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MARCH 2023

WEEKLY CURRENT AFFAIRS

YOJNA IAS WEEKLY CURRENT AFFAIRS

20/3/2023 TO 26/3/2023

Delhi Office

706 Ground Floor Dr. Mukherjee Nagar
Near Batra Cinema Delhi – 110009

Contact No. : +91 8595390705

Noida Office

Basement C-32 Noida Sector-2
Uttar Pradesh 201301

website : www.yojnaias.com

WEEKLY CURRENT AFFAIRS

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CURRENT AFFAIRS
MARCH 2023

VIBRANT VILLAGE PROGRAMME

*This article covers "Daily current events "and the topic is about the "**Vibrant Village Programme**" which is in news, it covers "Government Policies and Interventions" In GS-2, the following content has relevance for UPSC.*

For Prelims: Vibrant Village Programme
For Mains: GS-2, *Government Policies and Interventions*

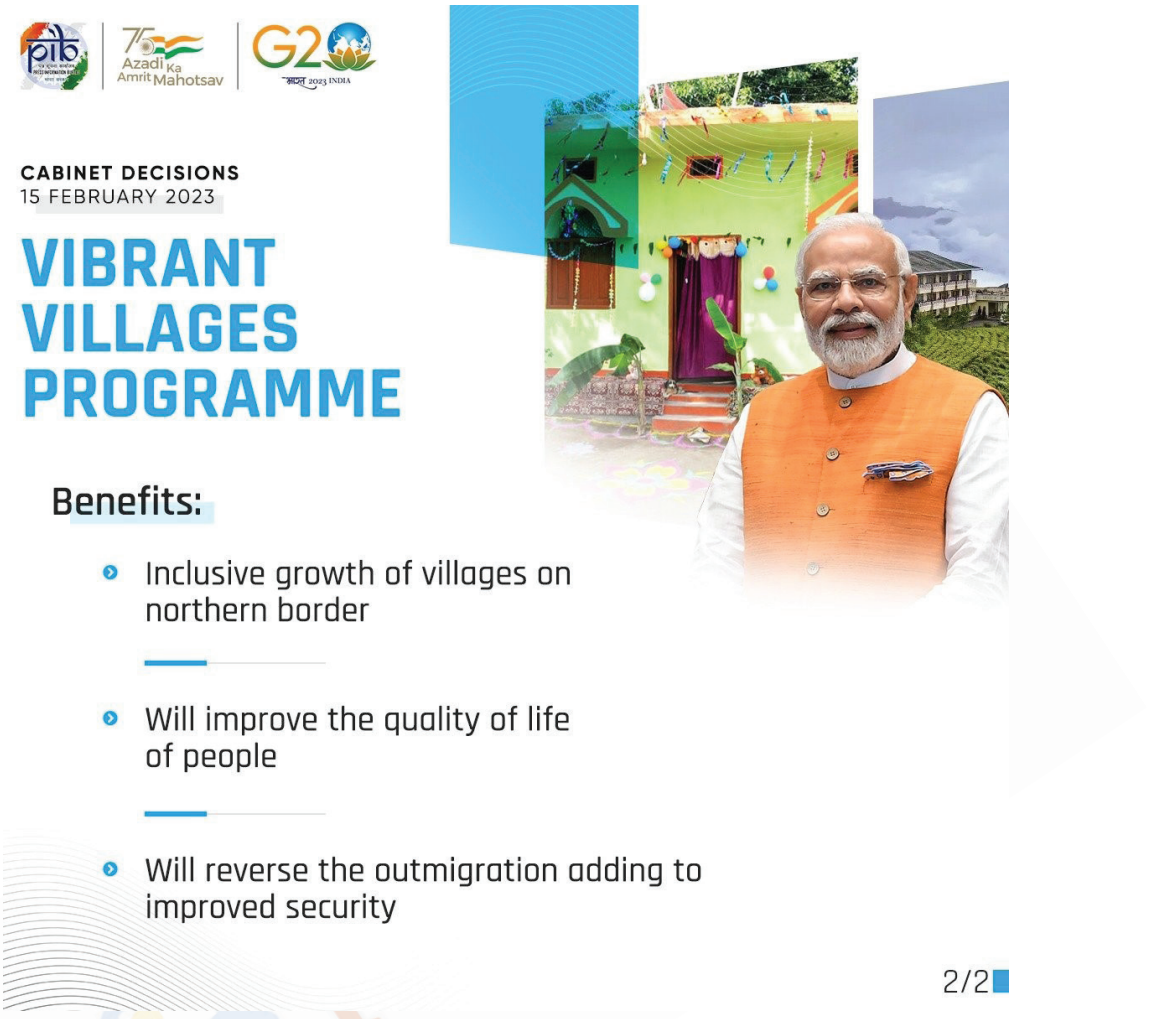
Why in news:

Cabinet approves Centrally Sponsored Scheme- "Vibrant Villages Programme" for the Financial Years 2022-23 to 2025-26 with financial allocation of Rs. 4800 Crore.

