



Weekly Current Affairs

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ENVIRONMENT AND ECOLOGY

FOREST A MAJOR CONTRIBUTOR TO FINANCIAL WEALTH: SC

Why in the News?

- The supreme court has asserted in a judgment that forests are a national asset and major contributor in the nation's wealth. The judgment is crucial because last year the government passed a controversial Forest Conservation (Amendment) Act, 2023 which attracted widespread criticism .
- SC has also highlighted the concept of carbon credit and green accounting to evaluate national wealth. A judge named Justice M.M. Sundresh said that the forest's spirit is what makes the earth move. This was in response to an appeal from Telangana State against a High Court ruling that gave forest land to a private individual. The State's forest officers made things worse by giving different statements in court.
- The top court told both the State government and the private individuals to pay ₹5 lakh each as punishment. Additionally, the State was told to investigate its own forest officers.
- The court's decision comes at a crucial moment, especially with the recent controversy surrounding the Forest (Conservation) Amendment Act (FCAA) of 2023. This law has faced significant backlash, with many criticizing it for granting States the power to legalize encroachments in protected forests and decide on the use of forest lands. Critics argue that the Act essentially opens the door for the **commercial exploitation** of forests.

Importance of Forest for a Nation:

- **Environmental Stability:** Forests help maintain environmental stability by regulating climate, preventing soil erosion, and purifying air and water. They act as carbon sinks, and suck out carbon dioxide from the atmosphere and help

tackle the impacts of climate change.

- **Biodiversity Conservation:** Forests are home to a variety of plants and animals, some of which are unique and endangered. Protecting forests preserves biodiversity and ensures the survival of these species, which are essential for ecosystem health and resilience.
- **Economic Benefits:** Forests provide valuable resources such as timber, non-timber forest products, and medicinal plants, which support livelihoods and contribute to economic growth. Forest-based industries, including logging, tourism, and ecotourism, generate revenue and employment opportunities.
- **Water Regulation:** Forests are important in regulating the water cycle by influencing rainfall patterns, reducing flooding, and maintaining the flow of rivers and streams. They also help recharge groundwater and provide clean drinking water to communities.
- **Food Security:** Forests contribute to food security by providing habitat for pollinators, wild edible plants, and game animals. Forest ecosystems support agriculture through pollination services, soil fertility, and pest control.
- **Cultural and Recreational Value:** Forests hold cultural significance for many indigenous communities, serving as sacred sites, sources of traditional knowledge, and places for spiritual practices. They also offer opportunities such as hiking, camping, and wildlife viewing, promoting physical and mental well-being.
- **Climate Change Mitigation:** Forests are crucial for tackling climate change by sucking out carbon dioxide through photosynthesis. Forest conservation and restoration efforts are essential strategies for reducing greenhouse gas emissions and achieving global climate targets.

Threats to Forest Land in India

- **Deforestation:** Deforestation, primarily driven

by logging, agriculture expansion, infrastructure development, and urbanization, is a significant threat to forest land in India. Illegal logging and land clearing for agricultural purposes contribute to the loss of forest cover.

- **Encroachment:** Forest land often faces encroachment by individuals, communities, and industries for agricultural activities, settlements, mining, and infrastructure projects. Encroachments degrade forest ecosystems and reduce biodiversity.
- **Illegal Logging and Poaching:** Illegal logging for timber and poaching of wildlife for trade pose serious threats to forest ecosystems. Unsustainable logging practices degrade forest health, while poaching leads to the decline of endangered species and disrupts ecological balance.
- **Forest Fires:** Forest fires, both natural and human-induced, are a significant threat to forest land in India, particularly during the dry season. These fires destroy valuable forest resources, habitats, and biodiversity, and contribute to air pollution and climate change.
- **Climate Change:** Climate change is a threat to forest ecosystems in India, leading to shifts in temperature and rainfall patterns, increased frequency and intensity of extreme weather events, and changes in species distributions. These impacts can stress forest ecosystems and make them more vulnerable to other threats.
- **Illegal Mining and Quarrying:** Illegal mining and quarrying activities, especially in forested areas, degrade habitat quality, disrupt ecosystems, and cause soil erosion and water pollution. These activities also contribute to deforestation and loss of biodiversity.
- **Infrastructure Development:** Infrastructure projects such as roads, dams, and power plants often involve clearing forest land, leading to habitat fragmentation, loss of biodiversity, and disruption of ecological processes.

Forest Conservation Act, 1980

Objectives of the Forest Conservation Act 1980:

- **Conservation and Sustainable Management:** The primary objective is to conserve forests and ensure their sustainable management.
- **Regulation of Forest Land Diversion:** The act aims to regulate the diversion of forestland for non-forestry purposes, such as mining, industrial projects, or infrastructure development.
- **Central Government Approval:** Any diversion of forestland must receive prior approval from the central government.
- **Compensation for Forest Cover Loss:** If forestland is diverted, compensation is required based on the net present value of the affected area. These funds are then utilized for afforestation and reforestation efforts.

Salient Features of the Act:

- **Central Government Approval:** The Act mandates that forestland diversion for non-forestry purposes can only be approved by the central government. This ensures decisions are made at the national level, balancing economic development and environmental conservation.
- **Compensation for Loss of Forest Cover:** Compensation is required for the loss of forest cover due to diversion. The amount is based on the net present value of the diverted land, with funds allocated for afforestation and reforestation.
- **Consultation with State Governments and Tribal Communities:** Before approving forest land diversion, state governments and tribal communities must be consulted. This ensures local stakeholders' views are considered.
- **Mandatory Compensatory Afforestation:** An equal area of non-forest land must be afforested or reforested as compensation for the loss of forestland due to diversion.

SWISS WOMEN WIN CLIMATE CHANGE CASE IN ECHR

Why in the News?

The European Court of Human Rights (ECHR) made

a ruling on Tuesday in support of a group of elderly Swiss women who contended that their government's insufficient actions to address climate change exposed them to the risk of heat-related fatalities.

President of the Court, Siofra O'Leary, stated that the Swiss government had breached the human right to privacy and family life by not implementing adequate domestic policies to confront climate change.

More About the Case

- Switzerland was taken to court in 2016 by KlimaSeniorinnen Schweiz (Association of Senior Women for Climate Protection Switzerland). KlimaSeniorinnen Schweiz comprises women climate activists aged 65 and above.
- These women argued that the Swiss government's insufficient climate policies violate their rights to life and other protections outlined in the European Convention on Human Rights, an international treaty safeguarding human rights and political freedoms in Europe.
- Their argument drew in part on their vulnerability to extreme heat due to their advanced age, citing reports from the Intergovernmental Panel on Climate Change (IPCC), a United Nations body assessing climate change science.
- These reports indicated that Swiss senior women, especially those over 75, are at higher risk of heat-related health issues such as dehydration, hyperthermia, fatigue, loss of consciousness, heat cramps, and heat strokes.
- While acknowledging that older men, individuals with illnesses, and young children also suffer from heat waves and other climate impacts, the case was brought solely by senior women.

Court's Verdict

- The European Court of Human Rights (ECHR) emphasised that Article 8 of the convention encompasses the right for individuals to receive effective protection from state authorities against the severe adverse effects of climate change on their lives, health, well-being, and

quality of life.

- The court found that the Swiss government had violated the convention by failing to enact sufficient laws to address climate change impacts and falling short of greenhouse gas (GHG) emission targets.
- Switzerland committed in 2017 to reducing emissions by 50% from 1990 levels by 2030 and achieving net zero emissions by 2050.
- The President of the Court remarked, "It is evident that future generations will likely endure increasingly severe consequences of current failures and oversights in combating climate change."

Importance of this Case

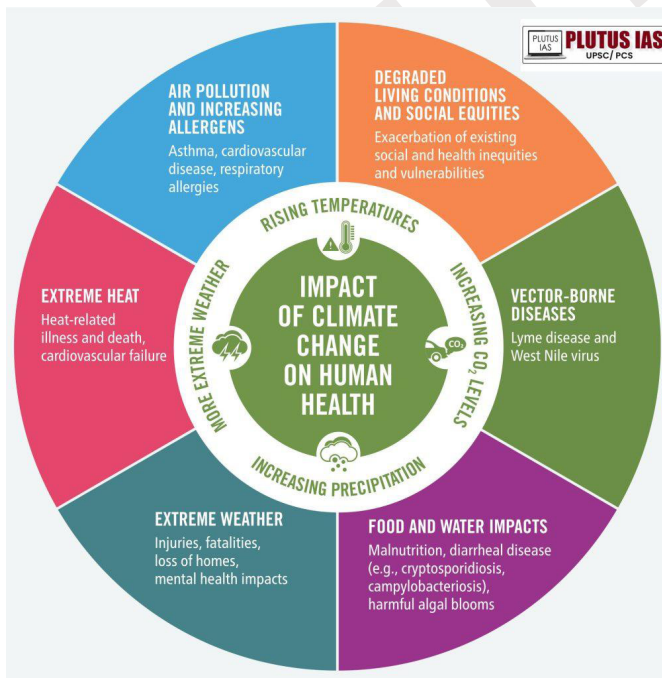
- This landmark ruling sets a binding legal principle for 46 European nations under the Human Rights Convention, including powerhouses like the EU and the UK. Courts in these countries must now consider the ECHR's judgement in climate change and human rights cases. This paves the way for more lawsuits against governments lagging on climate action.
- The verdict empowers climate activists. It shows that legal action can hold governments accountable for their role in the impacts of climate change on human rights. This success story could inspire similar legal challenges across Europe.
- The ruling pressures European governments to strengthen climate policies. The threat of lawsuits could incentivize them to set more ambitious goals and enact stricter emission regulations. This could lead to significant policy shifts across the continent.
- The case compels governments to consider the human rights dimension of climate change. The ECHR judgement highlights how inadequate action can violate fundamental rights, pushing governments to prioritise policies that protect people from climate threats.

