



News Analysis (19 Oct, 2021)

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E-Waste Generation

Why in News

International E-Waste Day has been observed on **14th October** since 2018.

- The aim of the day is **to raise awareness** about the **millions of tonnes of e-waste generated worldwide** each year, which has a negative impact on the environment and natural resources.
- Earlier this year, the Principal Bench of National Green Tribunal (NGT) issued directions for the implementation of E-Waste (Management) Rules, 2016.

International E-Waste Day

- This year's International E-Waste Day highlights the **crucial role each of us play in making e-product circularity a reality**.
- According to the United Nations, by 2021, **each person on the planet would produce an average of 7.6 kg of e-waste**, resulting in a global total of 57.4 million tonnes of e-waste.
- **Only 17.4% of this electronic garbage**, which contains a combination of hazardous compounds and valuable materials, will be appropriately collected, processed, and recycled.

Key Points

- **E-Waste:**

- E-Waste is short for **Electronic-Waste** and the term is used to describe old, end-of-life or discarded electronic appliances. It includes their components, consumables, parts and spares.
- It is **categorised into 21 types** under two broad categories:
 - Information technology and communication equipment.
 - Consumer electrical and electronics.
- **Laws to manage e-waste** have been in place in India since 2011, mandating that only authorised dismantlers and recyclers collect e-waste. **E-waste (Management) Rules, 2016** was enacted in 2017.
- **India's first e-waste clinic** for segregating, processing and disposal of waste from household and commercial units has been set-up **in Bhopal, Madhya Pradesh**.
- Originally, the **Basel Convention** (1992) did not mention e-waste but later it addressed the issues of e-waste in 2006 (COP8).

The **Nairobi Declaration** was adopted at COP9 of the **Basel Convention on the Control of the Trans-boundary Movement of Hazardous Waste**. It aimed at creating innovative solutions for the environmentally sound management of electronic wastes.

- **E-waste Generation:**

- This year's **Waste Electrical and Electronic Equipment (WEEE)** will total about **57.4 million tonnes (MT)** and will be **greater than the weight of the Great Wall of China**, Earth's heaviest artificial object.
- According to the **Central Pollution Control Board (CPCB)**, India generated **more than 10 lakh tonnes of e-waste in 2019-20**, an increase from 7 lakh tonnes in 2017-18. Against this, the e-waste dismantling capacity has not been increased from 7.82 lakh tonnes since 2017-18.

- **Challenges Related to Management of E-Waste in India:**

- **Less Involvement of People:**

A key factor in used electronic devices not being given for recycling was because consumers themselves did not do so.

However, in recent years, countries around the world have been attempting to pass effective 'right to repair' laws.

- **Involvement of Child Labor:**

In India, about 4.5 lakh child laborers in the age group of 10-14 are observed to be engaged in various E-waste activities and that too without adequate protection and safeguards in various yards and recycling workshops.

- **Ineffective Legislation:**

There is absence of any public information on most **State Pollution Control Boards (SPCBs)/PCC** websites.

- **Health hazards:**

E-waste **contains over 1,000 toxic materials**, which contaminate soil and groundwater.

- **Lack of incentive schemes:**

- **No clear guidelines are there** for the unorganized sector to handle E-waste.
- Also, no incentives are mentioned to lure people engaged to adopt a formal path for handling E-waste.

- **E-waste Imports:**

Cross-border flow of waste equipment into India- 80% of E-waste in developed countries meant for recycling is sent to developing countries such as India, China, Ghana and Nigeria.

- **Reluctance of Authorities' involved:**

Lack of coordination between various authorities responsible for E-waste management and disposal including the non-involvement of municipalities.

- **Security Implications:**

End of life computers often contain sensitive personal information and bank account details which, if not deleted leave opportunity for fraud.

Way Forward

- There are various startups and companies in India that have now started to collect and recycle electronic waste. We need **better implementation methodologies** and **inclusion policies** that provide accommodation and validation for the informal sector to step up and help us meet our recycling targets in an environmentally sound manner.
- Also, successfully raising collection rates required every actor to be involved, including consumers.

Climate Finance

Why in News

Recently, the Finance Minister of India and her US counterpart met for the eighth ministerial meeting of the U.S.-India Economic and Financial partnership.

