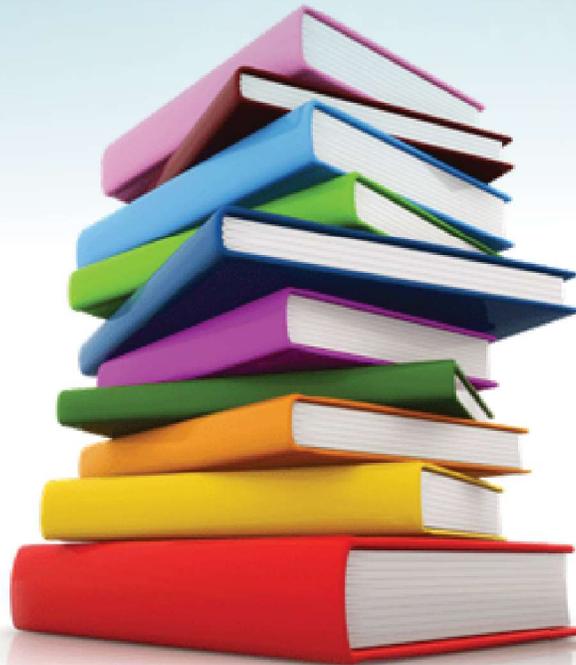




PLUTUS IAS

Weekly CURRENT AFFAIRS



PLUTUS IAS WEEKLY CURRENT AFFAIRS 19-12-2022 to 25-12-2022

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CURRENT AFFAIRS

DECEMBER 2022

GST Council Meeting Highlights: GST on biofuel is down from 18% to 5%

Relevance for Prelims: GST Council, Constitutional Bodies, Functions and working

Relevance for Mains: Growth and Development, working of the council

Context: Recently, the GST council in a meeting tweaked the rate of various goods and services. The article talks about how decreasing GST on biofuel from 18% to 5% impacts the Indian economy.

ABOUT GST COUNCIL

- It is a joint forum of the Centre and States which is set up by the President under Article 279A (1) of the constitution.
- It is chaired by Finance Minister and each state nominates a minister in charge of Finance or taxation or any other member as a member.
- The Council has 33 members, out of which 2 members are of Centre and 31 members from 28 states and 3 UTs with the legislature. It is considered a federal body as both members of the Centre and States get due representation.
- The Chairperson of the Central Board of Excise and Customs (CBEC) is a permanent invitee in all proceedings. The chairperson does not have any voting power.

DECISION-MAKING PROCESS

The decision of the GST council is taken by a majority of members not less than 3/4th members of the weighted votes of the members present.

The vote of the central government has a weightage of 1/3rd of the total votes cast, and votes of all state governments taken together have a weightage of two-thirds of the total votes cast in that meeting.

Since every decision is taken 3/4th votes and given that the Centre has 1/3rd weightage, the Centre has virtual veto power.

RECENT DECISIONS

The council has decided to scrap the 5% GST levy on cattle feed ingredient-husk of pulses and reduction of GST levy on ethyl alcohol from 18% to 5% which could also be used for petroleum refineries.

The council also decriminalized GST offences that pertain to obstruction or preventing any officers from discharging their duty, deliberate tampering of material evidence and failure to supply the information/.

PRELIMS PREVIOUS YEAR QUESTIONS:

Consider the following items:

- a) Cereal grains hulled
- b) Chicken eggs cooked
3. Fish processed and canned
4. Newspapers containing advertising material

Which of the above items is/are exempted under GST (Goods and Services Tax)?

- a) 1 and 3 only
- b) 1,2 and 4 only
- c) All of the above
- d) 2 and 3 only

Global Minimum Corporate Tax

Relevance for Prelims: Treaty Shopping, Round Tripping

Relevance for Mains: OECD Regulations, Impact of Minimum Corporation Tax

Context: Members of the European Union agreed in principle to implement a minimum tax of 15% on big businesses.

ABOUT GLOBAL MINIMUM CORPORATE TAX

Global Minimum Corporate Tax is tailored to address the low-effective rates of tax shelled out by some of the world's biggest corporations, such as Apple, Microsoft, Meta, and Alphabet.

The majority of Global companies rely on web subsidiaries to move profits from major markets to know-tax countries (also known as Tax havens) such as the Bahamas, and the Panama Islands.

The OECD has proposed a two-pillared solution that would apply to overseas profits of multinational firms with \$868 billion in sales globally.

Pillar 1 sets out the Minimum taxes and tax rules for companies that shift their tax jurisdictions. Governments could set local corporate taxes to eliminate the advantage of shifting profits.

- Pillar 2 allows countries where revenues are earned to tax 25% of the largest multi-nationals- so called excess profit which is defined as a profit of more than 10% of revenue.



A look at how the global minimum tax will work

that go untaxed or lightly taxed in one of the world's tax havens, their home country will impose a top-up tax that will bring the rate to 15%

- Out of the 140 countries involved, 136 supported the deal. Kenya, Nigeria, Pakistan and Sri Lanka have abstained for now
- According to some developing countries and advocacy groups, the 15% rate is too low and leaves far too much potential tax revenue on the table

- Countries will legislate a global minimum corporate tax rate of at least 15% for companies with annual revenues more than \$864 billion
- If companies have earnings

Pic: Global Minimum Corporation Tax

NEED FOR THE CORPORATE TAX

- Mobilization of resources: Economies strained after the COVID-19 crisis has led many governments to want more than ever to discourage multinationals from shifting profits and tax revenues to low-tax jurisdictions regardless of the location of sales are made.
- Apply brake on diversion of funds to tax heaven: Income from software and royalties has migrated to tax heavens, allowing companies to avoid paying higher taxes in traditional home countries.

ASSOCIATED CONCERNS WITH GLOBAL MINIMUM CORPORATE TAX

- Violation of sovereignty: Rights of countries are violated if a nation's tax policies are subjected to global institutional norms.
- Effectiveness: Many organizations such as Oxfam said the deal would not end inequality and tax havens.
- Tax Competition: Critics of the OECD's proposal, however, see the global minimum tax as a threat. They argue that without tax competition between governments, the world would be taxed a lot more than it is today, thus adversely affecting global economic growth.

Kashi Tamil Sanagamam

In the news: Amit Shah, Union Minister of Housing was speaking at the 30-day Kashi Tamil Sanagamam event's concluding ceremony, an effort to inspire a cultural renaissance that will unify the nation and connect various languages.

For Prelims: Government policies and interventions, GS -2

For Mains: Government policies and interventions, GS -2

ABOUT KASHI TAMIL SANAGAMAM:

- The Kashi Tamil Sanagamam commemorates a variety of aspects of the historical and cultural ties that bind North and South India.
- The overarching goal is to enhance the bonds between the peoples of the two regions while also bringing together the knowledge and cultural traditions of the North and the South.
- The project is in line with the National Education Policy (NEP), which places a strong emphasis on fusing the richness of Indian Knowledge Systems with contemporary knowledge systems by the year 2020.
- The program's two implementing organizations are IIT Madras and Banaras Hindu University (BHU).
- The Government of Uttar Pradesh and the Ministries of Education, Culture, Textiles, Railways, Tourism, Food Processing, Information & Broadcasting, etc. are working together to put it on.
- **CULTURAL SIGNIFICANCE:**
- King Parakrama Pandya, who governed the area around Madurai in the 15th century, wished to erect a temple to Lord Shiva and went to Kashi (Uttar Pradesh) to bring back a lingam.
- When he tried to continue his journey, the cow carrying the lingam stood still. He had stopped to rest under a tree while traveling back.
- The location where the lingam was installed later became known as Sivakasi, Tamil Nadu. Parakrama Pandya recognized this as the Lord's will and installed the lingam there.
- The Kasi Viswanathar Temple was constructed by the Pandyas at what is now Tenkasi, in southwest Tamil Nadu, near to the state's border with Kerala, for devotees who could not go to Kashi.

