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सत्यमेव जयते



MK Yadav Sir

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BUSINESS STANDARD

Page 1

LOAN EVERGREENING

(Syllabus: GS Paper 3 - Economy)

Das cautions bank boards against loan evergreening

RBI governor asks them to plug gaps in governance

MANOJIT SAHA
Mumbai, 29 May

Reserve Bank of India (RBI) Governor Shaktikanta Das on Monday cautioned banks against aggressive growth strategies and the evergreening of loans, while also urging them not to allow any gaps in governance to creep in.

Addressing the board members of public and private sector banks, Das said it was found that some banks were resorting to "innovative" ways to conceal the status of their loans during supervisory processes, and "one method of evergreening was replaced by another" after being pointed out.

"Such practices beg the question as to whose interest such smart methods serve. I have mentioned these instances to sensitise all of you to keep a watch on such practices," Das said. He was discussing his 10-point charter, focusing on the soundness of the banking system and corporate governance, with the bank boards.

The evergreening of loans, in which banks artificially keep the loan classification standard, was one of the reasons for the sharp surge in non-performing assets (NPAs) in the previous decade.

In 2016, the regulator conducted a special review of banks' books, known as asset quality review (AQR), and identified loans that need to be classified as non-performing. This led to a surge in bad loans.

Turn to Page 7

RBI 'CHARTER'

Key expectations of RBI governor from banks

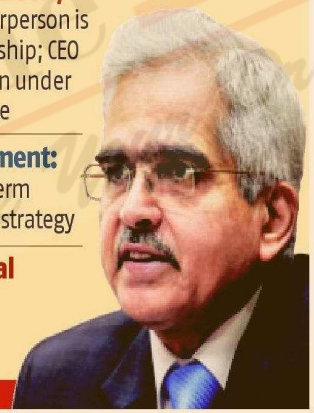
Governance and stability: Robust governance structure most important requirement for ensuring bank stability. Despite detailed norms, gaps exist

Objective and independent Board: Directors should ask pertinent questions before decision making

Role of chairperson, MD & CEO: Chairperson is like captain of a ship; CEO needs to function under board's guidance

Effective oversight of senior management: Compensation structure to promote long-term performance, in line with business and risk strategy

Integrity and transparency of financial statements: Board members, audit committee should bestow close attention on accounting policies



Shaktikanta Das, RBI governor

Context: Reserve Bank of India (RBI) Governor cautioned banks against aggressive growth strategies and the **evergreening of loans**, while also urging them not to allow any gaps in governance to creep in.

- The evergreening of loans was one of the reasons for the **sharp surge in non performing assets (NPAs)** in the previous decade.
- In 2016, the regulator conducted a special review of banks´ books, known as **asset quality review (AQR),** and identified loans that need to be classified as nonperforming.

Loan evergreening

- The evergreening of loans is a term in which **banks try to revive a loan** that is on the verge of default by granting further loans to the same borrower.
- Basically, **banks provide more loans to the borrowers** to stop them from turning into huge non-performing assets (NPAs).
- When customers do not repay principal amount and interest for a certain period of time, then such loans are considered as **non performing assets or NPA.**
- This practice might **put lenders at risk of huge amounts of defaults.**
- Besides, the **RBI does not approve of evergreen loans** and has set strict norms and potential penalties for banks committing this practice.

Brics Bank to Consider Saudi Arabia's Proposal for Membership

DipanjanRoy.Chaudhury
@timesgroup.com

New Delhi: The New Development Bank (NDB), set up by the BRICS member states, will consider Saudi Arabia's proposal to join the multilateral organisation at its annual meeting on Tuesday and Wednesday, ahead of the meeting of the foreign ministers of the grouping on Thursday.

Saudi Arabia, India's close partner in West Asia, is the biggest economy in the region and has embarked on a major modernisation drive by opening up sectors for foreign investments. Its neighbour, the United Arab Emirates (UAE), is a member of the NDB and Saudi Arabia has also expressed interest in joining BRICS – the grouping of Brazil, Russia, India, China and South Africa – in the future. The BRICS summit in South Africa in August will discuss the issue of expanding the grouping.

Even as Saudi Arabia expands its economic ties with China, India and Saudi Arabia have opened new vistas of cooperation, including in defence and investments. Saudi Arabia's ties with Russia have also warmed up, including in the energy sector. Saudi Arabia could put in funds into the NDB, suggested people aware of the matter.

Launched with the purpose of financing infrastructure and sustainable development in member states and other emerging economies, the NDB has expanded its membership to include Bangladesh, the UAE and Egypt – all close partners of India.