The major highlight of the ministerial meeting is that it discussed climate finance for the first time under the aegis of Climate Action and Finance Mobilization Dialogue (CAFMD).

Key Points

- **About:**

Climate finance refers to **local, national or transnational financing**—drawn from public, private and alternative sources of financing—that seeks to **support mitigation and adaptation actions** that will address climate change.

- **Climate finance is needed for mitigation, because large-scale investments are required** to significantly reduce emissions.
- It is equally **important for adaptation, as significant financial resources are needed to adapt to the adverse effects** and reduce the impacts of a changing climate.

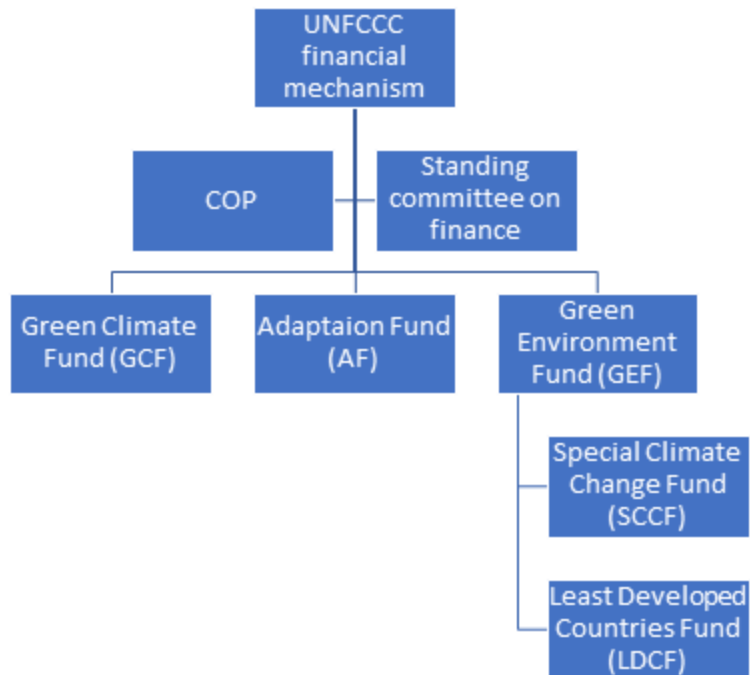
- **Climate Finance & UNFCCC:**

To facilitate the provision of climate finance, the United Nations Framework Convention on Climate Change (UNFCCC) has established the financial mechanism to provide financial resources to developing country Parties.

- **The Adaptation Fund under Kyoto Protocol:** It aims to finance concrete projects and programmes that help vulnerable communities in developing countries that are Parties to the Kyoto Protocol to adapt to climate change.
- **Green Climate Fund:** It is the financial mechanism of the UNFCCC, established in 2010.

India has been pushing for rich countries to meet their Paris Accord climate finance commitment of **USD 100 billion per year**.

- **Global Environment Fund (GEF):** GEF has served as an operating entity of the financial mechanism since the Convention came into force in 1994. It is a private equity fund focused on seeking long term financial returns by investments in clean energy under climate change.
- GEF also maintains two additional funds, the **Special Climate Change Fund (SCCF)** and the **Least Developed Countries Fund (LDCF)**.



Climate Financing in India:

- **National Adaptation Fund for Climate Change (NAFCC):**
 - It was established in 2015 to **meet the cost of adaptation to climate change for the State and Union Territories** of India that are particularly vulnerable to the adverse effects of climate change.
- **National Clean Energy Fund:**
 - The Fund was created to **promote clean energy**, funded through an initial carbon tax on use of coal by industries.
 - Governed by an Inter-Ministerial Group with the Finance Secretary as the Chairman.
 - Its mandate is to fund research and development of innovative clean energy technology in the fossil and non fossil fuel based sectors.
- **National Adaptation Fund:**
 - The fund was established in 2014 with a corpus of Rs. 100 crore with the aim of bridging the gap between the need and the available funds.
 - The fund is operated under the **Ministry of Environment, Forests and Climate Change (MoEF&CC)**.

