

12th July, 2024

1. Reading the tea leaves ahead of China's Third Plenum GS 2 (International Relations)

- **Why in News:** The upcoming Third Plenum of China's 20th Party Congress, scheduled for July 15-18, 2024, has sparked global interest due to its potential to signify a shift in China's economic and foreign policies.
- **Significance of the Third Plenum:**

- **Historical Importance:** Third Plenums typically set China's economic strategy for the next 5-10 years, with the 1978 Plenum under Deng Xiaoping being a landmark event for economic reforms.
- **Economic Challenges:** China faces issues such as an aging population, shrinking workforce, high debt levels, and economic slowdown, necessitating potential reforms.
- **Global Expectations:** There is speculation about possible sweeping reforms to ensure China's rapid progress, though uncertainty remains about the current leadership's willingness to experiment with new ideas.

● China's Current Stance and Global Perceptions:

- **Continued Assertiveness:** Western commentators expect China to maintain its "gray zone coercion" tactics, including disinformation campaigns, military provocations, and threats to Taiwan.
- **Global Initiatives:** China's Global Development Initiative (GDI), Global Security Initiative (GSI), and Global Civilization Initiative (GCI) reflect its values and national security priorities.
- **Regional Concerns:** Countries in Asia may need to contend with a mix of Chinese cultural expansionism and national security paranoia.

● India-China Relations and Future Prospects:

- **Strained Ties:** India-China relations have been under strain since 2020, primarily due to border tensions.
- **Strategic Concerns:** India's strategic community highlights concerns about China's growing missile and nuclear inventory, space capabilities, and electronic warfare advancements.
- **Diplomatic Opportunity:** The article suggests that India, given its current strong position, could take a diplomatic initiative to improve relations with China, potentially benefiting both countries and global peace.

2. Breaking the taboo around men's reproductive health GS 2 (Health)

- **Why in News:** World Population Day (July 11) highlights the need to address male infertility, a stigmatized and often neglected aspect of reproductive health in India.

● Prevalence and Causes of Male Infertility:

- **Global Scale:** WHO estimates 60-80 million couples worldwide struggle with infertility.
- **Indian Scenario:** Approximately 13-19 million Indian couples may face infertility issues, with male infertility accounting for 50% of all cases.
- **Causal Factors:** Stress, hormonal imbalance, genetic and epigenetic factors, environmental pollution, lifestyle choices, and delayed marriages contribute to male infertility.

Reading the tea leaves ahead of China's Third Plenum

Commentators in the West have been stating for some time that it was time to move beyond the myopic vision of a post Cold War world, as, according to them, Moscow and Beijing could no longer be expected to become responsible stakeholders within a rules-based international order. Against this backdrop, considerable attention is being devoted to the Third Plenum of China's 20th Party Congress for signs of a possible turn. There is a lingering hope that the plenum, scheduled to be held from July 15-18, might signify a shift in policy and a change in direction, at least as far as China is concerned. Positivism is, nevertheless, rife in the West that China would ever subscribe to the idea that the security of every country is intimately linked to the security of the other. Yet, China is well known to spring surprises.

Nonetheless, a belief exists in the West that China had 'peaked' economically following its disastrous 'Zero COVID' policy. Also, that China's economy is still in terminal decline. Hence, the plenum might well pave the way for a change in direction, unlikely though it might look as of now. There is, thus, considerable interest, all around, about the eventual outcome of the plenum.

Economic reforms, issues

The fact that the date of the Third Plenum has been advanced this time – it normally takes place in October or November of the year following the standard Five Year Party Congress interval – has spurred this speculation that China is contemplating sweeping reforms to ensure China's rapid progress in the period ahead. Third Plenums typically set the economic strategy for the next five to 10 years, and are generally viewed as the most crucial Plenum in the Central Committee's five-year cycle. Across the world, many still recall that it was at the Third Plenary Session of the Third Party Congress in December 1978 that Deng Xiaoping unveiled a whole new range of economic reforms that set China on the path of economic resurgence.

That China has economic problems is not denied: an ageing population, declining workforce, high levels of debt, and an economy that is still facing problems, notwithstanding measures that have been put in place. This has given rise to a great deal of pessimism within China itself about its future. Hence, are high that the Plenum will come out with certain new guidelines that would at least convey an impression to the people and the world outside that China's economy is in good shape.

