



Critical Minerals Alliance

For Prelims: Critical Minerals, Minerals Security Partnership

For Mains: Application of critical minerals, Significance of International groupings

Why in News?

There is growing concern in the Government over India not finding a place in the **Minerals Security Partnership**.

- Minerals Security Partnership is an **ambitious new US-led partnership** to secure supply chains of **critical minerals**, aimed at reducing dependency on China.
- **Demand for critical minerals**, which are essential for **clean energy** and other technologies is projected to **expand significantly in the coming decades**.

What are Critical Minerals?

- **About:**
 - Critical minerals are elements that are the **building blocks of essential modern-day technologies** and are at **risk of supply chain disruptions**.
 - These **minerals are now used everywhere** from making mobile phones, computers to batteries, **electric vehicles** and green technologies like **solar panels** and wind turbines.
- **Major Critical Minerals:**
 - **Graphite, Lithium and Cobalt** are used for making EV batteries.
 - **Aerospace, communications and defence industries** also rely on several such minerals as they are used in manufacturing **fighter jets, drones, radio sets** and other critical equipment.
 - While **Cobalt, Nickel and Lithium** are required for batteries used in electric vehicles, rare earth minerals are critical, in trace amounts, in the **semiconductors** and **high-end electronics manufacturing**.
- **Significance:**
 - As countries around the world scale up their transition towards **clean energy** and **digital economy**, these critical resources are key to the ecosystem that fuels this change.
 - Any **supply shock** can severely imperil the economy and strategic autonomy of a country over-dependent on others to procure critical minerals.

What is Minerals Security Partnership (MSP)?

- **About:**
 - It is an initiative by the United States to bolster critical mineral supply chains.
- **Partners:**
 - Australia, Canada, Finland, France, Germany, Japan, the Republic of Korea, Sweden, the United Kingdom, the United States, and the European Commission.
- **Objective:**
 - The goal of the MSP is to ensure that **critical minerals are produced, processed, and**

[recycled](#) in a manner that supports the ability of countries to **realize the full economic development benefit of their geological endowments.**

- **Focus** would be on the supply chains of minerals such as **Cobalt, Nickel, Lithium** and also the 17 “rare earth” minerals.

▪ **Significance:**

- The MSP will help **catalyze investment from governments** and the **private sector** for strategic opportunities across the full value chain that adhere to the highest **environmental, social, and governance standards.**

Why Exclusion from MSP is a Concern for India?

▪ **Supply of Critical Minerals:**

- One of the key elements of India’s growth strategy is powered by an **ambitious shift in the mobility space** through the conversion of a large part of public and private transport to electric vehicles.

- This, alongside a **concerted electronics manufacturing push**, underlines the **need to secure the supply of critical minerals.**

▪ **Dependency on Other Countries:**

- Rare earth comprises seventeen elements and are classified as **light RE elements (LREE)** and **heavy RE elements (HREE)**.

- **Some RE are available in India** such as Lanthanum, Cerium, Neodymium, Praseodymium and Samarium, while others such as Dysprosium, Terbium, Europium that are classified as HREE **are not available in Indian deposits** in extractable quantity.

- India would require **supply support for such elements.**

▪ **Technology Status:**

- Industry watchers say that one reason India would not have found a place in the grouping is because the **country does not bring much expertise to the table.**

- In the group, countries like **Australia and Canada** have reserves and also technology to extract them and countries like Japan have the technology to process them.

What has India done regarding Critical Minerals?

▪ **Lithium Agreement:**

- In mid-2020, India, through a newly floated state-owned company, **had signed an agreement with an Argentinian firm** to jointly **prospect lithium in the South American country** that has the third largest reserves of the metal in the world.

▪ **[India-Australia Critical Minerals Investment Partnership:](#)**

- India and Australia decided to strengthen their partnership in the field of **projects and supply chains for critical minerals.**
- **Australia has the resources** to help India fulfil its ambitions to **lower emissions** and meet the **growing demand for critical minerals** to help **India’s space and defence industries, and the manufacture of solar panels, batteries and electric vehicles.**

UPSC Civil Services Examination, Previous Year Questions (PYQs)

Q. Recently, there has been a concern over the short supply of a group of elements called ‘rare earth metals’. Why? (2012)

1. China, which is the largest producer of these elements, has imposed some restrictions on their export.
2. Other than China, Australia, Canada and Chile, these elements are not found in any country.
3. Rare earth metals are essential for the manufacture of various kinds of electronic items and there is a growing demand for these elements.

Which of the statements given above is/are correct?

- (a) 1 only
- (b) 2 and 3 only
- (c) 1 and 3 only
- (d) 1, 2 and 3

Ans: (c)

Explanation:

- Rare earth elements, also known as rare earths, are comprised of 17 elements in the periodic table. Of these, 15 are from the lanthanide group of elements from the 'f' block of the periodic table. Yttrium and scandium, while not part of the lanthanide group, are also considered rare earths because they share similar chemical properties. Rare earths are divided into two distinct groups: heavy rare earth elements (HREEs) and light rare earth elements (LREEs).
- Rare earth metals play a key role in our daily lives because of their broad application in cleaner technologies, computing, automotive, entertainment, medical and military fields. In many cases, there is no alternative to rare earths in manufacturing these products. Hence, statement 3 is correct.
- China is the major supplier of rare earths, providing between 90-95% of the global market supply. India and the US, once leading global suppliers, still produce some rare earth products, but their contributions are now dwarfed by China's huge hold over the market. Hence, statement 2 is not correct.
- In 2010, China significantly restricted their rare earth exports. That was done to ensure a supply of rare earths for domestic manufacturing and for environmental reasons. This shift by China triggered panic buying and some rare earth prices shot up exponentially. In addition, Japan, the United States, and the European Union complained to the World Trade Organization about China's restrictive rare earth trade policies. Hence, statement 1 is correct.
- Therefore, option (c) is the correct answer.

[Source: IE](#)

FRP for Sugarcane and Sugar Industry in India

For Prelims: Sugarcane crop, Fair and Remunerative Price, Ethanol Blending

For Mains: Sugarcane Sector in India, Its Significance and Challenges, Ethanol blending as challenges for food security

Why in News?