Principles of Climate Finance

- **Polluter Pays:**
 - The '**polluters pays**' principle is the commonly accepted practice according to which those **who produce pollution should bear the costs** of managing it to prevent damage to human health or the environment.
 - This principle underpins most of the regulation of pollution affecting land, water and air formally known as the **1992 Rio Declaration**.
 - It has also been applied more specifically to emissions of greenhouse gases which cause climate change.
- **Common but Differentiated Responsibility and Respective Capability (CBDR–RC):**

CBDR–RC is a principle within the **UNFCCC**. It acknowledges the different capabilities and differing responsibilities of individual countries in addressing climate change.
- **Additionality:**
 - Climate finance should be **additional to existing commitments** to avoid the diversion of funding for development needs to climate change actions.
 - This includes use of public climate finance and **investments by the private sector**.
- **Adequacy & Precaution:**
 - In order to take **precautionary measures** to prevent or minimise the causes of climate change as a stated goal under UNFCCC, the **level of funding needs to be sufficient to keep a global temperature within limits** as possible.
 - A better level of adequacy might be increased in the national estimates of the needed climate funds, this will help build planned investments with respect to INDC.
- **Predictability:**
 - Climate finance must be predictable to **ensure sustained flow of climate finance**.
 - It can be done through multi-year, medium-term funding cycles (3 – 5 years).
 - This allows for an adequate investment program to scale up the country's national adaptation and mitigation priorities.

Source: TH

COP26 Climate Conference

Why in News

The **COP 26 United Nations Climate Change Conference** will be hosted by the UK from **31st october to 12th November**.

Earlier, Intergovernmental Panel on Climate Change (IPCC) published its assessment report on Earth's climate, highlighting heat waves, droughts, extreme rainfall and sea-level rise in the coming decades.

Key Points

- **COP 26 Goals:** According to the United Nations Climate Change Framework Convention (UNFCCC), COP26 will work towards four goals:
 - **Net Zero by 2050:**
 - To secure **Global Net-Zero by Mid-Century** and keep 1.5 Degrees within reach.
 - Countries are being asked to come forward with **ambitious 2030 emissions reductions targets** that align with reaching net zero by the middle of the century.
 - To deliver on these stretching targets, countries will need to:
 - Accelerate the phase-out of coal
 - Curtail deforestation
 - Speed up the switch to electric vehicles
 - Encourage investment in renewables.
 - **Adapt to Protect Communities and Natural Habitats:**

Countries will work together to ‘**protect and restore ecosystems and build defences**, warning systems and resilient infrastructure and agriculture to avoid loss of homes, livelihoods and even lives.’
 - **Mobilise Finance:**

Developed countries must make good on their promise to mobilise at least USD100bn in climate finance per year.
 - **Work Together to Deliver:**
 - Another important task at the COP26 is to ‘**finalise the Paris Rulebook**’.
 - Leaders will work together to frame a list of detailed rules that will help fulfil the Paris Agreement.
- **Suggestions for India:**
 - Update its Nationally Determined Contributions (NDCs).

(NDCs detail the various efforts taken by each country to reduce the national emissions)
 - **Sector by sector plans are needed** to bring about development.

Decarbonisation of the electricity, transport sector and starting to look at carbon per passenger mile is needed.
 - Aggressively figure out **how to transition the coal sector**.

Conference of Parties (COP)

- **About:**

- The Conference of Parties comes under the **UNFCCC** which was formed in 1994. The UNFCCC was established to work towards “stabilisation of **greenhouse gas** concentrations in the atmosphere.

COP is the **apex decision-making authority of UNFCCC**.

- It laid out **a list of responsibilities for the member states which included:**
 - Formulating measures to mitigate climate change.
 - Cooperating in preparing for adaptation to the impact of climate change.
 - Promoting education, training and public awareness related to climate change.

- **Meetings:**

COP members have been **meeting every year since 1995**. The UNFCCC has 198 parties including **India, China and the USA**.

Generally it meets in Bonn, the seat of the secretariat, unless a Party offers to host the session.

- **Presidency:**

- The **office of the COP President normally rotates among the five United Nations regional groups** which are - Africa, Asia, Latin America and the Caribbean, Central and Eastern Europe and Western Europe and Others.
- The **President is usually the environment minister of his or her home country**. S/he is elected by acclamation immediately after the opening of a COP session.