NEW DEVELOPMENT BANK
(Syllabus: GS Paper 3 - Infrastructure)

Context: The **New Development Bank (NDB**) will consider Saudi Arabia's proposal to join the multilateral organisation at its annual meeting.

- Its neighbour, the **United Arab Emirates (UAE)**, is a member of the NDB and Saudi Arabia has also expressed interest in joining BRICS in the future.

New Development Bank

- **About**: The NDB is a multilateral financial institution established by the BRICS countries, namely, **Brazil, Russia, India, China and South Africa (BRICS).**
- **Origin**: It was formerly known as the **BRICS Development Bank.**
  - NDB was founded in 2014.
  - The idea behind the NDB was mooted by India at the **4th BRICS Summit** in New Delhi in 2012 and the formation treaty was signed in 2014 in the sixth BRICS Summit in Fortaleza, Brazil.
  - The **Fortaleza Declaration** stated that the NDB would strengthen cooperation among the BRICS members.
  - In 2018, the NDB **achieved 'Observer' status** at the United Nations General Assembly.
- **Headquarters**: **Shanghai**, China. There are regional offices in all other member countries except in India.
- **Objectives**: The purpose of NDB is to **fund sustainable development projects and infrastructure projects** in the BRICS countries and other developing countries and emerging markets.
  - To fulfill its purpose, the **Bank supports public or private projects** through loans, guarantees, equity participation and other financial instruments.
  - It **offers technical assistance for projects** and conducts information, cultural and personnel exchanges with the objective of contributing to the attainment of social and environmental sustainability.

New Development Bank	Asian Infrastructure Investment Bank
Members: 5	Members: 103
HQ: Shanghai, China	HQ: Beijing, China
Formed: 2014	Formed: 2016
Each member has one vote. Votes are based on the members' shareholding.	Votes are based on the size of each member country's economy (GDP in PPP terms).
Membership is open to all UN members.	Membership is open to all members of the Asian Development Bank or the World Bank.

THE HINDU

Page 3

PRESIDENT'S RULE

(Syllabus: GS Paper 2 - Polity & Governance)

Kuki-Zomi women seek President's Rule in Manipur

Around 500 protesters gathered at Jantar Mantar and recounted how their homes were attacked by mobs; have no faith in the N. Biren Singh government, separation is the only solution, they say

The Hindu Bureau
NEW DELHI

Amid fresh violence back home in the ongoing clashes between the Meitei and Kuki-Zomi people, around 500 Kuki-Zo women in Delhi-NCR hailing from Manipur staged a demonstration at Jantar Mantar on Monday demanding the imposition of President's Rule in the State to control the violence.

The women, most of whom have family and friends in different parts of Manipur, alleged that the violence is being perpetrated with assistance from the State government's law enforcement officials.

At least 115 people have been killed in Manipur since the violence broke out in the Churachandpur district on May 3.



The protesters at Jantar Mantar on Monday. SPECIAL ARRANGEMENT

'Article 355 not enough'

The protesters gathered under the banner of All Manipur Kuki-Zo Tribal Women (Delhi NCR), insisted that invoking Article 355 in the State was not enough.

There have been unconfirmed reports of the Article, which empowers the Centre to take the necessary steps to protect a State against internal disturbances and external aggression, being invoked in Manipur.

However, the Centre has denied it.

In a statement issued later in the day, the protesters said, "We no longer trust the State government headed by Chief Minister N. Biren Singh."

They added that the violence against the Kuki-Zomi-Mizo-Hmar tribals of Manipur over the last four weeks has made it "impossible to live together. Separation is the only solution".

'Mob attacks'

Hoinu Touthang, one of the protesters, whose family home is in the Churachandpur district, said, "As we speak, there are continuous attempts by mobs to attack our village in the Sugnu area."

Many who attended the protest on Monday had recently fled from the State.

They recounted how their homes were attacked by mobs.

National Emergency (Article 352)	President's Rule (Article 356)
It can be proclaimed only when the security of India or a part of it is threatened by war, external aggression or armed rebellion.	It can be proclaimed when the government of a state cannot be carried on in accordance with the provisions of the Constitution due to reasons which may not have any connection with war, external aggression or armed rebellion.
During its operation, the state executive and legislature continue to function and exercise the powers assigned to them under the Constitution. Its effect is that the Centre gets concurrent powers of administration and legislation in the state.	During its operation, the state executive is dismissed and the state legislature is either suspended or dissolved. The president administers the state through the governor and the Parliament makes laws for the state. In brief, the executive and legislative powers of the state are assumed by the Centre.
Under this, the Parliament can make laws on the subjects enumerated in the State List only by itself, that is, it cannot delegate the same to any other body or authority.	Under this, the Parliament can delegate the power to make laws for the state to the President or to any other authority specified by him. So far, the practice has been for the president to make laws for the state in consultation with the members of Parliament from that state. Such laws are known as President's Acts.