The [Cabinet Committee on Economic Affairs](#) has hiked Fair and Remunerative Price (FRP) of sugarcane for sugar season 2022-23 (October - September) by Rs 15 per quintal.

- The Centre has also announced a premium of Rs 3.05 per quintal for each 0.1% increase in recovery of sugar over and above 10.25% and reduction in FRP by Rs 3.05 per quintal for every 0.1% decrease in recovery.
- **Recovery rate is the amount of sugar that sugarcane fetches** and higher the quantum of sugar derived from sugarcane, greater the price it fetches in the market.

How is Sugarcane Cultivated?

- **Temperature:** Between 21-27°C with hot and humid climate.
- **Rainfall:** Around 75-100 cm.
- **Soil Type:** Deep rich loamy soil.
- **Top Sugarcane Producing States:** Maharashtra>Uttar Pradesh > Karnataka
- It can be grown **on all varieties of soils ranging from sandy loam to clay loam** given these soils should be well drained.
- It needs **manual labour** from sowing to harvesting.
It is the main source of [sugar](#), **gur (jaggery)**, khandsari and molasses.
- Scheme for Extending Financial Assistance to Sugar Undertakings (SEFASU) and [National Policy on Biofuels](#) are two of the government initiatives to support sugarcane production and the sugar industry.

How are the Prices of Sugarcane Determined?

- The **Prices** of Sugarcane are Determined by the **Central Government (Federal Government)** and the **State Governments**.
- **Central Government:** Fair and Remunerative Price (FRP)
 - The Central Government announces **Fair and Remunerative Prices** which are determined on the recommendation of the **Commission for Agricultural Costs and Prices (CACP)** and announced by the Cabinet Committee on Economic Affairs (CCEA).
 - CCEA is chaired by the Prime Minister of India.
 - The FRP is based on the Rangarajan Committee report on reorganising the [sugarcane industry](#).
- **State Government:** State Advised Prices (SAP)
 - The SAP is announced by the **Governments of key sugarcane producing** states.
 - SAP is generally **higher than FRP**.

What is the Status of the Sugarcane Sector in India?

- **Largest Producer:**
 - India is the **largest producer of Sugarcane** in the World.
 - India has surpassed Brazil in the sugar production in the current sugar season 2021-22.
 - Factors like policies that incentivize production, including a minimum price, guaranteed sales of sugarcane and public distribution of sugar, **have helped India become the largest producer**.
 - However, factors like rainfall deficit, depleting groundwater table, delayed payment to cane farmers, lower net income (for the farmer) compared to other crops, labour shortage and increasing cost of labour, followed by Covid-19 pandemic **are challenging the entire sugar sector**.
- **Second Largest Exporter:**
 - India is the Second Largest exporter of Sugar after Brazil.
 - India apart from meeting its requirement for domestic consumption has also **consistently exported sugar** which has **helped in reducing the [fiscal deficit](#)**.
 - About 100 LMT of sugar has been exported till August.2022 in the **current sugar season 2021-22** & exports are likely to touch 112 LMT.
- **Becoming Self-Sustainable:**
 - Earlier, sugar mills were dependent primarily on the **sale of sugar to generate revenues**. Surplus production in any season **adversely affects their liquidity leading to accumulation of cane price arrears of farmers**.
 - However, in the **past few years the sugar industry has become self-sustainable**.
 - Since, 2013-14 about Rs. **49,000 crore revenue generated by sugar mills from sale of ethanol to Oil Marketing Companies (OMCs)**.
 - In the current sugar season 2021-22, about Rs. **20,000 cr revenue is being**

generated by sugar mills from the sale of ethanol to OMCs,

- The measures taken by the Central Government and FRP enhancement have **encouraged farmers to cultivate sugarcane and facilitated continued operation of sugar factories for domestic manufacturing of sugar.**

Why is the Government Encouraging Sugar Production?

- The government wants to reduce its Import Bill on Crude Oil by cutting oil imports and blending ethanol with Petrol under the **Ethanol Blended with Petrol programme.**
 - Currently, India's 85% requirement of crude oil is met through imports.
- Also, to reduce pollution & to make India Atma Nirbhar in petroleum sector, Government is encouraging **sugar mills to divert excess sugarcane to ethanol** which is blended with petrol, which **not only serves as a green fuel but also saves foreign exchange** on account of crude oil import.
 - In the current sugar season 2021-22, **about 35 LMT of sugar is estimated to be diverted & by 2025-26 more than 60 LMT of sugar is targeted to be diverted to ethanol**, which would address the problem of excess sugarcane as well as delayed payment issue because farmers would get timely payment.
- The government has fixed a target of **10% blending of fuel grade ethanol with petrol by 2022 & 20% blending by 2025.**

What are the Challenges Associated with the Sugar Industry?

- **Pricing Controls:** In order to plug the demand-supply mismatch, the union & state governments have been controlling sugar prices through various policy interventions like export duty, imposition of stock limit on sugar mills, change in meteorology rule etc.
 - However, the government control of pricing is populist in nature and this often leads to price distortion.
 - This has triggered that sugar cycle oscillating between massive surplus and severe shortage.
- **High Input and Low Output Cost:** The falling/stagnant price of sugar in recent years in the backdrop of continuous rise in sugarcane prices is **the main source of troubles faced by the sugar industry in the last few years.**
 - Due to this, the government **grappled with large cane arrears while the industry survived on periodic** government funded bail-outs and subsidies.
 - It is because of the unviability of the business, no new private investments are being done in the sugar industry.
- **Unviability Sugar Exports:** Indian exports are unviability as the **cost of producing sugar (thanks to high cane price) is way above the international sugar price.**
 - The government sought to bridge the price gap by providing export subsidies, but this was promptly contested by other countries in the WTO.
 - Further, India under WTO's agreement on agriculture has been allowed to continue with the subsidies till December 2023. The fear is what will happen post-2023.
- **Dismal Performance of India's Ethanol Programme:** **Blending ethanol** with petrol for use as auto fuel, was first announced in 2003, but the problem never took off.
 - The **poor pricing of ethanol supplied for blending**, periodic shortages of sugar and competing demand from the potable alcohol sector.

