

Mission Integrated Biorefineries

❖ Context

- Ministry of Science & Technology launched a major futuristic PPP (Public Private Participation) mode initiative for 'Clean Energy' with the full launch of "Mission Integrated Biorefineries"

❖ Key Highlights

- The mission was **soft launched** by the Ministry in **November last year at COP26 side event** at the Mission Innovation Annual Gathering.
- It is **one of the eight missions under Mission Innovation India & Netherlands are the co-leads of the mission.**
- **India is lead by Department of Biotechnology.**
- Its goal is to develop and demonstrate innovative solutions to accelerate the commercialization of integrated biorefineries, with a **target of replacing 10% of fossil-based fuels, chemicals and materials with bio-based alternatives by 2030.**
- **Greenhouse gas emissions** from the **transport and chemicals sectors** account for nearly **one-third of global emissions** with transport responsible for already one-fourth of them.
- An **integrated biorefinery** is a processing facility that integrates multiple pathways and conversion technologies to convert biomass into value added products.

❖ Mission Innovation

- It is a global initiative to catalyze action and investment in research, development and demonstration to make clean energy affordable, attractive and accessible to all this decade.

- It is an **intergovernmental platform** for cooperation, **launched alongside the Paris Agreement in 2015.**

❖ Other Key Announcements

- **Hydrogen Valley:**
 - It is a global initiative to optimize the hydrogen demand and supply by onsite generation and utilization.
 - **DST** has committed to facilitate the **delivery of three clean hydrogen valleys in India by 2030.**
- **National Funding Opportunity on Sustainable Aviation Fuels:**
 - To support and conduct RD&D (Research, Development & Demonstration) to foster technological innovations in advanced biofuels for aviation applications and globally acceptable cost-effective business model(s).
 - Solicits applications from principal investigators (PI) from Indian institutions.
 - The **Department of Biotechnology** has been supporting R&D in **Sustainable Aviation Biofuels.**

IPCC Reports

❖ Context

- Recently, the **Intergovernmental Panel on Climate Change (IPCC)** delivered a dire assessment and warning in its latest report released on Monday (April 4).
- It published the **third part of its Sixth Assessment Report (AR6).**

❖ Sixth Assessment Report (AR6)

- The 6th Assessment Report or **AR-6 is in three parts from three different working groups.**
 - **Working Group I (August 2021):**
 - The report highlighted **increased heatwaves** and decreased cold extremes; **hot extremes.**
 - High precipitation and drought;
 - **Rise in sea level** due to thermal expansion; **high CO2 concentrations;** and rise in average surface temperature to 2 degrees Celsius by the mid of 21st century.
 - **Working Group II (February 2022):**
 - The report warned about considerable **climate change-induced disasters** in the next two decades.
 - It further flagged the **decline in fisheries, crop production,** and aquaculture, particularly in South and Southeast Asia.

❖ Assessment Reports (ARs)

- **About:**
 - The IPCC's Assessment Reports (ARs), are the **most comprehensive and widely accepted scientific evaluations** of the state of the Earth's climate.
- **Role:**
 - They form the **basis for government policies** to tackle climate change.
 - They **provide the scientific foundation** for the international climate change negotiations.
- **Previous AR Reports:**
 - **Six Assessment Reports** have been published so far.
 - The previous ones were in **1990, 1995, 2001, 2007 and 2013.**
 - **In 2018,** the IPCC released a **Special Report** on Impacts of Global Warming of 1.5°C.

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- **Working Group III (April 2022):**
 - **Mitigation** is the foundation of the report.
 - It underscored that a substantial **reduction in fossil fuel use, widespread electrification, improved energy efficiency**, and the use of alternative fuels such as hydrogen can help in limiting global warming.

❖ **IPCC:**

- IPCC is the **United Nations body** for assessing the science related to climate change.
- **Established in 1988** by the **WMO and UNEP**.
- IPCC assessments **provide a scientific basis for governments** at all levels to **develop climate related policies**.
- Its main activity is to prepare **Assessment Reports, special reports, and methodology reports** assessing the state of knowledge of climate change.
- The IPCC **does not itself engage in scientific research**.
- It asks scientists from around the world to go through all the relevant scientific literature related to climate change and draw up the logical conclusions.

