

UPSC CURRENT AFFAIRS NOTES

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Renewable Energy Technology Action Platform under US - India Strategic

A meeting between the U.S. Department of Energy (DOE) and the Ministry of New and Renewable Energy (MNRE), Government of India was held on August 29, 2023, to launch the new U.S. - India Renewable Energy Technology Action Platform (RETAP) under the Strategic Clean Energy Partnership. RETAP was announced during the June 22, 2023 meeting in Washington D. C., between His Excellency Joseph R. Biden, President of the United States of America and Prime Minister Shri Narendra Modi Prime Minister Modi, when the two leaders announced the expansion of collaboration on new and emerging technologies to accelerate the clean energy transition. This launch marks rapid translation of the leaders' vision into reality.

Led by DOE Deputy Secretary David Turk and MNRE Secretary Bhupinder Singh Bhalla, the RETAP was established to take bilateral collaboration further with a result-oriented, time-bound technology-focus. It is intended to advance new and emerging renewable technologies with a view toward deployment and scaling. RETAP's initial focus is to be on green/clean hydrogen, wind energy, long duration energy storage, and to explore geothermal energy, ocean/tidal energy and other emerging technologies as mutually determined in the future.



DOE and MNRE outlined an initial workplan regarding RETAP collaboration. Work is guided by five themes:

- Research & Development
- Piloting & Testing of Innovative Technologies
- Advanced Training & Skill Development
- Policy and Planning for Advancing RET and enabling technologies
- Investment, Incubation and Outreach programmes
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MNREGA Workers are requested to provide Aadhar number

Ministry has made it clear to all the States that beneficiary who comes for work should be requested to provide Aadhaar number but will not be refused work on this basis. It has been brought to the notice of the Central Government that in many cases due to frequent changes in Bank Account Number by the beneficiary and non-updating of the new account number by the Concerned Programme Officer of the same, due to non-submission of new account by the beneficiary on time, several transactions of wage payment are being rejected (due to old account number) by destination bank branch.

In consultation with different stakeholders, it is found that to avoid such rejections, Aadhaar Payments Bridge System (APBS) is the best route for making wage payment through Direct Benefit Transfer (DBT). It will help the beneficiaries in getting their wage payment on time.

Once Aadhaar is updated in the scheme database, beneficiaries need not update account numbers due to change in location or change in bank account number. Money will be transferred to the account number which is linked with the Aadhaar number. In case of more than one account of the beneficiary, which is rare in the context of MGNREGA, the beneficiary has the choice to select the account.

The National Payments Corporation of India (NPCI) data shows that there is a higher success percentage to the extent of 99.55% or above where the Aadhaar is enabled for DBT. In case of Account based payment such success is about 98%.

APBS is helping the genuine beneficiaries to get their due payment and is instrumental in curbing corruption by weeding out fake beneficiaries. Mahatma Gandhi NREGS has not adopted Aadhaar-enabled payment. This scheme has opted for Aadhaar Based Payment Bridge system. The progress of Aadhaar-based Payment System (ABPS) has been reviewed and the mixed route of wage payment (NACH and ABPS route) has been extended till 31st December 2023 or till further order. The Ministry has made it clear to all the States that the beneficiary who comes for work should be requested to provide the Aadhaar number but will not be refused work on this basis. If a beneficiary does not demand for work, in such a case her/his status about eligibility for APBS does not affect the demand for work. Job cards cannot be deleted on the basis of reason that the worker is not eligible for APBS.

Under Mahatma Gandhi NREGS, APBS has been in use since 2017. After almost universal availability of Aadhaar numbers to every adult population, the Government of India decided to extend APBS for beneficiaries under the scheme. The payment will land through APBS only to the account associated with APBS, which means that it is a safer and faster way of payment transfer.

Out of the total 14.33 crore active beneficiaries, the Aadhaar has been seeded for 13.97 crore. Against these seeded Aadhaar, a total 13.34 crore Aadhaar have been authenticated and 81.89% of active workers are now eligible for APBS. In the Month of July 2023, about 88.51% of the wage payment has been made through APBS.

Mahatma Gandhi NREGA is a demand driven Scheme and is affected by various economic factors. Proper ecosystem for APBS is in place. Considering the benefits of APBS for beneficiaries, this is the best system to be followed for the payment.

Aadhaar based payment system is nothing but a route through which the payment is getting credited in the account of beneficiaries. There are well defined steps adopted in this system and role of beneficiaries, field functionaries and all other stakeholders is clearly defined.