Way Forward

- There is a **need to deploy remote sensing technologies to map** sugarcane areas.
 - Despite the importance of sugarcane in the water, food and energy sectors in India, there are no reliable sugarcane maps for recent years and in time series.
- Research and development in sugarcane can **help address the issues like low yield and low sugar recovery rates.**
- The **Rangarajan Committee** has suggested a **Revenue Sharing Formula to fix cane price** factoring in the price of sugar and other by-products.
 - Further, in case the cane price, arrived at by the formula, drops below what the

government considers as a reasonable payment, **it can bridge the gap from a dedicated fund created** for the purpose and a cess can be levied to build up the fund.

- The government should encourage ethanol production. It will **bring down the country's oil import bill** and help in diversion of sucrose to ethanol and to balance out the excess production of sugar.

UPSC Civil Services Examination, Previous Year Questions (PYQs)

Q. The Fair and Remunerative Price (FRP) of sugarcane is approved by the (2015)

- (a) Cabinet Committee on Economic Affairs
- (b) Commission for Agricultural Costs and Prices
- (c) Directorate of Marketing and Inspection, Ministry of Agriculture
- (d) Agricultural Produce Market Committee

Ans: (a)

Exp:

- Cabinet Committee on Economic Affairs (CCEA) which is chaired by the Prime Minister, approves the Fair and Remunerative Price (FRP) of sugarcane.
- Matters regarding fixation of prices of agricultural products as well as reviewing progress of activities related to rural development, including those concerning small and marginal farmers are in CCEA's competence.
- The FRP is the minimum price that sugar mills have to pay to sugarcane farmers. It is determined on the basis of recommendations of Commission for Agriculture Costs and Prices (CACAP) and after consultation with State Governments and other stakeholders. It is then approved by CCEA. Therefore, option (a) is the correct answer.

Q. With reference to the current trends in the cultivation of sugarcane in India, consider the following statements: (2020)

1. A substantial saving in seed material is made when 'bud chip settlings' are raised in a nurse, and transplanted in the main field.
2. When direct planting of setts is done, the germination percentage is better with single budded setts as compared to setts with many buds.
3. If bad weather conditions prevail when setts are directly planted, single-budded setts have better survival as compared to large setts
4. Sugarcane can be cultivated using settlings prepared from tissue culture.

Which of the statements given above is/are correct?

- (a) 1 and 2 only
- (b) 3 only
- (c) 1 and 4 only
- (d) 2, 3 and 4 only

Ans: (c)

Exp:

- **Tissue Culture Technology**
 - Tissue culture is a technique in which fragments of plants are cultured and grown in a laboratory.
 - It provides a new way to rapidly produce and supply disease-free seed cane of existing commercial varieties.
 - It uses meristem to clone the mother plant.
 - It also preserves genetic identity.
 - The tissue culture technique, owing to its cumbersome outfit and physical limitation, is

turning out to be uneconomical.

- **Bud Chip Technology**

- As a viable alternative of tissue culture, it reduces the mass and enables quick multiplication of seeds.
 - This method has proved to be more economical and convenient than the traditional method of planting two to three bud setts.
 - The returns are relatively better, with substantial savings on the seed material used for planting. Hence, statement 1 is correct.
- The researchers have found that the setts having two buds are giving germination about 65 to 70% with better yield. Hence, statement 2 is not correct.
 - Large setts have better survival under bad weather but single budded setts also give 70% germination if protected with chemical treatment. Hence, statement 3 is not correct.
 - Tissue culture can be used to germinate and grow sugarcane settlings which can be transplanted later in the field. Hence, statement 4 is correct. Therefore, option (c) is the correct answer.

[Source: TH](#)

Saksham Anganwadi and Poshan 2.0

For Prelims: Saksham Anganwadi and Poshan 2.0, Integrated Child Development Services (ICDS), Scheme for Adolescent Girls (SAG) National Creche Scheme, Sustainable Development Goals, Poshan Vatikas

For Mains: Poshan 2.0 and its significance in providing the downtrodden children and women in the society

Why in News?

Recently, [Ministry of Women and Child Development](#) has issued Operational Guidelines regarding implementation of [Saksham Anganwadi and Poshan 2.0](#).

- It will also promote Aadhaar seeding of beneficiaries to ensure last-mile tracking of take-home rations and tracking of migration of pregnant women and lactating mothers.

What is Saksham Anganwadi and Poshan 2.0?

- **About:**

- In Financial Year (FY) 2021-22, the Government of India (GoI) **restructured the [Integrated Child Development Services \(ICDS\)](#) and **POSHAN**** (Prime Minister's Overarching Scheme for Holistic Nourishment) Abhiyaan into **Saksham Anganwadi and POSHAN 2.0**
- The restructured scheme consists of the following **sub-schemes**:
 - **ICDS**
 - **POSHAN Abhiyaan**
 - [Scheme for Adolescent Girls \(SAG\)](#)
 - [National Creche Scheme](#)

- **Fund:**

- Poshan 2.0 is an ongoing [Centrally-sponsored programme](#) being implemented through the State Governments/ UT administrations based on a cost sharing ratio between the

Central Government and the State Government.

▪ **Vision:**

- It seeks to address the **challenging situation of malnutrition among children up to the age of 6 years, adolescent girls (14-18 years) and pregnant and lactating women.**
- It is **crucial for India's development as women and children comprise over two thirds of India's population.**
- The achievement of the [Sustainable Development Goals](#) lies at the fore-front of this programme design.
- It shall contribute to the SDGs, specifically, **SDG 2 on Zero Hunger and SDG 4 on Quality Education.**
- The Mission will focus on the **fundamental importance of nutrition and early childhood care and education** for the well-being, growth and development of children into healthy and productive adults.

