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NEWS -

Water found in asteroid Bennu -

- Traces of hydrogen and oxygen—part of the composition for water and thus the potential for life—has been found in the rocky surface of asteroid Bennu, which is 2.25 million km from Earth.
- NASA's OSIRIS-REx, which will return in 2023 with samples from the asteroid, discovered the ingredients for water on the relatively nearby skyscraper-sized asteroid.

Mahua flower under Minimum Support Price Scheme -

The Ministry of Tribal Affairs on December 27, 2018, included 17 new minor forest produces (MFPS) under its minimum support price (MSP) scheme. The new MFPS include dried mahua flowers, dried tejpatta and dried kokum.

The hot debate - COP24

Ever since the Paris Agreement was adopted in December 2015, member nations of COP have struggled to even out the modalities, procedures and guidelines for its implementation.

The science ahead of COP -

- The Intergovernmental Panel on Climate Change (IPCC) report on global warming stated that the earth, already 1°C warmer than the pre-industrial times, is facing wrath of climate in some form or the other.
- The report warned that while 2°C would have catastrophic and irreversible impacts, 1.5°C degree was relatively stable and safe.
- The United Nations Environment Programme's Emission Gap Report 2018 substantiated that parties need to step up their ambition five times the current levels to stay within 1.5°C.

Sticking issues for negotiations -

- The nationally determined contributions (NDCs) for reduction in GHG emissions submitted under the Paris Agreement are inadequate and would not limit global warming even to 2°C.
- It was crucial that Katowice clearly communicated new and updated NDCs by 2020 to all countries. Postponing action until 2020 was highly undesirable.
- The Talanoa Dialogue, a process launched by Fijian presidency at COP23 to raise ambitions, was hailed as a crucial step. Talanoa "Call to Action" merely called upon parties to work closely with non-party stakeholders to enhance global ambition by 2020. The declaration is more of a moral appeal and lacks any legal character. It failed to enter the COP24 stage.
- Failing to meet the pre-2020 ambition gap, developed countries drew criticism from the developing nations.
- Building upon Doha amendment to Kyoto Protocol, in Katowice, it was hoped that developed countries would honour the pre-2020 commitments and scale up their financial and climate ambition.
- The parties had to agree on the form and measurement of tradable units (Internationally Transferable Mitigation Outcomes), the linkages between different sub-sections under market mechanisms, the nature of the supervisory body overseeing the mechanism and restrictions on the use of markets towards the fulfilment of countries' NDC.
- Global Stocktake, a crucial element of the Paris Agreement, is meant to assess the collective efforts of climate actions in 2023. Consensus was needed on how to structure the process, what should be the expected outcomes, and how to incorporate equity in the process.
- Incorporating loss and damage in the crucial elements of the rulebook, including finance, transparency and global stocktake, was a key point of the discussions.

The Process -

- On endorsing the IPCC report, US allied with Saudi Arabia, Russia and Kuwait to block the acceptance of the report. It opposed to “welcome” the report and pushed for “noting” it in the final outcome.
- This was strongly opposed by developing and island countries, who pushed for more serious recognition of the IPCC report.
- On matters of ex-ante communication of finance, the US and EU opposed review of indicative communication of financial sources, and asked developing countries about their intended contribution.
- In line with its fossil fuel agenda, the US organised a side event on clean coal which drew sharp protests from civil society.
- On transparency framework, the US and EU demanded flexibility only for island states and least developed countries group, saying that emerging economies must be exempted from flexibility. India opposed it and called it the “divide and rule policy of the developed countries”.
- Gradually, the developed West was able to form coalition with China and South Africa to push its agenda towards uniform reporting.
- The developing countries stressed for pre-2020 implementation and ambition for climate action by developed countries. China stressed on ambition gap of pre-2020. India stressed “significant gaps in pre-2020 action even amounting to upto 40 to 50 percent and called for emissions reductions by 25 to 40 percent by developed countries.
- India also suggested “any emissions gap and financial commitments gap which was part of the pre-2020 period must be carried over and fulfilled in the post-2020 period and countries which were responsible for them must take that responsibility”.
- India opposed the revision of its NDCS before or by 2020 when a High Ambition Coalition, re-established by the EU and some other countries, sought to scale up the targets. India confirmed that it would oppose any move to raise ambition by or before 2020. Developed countries should first focus on their pre-2020 commitments and raising it.
- During the dialogue, the developing countries voiced concerns of pre-2020 gap in financial commitments and urged the developed countries to chart out a clear plan of finance mobilisation.
- Finally, decisions for the Paris Agreement implementation, known as the PA Work Programme, were forwarded as a package by COP24 to UNFCCC.