It has been a long time since any meeting devoted almost entirely to economic reforms has



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been programmed by the leaders of China's Communist Party. Most outside experts, however, are uncertain whether the plenum would indeed provide China an opportunity to experiment with new ideas. Further, that the current leadership would do so. Understandably, China's Vice Premier, Mr. Jinping, is hardly in a position to repeat what Deng Xiaoping said at the plenum in 1978 (which was held after Mao's demise), that China had been 30% wrong, though 70% right. This would amount to an admission of failure on Mr. Xi's part, which could impact his future.

The view about China's 'intentions'
The West's drumbeat of allegations against China is, meanwhile, set to continue. Notwithstanding the outcome of the plenum deliberations, they will convince themselves that China's 'gray zone coercion' tactics are likely to continue. Activities such as 'disinformation' campaigns, interference in elections in democracies, military provocations in the seas around China, within and outside the First and Second Island Chains, the threat to Taiwan and countries in the South and East China Seas will, they claim, remain. Taiwan would also continue to remain the centrepiece of China's military and propaganda offensive.

Countries in Asia particularly, may, therefore, need to contend specifically with the threat posed by a mix of Chinese values, cultural expansionism, and national security paranoia. China's Global Development Initiative (GDI), Global Security Initiative (GSI), and Global Civilization Initiative (GCI) well encompass many of China's beliefs, leaving little scope for any adjustment. Having elevated the issue of national security to the highest level, Mr. Xi in turn sees danger everywhere. And this increases the paranoia about China's intentions in Asia, as also elsewhere.

China's approach is, thus, likely to add a great deal of 'heat' to an already difficult regional and global situation. It could also pose a dilemma for India's policymakers. For many years now, and more so since 2020, India's relations with China have remained under deep strain. This is not solely due to the tense situation prevailing on the India-China border, but has been the catalyst. As such as the border is concerned, the Chinese still demonstrate little 'give', despite India indicating a willingness to show more flexibility.

There is some hope that the plenum might point to a change in direction for China

strategic community also continue to draw attention to the danger posed by China's Rocket Force (which covers its nuclear and conventional missiles), and about the advances made by China in space and electronic warfare.

The broad hint is that India should prepare for the worst, and take adequate steps in the event of a confrontation.

The issue, therefore, is whether a confrontation is inevitable, or whether an attempt could be made to deflect China's 'evil intentions' through diplomacy and other means. This has no relationship to the relative difference in China's and India's force structure, and is intended, at best, to avoid any misadventure through wrong signalling. There is no hint forthcoming that China would respond positively to such overtures, given China's hard line stance and its aggressive intent. This is, however, as good a time as for any experimentation, given that the economic and strategic consequences of a conflict would be grim for both countries.

Where India stands

Today, India is far better positioned than China to take such an initiative. It is on the cusp of becoming a 'major' from a 'middle level' power. In economic parameters are among the best in the world at present. It has a strong and focused leadership and has friends across the spectrum in all corners of the world. An initiative on India's part at this time would not be seen as a sign of weakness; it would be tantamount to a major initiative in favour of world peace. In the long history of China-India rivalry and conflict, from the early 1960s till date, there have been many periods when India has taken the initiative, and on occasions with spectacular outcomes. In the realm of diplomacy, place names such as Sino-Indian and Sino-Indian have been coined. In terms of grand initiatives, Indian Prime Minister Narendra Modi's path breaking visit to China in 1988 and his discussions with Deng Xiaoping at the time, ensured about three decades of peace for India and the world. The situation today is again less tense than during many periods in the past. Peace is not at hand, but India today holds a stronger card, poised to undertake a trade mission on its 75th birthday. Mr. Xi invoking a reference to the Five Principles of Peaceful Co-existence (Panchsheel) could well provide the opportunity for India to embark on a grand new initiative. It is India's choice to do this or not. What is certain is that if there is a successful result, it would be highly beneficial for India and China, Asia and the world.

Breaking the taboo around men's reproductive health

World Population Day (July 11) has passed. As we grapple with the multifaceted challenges of global population dynamics, it is crucial to turn the spotlight on a subject often overlooked in discussions on reproductive health: male infertility. Male infertility remains a stigmatized issue, shrouded in silence and with misconceptions. This neglect exacerbates the emotional and psychological toll on those who are affected and impedes progress towards effective solutions.

In 2024, the World Health Organization (WHO) estimated that globally, between 60 million to 80 million couples struggle with infertility. However, the exact prevalence of infertility in India remains unspecified according to the Indian Council of Medical Research (ICMR). National Guidelines for Accreditation, Supervision and Regulation of Assisted Reproductive Technologies (ART) Clinics (2020). Extrapolating from WHO's data, it is suggested that approximately 13 million to 19 million Indian couples may face infertility issues. This incidence is only set to increase, shaped by factors such as environmental pollution and changing lifestyle habits. Male infertility accounts for 50% of all infertility cases in the country. Thus, it is important to shed light on the factors that influence, understand its causes, and identify solutions to aid the millions of affected couples.