▪ **Objectives:**

- To prepare a **comprehensive strategy to address the challenge of malnutrition, the Supplementary Nutrition Programme under Anganwadi Services.**
- Scheme for Adolescent Girls and Poshan Abhiyaan have been aligned under **Poshan 2.0 as an Integrated Nutrition Support Programme.**
- The objectives of Poshan 2.0 are as follows:
 - To contribute to human capital development of the country.
 - Address challenges of malnutrition.
 - Promote nutrition awareness and good eating habits for sustainable health and wellbeing.
 - Address nutrition related deficiencies through key strategies.
 - AYUSH systems shall be integrated under Poshan 2.0 for wellness and nourishment.

▪ **Components:**

- Nutrition Support for POSHAN through **Supplementary Nutrition Programme (SNP)** for children of the age group of 06 months to 6 years, **pregnant women and lactating mothers (PWLM).**
 - For Adolescent Girls in the age group of 14 to 18 years in Aspirational Districts and North Eastern Region (NER).
- Early Childhood Care and Education (3-6 years) and early stimulation for (0-3 years).
- Anganwadi Infrastructure including modern, **upgraded Saksham Anganwadi**, and
- **Poshan Abhiyaan.**

What are the Guidelines?

- The scheme is **open to all eligible beneficiaries** and the only pre-condition is that the beneficiary has to be registered at the nearest Anganwadi centre with Aadhaar identification.
- The beneficiaries for the scheme will be **adolescent girls in the age group of 14-18 years** who will be identified by the states concerned.
- AYUSH shall propagate the campaigns of '**Yoga at Home, Yoga with Family**' and AWCs and households to encourage beneficiaries to practice yoga and stay healthy.
- The **Ministry of AYUSH** shall extend **technical support for scheme implementation.**
- Efforts shall be made for 100% measurement of the children.
- It **promotes the Use of jaggery, Fortification with indigenous plants like moreng (sahjan/drumstick)** and ingredients that provide higher energy intake in smaller volume of food.

Way Forward

- About 68% of the deaths of children under the age of five in India can be attributed to child and maternal malnutrition.
 - This basically means that tackling malnutrition as a whole, instead of addressing one disease at a time, will keep our children much safer and make their futures brighter.
- The Poshan 2.0 scheme is in the right direction and further the implement should reach the downtrodden with minimum or no leakages.

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Towards a new dawn
Ministry of Women and Child Development
Government of India

#AatmaNirbharBharatKaBudget

MISSION POSHAN 2.0

& SAKSHAM ANGANWADI



- 1 | 2 lakh Anganwadis to be upgraded as 'Saksham Anganwadis'
- 2 | Nutritional norms and standards to be improved
- 3 | Quality and testing of Take-home Ration to be strengthened
- 4 | Traditional community food habits to be promoted
- 5 | Delivery of food under the Supplementary Nutrition Program to be optimised



UPSC Civil Services Examination Previous Year Question (PYQ)

Prelims

Q. Which of the following are the objectives of 'National Nutrition Mission'? (2017)

1. To create awareness relating to malnutrition among pregnant women and lactating mothers.
2. To reduce the incidence of anaemia among young children, adolescent girls and women.
3. To promote the consumption of millets, coarse cereals and unpolished rice.
4. To promote the consumption of poultry eggs.

Select the correct answer using the code given below:

- (a) 1 and 2 only
(b) 1, 2 and 3 only
(c) 1, 2 and 4 only
(d) 3 and 4 only

Ans: (a)

Exp:

- National Nutrition Mission (POSHAN Abhiyaan) is a flagship programme of the Ministry of Women and Child Development, GoI, which ensures convergence with various programmes like Anganwadi services, National Health Mission, Pradhan Mantri Matru

Vandana Yojana, Swachh-Bharat Mission, etc.

- The goals of National Nutrition Mission (NNM) are to achieve improvement in nutritional status of children from 0-6 years, adolescent girls, pregnant women and lactating mothers in a time bound manner during the next three years beginning 2017- 18. Hence, 1 is correct.
- NNM targets to reduce stunting, under-nutrition, anaemia (among young children, women and adolescent girls) and reduce low birth weight of babies. Hence, 2 is correct.
- There is no such provision relating to consumption of millets, unpolished rice, coarse cereals and eggs under NNM. Hence, 3 and 4 are not correct. Therefore, option (a) is the correct answer.

[Source: PIB](#)

Integration of Health Applications with ABDM

For Prelims: The National Health Authority (NHA), Ayushman Bharat Digital Mission (ABDM), ABDM Sandbox, Sustainable Development Goals, Unique Health ID, ABHA mobile app

For Mains: Ayushman Bharat Digital Mission (ABDM) and its Significance in achieving Universal Health Coverage in the Country

Why in News?

Recently, with successful integrations of 52 digital health applications, the [National Health Authority \(NHA\)](#) announced the expansion of the digital health ecosystem being established under its flagship scheme [Ayushman Bharat Digital Mission \(ABDM\)](#),

- These integrations are achieved through **ABDM Sandbox**.
- In the last two months, additional 12 health service applications completed their integration across various milestones in the ABDM sandbox environment.
 - The tally now includes 20 government applications and 32 private sector applications.

Which New Apps have been Integrated?

- The 12 new applications added to the ABDM Partners ecosystem are –
 - [HMIS \(Hospital Management Information System\)](#) for Central Government Hospital Scheme (CGHS)
 - **Hospital Management System** by NICE-HMS
 - **Anmol Application** of the National Health Mission by [National Informatics Center \(NIC\)](#),
 - [eSanjeevani](#)
 - UKTelemedicine Service for Uttarakhand Government by Dhanush Infotech Pvt Ltd.
 - **Health Tech solutions** like Equal app by Infinity Identity Technologies Pvt Ltd
 - **IHX Claim Management Platform** by IHX
 - **Karkinos Application Suite** by Karkinos Healthcare Private Limited,
 - **Meraadhikar app** by Fingoole Technologies Pvt Ltd,
 - **nPe Bills & Services app** by NICT
 - **Paperplane WhatsApp Clinic** by Paperplane Communications Pvt Ltd
 - **HISP-EMR** by the Society for Health Information System Program (HISP India)

ABDM and Integration of Apps - What is the Significance?

