CURRENT AFFAIRS FOR 21ST NOVEMBER 2024

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1. Reassessing the Safe Harbour Clause

Context

The Government is considering revisiting the Safe Harbour provisions under Section 79 of the IT Act to create a more balanced and accountable digital ecosystem, in line with India's "Viksit Bharat 2047" vision.

Safe Harbour Clause

Section 79 of the IT Act, 2000, offers intermediaries like social media platforms immunity from liability for user-generated content, provided they meet the due diligence requirements. This clause was introduced to foster digital growth and shield platforms such as X (formerly Twitter), Telegram, and Instagram from legal accountability for third-party content.

Key Issues in the Digital Media Landscape

1. **Fair Remuneration**: Traditional media seeks equitable compensation amid the dominance of digital platforms.

2. **AI and Intellectual Property**: Concerns about AI systems utilizing creators' content without adequate remuneration.

Government Initiatives for Media

- **National Press Day 2024**: Celebrated India's robust media ecosystem, including 35,000 registered newspapers and accessible digital infrastructure.

- **Press Council of India (PCI)**: Encourages journalistic ethics through awards and initiatives to guide budding journalists.

- **PIB's Fact Check Unit**: Aims to counter misinformation alongside modern regulations like the Press and Registration of Periodicals Act, 2023.

The Need to Reassess the Safe Harbour Clause

1. **Misinformation and Fake News**: Digital platforms enable the spread of unchecked information, undermining societal trust and democracy.

2. **Algorithm Bias**: Sensational and polarizing content is often prioritized, exacerbating divisions.

3. **Democratic Impact**: Bias in content dissemination challenges democratic values and social harmony.

4. **Localized Responsibility**: India's cultural diversity necessitates stricter localized accountability beyond global standards.

Potential Benefits of Revisiting the Clause

1. **Greater Accountability**: Encourages ethical practices by digital platforms.

2. **Enhanced Trust**: Establishes a more reliable digital environment for governments and users.

3. **Improved Social Stability**: Limits the spread of divisive content, fostering national unity.

Challenges in Revisiting Safe Harbour

1. **Balancing Regulation and Innovation**: Excessive regulation might stifle the digital economy and innovation.

2. **Free Speech Concerns**: Over-regulation could suppress democratic discourse.

3. **Practical Enforcement**: Monitoring billions of real-time interactions poses significant logistical hurdles.

4. **Operational Costs**: Compliance requirements could disproportionately affect smaller platforms.

5. **Global Variations**: Harmonizing India's regulations with global frameworks presents complexities.

The Way Forward

1. **Modern Legislation**: Replace the IT Act's outdated provisions with the proposed Digital India Bill.

2. **Algorithm Transparency**: Mandate disclosures about content prioritization and its societal effects.

3. **Defined Responsibilities**: Establish clear guidelines for platforms on content moderation and misinformation, with penalties for non-compliance.

4. **Ethical AI Design**: Promote algorithms that reduce bias and limit the amplification of harmful content.

5. **AI Frameworks**: Balance innovation with the recognition and protection of creators' intellectual property rights.

6. **Collaborative Efforts**: Foster partnerships between the government, tech companies, and civil society to encourage self-regulation.

7. **Revenue Sharing**: Implement policies to ensure fair compensation for traditional media and original content creators.

8. **Global and Local Policies**: Develop comprehensive AI policies to address intellectual property concerns and uphold creator rights.

Q. Discuss the relevance of the Safe Harbour Clause under Section 79 of the IT Act, 2000, in the context of evolving digital challenges like misinformation and algorithmic bias. Examine the benefits and challenges of revisiting this clause and suggest measures to balance accountability with innovation."

2. Italy-India Joint Strategic Action Plan 2025-2029

Context

At the G20 Summit in Rio de Janeiro, Prime Ministers Narendra Modi and Giorgia Meloni unveiled the Italy-India Joint Strategic Action Plan 2025-2029 to deepen bilateral ties across diverse sectors.

