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## Prelim Bits 22-08-2021 & 23-08-2021 | UPSC Daily Current Affairs

### ESG Bonds

*Chinese internet giant Baidu has raised \$1 billion in a two-tranche, the US dollar sustainability bond, its 1<sup>st</sup> environment, social and governance (ESG) transaction.*

- ESG Bond is a kind of mutual fund. Its investing is used synonymously with sustainable investing or socially responsible investing.
- This concept involves a complex mix of investors,
  1. Public pension funds and college endowments (a number of whom want to divest oil and gas stocks),
  2. Investors looking for other alternatives than stocks and bonds,
  3. Traditional types who fear that ESG ignores earnings potential.
- **Green bonds** are universally rated as the most "invested" ESG asset class (33%).
- They raise money for renewable energy, energy efficiency, clean transportation, green buildings, wastewater management and climate change adaptations.
- **Social bonds** (21%) are focused on food security and sustainable food systems, socioeconomic advancement, affordable housing, access to essential services, and affordable basic infrastructure.
- **Sustainability bonds** (22%) are a catch-all, and often refinance these other two categories.
- In India, the ESG Bond is regulated by Securities and Exchange Board of India (SEBI).
- SBI Magnum Equity ESG Fund is the 1<sup>st</sup> ESG mutual fund of India.

### Voluntary Vehicle-Fleet Modernisation Programme

- It is India's vehicle scrapping policy launched by the Ministry of Road Transport & Highways.
- It seeks to phase out unfit and polluting vehicles in an environment-friendly manner.
- The policy dictates that **automated fitness test** must be conducted on all the automobiles (run on diesel or petrol) over a certain age.
- All medium and heavy commercial vehicles over 15 years of age and all light motor vehicles (personal vehicles) over 20 years are marked for scrapping, if they fail an automated fitness test.
- These vehicles will be deregistered; the owner can choose to scrap them, but cannot use them on the road.
- If an old personal vehicle passes the fitness test, the owner can continue to use it, but the charges for re-registration will be much steeper.
- Currently, the testing is not mandatory. But the mandatory testing of heavy commercial vehicles will start in April 2023, and that of other categories of vehicles will start, in a phased manner, in June 2024.

- **Benefits** - This Policy would create a viable circular economy and bring value for all stakeholders while being environmentally responsible.

## Circular Economy

- It is an alternative to a traditional linear economy (make, use, dispose).
- In circular economy (or circularity), resources (products, equipment and infrastructure) are kept in use for as long as possible, extract the maximum value from them whilst in use.
- Then the resources are recovered and they regenerate products and materials at the end of each service life.
- **Benefits** - A circular economy allows us to create more with less and to deliver greater value with less input. It improves productivity.
- It is a regenerative economic system that tackles global challenges like climate change, biodiversity loss, waste, and pollution.

## Kamala Fruit Dye Extracts

*For the first time, dye extracts from the kamala fruit were used in creating a non-toxic sensitiser for Dye-Sensitised Solar Cells (DSSCs) or Grätzel cells.*

For the past few years, natural extracts from produce such as jamun, pomegranate, spinach, beetroot, hibiscus, green algae and black carrot have been utilised as solar cell dye.

- Popularly known as senduri, rohini or rori among Jharkhand tribal communities, the red kamala tree (*Mallotus philipensis*) is a semi-evergreen woody spurge plant that bears fruit only in spring.
- The extracted dye was used to make an inexpensive, non-toxic sensitiser for DSSCs, which directly convert solar energy into electricity.
- The carbonyl and hydroxyl groups in the dye get easily anchored to the titanium dioxide nanoparticles (crucial parameters for the power conversion efficiency of DSSCs) that are used to make the photoanode.
  - Photoanode is the component supporting dye molecules and transferring electrons. It is an important component of DSSCs.
- Using Kamala Fruit extract is the best alternative to that of toxic and expensive synthetic dye used for solar cells as,
  1. The process is very low-cost,
  2. Natural dye can be easily extracted from an inedible source, like the kamala fruit in its untreated form using a low-cost technique,
  3. The natural dye is non-toxic and biodegradable.
- The dyes are very stable but all the DSSCs with synthetic or natural dye face long term stability challenges because they use liquid electrolyte. So, there are researches to use solid state or gel electrolyte for this purpose.