Fundamental Duties

❖ **Context**

- Recently, Attorney General of India K.K. Venugopal said there was **no need to enact specific laws to “enforce” fundamental duties on citizens**.

❖ **Key Highlights**

- The court had on February 21 decided to explore the possibility for enforcing the Fundamental Duties enshrined in the Constitution.
- It **agreed to examine the PIL**, filed by advocate Durga Dutt, seeking that moral obligations of the duties be converted into legal obligations by enacting a law.



❖ **About Fundamental Duties**

- **Background:**
 - The fundamental duties were incorporated in **Part IV-A of the Constitution by The Constitution (42nd Amendment) Act, 1976**, during Indira Gandhi’s Emergency.
 - These were based on the recommendations of the **Swaran Singh Committee**.
 - The **Russian Constitution** has the concept of fundamental duties.
- **Article 51(A)** describes **11 fundamental duties**.
- **Amendments:**
 - 10th came with the **42nd Amendment**; the 11th was added by the **86th Amendment in 2002**, when Atal Bihari Vajpayee was Prime Minister.
- **Status:**
 - These duties are **not enforceable by law**. However, a court may take them into account while adjudicating on a matter.
- **Aim:**
 - They were made a part of the Constitution to **emphasize the obligation of the citizen** in return for the fundamental rights that he or she enjoys.

❖ **11 Fundamental Duties**

- To **abide by the Constitution** and respect its ideals and institutions, the National Flag and the National Anthem.
- To **cherish and follow the noble ideals** which inspired our national struggle for freedom.
- To uphold and protect the **sovereignty, unity and integrity of India**.
- To **defend the country** and render national service when called upon to do so.
- To **promote harmony** and the **spirit of common brotherhood** amongst all the people of India transcending religious, linguistic and regional or sectional diversities; to **renounce practices derogatory to the dignity of women**.
- To value and preserve the **rich heritage of our composite culture**.
- To **protect and improve the natural environment** including forests, lakes, rivers and wildlife, and to have compassion for living creatures.
- To **develop the scientific temper, humanism** and the **spirit of inquiry and reform**.
- To safeguard **public property** and to **abjure violence**.
- To **strive towards excellence** in all spheres of individual and collective activity so that the nation constantly rises to higher levels of endeavor and achievement.
- To provide opportunities for **education to children** between **6-14 years** of age, and duty as parents to ensure that such opportunities are being awarded to their child.

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News in Between the Lines

PRAKRITI



❖ Context

- **Ministry of Environment** launched 'Prakriti', a mascot and various green initiatives to ensure effective Plastic Waste Management (PWM) in the country.

❖ Key Highlights

- The mascot has been launched to spread greater **awareness among masses about small changes** that can be sustainably adopted in our lifestyle for a better environment.
- India is generating about **3.5 Million Tonnes of plastic waste annually** and the **per capita plastic waste generation** has almost **doubled over the last five years**. India has taken pledge to **phase out single use plastic by 2022**.

❖ Initiatives for Effective Plastic Waste Management:

- **National Dashboard on Elimination of Single Use Plastic and Plastic Waste Management (MoEFCC)** - To bring all stakeholders including Central Ministries/ Departments, State/UT Governments at one place and track the progress made for elimination of single use plastic (SUP) and effective management of plastic waste.
- **Extended Producer Responsibility (EPR) Portal for Plastic Packaging (CPCB)** - For improving accountability, traceability, transparency and facilitating ease of reporting compliance to EPR Obligations by Producers, Importers and Brand-owners.
- **Mobile App for Single Use Plastics Grievance Redressal (CPCB)** - To empower citizens to check sale/usage/manufacturing of SUP in their area and tackle the plastic menace.
- **Monitoring module for SUP (CPCB)** - For local bodies, SPCBs/PCCs and CPCB, to inventorize details of SUP production/ sale & usage in commercial establishments at district level, and on-ground enforcement of ban on SUP.
- **Industrial production of Graphene from Waste Plastic (G B Pant NIHE & NRDC)** - To promote more industries to come forward to upcycle plastic waste.

