DAILY CURRENT AFFAIRS 09-11-2024

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International Atomic Energy Agency (IAEA)

Syllabus: GS-2; International Institutions

Context

- UAE appointed as member of Commission on Safety Standards of International Atomic Energy Agency.

About

- **Established**: 1957
- **Headquarters**: Vienna, Austria
- **Membership**: 176 member states (as of 2024)

Objectives

- **Promote Peaceful Use of Nuclear Energy**: The IAEA works to promote the safe, secure, and peaceful use of nuclear technology for development and human welfare.
- **Prevent Nuclear Proliferation**: The agency plays a crucial role in preventing the spread of nuclear weapons and ensuring that nuclear materials are used solely for peaceful purposes.
- **Safety and Security Standards**: Develops and promotes nuclear safety and security standards and guidelines.

Key Functions

- **Nuclear Safeguards**: The IAEA implements verification measures to ensure that nuclear materials are not diverted from peaceful uses to military purposes. Member states are required to sign safeguards agreements.
- **Nuclear Safety**: Provides a framework for ensuring safety in the use of nuclear energy and technology, including guidance on the safe operation of nuclear power plants.
- **Technical Cooperation**: Facilitates the transfer of nuclear technology and expertise to developing countries for agricultural, medical, and industrial applications.
- **Emergency Response**: Coordinates international responses to nuclear accidents and radiological emergencies.
- **Research and Development**: Conducts and supports research in nuclear science and technology.

Organizational Structure

- **General Conference**: The main decision-making body, consisting of representatives from all member states.
- **Board of Governors**: Composed of 35 member states, responsible for overseeing the IAEA's activities and budget.
- **Secretariat**: Led by the Director General, responsible for the day-to-day operations.

Director General

- As of 2024, the Director General is Rafael Mariano Grossi, who took office in December 2019.

Notable Achievements

- **Nuclear Non-Proliferation Treaty (NPT)**: The IAEA plays a key role in the implementation of the NPT, which aims to prevent the spread of nuclear weapons.
- **Fukushima Response**: After the 2011 Fukushima disaster in Japan, the IAEA was involved in assessing the situation and providing support for recovery and safety measures.

Current Issues and Challenges

- **Nuclear Weapons Programs**: Ongoing challenges with countries like North Korea and Iran regarding their nuclear programs and compliance with IAEA safeguards.
- **Nuclear Safety Concerns**: Ensuring safety in aging nuclear facilities and the development of new technologies.
- **Global Nuclear Governance**: The IAEA's role in addressing global challenges like climate change through nuclear technology.

State Contingent Debt Instruments

Syllabus: GS-3; Economy

Context

- The recent cascade of countries defaulting on their debt has brought back into vogue complex securities, born in the 1980s, that aim to speed up restructurings.

- The renaissance of so-called State Contingent Debt Instruments, which lure investors with new bonds that promise payouts if the country hits certain economic or fiscal targets, has helped nations from Ukraine to Sri Lanka resolve difficult debt negotiations.

About

- **State Contingent Debt Instruments** (SCDIs) are financial tools that adjust repayment terms based on specific economic conditions or predefined contingencies, like growth rates, inflation, or natural disasters.
- These instruments are especially useful for governments, allowing them to manage debt burdens flexibly in response to economic challenges or revenue fluctuations.

Key Features of State Contingent Debt Instruments

- **Contingency-Based Repayment**: SCDIs allow the borrower's debt payments to vary based on specified economic indicators, reducing debt-servicing pressures during economic downturns or crises.
- **Conditional Interest Rates**: Interest rates or repayment terms are often tied to factors like GDP growth, inflation, or commodity prices, making the debt more sustainable during challenging periods.
- **Flexibility in Financial Planning**: Governments using SCDIs can plan better as these instruments offer repayment flexibility based on fiscal capacity.
- **Risk-Sharing with Creditors**: SCDIs distribute economic risk between the borrower and lender, as lenders adjust returns based on real economic performance.

Types of State Contingent Debt Instruments

- **GDP-Linked Bonds**: Payments are tied to the issuing country's GDP performance, with lower repayments during economic slowdowns and higher repayments during periods of growth.
- **Commodity-Linked Bonds**: Used primarily by commodity-dependent economies, repayments vary with commodity prices, helping countries manage debt in sync with export revenues.
- **Catastrophe Bonds**: Used by countries prone to natural disasters, these bonds may provide for debt relief or postponement of payments in case of specific disasters.

Benefits of State Contingent Debt Instruments

- **Debt Sustainability**: SCDIs help maintain debt sustainability by easing repayment obligations during low-revenue periods or economic recessions.
- **Economic Stability**: These instruments mitigate the risks of default, allowing governments to stabilize budgets without resorting to severe austerity measures.
- **Enhanced Investor Confidence**: By reducing the likelihood of defaults, SCDIs can enhance investor confidence and attract long-term investment.

Global Applications

- **Developing Economies**: Many developing economies use SCDIs to address volatility in economic growth and export revenues.
- **Disaster-Prone Regions**: SCDIs have been applied in regions vulnerable to natural disasters, providing much-needed flexibility in disaster response and recovery.

Challenges and Considerations

- **Complexity in Structuring**: The design and terms of SCDIs require detailed economic forecasting and agreement on triggers.
- **Investor Hesitancy**: Some investors may be wary due to the inherent uncertainty in returns.
- **Data Transparency**: Effective use of SCDIs requires transparent and reliable economic data to track contingencies accurately.

