

● POLITY

● ECONOMICS

● TECHNOLOGY

● ECOLOGY

POLITY AND GOVERNANCE

Supreme Court Recognizes Right Against Climate Change As Fundamental Right

CONTEXT: The Supreme Court of India has recently recognized the right against climate change as a fundamental human right in the Constitution. This decision came in a case related to the survival of the endangered Great Indian Bustard species.



BACKGROUND:

The court emphasized that the right to a healthy environment, free from the adverse effects of climate change, is essential for the realization of other fundamental rights such as the right to life and equality. The judgment highlighted the interconnectedness of climate change with various human rights, including health, indigenous rights, gender equality, and the right to development.

Key Points:

- **Right Against Climate Change Established:** The court recognized the right to be free from the adverse effects of climate change as a fundamental right under the Indian Constitution.
- **Link to Existing Rights:** This right is seen as intertwined with the existing fundamental rights to life (Article 21) and equality (Article 14). A clean and stable environment is essential for the full enjoyment of these rights.
- **Impact on Vulnerable Populations:** The court highlighted how climate change disproportionately harms marginalized communities who lack resources to adapt.
- **Interconnection with Other Rights:** The judgment acknowledged the connection between climate change and other human rights, such as health, indigenous rights, gender equality, and development.
- **Importance of Solar Power:** The court emphasized the critical role of solar energy in combating climate change. India's growing energy needs, air pollution concerns, and water scarcity necessitate a shift towards renewable sources like solar.

- **Benefits of Renewables:** Transitioning to renewable energy can enhance energy security, improve public health by reducing air pollution, and lower healthcare costs.

CONCLUSION

The Supreme Court's recognition of the right against climate change as a fundamental human right marks a pivotal step in India's legal landscape. This decision, rooted in the interconnectedness of environmental health with basic rights like life and equality, emphasizes the imperative for sustainable practices. Embracing solar power and renewable energy sources not only combats climate change but also fosters energy security, public health improvement, and economic sustainability, aligning with broader environmental and societal goals.

GEOGRAPHY

Solar Eclipse 2024: Spectacle, Safety, And Eclipse Types

CONTEXT: A significant celestial event, the total solar eclipse, captured the attention of millions of spectators across North America, eagerly anticipating the rare occurrence amidst uncertain weather forecasts.

BACKGROUND:

The eclipse, expected to be the largest gathering for such an event in North America, attracted attention due to its densely populated path and the allure of experiencing over four minutes of midday darkness in select areas, including Texas. The event promised a partial eclipse for nearly everyone in the region, weather permitting.



Anticipation and Uncertainty:

Millions awaited the eclipse along the narrow corridor, acknowledging the challenge of forecasting cloud cover, which added to the dramatic experience of the event, rain or shine.

Unique Eclipse Phenomena:

During the full eclipse, the moon would block the sun entirely, creating a twilight with only the sun's corona visible, causing birds

and animals to fall silent and potentially revealing planets, stars, and comets.

Duration and Path:

The eclipse's out-of-sync darkness would last up to 4 minutes and 28 seconds, almost twice as long as a previous coast-to-coast eclipse, due to the moon's proximity to Earth. It would span across several U.S. states and parts of Canada within five hours, covering a distance of over 6,500 km.

What is a Solar Eclipse?

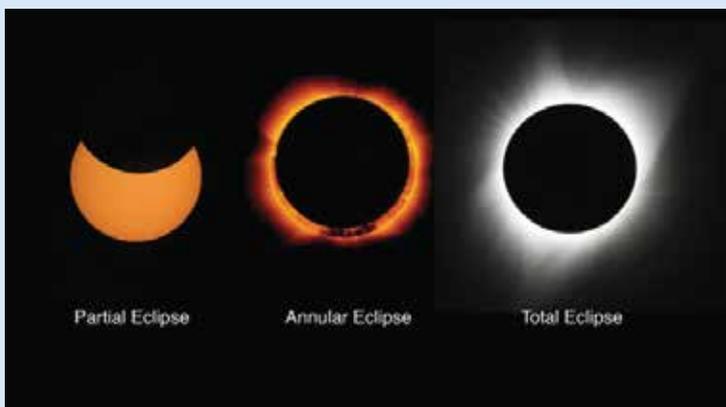
A solar eclipse occurs when the Moon casts a shadow on Earth as it passes between the Sun and Earth. This alignment doesn't happen all the time because the Moon doesn't orbit in the exact same plane as Earth and Sun. These periods of alignment, known as eclipse seasons, occur twice a year.