About the European Court of Human Rights

- The European Court of Human Rights (ECHR) is an international judicial institution established to safeguard human rights and fundamental freedoms in Europe. It was founded in 1959 and operates under the jurisdiction of the Council of Europe, which is distinct from the European Union.
- The ECHR ensures that member states comply with the European Convention on Human Rights (ECHR), an international treaty ratified by 47 European countries. This convention outlines a set of fundamental rights and freedoms, including the right to life, freedom of expression, and the prohibition of torture and discrimination.
- Individuals and groups can bring cases before the ECHR if they believe their rights under the European Convention on Human Rights have been violated by a member state. The Court examines these cases impartially and independently, delivering judgments that are binding on the states involved.
- The ECHR's decisions have significant legal implications, as they establish precedents for human rights standards across Europe. Member states are required to implement the Court's rulings and take measures to rectify any human rights violations identified.

Impact of Climate Change on Women

- **Health Risks:** Women are more vulnerable to the health impacts of climate change due to factors such as their physiological differences, social roles, and limited access to healthcare in many regions. For instance, during heatwaves, pregnant women and elderly women are at higher risk of heat-related illnesses. Additionally, women may face challenges in accessing reproductive healthcare services in the aftermath of climate-related disasters.
- **Water and Sanitation:** Women and girls are often responsible for collecting water for household use, agriculture, and other needs. Climate change can exacerbate water scarcity and decrease water quality, resulting in longer and more arduous journeys to fetch water. This increases the time burden on women and girls and may also expose them to safety risks, such as harassment or assault.
- **Food Security:** In many societies, women are responsible for food production, preparation, and distribution within households. Climate change-induced factors such as droughts, floods, and extreme weather events can disrupt agricultural activities, leading to food shortages and decreased nutritional intake, which disproportionately affect women and children.
- **Income and Livelihoods:** Women, particularly in rural areas of developing countries, often rely on natural resources for their livelihoods, such as farming, fishing, and gathering forest products. Climate change-related phenomena like changing precipitation patterns and habitat degradation can threaten these livelihoods, leading to economic insecurity for women and their families.
- **Displacement and Migration:** Women are often disproportionately affected by climate-induced displacement and migration. In many communities, women may lack the resources and decision-making power to relocate or adapt to changing environmental conditions, making them more susceptible to the adverse impacts of displacement, such as loss of homes, livelihoods, and social support networks.



MONSOON SHOCKS

Why in the News?

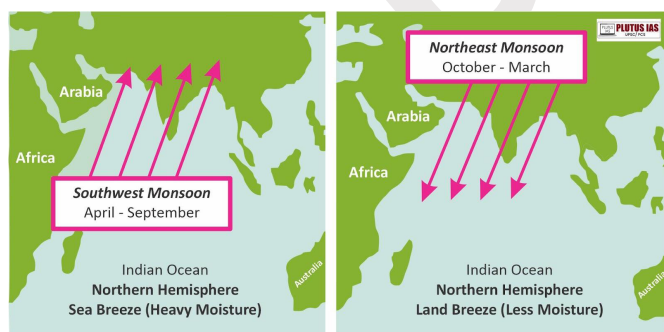
The India Meteorological Department (IMD) has predicted a generous monsoon season. It anticipates that the rainfall between June and September will surpass the usual 87 cm by around 6%. For the first time in ten years, the IMD has made an “above normal” rainfall forecast at the initial stage, almost 45 days prior to the onset of the four-month monsoon season.

Monsoon Mechanism in India-

The term “**Monsoon**” originates from either the Arabic term *Mausin* or the Malayan term *Monsin*, both signifying “season.” Monsoons represent periodic wind patterns that alter direction with the shift of seasons. These seasonal winds flow from the ocean to the land during summer and from the land to the ocean during winter.

India’s climate, akin to South and Southeast Asia, experiences heat and humidity during the monsoon period. The monsoon encompasses two out of the four seasons observed on the Indian subcontinent, namely:

- The Southwest Monsoon Season
- The North-East Monsoon Season



Factors Affecting the Indian Monsoon-

The formation of the South-West monsoon, which is vital for India’s agricultural and economic well-being, is influenced by a multitude of factors:

- **Differential Heating:** The primary driving force behind the South-West monsoon is the differen-

tial heating of land and sea. During the summer months, the landmass of the Indian subcontinent heats up significantly, creating a low-pressure area. Meanwhile, the surrounding oceans retain relatively lower temperatures, resulting in a high-pressure zone. This stark contrast in pressure initiates the movement of air masses from the high-pressure zone over the ocean to the low-pressure zone over land.

- **Inter-Tropical Convergence Zone (ITCZ):** The ITCZ, an area near the equator where the trade winds converge, plays a crucial role in monsoon formation. During the Northern Hemisphere summer, the ITCZ shifts northwards, bringing moisture-laden winds from the southern hemisphere to the Indian subcontinent. This convergence of winds intensifies rainfall over the region.
- **Tropical Easterly Jet Stream:** The Tropical Easterly Jet Stream, located over the Indian subcontinent during the summer, also influences monsoon formation. It helps in the transportation of moisture-laden air from the Indian Ocean towards the Indian landmass, contributing to the monsoon’s strength and duration.
- **Himalayan and Western Ghats Barrier:** The presence of the Himalayan Mountain range and the Western Ghats acts as a barrier to the advancing monsoon winds. As the monsoon winds encounter these barriers, they are forced to ascend, leading to orographic rainfall. This phenomenon significantly enhances rainfall along the windward slopes of these mountain ranges.
- **El Niño and La Niña:** The El Niño Southern Oscillation (ENSO) phenomenon in the Pacific Ocean has a significant impact on monsoon variability. El Niño events tend to suppress monsoon rainfall, leading to drought conditions, while La Niña events enhance monsoon rainfall, resulting in above-average precipitation.
- **Indian Ocean Dipole (IOD):** The Indian Ocean Dipole, characterized by temperature anomalies in the Indian Ocean, also influences the monsoon. A positive IOD, with warmer waters in the western Indian Ocean, enhances monsoon rainfall, while a negative IOD, with cooler

waters in the western Indian Ocean, suppresses rainfall.

- **Land Surface Conditions:** Land surface conditions, such as soil moisture content and land cover, also play a role in modulating monsoon dynamics. Dry soil conditions can lead to enhanced heating and further intensify the monsoon, while extensive land cover, such as forests, can influence rainfall patterns through evapotranspiration.

Relation Between Climate Change and Monsoon in India

Climate change can significantly impact the monsoon in India, which is a crucial component of the country's climate system. Here are some key ways in which climate change affect the Indian monsoon:

- **Changes in Rainfall Patterns:** Climate change can alter the distribution, intensity, and frequency of rainfall associated with the monsoon. While some regions may experience increased precipitation and flooding, others may face reduced rainfall and droughts. These changes can have significant implications for agriculture, water resources, and ecosystems.
- **Temperature Increase:** Rising global temperatures due to climate change can lead to increased evaporation rates and changes in atmospheric circulation patterns. This can affect the temperature contrast between land and sea, which is a key driver of the monsoon winds. Warmer temperatures may also lead to changes in the timing and duration of the monsoon season.
- **Melting Glaciers:** Climate change is causing the accelerated melting of glaciers and snow in the Himalayas. This can influence the timing and volume of water flow into rivers that feed the monsoon system. Changes in glacier meltwater contributions can affect river flow patterns and ultimately impact the monsoon's intensity and variability.
- **Ocean Warming:** Warming of the Indian Ocean and other oceanic regions can influence the moisture content and temperature of the air

masses that contribute to the monsoon. Changes in sea surface temperatures can affect the onset, strength, and duration of the monsoon season.

- **Extreme Weather Events:** Climate change is associated with an increase in the frequency and intensity of extreme weather events, such as heatwaves, storms, and cyclones. These events can disrupt monsoon patterns, leading to erratic rainfall, flash floods, and other weather-related hazards.
- **Impact on Agriculture:** Changes in the monsoon can have significant impacts on agriculture, which is heavily dependent on seasonal rainfall patterns. Erratic or insufficient rainfall can lead to crop failures, food shortages, and economic losses, affecting millions of people who rely on agriculture for their livelihoods.