EK BHARAT SHRESHTHA BHARAT

- It was formed in 2015 with the goal of encouraging interaction between citizens of various States and UTs to strengthen ties and mutual understanding among those from different cultural backgrounds and preserve India's unity and integrity.
- It is a Ministry of Education initiative.

OBJECTIVES

- To help people understand and respect India's diversity and develop a shared identity, highlight the rich heritage, culture, customs, and traditions of either State.
- Make long-term commitments.
- Foster the nation's unity amidst its diversity and uphold and build the fabric of the historically existent emotional ties among our people.
- Promote the spirit of national integration by engaging all Indian States and Union Territories deeply and systematically throughout the course of a year-long scheduled engagement among States.
- Establish a setting where best practices and experiences are shared to encourage learning amongst nations.



Prime Minister's National Relief Fund (PMNRF)

In news: Following the fatal cylinder accident in Jodhpur, Rajasthan, the Prime Minister, declared that the Prime Minister's National Relief Fund would provide ex-gratia payments of Rs. 2 lakh to each deceased person's next of kin and Rs. 50,000 to those hurt.

For Prelims: Funding mechanism, contributions, administration, and proceeds.

For Mains: Need for and significance of PMNRF.

ABOUT PRIME MINISTER'S NATIONAL RELIEF FUND (PMNRF)

- The PMNRF was founded in January 1948 as a result of a request made by the then-Prime Minister, Pt. Jawaharlal Nehru, to aid those who had fled Pakistan.
- The PMNRF also provides assistance to partially cover the costs of medical care, such as heart operations, kidney transplants, cancer treatments, etc.
- The PMNRF's resources are now mostly used to provide emergency aid to the victims of significant accidents and riots as well as to the families of those murdered in natural disasters like floods, cyclones, earthquakes, etc.

CHARACTERISTICS

- The Chairman of PMNRF is the Prime Minister, who receives honorary assistance from officers and staff.
- These donations are also CSR (corporate social responsibility) expenditures for businesses, which makes them more desirable in terms of tax breaks.
- The Prime Minister must provide his consent before any payments are paid.
- The Parliament has not created the PMNRF.
- The Prime Minister or a number of delegates oversee the fund, designated as a Trust under the Income Tax Act and used for national reasons.
- The Income Tax Act exempts PMNRF.

THE TYPES OF CONTRIBUTIONS THAT PMNRF ACCEPTS

- Contributions coming from the government's budget or the balance sheets of public sector organizations are not accepted.
- Only voluntary donations from people and organizations are accepted by PMNRF.
- When a catastrophic natural disaster strikes, the prime minister announces a donation appeal.

Reservation in Private Job

Recently, states like Haryana and Madhya Pradesh have reserved jobs in the private or public sector for local residents. This has led to the debate on the growing trend of jobs for locals. The article talks about how the Private Job Reservation impacts Indian Polity and Governance-constitution.

Many other states like Maharashtra, Andhra Pradesh, and Jharkhand have passed similar laws but ran into hurdles or were halted by the court owing to a violation of many rights enshrined in the constitution.

REASONS FOR THE EMERGENCE OF PRIVATE JOB RESERVATION

- Lack of availability of skilled jobs in the concerned state.
- Lack of skilled personnel.
- State's failure to create more jobs owing to deficiency in capital or market assets.
- The majority of available jobs are being filled by outsiders.

CHALLENGES ASSOCIATED WITH LOCAL RESERVATION OR NATIVISM

ENHANCES SON-OF-SOIL- DOCTRINE: Shutting down the jobs for non-domiciles will not only lead to discrimination but open the pandora's box which would encourage other states to follow the same path.

THROWING THE BUSINESS OUT: Laws for local reservations may push the business to migrate, as sometimes the local population is not adequately skilled to fill the roles demanded by companies.

ULTRA VIRES TO THE CONSTITUTION: They are in violation of Articles 14, 16, and 19 (g) which provide the Right To Equality and Protection of certain rights to practice any profession, or to carry any trade or business.

RE-EMERGENCE OF PRE-1991 ERA: Many scholars have argued that allowing for local reservations is equivalent to the nationalization of the corporate/private sector.

Creating more skilled labor and jobs for the same is the need of the hour. Government should provide adequate incentives for industries to create an enabling ecosystem for employing more local people.

Kunming Deceleration: Montreal Global Biodiversity Framework

The article talks about how the Global Biodiversity Framework impacts Environmental Ecology as well as biodiversity and climate change.

For Prelims: Environment, Biodiversity, and climate change,

For Mains: GS-3 , Environment, International Treaties & Agreements

In news: At a recent summit in Montreal, 188 of 196 governments agreed on a new framework to slow the rapid loss of biological diversity, given the convention on biological diversity, the United Nations' commitment to conserve and sustainably use Earth's biodiversity, is a boost.

ABOUT GLOBAL BIODIVERSITY FRAMEWORK

- The world must accomplish 23 tasks according to the framework by 2030. Given the terrible state of biodiversity, the goals are somewhat lofty.
- The Aichi Targets, the most recent set of goals, were not achieved by 2020. Countries would have to make sure that this time was successful.
- The 30-by-30 goal, which calls for safeguarding 30% of the world's land and oceans by the end of the decade, was the deal's most ambitious objective.
- The 30-by-30 goal, which calls for safeguarding 30% of the world's land and oceans by the end of the decade, was the deal's most ambitious objective.
- A Special Trust Fund ("GBF Fund") has been requested from the Global Environment Facility to support the Global Biodiversity Framework's implementation. This will guarantee effective implementation.
- The agreement also requires nations to set about \$200 billion annually for public and commercial sector biodiversity programs.

AIM AND OBJECTIVE:

It aims to stop the steady loss of marine and terrestrial biodiversity. It means that people worldwide can have hope for genuine advancement in the efforts to stop the loss of biodiversity, protect and restore our lands and seas, and do it in a way that both protects the environment and upholds the rights of local communities and indigenous peoples.

WHAT IT MEANT TO BE 30 BY 30 :

- A crucial proposal being discussed at the COP15, the "30 by 30" aim, which would grant 30% of the Earth's land and oceans protected status by 2030, was mentioned in the declaration.
- Along with this, there is a discussion about the need to reduce the use of chemicals in agriculture by half and to stop producing plastic trash.

