theIAShub

the IAS hub
Be Your Dream.

FEBRUARY
21

CRUX 10

10 News. 10 Sources. One Place

THE HINDU
ET
BS
TOI
The Indian EXPRESS
livemint
pib
DownToEarth
FORTNIGHTLY ON POLITICS OF DEVELOPMENT, ENVIRONMENT AND HEALTH
Science Reporter
विज्ञान एवं प्रौद्योगिकी मंत्रालय
MINISTRY OF SCIENCE AND TECHNOLOGY
सत्यमेव जयते



MK Yadav Sir

Table of Contents

1. UPI and PayNow
2. Zaid (Summer) Campaign
3. Sutlej-Yamuna Link Canal
4. TB Elimination Drive
5. Motor Vehicles Act
6. Exercise Dustlik
7. Operation Dost
8. African Union Summit 2023
9. Threat of Marine Debris
10. Male Contraceptive Pill

ECONOMIC TIMES

Page 7

UPI AND PAYNOW

(Syllabus: GS Paper 3 - Economy & Infrastructure)

Modi, S'pore PM to Attend Cross-border UPI Launch

NEW DELHI Prime Minister Narendra Modi and his Singaporean counterpart Lee Hsien Loong will witness the launch of cross-border connectivity between the Unified Payments Interface (UPI) of India and PayNow of Singapore on Tuesday via video conferencing, his office said. The launch will be done by Shaktikanta Das, Governor, Reserve Bank of India (RBI), and Ravi Menon, Managing Director, Monetary Authority of Singapore (MAS), a statement issued by the prime minister's office said. The prime ministers will witness the launch at 11 am on Tuesday. India has emerged as one of the fastest-growing ecosystems for fintech innovation, the statement said. Prime Minister Modi's visionary leadership has been instrumental in driving globalisation of India's best-in-class digital payment infrastructure, it said. A key emphasis of the prime minister has been on ensuring that the benefits of UPI are not limited to India only but extend to other countries as well. PTI

Context: Prime Minister and his Singaporean counterpart will witness the launch of **crossborder connectivity between the Unified Payments Interface (UPI) of India and PayNow** of Singapore on Feb 21.

- The launch and linkage of cross-border connectivity between the Unified Payments Interface (UPI) of India and PayNow of Singapore is a "milestone initiative."

Key Points

- The project to link the fast payment systems of both the countries was announced by **Reserve Bank of India (RBI) and Monetary Authority of Singapore (MAS).**
- As **India's 1st first cross-border real-time payment partner,** this milestone initiative reflects the deep trust between both countries and will take the bilateral relationship to even greater heights.
- The linkage of these two payment systems will enable residents of both countries to **transfer cross-border remittances faster** and more cost-efficient.
- It will also help the Indian diaspora in Singapore, especially migrant workers and students through i**nstantaneous and low-cost transfer of money** from Singapore to India and vice-versa.

PayNow

- It is the **fast payment system of Singapore**, enabling peer-to-peer funds transfer service.
- It is available for retail customers with the help of participating banks & **Non-Bank Financial Institutions (NFIs)** in Singapore.
- It provides the users to send and receive instant funds from one bank or e-wallet account to another by using their mobile number, Singapore NRIC/FIN, or VPA.

PIB FEB 21

ZAID (SUMMER) CAMPAIGN

(Syllabus: GS Paper 3 - Agriculture)