India-Italy Bilateral Relations

1. **High-Level Interactions**: Regular meetings between heads of government, foreign ministers, and trade ministers during bilateral and multilateral events.

2. **Annual Consultations**: Foreign office dialogues to enhance diplomatic relations.

3. **Sectoral Partnerships**: Ministerial engagements focused on specific areas of collaboration.

Key Areas of Cooperation

1. **Economic Engagement**:

   o Boost trade in transportation, green technologies, food processing, and sustainable manufacturing.

   o Strengthen industrial ties through joint ventures, trade fairs, and business forums.

2. **Science and Technology**:

   o Collaborate in AI, Industry 4.0, semiconductor manufacturing, and digital services.

3. **Infrastructure Development**:

   o Support the India-Middle East-Europe Economic Corridor (IMEEC) to cut transit times and costs by 40% and 30%, respectively.

4. **Innovation and Start-ups**:

   o Launch the Indo-Italian Innovation and Incubation Exchange Programme for fintech, agritech, and healthcare sectors.

5. **Education and STEM Collaboration**:

- o Offer scholarships and facilitate academic exchanges to strengthen research partnerships.

6. **Space Cooperation**:

    - o Expand ISRO-ASI collaboration in lunar science, Earth observation, and space exploration, with a mission involving Italian space industry representatives in 2025.

7. **Energy Transition**:

    - o Advance the Global Biofuels Alliance, International Solar Alliance, and projects in green hydrogen and renewable energy.

8. **Defence and Security**:

    - o Focus on maritime security, co-development of defense technologies, and cyber security dialogues.

9. **Migration and Mobility**:

    - o Facilitate safe migration, train Indian health professionals for employment in Italy, and enhance academic mobility.

10. **Cultural and Tourism Exchange**:

    - o Promote mutual tourism, museum partnerships, and cultural exchanges under the 2023 Executive Programme of Cultural Cooperation.

11. **Research and Development**:

    - o Host technology summits and encourage joint research in energy and advanced manufacturing technologies.

Significance of the 2025-2029 Plan

1. **Economic Growth**: Boosts trade and investment in green technologies, advanced manufacturing, and sustainable mobility.

2. **SME and Start-up Collaboration**: Encourages innovation by fostering partnerships between SMEs and large corporations.

3. **Global Leadership**: Strengthens support for multilateral initiatives like IMEC and the Global Biofuels Alliance.

4. **Strategic Counterbalance**: Promotes connectivity and cooperation as an alternative to China's Belt and Road Initiative.

5. **Cultural and Diaspora Ties**: Builds on historical relations, leveraging the contributions of Indian and Italian diaspora communities.

6. **Existing Frameworks**: Extends established programs like the 2023 Cultural Cooperation Executive Programme and Joint Working Groups.

Q. "Examine the key objectives and areas of cooperation under the Italy-India Joint Strategic Action Plan 2025-2029. Discuss the significance of this plan in strengthening bilateral ties and its potential impact on regional and global initiatives."

3. Sustainability Concerns in India's Tea and Sugar Exports

Context

India's growing agricultural exports, particularly tea and sugar, have significantly boosted economic growth but raised sustainability challenges. Millets are emerging as a potential sustainable alternative.

India's Agricultural Exports

- **Growth**: Agricultural exports increased from $8.7 billion in 2004-05 to $53.1 billion in 2022-23.

- **Global Share**: Contributed 2.4% to global agricultural exports in 2022 (WTO Trade Statistical Review).

- **Major Commodities**: Dominated by rice, wheat, sugar, spices, and cotton.

- **Export Markets**: Key destinations include the United States, UAE, Bangladesh, Nepal, and Malaysia.

Tea Industry

Current Status

- India is the **second-largest tea producer** and the **fourth-largest exporter** globally.

- Tea exports in 2022-23 amounted to **188.76 million kg**, valued at **$793.78 million**.

- Export destinations: UAE, Russia, Iran, USA, and UK.

Challenges

1. **Human-Animal Conflict**:

   o **70% of plantations** located near forests overlap with wildlife migratory routes, especially elephants, causing safety issues.