MAJOR FACTS OF GLOBAL BIODIVERSITY FRAMEWORK:

- The Biodiversity 2050 Vision is “Living in Harmony with Nature.”
- The 2050 Vision for Biodiversity and the 2030 Agenda for Sustainable Development, and their significance for achieving the goals of the CBD.
- “Urgent action on Biodiversity for Sustainable Development” will be the subject of the September 2020 UN Summit on Biodiversity.
- Importance of biodiversity for preserving all ecological functions, as well as for promoting sustainable development, economic prosperity, and human and planetary health.
- Worry that the continued loss of biodiversity will make it more difficult to achieve the Sustainable Development Goals (SDGs) and other global objectives.
- While acknowledging the advancements made over the past ten years under the 2011-2020 Strategic Plan for Biodiversity, questions have been raised about its inadequacy to meet the Aichi Biodiversity Targets.
- Recognizing the existential danger posed by the unprecedented and connected problems of biodiversity loss, climate change, land degradation and desertification, ocean degradation, pollution, and rising dangers to human health and food security.
- Recognizing that the primary direct causes of biodiversity loss—land/sea use change, overexploitation, climate change, pollution, and alien invasive species—share many common underlying causes of change.
- Realizing that multisectoral engagement and prompt, comprehensive action are required to stop and reverse biodiversity loss, conserve it, and use it sustainably.



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THE GIST

188 of 196 member governments during the Convention on Biological Diversity adopted the Kunming-Montreal Global Biodiversity Framework (GBF) that sets out four goals for 2050, and 23 targets for 2030, to save existing biodiversity.

The GBF goals and targets do not prohibit the use of biodiversity, but call for sustainable use, and a sharing of benefits from genetic resources. It also emphasises respect for the rights of indigenous communities that traditionally protect forests and biodiversity.

Global Biodiversity Framework

MAJOR COMMITMENTS:

The statement specifies 17 commitments for member nations and sets basic goals for the restoration and protection of biodiversity. These pledges call for improved domestic and international cooperation on a number of fronts.

PROTECTION OF BIODIVERSITY:

Ensuring the creation, acceptance, and use of a successful global biodiversity framework for the years after 2020 in order to stop the current loss of biodiversity and put it on a “path of recovery” by 2030.

Supporting the creation, approval, and execution of an efficient Cartagena Protocol on Biosafety Post-2020 Implementation Plan and Capacity Building Action Plan.

EXPANDING THE USE OF ECOSYSTEM-BASED STRATEGIES:

- To combat biodiversity loss
- Restore damaged ecosystems.
- Increase resilience, reduce impact, and prepare for climate change.
- Support the production of sustainable food.
- Promote health.

REGULATIONS AND POLICY:

- Enhancing cross-sectoral biodiversity coordination mechanisms.
- In order to ensure the successful implementation of the post-2020 Global Biodiversity Framework at the national level, the development and updating of National Biodiversity Strategies and Action Plans must be accelerated and strengthened.
- Increasing the amount of work done to make sure that the usage of genetic resources is shared in a fair and equitable manner.
- Develop policies for the growth and control of biotechnology to make ensuring that its advantages are fairly distributed while reducing any negative effects on the environment.
- Ensuring that post-pandemic recovery policies, programs, and strategies support sustainable and equitable development by helping to conserve biodiversity and utilize it sustainably.

FINANCE:

- Together with the mobilization of additional financial resources and the alignment of all financial flows for biodiversity conservation and sustainable usage, financial reforming,

- removing, or phasing out such financial policies that are detrimental to biodiversity.
- Increasing the amount of aid given to developing nations in order to help them create the ability they need to implement the Global Biodiversity Framework after 2020.

COMMUNITY INVOLVEMENT AND PARTICIPATION:

Allowing local communities, indigenous peoples, women, young people, civil society, local governments, academic institutions, the business and financial sectors, and other relevant stakeholders to participate fully and effectively in order to maintain the momentum for the implementation of the Global Biodiversity Framework after 2020.

WHAT DOES IT INTEND TO ACCOMPLISH:

- Its major goal is to reiterate political commitment on a worldwide scale to addressing the biodiversity problem and to move forward with the process of developing the post-2020 Global Biodiversity Framework (GBF).
- Although not stated specifically, the proclamation aims to accomplish the “30 by 30” objective.
- By 2030, it is anticipated that 30% of the land and sea areas in several nations will be protected.
- It aims to reaffirm the Sharm el-Sheikh Declaration on Investing in Biodiversity for People and Planet and the Cancun Declaration on Mainstreaming the Conservation and Sustainable Use of Biodiversity for Well-Being.

UPSC PREVIOUS YEARS QUESTIONS:

Ques: The Millennium Ecosystem Assessment describes the following major categories of ecosystem services-provisioning, supporting, regulating, preserving, and cultural. Which one of the following is a supporting service? (2012)

- a) Production of food and water
- b) Control of climate and disease
- c) Nutrient cycling and crop pollination
- d) Maintenance of diversity

Solution (d)

Ques: With reference to ‘Global Environment Facility, which of the following statements is/ are correct?

- a) It serves as a financial mechanism for ‘Convention on Biological Diversity’ and ‘United Nations Framework Convention on Climate Change’.

- b) It undertakes scientific research on environmental issues at the global level
- c) It is an agency under OECD to facilitate the transfer of technology and funds to underdeveloped countries with the specific aim to protect their environment.
- d) Both (a) and (b)

Solution : (a)

Ques: With reference to a conservation organization called Wetlands International, which of the following statements is/are correct?

1. It is an intergovernmental organization formed by the countries which are signatories to Ramsar Convention.
2. It works at the field level to develop and mobilize knowledge, and use practical experience to advocate for better policies.

Select the correct answer using the code given below.

- a) 1 only
- b) 2 only
- c) Both 1 and 2
- d) Neither 1 nor 2

Solution (b)



Fitch Retains India rating at BBB

The topic talks about how the fitch rating of India at BBB impacts the Indian Economy and social development.

For Prelims: Economic and social development, credit rating agencies

For Mains: GS-3, Economic and social development

ABOUT THE FITCH RATING INDIA AT BBB:

Fitch Ratings is a credit rating company with offices in New York and London that evaluates the financial standing of businesses so that investors can identify investments that will produce reliable returns and steer clear of risky risks. Fitch evaluates debt using quantitative and qualitative analysis, looking at the company's cash flow, gross debt, and variety of investors, among other things.

On December 2022, Fitch Ratings maintained India's rating at "BBB-" with a stable outlook, although anticipating a slight "fiscal slippage" from the central government's fiscal deficit target of 6.4% to GDP to 6.6% of GDP this year due to higher food and fertilizer subsidies.

These are nevertheless countered by India's weak public finances, which are demonstrated by high deficits and debt relative to peers, as well as lagging structural metrics, according to the report. These include GDP per capita and governance indices from the World Bank.

Investment grade ratings of "BBB" mean that there is currently little expectation of default risk and that the ability to meet financial obligations is seen as adequate. However, unfavorable business or economic conditions are more likely to compromise this ability.

According to the report, India's still robust foreign finances have helped the country get through the last year's significant external shocks.