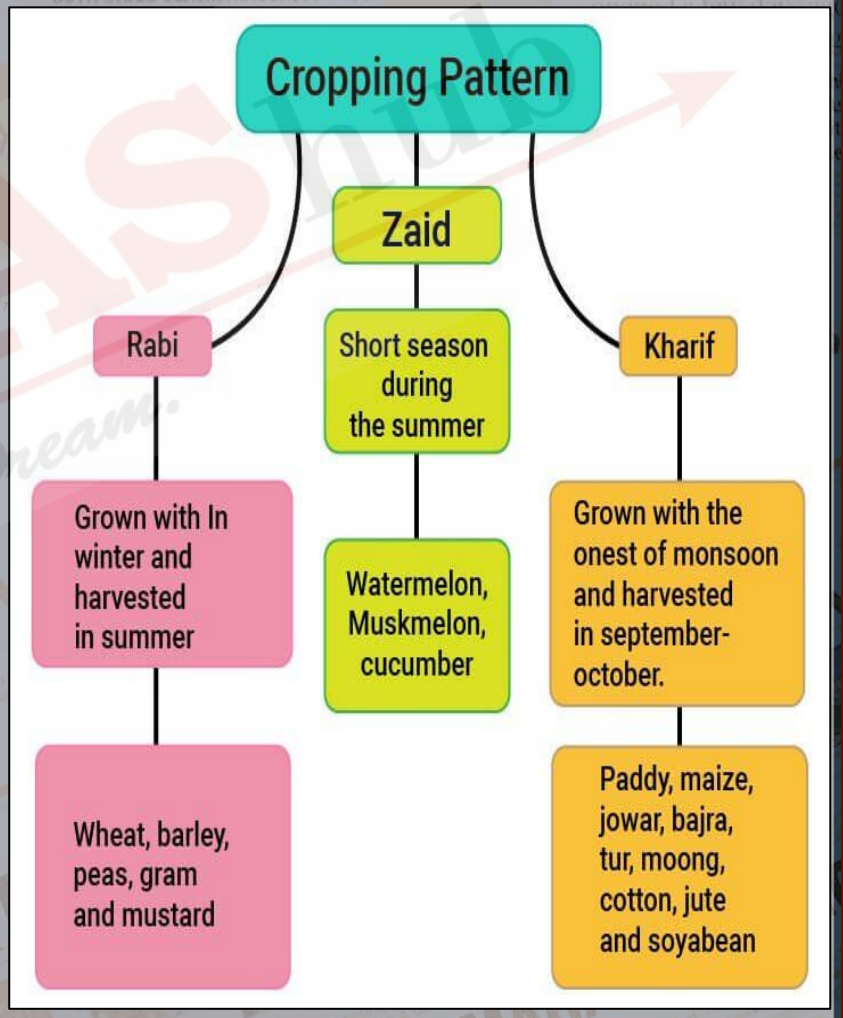
Union Agriculture Minister chairs the National Conference on Agriculture for Zaid Campaign-2023

Context: Union Agriculture and Farmers Welfare Minister chaired the **National Conference on Agriculture for Zaid (Summer) Campaign-2023** in New Delhi.

- The objective of Zaid conference is to review and assess the crop performance during the preceding crop seasons and fix crop-wise targets for summer season in consultation with State Governments.

Zaid crops

- **About**: **Zaid or summer crops** are grown in the short season between Kharif and Rabi crops, between March and July.
  - These crops are **mostly grown on irrigated lands** and therefore, the farmers do not wait for the monsoon.
  - Zaid crops require **warm soil and high temperatures** (cooling at night) to grow.
  - As they are grown in summer season, they require warm dry weather and longer day length for flowering and fruiting.
- **Crops and Vegetables**: Most of the vegetables and hybrid cereals are grown in zaid season.
  - **Zaid season crops:** Paddy, corn; pumpkin, cucumber, tomato; almonds, peanuts, cashews; Gram, lentil, etc.
- **Major Zaid cultivation areas**: Zaid crops are usually cultivated in the irrigated areas of the country viz; Uttar Pradesh, Punjab, Haryana, Gujarat, and Tamil Nadu.
- **Benefits**:
  - **Income and employment:** Summer crops not only provide extra income but also create employment opportunities in between Rabi and Kharif for the farmers thereby increasing crop intensity.
  - **Improves soil health**: Cultivating summer crops improves soil health, and also mechanized sowing has helped summer crops to grow better.
  - **Insurance against bad weather**: Summer crops help in reducing losses due to heavy rain in rabi reason.



THE HINDU

Page 2

SUTLEJ-YAMUNA LINK (SYL) CANAL

(Syllabus: GS Paper 2 - Polity & Governance)

Haryana committed to constructing SYL canal, Governor tells House

The Hindu Bureau
CHANDIGARH

Haryana Governor Bandaru Dattatreya on Monday said the State government is committed to constructing the Sutlej-Yamuna Link (SYL) canal in order to get the State's share of waters in the Ravi and the Beas rivers.

The Governor was delivering his address on the first day of the budget session of the 14th Haryana Assembly here.