## Australian PM's Visit to India

*Indian Prime Minister met former Australian PM Tony Abbott who visited India in his capacity of Australian PM's Special Trade Envoy for India.*

- The two leaders discussed ways to further strengthen bilateral trade, investment and

economic cooperation to realize the full potential of the India-Australia Comprehensive Strategic Partnership.

- At the Leaders' Virtual Summit of 2020, India and Australia elevated their relationship to a Comprehensive Strategic Partnership.
- It was also decided to re-engage on a bilateral Comprehensive Economic Cooperation Agreement (CECA).

### **Difference between CECA and CEPA**

- Both CECA and CEPA are economic agreements between two countries.
- These agreements are subject to the benefit of both countries, especially on the economic and trading side.
- CEPA is much broader and more complicated compared to CECA.

No.	Particulars	CECA	CEPA
1.	Acronym	CECA - Comprehensive Economic Cooperation Agreement.	CEPA - Comprehensive Economic Partnership Agreement.
2.	Word choice denotes the degree of relationship between 2 parties	The word "Cooperation" implies a cohesive but distant effort. It denotes a loose connection between two countries.	The word "partnership" can entail a more personal and deeper relationship between two parties.
3.	Focus	CECA deals mostly with the elimination or reduction of tariffs	CEPA's concerns are the same as CECA with the addition of investments and services.
4.	Economic standing	CECA is the first step to accomplish CEPA.	CEPA is a result of the negotiations of 2 countries that started from CECA.

## **Amolops adicola**

*A new species of cascade frog discovered from Adi hills of Arunachal Pradesh has been named after the Adi hills, the abode of Adi tribes.*

- The species discovered, Amolops adicola, is predominantly brown colour frog, with a size ranging roughly between 4 cm to 7 cm.
- The new species belongs to the genus Amolops, which includes medium- to large-sized Cascade frogs from northeast India.
- The species draws its nomenclature from Adi tribes, an indigenous group of people from the Himalayan regions of Arunachal Pradesh.
- This species dwells particularly during the post-monsoon season.
- Another Cascade frog species of the Amolops genus previously discovered from the Sikkim Himalayas is Amolops monticola.



## Cascade Frogs

- They are named so because of their preference for small waterfalls or cascades in flowing hill streams.
- For this, these frogs have developed certain morphological features like expanded digit tips and extensive foot webbing that makes them adapt to strong water currents.
- These frogs belong to Amolops genus. Amolops is one of the largest groups of family Ranidae or ranid frogs.
- Many frogs in the north-eastern India are reported to occur widely but, have relatively small geographical ranges and require special attention for conservation before they go extinct forever.

## Adi Tribes

- Adi tribe of Adi-Pasi, Arunachal Pradesh is a Scheduled Tribe under Article 366 of the Constitution.
- They came from southern China in the 16th century and speak the Tibeto-Burman language.

Adi-Pasi or Adi hills (adi means 'hill' or 'mountain top'). Historically, this region was known as Abor hills.

- The tribe divides into two main divisions - the Bogum and Onai.
- Adi Tribe's reputation as **fierce warriors**, and the inhospitable terrain in which they live, have ensured the survival of Adi culture for centuries.
- **Religion** - Adi practice animism (or spirit-based religion).
- Their main god is Dionyi-Polo (which roughly translates as 'Sun-Moon'), the eye of the world; there is also a host of other spirits and deities.
- **Festivals** of the Adi tribes,
  1. Harvesting festival 'Solung' and
  2. Hunting festival 'Aran'.
- **Dance** - Popir is the indigenous dance of the Adi tribe.
- Teams of young girls in perfect rhythmic unison perform the 'Phoning' dance of Adis.

Source: PIB, The Hindu, The Indian Express, Investopedia, Forbes



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