KEY FINDINGS OF THE FITCH RATING INDIA

- According to Fitch, our prediction for GDP growth of 7.0% in the fiscal year ending March 2023 is supported by continuing consumption and investment recovery (FY23).
- India's small reliance on external demand in 2023 helps to shield it from the bleak global picture.
- The report projected growth to be slowed to 6.2% in FY24 ('BBB' median: 2.0%) due to decreased exports, more uncertainty, and rising interest rates.
- As pent-up demand diminishes, we also anticipate a slowing in consumption growth, according to Fitch.

- According to Fitch, a major element supporting the grade is the positive medium-term economic projection for India.
- A gradual rise in investment is likely to be made possible in the upcoming years by a noticeable improvement in corporate and bank balance sheets, which were already under pressure before the pandemic.
- “These prospects are strengthened by the government’s ongoing infrastructure program and reform agenda, as well as initiatives to draw in more FDI.
- However, given trends in labor force participation, the slow recovery of the rural economy, and the mixed success of reform implementation, concerns persist.
- On the strength of the robust and long-lasting economic recovery, financial sector risks continue to decrease.
- Rapid credit expansion is expected to continue, supported by a strong credit demand and rising risk appetite, so long as capitalization is well managed, according to Fitch.
- According to the report, high deposit funding helps to partially temper the normalization of domestic liquidity conditions.
- The general government deficit has decreased from its all-time high of 13.5% of GDP (excluding disinvestment) but is still expected to be significant in comparison to other countries.
- It anticipated a small decrease in the deficit from 9.8 percent of GDP in FY22 to 9.6 percent of GDP in FY23 (‘BBB’ median: 4.1 percent).
- Due to higher food and fertilizer subsidies, the report anticipates a modest fiscal slippage for the central government in FY23, with a deficit of 6.6% of GDP (including disinvestment) compared to the budget target of 6.4%, but revenue growth and expenditure switching will be able to offset the fiscal impact of the measures while still allowing capital spending to remain a top priority.

CREDIT RATING AGENCIES: WHAT ARE THEY:

- An organization that gives credit ratings is known as a credit rating agency (CRA). These ratings assess a debtor’s capacity to repay a loan by making timely principal and interest payments as well as the possibility of default.
- Six credit rating companies, CRISIL, ICRA, CARE, SMERA, Fitch India, and Brickwork Ratings, are registered with SEBI.

HOW DO CREDIT RATINGS WORK:

- A credit rating is an evaluation of a borrower’s creditworthiness, either generally or in relation to a specific debt or financial obligation.
- Any organization looking to borrow money, whether it be a person, business, state or local authority, or sovereign nation, can be given a credit rating.

ADVANTAGES:

For lenders:

- Credit rating gives lenders insight into the creditworthiness of a person or business (who is borrowing the money) and the risk element associated with them, which helps them make better investment decisions. They can choose a better investment by analyzing this.
- High credit scores guarantee that the money will be safe and that it will be returned with interest on schedule.

For Borrowers:

- Easy Loan Approval: Banks are willing to quickly approve loan applications from borrowers who have strong credit ratings.
- Credit ratings have brought in a culture of financial discipline, made capital allocation more effective by accurately pricing risk, and fostered financial innovation. Credit ratings will enable independent benchmarks for pricing debt.



Cryptocurrencies could cause Global Financial Crisis: RBI Governor

Cryptocurrencies are digital currencies designed as a medium of exchange through a network of computers that is not backed by any central authority, government, or bank. Recently, the government has brought income earned or gains from cryptocurrency under the tax bracket.

POTENTIAL NEGATIVE IMPACT OF CRYPTOCURRENCIES SOVEREIGN GUARANTEE:

Since there is no backing of legal tender, it poses risk to consumers.

VOLATILITY: Owing to its speculative value, the price of bitcoin is very volatile. A few years back it fell from \$ 20,000 to \$ 3000.

MONEY LAUNDERING: They are more likely to use for money laundering and criminal activities given the anonymous nature of the transaction.

ENVIRONMENT: Validating transactions is very energy intensive. It could have an adverse impact on global energy security.



The negative impact of Cryptocurrency

POTENTIAL POSITIVE IMPACT OF CRYPTOCURRENCIES

• TRANSPARENCY IMPROVEMENT

Cryptocurrency enhances transparency where every transaction can be traced back to the source. Additionally, blockchain, the technology on which cryptocurrency is based, is immutable. This means that transaction histories are permanent and unalterable.

- **EMPLOYMENT GROWTH**

The crypto industry currently employs about 50,000 individuals. As per a report, the industry is poised to see massive employment opportunities, pegged at over 800,000 by 2030. India already has a strong talent pool of Fintech professionals and IT experts.

- **ENHANCE DIGITAL PAYMENTS**

Cryptocurrency transactions are both time and cost-effective. The transactions are carried out between the sender and receiver without the need for a third party, making the transactions instantaneous.

Strict regulation is the solution to ensure that the currency is not used for engaging in illegal activities. A clear and cut framework needs to be created which should clear the minds of investors.

India currently is at the pinnacle of the digital revolution. Harnessing cryptocurrency and blockchain tech



Dhokara Art

The topic talks about how Dhokara Art impacts Indian History, Arts, and Culture.

For Prelims: Ancient and modern forms of literature, architectural styles, and art forms.

For Mains: GS-1, Indian History, Art, and Culture.

ABOUT DHOKARA ART

- One of the Indian nomadic tribes has been practicing it for centuries.
- It originates from the eras of Mohenjo Daro and Harappa.
- In essence, it is beautiful metal sculptures made from bronze and copper-based alloys using a process called “lost wax casting,” or “cire perdue” in French.
- The creation of a single piece of Dhokra art might take up to two months because there are numerous steps involved.
- It began in West Bengal, but when the tribes dispersed through time to Jharkhand, West Bengal, Orissa, and Chhattisgarh as well as areas like Kerala and Rajasthan, it eventually expanded throughout all of India.
- The well-known dancing girl from Mohenjo-Daro is the oldest specimen to have used it.
- Traditional metalworkers in West Bengal and Odisha come from the Dhokra Damar tribe. Dhokra metal casting is the name of their lost wax casting method, which is called by their tribe.
- The Geographical Indication (GI) designation for West Bengali Dhokra crafts was presented in May 2018.
- Recent modifications to the skill include the removal of beeswax, which was once a key ingredient but is now prohibitively expensive and difficult to find.
- Slowly, more practical items like paperweights and pen holders are taking the place of traditional animal figures like horses, elephants, camels, and so on.



Pic: Dhokara Art

DECLINE PHASE OF THE ART

- Due to the steadily rising cost of raw materials, which renders the finished goods much too expensive to draw in sufficient customers, the art form is clearly in decline.
- Due to the decrease in demand, artists have also been less interested in creating such masterpieces.
- Although there is still a significant demand for these sculptures in domestic and international markets, manufacturing is delayed due to the use of antiquated methods and a lack of access to new technologies.

UPSC PREVIOUS YEARS QUESTIONS:

QUES. Kalamkari painting refers to

- (a) a hand-painted cotton textile in South India
- (b) a handmade drawing on bamboo handicrafts in NorthEast India.
- (c) a block-painted woolen cloth in the Western Himalayan region of India
- (d) a hand-painted decorative silk cloth in North-Western India.

Solution: A

QUES. With reference to India's culture and tradition, what is 'Kalaripayattu'?