Familial Forestry



❖ Context

- The **Ministry of Environment** informed Parliament that **Land for life Award 2021** was conferred to the Familial Forestry of **Rajasthan, India**, by UNCCD on 17th June 2021.

❖ Key Highlights

- **Land for Life** is an **award programme of the United Nations Convention to Combat Desertification (UNCCD)**, which is conferred **every two years**.
- It aims to provide global recognition to individuals and organizations whose work and initiatives have made a significant contribution to **sustainable development through Sustainable Land Management (SLM)**.
- Familial Forestry of Rajasthan is a unique concept that means **caring for the tree as a family member** so that the tree becomes a part of the family's consciousness. This movement involved **more than a million families from more than 15,000 villages** of desert-prone northwest Rajasthan. About **2.5 million saplings have been planted in the past 15 years**, with active participation of students and desert dwellers, as per UNCCD.
- The Government has various schemes to combat desertification and land degradation under **Twenty Point Programme (TPP)**.

SRESTHA

❖ Context

- **Ministry of Social Justice & Empowerment** informed Parliament.

❖ Key Outcomes

- The Ministry has **revised the central Sector Scheme of "Grant-in-Aid to Voluntary and other Organizations working for Scheduled Castes"** wef 2021-22.

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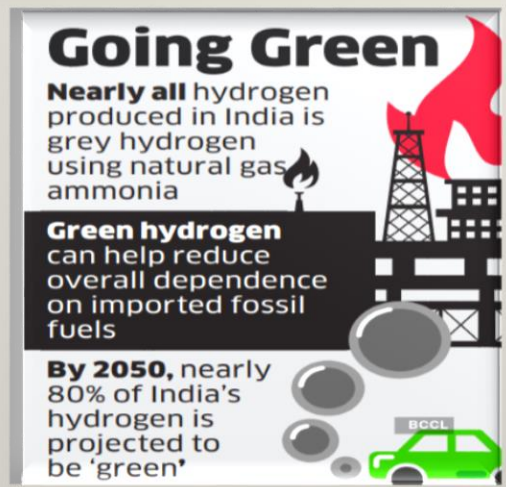
- It has been renamed as **Scheme for Residential Education for Students in High Schools in Targeted Areas (SHRESHTA)**, which is operated in two Modes.
- **Mode -I:**
 - **Beneficiaries** - Every year a specified number of meritorious SC students in States/UTs, whose parents annual income is up to Rs. 2.5 Lakh.
 - **Provision** - Quality residential education from class 9th to class 12th in Top-class Private Residential High Schools, including Hostel facilities.
 - **Assistance** - Free of Cost; entire cost of school fee and residential charges including mess charges, ranging from Rs.1 Lakh to 1,35,000/- p.a. for each student, are paid to the Reputed Private Schools by the Department of Social justice and Empowerment.
- **Mode -II**
 - Ongoing projects of **Non-residential schools/Residential Schools/ Hostels of the VOs/NGOs** are supported.
 - To make the scheme more beneficiaries oriented & transparent, the scheme has been revised from components basis (like salary of staff, food items, books & stationery etc.) to unitary cost norm (per student basis).

Broadcast Seva Portal



- ❖ **Context**
 - **Ministry of Information and Broadcasting** has launched an online portal.
- ❖ **Key Highlights**
 - The portal will provide solutions for speedy filing and processing of applications of broadcasters for various kinds of licenses, permissions, registrations, etc.
 - It will bring **transparency, accountability and ease of doing business**.
 - It has features like **End-to-end processing, Integration** with payment system (Bharat Kosh) and stakeholder ministries, analytics, reporting and Management Information System (MIS), application forms and status tracking, downloading letters/orders from the portal itself, alerts to stakeholders (SMS/E-Mails).