Safe Viewing

It's crucial to use safe viewing methods like eclipse glasses or a pinhole projector whenever observing the Sun, including during partial, annular, or total eclipses (except for the brief moment of totality).

Types of Solar Eclipses

- **Total Solar Eclipse:** The Moon entirely blocks the Sun's face, plunging the sky into darkness momentarily. Observers can see the Sun's corona, its outer atmosphere, during totality.
- **Annular Solar Eclipse:** The Moon appears farther away and smaller than the Sun, creating a "ring of fire" effect as it doesn't completely cover the Sun.
- **Partial Solar Eclipse:** The Moon only partially covers the Sun, giving it a crescent shape. This occurs when the Sun, Moon, and Earth aren't perfectly aligned. Observers outside the total or annular eclipse path witness a partial eclipse.
- **Hybrid Solar Eclipse:** This rare type transitions between annular and total as the Moon's shadow moves across Earth's curved surface.



SCIENCE AND TECHNOLOGY

Low Glycemic Index Diet May Help Prevent Type 2 Diabetes

CONTEXT: A new international study suggests that consuming a diet low in both glycemic index (GI) and glycemic load (GL) could play a role in preventing type 2 diabetes.

BACKGROUND:

The link between GI and type 2 diabetes has been debated for some time, with limited large-scale evidence.



Key Points:

- The study, published in *The Lancet Diabetes and Endocrinology*, found a strong association between high GI and GL diets and an increased risk of developing type 2 diabetes.
- The research spanned five continents and involved over 127,000 participants.
- GI ranks carbohydrate-containing foods based on their impact on blood sugar levels. Higher GI foods cause a larger blood sugar spike.
- GL considers both the quality (GI) and quantity of carbohydrates in a food.
- The study suggests that individuals with a higher Body Mass Index (BMI) may benefit more significantly from a low GI/GL diet in terms of diabetes prevention.

CONCLUSION:

By focusing on consuming foods that cause a lower rise in blood sugar levels and considering both the quality and quantity of carbohydrates, people can take a proactive approach to reducing their risk of developing this chronic condition.

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SCIENCE AND TECHNOLOGY

Indian Army's Embrace Of Technology: Year Of Technology Absorption

CONTEXT: The Indian Army has declared 2024 as the 'Year of Technology Absorption' to highlight its commitment to integrating technology into its operations, aiming to stay ahead in modern warfare scenarios. This initiative is part of the larger vision of Atmanirbharta (self-reliance) in defense capabilities.

BACKGROUND:

The focus on technology absorption encompasses disruptive technologies (DT) like artificial intelligence, autonomous systems, sensors, robotics, space tech, and hypersonic weapons. This move is crucial as global powers like the United States and China have made significant strides in these areas, shaping the future strategic landscape.



Key Points:

- **Military Paradigm Shift:** The absorption of technology involves acquiring, adapting, and integrating new technologies into existing military structures. This includes understanding nuances often overlooked by outsiders.
- **Legacy Systems and DTs:** The integration of DTs with existing weapon platforms is essential, emphasizing practical use over mere discovery. Time-tested strategies and platforms remain relevant alongside new technological advancements.
- **Realized Lethality vs. Potential:** While new technologies enhance battlefield capabilities, their actual impact depends on operational strategies and tactics. Recent conflicts like Russia-Ukraine highlight the importance of traditional methodologies alongside technological advancements.
- **Adaptation in Modern Warfare:** Operational and tactical adaptations are crucial, focusing on survivability, dispersion, and integration of capabilities. Tank warfare, infantry tactics, and electronic warfare play pivotal roles in adapting to dynamic battle conditions.
- **Strategic Planning:** Rather than discarding conventional platforms, future planning must integrate technology at all levels, acknowledging vulnerabilities, and bridging gaps through informed decision-making.
- **Macro-Level Considerations:** Technology absorption extends beyond equipment to organizational restructuring, human

resource management, civil-military fusion, data integrity, and procurement policies tailored for DTs.