- (a) It is an ancient Bhakti cult of Shaivism still prevalent in some parts of South India
- (b) It is an ancient style bronze and brass work still found in the southern part of the Coromandel area
- (c) It is an ancient form of dance-drama and a living tradition in the northern part of Malabar.
- (d) It is an ancient martial art and a living tradition in some parts of South India.

Solution: D

INS Mormugao: Project 15B

The article talks about how INS Mormugao strengthens the Indian Navy.

For Prelims: Security

For Mains: GS-3, Security

In News: **INS Mormugao** (Pennant D67), the second of Mazagon Dock Shipbuilders Limited's (MDSL) Project 15B stealth-guided missile destroyers, was commissioned into the Indian Navy.

Named for the west coast port city of Goa, which has a long history.

launched on September 17, 2016, and began sea trials in 2021, which also happened to be the 60th anniversary of the liberation of Goa.

The commissioning on December 18 is notable since Operation Vijay, which was started in 1961 to free Goa from Portuguese domination, was also launched on the same day.

ABOUT INS MORMUGAO

Development phase:

All of India's primary weapons and sensors, which contain more than 75% local content, have been designed and developed there, either directly by Indian Original Equipment Manufacturers (OEMs) or through strategic alliances and the transfer of technology with reputable foreign OEMs.

Weapons and specifications :

INS Mormugao is a ship that is 163 meters long, 17 meters wide, and weighs 7,400 tonnes. It is loaded with powerful, cutting-edge armaments and sensors, including Surface-to-Surface Missiles and Surface-to-Air Missiles.

- The ship is equipped with cutting-edge surveillance radar that gives the gunnery weapon systems target information.
- Its Rocket Launchers, Torpedo Launchers, and ASW helicopters were all created domestically, which gives it the ability to conduct anti-submarine warfare.
- The ship is outfitted to battle in situations involving nuclear, biological, and chemical warfare.
- It is propelled by four strong gas turbines that work together as a combined gas and gas engine to reach speeds of more than 30 knots.
- The ship has improved stealth characteristics, which results in a smaller radar cross-section.
- It has roughly 300 people on board.

THE GIST

INS Mormugao has officially joined the Indian Navy's fleet, marking a significant milestone for indigenous military expedition. The warship 'Yard 12705', named after the Goan port city of Mormugao, is the second of the four Visakhapatnam-class destroyers being built under Project 15B.

INS Mormugao's firepower comprises BrahMos surface-to-surface missiles (SSM), Barak-8 surface-to-air (SAM) missiles and a 76mm super rapid gun mount. The ship is armed with RBU-6000 anti-submarine rocket launchers and 533mm torpedo launchers. It is also equipped to carry and operate multi-role helicopters.

INS Mormugao

ABOUT PROJECT 15B

- Project 15B (P 15B) is currently building four guided missile destroyers at M/s Mazagaon Dock Shipbuilders Limited in Mumbai. 2011 saw the signing of the contract for the construction of these four ships.
- These vessels rank among the most cutting-edge guided missile destroyers in the world thanks to their cutting-edge weapon/sensor package, cutting-edge stealth features, and high level of automation.

FEATURES:

- The P-15B ships have the BrahMos supersonic cruise missiles and long-range surface-to-air missiles as standard equipment (SAM).
- The ship is equipped with a number of indigenous weaponry, including medium-range Surface-to-Air Missiles (SAMs), indigenous torpedo tube launchers, indigenous rocket launchers for anti-submarine defense, and a 76-mm super fast gun mount.

OTHER THREE PROJECT 15B SHIPS:

- The second P15B ship, INS Mormugao, was launched in 2016 and is now undergoing port trials.
- The outfitting of the third ship, Imphal, which was launched in 2019, is nearly complete.
- The fourth ship, named Surat, is currently being built and is scheduled to be launched in the current fiscal year (2022).
- **ADDITIONAL RECENT PROJECTS EXCEPT FOR INS MORMUGAO**
- **Project 75:** The Indian Navy has a program called Project 75 that calls for the construction of six Scorpene-class assault submarines. The program has been carried out with technology transfer from the Mazagon Dock Limited and the French business Naval Group (formerly known as DCNS) (MDL).
- **Project 75 (I):** At an estimated cost of Rs. 43,000 crores, it calls for building submarines domestically with the most advanced air-independent propulsion technology.

UPSC PREVIOUS YEARS QUESTIONS:

Which one of the following is the best description of 'INS Astradharini', that was in the news recently?

- A. Amphibious warfare ship
- B. Nuclear-powered submarine
- C. Torpedo launch and recovery vessel
- D. Nuclear-powered aircraft carrier

Solution: C

Karnataka and Maharashtra Border Dispute

The article talks about how the Dispute on the border between Karnataka and Maharashtra impacts on Indian Polity and Governance- Constitution.

Relevance For Prelims: laws and authorities governing the creation of new states or the redrawing of existing ones

Relevance For Mains: Inter-state border disputes, GS-2

In News: Recently, the conflict between Maharashtra and Karnataka over territory that both States contend is theirs has gotten unpleasant, vociferous, and even violent.

THE GENESIS OF THE KARNATAKA AND MAHARASHTRA BORDER DISPUTE

- The State Reorganisation Act of 1956, which reorganized states along linguistic lines, is when the Maharashtra and Karnataka boundary conflict began.
- Madras Ekikaran Samiti (MES): The Maharashtra Ekikaran Samiti (MES) was founded in 1948.
- A petition by the Maharashtra government demanding 865 villages from five Karnataka districts and contesting various aspects of the State Reorganisation Act, 1956 Belagavi, Karwar, Vijayapura, Kalaburagi, and Bidar are the five districts.

High levels of tension exist in Karnataka, particularly in the district of Belagavi, which borders Maharashtra

Karnataka's perspective: The distinctions started when Mysore changed its name and established the State of Karnataka. As soon as the neighboring Bombay state, later renamed Maharashtra, and Mysore state, afterward renamed Karnataka, were founded on November 1, 1956, disagreements broke up.

Maharashtra's perspective: Maharashtra believed that the Belagavi district of Karnataka, in the state's northwest, should be a part of it. This belief sparked a decade-long, violent agitation that resulted in the formation of the Maharashtra Ekikaran Samithi (MES), which continues to rule over some areas of the district and the city bearing its name.

WHEN DID THE DISPUTE BEGIN?



The dispute centres mainly on Belagavi's inclusion in Karnataka.

The dispute started in 1957 when states were reorganised on linguistic lines.

Maharashtra claims Belagavi, along with other Karnataka districts like Vijayapura, Dharwad, and Uttara-Kannada, were originally a part of the erstwhile Bombay Presidency.

After the implementation of the State Reorganisation Act, of 1956, the Belagavi district became a part of Karnataka.

NEWS 18
updates

Karnataka and Maharashtra border dispute

UNION GOVERNMENT'S STAND:

- In 1966, the Union government established a Commission: On October 25, 1966, the Union government established a commission headed by former Supreme Court judge Justice Meharchand Mahajan amidst protests and pressure from Maharashtra. The chief ministers of Maharashtra and Karnataka at the time were VP Nayak and S Nijalingappa, respectively.
- A report that reached an agreement on the consolidation of towns and villages: It was anticipated that the report would resolve the conflict and serve as a legally binding document for both states. In its report, which was turned in by the committee in August 1967, it was suggested that 264 Karnataka towns and villages, including Nippani, Nandgad, and Khanapur, and 247 Maharashtrian villages, including South Solapur and Akkalkot, be merged with Maharashtra.

