

1. Green Grid Initiative

Topic: Economy



In News: India announced the launch of the Green Grids Initiative — One Sun, One World, One Grid (GGI-OSOWOG) in partnership with the United Kingdom recently.

More on the Topic:

- GGI-OSOWOG was conceived in 2018 to **develop global interconnected solar energy systems**. In May 2021, India and the United Kingdom committed to launching GGI at CoP26.
- The initiative **aims to build a framework for global cooperation on the effective utilisation of renewable resources** and to help ensure that clean and efficient energy is a reliable option for all nations to meet their energy requirements by 2030.
- This project **aspires to harness the sun's energy and build a global interconnected electricity grid** to accelerate the transition to renewable energy.
- The initiative is **expected to connect more than 80 countries across a large geographical area, with varying levels of sunlight**.
- A transitional system will enable countries with low levels of sunlight to obtain energy from areas with an excess of it.

The development of the grids will take place in three stages:

- The interconnection of the Indian grids with the Middle East, South Asia and Southeast Asian (MESASEA) grids
- MESASEA grids' interconnection with the African power grid
- Finally, global interconnectivity

Opportunities:

- GGI can transform the traditional energy system by **replacing thermal power plants with solar energy**, making India more resilient against extreme weather conditions and less dependent on fossil fuels.



- Lately, solar energy has been improving the lives of millions of people in rural India, enabling them to carry out activities **and improving their standard of living in an environmentally friendly manner.**
- An example of this is the **implementation of solar-powered agriculture pumps** to extract groundwater, which are more environmentally friendly than traditional diesel ones.

Challenges:

- A majority of the solar energy infrastructure is located in desert regions, which brings dust deposits on panels. **A layer of dust decreases solar power conversion efficiency by 40 per cent.**
- There are also hidden environmental costs of setting up solar energy infrastructure.
- Solar energy technologies such as batteries and panels use energy-intensive raw materials and several chemicals and heavy metals that need to be handled and disposed of correctly.

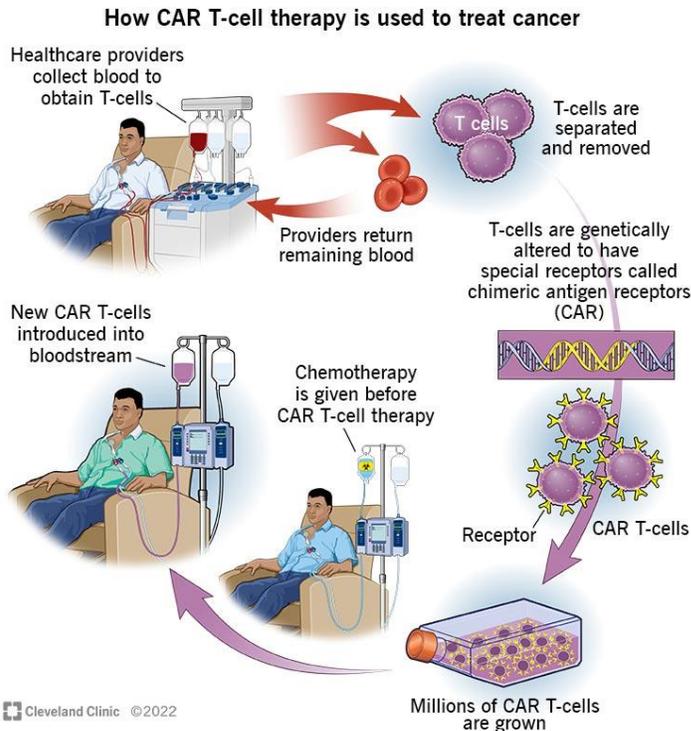
Way Ahead:

- Before GGI is implemented, a lot of factors need to be reconsidered. **Environmental costs of solar power, efficiency issues, energy losses due to conversion and transfer, and the problem of waste management** are barriers that need to be addressed urgently by the implementing bodies.
- The initiative has opened many opportunities for India to put itself on the global stage of renewable energy.
- With the recent coal shortage serving as a reality check alongside the global race to Net Zero, India's transition to renewable energy should be expedited.