- **Challenges and Lessons:** Sustaining technological advancements requires a nuanced understanding of evolving requirements, drawing insights from recent conflicts to inform strategic decision-making.

CONCLUSION:

The Indian Army's focus on technology absorption reflects a proactive approach to modern warfare challenges, emphasizing the harmonious integration of traditional strengths with cutting-edge technologies to maintain strategic advantage.

GEOGRAPHY, DISASTER MANAGEMENT

Scorching Heat Threatens India's Renewable Energy Push

CONTEXT: India is bracing for a hotter-than-usual summer with an increased number of heatwaves, according to the India Meteorological Department (IMD). This forecast comes amidst concerns about water scarcity, rising food inflation, and upcoming elections.



- **Impact of Heat:**
- **Reduced Crop Yields:** Higher temperatures negatively impact crop yields, varying by crop type.
- **Decreased Worker Productivity:** Heatwaves decrease the productivity of agricultural workers who must work outdoors.
- **Water Scarcity:** Heat exacerbates water shortages, posing a challenge for both agriculture and domestic use.
- **Increased Health Risks:** The elderly and very young are particularly vulnerable to health complications from extreme heat.
- **Higher Power Demand:** Heatwaves lead to increased power demand in urban and industrial areas, straining the power grid.
- **Challenges for Renewable Energy:**
- **Coal Reliance for Peak Demand:** India relies heavily on coal-fired power plants to meet peak power demand due to their ability to store fuel and handle fluctuations.
- **Solar Intermittency:** Solar power output fluctuates depending on sunlight availability, making it unreliable for peak demand without sufficient storage.

- **Limited Storage Capacity:** India's current power storage capacity remains insufficient to compensate for solar's intermittent nature.
- **Water Dependence of Renewables:** Both hydroelectric and pumped hydro storage (a key storage option) are vulnerable to water shortages during heatwaves.

The Way Forward:

- **Expanding Storage Capacity:** Developing more robust energy storage solutions is crucial for effectively utilizing renewable energy sources.
- **Water Management:** Effective water management strategies will be essential to ensure the reliability of hydro and pumped hydro storage during periods of high heat.
- **Adapting to Climate Change:** India needs to adapt its energy infrastructure to be more resilient in the face of climate change and extreme weather events.

CONCLUSION:

India's ambitious renewable energy goals face a significant challenge due to the predicted heatwave. Addressing storage limitations, water management, and climate adaptation will be critical to ensure a reliable and sustainable power supply for the future.

SCIENCE AND TECHNOLOGY

Diverse Approaches To AI Regulation: Global Perspectives And India's Response

CONTEXT: The global discourse on regulating AI systems has gained momentum, with various countries adopting distinct approaches to address the risks and opportunities associated with artificial intelligence. India's response to AI regulation holds significance due to its large consumer base and growing technology sector.



BACKGROUND:

Recent developments, including the United Nations Resolution on AI, the EU's AI Act, China's regulatory framework, and the UK's principled approach, highlight the diverse strategies nations are employing to formalize AI regulations. These efforts are crucial for aligning AI development with Sustainable Development

Goals (SDGs) and addressing potential socio-economic impacts.

Key Points:

United Nations Resolution:

The UN Resolution emphasizes responsible AI use, acknowledging its impact on SDGs and the workforce. Developing countries like India must formulate responses to safeguard labor markets and support small businesses affected by AI technologies.

EU's AI Act:

The EU's risk-based approach categorizes AI systems and bans applications posing risks to citizens' rights. It also addresses compliance challenges for businesses and startups, particularly concerning Generative AI systems.

