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GS1

GS2

HEALTH

Integrate TB services with primary health system: Lancet

Stats on Tuberculosis

- Of the 10 million new tuberculosis (TB) cases reported globally in 2017 by the World Health Organisation, **2.74 million were from India**, showing a marginal reduction from 2.79 million in 2016.
- Despite TB incidence in the country being **204 cases per 1,00,000 in 2017**, the government has set a highly ambitious target of “eliminating TB by 2025”, five years ahead of the Sustainable Development Goals (SDGs) target.

Concerns

- India has set an ambitious goal of eliminating TB by 2025, but **integration of TB services with the primary health system to reduce diagnostic delays is not happening**.
 - Patients are not diagnosed and treated at the primary level, which is the first point of contact. Only this will lead to early diagnosis and help cut the transmission cycle

The Lancet Global Health article

- But according to The Lancet Global Health article based on **modelling for three high-burden countries**, including India, compared with 2015 data, 57% reduction in incidence and 72% reduction in mortality will be seen only by 2035.
- **Strengthening the care cascade** could reduce cumulative TB incidence by 38% in the case of India, it notes.
- India has to **adopt measures to prevent TB on a population level to eliminate the disease** in the coming decades, it adds.
 - The India report card says **diagnosis and treatment** for drug-sensitive and drug-resistant TB need improvement.
 - Modelling suggests that lives of eight million (28%) people with TB can be saved over the next 30 years **if tests are subsidised and patients are supported to complete the treatment**.
 - The Lancet Commission recommends that India should **scale up access to TB services** for all those seeking them, **optimise engagement of private sector** providers and guarantee **universal access to drug susceptibility testing and second line TB drugs**.

GS3

SCIENCE AND TECHNOLOGY

OSIRIS REx

- OSIRIS-REx is an acronym for “**Origins, Spectral Interpretation, Resource Identification, and Security-Regolith Explorer.**”
- The mission is to **study asteroid 101955 Benu, a carbonaceous asteroid** (formerly designated 1999 RQ36) and in 2023 to return to Earth a sample for detailed analysis.
- Benu, which is only slightly wider than the height of the Empire State Building, may contain unaltered material from the very beginning of our solar system.
- OSIRIS-REx will provide a greater understanding of both the **hazards and resources in near-Earth space** and will be a major advance in our continuing exploration of asteroids and other small bodies in the solar system.

Why Benu?

- **Accessibility for Sample Return:** The closest asteroids to Earth are called **Near-Earth Objects (NEOs)** that come within 120 million miles (1.3 Astronomical Units or AU) of the sun.
 - **AU is the average distance between Earth and the sun**, equal to about 93 million miles (150 million

kilometers).

- For a sample return mission like OSIRIS-REx, the most accessible asteroids for a spacecraft to reach are **located between 149 million miles (1.6 AU) and 74 million miles (0.8 AU)**.
- The most **accessible asteroids also have an Earth-like orbit** — one that is fairly circular and has a low inclination — an orbit in nearly the same plane as that of Earth.
- **Bennu has such an orbit, ranging from 0.9 to 1.4 AU** from the sun and an inclination only 6° different than Earth's.
- **Enabling Proximity Operations and Sample Collection** Asteroids with small diameters generally rotate more rapidly than those with large diameters. With a diameter less than 650 feet (200 meters), an asteroid can spin fast enough that the some of the material on its surface can be ejected.
 - Furthermore, it is **difficult to match the rotation of a rapidly rotating asteroid** while conducting close proximity operations with a spacecraft.
 - The **better asteroid destination has a diameter larger than 650 feet** (200 meters) so that a spacecraft can safely come into contact with it and collect a sufficient sample of surface material.
 - Bennu, with a diameter of 1,614 feet (492 meters), takes just over 4 hours to rotate once (this is the length of a day on Bennu), **which is slow enough to allow OSIRIS-REx to execute its mission**.
- **Carbon-rich Composition:** Asteroids are categorized into different types **based on their chemical composition** as inferred from telescopic observations. The most **primitive asteroids are carbon-rich** and are believed to **have not significantly changed** since they formed over 4.5 billion years ago.
 - These asteroids could contain volatiles and organic molecules such as amino acids that may have contributed to the formation of life on Earth and are important factors in determining the potential for life elsewhere in the solar system.
 - **Telescopic measurements suggest that Bennu's surface is indeed rich in carbon.** Astronomers call Bennu a "B-type" asteroid, suggesting it has a composition similar to meteorite known as "carbonaceous chondrites," which as their name suggests, are rich in carbon compounds.
 - Only a handful of known asteroids share these properties of accessibility, size, and composition. This makes Bennu the best choice for OSIRIS-REx's destination asteroid.