Context: Amid fresh violence in Manipur in the ongoing **clashes between the Meitei and Kuki-Zomi people**, around 500 Manipuri Kuki-Zo women in Delhi NCR staged a demonstration at Jantar Mantar, demanding that **President's Rule (Article 356 of the Constitution)** be imposed in the State as an immediate measure to control the violence.

- The protesters had gathered under the banner of All Manipur Kuki-Zo Tribal Women, Delhi NCR and insisted that the operation of **Article 355 of the Constitution** was not enough in the State.
- **Article 355** empowers the Union government to protect every state in India against external aggression and internal disturbances.

Article 356

- Article 356 of the Constitution of India is **based on Section 93 of the Government of India Act, 1935.**
- According to Article 356, **President's Rule can be imposed on any state of India** on the grounds of the failure of the constitutional machinery. This is of two types:
  - If the **President receives a report from the state's Governor or otherwise** is convinced or satisfied that the state's situation is such that the state government cannot carry on the governance according to the provisions of the Constitution.
  - As per **Article 365**, President's Rule can be imposed if any state fails to comply with all directions given by the Union on matters it is empowered to.
- It is also called **'State Emergency' or 'Constitutional Emergency'.**
- **Parliamentary approval is necessary** for the imposition of the President's Rule on any state. The proclamation of President's Rule should be approved in both Houses of Parliament within two months of its issue. The approval is through a simple majority.
- The President's Rule is **initially for a period of six months**. Later, it can be extended for a period of three years with parliamentary approval, every six months.
- The **44th Amendment to the Constitution (1978)** brought in some constraints on the imposition of the President's Rule beyond a period of one year. It says that President's Rule cannot be extended beyond one year unless:
  - There is a national emergency in India.
  - The Election Commission of India certifies that it is necessary to continue the President's Rule in the state because of difficulties in conducting assembly elections to the state.

TIMES OF INDIA

Page 13

ASUDTA BOARD

(Syllabus: GS Paper 2 - Health)

Govt to 'reconsider' action on Ayush ads

Challenged By Firms, To Review Amendment

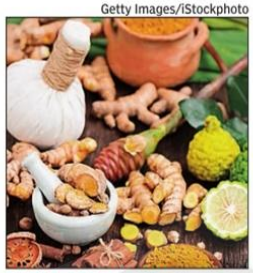
TIMES NEWS NETWORK

After amending the Drugs and Cosmetics Rules in 2018 to insert a rule for controlling inappropriate advertisements of Ayurvedic, Siddha and Unani medicines, the central government appears to be backtracking when challenged by several pharma companies making ayurvedic formulations and their association in court. The government's counsel told Delhi HC that the matter would be placed before the Ayurvedic, Siddha and Unani Drugs Technical Advisory Board (ASUDTAB) for "reconsideration".

"When the media are flooded with misleading Ads, the submission of the Government of India to request the ASUDTAB to reconsider the Rule 170, instead of enforcing it is very unfortunate," stated Dr KV Babu, an ophthalmologist and RTI activist, in his letter to the Ayush minister and requested the government to reconsider the decision.

The government had notified amendment of the Drugs & Cosmetics Rules, 1945 on December 24, 2018 to insert Rule 170 specifically for controlling inappropriate advertisements of ASUDTAB medicines. In January 2019, this was challenged in the Delhi HC and the court had granted an interim stay, which remained in place for four years. In the May 1 hearing, the government accepted the litigants' request that the petitions of Ayush stakeholders regarding Rule 170 be placed before ASUDTAB for reconsideration. The case was disposed stating that if the petitioners were aggrieved by the decision taken by ASUDTAB, they could challenge it in court.

Getty Images/iStockphoto



NEW FORMULATION

Dr Babu drew attention to the answer of the Ayush minister of state Shripad Yesso Naik in the Lok Sabha to a question on advertisement of Ayush medicines in June 2019, in which he gave the number of instances of misleading ads over the years. Naik stated that the ministry had signed an MoU with the Advertising Standards Council of India (ASCI) to undertake monitoring of Ayush-related advertisements for two years and to bring violations to the notice of state regulatory authorities for necessary action.