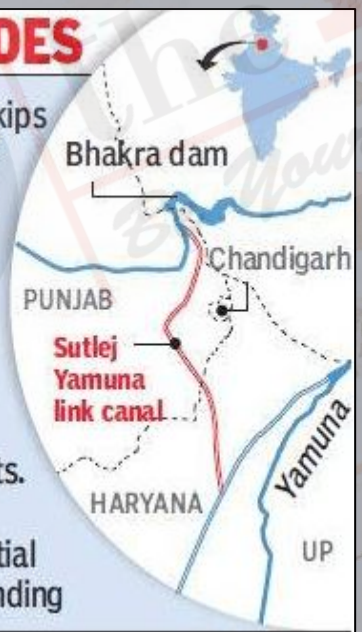
"The State government is committed to constructing the SYL canal in order to get the State's share of waters in Ravi-Beas rivers. Also, the government is committed to the construction of upstream storage dams – Renuka, Kishau and Lakhwar Vyasi on river Yamuna... the State government has also deposited ₹63.57 crore as seed money with the Upper Yamuna River Board (UYRB)," he said.

The SYL canal is a focal point of a water-sharing dispute between Haryana and Punjab.

He added that the State is poised to play a key role in the national endeavour to make India a five trillion-dollar economy.

DRAGGING ON FOR DECADES

- **1966** | Reorganisation of Punjab; it is decided that Haryana will get share of Sutlej water
- **1977** | Land acquisition starts for 214km Sutlej Yamuna link – 122km of it in Punjab and 92km in Haryana
- **1980** | Haryana completes its portion. Punjab skips deadlines, moves SC repeatedly
- **2004** | SC orders Punjab to complete canal. State govt passes Act terminating water-sharing pacts. Matter referred to SC for presidential reference. Still pending



Context: Haryana Governor that the State government is committed to constructing the **Sutlej-Yamuna Link (SYL) canal** in order to get the State's share of waters in Ravi-Beas Rivers.

- The SYL canal is a focal point of a **water-sharing dispute** between Haryana and Punjab.

SYL Canal

- **About**: To enable Haryana to use its share of the waters of the **Sutlej and its tributary Beas**, a canal linking the Sutlej with the Yamuna, cutting across the state, was planned.
  - The Satluj Yamuna Link Canal is a proposed **214-kilometer long canal** to connect the Sutlej and Yamuna rivers.
  - However, the proposal met obstacles and was referred to the Supreme Court.
- **Agreement**: A **tripartite agreement** was also negotiated between Punjab, Haryana, and Rajasthan in this regard.
- **Haryana's demand**: Haryana has been seeking the **completion of the SYL canal** to get its share of 3.5 million acre-feet of river waters.
- **Punjab**: Water in about 79% of the state's area is over-exploited and in such a situation, the government says **sharing water with any other state is impossible.**
- **2020 SC Judgement:** SC directed the Chief Ministers of both states to **negotiate and settle the SYL canal** issue at the highest political level to be mediated by the Centre.

LIVE MINT Page 2

India trains SE Asia scientists in TB research, treatment

Priyanka Sharma
priyanka.sharma@livemint.com
NEW DELHI

India has expanded its TB elimination drive, with the Indian Council of Medical Research (ICMR) training scientists from seven South East Asian Region (SEAR) nations — Bangladesh, Bhutan, Nepal, Timor Leste, Indonesia, Maldives and Sri Lanka—to prevent tuberculosis from spreading from there.

Support to these countries involves training their scientists in identifying research gaps, treatment, diagnostics, and supplying infrastructure. While these countries have been trying to eradicate TB, the problem varies.

Dr C Padmapriyadarsini, Director, ICMR's National Institute for Research in Tuberculosis (NIRT) said, "This was more of a learning about how to identify and address any gaps in the TB elimination programme, how to conduct operational research and how we can address these in order to reach TB elimination target in these participating countries. So, it was research and capacity building training in field settings in these countries."

TB ELIMINATION DRIVE
(Syllabus: GS Paper 2 - Health)

Context: India has expanded its **TB elimination drive**, with the Indian Council of Medical Research (ICMR) training scientists from seven South East Asian Region (SEAR) nations - Bangladesh, Bhutan, Nepal, Timor Leste, Indonesia, Maldives and Sri Lanka - to prevent tuberculosis from spreading from there.

TB elimination drive

- **About**: It's an initiative of **Ministry of Health and Family Welfare (MOHFW)** to accelerate the country's progress towards TB **elimination by 2025.**
- **Components**:
  - **Ni-kshay Mitra Initiative:** It is to ensure additional diagnostic, nutritional, and vocational support to those on TB treatment.
    - **Ni-kshay Mitra (Donor)** are those who can support by adopting health facilities (for individual donor), blocks/urban wards/districts/states for accelerating response against TB to complement government efforts.
  - **Ni-kshay Digital Portal:** It will provide a **platform for community support** for persons with TB.