Katowice Outcome -

- In the final 133-page package, developed countries and their allies managed to bully the developing countries, who gave in to their demands.
- Crucial aspects like financing, adaptation and loss and damage were neglected.
- The rulebook was welcomed by the developed countries which contains detailed reporting requirements on national mitigation targets. It standardises the unit of mitigation as tonnes of carbon dioxide equivalent.
- It requires that all GHG sources and sinks be included, with an explanation for why any sector is missing. It mandates that IPCC guidelines on reporting should be followed, but allows country-specific methodologies if they better reflect the national circumstances. It does not require common timeframes for reporting until 2031.
- It allows developing countries to provide less rigorous information, if they can explain the gap in capacity that prevents them from reporting fully.
- Under the rulebook, developed countries can meet their commitments through all kinds of financial instruments—concessional and non-concessional loans, grants and aids from various public and private sources.
- Countries are required to provide information necessary for clarity, transparency and understanding with regard to the second set of NDCS, as the first cycle of NDCS are till 2025 or 2030.
- Countries are free to provide information that is additional to mitigation, including adaptation and means of implementation. This is a victory for developing countries because it expands the scope of NDC much beyond being mitigation-centric.
- No finance has been committed to Warsaw International Mechanism, the specialised framework to address loss and damage. So, the developing countries are left on their own to address climate-induced loss and damage.
- The draft text sets the standard unit for Paris markets as one tonne of carbon dioxide equivalent.

- The rulebook emphasises that the adaptation reporting requirement is country-driven and flexible. It does not pose any additional burden on developing countries.
- It instructs various financial institutions like Green Climate Fund and Global Environment Facility to support developing countries in reporting on adaptation.

Fault lines in expressway

Prime Minister Narendra Modi launched the construction of the Char Dham Mahamarg on December 27, 2016, as a tribute to those who died in the 2013 Kedarnath disaster.

Details -

- The project will refurbish 900 kms of the damaged highways with two lanes, 12 bypass roads, 15 big flyovers, 101 small bridges, 3,596 culverts and two tunnels.
- The roads will be widened at least 10 metres, and will be strong enough to withstand the harsh climate of the region.
- The improved highway circuit aims to ease traffic during the Char Dham Yatra, the backbone of Uttarakhand's tourism and economy.

Concern -

- The area forms the Main Central Thrust of the Lesser Himalayan region. This is where the Indian tectonic plate goes under the Eurasian Tectonic Plate. The phenomenon makes the region susceptible to earthquakes and landslides.
- The Geological Survey of India corroborates this in its report prepared after the Kedarnath disaster. It states that road construction in mountains reactivates landslides as it disturbs the "toe of the natural slope of the hill."

Conclusion -

The government is imposing a project disregarding the ecological concerns of the area. Making a road is fine, but it should be done keeping in mind its ecological implications. Else, it won't be long before another disaster hits Uttarakhand.

Politicisation of Rights

The Forest Rights Act, 2006 (FRA) has been an iconic law in India. It aims to recognise the historical injustice done to the forest-dependent communities and grants two kinds of forest rights: individual and community.

Fault line -

- In the case of the two districts of North and South 24 Parganas of West Bengal, FRA has not yet been implemented.
- Sundarban Biosphere Reserve (SBR) is located in parts of these two districts. SBR is partially inhabited and partially forested.
- The inhabited areas of SBR fall within North and South 24 Parganas and accommodates a large number of forest-dependent communities, especially in the lower island villages bordering the forests.