COP's with Significant Outcomes

- **1995: COP1 (Berlin, Germany)**

- **1997: COP 3 (Kyoto Protocol)**

It legally binds developed countries to emission reduction targets.

- **2002: COP 8 (New Delhi, India) Delhi Declaration.**

Focuses on the development needs of the poorest countries and the need for technology transfer for mitigating climate change.

- **2007: COP13 (Bali, Indonesia)**

Parties agreed on the Bali Road Map and Bali action plan, which charted the way towards a post-2012 outcome. The Plan has five main categories: shared vision, mitigation, adaptation, technology and financing.

- **2010: COP 16 (Cancun)**

- Resulted in the **Cancun Agreements**, a comprehensive package by governments to assist developing nations in dealing with climate change.
- The **Green Climate Fund**, the Technology Mechanism and the Cancun Adaptation Framework were established.

- **2011: COP 17 (Durban)**

Governments commit to a new universal climate change agreement by 2015 for the period beyond 2020 (Resulted in the Paris Agreement of 2015).

- **2015: COP21 (Paris)**
 - To keep global temperature well **below 2.0C** above pre-industrial times and endeavor them to limit them **even more to 1.5C**.
 - It requires rich nations to maintain USD 100bn a year funding pledge **beyond the year 2020**.
- **2016: COP22 (Marrakech)**
 - To move forward on writing the **rule book of the Paris Agreement**.
 - Launched the **Marrakech Partnership** for Climate Action.
- **2017: COP23, Bonn (Germany)**
 - Countries continued to negotiate the finer details of how the agreement will work from 2020 onwards.
 - First set of negotiations since the US, under the presidency of Donald Trump, announced its intention earlier this year to withdraw from the Paris deal.
 - It was the first COP to be hosted by a small-island developing state with Fiji taking up the presidency, even though it was being held in Bonn.
- **2018: COP 24, Katowice (Poland)**
 - It finalized a “rulebook” to operationalise the 2015 Paris Agreement.
 - The rulebook covers climate financing facilities and the actions to be taken as per **Nationally Determined Contributions (NDC)**.
- **2019: COP25, Madrid (Spain)**
 - It was held in Madrid (Spain).
 - There were no **concrete plans regarding the growing climatic urgency**.

Source: IE

World Food Day 2021

Why in News

World Food Day is celebrated every year on **October 16th** to commemorate the date of the founding of the **United Nations (UN) Food and Agriculture Organisation** in 1945.

- **FAO** is a **specialised agency of the UN** that leads international efforts to **defeat hunger**.
- In **2021**, the UN Secretary-General also convened the very **first Food Systems Summit** to discuss ways to transform the production and consumption of food.



Key Points

- **About:**
 - It is observed annually to **address the problem of global hunger.**
The day is also observed by organisations like World Food Programme (Was awarded nobel peace prize 2020) and International Fund for Agricultural Development.
 - It emphasises on the Sustainable Development Goal 2 (SDG 2) i.e. Zero Hunger.
- **Need of the Hour:**
 - The Covid-19 pandemic has underlined that an **urgent change of route is needed.**
It has made it even **harder for farmers** - already grappling with climate variability and extremes - to sell their harvests, while **rising poverty** is pushing an increased number of city residents to use food banks, and millions of people require **emergency food aid.**
 - World **needs sustainable agri-food systems** that are capable of **nourishing 10 billion people by 2050.**

- **FAO's Contribution in India:**

- It has closely watched India's fight against **malnutrition** in the past decades but its scope had many constraints.

Due to reasons such as pregnancy at a young age, lack of education and information, inadequate access to drinking water, lack of cleanliness, etc.

India is lagging behind in achieving the expected results of “malnutrition free India” by 2022, envisaged under the National Nutrition Mission (**POSHAN Abhiyaan**).

- FAO supported India's proposal to declare 2023 as the **International Year of Millets**.

The move will **encourage intake of nutritious food, increase their availability further and benefit small and medium farmers** who mostly grow coarse grains on their land where there is a problem of water and the land is not so fertile.

- **FAO's Hunger Index, India's Opposition and Farmers Protest:**

- India has slipped to 101st position in the **Global Hunger Index (GHI) 2021**.
- However, the **Indian government has questioned the poll-based assessment and methodology** used by the FAO.