China's Approach:

China focuses on promoting AI innovation while ensuring safeguards against social and economic harm. Its regulatory framework emphasizes content moderation, data protection, and algorithmic governance.

UK's Framework:

The UK adopts a context-based approach, prioritizing consultations with regulatory bodies and expanding technical expertise to regulate complex AI technologies effectively.

India's Position:

India's response to AI regulation is crucial given its growing tech ecosystem and deep tech startups. Initiatives like the India AI mission aim to enhance public-private partnerships and promote innovative AI projects while aligning with SDGs and economic growth goals.

CONCLUSION:

As AI continues to evolve, a phased and inclusive approach to regulation is essential for India, balancing innovation with risk mitigation and societal impact. Collaborative efforts and informed policymaking will be key to shaping a fair and responsible AI ecosystem in India.

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ECONOMICS AND DEVELOPMENT

Household Debt Surged To New High By December 2023

CONTEXT: India's household debt soared to an unprecedented level, accounting for 40 per cent of the Gross Domestic Product (GDP) by December 2023, marking a significant escalation in financial strain. This surge was paralleled by a concerning decline in net financial savings, which dwindled to a meagre 5% of GDP during the same period.

Earlier estimates from the Reserve Bank of India had already raised alarms, indicating that households' net financial savings had plummeted to an alarming 5.1% of GDP in the fiscal year 2022-23. Despite subsequent revisions showing a slight uptick to 5.3% of GDP, the figures remained distressingly low, painting a bleak financial landscape for Indian households. Moreover, the revised estimates underscored the persistent burden of household debt, pegged at 38% of GDP for the fiscal year 2022-23, the second-highest level since the pandemic-induced downturn in 2020-21.

Unsecured personal loans emerged as the fastest-growing component, followed closely by secured debt, agricultural loans, and business loans, indicating a broad-based escalation in financial obligations among Indian households.

The underlying causes of this financial predicament were traced back to sluggish income growth juxtaposed against robust consumption patterns and a surge in physical savings.

Debt to GDP ratio

Debt-to-GDP ratio measures how much a nation owes in relation to its GDP. It is a trustworthy predictor of a nation's ability to pay down its debts.

- A healthy economy is one that produces and sells goods and services without accruing more debt. A low debt-to-GDP ratio is a sign of that.
- If a portion of the country experiences a debt default, both local and foreign markets will experience a financial panic. A greater debt-to-GDP ratio increases the likelihood of default.
- External debts, often known as "public debts," are any sums owing to foreign lenders. These are generally difficult for a country with a high debt-to-GDP ratio to pay off.
- In these situations, lenders frequently ask for higher interest rates. Extremely high debt-to-GDP ratios may discourage creditors from making any loans at all.

GEOGRAPHY, DISASTER MANAGEMENT

Several States Are Coming To Court Against Centre: SC

CONTEXT: Let there not be a "contest" between the Union and the state, the Supreme Court said on Monday while hearing the Karnataka government's plea seeking a direction to the Centre to release financial assistance from the National Disaster Response Fund (NDRF) to the state for drought management.

A bench of Justices B R Gavai and Sandeep Mehta was told by Attorney General R Venkataramani and Solicitor General Tushar Mehta, who were appearing for the Centre, that they would seek instructions in the matter.

The petition has also sought to declare that the Centre's action in not releasing the financial assistance for drought arrangement as per the NDRF is "ex-facie violative" of the fundamental rights of the people of the state guaranteed under Articles 14 and 21 of the Constitution.

National Calamity Contingency Fund

National Calamity Contingency Fund (NCCF) was renamed as National Disaster Response Fund (NDRF) with the enactment of the Disaster Management Act in 2005.

It is defined in Section 46 of the Disaster Management Act, 2005 (DM Act).

It is placed in the "Public Account" of Government of India under "reserve funds not bearing interest".

Public Accounts: It was constituted under Article 266 (2) of the Constitution. It accounts for flows for those transactions where the government is merely acting as a banker eg. provident funds, small savings etc. These funds do not belong to the government and have to be paid back at some time.