"Department of Consumers Affairs has set up an online system called GAMA (Grievances Against Misleading Advertisements) portal for registering public complaints of misleading advertisements of various commodities. As a result of monitoring by ASCI, 732 cases of misleading ads of AYUSH were reported in 2017-18 and 497 cases in 2018-19, out of which 456 cases of violation of Drugs & Magic Remedies Act, 1954 in 2017-18 and 203 cases in 2018-19 have been escalated to the state regulators for taking necessary action," said the minister.

Context: After amending the **Drugs and Cosmetics Rules in 2018** to insert a rule for controlling inappropriate advertisements of Ayurvedic, Siddha and Unani medicines, the central government appears to be backtracking when challenged by several pharma companies making ayurvedic formulations and their association in court.

- The government told Delhi HC that the matter would be placed before the **Ayurvedic, Siddha and Unani Drugs Technical Advisory Board (ASUDTAB)** for "reconsideration".

Background

- The government had notified amendment of the **Drugs & Cosmetics Rules,1945** on December 24, 2018 to insert Rule 170 specifically for controlling inappropriate advertisements of ASUDTAB medicines.
- In January 2019, this was **challenged in the Delhi HC** and the court had granted an interim stay, which remained in place for four years.

Ayurveda, Siddha and Unani Drugs Technical Advisory Board

- **About**: ASUDTAB is a **statutory body** under the provisions of Drugs and Cosmetics Act, 1940.
- **Functions**: It advises the central and state governments in regulatory matters of **Accelerated Shelf Life Testing (ASLT) drugs.**
    - ASLT is an **indirect method of measuring and estimating the stability of a product** by storing the product under controlled conditions that increase the rate of degradation occurring in the product under normal storage conditions.

LIVE MINT

Page 2

SABANG PORT

(Syllabus: GS Paper 2 - International Relations)

India, Indonesia complete joint report on Sabang port feasibility

Shashank Mattoo
shashank.mattoo@livemint.com
NEW DELHI

India and Indonesia have completed a joint feasibility study on developing the strategically valuable Sabang port, according to persons aware of the matter.

Sabang port, which is located in the province of Aceh, is roughly 700 km from the Andaman and Nicobar Islands.

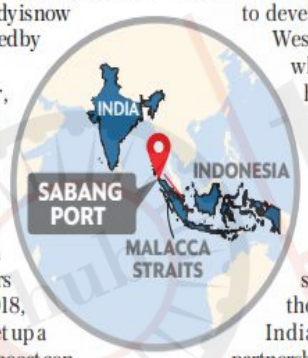
The successful development of this vital port would allow India easier access to the Malacca Straits, a narrow stretch of the sea between Indonesia and Malaysia and one of six chokepoints along the world's maritime trading routes.

A substantial chunk of the world's good trade passes through the Straits, as does the vast majority of China's imports of energy. Developing the Sabang Port could bolster India's military position vis-a-vis China in the Indian Ocean.

In 2018, Indonesia's then-Coordinating Minister for Maritime Affairs Luhut Pandjaitan said Sabang port would be fit to host both shipping vessels and submarines.

His allusion to a possible military use for Sabang spurred a flurry of speculation about the strategic uses of the port for India.

According to the persons cited above, India has completed a feasibility study detailing the prospects for the expansion and development of the port. The study is now being reviewed by Indonesia.



However, progress on building the port has been slow and talks have been on for some years now. In 2018, both sides set up a task force to boost connectivity between Aceh province and Andaman and Nicobar Islands.

"In this regard, the leaders appreciated the decision to set up a Joint Task Force to undertake projects for port related infrastructure in and around Sabang," the two leaders said in a joint statement during Prime Minister Narendra Modi's first official visit to Indonesia.

This development comes amid growing interest in infrastructure development projects in Indonesia from Indian firms. *Mint* had earlier reported how Indian firms were looking at involving themselves in building Indonesia's new capital Nusantara. Indian companies are also currently in talks to develop a port in Western Sumatra, which would help improve economic ties between the two countries.

"Infrastructure should be at the core of the India-Indonesia partnership," said Gurjit Singh, who was India's ambassador to Indonesia from 2012 to 2015. "The leaders shared their views on the importance of intensifying infrastructure development in both countries and the mutual benefit of enhancing infrastructure development cooperation," said Modi and President Joko Widodo during their 2018 joint statement.