Understanding the subject

Male infertility is not a stand-alone experience. Its causes, and therefore its forms, vary. Infertility in men can manifest as an absence of sperm, low sperm count, low sperm motility, or both. The reasons can be as diverse as hormonal imbalances, genetic factors, lifestyle choices, and delayed marriages contribute to male infertility.



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exposure to certain infections. External factors such as environmental pollution and an indiscriminate use of pesticides on crops, plants, and pesticides can also affect fertility and influence the epigenetic makeup. Lifestyle factors such as diets, sleep patterns, work stress, and consumption of alcohol and tobacco also play a major role. Adding to these factors is a growing prevalence of late marriages among youth, creating challenges due to age.

While the challenges listed above may appear daunting, male reproductive health is not a hopeless cause. With the right interventions, many couples can achieve their dream of parenthood. First and foremost, it is imperative to be aware of reproductive and sexual health and the factors that influence it, particularly during the formative period from secondary school to junior college. Here, parents, particularly fathers, play a critical role and must educate their sons on the issue. At an individual level, young men should proactively adopt good lifestyle practices, ensuring healthy eating, regular sleep patterns, and abstaining from the consumption of alcohol, tobacco, and other vices. While mobile phones and laptops have become occupational hazards in most fields, their excessive usage, in proximity to the body, should be avoided. Stress is a major deterrent to reproductive health, and regular exercise, yoga, and meditation can go a long way in reducing adverse effects on well-being. Couples together must also adopt such healthy lifestyle practices to safeguard their reproductive health and enhance their well-being.

Treatment options
While lifestyle interventions play a critical preventive role, it is also important to discuss

treatments available for those grappling with infertility. Treatment options are varied, and their efficacy depends on the cause and the form of infertility. It is important to seek help from a medical professional to identify the cause of infertility. The medical professional will guide the couple through the various treatment options available. If the issue is physical or anatomical such as blocked sperm ducts, surgery may be recommended. In cases of abnormal sperm count, sperm donation or surrogacy can be considered. In cases where the sperm count is very low, there is a chance for the couple to conceive naturally if sperm motility is very good. However, if there is a problem with sperm count and motility are low, intracytoplasmic sperm injection (ICSI) or in vitro fertilization (IVF) or IVF is advanced. In cases of male infertility due to genetic factors, genetic counselling is of utmost importance before seeking the support of assisted reproductive technologies such as IVF and ICSI.

With millions of couples in India facing infertility issues, there is an urgent need for open and informed discussions on reproductive health. It is time to recognize and address the significant issue of male reproductive health. Awareness building, sex education, and timely medical interventions are key to supporting couples on their journey to parenthood. By breaking the silence surrounding male infertility and fostering an environment of support and understanding, we can help many couples realize their dream of having children.

● Addressing Male Reproductive Health:

- **Awareness and Education:** Emphasize the importance of reproductive health education, particularly during secondary school and junior college years.
- **Lifestyle Interventions:** Promote healthy eating, regular sleep patterns, stress reduction through exercise and meditation, and avoidance of alcohol and tobacco.
- **Medical Treatments:** Options include surgery for physical issues, assisted reproductive technologies like IUI, IVF, and ICSI, and genetic counseling for gene mutation cases.

● Challenges and Way Forward:

- **Stigma and Silence:** Male infertility remains a taboo subject, impeding progress and affecting those struggling with the issue.
- **Increasing Prevalence:** Environmental pollution and lifestyle shifts are expected to increase infertility rates.
- **Holistic Approach:** Combine lifestyle interventions, medical treatments, and public awareness to address male reproductive health comprehensively.

3. Maharashtra Special Public Security Bill 2024

GS 2 (Governance)

● Why in news:

- The Maharashtra government introduced the Maharashtra Special Public Security Bill, 2024, to address the growing threat of Naxalism in urban areas, particularly through Naxal-affiliated organizations.
- The bill proposes strict penalties, including imprisonment, for individuals who may not be direct members of unlawful organizations but engage in activities such as contributing to, receiving or soliciting aid for, harboring members of, or promoting or assisting in the meetings of such groups.