India claims the methodology to be unscientific.

- On the other hand the **food producers (farmers) of the country are on the roads for close to a year** and are on warpath **against the central government** while vehemently opposing the **farm laws**.

Farmers are terming the **laws to be anti-peasant (food producers)** and saying these laws will provide alarming loss to them which could further impact India' ranking in combating hunger and nutrition.

- **Related Indian Initiatives:**

- The **Eat Right India** and **Fit India Movement** along with **Swachh Bharat Abhiyan**, **Jal Jeevan Mission** and other efforts will improve the health of Indians and heal the environment.
- Introduction of 17 new **biofortified varieties** of crops to overcome the shortcomings of the common variety of crops which lacks important micronutrients.
 - Example: **MACS 4028 Wheat**, **Madhuban Gajar**, etc.
- Increased ambit and effective implementation of the **Food Security Act, 2013**.
- **Amendments** to the **APMC (agricultural produce market committee) Acts** to make them more competitive.
- Steps to ensure that farmers get one and a half times the cost as **Minimum Support Price (MSP)**, which along with the government procurement, is an important part of ensuring the country's food security.
- Development of a large network of **Farmer Producer Organisations (FPOs)**.
- **Amendments in the Essential Commodities Act, 1955** to deal with the issue of grain wastage in India.
- Government is making efforts to make India Trans Fat free by 2022, a year ahead of the **World Health Organisation (WHO)** target, in synergy with the vision of New **India @75** (75 years of India's independence).
 - **Trans Fat** is a food toxin present in Partially Hydrogenated Vegetable Oils (PHVOs) (e.g. vanaspati, shortening, margarine, etc.), baked and fried foods.
 - It is a major contributor to the rise in **non-communicable diseases** in India and also a modifiable risk factor for **Cardio-Vascular Diseases (CVD)**. Eliminating CVD risk factor is especially relevant during **Covid-19** as people with CVD are predisposed to have serious conditions having an impact on mortality.

Source: IE

Allium Negianum: A New Species of Onion

Why in News

Recently, a newly discovered plant **Allium negianum**, in Uttarakhand has been confirmed to belong to the genus that includes many staple foods such as **onion and garlic**.

A **staple food** makes up the **dominant part of a population's diet**. They are eaten regularly—even daily—and supply a major proportion of a person's energy and nutritional needs.

Key Points



- **About:**

- Allium is one of the **largest genera in Amaryllidaceae**.
Amaryllidaceae is a family of **herbaceous** (connected with plants that have soft stems), mainly perennial and bulbous flowering plants.
- The genus Allium contains **about 1,100 species worldwide**, including many staple foods like **onion, garlic, scallion, shallot and chives**.
- The genus naturally **occurs in dry seasons** in the **northern hemisphere** and **South Africa** but the newly-identified species **is restricted to the region** of the **western Himalaya**.
- The scientific name Allium negianum **honours the late Dr. Kuldeep Singh Negi**, an eminent explorer and Allium collector from India.
They are useful for **various medicinal purposes**.
- **Distribution in India:**
 - The Indian Allium is **distributed in different eco-geographical areas of the temperate and alpine regions of Himalayas**.
 - The Indian Himalayan region has two distinct centers of Allium diversity, the **Western Himalaya (over 85% of total diversity)** and the **Eastern Himalaya (6%)**, covering the alpine-sub temperate region.
- **Condition of Growth:**

It grows at 3,000 to 4,800 m above sea level and can be found along open **grassy meadows, sandy soils along rivers**, and streams forming in snow pasture lands along alpine meadows.
- **Threat:**

Indiscriminate **harvesting of its leaves and bulbs** for seasoning may pose a threat to its wild populations.

Source: IE

The Earthshot Prize 2021

Why in News

Vidyut Mohan, a Delhi-based entrepreneur, won the inaugural edition of The **Earthshot Prize**.

He won it for his innovative **technology that recycles agricultural waste to create fuel**.

Key Points

- **About:**

- It is an award set up by **Prince William and the Royal Foundation**, the charity founded by the Duke and Duchess of Cambridge, and **historian David Attenborough**.