2. **Pesticide Usage**:

- o Synthetic pesticides account for **85%** of usage, leaving residues like DDT and Endosulfan, linked to health risks such as cancer and neurotoxicity.

3. **Labour Issues**:

   - o Over **50% of workers are women**, often facing low wages and unsafe working conditions.

   - o Weak enforcement of the **Plantations Labour Act, 1951**, fails to ensure adequate labour rights and safety.

Recommendations

- **Sustainable Practices**: Adopt integrated pest management and limit pesticide residues.

- **Wildlife Conservation**: Establish buffer zones and invest in technology to minimize conflicts.

- **Labour Reforms**: Strengthen law enforcement, ensuring fair wages and better working conditions.

Sugar Industry

Current Status

- India is the **second-largest sugar producer**, with an annual production of **34 million metric tonnes**.

- Exports grew **64.9%** in 2021-22, earning ₹1 lakh crore.

- Key export destinations: Indonesia, Malaysia, and UAE.

Challenges

1. **Water Consumption**:

   - o Producing 1 kg of sugar requires **1,500-2,000 liters** of water, stressing groundwater resources.

2. **Ecosystem Degradation**:

   - o Expansion of sugarcane cultivation, particularly in Karnataka and Maharashtra, has led to biodiversity loss and reduced natural ecosystems.

3. **Labour Exploitation**:

   - o Workers face long hours, extreme temperatures, and poor working conditions, often leading to health issues and debt cycles.

Recommendations

- **Water Management**: Promote **drip irrigation**, cutting water usage by **40-50%**.

- **Biodiversity Conservation**: Encourage diversified cropping patterns and regulate land use.

- **Labour Reforms**: Implement safety standards and provide healthcare for workers.

Core Pillars of Sustainable Agriculture

1. **Ecological Factors**: Emphasize biodiversity, efficient water use, and soil health preservation.

2. **Economic Dimensions**: Focus on productivity, profitability, and market stability.

3. **Social Equity**: Ensure equitable labour practices and community benefits.

4.Governance: Policies must balance environmental, economic, and social considerations.

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4. **Millets: A Sustainable Model**

Key Facts

- Major varieties: Sorghum, Pearl Millet, Ragi, and Foxtail Millet.

- Leading producers: Rajasthan, Andhra Pradesh, Karnataka, and Maharashtra.

Why Millets?

- **Resilience**: Drought-resistant and require fewer inputs.

- **Environmental Benefits**: Protect soil health and reduce resource dependency.

- **Economic Potential**: Millet exports surged to **$75.45 million** in 2022-23, from **$26.97 million** in 2020-21.

Integrated Solutions for Agri-Sustainability

- **Environmental Sustainability**:

  o Promote eco-friendly practices like crop rotation and precision farming.

  o Enhance monitoring for pesticide use and water conservation.

- **Economic Empowerment**:

  o Encourage fair trade policies for small-scale farmers.

  o Diversify into sustainable crops like millets.

- **Social Equity**:

  o Enforce strict labour laws in tea and sugar industries.

  o Improve rural healthcare and education for workers.

- **Policy Support**:

  o Expand subsidies for sustainable technologies like drip irrigation.

  o Align exports with global sustainability standards.

4. Azerbaijan's COP29 Paradox: Oil vs Climate Action

Context

As host of **COP29**, Azerbaijan faces global scrutiny for its heavy reliance on fossil fuels while advocating for climate action. This paradox highlights challenges in reconciling economic dependence on oil and gas with global calls for green energy transitions.

Key Political Statements and Criticism

1. **Aliyev's Defense**:
   - President Ilham Aliyev defends Azerbaijan's continued fossil fuel reliance, accusing Western nations of hypocrisy for promoting green energy while maintaining their own dependence on fossil fuels.

2. **Criticism from Environmentalists**:
   - Azerbaijan is accused of undermining global climate goals by expanding fossil fuel production.
   - Critics argue that its approach delays the global energy transition and exacerbates climate change impacts.