● Urban Naxalism

■ About

- ◆ The presence of, and activities carried out, by Naxalites or the CPI (Maoist) in urban areas are together termed as Urban Maoism/Naxalism.
- ◆ As per **Maoist Document 'Strategy and Tactics of Indian Revolution'**:
 - Urban movement is one of the main sources, which provides cadres and leadership having various types of capabilities essential for the people's war and for the establishment of liberated areas.
 - Also, the responsibility for the provision of supplies, technology – expertise, information and other such things, to the people's war, too lies on the shoulders of the urban revolutionary movement itself.

■ Three objectives of Maoist Urban work

- ◆ Mobilising and organising masses
- ◆ Build United Front (Network of Mass Organisations)
- ◆ Military Tasks

■ Activities

- ◆ maintaining safe houses for leaders and cadres while in transit,
- ◆ place for recuperation and for holding meetings;
- ◆ providing logistics support to under-ground squads;
- ◆ mobilising and recruiting youth, students and workers from industry and other bodies.

● Key provisions of Maharashtra Special Public Security Bill, 2024

■ Purpose and Scope

- ◆ The Maharashtra government has introduced the Maharashtra Special Public Security Bill, 2024, to combat the increasing threat of Naxalism, **especially in urban areas through Naxal-affiliated organizations.**

'SAFE HOUSES, URBAN DENS' Citing 'Naxalism in urban areas', Maharashtra Govt tables Bill

Jail term even if not a member of 'unlawful organisation' but 'aids' it

ALOK DESHPANDE
MUMBAI, JULY 11

STATING THAT the "menace of Naxalism" is "increasing in urban areas... through Naxal frontal organisations", the Maharashtra government on Thursday tabled the Maharashtra Special Public Security Bill, 2024, which proposes jail term even if a person is "not... a member of an unlawful organisation", but "contributes/ receives/ solicits any contribution or aid" or "harbours" a member. The Bill grants the state the authority to declare an organisation as "unlawful" – a decision which can be reviewed by an advisory board set up by the state government. Citing "safe houses and urban dens of the Maoist network" in Maharashtra, it says such groups seek to "propagate their ideology of armed rebellion against the constitutional mandate". The Bill defines an "unlawful activity" as one which constitutes a danger or menace to public order, peace and tranquility; interferes with maintenance of public order; "administration of law or its established institutions and personnel"; designed to show criminal force to any public ser-

E The key provisions

3-YEAR JAIL TERM. Rs 3 lakh fine for member of an 'unlawful organisation'.
2-YEAR JAIL TERM. Rs 2 lakh fine even if not a member, but "contributes/ receives/ solicits any contribution or aid" or "harbours" a member.
3-YEAR JAIL TERM. Rs 3 lakh fine if a person "manages/ assists in management" such an organisation or "promotes/ assists in promoting" its meeting or any member.
7-YEAR JAIL TERM. Rs 5 lakh fine if a person commits/ abets/ attempts/ plans to commit "any unlawful activity" of such an organisation.

vant; including in or propagating acts of violence, vandalism, use of firearms, explosives or disrupting communications by rail, road, air or water; "encouraging or preaching disobedience to established law and its institutions"; collecting money or goods to carry out unlawful activities.

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■ Declaration of Unlawful Organizations

- ◆ The state can declare an organization as “unlawful”.
- ◆ An advisory board of three qualified individuals (current/former/qualified High Court judges) will review such decisions.

■ Definition of Unlawful Activities

- ◆ Activities threatening public order, peace, and tranquility.
- ◆ Interference with law administration and public servants.
- ◆ Violence, vandalism, use of firearms, explosives, and disruption of transportation.
- ◆ Encouraging disobedience to law and institutions.
- ◆ Collecting funds or goods for unlawful activities.

■ All offences under the law are cognizable and non-bailable

- ◆ All offences under this law will be cognizable and non-bailable, and will be investigated by a police officer not below the rank of a Sub-Inspector.

■ Punishments

- ◆ **Members of Unlawful Organizations**
 - Imprisonment up to 3 years and fines up to Rs 3 lakh.
- ◆ **Non-members Contributing or Aiding Unlawful Organizations**
 - Imprisonment up to 2 years and fines up to Rs 2 lakh.
- ◆ **Management or Promotion of Unlawful Organizations**
 - Imprisonment up to 3 years and fines up to Rs 3 lakh.
- ◆ **Committing, Abetting, or Planning Unlawful Activities**
 - Imprisonment up to 7 years and fines up to Rs 5 lakh.