Socio-Economic Impacts of Monsoon in India

The monsoon season in India has profound socio-economic impacts on various sectors of the economy and the livelihoods of millions of people. Some of the key socio-economic impacts of the monsoon in India include:

- **Agriculture:** The monsoon is the lifeline of India's agriculture, as a significant portion of the country's cropland depends on rainfall for irrigation. Adequate monsoon rains are crucial for sowing and the growth of crops such as rice, wheat, sugarcane, and cotton. Erratic or deficient rainfall can lead to crop failures, reduced yields, and food shortages, impacting farmers' incomes and rural livelihoods.
- **Water Resources:** The monsoon replenishes water bodies such as rivers, lakes, and reservoirs, which are essential for drinking water supply, irrigation, and hydropower generation. Adequate monsoon rainfall is critical for maintaining water availability for agriculture, industry, and domestic use. Conversely, droughts resulting from poor monsoon rainfall can lead to water scarcity, affecting both urban and rural communities.
- **Food Security:** India's food security is closely

linked to the performance of the monsoon. A successful monsoon season ensures adequate food production, stabilizes food prices, and reduces dependency on food imports. However, monsoon failures or inadequate rainfall can lead to food shortages, inflation, and increased vulnerability for vulnerable populations, particularly in rural areas.

- **Livelihoods:** Millions of people in India are directly or indirectly dependent on agriculture for their livelihoods. The monsoon season significantly impacts employment opportunities, income levels, and overall economic well-being in rural areas. Crop failures and agricultural distress during drought years can lead to migration, indebtedness, and socio-economic challenges for farming communities.
- **Infrastructure and Transportation:** Heavy monsoon rains often result in floods, landslides, and damage to infrastructure such as roads, bridges, and buildings. Flooding can disrupt transportation networks, hinder the movement of goods and people, and lead to loss of lives and property. Investments in resilient infrastructure and disaster management are essential to mitigate the impact of monsoon-related disasters.
- **Health:** The monsoon season can also affect public health outcomes in India. Stagnant water and poor sanitation during the monsoon can lead to the spread of waterborne diseases such as cholera, dengue fever, and malaria. Adequate sanitation, access to clean water, and public health interventions are critical to minimizing the health risks associated with the monsoon.
- **Hydro-electric Power Generation:** The monsoon rainfall plays a crucial role in replenishing dams and reservoirs across India. The stored water in dams and reservoirs serves as a reliable source for hydro-electric power generation. Hydroelectric power plants harness the energy of flowing or falling water to produce electricity. During the monsoon season, the increased water levels in reservoirs enable hydro-power plants to operate at maximum capacity, generating significant amounts of electricity.

In conclusion, the monsoon season in India is not

merely a meteorological event but a cornerstone of the nation's socio-economic fabric. It sustains agriculture, replenishes water resources, and powers hydro-electricity generation. However, its variability and intensity also pose challenges, affecting food security, livelihoods, infrastructure, and public health. Addressing these challenges requires a multi-faceted approach, including sustainable water management practices, climate-resilient agriculture, robust infrastructure development, and effective disaster preparedness. By understanding and mitigating the socio-economic impacts of the monsoon, India can enhance resilience and ensure the well-being of its population in the face of a changing climate.

PRELIMS QUESTION

Q1. Which of the following statements accurately describes a provision of the Forest Conservation Act, 1980?

- The Act primarily focuses on promoting industrial projects in forested areas.
- Approval for forest land diversion for non-forestry purposes is solely granted by state governments.
- Compensation for loss of forest cover due to diversion is not mandated by the Act.
- Consultation with state governments and tribal communities is required before approving forest land diversion.

Q2. Consider the following statements:

- IPCC does not conduct its own research but instead evaluates and synthesises the scientific research conducted by other scientists.
- NAAQ regulates PM 2.5 and PM 10 only.

Which of the above statements is/are correct?

- 1 only
- 2 only
- Both 1 and 2
- Neither 1 nor 2

Q3. How does La Niña affect the Indian monsoon?

- (a). It suppresses monsoon rainfall, leading to drought conditions.
- (b). It enhances monsoon rainfall, resulting in above-average precipitation.
- (c). It has no significant impact on the Indian monsoon.
- (d). It causes erratic rainfall patterns, alternating between drought and floods.

Answer 1: D

ANSWER 2: A

ANSWER 3: B

MAINS PRACTISE QUESTION

Q1. Analyse the implications of genetically modified (GM) seeds and crops in the context of climate change adaptation and food security. What are the potential benefits and risks associated with the widespread adoption of GM technologies in agriculture, particularly in regions vulnerable to climate variability and extreme weather events?

Q2. Explain the concept of soil carbon sequestration and its role in mitigating climate change. How do changes in land use, deforestation, and soil degradation impact the capacity of soils to sequester carbon? Discuss potential strategies for enhancing soil carbon storage in agricultural and natural ecosystems.

Q3. Assess the impact of various factors, such as El Niño, La Niña, and the Indian Ocean Dipole (IOD), on the variability of the Indian monsoon. How do these climate phenomena contribute to the unpredictability of monsoon rainfall patterns?

POLITY AND GOVERNANCE

EFFECTS OF REGISTERING PARENTS RELIGION AT BIRTH

Why in the News?

In a significant move, the **Registration of Births and Deaths (Amendment) Act, 2023**, which received parliamentary approval on August 11 of the previous year, brings about a requirement for the **recording of parents' religious affiliations** during birth registrations, as highlighted in the latest headlines on April 5.

This Act now mandates the **establishment of a centralized national birth and death database**. This database will serve as a mechanism for updating multiple systems, including but not limited to the National Population Register (NPR), electoral rolls, Aadhaar number, ration card, passport, driving license, property registration, and any others specified in subsequent notifications. The Amendment stipulates that if the parents of the child adhere to different religious beliefs, their **respective religions must be recorded and documented alongside the child's religion** in the registration records.

Negative Impact of Raising Identity Consciousness on a Child Behavior

Legally, the term "adult" typically pertains to physical attributes, whereas **religion resides in a quasi-metaphysical realm**. Bundling religious affiliation with the child's inherited DNA imposes constraints on their autonomy and potentially impedes their development.

Studies indicate that a staggering 80 percent of a child's brain development occurs within the initial 1,000 days of life. During this critical period, the prevailing cultural and familial environment plays a pivotal role in shaping the child's enduring attitudes and values. However, this influence isn't always conducive to fostering a balanced perspective or nurturing individual growth.

That's Why identity consciousness have these neg-

ative impacts:

- **Limited Self-Expression:** Imposing a specific identity on a child may inhibit their ability to freely express themselves and explore their individuality. This can lead to feelings of frustration, confusion, and even identity crisis.
- **Social Alienation:** Being confined to a predetermined identity may isolate the child from peers who do not share the same characteristics or beliefs. This can result in social ostracization and feelings of loneliness or marginalization.
- **Psychological Strain:** Forced conformity to a particular identity can cause psychological stress and internal conflict, as the child may struggle to reconcile their true self with the imposed identity. This can manifest in anxiety, depression, or other mental health issues.
- **Stifled Growth:** Identity restrictions may impede the child's personal and intellectual growth by limiting their exposure to diverse perspectives and experiences. This can hinder their ability to develop critical thinking skills, empathy, and tolerance towards others.
- **Resentment and Rebellion:** Children subjected to identity restrictions may develop resentment towards authority figures or the societal norms that impose such limitations. This can lead to rebellious behavior, defiance, or withdrawal from social interactions.
- **Inhibited Creativity:** Confining a child to a rigid identity framework may stifle their creativity and innovation. They may feel constrained in exploring new ideas, interests, or pursuits that deviate from the prescribed identity, resulting in missed opportunities for personal growth and fulfillment.

Registration of Birth and Death Amendment Act, 2023

The Registration of Births and Deaths (Amendment) Bill, 2023 aims to make changes to the existing Reg-

istration of Births and Deaths Act of 1969. This act primarily deals with the regulation and registration of births and deaths across the country.

Under the Concurrent List, both the Parliament and state legislatures have the authority to enact laws pertaining to the registration of births and deaths. The proposed amendment seeks to address any shortcomings or updates necessary in the original act to ensure more effective regulation and administration of this crucial aspect of civil documentation.

Features of the Act:

The Digital Birth Certificates provision within the Bill introduces a modernized approach to documentation, aiming to streamline the process by offering comprehensive digital certificates that serve multiple purposes, thereby reducing the necessity for numerous documents to validate birth details.

Moreover, the proposed legislation suggests integrating Aadhaar details of parents and informants into birth certificates, expanding the scope of Aadhaar inclusion to encompass various reporting authorities, such as medical officers, jailors, and institution managers.

Furthermore, the establishment of a centralized database is proposed to manage birth and death records, enhancing service efficiency and ensuring the accuracy and currency of information. This centralized repository will not only update birth certificates but also synchronize with the National Population Register (NPR), ration cards, and property registrations.

Additionally, the Bill mandates States to register births and deaths on the Centre's Civil Registration System (CRS) portal and share the data with the Registrar General of India, an entity operating under the Union Home Ministry, ensuring a unified and coordinated approach to civil registration across the nation.

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LESSONS FROM TAMIL NADU'S DEVELOPMENT MODEL AND CAPABILITY APPROACH TO DEVELOPMENT

Why in the News?

As Tamil Nadu gears up for the upcoming national polls, a comprehensive examination of its economic, social, and environmental metrics reveals a story of holistic development over time. The state stands out among its peers, showcasing commendable progress across a spectrum of indicators.

Tamil Nadu's remarkable strides in child health, women's empowerment, and educational attainment position it among the leading states in these crucial areas. Simultaneously, the state's robust economic performance, buoyed by a thriving manufacturing sector, places it at the forefront of economic advancement among major states.