Context: India and Indonesia have completed a joint feasibility study on developing the strategically valuable S**abang port.**

- In 2018, Indonesia said Sabang port **would be fit to host both shipping vessels** and submarines.
- In 2018, both sides set up a **task force to boost connectivity** between Aceh province and Andaman and Nicobar Islands.
- Both sides also created the **India-Indonesia Infrastructure Forum (IIIF)** in 2018 to foster links between the private sector in both countries. A second edition of the forum was held in 2019.

Sabang Port

- Sabang port, which is **located in the province of Aceh,** is roughly 700 km from the Andaman and Nicobar Islands.
- The successful development of this vital port would **allow India easier access to the Malacca Straits,** a narrow stretch of the sea between Indonesia and Malaysia and one of six chokepoints along the world's maritime trading routes.
- A substantial chunk of the world's good trade passes through the Straits, as does the vast majority of China's imports of energy. Developing the Sabang Port could **bolster India's military position** vis-a-vis China in the Indian Ocean.
- In 2018, **India got the military access to Sabang Port** which is located right at the entrance of Malacca Strait.



PIB MAY 30

UN PEACEKEEPING
(Syllabus: GS Paper 2 - International Relations)

INDIAN ARMY CELEBRATES 75TH INTERNATIONAL DAY OF UN PEACEKEEPERS

Context: The Indian Army commemorated the **75th International Day of UN Peacekeepers** by paying homage to the fallen comrades by laying wreath at National War Memorial.

- 29th May is the day when in 1948 the first UN peacekeeping mission, **"UN Truce Supervision Organisation (UNTSO)"** began operations in Palestine.

United Nations Peacekeeping

- **About**: The United Nations Peacekeeping operations are policing and peacebuilding actions **carried out by the UN to bring order and stability in war torn nations.**
  - The UN Peacekeepers are known as **'Blue Helmets' or 'Blue Berets'.**
    - **Blue Helmets are the military personnel** of the UN that work alongside the UN Police and civilian colleagues to promote "stability, security, and peace processes".
  - Its personnel **consist of soldiers and military officers, police officers and civilian personnel** from many countries.
- **Origin**: When the UN Security Council approved the deployment of UN military observers to the Middle East in **1948, the UN Peacekeeping Forces were established.**
  - **International Day of UN Peacekeepers** is celebrated on date 29th May every year.
- **Nodal Agency:** The United Nations Charter authorises the **United Nations Security Council** to take collective action to maintain international peace and security.
  - Due to this, it falls on the **UN Security Council to deploy peacekeepers** in order to ensure stability and security in conflict regions.
- **Structure**: The UN Peacekeeping force is **supplemented by personnel from member nations.**
  - They are added to the force on a **volunteer basis.**
  - Among the largest individual contributors, **India, Pakistan and Bangladesh top the list with 8000 units each.**
- **Formation**: When a peace treaty is signed or negotiated, **the parties involved might request the United Nations to deploy a peacekeeping force** to maintain order and ensure that the elements of the agreed-upon peace treaty are implemented.
  - The s**ize and strength of the force are decided upon by the government i**n whose territory the peacekeeping force will be deployed to.
  - Along with this the rules of engagement is formulated and agreed upon by the parties involved with approval from the UNSC.
  - Once a force has been deployed a **United Nations Special Committee for Peacekeeping Operations oversees** the general conduct and day-to-day operations in the deployed area.
- **Finance**: A peacekeeping mission is funded collectively by the United Nations member states, while the establishment and maintenance of its operations are decided by the United Nations Security Council.
- **India's role**: India is one of the largest troop-contributing nations to the U.N. peacekeeping missions.
  - India is the **second-highest military and fifth-highest police contributing country** to the **United Nations Organization Stabilization Mission in the Democratic Republic of the Congo (MONUSCO).**
  - In 2007, **India became the first country to deploy an all-women** contingent to a UN Peacekeeping mission.
  - Among "blue helmets" it has the **greatest death toll of any nation.**

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HINDU KUSH HIMALAYA

(Syllabus: GS Paper 3 - Env & Eco)