- **About ABDM:**
 - ABDM is a national digital health eco-system that supports [Universal Health Coverage](#) in an efficient, accessible, inclusive, and affordable manner, through the provision of a wide range of information and infrastructure services.
 - It aims to develop the backbone necessary to **support the integrated digital health infrastructure** of the country.
 - It will **bridge the existing gap amongst different stakeholders of the Healthcare ecosystem through digital highways.**
- **Significance of the Integration:**
 - As more existing health applications join the ecosystem, the **scope for innovation increases, and the system evolves much faster.**
 - This integration signifies how the **public and private sectors can come together and collaborate to strengthen a digital health ecosystem** for the country.
 - This **collaborative approach toward digitization** of healthcare delivery will **help India achieve its goal of healthcare for all** in the most effective, efficient, and affordable manner.

What are the Key Points about ABDM?

- **Objectives:**
 - To establish **state-of-the-art digital health systems**, to manage the core digital health data, and the infrastructure required for its seamless exchange.
 - To establish **registries at an appropriate level to create a single source** of truth in respect of clinical establishments, healthcare professionals, health workers, drugs, and pharmacies.
 - To enforce the adoption of open standards by all national digital health stakeholders.
 - To create a system of **personal health records, based on international standards, easily accessible to individuals and healthcare professionals and services providers, based on individual's informed consent,**
 - To promote the development of **enterprise-class health application systems with a special focus on achieving the Sustainable Development Goals for health.**
- **Building Blocks of ABDM:** The [Ayushman Bharat Mission](#) is based on 4 main building blocks:
 - **Health ID**
 - Each individual user of the ABDM system will have to generate a **unique health ID** that will be verified and linked to their identification.
 - The user's medical information will be stored on this unique health ID.
 - **Healthcare Professionals Registry**
 - It is a complete **database of healthcare professionals who are associated with the deployment of healthcare services across the country.**
 - By registering themselves on the registry, healthcare professionals can have easy and quick access to patient data and other benefits.
 - **Health Facility Registry**
 - It is an extensive database of all healthcare facilities across the nation. These include both private and public health care facilities like hospitals, diagnostic labs, small clinics, nursing homes, etc.
 - **ABHA Mobile App**
 - The **ABHA mobile app** is to be used by the patients to control and access their medical information, as well as share it with healthcare professionals.
 - The app is supported by the **secure PHR (Personal Health Record) system.**

What is ABDM Sandbox?

- It's a **digital space for experimentation** created **for testing integration processes before the digital health product** is made live for actual use.
- Any digital health service provider/ developer can register on the ABDM Sandbox by following a pre-defined process of integrating and validating their software systems with the ABDM [Application](#)

Program Interface (APIs).

- Currently, 919 public and private sector integrators have enrolled under ABDM Sandbox for integrating and validating their software solutions under the scheme.

What are the Other Recent Developments in Digitization of India's Healthcare Ecosystem?

- **National Digital Health Mission (NDHM):**
 - It is a complete **digital health ecosystem**. The digital platform will be launched with four key features — **health ID, personal health records, Digi Doctor** and **health facility registry**.
- **Health Data Management Policy:**
 - In December 2020, the Ministry of Health & Family Welfare approved the **Health Data Management Policy** under NDHM to protect and manage personal data of patients using the digital services of the scheme.
 - The policy acts as a guidance document across the **National Digital Health Ecosystem (NDHE)**.
 - The data collected across the NDHE will be stored at the central level, the state/UT level and at the health facility level.
- **Other Initiatives:**
 - Data mining, digital health record and digital health infrastructure.

UPSC Civil Services Examination Previous Year Question (PYQ)

Mains

Q. Appropriate local community-level healthcare intervention is a prerequisite to achieve 'Health for All' in India. Explain. (2018)

Source: [PIB](#)

Wildlife (Protection) Amendment Bill 2021

For Prelims: Wildlife (Protection) Act, 1972, CITES

For Mains: Wildlife (Protection) Amendment Bill, 2021

Why in News?

Recently, [Lok Sabha](#) passed by voice vote the **Wildlife (Protection) Amendment Bill, 2021** that seeks to provide for **implementation of the [Convention on International Trade in Endangered Species of Wild Fauna and Flora \(CITES\)](#)**.

What is the Wildlife (Protection) Amendment Bill 2021?

▪ About:

- It was introduced in Lok Sabha by the **Minister of Environment, Forest and Climate Change** on 17th December 2021.
- It seeks to amend the [Wild Life \(Protection\) Act, 1972](#).
- The Bill seeks to **increase the species** protected under the law and implement the CITES.

▪ Features:

◦ CITES:

- CITES is an **international agreement** between governments to ensure that **international trade in specimens of wild animals and plants** does not threaten the survival of the species.
- The Convention requires countries to **regulate the trade of all listed specimens through permits**. It also seeks to regulate the possession of live animal specimens.
 - **The Bill seeks to implement these provisions of CITES.**

• Authority:

- **The Bill provides for the central government to designate a:**
 - **Management Authority**, which grants **export or import permits** for trade of specimens.
 - Every person engaging in trade of a **scheduled specimen** must report the details of the transaction to the **Management Authority**.
 - The Bill **prohibits** any person from modifying or removing the identification mark of the specimen.
 - **Scientific Authority**, which gives advice on aspects related to **impact on the survival of the specimens being traded**.

◦ Wildlife (Protection) Act, 1972:

- Currently, the Act has **six schedules** for specially protected plants (one), specially protected animals (four), and vermin species (one).
 - **The Bill reduces the total number of schedules to four by:**
 - **Schedule I** for species that will enjoy the **highest level** of protection.
 - **Schedule II** for species that will be subject to a **lesser degree** of protection.
 - **Schedule III** that covers plants.
 - It removes the schedule for **vermin species**.
 - Vermin refers to **small animals that carry diseases** and destroy food.
 - It **inserts a new schedule** for specimens listed in the Appendices under CITES (scheduled specimens).

◦ Invasive Alien Species:

- It **empowers the central government** to regulate or prohibit the import, trade, possession or proliferation of [invasive alien species](#).
 - Invasive alien species refers to plant or animal species **which are not native to India** and whose introduction may adversely impact wildlife or its habitat.
- The central government may authorize an officer to **seize and dispose of the invasive species**.