Reasons that Contributed in Tamil Nadu's Holistic Development

Diversified and decentralized Industrialization: Tamil Nadu has emerged as one of the leading industrial states in India. The state government has implemented policies and initiatives to attract investment, particularly in sectors like automobile manufacturing, textiles, IT and software services, pharmaceuticals, and renewable energy. Cities like Chennai, Coimbatore, and Tirupur have become major industrial hubs, contributing significantly to the state's economic growth. Also, there is decentralization of industrial setup i.e. no only near the capital but across tamil nadu.

- **Infrastructure Development:** The state has focused on developing robust infrastructure, including roads, ports, airports, and power infra-

structure. The Chennai Port and the upcoming Ennore Port have enhanced the state's connectivity and facilitated trade. The Chennai Metro Rail project and various highway projects have improved transportation within the state, further boosting economic activities.

- **Education and Human Capital:** Tamil Nadu has a strong focus on education, with a high literacy rate and numerous educational institutions offering quality education. Chennai, in particular, is known for its engineering colleges and research institutions. A skilled workforce is instrumental in attracting investments and fostering innovation in various sectors.
- **Information Technology (IT) and Services:** Tamil Nadu has emerged as a major IT and software services hub, with Chennai being dubbed as the "Detroit of India" for its thriving automobile industry and "Silicon Valley of India" for its IT sector. The state government has provided support for the growth of IT parks and Special Economic Zones (SEZs), attracting both domestic and international IT companies.
- **Social Welfare Schemes:** The state government has implemented various social welfare schemes aimed at poverty alleviation, healthcare, education, and women's empowerment. Initiatives such as the Public Distribution System (PDS), Amma Unavagam (subsidized canteens), Amma Two-Wheeler Scheme and proper implementation of mid-day meal scheme have improved the quality of life for many residents.
- **Tourism:** Tamil Nadu boasts a rich cultural heritage and natural beauty, attracting tourists from across the globe. Historical monuments such as the Brihadeeswarar Temple in Thanjavur and Meenakshi Temple in Madurai, along with picturesque hill stations like Ooty and Kodaikanal, contribute to the state's tourism sector, generating revenue and employment.
- **Women empowerment:**
 - Tamil Nadu has made significant strides in women empowerment through various initiatives. The state government has implemented schemes like the Women's Self-Help Group

(SHG) program, providing financial assistance and skill development opportunities to women. Additionally, policies promoting women's education, healthcare, and political participation have been prioritized.

- Tamil Nadu has also taken steps to combat gender-based violence, with the establishment of special courts and helplines. These efforts have resulted in increased economic independence, improved health outcomes, and greater representation of women in decision-making roles, fostering a more inclusive and equitable society.
- AS per a data, female labor force participation rates in Tamil Nadu is among the highest in the country.

Capability Approach

Amartya Sen's Capability Approach is a philosophical and economic framework that focuses on the individual's freedom to achieve well-being. Sen argues that **traditional measures of well-being, such as income or GDP per capita, fail to capture the true quality of life experienced by individuals.** Instead, he proposes **assessing well-being in terms of people's capabilities** – their ability to choose and achieve valuable functioning that they have reason to value.

Central to Sen's Capability Approach is the concept of "capabilities," which refers to the various opportunities and freedoms available to individuals to lead lives they have reason to value. These capabilities encompass a range of factors, including access to education, healthcare, political participation, employment opportunities, social inclusion, and freedom from exploitation and violence.

Unlike traditional approaches that focus solely on income or material wealth, Sen emphasizes the importance of considering people's actual ability to function in society and achieve their goals. For example, while two individuals may have the same level of income, their capabilities to lead fulfilling lives may differ significantly due to factors such as access to education, healthcare, and social support networks.

The Capability Approach underscores the signif-

importance of addressing inequalities and enhancing opportunities for all individuals to develop their capabilities fully. It emphasizes the role of social policies and interventions in promoting human development and well-being, with a focus on enhancing people's freedom to choose and pursue their life goals.

Sen's approach has been influential in shaping discussions around development, social justice, and public policy, advocating for a more holistic and human-centered approach to assessing and promoting well-being. By focusing on capabilities, Sen's framework highlights the intrinsic value of individual freedoms and the importance of creating enabling environments that empower people to live lives they value.

PRELIMS QUESTION

Q1. Which of the following best describes Amartya Sen's Capability Approach?

- A) A theory focused solely on economic growth and GDP per capita.
- B) An approach that emphasizes the importance of enhancing people's freedoms and opportunities.
- C) A political ideology advocating for authoritarian governance.
- D) A framework that prioritizes maximizing corporate profits.

Answer: B

INTERNATIONAL RELATIONS

INDIA'S WINTER ARCTIC EXPEDITION

Why in the News?

Recently, the Union Minister of Earth Sciences initiated India's inaugural winter scientific mission to Himadri, the country's Arctic Research Station located in Ny-Ålesund, part of the Norwegian archipelago of Svalbard in the Arctic region. The expedition aims to explore the Arctic's profound influence on global climate, sea levels, and biodiversity and will also focus on studying the radio frequency environment in the Svalbard region of the Arctic.

History of India's Involvement in the Arctic-

- In its early stages, India's involvement with the Arctic began in 1920 when it signed the Svalbard Treaty in Paris. India stands out among a limited number of nations for establishing a permanent station in the Arctic dedicated to scientific research.
- The Indian involvement in the Arctic research began with the establishment of the Indian Antarctic Station at the Indian-Antarctic base in the Antarctic Peninsula in 1983. This marked the beginning of India's foray into polar research. Subsequently, India established its first Arctic research station, Himadri, in Ny-Ålesund, Svalbard, in March 2013.
- In 2014, India installed IndArc, a multisensory observatory situated in Kongsfjorden.
- In 2016, India established its northernmost atmospheric laboratory at Gruevbadet, aimed at investigating clouds, precipitation, long-distance pollutants, and various fundamental atmospheric factors.
- Since 2013, India has held observer status in the Arctic Council, and this designation was extended for an additional five years in 2019.
- The Indian government introduced an Arctic policy in March 2022.

- This policy outlines India's involvement in the Arctic region, focusing on climate research, environmental surveillance, maritime collaboration, and energy security.



Why the Winter Arctic Expedition is Important for India-

- **Growing China's Interest-** India is becoming increasingly worried about China's escalating investments in the Arctic. Russia's move to grant China greater access to the Northern Sea Route has intensified these concerns. India's heightened interest in the Arctic coincides with rising tensions in the region, exacerbated by the ongoing Russia-Ukraine conflict.
- **Global Warming-** The melting of Arctic ice has led to the opening of sea routes such as the Northwest Passage and the Northern Sea Route. These routes offer shorter paths be-

tween Europe, Asia, and North America compared to traditional routes through the Suez Canal or Panama Canal. Consequently, this has sparked interest among shipping companies and nations looking to capitalise on these more efficient routes for trade and transportation.

- **Research Advancement-** It provides an opportunity to conduct scientific studies in extreme Arctic conditions, enabling researchers to gather valuable data on climate, biodiversity, oceanography, and other relevant fields.
- **Understanding Climate Change-** Given the Arctic's vulnerability to climate change, studying it during winter provides insights into seasonal variations and long-term trends, contributing to a better understanding of global climate dynamics.
- **Resource Exploration-** Exploration during winter can offer unique insights into the region's natural resources, such as oil, gas, and minerals, potentially aiding in sustainable resource management.
- **Environmental Importance-** Despite their geographical separation, the Arctic and the Himalayas are interconnected and face similar environmental challenges. The ongoing meltdown in the Arctic serves as a valuable learning opportunity for understanding glacial retreat in the Himalayas, often referred to as the 'third pole' due to its substantial freshwater reserves after the North and South poles. Consequently, the study of the Arctic holds significant relevance for Indian scientists.
- **International Collaboration:** Participation in Arctic expeditions fosters collaboration with other Arctic nations and indigenous communities, promoting diplomatic ties and knowledge exchange. Norway, currently holding the chairmanship of the Arctic Council, maintains strong relations with India. Since the late 1980s, these two nations have partnered to study evolving conditions in both the Arctic and Antarctic regions.

Challenges in Arctic Expeditions-

- **Extreme weather conditions:** The Arctic region is characterised by extreme cold, high winds, and snowstorms. These harsh conditions can make it difficult for researchers to carry out their work, as they need to wear specialised clothing and equipment to protect themselves from the freezing temperatures and harsh environment.
- **Limited resources:** Conducting research in the Arctic can be expensive due to the need for specialised equipment, transportation, and logistics. Additionally, the remote locations of some Arctic research stations can make it difficult to access essential supplies and resources.
- **Remote locations:** The Arctic region is vast and sparsely populated, with many research stations located in isolated areas. This can make it challenging for researchers to travel to and from the region, as well as to access essential resources and support.
- **Safety concerns:** The Arctic is known for its unpredictable weather, which can create dangerous conditions for researchers. Additionally, the remote locations of some research stations can make it difficult for rescue teams to reach stranded or injured scientists.
- **Multiple State Jurisdiction:** Due to the presence of multiple state jurisdictions in the Arctic, there is restricted availability of land for the establishment of autonomous research stations.
- **Logistical Challenges:** Transporting equipment, supplies, and personnel to remote Arctic locations involves intricate planning and coordination. Limited transportation options, particularly during winter when sea routes may be impassable, add to the logistical complexity.

Way Forward for India in Arctic Region-

- **Enhanced Scientific Research:** India can continue to invest in Arctic research initiatives, expanding its scientific footprint in areas such as climate change, biodiversity, oceanography, and glaciology. Collaborative research projects with Arctic nations can facilitate knowledge exchange and capacity building.