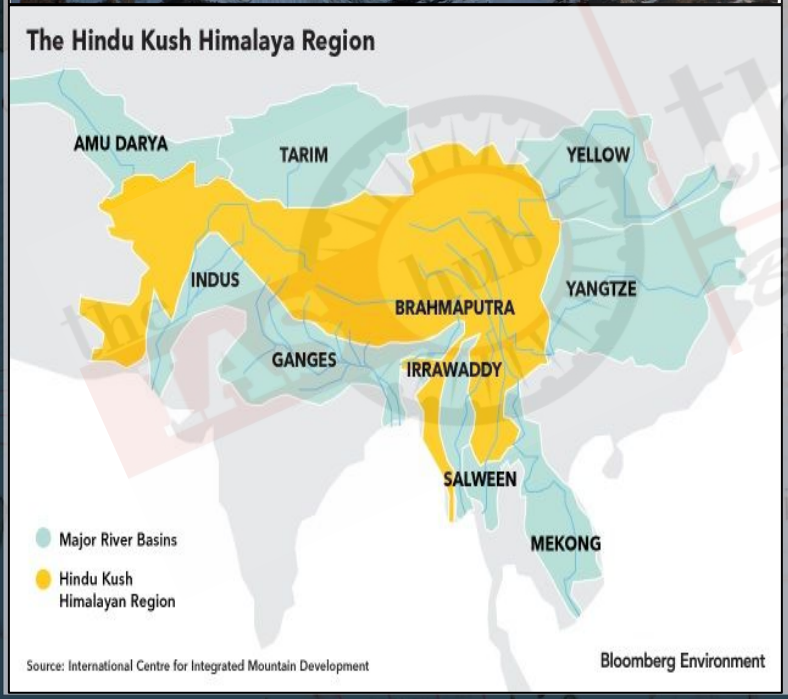
International Mount Everest Day: Mountain communities call to urgently decarbonise Everest

HKH region witnessing increasing climate change impact, which will only increase in intensity and frequency, warns ICIMOD

NEXT NEWS >

By DTE Staff
Published: Monday 29 May 2023





Context: Seven decades after Edmund Hillary and Tenzing Norgay first scaled Mount Everest, the Earth's tallest mountain is undergoing unprecedented and largely irreversible change caused by global warming, warned **International Centre for Integrated Mountain Development (ICIMOD)** working towards safeguarding the **Hindu Kush Himalaya (HRH).**

Key Points

- Human activity has pushed Earth's systems close to **tipping points** beyond which sustaining life will be extremely challenging.
- Global temperature rises are jeopardising the environment of Everest and the **Hindu Kush Himalaya (HKH) region**, which extends 3,500 km across eight countries.
- A declaration by ICIMOD called on governments to honour their commitments under the **2015 Paris Agreement,** make rapid and deep emission cuts, end all new coal, oil and gas exploration and accelerate the transition to renewable energy.
- ICIMOD, **supported by mountain institutes globally** - including Nepal Mountaineering Association and the Mountain Partnership (the United Nations voluntary alliance of partners) - also asked for public support back the #SaveOurSnow campaign.

International Centre for Integrated Mountain Development (ICIMOD)

- It is a **regional intergovernmental** learning and knowledge sharing centre.
- It has **eight regional member countries** of the Hindu Kush Himalaya and based in Kathmandu, Nepal.
- **Globalization and climate change** have an increasing influence on the stability of fragile mountain ecosystems and the livelihoods of mountain people.
- ICIMOD **aims to assist mountain people** to understand these changes, adapt to them, and make the most of new opportunities, while addressing upstream-downstream issues.

Hindu Kush Himalaya (HRH)

- HKH extends over 8 countries - **Afghanistan, Bhutan, Bangladesh, China, India Myanmar, Nepal and Pakistan.**
- It contains the **world's third largest storage of frozen water** after Antarctica and Arctica
- It is also referred as the **third pole** of the world.

DTE

MAY 30

UN TREATY ON PLASTIC POLLUTION

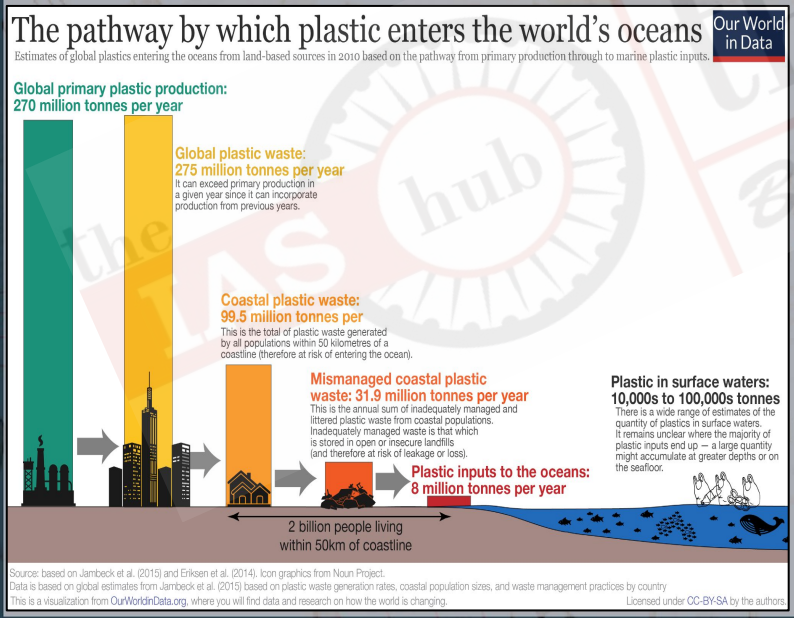
(Syllabus: GS Paper 3 - Env & Eco)