Tuberculosis (TB)

- **About**: Tuberculosis (TB) is a disease caused by bacteria called **Mycobacterium tuberculosis.**
- **Transmission**: TB is spread from **person to person** through the air. When people with TB cough, sneeze or spit, they propel the TB germs into the air.
- **Symptoms**: Cough with **sputum and blood** at times, chest pains, weakness, weight loss, fever and night sweats.
- **Treatment**: TB is a **treatable and curable disease.**
  - **Multidrug-resistant tuberculosis (MDR-TB)** is a form of TB caused by bacteria that do not respond to isoniazid and rifampicin, the 2 most powerful, first-line anti-TB drugs. It is treatable and curable by using second-line drugs.
  - **Extensively drug-resistant TB (XDR-TB)** is a more serious form of MDR-TB caused by bacteria that do not respond to the most effective second-line anti-TB drugs, often leaving patients without any further treatment options.

BUSINESS STANDARD

Page 3

MOTOR VEHICLES ACT

(Syllabus: GS Paper 2 - Government Policies & Interventions)

Delhi govt bans bike services of Rapido, Ola, Uber

Digital apps, operating as aggregator, will be charged a fine of up to ₹1 lakh under the Motor Vehicles Act

PEERZADA ABRAR
Bengaluru, 20 February

The Delhi Transport Department has asked mobility players such as Uber, Ola and Rapido to stop plying their bike taxi services. The Delhi Transport Department on February 20 issued a public notice and directed such platforms to immediately stop operations to avoid prosecution and penalty.

"It has been brought to notice that two-wheelers having non-transport (private) registration mark/numbers are being used to carry passengers on hire, which is a purely commercial operation and a violation of Motor Vehicles Act, 1988," the transport department said in the notice.

The transport department said any violation will result in a fine of ₹5,000 in the first instance. For the second or subsequent offence, there is imprisonment, which may extend to one year and attract a fine of up to ₹10,000, besides impounding of the vehicle.

"In addition, the driving licence of the driver will be suspended for a minimum period of three years under the direction of the Hon'ble Supreme Court," the notice said.

The notice also said some digital platforms (Rapido, Ola, Uber), facilitating such operations by offering booking through an app, thereby engaging themselves as an aggregator in contravention of the provision of Section 93. They will be charged a fine of up to ₹1 lakh under the Motor Vehicles Act, 1988.

Uber and Ola declined to comment on the notice issued by the transport department.

Earlier this month, the Supreme Court refused to grant relief to bike taxi aggregator Rapido against the Maharashtra government's refusal to grant licence to it.

Rapido, Ola and Uber have stopped bike taxi operations in Maharashtra as well due to legal tussles.

In December 2022, the Karnataka state transport authorities refused to renew licences of Uber and Ola as they had not complied with rules that included installation of GPS and panic buttons in the cabs.

Uber's operating licence to ply cabs under the Karnataka On-Demand Transportation Technology Aggregators Rule, 2016, expired in December 2021, according to sources. Ola's licence expired in June 2021. Since then, it has reapplied for a licence, but its application is pending with the state transport department.

In October 2022, the Karnataka High Court asked the state government to reach an understanding with Ola and Uber on the fare to be charged for auto-rickshaw services through their apps.

Ola and Uber moved court challenging an order issued by the state transport department effectively banning auto-rickshaw rides through their apps following complaints of overcharging.



RIDE CANCELLED

- Delhi transport department said violation of notice by drivers will result in a **₹5,000 fine for the first offence**
- For the second or subsequent offence, there is **imprisonment which may extend to one year and attract a fine of up to ₹10,000**
- In addition, the licence of the driver will be **suspended for a minimum period of three years**
- Earlier this month, the Supreme Court refused to **grant relief to bike taxi aggregator Rapido against the Maharashtra government's refusal to grant licence to it**
- In December 2022, the Karnataka state transport authority **refused to renew licences of Uber and Ola**

Context: The Delhi Transport Department has asked **mobility players** such as Uber, Ola and Rapido to stop plying their bike tax services.