- **Strategic Partnerships:** India can forge strategic partnerships with Arctic countries, leveraging existing collaborations and exploring new avenues for cooperation in areas of mutual interest, such as climate resilience, sustainable development, and maritime security.
- **Infrastructure Development:** India can invest in the development of Arctic infrastructure, including research stations, icebreakers, and satellite monitoring systems, to support its scientific endeavours and ensure a sustained presence in the region.
- **Diplomatic Engagement:** India can actively engage in Arctic governance forums, such as the Arctic Council and the International Maritime Organization, to contribute its perspectives on Arctic issues and advocate for the interests of non-Arctic states.
- **Develop a long-term research plan:** India should develop a comprehensive long-term research plan for its Arctic research program, outlining specific objectives, timelines, and resource allocation. This plan should be regularly reviewed and updated to ensure that the country remains at the forefront of Arctic research.

INDIA REJECTS CHINA'S RENAMING OF PLACES IN ARUNACHAL PRADESH

Why in the News?

Lately, China has been renaming certain locations in Arunachal Pradesh. India has firmly opposed this action, asserting that the attribution of "invented" names does not change the established fact that the state remains an inseparable and enduring part of India.

Methods Executed by China for Territorial Influence and Hegemony

- **Salami Slicing:** This tactic involves making a series of seemingly small territorial claims over time. Each individual claim may appear insignificant, but the cumulative effect is a gradual erosion of disputed territory. China has been accused of using salami slicing in the South Chi-

na Sea, where it has built outposts on contested reefs and islets. These outposts, while seemingly small, allow China to establish a physical presence, potentially restrict freedom of navigation for other countries, and lay the groundwork for further territorial claims.

- **Wolf Warrior Diplomacy:** This aggressive diplomatic approach involves strong-armed rhetoric, public shaming of rivals, and a nationalistic stance. China's "Wolf Warrior" diplomats aim to project power and deflect criticism on the international stage. While intended to intimidate, it can also backfire and isolate China. This approach can damage relations with other countries, hinder opportunities for peaceful resolution of disputes, and create an atmosphere of tension in the region.
- **Artificial Island Creation:** China has been constructing and militarising artificial islands in disputed parts of the South China Sea. These islands serve a dual purpose: establishing a physical presence and potentially bolstering China's territorial claims. This strategy has been met with international condemnation as it disrupts the freedom of navigation in the region, raises concerns about potential militarisation, and sets a precedent for other countries to potentially follow suit.
- **Debt-Trap Diplomacy:** China extends substantial loans to developing countries for infrastructure projects. However, critics argue these loans come with hidden costs, potentially creating a situation where debtor nations become beholden to China. This economic leverage could then be used to pressure countries into territorial concessions or political alignment with China. Debt-trap diplomacy raises concerns about the exploitation of developing countries and the potential creation of a sphere of Chinese economic influence.

Dispute Between India and China

- For decades, a complex territorial dispute has simmered along the 3,488-kilometre India-China border. Two key regions are at the heart of the disagreement:

- **Aksai Chin:** This western territory is administered by China but claimed by India as part of Ladakh. Its strategic importance stems from its location near the China-Pakistan Economic Corridor (CPEC) and its potential use as a military route.
- **Arunachal Pradesh:** China claims the entire northeastern state of Arunachal Pradesh, referring to it as “South Tibet.” India, however, firmly governs this region and considers it an inseparable part of its territory.
- **Vague Demarcation:** The 3,488-kilometre border between India and China is a source of tension due to a lack of clear demarcation. There’s no universally agreed upon “Line of Actual Control” (LAC) in some areas. This LAC emerged after the 1962 war between the two nations. The India-China border can be divided into three sectors:
 - **Western Sector:** This region encompasses Ladakh.
 - **Middle Sector:** This sector comprises Himachal Pradesh and Uttarakhand.
 - **Eastern Sector:** Arunachal Pradesh and Sikkim fall under this sector.



China’s “String of Pearls” Strategy

- It denotes a geopolitical and strategic endeavour aimed at establishing a network of ports and maritime infrastructure facilities in key locations across the Indian Ocean.
- These facilities are either funded, owned, or

controlled by China and serve to enhance its maritime presence and influence in the region.

- Prominent locations associated with China’s String of Pearls include Gwadar Port in Pakistan, Hambantota Port in Sri Lanka, Chittagong Port in Bangladesh, and Djibouti in the Horn of Africa.
- These strategically positioned facilities enable China to exert greater influence over maritime trade routes and enhance its naval capabilities in the Indian Ocean.

Five Fingers of Tibet

China’s strategic approach to Tibet extends beyond the region itself. The concept of “Five Fingers of Tibet” is a metaphor that depicts Tibet as a palm, with five surrounding areas acting as fingers that China seeks to control or influence. These “fingers” represent:

- **Ladakh:** Controlling Ladakh grants China a land bridge to Pakistan, strengthening their strategic partnership.
- **Nepal:** Influence over Nepal provides China with a strategic foothold near India’s heartland.
- **Sikkim:** Dominating Sikkim would allow China to sever the Siliguri Corridor, a narrow strip of land connecting India’s northeastern states to the mainland, effectively isolating them.
- **Bhutan:** Controlling Bhutan would bring China closer to Bangladesh, potentially opening a route to the Bay of Bengal and bolstering China’s regional presence.
- **Arunachal Pradesh:** Gaining control over Arunachal Pradesh would enable China to dominate India’s northeast, significantly expanding its military reach and strategic influence in the region.

String of Pearls Strategy

- The concept of China’s “String of Pearls” pertains to a geopolitical and strategic strategy focused on establishing a network of ports and other maritime infrastructure facilities across strategic positions in the Indian Ocean. These

facilities are financed, owned, or managed by China and serve to bolster its maritime presence and influence in the region.

- Key locations linked to China's String of Pearls include Gwadar Port in Pakistan, Hambantota Port in Sri Lanka, Chittagong Port in Bangladesh, and Djibouti in the Horn of Africa. These sites are strategically selected to enhance China's access to maritime trade routes and to strengthen its naval capabilities in the Indian Ocean.

Measure Taken by India to Counter China's Strategy

- **Global Alliances:** India is building partnerships with democratic nations like the QUAD and I2U2 to address China's influence in the Indian Ocean.
- **Alternative Trade Routes:** India is developing corridors like the IMEC and supporting the INSTC to offer alternatives to China's Belt and Road Initiative (BRI) and its strategic ports.
- **Countering China's Military Strategy:** India's "Necklace of Diamonds" strategy aims to counter China's "String of Pearls" by strengthening its naval presence and regional diplomatic ties.
- **Strengthening Border Infrastructure:** India is rapidly improving its border infrastructure through the Border Roads Organisation (BRO) to bolster its position along the disputed border. These projects focus on regions like Ladakh and Arunachal Pradesh.

STRATEGIC IMPORTANCE OF ANDAMAN & NICOBAR ISLANDS

Why in the News?

The recent attention from the Indian government towards the development of the Andaman and Nicobar Islands highlights their crucial importance in the Indo-Pacific area. This has led to initiatives aimed at improving both infrastructure and security on the islands. The current emphasis on bolstering strategic facilities, both for civilian and military purposes, indicates a belated recognition of the

islands' strategic maritime value, which had been overlooked since India gained independence.

Strategic Importance of Andaman & Nicobar Islands

Gateway to Indo-Pacific

As a "net security provider," India can utilise its presence on these islands to safeguard its own interests while projecting itself as a stabilising force in the area.

Connect India with Southeast Asia

Andaman and Nicobar Islands serve as a bridge between South Asia and Southeast Asia, with approximately 30 per cent of India's Exclusive Economic Zone (EEZ) encompassing them. Geographically, they are closely situated in Myanmar and Indonesia, reinforcing their strategic importance.

Checking the Chinese Aspirations

In terms of regional security, the islands provide India with the capability to establish a maritime exclusion zone, particularly in times of potential conflict with China. This strategic advantage enables India to counterbalance the presence of the People's Liberation Army Navy (PLAN) in the Indian Ocean and closely monitor Chinese maritime activities, thus acquiring valuable insights into their operational behaviours and patterns within the Indian Ocean Region (IOR).

Maritime Partnership

Given their intersection with the Indian Ocean, the South China Sea, and the Pacific Ocean, the islands serve as a critical nexus in the broader Indo-Pacific region. Japan's commitment to supporting development projects in the Andaman and Nicobar Islands underscores their significance, with recent investments aimed at infrastructure enhancement, including an international container transshipment terminal, an airport, a power plant, and a township.

Regional Connectivity Hub

The Andaman & Nicobar Islands are strategically important for India beyond defence. They bridge South and Southeast Asia, offering economic opportunities. With a vast Exclusive Economic Zone,

they can be a hub for trade, investment, and cultural exchange, connecting India to the Indo-Pacific region. Upgrading infrastructure like ports will further solidify this role.

Mineral Wealth

The Andaman and Nicobar Islands offer India access to a vast exclusive economic zone spanning 300,000 square kilometres, holding significant potential for undersea hydrocarbon and mineral reserves.

Tourism Appeal

With its pristine beaches, the Andaman and Nicobar Islands boast considerable tourism potential, presenting an opportunity to attract foreign direct investment (FDI) into India's hospitality sector.