Scientific Significance

- Asteroids are the **remnants of the original building blocks of our solar system**.
- Knowledge of the nature of asteroids **is fundamental to understanding planet formation, the solar system, and the origin of life**.
- The return to Earth of pristine samples with known geologic context will enable precise analyses that cannot be duplicated by spacecraft-based instruments or by laboratory analysis of meteorites.
- The mission will allow **researchers to better evaluate hazards and resources** in the inner solar system.

Context

- Evidence of water, particle plumes found on asteroid Bennu: NASA

GS4

Editorials

INDIAN POLITY AND GOVERNANCE

Torture in Police Stations

Definition:

According to Article 1 of Convention against Torture and Other Cruel, Inhuman or Degrading Treatment or Punishment the term "torture" means any act by which severe pain or suffering, whether physical or mental, is intentionally inflicted on a person for such purposes as obtaining from him or a third person information or a confession, punishing him for an act he or a third person has committed or is suspected of having committed, or intimidating or coercing him or a third person, or for any reason based on discrimination of any kind, when such pain or suffering is inflicted by or at the instigation of or with the consent or acquiescence of a public official or other person acting in an official capacity. It does not include pain or suffering arising only from, inherent in or incidental to lawful sanctions.

Statistics:

- That torture is 'endemic' across police stations in India is well known. Official statistics show that in 2018 there were **144 deaths in police custody**.
- About 40% of complaints received every year by the NHRC are against the police — mainly for custodial violence.

Supreme Court on torture:

The Supreme Court of India's judgment in the case of *Munshi Singh Gautam and others vs the State of Madhya Pradesh 2005* perhaps summarizes the best how Courts have expressed concern about violence in custody over the years:

- The dehumanising torture, assault and death in custody which have assumed alarming proportions raise serious questions about the credibility of the rule of law and administration of the criminal justice system
- Supreme Court judgment indicates that despite formulation of different guidelines and stress of various judgments that protection from torture is a fundamental right enshrined under Article 21 (Right of Life) of the Indian constitution - State and its forces including police have remained adamant to continuously inflict torture on persons in custody.

Concerns:

- **Top police officials tolerate it**, turn a blind eye to it, citing it as a 'practical tool', or go easy on the perpetrators.
- Those in the **lower judiciary**, which is the **first point of check against custodial violence**, are frequently not vigilant in checking if arrested persons are secure in custody, have a lawyer assigned, or have the means to speak out.
- Often, **pliant doctors further weaken protections** to those in custody by willingly minimising or not disclosing the nature of the harm or injuries they have sustained.
- **Oversight bodies like police complaints authorities and human rights commissions** are comfortable with the slow pace of accountability from state actors and do not doggedly pursue outcomes.
- One of the reasons that the Government of India (GOI) is ignorant about torture is because there has been no consistent documentation of torture-related complaints. The **National Crime Records Bureau (NCRB) does not document cases of custodial torture**
- ▢ The use of excessive force including torture is also specifically used to target marginalised communities and control people participating in movements or propagating ideologies which the state perceives as opposed to its stature.
- South Asia is among the last regions where the political executive must grant permission before public servants can be prosecuted for acts done in the course of their work.
 - o Courts have repeatedly said that **torture is no part of policing and so there is no question of waiting for permission for prosecution**.
 - o The brazenness is strengthened when legal precedents towards torture prevention are not paid heed to. Yet, the executive is still asked, decisions are delayed, and trials cannot proceed.
- According to judicial precedent, recovery of evidence made as a result of torture cannot be used in court, but without proactive lawyers and magistrates, these important details are overlooked in the early stages of the legal process. For victims of torture, this means a harder fight in courts.

Torture by masquerading officers:

- Besides being illegal and immoral, torture is **not even a useful tool to stop crime**.
- **Eliciting unreliable confessions** — the bedrock of the use of torture — destroys the process of deciding

through evidence-based means **whether the accused is the real perpetrator or not.**

- Moreover, whenever it goes unpunished, torture actually supports more crime by **creating a class of criminals within law enforcement.**
- It creates a cohort of torturers concealed as officers of the law while they destroy it.

Measures taken to restrain the use of torture:

- The **Kerala Police Act** puts the onus on all police officers to report any physical torture they know of.
- **Prisons in Telangana** refuse to admit people brought into judicial custody if they appear injured; such persons are sent back to hospitals, forcing their injuries to be properly recorded.