- It has been brought to notice that two wheelers having non transport (private) registration mark/ numbers are being used to carry passengers on hire, which is a purely commercial operation and a violation of **Motor Vehicles 1988.**

Motor Vehicles Act, 1988

- **About**: The Motor Vehicles Act came into existence in **1988**.
  - For exercising the legislative provisions of the Act, the Government of India made the **Central Motor Vehicles Rules 1989.**
- **Key Features**: It laid down **rules and regulations** on all aspects of road transport, including registration of motor vehicles, controlling their permits, traffic regulation, insurances, and penalties.
  - Also, the Motor Vehicle Act makes it c**ompulsory for a driver to have a valid driving licence**. Also, no vehicle can be used without a registration number.
- **Definition of Motor vehicle**: Any mechanically propelled vehicle adapted for use upon roads whether the power of propulsion is transmitted from an external or internal source of power
- **Amendment**: The act is amended by The Motor Vehicles (Amendment) act, 2019.
  - With the introduction of the new act, **several traffic fines have increased substantially.**

PIB FEB 21

OPERATION DOST

(Syllabus: GS Paper 2 - International Relations)

PM interacts with NDRF personnel involved in 'Operation Dost' in Türkiye and Syria

Context: The Prime Minister interacted with the National Disaster Response Force personnel involved in **'Operation Dost' in earthquake-hit Türkiye and Syria.**

- On February 06, 2023, a devastating **earthquake happened in Turkey and Syria.** The death toll has crossed 17,000 in both Turkey and Syria and is expected to rise further.
- In Response, India has launched **Operation Dost** to help those in need in earthquake hit countries.

Operation Dost

- Under 'Operation Dost', India sent a massive amount of **humanitarian aid for Turkey and Syria.**
- The Indian Government has sent tons of relief material to both **Syria and Turkey** in collaboration with the Indian Army as part of Operation.
- Three s**elf-sustaining teams** of the NDRF, numbering more than 150 specially trained personnel, along with Rambo and his friends (of the dog squad), specialised vehicles, and other supplies, have also reached Turkey.
- The army field hospital in Iskenderun, Hatay, Türkiye has started functioning with running Medical, Surgical & Emergency Wards; X-Ray Lab & Medical Store.
- The government said India is following the G20 mantra of **One Earth, One Family, One Future.**

Other Humanitarian Relief Operations By India

- **USA**: An Indian Air Force aircraft delivered 25 tonnes of relief supplies for the **Hurricane Katrina victims** in USA.
- **Maldives**: Under **"Operation Castor"**, 4 aircraft and 2 Naval ships were engaged in relief operations, after the 2004 Tsunami.
- **Sri Lanka**: India sent its forces to carry out rescue operations, called **"Operation Rainbow",** in Sri Lanka hours after the 2004 Tsunami.
- **Myanmar**: When cyclone Nargis hit Myanmar in 2008, India sent relief material and among the first countries to send aid.
- **Japan**: India sent 46 members of NDRF for **rescue operations,** after 2011 Tsunami, apart from providing relief materials.
- **Nepal**: In the aftermath of the 2015 earthquakes, the NDRF under **"Operation Maitri"** deployed 16 rescue teams and sent tonnes of relief materials to Nepal.



TIMES OF INDIA

Page 13

EXERCISE DUSTLIK

(Syllabus: GS Paper 2 - International Relations)

India-Uzbek joint military drill starts in U'khand

New Delhi: In line with the overall policy to further step-up military and economic ties with the energy-rich Central Asian republics, India on Monday kicked off a joint combat exercise with Uzbekistan at Pithoragarh in Uttarakhand.

The 14-day exercise — 'Dustlik' — will see Indian and Uzbek soldiers focus on joint counter-terrorist operations in mountainous and semi-urban scenarios under the UN mandate. "It will include field training exercises, combat discussions," Army spokesperson Colonel Sudhir Chamoli said.

