Prelim Bits 17-03-2022 | Daily UPSC Current Affairs

National eVidhan Application

- National eVidhan Application (NeVA) or e-Vidhan MMP is a Mission Mode Project that comes under the **Digital India Programme.**
- NeVA aims to make the functioning of all the Legislative Houses in the country digital and paperless.
- Since, the processes involving the functioning of all Legislatures are similar except some minor variations, the NeVA can be incorporated into the two Houses of Parliament also.
- NeVA is Unicode compliant software having provision for easy access to various documents like List of Questions, List of Business, Reports etc. bilingually viz. English and any regional language.
- NeVA is a work-flow system deployed on NIC Cloud, MeghRaj
- It has been developed on the theme of '**One Nation-One Application**' with the objective of Cloud First & Mobile First to serve Members' FIRST.

NeVA enables the State Legislatures to transact entire Government Business on digital platform including information exchange with the State Government Departments.

- **Implementation** - The 'Nodal Ministry' to implement the NeVA in all the States/UTs with Legislatures is the Ministry of Parliamentary Affairs (MoPA).
- To implement the NeVA, a tripartite MoU needs to be signed between the MoPA, the concerned State Government and the State Legislature.
- **Funding** for e-Vidhan is provided by the MoPA and technical support by Ministry of Electronics and Information Technology (MietY).
- The funding of NeVA is through Central Sponsored Scheme i.e. 60:40; and 90:10 for North East & hilly States and 100% for UTs.

In 2021, Bihar Legislative Council became the first House in the country to transit to NeVA platform completely and conducted Winter Session, 2021 on the NeVA platform in paperless mode.

Reference

1. https://pib.gov.in/PressReleasePage.aspx?PRID=1806591
2. https://mpa.gov.in/sites/default/files/NeVA_MoU_Final_March_2020_0_0.pdf
3. https://neva.gov.in/Home/AboutNeVA

Daylight Saving Time

The United States Senate unanimously passed a law making daylight saving time (DST) permanent, scrapping the biannual practice of putting clocks forward and back coinciding with the arrival and

departure of winter.

> In 2019, the European Parliament voted to scrap the custom, but later paused its coming into effect, which was scheduled for 2021.

- Daylight Saving Time (DST) involves resetting clocks ahead by an hour in spring, and behind by an hour in autumn.
- Those in favour of DST argue that it means a longer evening daytime.
- Individuals will complete their daily work routines an hour earlier, and that extra hour of daylight is supposed to mean a lower consumption of energy.
- **History** - A group of Canadians in Port Arthur (Ontario) were the first to adopt the DST practice in 1908. Other parts of Canada followed suit.
- In 1916, during World War I, Germany and Austria introduced DST to minimise the use of artificial lighting. It gradually caught on in many countries.
- **Usage** - In the EU, clocks in the 28 member states move forward on the last Sunday in March and fall back on the last Sunday in October.
- In the US, they follow the DST concept of 'Spring Forward, Fall Back'.
- Spring forward (turn clocks ahead and lose an hour) will happen on the second Sunday in March (at 2:00 A.M.) and fall back (turn clocks back and gain an hour) on the first Sunday in November (at 2:00 A.M.).
- Currently, DST is followed by some **70 countries** twice a year. **India does not follow** Daylight Saving Time.
- **Problems** - A study has calculated that one hour of lost sleep due to DST in the US increases the fatal crash rate by 5.4% to 7.6% for 6 days following the transition.
- Other studies found a higher rate of workplace injuries after the switch, leading to,
    1. Lost days of work;
    2. A slight drop in stock market performance;
    3. Health problems as a result of disruption of the circadian rhythm (body clock) and
    4. Even longer sentences ordered by judges deprived of sleep.

Reference

1. https://indianexpress.com/article/explained/everyday-explainers/what-is-daylight-saving-time-which-us-senate-voted-scrap-7822839/
2. https://www.dailyo.in/variety/what-is-daylight-saving-time/story/1/3558html
3. https://www.almanac.com/content/when-daylight-saving-time#:~:text=Today%2C%20most%20Americans%20spring%20forward,with%20our%20Sunrise%2Fset%20Calculator.

Aluminium

The Indian Railways (IR) plans to use Aluminium to produce body coaches in the new generation energy efficient Vande Bharat Train sets.

- Aluminium (Al) is a highly electropositive metal with the atomic number of 13.
- Among metals, aluminium is the most abundant. It is the third most abundant element in earth's crust (8.3% approx. by weight).
- It is a major component of many igneous minerals like mica and clays.
- **Properties** - Even though Aluminium is a metal, it shows many chemical similarities to boron, a non-metal.
- It has high tensile strength, high electrical and thermal conductivity.

- **Extraction** - For the purpose of extraction, Bauxite ($Al_2O_3 . 2H_2O$) and Cryolite (Na_3AlF_6) are chosen for aluminium.
- From bauxite ore, aluminium is extracted using **leaching**.
- In India, bauxite mining sites are located in Orissa (the largest bauxite producer), Jharkhand, Maharashtra, Chhattisgarh, Madhya Pradesh, etc.
- Aluminium industry is the 2nd most important industry after the iron and steel industry.