Azerbaijan's Role in Global Climate Negotiations

- **Host of COP29**:
  - Positioned to influence climate solutions but under scrutiny for its fossil fuel dependency.

- **Fossil Fuels as a "Gift from God"**:
  - Aliyev asserts the global market's demand justifies oil and gas production despite climate agreements.

- **Economic Reliance**:
  - Fossil fuels account for 90% of exports, 60% of the budget, and a third of GDP.

Challenges with Fossil Fuel Dependency

1. **Economic Dependence**:

   o   Azerbaijan's economy is heavily reliant on oil and gas, making diversification into renewables difficult.

2. **Transition Hurdles**:

   o   Targeting 30% renewable energy by 2030, but progress is hindered by fossil fuel expansion plans.

3. **Revenue Risks**:

   o   Moderate green transitions could cause revenue losses of up to $8 trillion globally for petrostates by 2040.

4. **Socio-Political Instability**:

   o   Reduced fossil fuel revenues could destabilize authoritarian regimes reliant on oil wealth, leading to economic and political upheaval.

5. **Global Climate Justice Divides**:

   o   Developed countries' continued fossil fuel use contrasts with demands on developing nations to transition, exacerbating inequalities.

Benefits of a Green Transition for Petrostates

1. **International Credibility**:

   o   Embracing green energy could improve Azerbaijan's global standing.

2. **Economic Diversification**:

   o   Reduces vulnerability to volatile fossil fuel markets.

3. **Investment Opportunities**:

   o   Like Saudi Arabia, Azerbaijan could use sovereign wealth funds to invest in renewable projects and attract foreign investments.

Disadvantages of Fossil Fuel Dependency

1. **Missed Climate Targets**:

   o   Expanding fossil fuel production conflicts with limiting global warming to 1.5°C.

2. **Environmental Damage**:

   o   Fossil fuels contribute to climate change, threatening ecosystems and global sustainability efforts.

Way Forward for Global Climate Action

1. **Balancing Fossil Fuels and Green Energy**:

o   Strategically invest in renewables while ensuring an economically viable reduction in fossil fuel reliance.

2. **Decarbonization Strategies**:

   o   Develop and implement programs to align with international climate agreements.

3. **Expand Renewable Energy**:

   o   Achieving 30% renewable energy by 2030 is essential to reducing dependency and addressing climate concerns.

4. **International Cooperation**:

   o   Enhance climate finance, promote technology sharing, and establish global carbon pricing mechanisms to support the transition.

5. **Private Sector Engagement**:

   o   Attract private investments to green energy projects, mitigating risks and promoting economic growth.

6. **Institutional Reforms**:

   o   Mandate net-zero emissions by 2050 and strengthen renewable energy policies.

7. **Protect Civil Society**:

   o   Safeguard environmental activists, journalists, and civil society to ensure transparency and effective climate action.

5. Cicadas: Nature's Timekeepers

About Cicadas

- **Taxonomy**: Belong to the order *Hemiptera* and superfamily *Cicadoidea*. Known as true bugs with piercing-sucking mouthparts and two pairs of wings.

- **Life Cycle**:

    o   Cicadas spend most of their lives underground, feeding on plant sap.

    o   Underground phase lasts 13–17 years for certain species.

    o   Emergence marks their adult stage, primarily for reproduction.

Habitat and Distribution

- **Habitat**: Prefer natural forests with large trees and are typically canopy dwellers.

- **Geographic Spread**: Found on all continents except Antarctica.

    o   **Diversity**: India and Bangladesh host the highest genetic diversity of cicadas, followed by China.

Unique Emergence Patterns

- **Emergence Types**:

    o   **Periodical Cicadas**: Three species emerge every 17 years, and another three every 13 years.

    o   **Dual Emergence**: Two species emerge simultaneously, a rare occurrence.

    o   **Triple Emergence**: Three species emerge together, an event occurring for the first time in 1,547 years.