■ Seizure and Forfeiture

- ◆ If an organisation has been declared as unlawful, the District Magistrate or Commissioner of Police can notify and take possession of any place used for its activities.
- ◆ Government can forfeit money and assets intended for unlawful organizations.

■ Legal Review

- ◆ An advisory board must review the declaration of unlawful organizations within six weeks and submit a report within three months.
- ◆ High court can review government actions through revision petitions.

5. India Pitches for Infusing New Energies into BIMSTEC Grouping

GS 2 (International Relations)

- **Why in the News:** India has called on the seven-nation Bay of Bengal Initiative for Multi-sectoral Technical and Economic Cooperation (BIMSTEC) grouping to infuse new energies, resources, and a fresh commitment to bolster cooperation among the Bay of Bengal countries.

- **About BIMSTEC:**

- The Bay of Bengal Initiative for Multi-Sectoral Technical and Economic Cooperation (BIMSTEC) is a regional organization founded in **1997** to promote economic cooperation and technical collaboration among countries bordering the Bay of Bengal.

- The BIMSTEC region is **home to more than 1.7 billion people** which constitute around 23% of the global population.

■ Member Countries:

- ◆ Bangladesh, Bhutan, India, Myanmar, Nepal, Sri Lanka, Thailand

■ Objectives:

- ◆ Foster economic growth and development.
- ◆ Enhance regional connectivity and integration.
- ◆ Promote cooperation across various sectors such as trade, technology, energy, and transportation.

■ Priority Sectors:

- ◆ **Trade and Investment:** Boosting intra-regional trade and investments.
- ◆ **Technology:** Sharing technological advancements.
- ◆ **Energy:** Collaborating on renewable and sustainable energy projects.



- ◆ **Transportation:** Improving regional connectivity.
- ◆ **Tourism:** Promoting cultural and tourism exchanges.
- ◆ **Agriculture:** Enhancing agricultural practices and ensuring food security.
- ◆ **Fisheries:** Ensuring sustainable fisheries management.
- **Trade Dynamics:**
 - ◆ According to industry insiders, Intra-regional trade among BIMSTEC countries is above US\$40 billion and the **potential trade opportunity evolving the BIMSTEC nations seems to be as high as US\$250 billion.**
 - ◆ Notably, BIMSTEC countries constitute around 3.8% of world trade meaning that it has an immense potential to be a game-changer of the global south economy.
 - ◆ Presently, about 60% of BIMSTEC's combined GDP at present comes from trade.
 - ◆ Currently, **India's export share in BIMSTEC is about 50% (US\$21 billion)**, followed by Thailand 30% (US\$12.2 billion) and Myanmar 14% (US\$6.1 billion).
 - ◆ **Over 40% of BIMSTEC's intra-regional trade is ocean-borne**, demonstrating the need for maritime connectivity.
- **Challenges for BIMSTEC as an Organisation:**
 - Intra-regional trade and investment are relatively lower in the BIMSTEC region as compared to other regional blocs.
 - One of the major reasons for this low level of trade and investment is **inadequate infrastructure.**
 - Moreover, **lack of connectivity and information dissemination** in the region appears as a common barrier for tap BIMSTEC-led opportunities.
 - Regarding border trade, lack of telecommunication links, parking space, warehouses and cold storage, accommodation facilities and power are major constraints.
- **News Summary:**
 - India has urged the BIMSTEC group to bring new energy, resources, and commitment to enhance cooperation among its member countries.
 - This call was made by External Affairs Minister S. Jaishankar during a two-day retreat with his counterparts from the seven BIMSTEC nations: India, Sri Lanka, Bangladesh, Myanmar, Thailand, Nepal, and Bhutan.
 - Discussions on the first day included topics such as connectivity, trade and business collaboration, health and space cooperation, digital public infrastructure, capacity building, and societal exchanges.
 - Jaishankar emphasized that **BIMSTEC aligns with India's 'Neighbourhood First' policy, 'Act East Policy,' and 'SAGAR' vision, focusing on the Bay of Bengal region.**
 - He highlighted the need to realize the collaborative potential of the region and conveyed a strong message of determination to enhance cooperation among the member countries.

6. Vizhinjam port welcomes its first mothership GS 3 (Infrastructure)

- **Why in news:**
 - India's **first deep-water transshipment port, the Vizhinjam international seaport** near Thiruvananthapuram, received its first mothership (a mothership refers to a large cargo vessel that acts as a central hub for the transshipment of goods.).
 - The **MV San Fernando**, carrying 2,000 containers, was given a grand welcome at the port. The berthing of the ship was part of a trial run at the port before it is slated to open for commercial operations.
- **Deepwater transshipment port**
 - **Deepwater port**
 - ◆ A deepwater port is a manmade structure that are used as ports or terminals to transport, store, or handle oil or natural gas.
 - ◆ These structures can be fixed or floating, and are located beyond state seaward boundaries.
 - ◆ They can include: Pipelines, Pumping stations, Service platforms, Mooring buoys.