The report was presented in 1970, but no action was taken because it became a poll question: Despite being presented to the Parliament in 1970, the report was not discussed. The demands for Kannada-speaking regions to join Karnataka and Marathi-speaking regions to join Maharashtra both grew without the recommendations' adoption. In numerous areas of Belagavi,

- MES made it a campaign issue and won a series of elections from district constituencies.

BILINGUALISM A CRUCIAL COMPONENT:

- Language influence: Thousands of Marathi terms have Kannada roots, and a comparable number of Kannada words have absorbed Indo-Aryan roots through Marathi.
- Both castes and communities on either side of the disputed line have extended families

dispersed on both sides of the border.

- Harmonious cross-cultural exchange: For the past 120 years, Miraj town in Maharashtra has produced all of the harmoniums and sitars used by the best vocalists from Karnataka.
- Influence of the Bhakti movement on one another: In the past, Tukaram's bhajans entered the hearts of Kannada speakers with the same ease that Basaveshwar's saint-followers' vachanas did so in the minds of Marathi speakers.

THE CURRENT STATE OF THE DISPUTE:

- The Maharashtra government petitioned the Supreme Court in 2004 to stake its claim over Marathi-speaking areas in Karnataka, which disputed the allegation.
- Taking advantage of popular feeling, Karnataka renamed Belgaum Belagavi and designated it as the second capital of the state.
- Both Karnataka and Maharashtra believe that a judicial solution is necessary because the complex problem cannot be resolved politically.



Inter-state border disputes

CONCERNS OF KARNATAKA AND MAHARASHTRA BORDER DISPUTE

- The border conflict has been exploited by Maharashtra and Karnataka to inflame regional feelings ahead of elections.
- The boundary dispute is mentioned in every political party's election platform in Maharashtra.
- Even the governor's yearly speech to the joint meeting of the state legislative assembly and council mentions it.
- The Maharashtra-Karnataka boundary dispute has brought together political parties in Maharashtra, despite their ideological disagreements.

5G Network Service In India

The article talks about how the 5G Network impacts telecommunication, the economy, Network development, Public safety, and other sectors in India.

ABOUT 5G NETWORK:

- Fifth Generation network (5G) is a global wireless standard network that is designed to improve network connections by addressing legacy issues of speed, latency, and utility.
- It is designed to transmit data almost instantly with a network latency of less than 10ms. The government recently garnered more than \$1.5 lakh crores which indicates the soaring interest of telecommunications companies in new technology which is considered a critical enabler of the 4th Industrial revolution.

SIGNIFICANCE OF THE 5G NETWORK IN THE DEVELOPMENT OF INDIA

- Head start to Economy: It is expected to create a cumulative economic impact of USD 1 trillion in the next 10 years. It will give a huge boost by increased connectivity between machines and various sectors which further increases efficiency.
- Collaborative Network Development: The 5G network will lead business and technical verticals for network deployment.
- Capacity Development: Rather than the range of the network, the focus of the 5G network is asserted on capacity and increased range for areas that are not densely populated, especially in rural areas.
- Machine Interaction: It is the first network to facilitate machine-to-machine communication which will create the foundation base of the Internet of Things (IoT) and be considered an enabler of the 4th Industrial revolution.
- Public Safety: A vast network means public works can respond to incidents and emergencies within the span of seconds and improve performance information.



5G Network In India

ASSOCIATED CHALLENGES IN ADOPTING 5G NETWORK

- Digital Divide: Rather than bridging the digital divide, it might widen the digital gap between urban areas and rural areas given the affordability and accessibility of the network.
- High Spectrum Prices: Increased reserve prices of 5G spectrum by governments will lead to a hike in 5G services which in turn makes the network inaccessible and unaffordable for the majority of the masses.
- Transition Hurdle: Consumers have to upgrade cellular technology in order to experience 5G services thus giving a financial burden.

WAY FORWARD:

The government shall give adequate support to telecommunications companies to roll out 5G networks at affordable prices by keeping down the spectrum prices at the lowest price level. Along with

Tentative list of World heritage sites

The article talks about how Indian heritage sites like the Vadnagar town in Gujarat, the renowned Sun Temple at Modhera, and the rock-cut sculptures of Unakoti in Tripura are recognised as World heritage sites.

Relevance For Prelims: Indian heritage sites, Temple architecture.

Relevance For Mains: GS-1 , Art and Culture

In News: Recently, three locations were added to the provisional list of United Nations Educational, Scientific and Cultural Organization (UNESCO) **World Heritage Sites: Vadnagar town in Gujarat, the renowned Sun Temple at Modhera, and the rock-cut sculptures of Unakoti in Tripura.**

WORLD HERITAGE SITES IN INDIA

The Sun Temple at Modhera:

- The Sun Temple at Modhera is situated in the Becharaji taluka of the Mehsana district on the left bank of the Pushpavati River, a tributary of the Rupan River.
- This temple faces east and is made of vivid yellow sandstone.
- Ramakunda is a sizable rectangular stepping tank that is regarded as India's most impressive temple tank.
- The light beams straight into this temple's main shrine at the equinoxes every year.
- According to the temple's description, it is constructed in the Maru-Gujarat architectural style and includes a sacred pool (Surya Kunda, now known as Ramakunda), a hall (gadhamandapa), an exterior hall or assembly hall (Sabhamandapa or rangamandapa), and the main temple shrine (garbhagriha).



Surya Mandir

VADNAGAR

- Vadnagar is a city in Gujarat with a long history that is situated in the Mehsana district.
- Vadnagar, also known as Chamatkarpur, Anandpur, Snehpur, and Vimalpur, was referenced in the Puranas.
- The archaeologically rich city of Vadnagar is known for its torans, a pair of 40-foot-tall Solanki-era columns constructed in red and yellow sandstone to commemorate a military victory in the 12th century.
- Hiuen Tsang, a Chinese Buddhist traveller, is supposed to have visited the city in 640 AD and wrote about it in his travelogue.
- In Vadnagar, ruins of a Buddhist monastery were also discovered during excavations in 2008–2009.
- The Tanariri Performing Arts College, which is located in Vadnagar, was given this name to honour the bravery of two sisters named Tana and Riri who gave their lives when Akbar asked them to sing in his court, which was against their custom.

ROCK-CUT UNAKOTI SCULPTURES:

- This Shaivite pilgrimage dates back to at least the 7th and 9th centuries.
- Unakoti, which translates to “one less than a crore,” is supposed to be the location of numerous rock sculptures.
- According to Hindu legend, Lord Shiva stopped here during the night while travelling to Kashi with a million gods and goddesses.
- He commanded all the deities to rise before dawn and travel to Kashi.
- According to legend, nobody else was able to get out of bed in the morning except for Lord Shiva, who then left for Kashi while cursing the others to turn into stone statues.
- As a result, Unakoti contains fewer than one crore stone carvings and figures.
- The images discovered at Unakoti can be divided into two categories: stone images and figures etched into rocks.
- The prominent Shiva head and the enormous Ganesha sculptures stand out among the rock carvings.
- Unakotiswara Kal Bhairava is the name of the centre head of Shiva.
- There are two life-size female figurines, one of Durga standing on a lion and the other on the opposite side of the headdress of the centre Shiva.
- Three gigantic statues of the Nandi Bull are also discovered partially buried.
- Every year in the month of April, a large fair widely known as “Ashokastami Mela” is held.