Maritime And Innovation Hub

Recognizing the islands' potential, NITI Aayog has outlined plans for their development as a maritime and startup hub. For instance, the proposed project for Great Nicobar includes the establishment of an international container trans-shipment terminal, a greenfield international airport, a power plant, and a township complex.

Humanitarian Assistance And Disaster Relief (HADR)

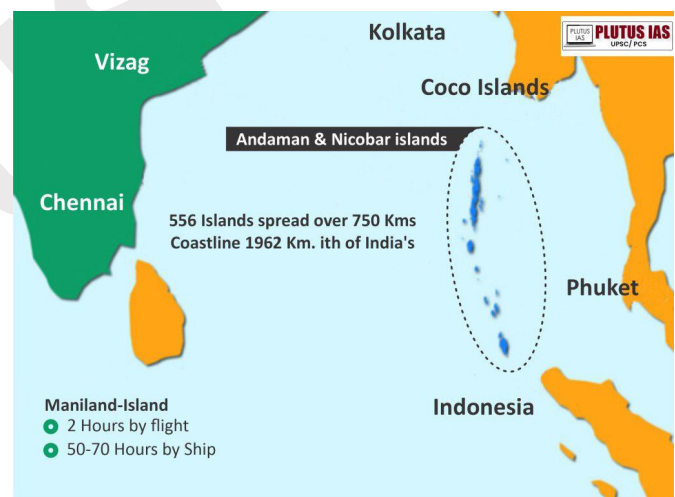
The Andaman and Nicobar Islands offer India a platform to engage in disaster relief efforts, medical assistance, combating piracy and human trafficking, as well as conducting aircraft and submarine search and rescue missions, contributing to social welfare across the broader Indo-Pacific region.

Challenges Regarding the Development of A&N Islands

- **Shifting Priorities:** India's evolving foreign policy, transitioning from a passive "Look East" approach to a more active "Act East" policy, has highlighted the need to prioritise the development of its island territories. However, this realisation comes after a period of relative neglect.
- **Logistical Hurdles:** The islands' remoteness from mainland India presents significant challenges in infrastructure development. Building essential infrastructure is a complex and expen-

sive undertaking due to the logistical difficulties involved.

- **Environmental Safeguards:** Strict environmental regulations and the need to protect tribal communities and sensitive ecosystems create hurdles for development projects. Balancing economic growth with environmental and social sustainability remains a critical challenge.
- **Bureaucratic Bottlenecks:** The involvement of multiple ministries and agencies in development projects often leads to coordination issues, creating bureaucratic delays and hindering progress.
- **Short-Term vs. Long-Term Vision:** Striking a balance between long-term strategic goals and short-term political gains can be challenging. Politicians may prioritise quick, visible projects over long-term strategic initiatives crucial for the islands' development.



Central Government's Initiatives for the Development of Andaman & Nicobar Initiatives

- **Vision 2030 & 7-Year Strategy:** This plan outlines initiatives to boost agriculture, fisheries, and tourism in the islands. It promotes sustainable practices like crop diversification and solar dryers for copra production.
- **NITI Aayog's Project for Great Nicobar:** This ambitious project envisions an international container transshipment terminal, airport, power plant, and township, aiming to create a maritime and industrial hub.

- **Japan's Overseas Development Assistance:** In 2021, Japan granted USD 265 crore in aid for development projects in the Andaman and Nicobar Islands.
- **Development of defence infrastructure:** A contemporary hangar and dispersal system have been established at INS Utkrosh in Port Blair. Additionally, Naval Communication Network (NCN) Centers have been strategically positioned at INS Kohassa, INS Baaz, and INS Kardi, aimed at enhancing communication and operational capacities within the Andaman and Nicobar Command.

PRELIMS PRACTISE QUESTIONS

Q1. Which of the following pairs of islands is divided by the 'Ten Degree Channel'?

- (a) Andaman and Nicobar
- (b) Nicobar and Sumatra
- (c) Maldives and Lakshadweep
- (d) Sumatra and Java

Q2. Which of the following options exhibits coral reefs?

- 1. Andaman and Nicobar Islands
- 2. Gulf of Kachchh
- 3. Gulf of Mannar
- 4. Sunderbans

Select the correct answer using the code given below:

- (a) 1, 2 and 3 only
- (b) 2 and 4 only
- (c) 1 and 3 only
- (d) 1, 2, 3 and 4

Q3. Which island is closest to both Andaman and Nicobar among the maritime nations?

- (a) Sunda Islands

- (b) Java Islands
- (c) Maldives
- (d) Mauritius

Q4. Consider the following statements about the Arctic Council:

1. It is an intergovernmental body established in 1996 through the Ottawa Declaration.
2. India holds the Observer status in the Arctic Council.

Choose the correct answer using the codes given below:

- (a). 1 Only
- (b). 2 Only
- (c). Both 1 and 2
- (d). Neither 1 nor 2

Q5. Siachen Glacier is situated on the:

- (a) East of Aksai Chin
- (b) East of Leh
- (c) North of Gilgit
- (d) North of Nubra Valley

Answer 1: A

Answer 2: A

Answer 3: B

ANSWER 4: C

Answer 5: D

MAINS PRACTISE QUESTIONS

Q1. What specific resources or capabilities do the Andaman and Nicobar Islands possess that make them crucial for enhancing India's soft power through disaster relief and humanitarian assistance efforts?

Q2. How does the establishment of infrastructure

and facilities, such as naval bases and communication networks, on the Andaman and Nicobar Islands enhance India's ability to project power and maintain security in the region?

Q3. "Discuss the significance of India's winter scientific expedition to the Arctic region and analyse the challenges associated with conducting research in extreme Arctic conditions."

Q4. Can the "Golden Arches Theory" of infrastructure development, which advocates for economic integration as a means to foster peace and stability, be applied to the India-China context? Why or why not?

ECONOMY

IMPORTED INFLATION

Why in the News?

Recently, Asian Development Bank highlighted that India could face Imported inflation and the depreciation of rupee due to global conflicts happening in Ukraine and Middle east.

What is Imported Inflation?

Imported inflation refers to the **increase in domestic prices of goods and services caused by the rising cost of imported inputs** or finished products. It occurs when a country's currency depreciates relative to the currencies of its trading partners or when global commodity prices rise.

For example, if the cost of imported oil rises, it can lead to higher transportation costs, which may then translate into higher prices for various goods and services throughout the economy.

Factors Which Contribute for Imported Inflation

Several factors can contribute to imported inflation:

- **Exchange Rate Fluctuations:** can increase the cost of imported goods and services. If a country's currency depreciates relative to the currencies of its trading partners, the cost of imports increases, leading to higher prices for imported products. This phenomenon is particularly relevant for countries that heavily rely on imports for consumer goods, raw materials, or intermediate inputs. For example recent inflation in India because of U.S. bank rate hikes.
- **Global Commodity Prices:** Many countries rely on imported commodities such as oil, metals, and agricultural products. Changes in global commodity prices can directly influence the cost of imports and subsequently affect domestic inflation. For instance, a surge in oil prices can lead to higher transportation costs and production expenses, resulting in increased prices

for various goods and services.

- **Trade Policies and Tariffs:** Trade policies, including tariffs and quotas, can affect the cost of imports. Imposition of tariffs on imported goods raises their prices, leading to inflationary pressures. Additionally, retaliatory tariffs between trading partners can disrupt supply chains and increase costs for businesses, ultimately contributing to imported inflation.
- **Supply Chain Disruptions:** Disruptions in supply chains globally, such as natural disasters, geopolitical tensions, or pandemics, can lead to shortages of goods and services. When demand is higher than supply, prices rise, contributing to imported inflation. Supply chain disruptions can also increase transportation and logistics costs, further exacerbating inflationary pressures.
- **Domestic Demand for Imports:** Strong domestic demand for imported goods and services can drive up their prices, especially if supply cannot keep pace with demand. This situation can occur during periods of robust economic growth or when consumers prefer imported products due to quality or brand preferences.
- **Imported Wage Pressures:** In some cases, imported inflation can also result from wage pressures in other countries. If labor costs increase in key exporting countries, the prices of imported goods produced in those countries may rise, contributing to inflation in importing countries.

What Steps can We Take?

Addressing imported inflation requires a combination of monetary, fiscal, and trade policies. Here are some strategies that policymakers can employ to tackle imported inflation:

- **Monetary Policy:** Central banks can use monetary policy tools, such as interest rate adjustments, to manage inflationary pressures stemming from imported inflation. If imported inflation becomes a significant concern, central

banks may raise interest rates to reduce domestic demand and dampen inflationary pressures. Conversely, if the economy is experiencing other headwinds, central banks may choose to maintain accommodative monetary policy while closely monitoring inflation dynamics.