- **Environmental Role**:

    o   Enhance soil aeration by creating exit holes during emergence.

    o   Improve tree health by enriching soil with organic material left after their emergence.

Characteristics

- **Non-Threatening**: Do not bite, sting, or transmit diseases.

- **Ecological Importance**:

  o Act as natural tree gardeners, promoting tree growth.

  o Create pathways for rainwater and nutrients to penetrate the soil.

Context of Triple Emergence

- The first **triple emergence** in recorded history occurred recently in North America, last seen as a **dual emergence** in 1803.

- This rare phenomenon highlights the synchronicity and complexity of periodical cicadas' life cycles, making them key indicators of environmental and ecological health.

6. Water-Pollutant Detector Device: AroTrack
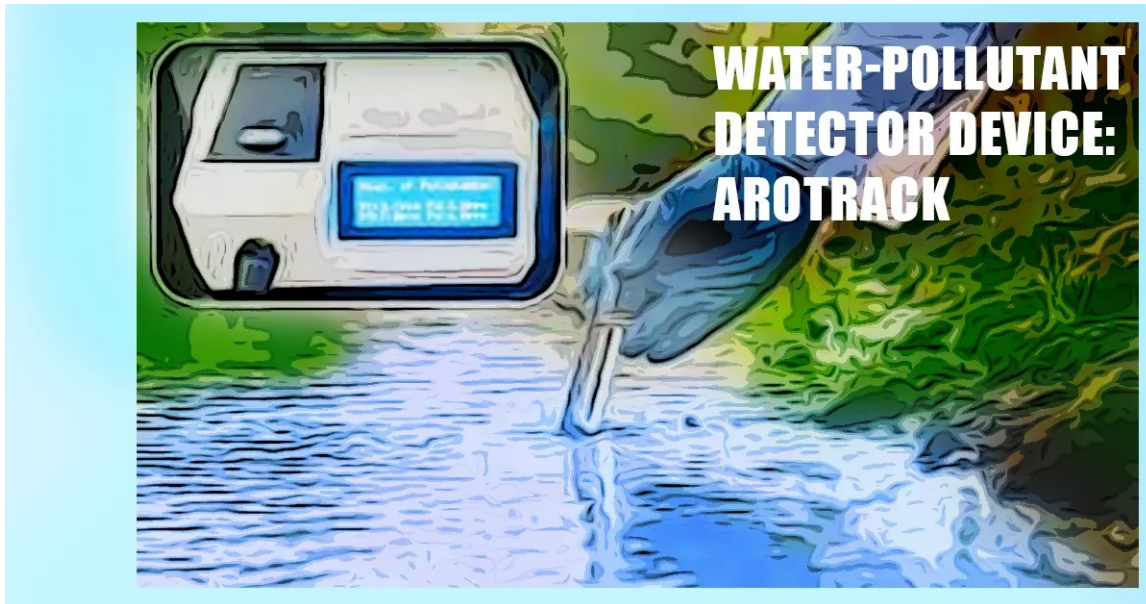
Context: IIT Bombay has introduced **AroTrack**, an innovative portable device designed to detect harmful aromatic pollutants like phenol, benzene, and xylenols in water, offering a solution to increasing water pollution challenges.

Key Features

1. **Biosensor Technology**:
   o Leverages proteins from **pollution-adapted bacteria** to identify and measure aromatic compounds in water.

2. **Detection Mechanism**:
   o The biosensor protein reacts with pollutants through **ATP hydrolysis** (a process releasing energy by breaking ATP bonds).
   o Presence of pollutants triggers a **color change** that is observable and measurable.

3. **MopR Biosensing Module**:
   o Derived from *Acinetobacter calcoaceticus*, a bacterium known for its ability to detect **phenol**.
   o Modified MopR expands the device's capability to identify other harmful aromatic compounds like **benzene** and **xylenols**.

4. **Detection Range**:
   o Detects pollutant concentrations as low as **10–200 parts per billion (ppb)**, achieving a precision level equivalent to high-end **spectrophotometers**.