MSME Tool Room and training centres provided training to 16 lakh youth, 3 lakh MSME units were benefitted: Shri Narayan Rane

On the occasion of 'National Small Industries Day', Union Minister for Micro, Small and Medium Enterprises Shri Narayan Rane took to Twitter to announce that 16 lakh youth have been trained subsequently benefiting over 3 lakh MSME units in the last 9 years, through 18 tool rooms and technology centres run by the Ministry of MSME across the country.

Shri Rane said that the Tool Rooms and Technology Centres working under the Ministry of MSME are making a significant contribution in realizing Hon'ble Prime Minister Shri Narendra Modi's dream of a self-reliant India. These tool rooms and technology centres are also providing step by step support in manufacturing state of the art products.

Shri Rane said these tool rooms design and manufacture medium and small-size equipment as per international standards which are being used in industries related to sports goods, plastic, automobile, footwear, glass, perfume, foundry and forging, electronics and space sector. In the recently launched Chandrayaan-3 mission, Bhubaneswar Tool Room manufactured around 54,000 aero-space components of 437 types. Tool rooms have also played an important role in fulfilling the domestic needs of PPE kits, sanitizer machines, oxygen concentrators as well as in their exports to foreign countries in the difficult times of the Corona pandemic.

MSME Minister informed through his tweet that 15 more technology centres are being set up to further strengthen the MSME units of the country.

Super Blue Moon



Recently there was an astronomical event called Super blue moon as it was both a “blue moon” and a “super moon”, a rare trifecta of astronomical events.

- The orbit of the moon around the earth is not circular; it is elliptical, that is, an elongated or stretched-out circle.
- It takes the moon 27.3 days to orbit the earth.
- It is 29.5 days from new moon to new moon.



This is because while the moon is orbiting the earth, both the earth and the moon are also moving around the sun and it takes additional time for the sun to light up the moon in the same way as it does at the beginning of every revolution around the earth.

The new moon is the opposite of the full moon as it is the darkest part of the moon's invisible phase when its illuminated side is facing away from the earth.

The point closest to earth in the moon's elliptical orbit is called perigee, and the point that is farthest is called apogee.

A super moon happens when the moon is passing through or is close to its perigee and is also a full moon.

This happens with a new moon as well, just that it is not visible.

A full moon occurs when the moon is directly opposite the sun, and therefore, has its entire day side lit up.

The full moon appears as a brilliant circle in the sky that rises around sunset and sets around sunrise.

Blue moon

- A blue moon is not that rare an astronomical phenomenon.
- It is described as the situation when a full moon is seen twice in a single month.
- Because the new moon to new moon cycle lasts 29.5 days, a time comes when the full moon occurs at the beginning of a month, and there are days left still for another full cycle to be completed.

According to NASA, this happens every two or three years.

- Sometimes, smoke or dust in the air can scatter red wavelengths of light, as a result of which the moon may appear more blue than usual.
- But this has nothing to do with the name "blue" moon.

Changes to the process for sale of SIM cards

Recently, there was a revision of norms for bulk procurement of SIM cards and registering the final point of sale (PoS) by the licensees (or providers). The reforms are meant to strengthen the citizen-centric portal Sanchar Saathi.

Sanchar Saathi

- The citizen-centric portal allows citizens to check:
- the connections registered against their names,
- block mobile phones which are stolen or lost,
- report fraudulent or unrequired connections and
- verify the genuineness of a device (before a purchase) using the IMEI (International Mobile Equipment Identity).



The reform on PoS

Registration and verification:

- It will be mandatory for franchisee, agents and distributors of SIM cards all PoS to be registered with the licensees or the telecom network operator.
- The onus would be on the operator to carry out an “indisputable” verification of the PoS.
- Police verification (of the dealer) is mandatory.

Termination of agreement:

If the PoS is found to be involved in any illegal activity, the agreement would be terminated with the entity being blacklisted for three years.

It would also draw a penalty of ₹10 lakh.

Bulk sim cards:

The latest provisions would replace the system of ‘bulk procurement’ of SIM cards with a system of entailing business connections — sizable procurement by a registered business entity or enterprise.

The new norms maintain that though businesses can procure any number of connections, it would be subject to completing KYC requirements for all end-users.

The final user who would be holding the connection would have to undergo the KYC procedure.

Prevention of misuse of Aadhaar:

In order to prevent the misuse of printed Aadhaar, the provisions mandate that demographic details would be required by scanning the QR code of the printed Aadhaar.

Replacement of SIM:

Subscribers would also have to undergo the entire KYC procedure for replacing their SIM.

Conclusion:

- It must be examined if the provisions could be properly enforced till the last mile.
- The smaller local stores too would be giving out the SIM cards.
- Thus, it would be essential to determine if they possess adequate infrastructure to carry out the entire process and more importantly have the necessary safeguards while dealing with such sensitive data.