Unpaid Labor

Syllabus: GS-3; Economy- Employment

Context

- A Research paper "Valuation of Unpaid Household Activities in India" by Sahoo, Sarkar, and Kumar sheds light on the economic significance of unpaid household work, particularly the disproportionate burden borne by women.

Key Points

1. **Definition and Scope of Unpaid Household Work:**

- Unpaid household work includes activities such as cooking, cleaning, caregiving, and other domestic responsibilities that are often unrecognized in traditional economic analyses.
- This work is essential for maintaining household functioning and overall well-being.

- **Economic Valuation:**
  - The authors employ various methodologies to quantify the economic value of unpaid household work, estimating its contribution to the national economy.
  - By assigning a monetary value to this work, the study highlights its significance in national accounts and economic policies.
- **Disproportionate Burden on Women:**
  - Women bear a larger share of unpaid household work compared to men, which reinforces existing gender inequalities.
  - The study presents data showing that women's participation in unpaid work limits their opportunities for paid employment and economic independence.
- **Policy Implications:**
  - The findings suggest the need for policies that recognize and value unpaid household work, aiming to reduce gender disparities.
  - The paper advocates for initiatives that promote shared responsibilities in household tasks and support for women to transition into formal employment.
- **Societal Impact:**
  - The undervaluation of unpaid work contributes to the broader societal perception that this work is not economically significant, leading to a lack of recognition and support.
  - The authors argue for a shift in societal attitudes towards unpaid work to foster more equitable gender relations.

Moonlight programme

Syllabus: GS-3; Space Technology

Context

- The European Space Agency (ESA) at the International Astronautical Congress, launched its Moonlight Lunar Communications and Navigation Services (LCNS) programme.

About

- **Launch Date**: The Moonlight programme was launched by the ESA at the International Astronautical Congress on October 15, 2024.
- **Objective**: The programme aims to develop a lunar communications and navigation infrastructure to support over 400 planned moon missions by various space agencies and private entities in the next two decades.

Key Features

- **Satellite Constellation**: The programme will establish a constellation of approximately five lunar satellites.
    - **Functions**:
        - Facilitate accurate autonomous landings.
        - Enable high-speed communication between the Moon and Earth.
        - Support surface mobility for lunar missions.
    - **Data Transfer**: The satellites will allow data transfer over a distance of about 250,000 miles (400,000 kilometers).

Mission Components

- **Lunar Pathfinder**: The first step in the Moonlight programme is the launch of the Lunar Pathfinder, a communications relay satellite developed by Surrey Satellite Technology LTD, scheduled for 2026.
- **Operational Timeline**:
    - Initial services are expected to begin by the end of 2028.
    - The system is projected to be fully operational by 2030.
- **Focus Area**: The primary coverage area will be the Moon's South Pole, which is crucial due to its unique lighting conditions and the potential presence of water ice in permanently shadowed craters.

Collaboration and Partnerships

- **Global Engagement**: The programme will involve multiple ESA directorates and collaborations with various nations and industrial partners.
- **NASA and JAXA Collaboration**: ESA is working with NASA and the Japan Aerospace Exploration Agency (JAXA) on LunaNet, a framework designed to standardize communication and navigation for lunar missions.

- **Future Applications**: Insights and technologies from the Moonlight programme are expected to contribute to the development of the Mars Communication and Navigation Infrastructure (MARCONI) for future Mars missions.

Strategic Importance

- **Supporting Commercial Lunar Market**: The Moonlight programme is positioned to support the growing commercial lunar sector as well as ongoing and future lunar missions.
- **Reduced Infrastructure Needs**: By establishing a shared communications infrastructure, Moonlight will likely reduce the reliance on standalone communication systems, allowing mission teams to concentrate more on astronauts and robotic operations.

Greenhouse Gas Bulletin

Syllabus: GS-3; Environmental Concern- International Institutions

Context

- Greenhouse gas levels surged to a new record in 2023, committing the planet to rising temperatures for many years to come, according to a report from the **World Meteorological Organization (WMO).**

About

Purpose

- The bulletin aims to monitor and report on the concentrations of major greenhouse gases—such as **carbon dioxide (CO_2), methane (CH_4), and nitrous oxide (N_2O)**—in the Earth's atmosphere and their contributions to climate change.

Key Findings

- **Rising Concentrations**:
  - The bulletin reports a continuing increase in greenhouse gas concentrations, with CO_2 levels reaching record highs. This trend has significant implications for global warming and climate change.

- Methane and nitrous oxide levels are also on the rise, contributing to the greenhouse effect, with methane being significantly more potent than CO_2 over a shorter time frame.

- **Sources of Emissions**:
  - Major sources of GHG emissions include fossil fuel combustion, land-use changes, agriculture (especially livestock production), and waste management practices.
  - The agricultural sector is a significant contributor to methane and nitrous oxide emissions.
- **Impact of COVID-19**:
  - The COVID-19 pandemic temporarily reduced global emissions in 2020 due to lockdowns and reduced economic activity. However, the reduction was not sufficient to reverse the overall long-term trend of increasing GHG levels.
- **Climate Change Implications**:
  - The increasing concentration of GHGs is driving global temperature rises, leading to more frequent and severe weather events, melting ice caps, and rising sea levels.

  - The bulletin emphasizes the urgency of implementing mitigation strategies to limit GHG emissions to meet international climate targets, such as those set out in the Paris Agreement.

Global Responses

- **International Cooperation**: The bulletin underscores the need for coordinated global efforts to reduce emissions and implement sustainable practices across all sectors.
- **Policy Recommendations**: It advocates for the adoption of policies aimed at enhancing energy efficiency, transitioning to renewable energy sources, and promoting sustainable land-use practices.