Steps initiated in the past:

- In 2008, a **Prevention of Torture Bill** was brought in Parliament, but due to its weak provisions it was sent to a select committee. The **select committee** draft was presented in the upper house in 2010, but it remained stuck
- The **Law Commission of India** submitted its 273rd report recommending government to ratify the UNCAT and also proposed the Prevention of Torture Bill 2017.

What needs to be done?

Some of above mentioned isolated innovations are not enough to stop this horror that has embedded itself in the subculture of policing.

- India **signed the UN Convention against Torture or Other Cruel, Inhuman, or Degrading Treatment or Punishment (UNCAT) in 1997.**
 - o However, ratifying (which is the most crucial aspect of the commitment and implies taking legal steps to make Indian laws correspond to the UN convention commitments) is yet to be done.
 - o This is in sharp contrast with Bangladesh, which passed a strong law in 2013.
 - o Until we have such a law, Indians must accept that the active tolerance of **torture puts punishment before the crime and judgment in the hands of the wrong agency.**
 - o This violates the rule of law in every way. India needs to revisit this.
- Things will remain unchanged until and unless we make amendments in **Section 114 (B) of the Indian Evidence Act**, which will ensure that if a person in police custody sustains injuries, it will be presumed that those injuries have been inflicted by the police and the burden of proof shall lie on the authority concerned to explain such injury.
- **A comprehensive solution** would be to ensure that disincentives are put in place and that there is proper accountability. But there is a lack of political will.

The case of the missing election in J&K

Why in the news?

On March 10, 2019, Chief Election Commissioner Sunil Arora announced that while Assembly polls will be held simultaneously with the Lok Sabha polls in Andhra Pradesh, Arunachal Pradesh, Odisha and Sikkim, they would not be held likewise in Jammu and Kashmir.

Editorial Analysis:

- On December 28, 2018, Union Home Minister Rajnath Singh told the Lok Sabha that the government was prepared for an election in Jammu and Kashmir any time.
- As Home Minister he knew the security situation in the State. He explicitly added that if the Election Commission decided to hold the elections, the Home Ministry would provide the security requisite for the conduct of a free and fair poll.
- It is important to note that from December 20, 2019, President's rule was imposed in the State with dubious constitutional validity.
- When the Rajya Sabha debated its ratification on January 3, 2019, Mr. Singh repeated his assurance in these unqualified terms: "We are willing to provide whatever security force Election Commission wants for holding elections there." Responding to Congress leader Ghulam Nabi Azad's question on why elections were not held

after the BJP pulled out of the State government, Mr. Singh said, "If the Election Commission wants, our government will have no objection."

Implication of assurances

- Experts point out that the implication of both assurances in identically explicit terms to each House of Parliament on separate occasions was clear.
- Further, Mr. Singh was cognisant of the security situation and was confident that a simultaneous poll was possible. However, on March 10, 2019, Chief Election Commissioner Sunil Arora announced that while Assembly polls will be held simultaneously with the Lok Sabha polls in Andhra Pradesh, Arunachal Pradesh, Odisha and Sikkim, they would not be held likewise in Jammu and Kashmir.
- He asserted, ahead of the reactions in Kashmir, that "the Election Commission will not capitulate to anyone". The feeble reasons he gave, despite the Home Minister's assurances, confirm the impression of a 'fixed matter'.
- He argued, "The Election Commission recently visited Jammu and Kashmir, met political parties and government officials. Due to constraints in the number of security forces and recent violent incidents in Jammu and Kashmir, there will be no Assembly elections in the State."

Questions that arise:

- Critics point out that there are three flaws in the argument put forward.
- The Union Home Minister is better informed of the political and security situation in Jammu and Kashmir than the Election Commission can be after its brief visit.
- He has inputs from the Central and State intelligence besides other sources.
- Critics further point out that he was surely well aware of the "constraints in the number of security forces" when he repeatedly offered his categorical assurances. And when was Kashmir free from "violent incidents" ever since 1996, when elections began to be held after the outbreak of militancy there in 1989?