Vizhinjam port welcomes 1st mothership

EXPRESS NEWS SERVICE
THIRUVANANTHAPURAM,
JULY 11

INDIA'S FIRST deepwater transshipment port, the Vizhinjam international seaport near Thiruvananthapuram, on Thursday received its first mothership.

The MV San Fernando, carrying 2,000 containers, was given a grand welcome at the port. The berthing of the ship was part of a trial run at the port before it is slated to open for commercial operations.

Before the 300-metre-long Marshall Island-flagged container ship berthed at the port Thursday morning, tug boats gave it a water salute. The ship, operated by



Container ship MV San Fernando reaches Vizhinjam international seaport near Thiruvananthapuram, Thursday.

Bernhard Schulte Ship Management, Singapore, was hired by Maersk (AP Moller Group). It arrived from the Xiamen port in China. On Friday, the state government will hold an official recep-

tion for the ship, which will leave for Colombo after unloading around 1900 containers.

"This event signifies a monumental moment in Kerala's maritime history and stands as

a testament to unwavering commitment of Left Democratic Front government to the state's development... Vizhinjam Port will create over 5,000 direct job opportunities and significantly boost the industry, commerce, transportation and tourism sectors," Kerala CM Pinarayi Vijayan said in a post on X.

The Rs 7600-crore transshipment deepwater multipurpose seaport project in Vizhinjam is being executed by Adani Ports and SEZ Private Ltd on a design, build, finance, operate and transfer (DBFOT) model.

Vizhinjam is the first international deepwater transshipment port in the Indian subcontinent, with a natural depth of more than 18 m, scalable up to 20 m.

■ Transshipment port

- ◆ A transshipment port is a port where goods are offloaded and loaded onto a different ship to continue their journey to their final destination.

● Why India needs a container transshipment port?

■ Lacks infrastructure to deal with ultra-large container ships

- ◆ India has **13 major ports**. However, the **country lacks a landside mega-port and terminal infrastructure to deal with ultra-large container ships**.
- ◆ Hence, nearly 75 per cent of India's transshipment cargo is handled at ports **outside India, mainly Colombo, Singapore, and Klang**.
- ◆ In fiscal 2021-22, the total transshipment cargo of India was about 4.6 million TEUs (twenty-foot equivalent units), out of which about **4.2 million TEUs were handled outside India**.

■ Other benefits

- ◆ Developing such ports will accrue **significant benefits such as forex savings**, foreign direct investment, increased economic activity at other Indian Ports.
- ◆ It will also lead to the **development of related logistics infrastructure**, employment generation, improved operation/logistics efficiencies and increase in revenue share.
- ◆ Several other **allied businesses** ship chandlery-ship supplies, ship repair, crew change facility, logistics value-added services, warehousing and bunkering also come up at the transshipment port.

■ Increased economic activities

- ◆ A deepwater container transshipment port can attract a **large share of the container transshipment traffic**.
 - Currently, this is being diverted to Colombo, Singapore and Dubai.
- ◆ It can also ensure India's economic development and open up immense job opportunities.

● Vizhinjam International Seaport Project

- Located in Vizhinjam (near Thiruvananthapuram), Kerala, this transshipment deepwater multipurpose seaport project is being built by Adani Ports and SEZ Private Limited.

- It is being built on a design, **build, finance, operate and transfer (DBFOT) model**.

- ◆ DBFOT model is a Public-Private Partnership (PPP) model. In this model, a private partner is responsible for:

- Designing the project
- Building the project
- Financing the project
- Operating the project during the contracted period
- Transferring the project back to the public sector

- The DBFOT model is usually used for large-scale infrastructure projects.
- The private partner is granted a concession by the public sector to finance, design, construct, own, and operate the project for a period of 20 to 30 years.
- After that period, the project is returned to the public entity that originally granted the concession.
- According to the agreement, out of the total investment, Adani Group is supposed to invest Rs 2,454 crore and another Rs 1,635 crore will be mobilised from the state and central governments as viability gap funding.
- The Kerala government has also gave 500 acres of land.
- The **DBFOT deal is for 40 years, with provisions extending for 20 years**.