What is the issue?

- To claim the benefits under FRA, forest communities do not necessarily need to be a "forest dweller", the Backward Classes Welfare Department of West Bengal—the nodal body implementing the Act in the state—cites the absence of habitations inside the forests as the major reason for non-implementation of FRA in SBR.
- FRA rests most of the powers with the Gram Sabha. However, in SBR, the idea of a Gram Sabha is different. Village or "gram" in West Bengal represents an entire area under a gram panchayat, with a constellation of hamlets, and not a single one.
- Attempts to implement FRA have been also resisted by the elites in the village like the Joint Forest Management Committee (JFMC) members, who feel FRA might dislodge them of their administrative and political powers, and prawn fishery owners, who have set up fishery units by greasing the palms of local political leaders.

Conclusion -

While there is enough evidence from other parts of the country that shows how administrative failures have impeded the implementation of the Act, in the Sundarbans, we are witnessing a “politicisation” associated with the Act. Apart from considering the larger political economy sustained by the bureaucratic networks, a careful observation of local politics is required to understand why the Act has not been implemented in the Sundarbans.

Pressed for sharing

Divya Pharmacy, owned by yoga teacher Baba Ramdev and his partner Acharya Balakrishna in a writ petition filed in Uttarakhand High Court had, after a long dispute over payment of benefit-sharing fees with the State Biodiversity Board (SBBs), challenged the latter’s right to demand fair and equitable benefit sharing, and whether such a rule can be imposed on domestic companies.

What is Convention on Biological Diversity (CBD)?

CBD is an agreement signed by 196 nations to conserve biological diversity, use its components sustainably and share fairly and equitably the benefits accruing from the use of genetic resources. To further the aims of the last goal, cbd especially instituted the Nagoya Protocol (NP), which came into force in 2014.

Issues -

There is a two-pronged assault on the laws of biological conservation of genetic resources—by scientists and the industry, and in both cases, India has become the launchpad for the campaigns.

- The first led by Indian scientists is an international movement against the Convention on Biological Diversity (CBD), which they say has spawned national regulatory regimes on access and benefit sharing (ABS) with “unintended consequences”. Although CBD acknowledges the importance of research and sharing of knowledge, scientists claim that the ABS regime put in place by many countries are restrictive.
- Against the industrious use, It is argued by the conservationists that biological resources are definitely the property of a nation where they are geographically located, but these are also the property, in a manner of speaking, of the indigenous and local communities who have conserved it through centuries.
- Commercial outfits have been refusing to abide by the benefit-sharing regulations in the Biological Diversity Act, 2002, claiming that only foreign entities are obliged to do so. Moreover, Fair and Equitable Benefit Sharing (FEBS) rates are minuscule given the huge turnovers of Ayurvedic companies.
- Dhulia’s ruling (Uttarakhand High Court in Divya Pharmacy case) that SBBs have the powers to demand FEBS under several sections of rules framed by NBA means companies using biological resources will have to fall in line. The court has therefore, removed the textual ambiguities in Section 7 of the Biodiversity Act.

Conclusion -

It is time that legal ambiguities are removed to ensure clarity in the way it is implemented. This would assuage the fears of all: scientists, communities and industry.

Dumped in a pit

Meghalaya’s two rat-hole mines in its East Jaintia Hills mining district have collapsed in the past one month, exposing the lawlessness in the state. Ironically, the state government has maintained that rat-hole mining has stopped following the 2014 National Green Tribunal (NGT) ban on it for being “unscientific, hazardous, and functioning out of the purview of the mining laws of the land”.

Ground Reality -

- Far from closing the mines down, the ban has made them more secretive and dangerous.
- The mines are unknown and unmapped tunnels are making the rescue more difficult.
- The mine concerned was so remotely located that it is not even electrified.