Suggestions and amendments

- Critics have pointed out that Mr. Arora was appointed as the Chief Election Commissioner without consultation with the Opposition. So were his two colleagues as Election Commissioners.
- The recent case draws attention to a grave lacuna in our constitutional system which its architect, B.R. Ambedkar, frankly admitted in the Constituent Assembly, on June 16, 1949: "My provision, I must admit, does not contain anything to provide against nomination of an unfit person to the post of the Chief Election Commissioner or the other Election Commissioners. I do want to confess that this is a very important question and it has given me a great deal of headache."
- In 1974, a Committee on Electoral Reforms, appointed by Jayaprakash Narayan, suggested that the members of the Election Commission should be appointed by the President on the advice of a committee consisting of the Prime Minister, the Leader of the Opposition (or a Member of Parliament elected by the Opposition) in the Lok Sabha, and the Chief Justice of India. In May 1990, an All-Party Committee on Electoral Reforms recommended consultation with the Chief Justice of India and the Leader of the Opposition. This was modified in the Constitution (70th Amendment) Bill which the then Union Law Minister, Dinesh Goswami, who had chaired the Committee, moved in the Rajya Sabha on May 30, 1990.
- It is important to note that **Article 324(2) was to be amended to enjoin consultation with the presiding officers of both Houses of Parliament and the Leader of the Opposition in the Lok Sabha**. The Chief Justice of India was dropped from this panel.
- In appointing the other Election Commissioners, the Chief Election Commissioner was also to be consulted. The Bill lapsed on the dissolution of the Lok Sabha. Consultation with the two political figures who preside over the House of Parliament is surely a far weaker check than one with the Chief Justice of India.

Instances of partisanship

- On October 23, 2018, the Supreme Court referred to a five-judge Bench a PIL seeking a collegium-like system for the selection of the Chief Election Commissioner and the Election Commissioners.
- It was opposed by Attorney General K.K. Venugopal contending that persons of unblemished virtue had held the post of Chief Election Commissioner. This is untrue. Successive Chief Election Commissioners have been criticised for partisanship.
- S.P. Sen Verma's report on the Fifth General Elections in India 1971-72 contains blatantly political remarks reflective of a clear bias in favour of the Congress. The CPI(M) held him responsible for rigging the elections to the West Bengal Legislative Assembly. Jayaprakash Narayan thought of appointing a non-official inquiry committee.
- S.L. Shakti was rightly criticised for delaying by-elections arbitrarily. R.K. Trivedi was criticised for adopting double standards in holding elections in Assam despite the clear certainty that a free and fair poll was simply not possible in the State. A bloodbath followed. Critics argue that on Kashmir he rejected the State government's views on the dates for spurious reasons.
- T.N. Seshan changed the trend. He and his successors like J.M. Lyngdoh won public confidence. Mr. Arora's appointment as Chief Election Commissioner raised eyebrows.
- Recently, laws setting up institutions like the Lokpal invariably prescribe a wide consultative mechanism.
- In conclusion, the time has come to fill the lacuna which Dr. Ambedkar himself pointed out.

INDIAN ECONOMY

A short history of data

Larger Background:

- The Planning Commission was set up by a Resolution of the Government of India in March 1950 in pursuance of declared objectives of the Government to promote a rapid rise in the standard of living of the people by efficient exploitation of the resources of the country, increasing production and offering opportunities to all for employment in the service of the community.
- The Planning Commission was charged with the responsibility of making assessment of all resources of the country, augmenting deficient resources, formulating plans for the most effective and balanced utilisation of resources and determining priorities.
- Jawaharlal Nehru was the first Chairman of the Planning Commission.
- The first Five-year Plan was launched in 1951 and two subsequent five-year plans were formulated till 1965, when there was a break because of the Indo-Pakistan Conflict.
- Two successive years of drought, devaluation of the currency, a general rise in prices and erosion of resources disrupted the planning process and after three Annual Plans between 1966 and 1969, the fourth Five-year plan was started in 1969.
- The Eighth Plan could not take off in 1990 due to the fast changing political situation at the Centre and the years 1990-91 and 1991-92 were treated as Annual Plans.
- The Eighth Plan was finally launched in 1992 after the initiation of structural adjustment policies.
- For the first eight Plans the emphasis was on a growing public sector with massive investments in basic and heavy industries, but since the launch of the Ninth Plan in 1997, the emphasis on the public sector has become less pronounced and the current thinking on planning in the country, in general, is that it should increasingly be of an indicative nature.

Editorial Analysis:

- Experts have pointed out that over the past two months, Indian national statistics and the organisations that administer them have faced a volley of criticism.
- In January, 2019, two independent members of the National Statistical Commission resigned in protest, over alleged suppression of economic data by the government.
- More recently, amidst growing scepticism regarding India's official statistics, more than a hundred scholars comprising economists and social scientists released a statement decrying the fall in standards of institutional independence, suggesting political interference as the cause. Kaushik Basu, a former chief economist of the World Bank, also recently bemoaned the declining credibility of India's official statistics.