Plastic-free planet: What CSE expects from Global Plastic Treaty negotiations – the issues & politics

Second session of Intergovernmental Negotiating Committee on plastic pollution is being held in Paris, France from May 29-June 2, 2023

By Siddharth Ghanshyam Singh
Published: Monday 29 May 2023





Context: The **Intergovernmental Negotiating Committee (INC) on Plastic Pollution** is in the process of developing "an international legally binding instrument on plastic pollution, including in the marine environment".

- After its first session, the Secretariat of Governing Bodies and Stakeholders had invited written submissions from major groups and stakeholders.
- Delhi-based non-profit **Centre for Science and Environment (CSE)**, being one of the accredited NGOs with the **United Nations Environment Programme (UNEP)**, had made a written submission that was acknowledged by the INC Secretariat and uploaded on the UNEP portal for public information.

Demands for strong Global Plastic Treaty (GPT)

- GPT to **end plastic pollution** including in the marine environment covers the entire life cycle of plastic, and rightly so.
- The entire life cycle **(upstream, midstream and downstream)** of plastic encompasses:
  - **Upstream**: Extraction of raw materials like crude oil and gas; Refining the crude oil in petrochemical companies; Polymer / plastic industry involved in plastic production
  - **Midstream**: Businesses using plastics for profits, their distribution channels, including retailers and street vendors
  - **Downstream**: Waste management with respect to plastic for instance, segregation, collection, storage; Mechanical recycling of plastic; End of life disposal of plastic waste, such as co-processing and waste-to-energy.

Intergovernmental Negotiation Committee on Plastic Pollution

- In March 2022, the **United Nations Environmental Assembly (UNEA)** decided to work towards an international **legally binding** instrument to end plastic pollution.
- IUCN will **engage in the negotiations providing science-based expertise** and evidence to ensure the development of a robust instrument with high environmental integrity.
- The **Intergovernmental Negotiating Committee (INC)** was established to develop an international legally binding instrument on plastic pollution, including in the marine environment, beginning its work in the second half of 2022 with the ambition of completing its work by the end of 2024.

INDIAN EXPRESS

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NAVIC SATELLITE

(Syllabus: GS Paper 3 - Sci & Tech)

ISRO launches first of five second-gen navigation satellites

ANONNA DUTT
NEW DELHI, MAY 29

THE INDIAN Space Research Organisation (ISRO) on Monday successfully launched the first of the five second-generation satellites for the Navigation by Indian Constellation (NavIC), with the organisation's chairperson stating that the agency will make the constellation "fully operational".

The constellation is plagued by failing atomic clocks and satellites nearing the end of their mission life.

"We are going to make this NavIC system fully functional and operational for the benefit of the nation. There is a huge amount of opportunity waiting for us," ISRO chairperson S Somanath said after the launch.

The satellite took off from the second launch pad at 10.42 am aboard GSLV-F12 and was inserted just over 18 minutes later into a geosynchronous transfer orbit of 173 km x 40,700 km that will be circularised over the next couple of days to bring the satellite to its final position. The solar panels have already been deployed.



The ISRO's GSLV-F12 rocket carrying navigation satellite NVS-01 lifts off, in Sriharikota, Monday. PTI

"This is a very good orbit and will give better life to the satellite," mission director N P Giri said after the launch.

The satellite has a mission life of more than 12 years, longer than the 10-year mission life of the first-generation satellites in the constellation.

Christened NVS-01, the satellite launched on Monday will be one of the five second-generation satellites to be launched for the constellation, Somanath said.

The Indian Express had earlier reported that only four of the existing satellites in the constellation continue to provide location data.