Source: Indian Express

2. CAR-T cell therapy

Topic: Science and Technology



In News: Two biotech startups in India are conducting clinical trials to establish the efficacy and safety of their versions of Chimeric Antigen Receptor-T cell (CAR-T) therapy before the cutting edge immunotherapy is commercially available for cancer patients.

More on the Topic:

- Chimeric Antigen Receptor (CAR)-T cells are a **patient's own immune cells that are genetically engineered in the laboratory to fight cancer.**
- A specific type of white blood cells called T cells are changed in the lab so they can find and destroy cancer cells.
- T cells are taken from a patient's blood and are changed in the lab by adding a **gene for a receptor (called a chimeric antigen receptor or CAR)**, which helps the T cells attach to a specific cancer cell antigen.
- The CAR-T cells are then **transferred back to the patient through a procedure similar to blood transfusion.**
- Once inside, **these cells work like a "living drug" against cancer cells.**
- Since different cancers have different antigens, **each CAR is made for a specific cancer's antigen.**
- The CAR T-cell therapies to treat leukaemia or lymphoma are made to attach to the CD19 antigen and would not work for a cancer that does not have the CD19 antigen.

Source: Indian Express

3. Natural Resource Accounting

Topic: Environment and Ecology/Governance



In News: The Government Accounting Standards advisory board (GASAB) has come up with a Natural Resource Accounting (NRA) for tracking and maintaining the natural resources of India.

More on the Topic:

- GASAB had prepared **templates for the asset accounts for mineral and energy resources** which were field-tested and reviewed by the experts in the consultative committee.
- As on date, all 28 states and one Union Territory (J&K) have prepared the asset accounts for 2020-2021.
- The asset accounts captured **details of 34 major minerals, 58 minor minerals and all four fossil fuels.**

What is Natural Resource Accounting:

- Natural resource accounting is an accounting system that **deals with stocks and stock changes of natural assets**, comprising biota (produced or wild), subsoil assets (proved reserves), water and land with their aquatic and terrestrial ecosystems.
- It is a process of **estimating the value of natural resource depletion and environment degradation due to economic activities.**
- It is frequently used in the sense of physical accounting as distinguished from monetary (environmental) accounting.
- NRA aims to provide a framework for organising information on the status, use, and value of natural resources and environmental assets as well as expenditures on environmental protection and resource management.
- Asset accounts is the first stage of NRA with the final third stage being environmental accounting.

Significance of Natural Resource Accounting:

- Natural resource accounting inter-alia refers to **the inter connection and linkages in the economy and our environment or surrounding.**

- It helps to organising information on the status, use, and value of natural resources and environmental assets as well as expenditures on environmental protection and resource management.
- NRA Sound database to help **policy makers to understand the potential impact of their decisions.**
- NRA helps to identify where to respond by policy makers with respect to climate change.
- Several of these accounts are closely related to **the social and economic attributes, making them a useful tool for the Policy.**
- It helps India to achieve international commitments. India is a signatory to the September 2016 UN General Assembly Resolution “Transforming the World, the 2030 agenda for Sustainable Development” which requires the preparation of Natural Resource Accounts(NRA).

Source: Hindu

4. Stealth frigate INS Dunagiri

Topic: Science and Technology



In News: India has launched the Indian Navy Ship (INS) Dunagiri into the Hooghly River recently.

More on the Topic:

- The ship is one of seven stealth frigates that India is constructing under Project 17A.
- It is named after a **mountain range in the state of Uttarakhand**.
- The main weapon and sensor suite of P-17A ships are **BrahMos SSM, LRSAM (Forward & Aft configuration) with MF STAR radar, indigenous Sonar, and Triple tube Heavy Torpedo launcher**.