Anodising

- Anodising is a process of forming a thick oxide layer of aluminium. Aluminium develops a thin oxide layer when exposed to air.
- This aluminium oxide coat makes it resistant to further corrosion.
- Resistance can be improved further by making the oxide layer thicker.
- During anodising, a clean aluminium article is made the anode and is electrolysed with dilute sulphuric acid. The oxygen gas evolved at the anode reacts with aluminium to make a thicker protective oxide layer.

Reference

1. https://pib.gov.in/PressReleasePage.aspx?PRID=1806615
2. https://ncert.nic.in/ncerts/l/jesc103.pdf
3. https://ncert.nic.in/ncerts/l/lech106.pdf
4. https://ncert.nic.in/ncerts/l/kech20pdf

State of India's Environment 2022

The Union Environment Minister has released the Centre for Science and Environment and Down To Earth's 9th Annual report named 'State of India's Environment 2022'.

- This report is the country's most authoritative statement on the developments in the environment and related sectors.
- Food systems refer to the complete process ranging from food production and consumption to its distribution and disposal.
- Food practices of human beings account for 21-37% of the total volume of greenhouse gases (GHG) emitted every year due to human activities.
- **Findings** - The report has found that the emissions from the global food system alone will contribute enough GHGs for global warming to exceed 1.5˚C over pre-industrial levels, the limit set by the Paris Agreement.
- Human food systems across the world emit more than transportation (14% of global GHG emissions) and energy use in buildings (16%).
- Emissions from food practices are almost as much as industry (21%) and electricity production (25%).
- Plants remove carbon dioxide from the atmosphere through photosynthesis, but they release ample gas when decomposing.
- Reducing land-use change and conversion of natural habitat alone could lower emissions by 4.6 gigatonnes of carbon dioxide equivalent ($GtCO_2e$), according to a 2020 UNEP assessment.

The EAT-Lancet Commission on Food, Planet and Health has set global targets for food systems that are environmentally sustainable and benefit human health.

- The EAT-Lancet commission has proposed a Planetary Health Diet that could reduce urban emissions by 60% in 10 years.
- But, the most affordable of the Commission's 'planetary health diet' exceeds the household per capita income of 1.58 billion people.
- There are fears that this focus on plant-based diets might prompt other emitters to shirk responsibility and put the onus of reducing emissions on the individual.

Reference

1. https://www.downtoearth.org.in/news/agriculture/global-food-systems-emissions-alone-can-cause-global-warming-to-exceed-1-5-c-cse-report-81791
2. https://www.cseindia.org/cse-and-down-to-earth-s-annual-state-of-india-s-environment-2022-report-released-by-union-environment-minister-bhupender-yadav-11180
3. https://www.downtoearth.org.in/reviews/state-of-india-s-environment-2022-80446

Over-dependence on Three Crops

- The UN Food and Agriculture Organization (FAO) says that around three-fourths of the food humans consume globally comes from just 12 plant and five animal sources.
- Further, just three crops - **wheat, rice and corn** - account for 51% of the calories included in the diet.
- It is estimated that the gross global production of all cereals in 2021-22 will be 2,800 million tonnes, 12.1 million tonnes more than in 2020-21.
- Of the total global cereal production, maize accounts for 42.5%, wheat 27.7% and rice 18.5% (around 89% of the total).
- **Wheat** - The European Union accounts for 18% of the total global wheat production, China accounts for 17%, India 14%.
- However, Russia is the world's largest wheat exporter.
- **Rice** - China (24%), India (19%), Bangladesh (7%), Indonesia (6%) and Vietnam (5%) top the world in production.
- India is the world's largest rice exporter.
- **Maize** - The US, China and Brazil account for 32%, 22% and 10%, respectively, of the world's total maize production.
- The US is the largest exporter of maize.

Over-dependence on wheat, maize and rice threatens the future of wildlife survival and global food security.

- **Impacts on wildlife** - Wildlife populations have declined by 60% since 1970 due to global agricultural trends.
- Repeated planting of the same crop on the same land area leads to depletion of soil nutrients.
- Successive crop generations then require excessive use of fertilisers and pesticides, which are detrimental to the environment and the consumers of the crops.
- **Impacts on global food security** - These three crops threaten the world's food security, by destroying the global agricultural biodiversity.
- Dependence of just a few crops leaves the vulnerable to disaster in the face of famines, plant diseases, pest infestation, climate change or any other unforeseen event.
- Rising popularity of these three crops is homogenising human diet. Soon, there will be no region that is not dependent on either of these crops.
- **Suggestion** - In order to ensure adequate food security for the future, we need to adapt our

agricultural practices according to,

1. The principles of environmental protection and
2. The socio-cultural objectives of physical, intellectual, moral, emotional and psychological development.

- We can once again try to find and reintroduce some forgotten nutrient-rich plants to the ecosystem in order to reduce the food dependence.

Reference

https://www.downtoearth.org.in/news/food/three-crops-rule-the-world-what-it-means-for-the-planet-s-wildlife-81781