The satellite also carried on board the indigenously developed rubidium atomic clock and the first magnetic levitation reaction wheel (reaction wheels are used to control the orientation of spacecraft precisely). The satellite will provide signals in L1 frequency — along with the L5 and S band frequencies used by its predecessors — making it more inter-operable with GPS that commonly uses the signal to provide civilian navigation, positioning, and time data.

"I do believe that the naughty boy has been fully tamed," satellite director K V S Bhaskar said, referring to the epithet given to the launch vehicle owing to its unreliability during initial launches.

Nearly five — four failures and one partial failure — of 15 launches with the vehicle have failed, compared to three of 57 launches by ISRO's workhorse, PSLV. Monday's was the first launch using the vehicle since its failure in August 2021 and changes were made based on recommendations by a failure analysis committee.

FULL REPORT ON
www.indianexpress.com

Context: The **Indian Space Research Organisation (ISRO)** launched the first of the second-generation satellites for its navigation constellation successfully.

- The 2,232 kg satellite, the heaviest in the constellation, was launched by a **Geosynchronous Satellite Launch Vehicle (GSLV)** rocket that lifted off from Sriharikota.
- Each of the seven satellites currently in the Indian Regional Navigation Satellite System (IRNSS) constellation, operationally named **NavIC**, weighed much less - around 1,425 kg - at liftoff.
- They all rode the lighter Polar Satellite Launch Vehicle (PSLV), ISRO's workhorse launch rocket.
- The last IRNSS satellite, **IRNSS-1I**, was launched in April 2018 to replace an older, partially defunct satellite in the constellation.
- **IRNSS-1I** was ISRO's ninth satellite for the NavIC constellation, but is considered to be the eighth because the IRNSS-1H - launched eight months earlier in August 2017 and originally intended to replace the older satellite - was lost after the heat shield of the payload failed to open on time.

Key Features second-generation NavIC satellite

- **Atomic Clock**: The satellite will have a **Rubidium atomic clock** onboard, a significant technology developed by India.
  - The **space-qualified Rubidium atomic clock** indigenously developed by Space Application Centre-Ahmedabad is an important technology which only a handful of countries possess.
- **L1 signals for better use in wearable devices:** The second generation satellites will send signals in a **third frequency, L1, besides the L5 and S frequency** signals that the existing satellites provide, increasing interoperability with other satellite-based navigation systems.
  - The **L1 frequency** is among the most commonly used in the Global Positioning System (GPS), and will increase the use of the regional navigation system in wearable devices and personal trackers that use low-power, single-frequency chips.
- **Longer mission life**: The second-generation satellites will also have a **longer mission life of more than 12 years.** The existing satellites have a mission life of 10 years.

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PRINCIPLE OF INFORMATION CAUSALITY

(Syllabus: GS Paper 3 - Sci & Tech)

Mathematical structure of Quantum Theory reconstructed from Information Principle

Context: Scientists have found the **theoretical rationale of the mathematical structure of composite quantum systems** consisting of more than one subsystem.

- Scientists took the help of a novel information principle, called the **principle of Information Causality,** to see what kind of descriptions are naturally disallowed for composite quantum systems (that include several quantum objects).

Key Points

- **Quantum Mechanics,** the theory that describes physical phenomena in microscopic world, was developed in the early 20th century to explain experimental observations like Black-body radiation curve, Photoelectric effect when German physicist demonstrated through physical experiments that energy, in certain situations, can exhibit characteristics of physical matter.
- Later scientists like Albert Einstein, Niels Bohr, Louis de Broglie, Erwin Schrodinger, and Paul M. Dirac a**dvanced Plank's theory to quantum mechanics** – the most accurate mathematical theory of the microscopic world.
- Unlike other physical theories that are built upon p**hysically motivated postulates, Quantum Mechanics** starts with abstract mathematical axioms.
- For instance, the **second postulate of Special Theory of Relativity** says that no information can travel faster than like, whereas Quantum Mechanics starts with the axiom that state of a physical system is described by a vector in complex separable Hilbert space.

Principle of Information Causality

- **Information causality** is a physical principle suggested in 2009.
- Information Causality states that **information gain that a receiver (Bob) can reach about data,** previously unknown to him, from a sender (Alice), by using all his local resources and n classical bits communicated by the sender, is at most n bits.
- The **principle assumes classical communication**: if quantum bits were allowed to be transmitted the information gain could be higher as demonstrated in the quantum superdense coding protocol.
- The **principle is respected by all correlations accessible with quantum physics**, while it excludes all correlations which violate the quantum Tsirelson bound for the CHSH inequality. However, it does not exclude beyond-quantum correlations in multipartite situations.

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