Electrified Flex fuel vehicle

The Prototype of World’s 1st BS-6 Stage-II, Electrified Flex fuel vehicle, developed by Toyota Kirloskar Motor was launched recently.

These vehicle technologies provide an opportunity of greater substitution of petrol by Ethanol as it is capable of using any of the higher blends of ethanol mix beyond 20%.

It introduces the world's first BS 6 (Stage II) Electrified Flex Fuel vehicle prototype, which has both the flex fuel engine as well as an electric powertrain, thereby offering higher use of ethanol combined with better fuel efficiencies.

It is the first-ever BS 6 (Stage II) Electrified Flex Fuel Vehicle prototype globally.

What are BS-VI Norms:

- Bharat stage (BS) emission standards are laid down by the government to regulate the output of air pollutants from internal combustion engine and spark-ignition engine equipment, including motor vehicles.
- The central government has mandated that vehicle makers must manufacture, sell and register only BS-VI (BS6) vehicles.
- The first emission norms were introduced in India in 1991 for petrol and in 1992 for diesel vehicles.
- The catalytic converter became mandatory for petrol vehicles and unleaded petrol was introduced in the market.

What is an Electrified Flex Fuel vehicle:

- An Electrified Flex Fuel Vehicle has both a Flexi Fuel engine and an electric powertrain.
- This gives it the ability to provide dual benefit of higher ethanol use and much higher fuel efficiency as is in case of a Strong Hybrid Electric Vehicle (SHEV).
- An SHEV can provide 30-50% higher Fuel Efficiency as it can run 40-60% in EV mode with engine shut off.
- As Electrified Flex Fuel Vehicle uses minimal advanced chemistry batteries, it also guards against possible Geo-political risks of battery raw material supplies.

Mahendragiri





Mahendragiri, named after a mountain peak in Eastern Ghats located in the state of Orissa, is the seventh ship of the Project 17A Frigates.

These warships are follow-ons of the Project 17 Class Frigates (Shivalik Class), with improved stealth features, advanced weapons and sensors and platform management systems.

Mahendragiri is a technologically advanced warship.

Project 17A:

- Project 17A ships have been designed in-house by the Indian Navy's Warship Design Bureau, the pioneer organisation for all warship design activities.
- Aligning with the country's resolute commitment to 'Aatma Nirbharata', a substantial 75% of the orders for equipment and systems of Project 17A ships have been ordered on indigenous firms.
- The Navy had placed orders for seven stealth frigates, four of which are being developed by Mazagon Dock Ltd (MDL) and three by Garden Reach Shipbuilders and Engineers (GRSE).
- The first ship of Project 17A, 'Nilgiri' was launched on September 28, 2019.
- 'Himgiri', is the second ship in the series which was launched in 2020.
- The third ship 'Udaygiri' under the project is expected to start sea trials during the second half of 2024.
- 'Dunagiri', the fourth ship of P17A frigates, was launched recently and was named after a mountain range in Uttarakhand.
- Taragiri, named after a hill range in the Himalayas located at Garhwal, is the fifth ship of Project 17A frigates.

Vindhyagiri is the sixth ship.

The Navy has planned to name the seventh ship in the P17A frigate series as 'Mahendragiri'.

Significance:

The state-of-the-art ship will be fitted with the latest gadgets and undergo extensive trials before being handed over to the Indian Navy for commissioning into service.

These are capable of neutralising threats in all three dimensions of air, surface and sub-surface.

Red sand boa

A report by the Wildlife Conservation Society (WCS)-India has pointed out 172 incidents of seizures of red sand boa (*Eryx johnii*) between the years 2016-2021.



The report, compiled by the Counter Wildlife Trafficking unit of WCS-India was titled 'Illegal Trade of Red Sand Boa in India 2016-2021'.

- The red sand boa is classified as 'Near Threatened' by the International Union for Conservation of Nature (IUCN), with a 'decreasing' population trend in most of their habitat ranges.
- The highest number of incidents of illegal sand boa trade was recorded in Maharashtra (59).
- The second highest number was recorded from Uttar Pradesh (33).
- The red sand boa is now acknowledged as one of the most traded reptile species in the illegal trade market, due to its demand in the pet trade, as well as for use in black magic.
- Red Sand Boa/ *Eryx johnii*, commonly called the Indian Sand Boa, is a non-venomous species found throughout the dry parts of the Indian subcontinent.
- It is a primarily reddish-brown and thick-set snake that grows to an average length of 75 cm.
- Unlike most snakes, the tail is almost as thick as the body and gives the reptile the appearance of being "double-headed".