SAMUDRAYAAN MISSION

WHAT IS SAMUDRAYAAN MISSION? THE AIM OF THE MISSION

The talks about how the Samudrayaan Mission affects Indian Science and Technology.

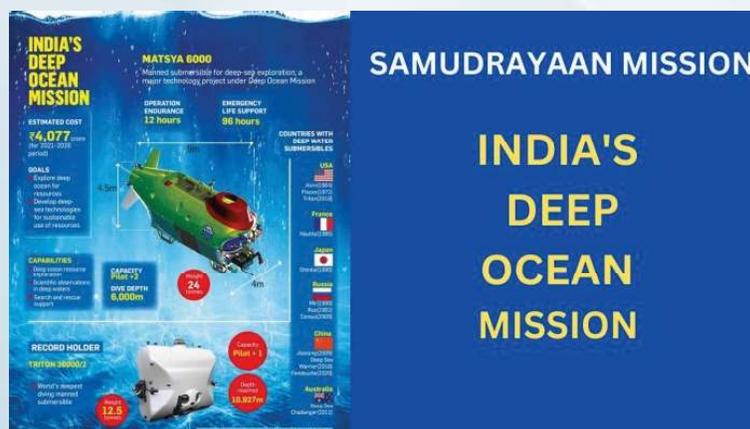
Relevance for prelims: Quick facts about prelims, Government policies and interventions

Relevance for mains: GS-3, .

In News: The Samudrayaan Mission is anticipated to be realized by the year 2026, according to the Ministry of Earth Science.

ABOUT SAMUDRAYAAN MISSION

- In order to explore deep-sea resources including minerals, the project will send three people in a vehicle named the “MATSYA 6000” to a depth of 6000 metres.
- The National Institute of Ocean Technology (NIOT), Chennai, a division of the Ministry of Earth Sciences, is creating the “MATSYA 6000” vehicle.
- It can last 12 hours in regular operation and 96 hours in an emergency to protect people.
- The Rs 6000-crore Deep Ocean Voyage includes this first-of-its-kind manned ocean mission for India.
- The creation of Ti Alloy Personnel Spheres, Human Support and Safety Systems in Enclosed Space, Low-Density Buoyancy Modules, Ballast and Trim systems, and Low-Density Buoyancy Modules are a few of the essential parts of manned submersibles.
- Indian Space Research Organization (ISRO), IITM, and the Defence Research and Development Organization (DRDO) will all take a significant part in this project.
- India will join an exclusive group of countries that include the US, Russia, Japan, France, and China in having specialized equipment and vehicles for subsea operations.
- Cost: The Deep Ocean Mission (DOM) has a five-year, \$4,077 crore total budget approved by the Centre.



Samudrayaan Mission

SIGNIFICANCE OF SAMUDRAYAAN MISSION

- There are nine coastal states and 1,382 islands along India's 7517 kilometres of coastline, which is in a unique marine position.
- With the oceans on three of its sides and around 30% of the people living along the shore, the coastal regions are important for India's economy.
- The manned submersible will enable research experts to directly examine and comprehend uncharted deep-sea regions.
- It will also strengthen the central government's plan for a "New India," which includes the blue economy as one of the top ten growth drivers.
- It promotes aquaculture, tourism, subsistence, and blue trade.

DEEP OCEAN MISSION (DOM)

- The Ministry of Earth Sciences approved it in June 2021. Its objectives include resource exploration in the deep ocean, deep-sea technology development for ocean resource exploitation that is sustainable, and assistance for the Indian government's Blue Economy Initiatives.
- The Mission will be carried out over a five-year period at an estimated cost of Rs. 4,077 crores, and it will be done in stages.
- DOM is a mission-mode project that supports the Indian government's initiatives for the blue economy.
- Earlier, the draught Blue Economy Policy had also been released by the Ministry of Earth Sciences.
- The sustainable use of ocean resources is known as the "blue economy," and it aims to enhance livelihoods, create more jobs, and maintain the health of the ocean's environment.

Greenwashing and Carbon Credit

Relevance for prelims: Greenwashing and Carbon Credit

Relevance For Mains: The Challenges of Greenwashing and the Impact on the Carbon Market

In News: The RBI Deputy Governor has emphasized the importance of a formal definition of green finance along with the requirement that regulated firms examine financial risks related to the climate.

ABOUT GREENWASHING

- American environmentalist and researcher Jay Westerveld coined the phrase “greenwashing” in 1986.
- There is a lot of “greenwashing” going on in many environmental endeavors.
- Developed nations are frequently charged with “greenwashing” their regular corporate investments in poor nations by emphasizing the cash flows’ positive effects on the environment, sometimes with scant evidence.
- It is the practice of businesses and governments portraying a wide range of activities as being environmentally benign, as something that would result in emissions being avoided or reduced.
- Many of these assertions are unsubstantiated, false, or questionable.
- They do nothing to combat climate change, but they do help to improve the organization’s reputation.
- Numerous global companies have been accused of it, including Coca-Cola and oil tycoons Shell and BP.

IMPACT OF GREENWASHING

Greenwashing creates a misleading impression of the progress being made in combating climate change, driving the globe closer to catastrophe and rewarding irresponsible behavior.

MAJOR CONCERNS

- There are so many potential methods and items that could reduce emissions that it is almost difficult to track and confirm them all.
- The institutions, procedures, and methods for measuring, reporting, developing standards, examining claims, and awarding certificates are still being established.
- Many new businesses have emerged, claiming to be experts in various fields and offering their skills for a price. Many of these organizations are weak and lacking in ethics, but businesses continue to utilize them because it makes them look good.



Greenwashing

IMPACT OF GREENWASHING ON CARBON CREDIT

RELIABILITY

- Under the Kyoto Protocol, nations like India and Brazil acquired significant amounts of carbon credits, and they desired to transfer these credits to the new market established by the Paris Agreement.
- Many industrialized nations disagreed, stating the certificates lacked credibility and did not adequately reflect pollution reductions.
- One of the most contentious carbon offsets comes from forests.

ON INFORMAL MARKETS

- Credits are now offered for a variety of actions, including planting certain crops, growing trees, and installing energy-saving machinery in corporate buildings.
- Credits for such actions are frequently accredited by unauthorized third-party businesses and sold to others.
- Due to their double counting and lack of integrity, these transactions have been flagged.

