland** connects it with **Saint Petersburg**, while the **Gulf of Riga** is between **Estonia and Latvia.**
- ❖ Artificial waterways connect the Baltic Sea to the White Sea via the **White Sea–Baltic Canal** and to the North Sea's German Bight via the **Kiel Canal.**