Green Hydrogen Production



- ❖ **Context**
 - Recently, **Indian Oil Corporation (IOC), Larsen & Toubro (L&T), and ReNew Power (ReNew)** have signed a binding term sheet to set up a Joint Venture (JV) company to **develop the green hydrogen sector in India**.
- ❖ **Key Highlights**
 - The Joint Venture will **aim to supply green hydrogen at an "industrial scale"**. Green hydrogen is produced through **electrolysis of water using renewable energy**.
 - Nearly all of the hydrogen currently produced in India is **gray hydrogen using natural gas and ammonia**.
 - The government is aiming to use green hydrogen as a substitute for gray hydrogen which is used by oil refiners and fertilizer manufacturers.
- ❖ **Policy Measures to Boost Green Hydrogen Production**
 - The government has released draft guidelines on the **National Hydrogen Mission**.
 - It aims to increase production to **5 million metric tonnes (MMT) by 2030** to meet about 40 percent of domestic requirements.
 - The center is considering a proposal to **introduce a Rs 15,000-crore Production Linked Incentive (PLI) scheme** for electrolyzers.
 - In February, the center notified a **green hydrogen and green ammonia policy** that offers **25 years of free power for any new renewable energy plants** set up for green hydrogen production before July 2025.
 - The government is also planning to introduce mandates requiring that the **oil refining, fertilizer and steel sectors procure green hydrogen for a certain proportion of their requirements**.

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National Commission for Protection of Child Rights (NCPCR)



❖ Context

- NCPCR has issued summons to a senior official at ICICI Bank as four children stare at the possibility of losing their home over repayment of a loan taken by their parents, both of whom died during the second wave of the pandemic last year.

❖ About NCPCR

- It's a **statutory body**.
- Established by an **Act of Parliament, the Commission for Protection of Child Rights (CPCR) Act, 2005**.
- The Commission works under the aegis of **Ministry of Women and Child Development, Gol**.
- As defined by the commission, a **child includes a person up to the age of 18 years**.
- It monitors the **implementation of POCSO Act**.
- **Mandate:**
 - It ensures that all **Laws, Policies, Programmes, and Administrative Mechanisms are in consonance with the Child Rights perspective** as enshrined in the Constitution of India and the UN Convention on the Rights of the Child.
- **Composition:**
 - **A chairperson and six members** of which at least **two should be women**.
 - All of them are **appointed by the Central Government for three years**.
 - The **maximum age to serve in commission is 65 years for Chairman and 60 years for members**.

World Health Organization's Air Quality Database 2022



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❖ Context

- According to the 2022 update to the **World Health Organization's air quality database, almost the entire global population (99%) breathes air that exceeds WHO's air quality limits** and threatens its health.

❖ Key Highlights

- The **2022 database aims to monitor the state of the world's air and feeds into progress tracking** of the Sustainable Development Goals.
- A record number of over 6,000 cities in 117 countries are now monitoring air quality.
- The people living in them are still breathing unhealthy levels of fine particulate matter and nitrogen dioxide.
- People in **low and middle-income countries are suffering the highest exposures**.
- The **poorest air quality was found in the eastern Mediterranean and Southeast Asia regions, and Africa**
- The findings have prompted WHO to highlight the **importance of curbing fossil fuel use and taking other tangible steps to reduce air pollution levels**.
- The **WHO data has taken, for the first time, ground measurements of annual mean concentrations of nitrogen dioxide (NO2)**, a common urban pollutant and precursor of particulate matter and ozone.
 - **NO2 is associated with respiratory diseases, particularly asthma, leading to respiratory symptoms (such as coughing, wheezing or difficulty breathing), hospital admissions and visits to emergency rooms**
- It also includes **measurements of particulate matter** with diameters equal or smaller than **10 µm (PM10) or 2.5 µm (PM2.5)**.
 - **PM 2.5, is capable of penetrating deep** into the lungs and entering the bloodstream, causing **cardiovascular, cerebrovascular (stroke) and respiratory impacts**.

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