A Brief Look at History: The Mahalanobis Period

- While declining data quality has been an issue for a while, concern over institutional independence is new. What several of these criticisms reference is the fact that India's national statistics were once internationally renowned among economists and policy professionals for their reliability.
- In the decades following World War II, India had reason to be proud not only of the institutional independence of national statistical bodies but also — uniquely among developing countries — of a pioneering history of independent data collection and publication. But what exactly was that history?
- We shall take a brief look into that history in the points that follow.
- The growth of India's vast national statistical infrastructure dates back to its first decade as an independent country. The birth of a new nation led to an explosion of national statistics, based on the need to plan the economy through Five Year Plans.
- These years would see the establishment of the office of the Statistical Adviser to the Government, bi-annual National Sample Surveys (NSS), the Central Statistical Organisation (CSO), and National Income Committees (that made the estimates similar to GDP measurements).
- The moving spirit behind these developments was Prasanta Chandra Mahalanobis, whom Jawaharlal Nehru described as the "presiding genius of statistics in India," and the institute that he had founded in Calcutta in 1931, the Indian Statistical Institute (ISI).
- While the British colonial government had made efforts to collect statistics on the subcontinent from the early 19th century, these were provincially organised and geared towards trade and administration. On the eve of World War II, it had become apparent, both to the colonial government and the Indian National Congress, that any concerted postwar developmental effort would require fine-grained statistical information on the national economy.
- Nehru, Chairman of the Congress's National Planning Committee, called attention in 1938 to the "fact of the absence of accurate data and statistics." Even a decade later, he would admit, "we have no data," as a result of which, "we function largely in the dark."
- It was this need that would elevate the profile of the Indian Statistical Institute and Mahalanobis, both internationally feted in the 1940s for their scholarly contributions to theoretical and applied statistics. 'The Professor', as Mahalanobis was known to associates, was involved in the discussions that led to establishment of the UN Statistical Commission in New York (a body that he would be voted Chairperson of several times during the 1950s).
- As a pioneer in the emerging field of large-scale sample surveys, he would also be the force behind creating the UN Sub-Commission on Statistical Sampling in 1947, co-authoring the textbook on the subject in 1950.

Launching sample surveys

- By the middle of the twentieth century, the Indian Statistical Institute was globally recognised as a leader in the field of sample surveys. It would soon even begin training statisticians from other developing countries.
- The famed English statistician R.A. Fischer observed that its achievements "brought India not far from the centre of statistical map of the world."
- The Institute's fingerprints were readily apparent in the creation of India's National Income Committee, the Central Statistical Organisation, the International Statistical Education Centre in Calcutta, and the National Sample Survey — all created around the mid-century mark.
- The inaugural National Sample Survey was, as the Hindustan Times reported in 1953, "the biggest and most comprehensive sampling inquiry ever undertaken in any country in the world." These were, as Nobel Prize-winning economist Angus Deaton put it, the "world's first system of household surveys to apply the principles of random sampling." The sheer scale seemed foolhardy, even to sympathetic statisticians.
- As the American statistician W. Edwards Deming recalled: "We in this country [U.S.], though accustomed to large scale sample surveys, were aghast at Mahalanobis' plans for the national sample surveys of India.
- Their complexity and scope seemed beyond the bounds of possibility." The first survey, performed by hundreds of dedicated staff, involved manifold challenges according to reports: in Odisha's forested areas investigators had to be accompanied by armed guards; in the Himalayas they waited for the snows to melt in the passes; in Assam they encountered "naked tribes" who did "not know what money means"; and elsewhere they waded through "deep jungles infested with wild-beasts and man eaters."

High-definition snapshots:

- The results of the National Sample Survey offered high-definition snapshots of the country's material life — casting light on cost of living, crop estimates, household consumption, industry, trade, and land holding patterns.
- Twenty years later, the once sceptical Edwards Deming was now a convert: “No country, developed, under-developed or over-developed, has such a wealth of information about its people as India.” The contemporary Singaporean statistician Y.P. Seng observed that by comparison that China had “no genuine statistics” and so India's example of using surveys would “serve as a guide and an example worthy of imitating”.
- The Planning Commission, beginning in 1962, used the data the National Sample Survey generated by its household surveys to craft the country's poverty line. India was a frontrunner in this regard: the United States developed its own poverty line three years later.
- With their combined influence on the UN Statistical Commission and the UN Sub-Commission on Statistical Sampling, the Indian Statistical Institute and the National Sample Survey continue to have a lasting impact on estimating poverty across the developing world.
- Methods pioneered by the National Sample Survey have become the norm for household surveys across the globe.
- **For example, the Living Standard Measurement Study surveys conducted in several countries by the World Bank can trace their lineage back to the work of Indian statisticians associated with the Indian Statistical Institute and the National Sample Survey.**

An anomaly?