Earlier, Sir David Attenborough has also been conferred with the **Indira Gandhi Peace Prize for 2019**.

- **Established in 2020**, 2021 was the first year when awards were handed out to finalists for their contributions towards
- The award will honour **five finalists between 2021 and 2030 for developing solutions to fight the climate crisis**.

They will receive a prize of **one million Euros**. The winners will be chosen by the **Earthshot Prize Council**.

- **Each year five winners will be selected**, one for each of the **Five United Nations Sustainable Development Goals(SDGs)** :

- Restoration and protection of nature
- Air cleanliness
- Ocean revival
- Waste-free living
- Climate action.

- **Eligibility:**

Prizes could be awarded to a wide range of individuals, teams or collaborations – scientists, activists, economists, community projects, leaders, governments, banks, businesses, cities, and countries – **anyone whose workable solutions make a substantial contribution to achieving the Earthshots**.

- **Objectives:**

- To encourage and support the **development of solutions for Earth's environmental problems**.
- To **incentivise change and help repair the planet** over the next ten years.
- To turn the current pessimism surrounding environmental issues into optimism, by **highlighting the ability of human ingenuity to bring about change**, and inspiring collective action.

- **The Earthshot Prize 2021 Indian Winner:**

“Clean our Air” Takachar, India: A portable machine created to turn agricultural waste into fertiliser so that farmers do not burn their fields and cause air pollution.

- This technology will help **convert crop residues into sellable bio-products** like fuel and fertilizers.
- The technology **reduces smoke emissions by 98%**.
- The burning of agricultural waste causes air pollution that in some areas has reduced life expectancy by a decade.

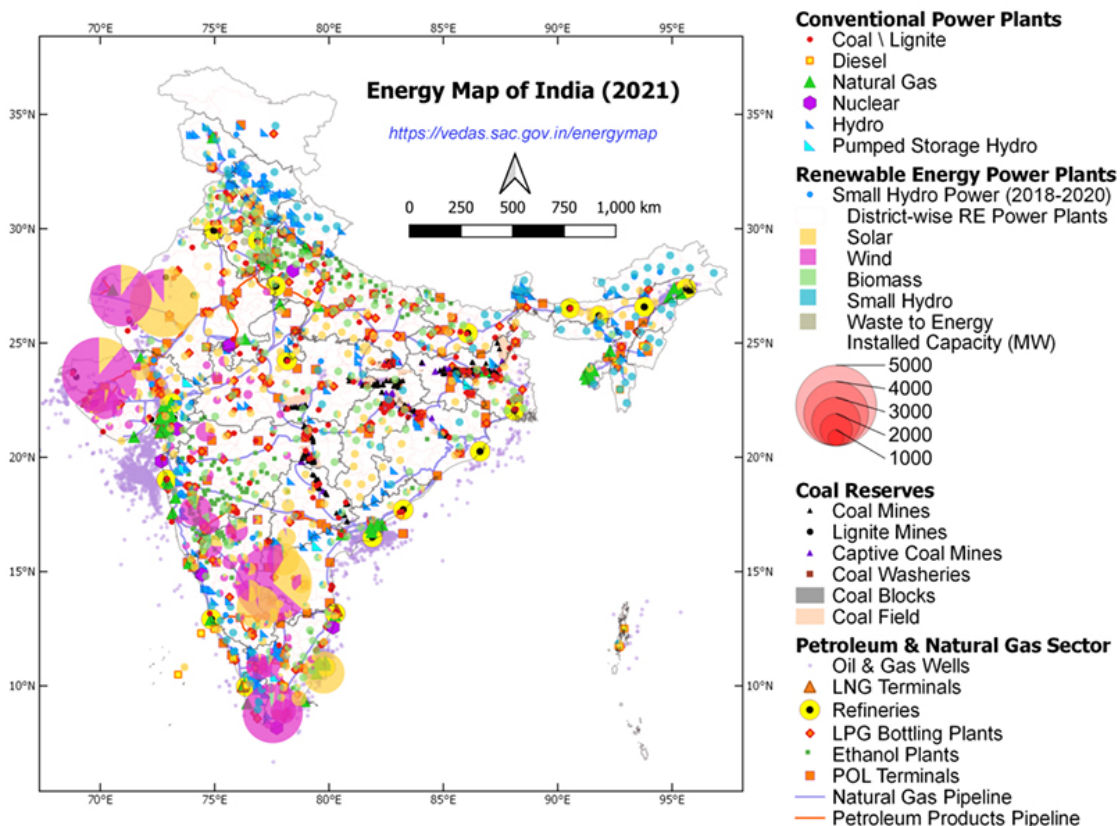
Source: IE

Geospatial Energy Map of India

Why in News

Recently, **NITI Aayog** launched a comprehensive **Geographic Information System (GIS)-based Geospatial Energy Map of India**.