◦ Control of Sanctuaries:

- The Act entrusts the **Chief Wildlife Warden** to control, manage and maintain all sanctuaries in a state.
- The Chief Wildlife Warden is appointed by the **state government**.
 - **The Bill specifies that actions of the Chief Warden must be in accordance with the management plans for the sanctuary.**
 - These plans will be prepared as per **guidelines of the central government**, and as **approved by the Chief Warden**.
 - For sanctuaries falling under **special areas**, the management plan must be prepared after due consultation with the [Gram Sabha](#)

- concerned.
- Special areas include a Scheduled Area or areas where the [Scheduled Tribes and Other Traditional Forest Dwellers](#) (Recognition of Forest Rights) Act, 2006 is applicable.
- Scheduled Areas are economically backward areas with a predominantly tribal population, notified under the [Fifth Schedule to the Constitution](#).
- **Conservation Reserve:**
 - State governments may declare areas adjacent to [national parks and sanctuaries](#) as a **conservation reserve**, for protecting flora and fauna, and their habitat.
 - **The Bill empowers the central government to also notify a conservation reserve.**
- **Penalties:**
 - The **WPA Act 1972** prescribes imprisonment terms and fines for violating the provisions of the Act.
 - **The Bill increases these fines.**

Type of Violation	1972 Act	2021 Bill
General violation	Up to Rs 25,000	Up to Rs 1,00,000
Specially protected animals	At least Rs 10,000	At least Rs 25,000

What is the Wildlife (Protection) Act, 1972?

- [Wild Life \(Protection\) Act, 1972](#) provides a legal framework for the **protection** of various species of wild animals and plants, the **management** of their habitats, and the **regulation** and **control** of trade in wild animals, plants and products made from them.
- The Act also lists schedules of plants and animals that are **afforded various degrees of protection and monitoring** by the government.
- The Act has been **amended several times**, with the last amendment having been made in 2006.

UPSC Civil Services Examination, Previous Year Questions (PYQs)

Q. If a particular plant species is placed under Schedule VI of the Wildlife Protection Act, 1972, what is the implication? (2020)

- (a) A licence is required to cultivate that plant.
- (b) Such a plant cannot be cultivated under any circumstances.
- (c) It is a Genetically Modified crop plant.
- (d) Such a plant is invasive and harmful to the ecosystem.

Ans: (a)

Explanation:

- The Wild Life Protection Act, 1972 is enacted for protection of plants and animal species. The Act provides for the protection of wild animals, birds and plants. It has six schedules which give varying degrees of protection.
 - Schedule I and part II of Schedule II provide absolute protection - offences under these are prescribed the highest penalties.
 - Species listed in Schedule III and Schedule IV are also protected, but the penalties are much lower.
 - Schedule V includes the animals which may be hunted.

- The specified endemic plants in Schedule VI are prohibited from cultivation and planting.
- Plants in Schedule VI
 - Beddome's cycad (*Cycas beddomei*),
 - Blue Vanda (*Vanda soeruec*),
 - Kuth (*Saussurea lappa*),
 - Ladies slipper orchids (*Paphiopedilum* spp.),
 - Pitcher plant (*Nepenthes khasiana*),
 - Red Vanda (*Rananchera imschootiana*)
- However, the further also states that cultivation of specified plants without licence is prohibited. As per Section 17C of the Act, no person shall cultivate a specified plant except under and in accordance with a licence granted by the Chief Wild Life Warden or any other officer authorised by the State Government in this behalf.
- **Therefore, option (a) is the correct answer.**

[Source: IE](#)

India Maldives Relations

For Prelims: Geography of Maldives, Greater Male Connectivity Project, India Maldives Relations, Indian Ocean Region

For Mains: India-Maldives Relations, India and its Neighbourhood

Why in News?

Recently, the Prime Minister of India held bilateral talks with the visiting **Maldives President**.

- The Prime Minister while highlighting the threat of **transnational crime, terrorism and drug trafficking** in the **Indian Ocean** **said that the** coordination between India and Maldives in the field of **defence and security** is vital for peace and stability.



What are the Outcomes of the Bilateral Talks?

- **Security:**
 - To counter the threat of **transnational crime, terrorism and drug trafficking** in the Indian Ocean region, India will give **24 vehicles and one [naval boat](#)** to the **Maldives Security Force** and help **train the island-nation's security personnel**.
 - India will also cooperate in building **police facilities in 61 islands of Maldives**.
- **Male connectivity project:**
 - The two leaders also welcomed the launch of the **[Greater Male Connectivity Project](#)**, a USD 500 million project funded by New Delhi.
 - Both leaders participated in the virtual “pouring of the first concrete” ceremony of the USD500-million Greater Male Connectivity Project, being **built under grant and concessional loan support from India**.
- **Agreements:**
 - The countries signed six agreements to expand cooperation in a range of areas in Maldives, including:
 - **[Cybersecurity](#)**
 - Capacity Building
 - Housing
 - **[Disaster Management](#)**
 - **[Infrastructure Development](#)**
 - India announced USD100 million financial aid to help the island-nation complete certain infrastructure projects.

How has India's Relations with Maldives been?

- **Security Partnership:**
 - Recently, the **National College for Policing and Law Enforcement (NCPLE)** was inaugurated by India's External Affairs Minister during his two day visit to Maldives in 2022.
- **Rehabilitation Centre:**
 - Signing of an **USD80-million contract for the Addu reclamation and shore protection** project.
 - A **drug detoxification and rehabilitation centre** in Addu built with Indian assistance.
 - The centre is **one of 20 high impact community development projects** being implemented by India in areas such as **[healthcare](#), [education](#), [fisheries](#), [tourism](#), [sports](#)** and **culture**.
- **Economic Cooperation:**

- **Tourism** is the mainstay of Maldivian economy. The country is now a **major tourist destination** for some Indians and a job destination for others.
- In August 2021, **Afcons, an Indian company**, signed a contract for the **largest-ever infrastructure project in Maldives** which is the **Greater Male Connectivity Project (GMCP)**.
- India is Maldives **2nd largest trading partner** – rising up from its 4th position in 2018.
 - In 2021, **bilateral trade registered a growth of 31%** over the previous year – overcoming the pandemic-related challenges.