- This distinguished history, which India can claim with pride, makes the recent undermining of the credibility of our statistical output especially regrettable.
- We can, however, ensure that when we look back on this several years from now, it represents an anomaly rather than a lasting, irreparable loss of institutional credibility.

Useful tool

Why in the news?

- Recently, the Reserve Bank of India decided to resort to a dollar-rupee swap, instead of the traditional open-market purchase of bonds, to infuse liquidity into the economy.
- Experts opine that this development marks a significant shift in the central bank's liquidity management policy.
- Under the three-year currency swap scheme, which is scheduled to open next week, the RBI will purchase \$5 billion from banks in exchange for rupees.

Editorial Analysis:

- The central bank will infuse as much as ₹35,000 crore into the system in one shot at a time when liquidity generally tends to be squeezed.
- For the banks, it is a way to earn some interest out of the forex reserves lying idle in their kitty.
- Apart from injecting fresh liquidity into the economy, the move will have implications for the currency market even as it helps shore up the RBI's dollar reserves.
- It is important to note that bond yields rose on the day following the announcement of the swap scheme, reflecting the prevailing opinion among traders that the RBI may gradually reduce its dependence on the regular bond purchase scheme to manage liquidity within the economy.
- Experts point out that while traditional open market operations distort the bond market, the new forex swap scheme will introduce new distortions in the currency market.
- The rupee's recent rally against the dollar has been halted by the RBI's decision to infuse rupees and suck out dollars through the swap scheme.
- Even so, it is worth noting that the rupee has appreciated significantly in value terms against the dollar since the low reached in October 2018 as foreign investors have begun to pour money into the Indian economy.
- Overall, the dollar-rupee swap is a useful addition to the RBI's policy toolkit as it offers the central bank a chance to directly influence both the value of the rupee and the amount of liquidity in the economy at the same time using a single tool. In the aftermath of the liquidity crisis in the non-banking financial sector, it can be an effective way to lower private borrowing costs as well.

Concluding Remarks:

- The coming elections, which can lead to an increase in cash withdrawals from banks, may have also played a role in the RBI's larger decision to boost liquidity in the system.
- The way banks respond after receiving fresh liquidity from the RBI, however, will determine the success of the new liquidity scheme to a large extent.
- Businesses could benefit from the greater availability of liquidity, but only if banks aggressively pass on the benefit of lower rates to their borrowers.
- Lastly, if banks choose to deposit the fresh RBI money in safe government securities at low yields, as they have done in the past, the de facto cap on the government's borrowing costs will remain intact.

However, if banks manage to find alternative ways to deploy their money, the RBI's new liquidity scheme could end up raising borrowing costs for the government, punishing it for fiscal indiscretion.

ENVIRONMENT AND ECOLOGY

For a healthy planet

Larger Background:

- Experts have opined that the sixth edition of the Global Environment Outlook from the UN Environment Programme has come as another stark warning: ***the world is unsustainably extracting resources and producing unmanageable quantities of waste.***
- Further, the linear model of economic growth depends on the extraction of ever-higher quantities of materials, leading to chemicals flowing into air, water and land. As a consequence, this causes ill-health and premature mortality, and affects the quality of life, particularly for those unable to insulate themselves from these effects.

UN Report, GEO-6: A Perspective:

- The UN report, GEO-6, on the theme ***"Healthy Planet, Healthy People,"*** has some sharp pointers for India.
- It notes that East and South Asia have the highest number of deaths due to air pollution; by one estimate, it killed about 1.24 million in India in 2017.
- It is significant that GEO-6 estimates that the top 10% of populations globally, in terms of wealth, are responsible for 45% of GHG emissions, and the bottom 50% for only 13%.