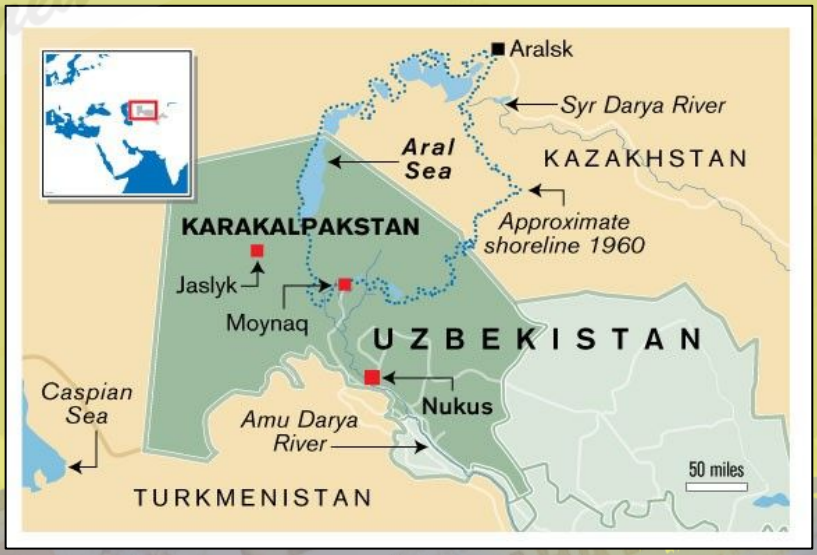
"Both sides will jointly train, plan and execute a series of tactical drills for neutralisation of likely threats, while learning to exploit new generation equipment and technology for conducting joint operations. Due emphasis is being laid on increasing interoperability between forces," he said.

The Indian Army contingent for the exercise comprises troops from Garhwal Rifles. This is the fourth edition of the Dustlik exercise, which was held for the first time in Uzbekistan in November 2019. TNN

Context: The 14-day **exercise - 'Dustlik' -** will see Indian and Uzbek soldiers focus on joint counter-terrorist operations in mountainous and semi-urban scenarios under the UN mandate.

Exercise Dustlik 2023

- **About**: India and Uzbekistan conducted the fourth edition of the **DUSTLIK 2023** military exercise in Pithoragarh, Uttarakhand.
  - During the exercise, the countries trained their troops in **multi-domain operations** and shared their skills.
  - India's GARHWAL Rifles from the **Western Command** participated in the exercise. And from Uzbekistan, the North Western Military command participated in the exercise.
  - The exercise is **biennial**, meaning conducted once in two years.
- **Uzbekistan Military Power**: The country ranks **62 in its military power.**
  - It is a **part of the Turkic world**. With more than 65,000 soldiers, the Army of Uzbekistan is one of the largest in Central Asia.
  - The Hisar Air Base of Uzbekistan is jointly operated by Indian Air Force and Tajik Air Force. It is also called the Gissar **Air Base**.
  - India used the base extensively during the Afghan crisis.
- **Significance**: Uzbekistan is important to India for connectivity to Iran and the **Central Asian region.**
  - India is trying to expand its trade in the Central Asian region. But the conflicts in Afghanistan are a big hindrance.
  - To counter such security issues, India needs the support of other central Asian countries like Uzbekistan



DTE

FEB 21

AFRICAN UNION SUMMIT 2023

(Syllabus: GS Paper 2 - International Organisations)



Africa needs climate action, says Guterres at Addis Ababa AU summit

UN Secretary-General calls on developed countries to provide a 'tidal wave of support' to Africa for helping a just energy transition on the Continent

By DTE Staff
Published: Sunday 19 February 2023

Context: United Nations Secretary-General told leaders at the **African Union's annual summit** in the Ethiopian capital of Addis Ababa that Africa, the least affected by climate change, was bearing the brunt of climate change and needed climate action.

- The theme of African Union summit 2023 is **AfCFTA: Acceleration of the African Continental Free Trade Area Implementation.**
  - **AfCFTA** seeks to create a single continental market for goods and services, with free movement of business persons and investments, and thus pave the way for accelerating the establishment of the Continental Customs Union and the African customs union.

Key Points

- He urged developed countries to provide a **'tidal wave of support'** to several African countries who 'are demonstrating strong leadership on climate'.
- He applauded a number of projects and countries for the efforts they were making on **transitioning to renewable energy.**
  - This includes Kenya's green economy strategy, the effort to protect the tropical forests of the Congo, South Africa's Just Transition Energy Partnership and the AU's ambitious Green Stimulus Programme.
- He also cited the upcoming **Transboundary Battery and Electric Vehicle Value Chain Initiative** hosted by the Democratic Republic of Congo and Zambia.
- He was encouraged **by the leading role of the African Small Island States, on championing the Great Blue Wall Initiative.**
  - The "Great Blue Wall" (GBW) initiative is an **Africa-led effort toward a nature-positive world** that enhances the planet's and societies' resilience to halt and reverse nature loss by 2030.