Conservation status:

Wildlife (Protection) Act, 1972: Schedule I

CITES: Appendix II

Therefore, collection, trade or utilization of the species is prohibited in India. Its international trade is further restricted under CITES.

IUCN status: Near threatened

Due to the general ignorance among people about snakes, their ecological role and the laws related to their protection, Red Sand Boas are often exterminated due to perceived threats from them.

Threatened by illegal wildlife trade

In recent years, India has witnessed a massive upsurge in demand for Red Sand Boas in its illegal domestic market.

New age superstitions are reported to be a major driver of the illegal trade of the species.

These range from the more common ones, such as bringing good luck to their keepers, to the more bizarre ones like claiming that the snake contains rare elements that are highly expensive and have supernatural powers.

Due to its benign nature, Red Sand Boa is easy to collect and smuggle.

Belief of curing diseases:

- Red sand boas are butchered because of the unfounded conviction that their meat can cure AIDS, asthma, and erectile dysfunction.

CE-20 cryogenic engine

Indian Space Research Organisation's Liquid Propulsion Research Centre (IPRC) in Mahendragiri has successfully tested the cryogenic rocket engine to be used in its 'Mission Gaganyaan'.

About CE-20 cryogenic engine:

- It has been designed and developed by the Liquid Propulsion Systems Centre (LPSC), a subsidiary of ISRO.
- It will power the Cryogenic Upper Stage of the LVM3 launch vehicle.
- ISRO will use it for its 'Mission Gaganyaan' for sending man to space in 2024.
- It is the first Indian cryogenic engine to feature a gas-generator cycle.
- It is one of the most powerful upper-stage cryogenic engines in the world.
- This engine develops a nominal thrust of 186.36 kN in vacuum.



Cryogenic stage

- The cryogenic stage is technically a very complex system due to its use of propellants at extremely low temperatures and the associated thermal and structural problems.
- It uses liquid fuels (Oxygen liquifies at -183 deg C and Hydrogen at -253 deg C) that are cooled to very low temperatures.



- A Cryogenic rocket stage is more efficient and provides more thrust for every kilogram of propellant it burns compared to solid and earth-storable liquid propellant rocket stages.

Regional Rural Banks (RRBs)

The Union Finance Minister recently emphasised regional rural banks (RRBs) to upgrade their digital capability and increase penetration under Pradhan Mantri Mudra Yojana.

RRBs are government-owned scheduled commercial banks of India that operate at the regional level in different states of India.

They serve the country's rural areas and provide them with basic banking and other financial-related services.

Origin:

The Narasimham Committee on Rural Credit (1975) recommended the establishment of Regional Rural Banks (RRBs).

The establishment of RRBs finds its route in the ordinance passed on 26th September 1975 and the RRB Act 1976.

Prathama Grameen Bank was the first RRB bank and was established on 2nd October 1975.

Functions:

- To provide basic banking facilities to rural and semi-urban areas.
- To effect some governmental functions, such as the disbursement of wages under the MGNREGA policy.
- To provide other bank-related facilities such as locker facility, internet banking, mobile banking, debit and credit cards, etc.
- Grant credit facilities to people in rural areas, such as small farmers, artisans, small entrepreneurs, etc.

To accept deposits from people.

Regulation: Regional Rural Banks are regulated by RBI and supervised by the National Bank for Agriculture and Rural Development (NABARD).

Ownership: RRBs are jointly owned by the Government of India (GOI), the Sponsor Bank and the concerned State Government with share proportions of 50%, 35% & 15%, respectively.

Management: The Board of Directors manages these banks, overall affairs, which consists of one Chairman, three Directors as nominated by the Central Government, a maximum of two Directors as nominated by the concerned State Government, and a maximum of three Directors as nominated by the sponsor bank.



Key Facts Pradhan Mantri Mudra Yojana (PMJDY):

It is a flagship scheme of the Ministry of Finance, Government of India, launched on 8th April 2015.

It is a Financial Inclusion (FI) programme in the country based on three pillars - Banking the Unbanked, Securing the Unsecured and Funding the Unfunded.

Types of loans:

Shishu - Covering loans up to Rs 50,000;

Kishor - Covering loans above Rs 50,000 and up to Rs 5 lakh;

Tarun - Covering loans above Rs 5 lakh and up to Rs 10 lakh.

Eligibility:

Any Indian Citizen with a business plan for a non-farm sector income-generating activities such as manufacturing, processing, trading or service sector.

They can avail from all Public Sector Banks, Regional Rural Banks and Cooperative Banks, Private Sector Banks, Foreign Banks, Micro Finance Institutions (MFI) and Non-Banking Finance Companies (NBFC) up to Rs 10 lakhs Micro Units Development & Refinance Agency Ltd. (MUDRA) loans under PMMY.