● Features of the Vizhinjam port

■ India's first international deepwater transshipment port

- ◆ This is India's first international deepwater transshipment port with a natural depth of more than 18 meters, scalable up to 20 meters.
 - This depth is crucial to get large vessels and mother ships.
- ◆ It is designed to cater to container transshipment, multi-purpose, and break-bulk cargo.
- ◆ The cost of movement of containers to and from foreign destinations is likely to come down.

■ Strategic location

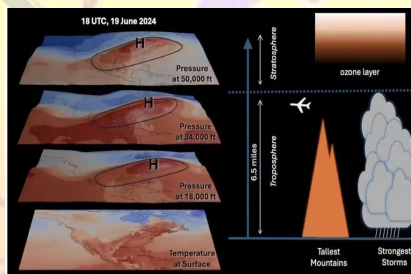
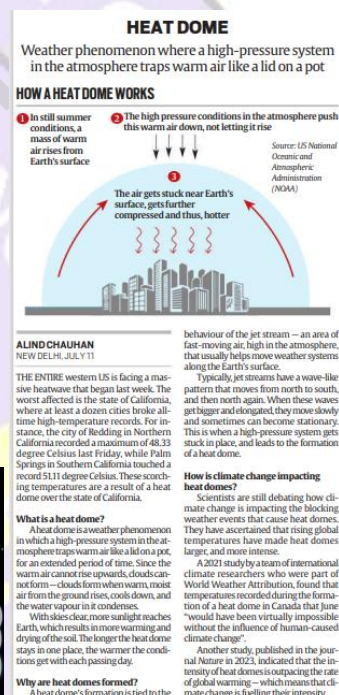
- ◆ The port is located **ten nautical miles from the international shipping route**.

- ◆ The port is expected to compete with Colombo, Singapore, and Dubai for winning trans-shipment traffic.
- **Increased capacity and minimum maintenance**
 - ◆ Its capacity in the first phase is one million TEU, which can be increased to 6.2 million TEU.
 - ◆ Other features include minimal littoral drift along the coast and virtually no requirement for any maintenance dredging.
- **Economic benefits**
 - ◆ The project is expected to generate 5,000 direct job opportunities, apart from giving a boost to an industrial corridor and cruise tourism.
 - ◆ Vizhinjam port offers **large-scale automation for quick turnaround of vessels** with state-of-the-art infrastructure to handle Megamax container ships.

7. Heat Dome

GS 3 (Environment)

- **Why in News:** In June 2024, the Northeastern United States experienced an unusually early and prolonged heat wave caused by a weather phenomenon known as a **heat dome**. This heat dome, linked to a stagnant high-pressure system in the atmosphere, trapped warm air beneath it, preventing weather systems from moving through and resulting in extreme heat conditions.
- **What is a Heat Dome?**
 - A heat dome forms when warm air becomes trapped under a stationary **high-pressure area** in the atmosphere.
 - This phenomenon blocks the movement of weather patterns, allowing more sunlight to reach the Earth's surface.
 - Consequently, this intensifies warming and drying of the soil, reduces evaporation, and inhibits the formation of rain clouds.
 - The **longer a heat dome persists in one location, the hotter conditions become** each passing day.
 - Heat domes typically last from several days to a few weeks and are influenced by the behavior of the **jet stream**.
- **Jet Stream**
 - A jet stream is a **fast-moving, narrow air current flowing west to east** around the globe in the **upper atmosphere**.
 - It follows a **wave-like pattern** that oscillates north and south. When these waves elongate and slow down, they can become stationary, causing high-pressure systems like heat domes to become stuck in place
 - Jet streams typically travel at speeds ranging from 129 to over 443 kilometers per hour (80 to 275 miles per hour), with greater speeds during winter due to temperature differences between air currents



8. Threats Posed by Asteroids and Need for Planetary Defence

GS 3 (Science and Tech)

- **Why in News:** Indian Space Research Organisation's (ISRO) Chairman S Somanath recently showed its intent to develop capabilities in planetary defence - an area it has so far not entered.
- **What is the Intent of ISRO?**
 - The Indian space agency might send its own spacecraft to the **asteroid Apophis**, when it passes by Earth at a distance of 32,000 km in 2029.
 - As NASA's mission to the asteroid Apophis has already been confirmed, ISRO may also collaborate with other space agencies.