What are the Challenges in India Maldives Relations?

- **Political Instability:**
 - India's major concern has been the impact of **political instability in the neighbourhood** on its security and development.
 - **The February 2015 arrest** of Maldives' opposition leader Mohamed Nasheed on **terrorism charges** and the consequent **political crisis** have posed a real diplomatic test for **India's neighbourhood policy**.
- **Radicalisation:**
 - In the past decade or so, the number of Maldivians **drawn towards terrorist groups** like the **Islamic State (IS)** and **Pakistan-based jihadist** groups has been increasing.
 - This gives rise to the possibility of Pakistan based terror groups using **remote Maldivian islands** as a **launch pad for terror attacks** against India and Indian interests.
- **China Angle:**
 - China's **strategic footprint in India's neighbourhood** has increased. The Maldives has emerged as an important '**pearl**' in China's **"String of Pearls"** construct in South Asia.
 - Given the uncertain dynamics of **Sino-Indian relations**, China's strategic presence in the Maldives **remains a concern**.
 - Also, the Maldives have **started using the China card to bargain with India**.

Way Forward

- Although India continues to be an important partner of the Maldives, **India must not grow complacent over its position** and must remain attentive to the developments in the Maldives.
- India must play a key role within **Indo-Pacific security space** to ensure **regional security in South Asia** and surrounding maritime boundaries.
 - **The Indo-Pacific security space** has been developed as a response to the growth of **extra-regional powers** (particularly China's) in India's maritime sphere of influence.
- At present, the **'India Out' campaign** has support from a limited population but this cannot be taken for granted by the Indian government.
 - If the issues raised by the supporters of the 'India Out' are not handled carefully and India does not effectively convince the Maldivians about its intentions behind the projects on the island nation, **the campaign may change the domestic political situation in the Maldives** and may set ripples in India's currently favourable relationship with the country.

UPSC Civil Services Examination, Previous Year Questions (PYQs)

Q. What do you understand by 'The String of Pearls'? How does it impact India? Briefly outline the steps taken by India to counter this. **(2013)**

Q. Discuss the political developments in the Maldives in the last two years. Should they be of any cause for concern to India? **(2013)**

Source: IE

The Energy Conservation (Amendment) Bill 2022

For Prelims: Electricity Conservation Act 2001, Bureau of Energy Efficiency, Green Hydrogen, Carbon Credits, Battery Swapping Policy, Green Bonds, UPSC CSE PYQ

For Mains: The Energy Conservation (Amendment) Bill 2022 and its Objectives

Why in News?

Recently, the Ministry of Power has tabled the **Energy Conservation (Amendment) Bill 2022** in [Lok Sabha](#).

- The Bill proposes to **amend the [Electricity Conservation Act 2001](#)**, last amended in 2010, to introduce changes such as incentivising the use of clean energy by issuing carbon saving certificates.

What are the Provisions of the Electricity Conservation Act 2001?

- **Energy Efficiency Norms:**
 - **Empowers the Centre to specify norms and standards of energy efficiency for appliances**, industrial equipment and buildings with a connected load over 100 kiloWatts (kW) or a contractual demand of more than 15 kilovolt-amperes (kVA).
- **Bureau of Energy Efficiency:**
 - The Act established the [Bureau of Energy Efficiency \(BEE\)](#).
 - The 2010 amendment extended the tenure of the Director General of the Bureau of Energy Efficiency from three to five years.
 - This **Bureau can specify qualifications required for energy auditors** who monitor and review the power consumption of various industries.
- **Energy Trading:**
 - The Government can **issue [energy savings certificates](#) to those industries which consume less than their maximum allotted energy**.
 - However, this certificate can be sold to customers who consume higher than their maximum allowed energy threshold – **providing for a framework for energy trading**.
- **Prohibition until Conforms Specified Norms:**
 - The Act allows the Centre to prohibit the manufacture, sale, purchase or import of any particular equipment unless it conforms to specified norms issued six months/ one year before.
- **Penalty:**
 - Consumers who **utilise excess energy will be penalized according to their excess consumption**.
 - Any appeals against any such order passed by the Central or state government will be heard by the appellate tribunal already established **under the Electricity Act, 2003**.

What are the Proposed Changes in the Act?

- **Share of renewable Energy:**
 - Defining the **minimum share of [renewable energy](#)** to be consumed by industrial units or any establishment.
 - This consumption **may be done directly from a renewable energy source** or indirectly via the power grid.
- **Incentivising for Clean Energy:**

- Incentivising efforts to use clean energy by issuing **carbon saving certificates**.
- Considering **additional incentives like [carbon credits](#)** for the use of clean energy to lure the private sector to **[climate action](#)**.
- **Strengthening Related Institutions:**
 - Strengthening institutions set up originally under the Act, such as the **Bureau of Energy Efficiency**.
- **Promoting Green Hydrogen:**
 - Facilitating the promotion of **[Green Hydrogen](#)** as an alternative to the **fossil fuels** used by industries
- **Increases Ambit of Conservation Standards:**
 - Including larger residential buildings under energy conservation standards to promote sustainable habitats.
 - Currently, only large industries and their buildings come under the ambit of the Act.

What are the Objectives of the Proposed Amendments?

- **To reduce India's power consumption via fossil fuels and thereby minimize the nation's carbon footprint.**
- To develop **India's Carbon market** and boost the adoption of clean technology.
- **To meet its [Nationally Determined Contributions \(NDCs\)](#)**, as mentioned in the Paris Climate Agreement, before its 2030 target date.

What are India's climate change commitments?