Editorial Analysis:

- Last week in Nairobi, governments welcomed the Global Environment Outlook 6: Healthy Planet, Healthy People (GEO-6) report.
- GEO-6 argues that in a business-as-usual scenario, the world will exhaust its energy-related carbon budget in less than 20 years to keep the global temperature rise to well below 2°C; it will take even less time to exhaust the budget to keep the global temperature rise to below 1.5°C.
- GEO-6 shows that the interlocking environmental crises kill millions prematurely and affect and displace billions. Substituting for nature by buying air purifiers, building coastal defence systems to compensate for degrading mangroves, or just cleaning beaches is expensive.
- Ironically, such costs increase the GDP as currently calculated. As GDP grows at the cost of the environment and does not reflect an increase in everyone's well-being, India should reconsider how it calculates its GDP.
- A healthy planet is a public good and governments should take responsibility for it. When they hand responsibility to the private sector, clean air is only available to those who can pay for an air purifier. Poor people cannot afford air purifiers. Investing in water and sanitation will bring returns — a \$1 investment in water and sanitation could bring \$4 in returns; a green investment of 2% of global GDP could lead to similar growth rates by 2050. We must mobilise think tanks to work out context-specific solutions for India.
- Investing in education for sustainable development, vertical and compact cities, public transport with cheap

parking facilities, renewable energy, removing single-use plastics, and reducing food waste are the way to go to reduce global warming.

- Many Indians are vegetarians. Why not promote that lifestyle? Much of India was a circular economy, so why not cherish the re-users and recyclers? India had a judiciary that thought of long-term justice; why not protect that? We must debate where we want to be in 2050 and strive towards that.

The Way Forward: An Indian Perspective:

- Experts point out that India could save \$3.3-8.4 trillion in a 1.5°C world.
- It is in India's interest to aim for 1.5-2°C. This would mean investing in not new fossil fuels but in renewables and better batteries. Investing in inappropriate infrastructure has costs in terms of climate change and stranded assets — decommissioning oil and gas infrastructure in the Netherlands, a small country, is €6.7-10 billion. If India's universities develop tomorrow's technologies, it could provide cutting-edge and frugal technologies. This could change energy geopolitics and remove the excuse of rich countries of postponing carbon neutrality. Developing countries can change — Costa Rica, for instance, has pledged carbon neutrality by 2021.
- As India's population grows, it must worry that agricultural yields are coming under stress due to increase in average temperature and erratic monsoons.
- The implications of these forecasts for food security and health are all too evident, more so for the 148 million people living in severe weather 'hotspots'.
- The task before India is to recognise the human cost of poorly enforced environment laws and demonstrate the political will necessary to end business-as-usual policies.
- That would mean curbing the use of fossil fuels and toxic chemicals across the spectrum of economic activity.
- There are some targeted interventions that only require the resolve to reduce air and water pollution, and which in turn promise early population-level benefits. Aggressive monitoring of air quality in cities through scaled-up facilities would bring about a consensus on cutting emissions of greenhouse gases, and provide the impetus to shift to cleaner sources of energy.
- Pollution impacts are, however, borne more by the poorer citizens. Combating air pollution would, therefore, require all older coal-based power plants in India to conform to emission norms at the earliest, or to be shut down in favour of renewable energy sources.
- Further, transport emissions are a growing source of urban pollution, and a quick transition to green mobility is needed.
- In the case of water, the imperative is to stop the contamination of surface supplies by chemicals, sewage and municipal waste.
- Also, as the leading extractor of groundwater, India needs to make water part of a circular economy in which it is treated as a resource that is recovered, treated and reused.
- Unfortunately, water protection gets low priority, and State governments show no urgency in augmenting rainwater harvesting. New storage areas act as a supply source when monsoons fail, and help manage floods when there is excess rainfall.

Tidbits

Prelims Fact

World Happiness Index

- The World Happiness Report is a measure of happiness published by the [United Nations Sustainable Development Solutions Network](#).

- The report ranks countries on six key variables that support well-being: income, freedom, trust, healthy life expectancy, social support and generosity.
- It ranks the world's 156 countries on "how happy their citizens perceive themselves to be"
 - In those surveys, people give scores from 1 to 10 on how much social support they feel they have if something goes wrong, their freedom to make their own life choices, their sense of how corrupt their society is and how generous they are.
- It was first published in 2012.
- The happiness study ranks the countries of the world on the basis of questions from the Gallup World Poll. The results are then correlated with other factors, including GDP and social security.

India's Performance

- Indians are not as happy in 2019 as they were in 2018 and the country figures at 140th place, seven spots down from 2018

Other Countries

- Finland has been ranked as the happiest country in the world for the second year in succession. The Nordic nation is followed by Denmark, Norway, Iceland and The Netherlands.
- Pakistan is ranked 67th, Bangladesh 125th and China is place at 93rd.
- People in war-torn South Sudan are the unhappy with their lives, followed by Central African Republic (155), Afghanistan (154), Tanzania (153) and Rwanda (152).