- **Exchange Rate Management:** Governments and central banks can intervene in currency markets to stabilize exchange rates and mitigate the impact of currency depreciation on imported inflation. This intervention can involve buying or selling foreign currency reserves to influence exchange rate movements. Additionally, policymakers may implement measures to improve currency stability, such as adopting exchange rate pegs or bands.
- **Trade Policies:** Governments can adjust trade policies to address imported inflation. This may include reducing tariffs or import duties on certain goods to lower their prices for consumers. Conversely, policymakers may consider imposing temporary tariffs or quotas on specific imports to protect domestic industries or address unfair trade practices that contribute to inflationary pressures.
- **Supply-Side Measures:** Policymakers can implement measures to enhance domestic production capacity and reduce reliance on imports. This involves investing in infrastructure, technology, and education to boost productivity and competitiveness in key industries. By increasing domestic production, countries can mitigate the impact of imported inflation on consumer prices and improve resilience to external shocks.
- **Supply Chain Management:** Governments and businesses can work together to strengthen supply chains and reduce vulnerabilities to disruptions. This may involve diversifying sourcing strategies, investing in inventory management systems, and enhancing coordination among suppliers and logistics providers. By improving supply chain resilience, countries can minimize the transmission of inflationary pressures from global markets to domestic economies.
- **Demand Management:** Policymakers can use fiscal policy tools like, taxation and government

spending, to manage domestic demand and mitigate inflationary pressures. For example, targeted fiscal stimulus measures can support sectors facing supply constraints or encourage investment in productive capacity. Additionally, policies aimed at promoting savings and reducing consumption can help moderate demand and alleviate inflationary pressures.

Consumer Price Index and Wholesale Price Index

The Consumer Price Index (CPI) stands as a crucial indicator for tracking shifts in the prices urban consumers pay for a designated basket of goods and services over time. This index holds significant importance as it offers insights into inflationary patterns within the economy, serving as a key reference point for policymakers, economists, and investors alike to assess changes in the cost of living for citizens.

The computation of the CPI in India falls under the responsibility of the Central Statistics Office (CSO), an integral part of MoSPI. Drawing from a predetermined assortment of essential items, the CPI reflects the evolving prices of goods and services crucial to daily urban life. This selection encompasses a diverse range of necessities, spanning from food essentials and housing costs to transportation expenses, medical services, educational fees, and other vital expenditures.

WPI:

The **Wholesale Price Index (WPI)** stands as a critical indicator for monitoring changes in the average prices of goods at the wholesale level over time. This index serves as a valuable tool for assessing inflationary patterns within the economy and is extensively utilized by policymakers, economists, and businesses to analyze shifts in production costs and overall price levels.

Administered by the Office of the Economic Adviser under the Ministry of Commerce and Industry, the WPI encompasses a wide array of commodities traded in bulk, spanning raw materials, intermediate goods, and finished products. Unlike the Consumer Price Index (CPI), which focuses on retail prices paid by consumers, the WPI primarily reflects price movements occurring at wholesale level.

DECLINING PRIVATE INVESTMENT IN INDIA

Why in the News?

Private investment has experienced a consistent decrease since the fiscal year 2011-12. The government has anticipated that major Indian corporations would increase their investment to fill this gap. Consequently, in 2019, the central government reduced corporate taxes from 30% to 22% with the expectation that this measure would stimulate private investment.

What is Private Investment?

Private investment refers to the investment made by private individuals or entities, such as businesses, corporations, or individuals, into various assets or projects with the expectation of generating a return on their investment.

Gross Fixed Capital Formation (GFCF) refers to the total value of new fixed assets purchased by businesses, governments, and households within an economy during a specific period. These fixed assets include machinery, equipment, buildings, infrastructure, and other physical assets that are used for production over a long period. GFCF is a key indicator of investment in an economy and is often used to measure the level of economic activity and growth.

Importance of GFCF in the Economy

- **Stimulating Economic Growth:** GFCF is a significant driver of economic growth. Increased investment in fixed capital leads to enhanced production capacity, productivity, and efficiency, which can boost overall economic output.
- **Infrastructure Development:** GFCF plays a crucial role in infrastructure development, including roads, bridges, railways, ports, and telecommunications networks. Improved infrastructure facilitates smoother transportation of goods and services, reduces transaction costs, and fosters economic development.
- **Employment Opportunity:** Investment in fixed capital often requires labor, leading to job creation across various sectors of the economy.

This contributes to reducing unemployment rates and improving living standards.

- **Technological Advancement:** GFCF enables businesses to invest in new technologies and innovative processes, leading to technological advancement and industrial modernization. This, in turn, enhances competitiveness and fosters long-term economic growth.
- **Attracting Foreign Investment:** A high level of GFCF signals a favorable investment climate, which can attract foreign investors looking for opportunities to expand their operations or enter new markets. This can lead to increased foreign direct investment (FDI), bringing in additional capital and expertise.
- **Resilience to Economic Shocks:** Economies with robust levels of GFCF are often better equipped to withstand economic downturns. Investment in fixed capital creates a foundation for future growth and can buffer against short-term shocks by maintaining or even increasing productive capacity.
- **Long-term economic planning:** GFCF data is used by governments and policymakers to plan for long-term economic development. By analyzing trends in GFCF, they can identify areas where investments need to be increased or decreased to achieve specific economic goals.

Current Trends of Private Investments in India

- In India, private investment experienced a significant increase primarily following the economic reforms of the late 1980s and early 1990s, which bolstered confidence in the private sector.
- Before economic liberalization, private investment mostly hovered around or slightly above 10% of the GDP, while public investment as a percentage of GDP consistently rose from less than 3% in 1950-51 to surpass private investment by the early 1980s. However, public investment started declining after liberalization, with private investment taking the lead in fixed capital formation. This surge in private investment continued until the global financial crisis

of 2007-08, during which it peaked at around 27% of GDP from about 10% in the 1980s.

- However, since 2011-12, private investment has been declining and reached a low point of 19.6% of GDP in 2020-21.

Why is Private Investment Falling in India?

- **Decline in Private consumption expenditure:** A decrease in private consumption expenditure indicates reduced spending by households on goods and services. This could be due to factors such as lower disposable income, consumer pessimism, or economic uncertainty. When demand weakens, businesses may respond by scaling back their investment plans to align with lower expected sales, leading to a decline in private investment.
- **Policy uncertainties:** The Indian government has been implementing various policies and reforms, such as the Goods and Services Tax (GST) and demonetization, which have created uncertainties in the business environment. These policy changes have led to a temporary slowdown in private investment as businesses adjust to the new regulations.
- **Banking sector stress:** The Indian banking sector has been facing stress due to bad loans and capital shortages. This has led to a slowdown in credit disbursement, which in turn affects private investment as businesses find it harder to secure loans for their projects.
- **Complex Labor laws:** The complex labor laws in India can create difficulties for businesses, making it harder for them to operate and invest in the country. Simplifying labor laws and making them more business-friendly can help boost private investment.
- **Bureaucratic hurdles:** Red tape and bureaucratic hurdles can slow down project approvals and make it difficult for businesses to invest in India. Efforts to streamline the process of project approvals and reduce bureaucratic hurdles can encourage private investment.

Wayforward for India

- **Ease of Doing Business:** The government should focus on improving the ease of doing business in India by simplifying regulations, reducing bureaucratic red tape, and ensuring transparent processes. This will make it easier for private companies to invest and operate in India.
- **Tax Incentives:** The government can provide tax incentives and exemptions to private sector companies that invest in India. This can include deductions on investment, lower corporate tax rates, and exemptions from certain taxes for a specific period.
- **Infrastructure Development:** The government should invest in the development of infrastructure, such as roads, ports, airports, and power plants, to create a conducive environment for private sector investment. This will help in the growth of various industries and create more jobs.
- **Skill Development and Education:** The government should focus on improving the quality of education and skill development in India. This will ensure a skilled workforce is available for private sector companies, which can attract investments.
- **Promote Public-Private Partnerships (PPPs):** The government should encourage PPPs in sectors such as infrastructure, energy, and health-care, allowing private sector companies to collaborate with the government in delivering public services.
- **Create a favorable investment climate:** The government should create a favorable investment climate by ensuring the protection of investors' rights, providing a level playing field for all investors, and ensuring transparency in the investment process.

PRELIMS QUESTION

Q1. Consider the following statements regarding Private Investment in India:

1. Private investment in India has experienced a consistent decline since the fiscal year 2011-12.

2. High Private Investment fosters long-term economic growth.

Choose the correct answer using the codes given below:

- (a). 1 Only
- (b). 2 Only
- (c). Both 1 and 2
- (d). Neither 1 nor 2

ANSWER: C

MAINS QUESTION

Q1. Critically assess the reasons behind the recent decline in private investment in India. Examine potential strategies and policy measures to encourage private sector investment in India.

SOCIAL ISSUES

RIGHTS OF LGBTQIA AND QUEER COMMUNITY

Why in the News?

Issues related to Queer community in India are a matter of great debate. Conservative outlook has prevailed in the discourse which was visible in dealing with matters like opposition to the legalisation of same sex marriage.

Recently, the Centre has released a notification of a committee to examine various issues related to queer community.



Evolution of LGBTQIA Rights

In 1861, the British colonial administration introduced Section 377 of the Indian Penal Code, criminalizing any sexual activity deemed “against the order of nature,” effectively outlawing all forms of homosexual behavior.

Shakuntala Devi’s groundbreaking study, “The World of Homosexuals,” was published in 1977, offering one of the earliest explorations of homosexuality in India.

In a significant milestone for LGBTQIA+ rights, 1994 saw the legal recognition of transgender individuals, granting them voting rights as a distinct third sex.

In 2014, the Supreme Court of India delivered a landmark judgment, recognizing transgender peo-

ple as a third gender and affirming their right to equal treatment under the law.

2017 marked a pivotal moment when the Supreme Court affirmed the right of India’s LGBTQIA+ community to freely express their sexual orientation, a significant step toward greater societal acceptance and inclusivity.