Background -

- The annual coal production of Meghalaya in 2015 was 6 million tonnes and revenue collected was ₹600 crore. Coal reserves in the state are estimated at 640 million tonnes.
- When coal was nationalised in 1973, Meghalaya, a tribal state under the Sixth Schedule of the Constitution, was allowed to continue its “traditional cottage” mining status unhindered by the legal regulations of mining.
- The coal-rich areas of South Garo Hills and the East Jaintia Hills became booming towns, employing thousands. The high earnings lured many into death traps.

What is rat-hole mining?

- Coal in the state is extracted through the rat-hole mining method, where horizontal tunnels are made after removing the forests till the time the coal seam is reached.
- Initially, mining required little investment. Over the decades, the first coal seam exhausted and people were forced to dig deeper. This required major investments. The mine owners annually spent at least ₹70-80 crores collectively just to pump out water. This led to the formation of a cartel that practiced unfettered mining in the area.
- The coal lobby enjoys huge political support in Meghalaya where politicians often promise the electorate the ways to lift the ban on rat-hole mining that was financially helpful to the people as well as the coal companies.

Way forward -

The only way out of the tangle now is for the Centre to invoke Para 12 A (b) of the Sixth Schedule to the Constitution. This will authorise a Presidential notification to exempt Meghalaya from the current mining acts in the country. Unless that is done, whatever the state does will be considered illegal due to the NGT ban.

Agenda for 2019

In 2018, some major policies and programmes were unveiled in India. At the international level also, two major agreements got under-way—the Rulebook for the Paris Agreement was adopted and the Kigali Amendment to the Montreal Protocol came into effect on January 1, 2019.

Agenda for 2019 -

The agenda for 2019 is clear cut: we have to set up the institutional and regulatory framework to implement the major programmes and fulfil our international obligations. Here’s the list of the top environmental priorities for 2019.

- **National Clean Air Programme:** Our piecemeal approach to tackle air pollution must give way to the implementation of a comprehensive and integrated action plan. The National Clean Air Programme, under which more than 100 cities have to develop and implement clean air plans, must be institutionalised for effective enforcement. Without strict enforcement, all the other measures will fail.
- **Single-use plastics:** The pledge to ban all single-use plastics by 2022 must be put into action. At present, different states have interpreted the term “single-use plastics” differently. A national definition backed up by a comprehensive plan, including the promotion of alternatives, should be put in place.
- **Swachh Bharat Mission:** Governments come and governments go, but successful programmes must continue. The Swachh Bharat Mission is one such programme. This year, solid waste management must be strengthened to make it sustainable.
- **National and State Action Plan on Climate Change:** In 2008, the National Action Plan on Climate Change (NAPCC) and the State Action Plan on Climate Change (SAPCC) were adopted. The outcome has been mixed. While the National Solar Mission and the National Mission for Enhanced Energy Efficiency has done very well, other missions under NAPCC have not progressed as expected. The SAPCCs too have not progressed beyond documentation. It is time we revisit NAPCC and SAPCC and develop a comprehensive framework to decarbonise our economy and adapt to the changing climate. One thing we must ensure is that the division of responsibilities between the Centre and states is well defined. Currently, only Central government is responsible for cutting emissions. This must change.
- **National Forest Policy and Act:** The draft National Forest Policy, 2018, fails to join the dots. In addition, the environment ministry has also started the process of amending the Indian Forest

Act, 1927. It is imperative we get both of them right. India needs forest regulations that recognise the role and the potential of people to grow, manage, protect and use forests sustainably. For this, the forest department must shed its colonial hangover and become facilitators in community-managed forests.

- **National River Revitalisation Plan:** It is not just Ganga that is polluted; all major and minor rivers are in the grip of pollution because of unsustainable withdrawal of water and untreated disposal of wastes. From the Cauvery to Godavari, and from the Sutlej to the Yamuna, all rivers need a revitalisation plan. Let 2019 be the year in which we unveil the National River Revitalisation Plan.
- **Pollution Control Boards:** Pollution control boards (pcbs) are ineffective, corrupt and getting archaic with every passing year. They are not designed to regulate, monitor and enforce the pollution challenges of the 21st century. We cannot do without a frontline environment regulatory authority. It is time we reinvent pcbs and build their capacity for effective monitoring and enforcement.