The first three ships under Project 17A were:

- INS Nilgiri
- INS Himgiri
- INS Udaygiri

Source: Indian Express

5. Paddy Cultivation

Topic: Agriculture



In News: The overall crop coverage of rice cultivation of rice has decreased. Deficient rainfall in Uttar Pradesh and Bihar is among the reasons.

More on the Topic:

- Even though there is fall in rice cultivation there won't be any strategic shortage of rice.
- Government has nearly three-and-a-half times the minimum level of rice stocks, to meet both "operational" (public distribution system) and "strategic reserve" (exigency) requirements for the quarter.

Rice Economics of India:

- **Paddy is India's largest agricultural crop** (accounting for over 40% of the total foodgrain output), with the country also being the world's biggest exporter.

- Unlike with wheat, the options for import in rice due to any production shortfall are limited, when India's own share in the global trade of the cereal is more than 40%.

About Paddy Cultivation:

- Temperature needed is between 22-32°C with high humidity.
- Rainfall required amounts to Around 150-300 cm.
- Deep clayey and loamy soil is the preferred soil type.
- **Top Rice Producing States are West Bengal, Punjab, Uttar Pradesh, Andhra Pradesh and Bihar in decreasing order.**
- In states like Assam, West Bengal and Odisha, three crops of paddy are grown in a year. These are **Aus, Aman and Boro.**

Source: Business Standard

6. Bonalu

Topic: Culture



In News: The 100-year-old Ujjaini Mahankali temple is celebrating Bonalu festival.

More on the Topic:

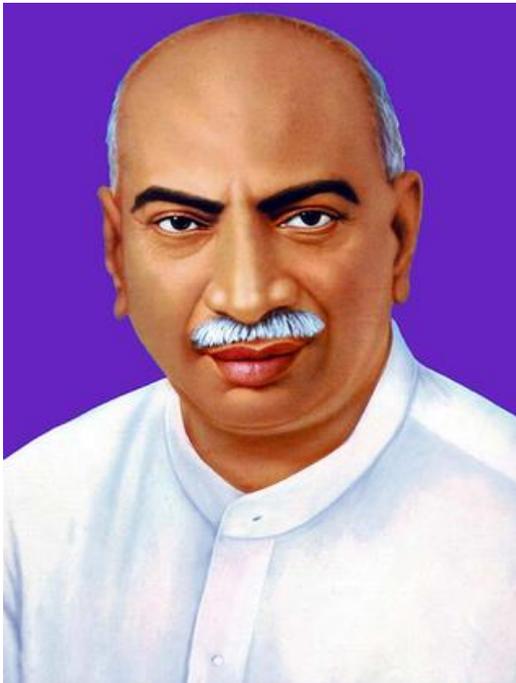
- Bonalu is a **Telangana traditional Hindu festival centered on the Goddess Mahakali.**
- This festival is celebrated annually in the **twin cities of Hyderabad and Secunderabad,** as well as in other parts of the state.
- It is celebrated in the month of Ashada Masam.

- It involves the religious ceremonies for goddess 'Yellamma' (regional incarnations of goddess Mahakali).
- Rituals are performed to appease the goddess and to thank her for fulfilling their wishes.

Source: Business Standard

7. Kamaraj

Topic: Personalities in News



In News: The 120th birth anniversary of Indian independence activist and statesman K. Kamaraj was celebrated recently.

More on the Topic:

- K Kamaraj is widely known for **his visionary thinking on the development of education, industries and irrigation in India.**
- He joined Congress at the age of 16 when he was influenced by Mahatma Gandhi's ideas.
- He played a vital role in the Indian Independence movement, because of which he was sent to jail several times.
- Kamaraj also participated in the 1920's Satyagraha that was led by **George Joseph against the exclusion of Harijans from temples .**
- He has been the Chief Minister of Tamil Nadu thrice.



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- Under his leadership, **the Mid-Day Meal Scheme was started for the first time in the independent India.** Additionally, a free uniform scheme was introduced in Madras schools.

Source: Business Standard