The Right to Privacy, enshrined in law, began to serve as a shield protecting individuals’ sexual orientation from unwarranted intrusion or discrimination.

On September 6, 2018, the Supreme Court delivered a historic verdict, striking down the portion of Section 377 that criminalized consensual homosexual activities, marking a major victory for LGBTQIA+ rights in India.

The year 2019 saw the enactment of the Transgender Persons (Protection of Rights) Act by Parliament, aimed at safeguarding the rights and welfare of transgender people, along with addressing related matters pertaining to their well-being and inclusion.

In 2023, SC court by 3:2 judgment stopped short of granting Constitutional validity to same sex marriage. Through this judgment SC shifted the onus on the legislature to decide this socially controversial issue.

Challenges Faced by LGBTQIA

- **Legal Status:** Section 377 of the Indian Penal Code, which criminalized homosexuality, was struck down in 2018, decriminalizing consensual same-sex relations. However, legal recognition of same-sex relationships and marriage remains absent, leaving queer individuals without legal protection and recognition.
- **Social Stigma and Discrimination:** Despite legal progress, queer individuals still face significant social stigma and discrimination, including ostracization from families, workplace discrimi-

nation, and verbal or physical harassment. This stigma can lead to mental health issues such as depression and anxiety.

- **Access to Healthcare:** Queer individuals often encounter difficulties accessing healthcare services that are sensitive to their needs. Many healthcare providers lack awareness and training on LGBTQ+ issues, leading to inadequate or discriminatory care.
- **Family Rejection and Homelessness:** Coming out can result in rejection from family members, leaving queer individuals at risk of homelessness and isolation. There are limited shelters and support systems tailored to the specific needs of homeless LGBTQ+ individuals.
- **Education and Employment Discrimination:** LGBTQ+ youth frequently face discrimination and bullying in educational institutions, which can negatively impact their academic performance and mental well-being. In the workplace, queer individuals may encounter discrimination in hiring, promotions, and workplace culture.
- **Intersectional Challenges:** Queer individuals belonging to marginalized communities, such as Dalits, Muslims, or those with disabilities, face compounded discrimination due to their intersecting identities.
- **Lack of Legal Protections:** Beyond marriage rights, there's a lack of legal protection against discrimination based on sexual orientation and gender identity in areas such as employment, housing, and public accommodations. This leaves queer individuals vulnerable to discrimination and harassment.
- **Limited Representation:** The mainstream media often lacks accurate and positive representation of LGBTQ+ individuals, perpetuating stereotypes and misconceptions. This lack of representation can contribute to societal ignorance and prejudice.

What Can be Done?

- **Legal Reforms:**
- Push for comprehensive anti-discrimination

laws that explicitly protect individuals based on sexual orientation and gender identity.

- Advocate for legal recognition of same-sex relationships, including marriage equality.
- Ensure the effective implementation of existing laws and policies that protect LGBTQIA+ rights.
- **Education and Awareness:**
- Introduce LGBTQIA+ inclusive education in schools and universities to foster understanding, empathy, and acceptance from a young age.
- Conduct sensitization programs for healthcare providers, law enforcement agencies, and other service providers to ensure they are equipped to provide non-discriminatory services.
- Promote positive and accurate representation of LGBTQIA+ individuals in media and popular culture to combat stereotypes and prejudices.
- **Healthcare Reforms:**
- Ensure access to LGBTQIA+ friendly healthcare services, including mental health support, hormone therapy, and gender-affirming surgeries.
- Train healthcare professionals to provide culturally competent care to LGBTQIA+ patients, addressing their unique health needs and concerns.
- **Social Support and Community Building:**
- Establish support networks, community centers, and helplines for LGBTQIA+ individuals, particularly those facing family rejection or homelessness.
- Create safe spaces and inclusive environments where queer individuals can socialize, access resources, and receive support without fear of discrimination or harassment.
- **Employment and Economic Empowerment:**
- Enforce anti-discrimination policies in the workplace to prevent discrimination based on sexual orientation and gender identity.
- Provide vocational training and job placement

programs specifically targeted at LGBTQIA+ individuals to enhance their economic independence and stability.

- **Political Advocacy:**

- Mobilize political support for LGBTQIA+ rights through advocacy campaigns, lobbying efforts, and engagement with policymakers.
- Support the formation and strengthening of LGBTQIA+ rights organizations and activist groups to amplify voices and push for policy reforms.

- **Intersectional Approaches:**

- Recognize and address the intersecting forms of discrimination faced by LGBTQIA+ individuals belonging to marginalized communities, such as Dalits, Muslims, or those with disabilities.
- Ensure that policy interventions and support services are inclusive and accessible to all members of the queer community, regardless of their intersecting identities.

SCIENCE AND TECHNOLOGY

GEROSCIENCE: THE SCIENCE RELATED TO AGING

Why in the News?

At Columbia University in New York, Dr. Daniel Belsky, an epidemiologist, has introduced the concept of “geroscience,” focusing on the **study of aging and related factors**.

His innovative work includes the development of a **groundbreaking blood test designed to gauge the rate of aging in individuals**. This test, often referred to as “gerozyme,” examines the **formation of methyl groups** within DNA, a process intricately linked to the aging process.

By analyzing methylation patterns, particularly in senior citizens, Dr. Belsky’s research provides valuable insights into the dynamics of aging and offers potential avenues for personalized interventions aimed at promoting healthier aging trajectories.

What is DNA Methylation?

DNA methylation is a mechanism that involves the addition of a methyl group in DNA molecule, specifically to cytosine bases within the DNA sequence.

DNA methylation is crucial for **regulating gene expression and various cellular processes** by influencing chromatin structure and accessibility to transcriptional machinery. However, the relationship between DNA methylation and gene expression can be **complex and context-dependent**.

DNA methylation an important **significant role in the aging process**. As individuals age, there are changes in DNA methylation patterns throughout the genome, which can affect gene expression and cellular function.

Drugs Related to Anti Aging Process

Metformin— a medication primarily prescribed for managing type 2 diabetes, has attracted increasing attention for its potential beyond glycemic control.

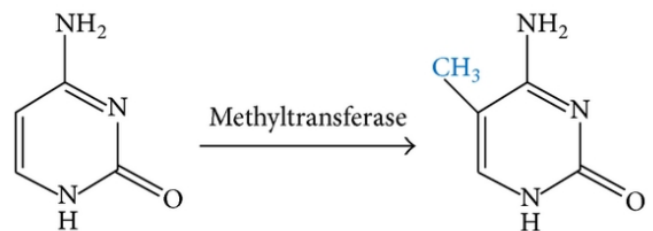
Studies indicate that metformin could potentially play a role in combating aging and regulating metabolism.

TORC1- Target Of Rapamycin Complex 1, is a **pivotal protein assembly fundamental to cell growth, metabolic functions, and the aging process**. It acts as a master controller, overseeing a multitude of cellular activities in reaction to external signals like nutrient levels, energy resources, and growth signals.

Resveratrol: It is found in red wine, grapes, and certain berries. It is for its potential anti-aging effects, including its ability to activate sirtuins, a family of proteins involved in cellular regulation and longevity.

Nicotinamide riboside (NR): NR is a form of vitamin B3 that has been investigated for its role in cellular energy metabolism and its potential to promote healthy aging.

Senolytics: Senolytics are those drugs that target senescent cells, which are cells that have ceased to divide and accumulate with age. It aims to selectively eliminate senescent cells, thereby reducing inflammation and improving tissue function.



Lifestyle Factors for Anti Aging

Regular Exercise: Engaging in regular physical activity is one of the most effective ways to promote healthy aging. Exercise helps maintain muscle mass, enhance mobility, improve cardiovascular health, such as heart disease, diabetes, and osteoporosis.

Balanced diet: A balanced diet comprising fruits,

whole grains, vegetables, lean proteins gives essential nutrients and antioxidants which supports overall health and longevity. Nutrient-dense foods helps in maintaining a healthy weight, support immune system, and reduce the risk of age-related diseases.

Adequate Sleep: Good Quality sleep is essential for overall health and well-being, including cognitive function, immune function, and hormone regulation. Aim for 7-9 hours of sleep per night and practice good sleep and hygiene habits to promote restful sleep.

Stress management: Addressing chronic stress is crucial as it not only speeds up aging but also heightens susceptibility to age-related illnesses. Introducing stress-relieving practices like mindfulness meditation, deep breathing exercises, yoga, or reconnecting with nature can be beneficial in fostering a sense of calmness and improving emotional health.

Social Connections: Maintaining strong social connections and staying engaged with family, friends, and community leads to positive impact on mental or emotional health as well as cognitive function. Social interaction helps combat loneliness, reduces stress, and promotes a sense of purpose and belonging.

Sun Protection: Protecting skin from the sun's harmful UV rays by wearing sunscreen, protective clothing, and sunglasses, and seeking shade when outdoors. Sun exposure can increase skin aging and increase the risk of skin cancer.

Avoidance of Harmful Habits: Limit or avoid habits that can increase the pace of aging and increase the risk of smoking, excessive alcohol consumption, and recreational drug use.

Yual Noah Harare, describes in the book 'Homo Deus' about humans overcoming the boundation of natural boundaries by the use of technology. Geroscience is part of that pursuit of Homsapiens which can lead to longevity and healthy lifestyle.