Chasing asteroids: Why ISRO wants to venture into planetary defence



- A mission to study an asteroid would be the **first step towards building a programme aimed at preventing celestial bodies from colliding with Earth** with potentially catastrophic consequences.
- **Threats from Space and the Need of a Planetary Defence Programme:**
 - **Background:**
 - ◆ The planets of the Solar System were born in a violent storm of asteroid-like objects that began 4.6 thousand million years ago and lasted for roughly 500 million years.
 - ◆ It's ironic that this process, which at first helped life emerge by supplying the planet with valuable organic compounds, is now posing a threat to it.
 - ◆ The planets failed to consume all of the asteroids and the **planetary leftovers are still orbiting the Sun today.**
 - ◆ Most of them are confined to the 'main belt' of asteroids, in between the orbits of Mars and Jupiter.
 - ◆ They may be pushed out by the planets' gravitational pull and fall in the direction of the Sun, which means that they may cross Earth's orbit and potentially collide with it.
 - **Threats from asteroids:**
 - ◆ Asteroids are headed towards Earth all the time and thousands enter the Earth's atmosphere every day.
 - ◆ Most are very small and burn up in the atmosphere due to friction. Some of the larger ones burn spectacularly, and show up as fireballs in the sky.
 - ◆ In some cases, unburnt fragments make it to the surface, although they are not large enough to cause much damage.
 - ◆ However, a 20-metre-wide asteroid entered the atmosphere and exploded about 30 km above a Russian town in 2013.
 - ◆ This resulted in the release of energy ~30 times the energy released by the atom bomb that detonated over Hiroshima.
 - **Need of a planetary defence programme:**
 - ◆ **An asteroid was detected only after it entered the atmosphere** because it came from the direction of the Sun, and was hidden by its glare.
 - ◆ At least 1.3 million asteroids are known to scientists, although there may be more surprising discoveries.
 - ◆ A planetary defence programme seeks to track and neutralise these threats.
- **Why is Apophis Considered an Alarming Asteroid?**
 - When Apophis was discovered in 2004, scientists thought there was a **2.7% chance of a collision with Earth** - the highest probability of any large asteroid hitting Earth in the recent past.
 - Initial observations showed that if not in 2029 (when it will come the closest to Earth and flying by at a distance of 32,000 km), Apophis could hit Earth in 2036 or 2068.
 - Given the asteroid's size - **scientists believe that a collision with Earth could cause large-scale damage**, drawing comparison with the event that wiped out dinosaurs and most other extant life some 66 million years ago.

SPACE OBJECTS

ASTEROID: Rocky/ metallic objects moving around Sun, mostly leftovers from the formation of solar system. Asteroids less than 1 metre in diameter are called meteoroids.

METEOR: The streak of light produced when an asteroid/ meteoroid encounters friction of Earth's atmosphere.

METEORITE: Unburnt fragment of asteroid that falls to Earth

HOW BIG?

APOPHIS: About 450 m at its widest

CHELYABINSK, which exploded over Russia in 2013: about 20 m at its widest

ASTEROID THAT ELIMINATED DINOSAURS: 10-15 km wide

MCQ Current Affairs
12th July, 2024

1. Consider the following statements with reference to the Technology Development Fund (TDF) Scheme:

A. It encourages the participation of public and private industries by providing grants-in-aid for the development of indigenous defence technologies.

B. It is executed by the Defence Research and Development Organisation (DRDO).

Which of the statements given above is/are correct?

- a) A only
- b) B only
- c) A and B
- d) Neither of two

2. Which among the following best describes Squalus hima, recently seen in the news?

- a) A newly discovered species of frog found in the Western Ghats.
- b) An endangered bird species found in the eastern Himalayas.
- c) A novel type of deep-sea coral found in the Indian Ocean.
- d) A new species of dogfish shark discovered off the southwest coast of India.

3. The Mutual Recognition Agreement for organic products, was recently signed between India and:

- a) Japan
- b) Austria
- c) Russia
- d) Taiwan

4. Consider the following statements regarding Salvinia molesta:

A. It is a fast growing Alien Invasive Aquatic Weed of South-Eastern Brazil origin.

B. It has been widely introduced as an ornamental plant and has been used as a mulch for crops in dry areas.

Which of the statements given above is/are correct?

- a) A only
- b) B only
- c) A and B
- d) Neither of two

5. Consider the following statements with reference to the Thirty Meter Telescope:

A. It aims to study the early universe and evolution of the first galaxies.

B. It is an international project involving India, the United States of America and Canada.

Which of the statements given above is/are correct?

- a) A only
- b) B only
- c) A and B
- d) Neither of two

Answers Current Affairs
12th July, 2024

1. c
2. d
3. d
4. c
5. c