African Union (AU)

- **About**: It is a continental union consisting of **55 countries of the continent of Africa**, with exception of various territories of European possessions located in Africa.
- **Origin**: The bloc was founded on 26 May 2001 in **Addis Ababa,** Ethiopia and launched on 9 July 2002 in South Africa.
  - The intention of the AU is to replace the **Organisation of African Unity (OAU),** established on 25 May 1963 in Addis Ababa by 32 signatory governments.
- **Objectives**: To achieve greater **unity and solidarity between the African countries and Africans.**
  - To defend the sovereignty, territorial integrity and independence of its Member States.
  - To accelerate the political and social-economic integration of the continent.
- **Secretariat**: The AU's secretariat, the African Union Commission, is based in **Addis Ababa.**
  - The most important decisions of the AU are made by the Assembly of the African Union, a semi-annual meeting of the heads of state and government of its member states.

DTE

FEB 21

THREAT OF MARINE DEBRIS

(Syllabus: GS Paper 3 - Env & Eco)



Indian blue economy is thriving but country needs to be careful about marine litter

Abandoned, lost or discarded fishing gear is a serious threat worldwide

By Ashish Kumar Chauhan
Published: Monday 20 February 2023

Context: India has been leading the blue economy discourse at the highest level with its geographic and geostrategic position, putting greater focus on the **Indian Ocean region.**

- It is the **world's third largest water body**, covering 70 million square kilometers with rich mineral resources and connectivity with global cities.

Blue economy

- The blue economy of the Indian Ocean has become a corridor of the Global Economy as India is strategically located between two important **plug points called Strait of Hormuz and Strait of Malacca**, through which most of trade in commercial shipping moves in the Indian Ocean.
- With the focus on promoting the blue economy, port-led development plans, growth in coastal shipping, trade protocol routes, cruise tourism and the **'Sagarmala Project'** for port-led development, oceanic traffic is expected to increase further.
- The Government of India launched the **Pradhan Mantri Matsya Sampada Yojana (PMMSY)** in May 2020 with a budgetary outlay of Rs 20,050 crore to bring a 'blue revolution' through sustainable and responsible development of the fisheries sector of the country.
- In the Union Budget 2023-24, Rs 6,000 crore was allocated to launch a sub-scheme under **PMMSY** to further enable activities of fishermen, according to Union Minister of Finance.

Threat of marine debris

- **Abandoned, lost or discarded fishing gear (ALDFG)** is a serious threat worldwide due inadequate data availability.
- Due to fishing or fishing accidents and bad weather, a huge amount of fishing net and gears are lost and remain in the ocean as waste (ghost net). Throughout their lifetimes, they keep killing marine species.
- About 20 percent of all the plastic debris in the oceans is present in the form of ALDFG, according to the United Nation Environment Programme.
- To safeguard life below water and above sea from adverse impact of marine litter, the Union Ministry of Earth and Sciences launched a coastal clean-up drive under the **"Swachh Sagar Surakshit Sagar" campaign in 2022.**
- India participates actively in the **International Coastal Clean-up Day annually** and conducts public awareness programmes with the help of local bodies located near coastlines.
- India is already on the way to formulate the **"National Marine Litter Policy"**. It is also engaged in blue beach development for tourism preferring clean blue beaches with 'zero waste' approaches.

Steps taken by Government to mitigate the harmful impacts of marine litter on ecology of coastal states

- **Regular beach clean-up and awareness programs** at the national level are being conducted involving school, college, and University students, research institutes, and NGOs.
- At regular intervals, **webinars** are being conducted and the level of marine pollution is disseminated through print media to sensitize the people about the ill effects of plastic/marine litter on the marine environment.
- To understand the effect of different types of polymers (microplastics) on fisheries, and biota, research has been undertaken to **estimate the level of contamination**
- **Ban on the usage of Identified single-use plastics** has been notified by the central government and several state governments have already implemented the same to mitigate the harmful impacts of marine litter.

INDIAN EXPRESS Page 15

MALE CONTRACEPTIVE PILL

(Syllabus: GS Paper 3 - Sci & Tech

NEW RESEARCH RAISES HOPE OF A MALE CONTRACEPTIVE PILL

Researchers from Weill Cornell Medicine, New York, have come up with an experimental contraceptive drug candidate that "temporarily stops sperm in their tracks and prevents pregnancies in preclinical models". This means that a new kind of contraceptive for men – currently available through physical barriers (condoms) and surgical options (vasectomy) – could be developed, similar to how a pill exists for women.