UPSC Prelims Practice Questions

Astana Declaration is related to

- a) Primary Healthcare
- b) Drug Trafficking Control
- c) Fight against Money Laundering
- d) Global commitment to fight climate change

Ans: a

- The Astana Declaration of the World Health Organisation (WHO) marks the 40th anniversary of the historical Alma Alta Declaration that declared health a human right for all and not just a privileged few.
- It vows to strengthen primary healthcare and achieve universal health coverage by 2030.
- The declaration, which has all 194 WHO member states on board, including India, urges countries to use high-quality, safe, effective and affordable medicines, including "appropriate" traditional medicines, vaccines, diagnostics and other technologies to improve access to health while "protecting personal data".
- It underlines the growing need for prevention, control and management of non-communicable diseases like diabetes and heart disease, among others, which now account for more years of ill health and deaths in most parts of the world, including in India.

Which of the following statements about Arjuna Tree are correct?

- 1) It usually grows along river banks
- 2) Soil in areas under the canopy of the tree had higher organic carbon and moisture content
- 3) Its leaves are fed on by the *Antheraea paphia* moth which produces the tassar silk

Options:

- a) 1 and 2 only

- b) 2 and 3 only
- c) 1 and 3 only
- d) 1, 2 and 3

Ans: d

- The arjuna is a large, buttressed tree that usually grows along river banks.
- The arjuna is about 20–25 metres tall; usually has a buttressed trunk, and forms a wide canopy at the crown, from which branches drop downwards.
- Soil in areas under the canopy of the tree had higher organic carbon and moisture contents, probably due to the presence of the large canopy.
- The arjuna is one of the species whose leaves are fed on by the *Antheraea paphia* moth which produces the tassar silk, a wild silk of commercial importance

Fuego volcano is in which country?

- a) Japan
- b) Indonesia
- c) Philippines
- d) Guatemala

Ans: d

- It is an active stratovolcano in Guatemala
- Fuego sits on the Ring of Fire, a horse-shoe-shaped string of volcanoes, earthquake sites and tectonic plates around the Pacific, which spreads across 40,000km (25,000 miles) from the southern tip of South America all the way to New Zealand.
- Stratovolcanoes are made up of alternating layers of lava, ash and rock.



Consider the following about POSHAN Abhiyaan

- 1) It targets Children and women only
- 2) It will address Malnutrition through Convergence, Use of Technology

Which of the above statements are incorrect?

- a) 1 only
- b) 2 only
- c) Both

d) None

Ans: a

- The Abhiyaan **targets to reduce stunting, under-nutrition, anemia (among young children, women and adolescent girls)** and reduce low birth weight by 2% per annum respectively
- It has vision to ensure attainment of malnutrition free India by 2022.
- It will address Malnutrition **through Convergence, Use of Technology and a Targeted approach**
- The objective of POSHAN Abhiyaan to reduce stunting **in identified Districts of India with the highest malnutrition** burden by improving utilization of key Anganwadi Services and improving the quality of Anganwadi Services delivery
- There are a number of schemes directly/indirectly affecting the nutritional status of children (0-6 year's age) and pregnant women and lactating mothers. In spite of these, level of malnutrition and related problems in the country is high. There is no dearth of schemes but lack of creating synergy and linking the schemes with each other to achieve common goal.
 - POSHAN Abhiyaan **through robust convergence mechanism and other components would strive to create the synergy.**
- Initiated by **Ministry of Women and Child Development**

Charlevoix Blueprint is associated with

- a) North Korea and South Korea Peace Plan
- b) Climate Adaptation Plan
- c) Free Trade Agreement in South America
- d) Global IP Agreement

Ans: b

- It was endorsed by G7 leaders which is a strategy for enhancing ocean and coastal “resilience”
- The Blueprint aims to develop better climate adaptation planning, emergency preparedness and recovery. The signatories are to identify policy gaps, vulnerabilities, and share expertise.
- In response to disasters, the Blueprint nations are to develop coastal management strategies that enable communities to “build back better,” with provisions to reconstruct both physical infrastructure and natural systems.

UPSC Mains Practice Questions

- 1) What is Brain Drain? What factors lead to Brain Drain? What are the measures taken by Govt of India to prevent this?
- 2) If the goal of PRI's was to create another layer of government and political representation at the grass-roots level, then there is no parallel to the PRIs. And if the goal was to provide better governance, then PRIs are a failure. Evaluate.
- 3) In spite of various laws and Supreme Court's Precedents, torture and custodial deaths continue unabated. What are the various concerns, and what should India do to curb this menace which directly violates Fundamental right to live with dignity.