Earlier in July 2021, the Association of Geospatial Industries released a report titled “**Potential of Geospatial Technologies for the Water Sector in India**”.



Key Points

- **About:**
 - It is developed by the **NITI Aayog** in collaboration with **Indian Space Research Organisation (ISRO)** with the support of **Energy Ministries**.
 - It **provides a holistic picture of all energy resources** of the country.
 - It **enables visualisation of energy installations** such as **conventional power plants, oil and gas wells, petroleum refineries, coal fields and coal blocks, district-wise data on renewable energy power plants and renewable energy** resource potential through 27 thematic layers.
- **Geographic Information System:**
 - A GIS is a **computer system for capturing, storing, checking, and displaying data** related to positions on Earth's surface.
 - It **can show many different kinds of data on one map**, such as streets, buildings, and vegetation.
 - It **enables people to more easily see, analyze, and understand** patterns and relationships.
- **Significance:**
 - **Aims to Identify Sources of Energy:**
 - It attempts to **identify and locate all primary and secondary sources of energy** and their transportation/transmission networks to provide a comprehensive view of energy production and distribution in a country.
 - **Integrate Scattered Data:**
 - It is **aimed at integrating energy data scattered** across multiple organizations and to present it in a consolidated, visually appealing graphical manner.
 - **Advancements in Web-GIS Technology:**
 - It leverages the **latest advancements in web-GIS technology** and open-source software to make it interactive and user friendly.
 - **Helpful in making Investment Decisions:**
 - It will be useful in **planning and making investment decisions**.
 - It will also aid in **disaster management** using available energy assets.

Geospatial Mapping

- It is a **type of spatial analysis technique** that typically employs software capable of rendering maps, processing spatial data, and applying analytical methods to terrestrial or geographic datasets, including the use of geographic information systems.
- It is **different from traditional mapping**, as geospatial mapping provides us with computerized data that can be used to create a custom map designed for your needs.

Source: PIB

Aadhaar Hackathon 2021

Why in News

The **Unique Identification Authority of India (UIDAI)** will be hosting a Hackathon titled "**Aadhaar Hackathon 2021**".

- This is the **first-ever event being conducted by the Aadhaar team**.
- A **hackathon** is an event, usually hosted by a tech company or organization, where programmers get together for a short period of time to collaborate on a project.

Key Points

- **About:**
 - Its target is to to **identify young innovators** in the field of information technology
 - To solve the hackathon challenges through innovative technological solutions, UIDAI is **reaching out to the young minds of all the Engineering colleges**.
- **Themes:** Aadhaar Hackathon 2021 is themed around two topics.
 - **Enrolment and Update:** It essentially covers some of the **real-life challenges** being faced by the residents while updating their address.
 - **Identity and Authentication:** UIDAI is soliciting innovative solutions to **prove Identity without sharing the Aadhaar number** or any demographics information.
 - Also, it is looking for **innovative applications around face authentication Application Programming Interface (APIs)**, the newly launched authentication modality of UIDAI.
 - The objective is to popularize some of the existing and new **APIs** to solve the needs of residents.

Unique Identification Authority of India

- **Statutory Authority:** The **UIDAI** is a **statutory authority** established on 12 July 2016 by the Government of India under the **jurisdiction of the Ministry of Electronics and Information Technology**, following the provisions of the **Aadhaar Act 2016**.

The UIDAI was initially set up by the Government of India in January 2009, as an attached office under the aegis of the **Planning Commission**.
- **Mandate:** The UIDAI is **mandated to assign a 12-digit unique identification (UID) number (Aadhaar) to all the residents of India**.

Source: PIB