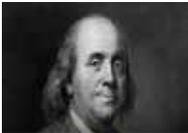
Expenditures from it are not required to be approved by the Parliament.

It is managed by the Central Government for meeting the expenses for emergency response, relief and rehabilitation due to any threatening disaster situation or disaster.

It supplements the State Disaster Response Fund (SDRF) in case of a disaster of severe nature, provided adequate funds are not available in the SDRF.

SDRF is the primary fund available with the State governments for responses to notified disasters to meet expenditure for providing immediate relief.

The Centre contributes 75% of the SDRF allocation for general category States and Union Territories, and 90% for special category States/UTs (northeast States, Sikkim, Uttarakhand, Himachal Pradesh, and Jammu & Kashmir).



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—Benjamin Franklin



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POLITY AND GOVERNANCE

Perverse Intent: The CAA Suffers From Narrow Definition Of Persecution And Arbitrariness

The citizenship laws in India derived their origins from the constitution under Articles 5-11 and the Citizenship Act of 1955. This Act provided provisions for citizenship by birth, descent, registration and naturalisation.

Key Features of the CAA, 2019

Eligibility

It amended the Citizenship Act of 1955 to make illegal migrants who are Hindus, Sikhs, Buddhists, Jains, Parsis and Christians from Afghanistan, Bangladesh and Pakistan, eligible for Indian citizenship.

Who are illegal migrants?: An illegal immigrant enters India without valid travel documents or stays beyond the permitted time, potentially facing prosecution, deportation, or imprisonment.

Those from these communities who entered India on or before December 31, 2014, would not be treated as illegal immigrants, providing a path to naturalisation.

However, it exempts the Muslim community.

Relaxation

The amendment relaxed the residency requirement from 11 years to 6 years for these communities to acquire Indian citizenship by naturalization.

It exempts members of these communities from prosecution under the Foreigners Act of 1946 and the Passport Act of 1920.

Applicants are exempt from being considered "illegal immigrants".

Exception:

The amendments for illegal migrants will not apply to certain tribal (under Sixth Schedule) areas in Assam, Meghalaya, Mizoram, and Tripura, as well as states regulated by the "Inner Line" permit under the Bengal Eastern Frontier Regulations 1873.

Consequences of acquiring citizenship: It states that acquiring citizenship will result in (i) such persons being deemed to be citizens of India from the date of their entry into India, and (ii) all legal proceedings against them in respect of their illegal migration

or citizenship being closed.

Grounds for cancelling OCI registration:

The 1955 Act allows the central government to cancel OCI registrations on various grounds, with the amendment adding a new ground for cancellation if the OCI violates a government-notified law.

ECONOMICS AND DEVELOPMENT

Household Consumption Expenditure survey

The Household Consumption Expenditure Survey (HCES) is conducted by the National Statistical Office (NSO) every 5 years.

It is designed to collect information on the consumption of goods and services by households.

The data collected in HCES is also utilized for deriving various other macroeconomic indicators such as Gross Domestic Product (GDP), poverty rates, and Consumer Price Inflation (CPI).

NITI Aayog has stated that the latest consumer expenditure survey indicated that poverty has come down to 5% in the country.

The findings of the last HCES, conducted in 2017-18 were not released after the government cited "data quality" issues.

Information Generated: Provides information on the typical spending on both goods (including food and non-food items) and services.

Additionally, assists in calculating estimates for household Monthly Per Capita Consumer Expenditure (MPCE) and analyzing the distribution of households and individuals across different MPCE categories.

Highlights of the Recent Survey: The estimates of average monthly per capita consumption expenditure were generated without imputing the value figures of the items received free by the households through various social welfare programmes such as Pradhan Mantri Garib Kalyan Yojana.

Increase in MPCE: It reveals a 33.5% increase in MPCE in urban households since 2011-12, reaching ₹3,510, while rural India's MPCE increased by 40.42% to ₹2,008.

In 2022-23, 46% of rural household expenditure and 39% of urban household expenditure were on food items.

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