Applications and Importance

• **Environment   Monitoring**:
  Enables real-time detection of pollutants in water bodies, critical for preventing ecological damage.

- **Portable** **Solution**:
  Compact and easy to use, making it suitable for field testing without the need for large laboratory equipment.

- **Industrial** **Usage**:
  Assists in monitoring effluents and ensuring compliance with environmental regulations.

Understanding ATP Hydrolysis

- ATP (**adenosine triphosphate**) hydrolysis involves breaking the high-energy bonds between phosphate groups, releasing energy necessary for biological and chemical reactions.

- In **AroTrack**, this reaction is linked to the detection of pollutants, making it both innovative and efficient.

7. Hindon River Overview

Geographical Details

- **Tributary**: A significant tributary of the Yamuna River.

- **Source**: Originates from the lower Shivalik ranges in **Saharanpur District, Uttar Pradesh**.

- **Course**:

    o Travels **~400 km** through the industrial belt of **Western Uttar Pradesh**.

    o Merges with the **Yamuna River** in **Noida**.

- **Main Tributaries**:

    o **Kali (West) River**

    o **Krishni River**

Dependence on Rainfall

- Relies primarily on **rainfall** for water flow.

Pollution Concerns

1. **Sources of Pollution**:

    o Urban effluents.

    o Agricultural runoff.

    o Untreated industrial wastes.

2. **Pollution Levels**:

    o Identified as one of the **most polluted rivers** in the Ganga basin.

- o The untreated discharge of wastes has degraded its quality severely.

3. **2015 CPCB Report**:

   - o The **Central Pollution Control Board (CPCB)** declared the Hindon a **'dead river'**.

   - o Pollution levels have made the river **unfit even for bathing** in several sections.

Environmental Impact

- High pollution levels affect aquatic ecosystems and water usability for agricultural and domestic purposes.

- Restoration and pollution control measures are critical for reviving the Hindon River and mitigating its environmental impact

8. Chancay Port, Peru

Overview

- **Objective**: Transform Peru into a key commercial and port hub, bridging trade between **South America and Asia**.

- **Ownership**:
    - **Cosco Shipping**, a Chinese state-owned enterprise, owns **60%** of the project.
    - Marks **China's first controlled port** in South America.

- **Belt and Road Initiative (BRI)**: Integral to China's investments in **Latin America**, enhancing regional trade influence.

Significance of the Project

1. **Resource Access for China**:
    - Provides **direct access** to South America's resource-rich zones.
    - **China is South America's leading trade partner**, surpassing the U.S. in trade volume.

2. **Regional Export Hub**:
    - Will serve as a crucial point for **exporting copper** from Peru and **soy** from western Brazil.
    - Streamlines logistics by avoiding traditional routes like the **Panama Canal** or **Atlantic pathways**.

3. **Strengthened Bilateral Relations**:
    - Deepens trade ties between Peru and China.
    - China leads bilateral trade with a surplus exceeding **$10 billion**.

About Peru

Geographical and Economic Facts

- **Location**: Western South America, entirely in the **Southern Hemisphere**.
- **Borders**:
  - **North**: Ecuador and Colombia.
  - **East**: Brazil.
  - **Southeast**: Bolivia.
  - **South**: Chile.
  - **West/Southwest**: Pacific Ocean.

Economy

- **Global Standing**:
  - **2nd-largest copper producer** in the world.
  - Other key minerals: **Gold** and **Zinc**.
- **Main Imports**:
  - **Petroleum oils**, transmitter equipment, and automobiles.
- **Key Import Partners**:
  - **China**: 23.3%.
  - **United States**: 21.3%.
  - **Brazil**: 5.6%.

Geopolitical Implications

- **China's Strategic Growth**:
  - Expands trade and economic influence in **South America** through Chancay Port.
  - Reinforces its Belt and Road Initiative's foothold in the Western Hemisphere.
- **South America-Asia Connectivity**:
  - Positions Chancay as a pivotal link in global trade, reducing dependency on U.S.-controlled routes like the **Panama Canal**.