CARBON CREDIT

- The term “carbon credit” (also known as “carbon offset”) refers to a credit for greenhouse gas emissions that have been reduced or eliminated from the atmosphere as a result of an emission reduction project. Governments, businesses, or private individuals can use carbon credits to make up for the emissions they produce elsewhere.
- Those that find it difficult to cut emissions can still operate, albeit at a higher cost.
- The “cap-and-trade” concept, which was employed to lower sulfur emissions in the 1990s, serves as the foundation for carbon credits.
- One metric ton of carbon dioxide, or in certain markets, carbon dioxide equivalent gases,

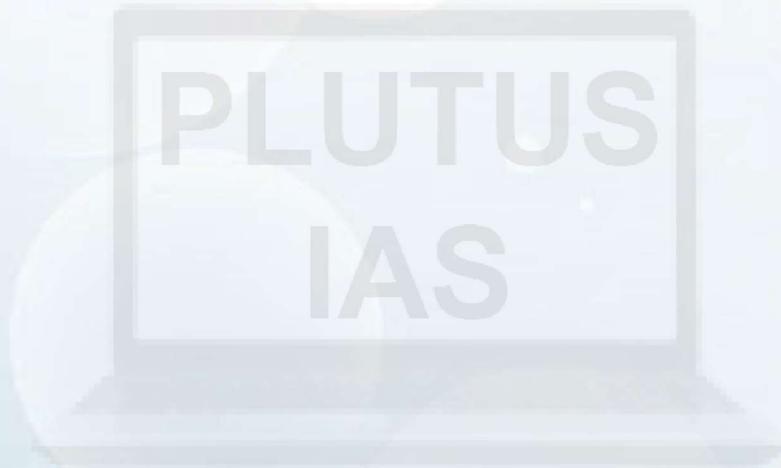
is equal to one carbon credit (CO₂-eq).

UPSC PREVIOUS YEARS QUESTION:

Question: Regarding “carbon credits”, which one of the following statements is not correct? (2011)

- a. The carbon credit system was ratified in conjunction with the Kyoto Protocol
- b. Carbon credits are awarded to countries or groups that have reduced greenhouse gases below their emission quota
- c. The goal of the carbon credit system is to limit the increase in carbon dioxide emission
- d. Carbon credits are traded at a price fixed from time to time by the United Nations Environment Program.

Ans: (d)



DRONES IN AGRICULTURE OR UNMANNED AERIAL VEHICLES

Unmanned aerial vehicles (UAV) or Drones in Agriculture

Relevance for Mains: GS-3, Increasing farmer income, Significance and applications of using drones technology in agriculture.

Relevance for prelims: Drones Technology

In News: Farmers in Wayanad have trained themselves in the technology to use in their plantation and to instruct officials of various government organizations since unmanned aerial vehicles (UAV) or drones are emerging as a strong instruments in the agricultural industry.

SIGNIFICANCE OF DRONES IN AGRICULTURE

- In India, the agriculture industry supports 8% of families and guarantees the food security of 1.3 billion people.
- Indian agriculture plays a crucial role in the global food supply chain in addition to being important for the home market.
- Agriculture drones effectively analyze environmental elements such as weather, soil quality, and temperature and enable the farmer to make thoughtful decisions in response.
- The collected information aids in managing crop health, crop treatment, crop scouting, irrigation, field soil analysis, and crop damage assessments.
- Drone surveys increase crop yields while cutting down on time and costs.

KEY CONCERNS OF DRONE IN AGRICULTURE

- **Skill and Knowledge:** A unskilled farmer cannot analyze drone operations because doing so involves specific knowledge and skills that aren't common.
- **Flight Time and Range:** Drones used in agriculture have short flight times and a limited range because their payloads are generally heavier.
- **High Price:** Generally, agricultural drones are more expensive because they require the purchase of imaging sensors, software, hardware, and tools.
- **Connectivity:** Farmers planning to employ drones must either make an investment in connectivity or purchase a drone with the ability to store local data in a format that can be transferred and processed later.
- Drones are subject to meteorological conditions. Drones are more difficult to fly in windy or rainy situations than regular aircraft.
- **Misuse:** There is a potential for information to be used improperly and for the unauthorized transfer of information.
- **Laws:** Apart from having an impact on drone development and use, India's numerous drone rules cause ambiguity.

- Drone use in agriculture is restricted by the need for an unmanned aircraft operator's permit (UAOP) and permission for each flight through the Online Digital Sky platform to comply with No Permission No Take Off (NPNT) regulations.

APPLICATIONS OF DRONES IN AGRICULTURE

Applications: Drones have a wide range of uses,

INCLUDING:

- Application of nutrients and pesticides
- Region of water spread mapping.
- Water sampling macrophyte infestation mapping.
- Techniques for managing aquaculture.
- Cost of application – According to the WEF, the use of drones could cut application costs by 20% while reducing the health risks associated with manual labor.
- It is also helpful in promoting precision agriculture, which will maximize the usage of inputs.
- Production – A 15% boost in productivity is possible with the help of data-based farm consultancy services and precision agriculture expertise.
- Crop production forecasting and evidence-based planning are made easier by the data collecting and resource-efficient nutrient application made possible by drones.
- Drones can effectively facilitate the mainstreaming of developing technologies like yield estimate or insurance.
- Government initiatives will be aided by drones, which will also reduce irrigation water waste and boost programs like Per Drop More Crop.
- By assisting with crop-cutting trials, crop loss estimation, insurance assessment, and dispute resolution, drone data coupled with GIS and Google Earth satellite pictures will streamline programs like Pradhan Mantri Fasal Bima Yojana (PMFBY).
- Agri-research: Using drones will enable highly specialized and regional agri-research.
- Better pricing – Since drones can record links in both directions, food processing firms will be able to purchase from farmers at a higher rate.

WAY AHEAD

- The standard operating procedures (SOPs) for deploying drones to apply pesticides and nutrients were published by the agriculture ministry.
- The Agriculture Ministry offers grants to agricultural institutions up to Rs. 10 lakhs for the acquisition of drones.
- In the Budget 2022–23, Union Finance Minister stated that the Center would support “Kisan Drones” to assist farmers in evaluating crops, digitizing land records, and applying

nutrients and insecticides.

- In order to make drone operations easier for civilian drone operators, the government has announced the Drone Rules 2021.

DRONE (AMENDMENT) RULES 2022

- A license for drone pilots is no longer necessary.
- For non-commercial drone operations up to two kilograms, no remote pilot qualification is necessary.
- Drone operations in the nation will only require the Remote Pilot Certificate granted by a drone school recognized by the Directorate General of Civil Aviation through the single-window Digital Sky platform.
- Any person in possession of an unmanned aircraft system made in India or imported into India on or before November 30, 2021, must submit an application to register, obtain a unique identification number, and provide the necessary information in form D-2 along with the required payment in accordance with Rule 46.
- The import of foreign drones has been outlawed in India in order to encourage Made in India drones.

KISAN DRONES

- An unmanned tank carrying pesticides and fertilizers will be mounted on the Kisan drone.
- In approximately 15 minutes, the drone will cover an area of land measuring around one acre with the same quantity of pesticide.
- It will save time, involve less work, and ensure uniform spraying.
- They will also be used to transport produce from farms, including fruits, vegetables, fish, and more, to markets.
- A large capacity of 5 to 10kg is anticipated for the drones.
- Farmers and fishermen will make more money because these products may be delivered directly to the market in a shorter amount of time with no damage.

FURTHER READING

- Applications of drones in different sectors.
- Classification of zones for drone operations.
- Drone Management in India.