Dr Jochen Buck and Dr Lonny Levin, who conducted the study, 'On-demand male contraception via acute inhibition of soluble adenylyl cyclase', said the discovery could be a "game-changer" for contraception.

PAPER CLIP
NEW RESEARCH

How did the study come about?

The study was an attempt to show a proof-of-concept, and whether the idea of such a pill could practically work. The aim here was to work on slowing the mobility of sperms, which fertilises the female egg to result in reproduction.

According to the Weill Cornell Medicine Newsroom, the study came thanks to working on a single protein. "Dr Levin challenged Dr Buck to isolate an important cellular signalling protein called soluble adenylyl cyclase (sAC) that had long eluded biochemists," it said. Later, the two began working together as part of a team.

They discovered that mice genetically engineered to lack sAC are infertile. In 2018, Dr Melanie Balbach, a postdoctoral associate in their lab, discovered that mice given a drug that inactivates sAC produce sperms that cannot propel forward. Therefore, sAC inhibition was seen as a possible safe contraceptive option as another team's report stated that men who lacked the gene encoding sAC were infertile but otherwise healthy.

What did the study find?

A single dose of an sAC inhibitor, called TDI-11861, was found to immobilise mice sperm for up to 2.5 hours.

The team now plans on conducting these experiments in a different preclinical model, eventually hoping to progress to human clinical trials. ENS

Context: Researchers from Weill Cornell Medicine, US, have created an experimental contraceptive drug candidate that **"temporarily stops sperm in their tracks and prevents pregnancies in preclinical models."**

- This means that a new kind of **contraceptive for men**, currently available through physical barriers (condoms) and surgical options (vasectomy), could be developed, similar to how a pill exists for women.

Male Contraceptive Pill

- **About**: The male contraceptive, also known as **DMAU**, is one of numerous male contraceptives in development. Gels and shots, on the other hand, have not proven useful or even appealing to males. **Non Hormonal Male contraception** is another option.
  - **Dimethandrolone undecanoate (DMAU)** is a tablet that lowers the levels of these hormones to a level that suppresses sperm production.
- **Functions**: It inhibits the creation of testosterone and sperm by suppressing two male hormones, **follicle-stimulating hormone (FSH) and luteinizing hormone (LH), without generating low-testosterone symptoms (low-T).**
  - **GnRH** is produced from the hypothalamus in both males and females. It acts on the anterior pituitary and stimulates the release of FSH (follicle stimulating hormone) and LH (luteinising hormone).
  - **FSH and LH** are **gonadotropins** that are concerned with the growth and activity of gonads in both males and females.
  - Male contraceptive pills contain testosterone or a combination of **testosterone and progesterone.**
  - **Testosterone** functions as a contraceptive by suppressing secretion of the luteinising hormone and follicle stimulating hormone. Decrease in the levels of these hormones inhibits the production of sperms in the testis.
  - **Estrogen** is primarily responsible for the development of secondary sexual characters in females.

Secure Top Rank with theIAShub Courses

Prelims 2023 Courses

01 Prelims Crash Course Score Enhancement Program (SEP)

02 INA Current Affairs (Prelims)

03 TACKLE - Prelims Test Series

04 Geography - Prelims Crash Course

Quality Enrichment Courses (Mains 2023)

01 Quality Enrichment Program (QEP)

02 Science of Answer Writing (SAW)

Prelim Cum Mains 2024 Courses

01 NEEV GS Foundation 2024/25

02 INA Current Affairs Pre Cum Mains - 2024

FREE Download PDF

Login to theiashub.com

- Aaj Ka Quality Enrichment (Toppers' Favourite PDF)
- News-CRUX-10 (10 News. 10 Sources. One Place)
- Monthly Editorials (The Hindu & Indian Express)
- Daily Quiz (Prelims)
- Government Schemes & Ministry Wise Year End Review
- Free Enrichment PDFs (Tailor Made Crisp Study Material)



Log On To Our Unique
Free Answer Writing Sessions with Toppers (FAST) Portal
& Start Practicing!

SCAN HERE

9560082909

t.me/theiashub

/mkyadav

www.theiashub.com

www.theiashub.com