- India has committed to reducing the carbon intensity of its economy by 33-35 % by 2030 **from its 2005 levels as part of its NDCs under the [Paris Climate Agreement](#)**.
- India has also promised **to achieve over 40% of its power generation from non-fossil-fuel energy resources by 2030**.
- In a bid to reduce its CO₂ emissions to 550 metric tonnes (Mt) by 2030, **India has committed to creating an additional carbon sink for 2.5 -3 billion tonnes** of CO₂ by increasing its tree and forest cover.
- India revised NDCs at the **[COP26 Summit](#)** held in Glasgow in November, 2021. India's **five new climate targets are:**
 - To increase its non-fossil energy **capacity to 500 GW by 2030**
 - To meet **50 % of India's power demand via renewable energy** sources
 - To reduce the **carbon intensity of the Indian economy by 45 %**.
 - To reduce India's total projected carbon emissions by one billion tonnes from 2021 to 2030
 - To achieve a target **net zero (for carbon emissions) by 2070**.

What are the Measures to reduce India's Carbon Footprints?

- **Domestic Solar Manufacturing:**
 - In Budget 2022-23, the government Allocated Rs 19,500 crores to facilitate **domestic solar manufacturing in India**.
- **[Biomass Cofiring](#):**
 - Use of 5-7 % biomass pellets for co-firing in thermal power plants.
- **[Blending of Fuel](#):**
 - To promote blending of fuel, an additional differential excise duty of Rs 2/litre to be levied on unblended fuel.
- **[Battery Swapping Policy](#):**
 - To achieve clean transport, a new battery swapping policy to be formulated for electric vehicles
- **[Green Bonds](#):**
 - Issue 'Green Bonds' — fixed-income financial methods to fund projects with positive environmental effects — to raise capital for green infrastructure. Such sovereign green bonds can be used in climate adaptation projects which lack private funding.

Call for Applications for AIC and AICC: NITI Aayog

Why in News?

Recently, [Atal Innovation Mission \(AIM\), NITI Aayog](#) launched **Call for Applications for its two leading programs** Atal Incubation Centre (AIC) and Atal Community Innovation Centre (ACIC).

What is the Call for Applications?

- The call for applications is **a step to expand the current ecosystem of incubators** and to provide them with access to global benchmarks and best practices.
- Both the programs envision creating and supporting the innovative ecosystem in the country by establishing world-class institutions which shall help budding entrepreneurs of the country.
- These AICs and ACICs will play a pivotal role in enriching the [start-up](#) and entrepreneurship ecosystem of India and echo the anthem of [Atmanirbhar Bharat](#).

What is Atal Incubation Centre?

- AIC is an initiative of the AIM, NITI Aayog to foster **innovation and entrepreneurial spirit while creating a supportive ecosystem for start-ups** and entrepreneurs in India.
- Each AIC is supported with **a grant of up to INR 10 crores over a period of 5 years**.
 - Since 2016, **AIM has established 68 Atal Incubation Centres across 18 states** and 3 UTs which have supported more than 2700 startups.

What is Atal Community Innovation Centre?

- ACIC is envisaged **to serve the unserved/underserved areas of the country** with respect to the start-up and innovation ecosystem.
- Each ACIC is supported with a grant of up to **INR 2.5 crores over a period of 5 years**.
- AIM has established **14 Atal Community Innovation Centres** across the country.

What is Atal Innovation Mission?

- **About:**
 - AIM is Government of **India's flagship initiative to promote a culture of innovation and entrepreneurship** in the country.
 - Its objective is to develop new programmes and policies for fostering innovation in different sectors of the economy, provide platform and collaboration opportunities for different stakeholders, create awareness and create an umbrella structure to oversee the innovation ecosystem of the country.
- **Major Initiatives:**
 - [Atal Tinkering Labs](#): Creating problem solving mindset across schools in India.
 - **Atal New India Challenges**: Fostering product innovations and aligning them to the needs of various sectors/ministries.
 - **Mentor India Campaign**: A national mentor network in collaboration with the public sector, corporates and institutions, to support all the initiatives of the mission.
 - **Atal Research and Innovation for Small Enterprises (ARISE)**: To stimulate innovation and research in the MSME industry.

Udyam Portal

Why in News?

Around one crore Micro, Small and Medium Enterprises (MSMEs) have registered on the **Udyam portal** within a span of 25 months, according to the Union Minister of [Micro, Small, and Medium Enterprises](#).

What is Udyam Portal?

▪ About:

- It was launched on 1st July, 2020.
- It's an online system for registering MSMEs, launched by the Union MSME ministry.
- Further, it is linked to the databases of **the [Central Board of Direct Taxes\(CBDT\)](#) and [Goods and Services Tax Network \(GSTN\)](#).**
 - GSTN is a **unique and intricate IT enterprise** that establishes a channel of communication and interaction between taxpayers, the central and various state governments, and other stakeholders.
- It is fully online, does not require any documentation, and is a step towards [Ease of Doing Business for MSMEs](#).

▪ Significance:

- Udyam registrations are essential for MSMEs to utilize the benefits of schemes for the Ministry of MSME and for [Priority Sector Lending](#) from banks.
 - Also, MSMEs contribute to the GDP, exports, and employment generation of the country.

▪ New Initiatives:

- The **MSME ministry signed MoUs with the Ministry of Tourism and the National Small Industries Corporation for the sharing of Udyam data.**
- Further, the [Digi locker](#) facility for Udyam registration would be linked.

What are MSME?

▪ About:

- The Micro Small and Medium Enterprises (MSMEs) sector is a **major contributor to the socio-economic development of the country.**
 - In India, the sector has gained significant importance due to its **contribution to the Gross Domestic Product (GDP) of the country and its exports.**
 - The sector has also contributed immensely with respect to **entrepreneurship development, especially in semi-urban and rural areas of India.**
- According to the provisions of the Micro, Small & Medium Enterprises Development (MSMED) Act, 2006 the Micro, Small, and Medium Enterprises (MSME) are **classified into two classes i.e., Manufacturing Enterprises and Service Enterprises.**
 - The enterprises are further categorized **based on investment in equipment and annual turnover.**

▪ Related initiatives:

- [Scheme of Fund for Regeneration of Traditional Industries \(SFURTI\).](#)
- [A Scheme for Promoting Innovation, Rural Industry & Entrepreneurship \(ASPIRE\).](#)
- [MSME Innovative Scheme.](#)

Source: PIB

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