ABOUT VIBRANT VILLAGE PROGRAMME

- The Union Cabinet has approved the Centrally Sponsored Scheme- "Vibrant Villages Programme" (VVP) for the Financial Years 2022-23 to 2025-26 with a financial allocation of Rs. 4800 Crore.
- **Aim:** Comprehensive development of villages of blocks on the northern border thus improving the quality of life of people living in identified border villages.
  - This will help in encouraging people to stay in their native locations in border areas and reversing the outmigration from these villages adding to improved security of the border.
- **Roadmap:** The scheme will provide funds for:
  - Development of essential infrastructure and creation of livelihood opportunities in 19 Districts and 46 Border blocks 4 states and 1 UT along the northern land border of the country which will help in achieving inclusive growth and retaining the population in the border areas.
  - In the first phase, 663 Villages will be taken up in the programme.
  - **Vibrant Village Action Plans** will be created by the district administration with

the help of Gram Panchayats. 100% saturation of Central and state schemes will be ensured.



Vibrant Village Programme

- **A key highlight of the Vibrant Village Programme:** The scheme aids to identify and develop the economic drivers based on local natural human and other resources of the border villages on the northern border and the development of growth centres on the **"Hub and Spoke Model."** This will be done through the:
  - Promotion of social entrepreneurship
  - Empowerment of youth and women through skill development and entrepreneurship
  - Leveraging the tourism potential through the promotion of local cultural, and traditional knowledge of heritage
  - Development of sustainable eco-agribusinesses on the concept of "One village-One product" through community-based organisations, Cooperatives, SHGs, NGOs etc.
- organisations, Cooperatives, SHGs, NGOs etc.

Hub and Spoke Model: Hub and spoke structures are used by investment companies to pool assets, cut costs and improve efficiency.

All of the funds in the system typically have the same investment objective and portfolio manager, or master fund that serves as the "hub". The smaller investment vehicles, or feeder funds, are referred to as the "spokes."

- Key outcomes of the Vibrant Village Programme:
  - Connectivity with all-weather roads.
  - Drinking water.
  - 24×7 electricity – Solar and wind energy are to be given focused attention.
  - Mobile and Internet connectivity.
  - Tourist centres, multi-purpose centres and health and wellness Centers.
- Significance of the Vibrant Village Programme:
  - This plan will revolutionise our border communities with China, Pakistan, Nepal, Bangladesh, Bhutan, and Myanmar shortly.
  - All basic amenities, such as modern houses and adequate roads; water and electricity supply; good education, health, and communication facilities; and access to Doordarshan channels, are supplied to border communities.
  - This will serve to encourage people to stay in their native locations in border areas, reversing migration from these communities and contributing to improved border security.

WHAT ARE THE CHALLENGES FACED BY HIMALAYAN STATES?

- **Social:** The Parliamentary Standing Committee highlighted the illiteracy, backwardness, and lack of basic facilities in our border communities in 2018.
- **Unplanned Urbanisation:**
  - This has resulted in a blockage of the natural flow of water, resulting in regular landslides.
  - Himalayan slopes have grown very unstable in recent decades as a result of increased building, hydroelectric projects, and National Highway enlargement.
- **Issue of Migration:** Migration is frequent in the Himalayas, with many men leaving the countryside to find work in cities.
- **Security threats:** For decades, Himalayan border settlements remained undeveloped.
  - Seeing an opportunity, China expanded its influence along Indian borders by swiftly constructing infrastructure and strengthening its military presence.
  - India has also experienced similar setbacks along the Pakistan border.
  - Terrorist activity has also escalated along the Burma border.

- Subsidence of towns:
  - Subsidence similar to that witnessed in Joshimath has been documented in several other Himalayan towns.
- Ecology under pressure:
  - Due to population growth, deforestation, and industrial and commercial activities, the fragile ecology is under massive pressure.
- Climate Change:
  - The implications of climate change are particularly concerning in mountain areas, notably the influence on the region's water supply, which supplies nearly 1.3 billion people living downstream.
  - The frequency of floods and droughts appears to be increasing, as does the demand for water, food, and energy.

CONCLUSION

- The people who live in border villages are our first line of defence; they are our sentinels. The Vibrant Village Programme is an essential and laudable programme that will solve all of the Himalayan states' difficulties and challenges.
- This will not only make our borders safer and more secure, but it will also pull distant and border settlements into the national mainstream, making them more dynamic, developed, and self-sufficient.

Source:

PIB

Indian Express

IPCC AR 6 Synthesis Report

This article covers "Daily Current Affairs" and the topic details the latest IPCC AR 6 report (Sixth Assessment Cycle). The IPCC report highlights the state of climate change and the efforts being taken by countries to offset the impact of climate change. The topic has relevance in the Environment section of the UPSC CSE exam.

Relevance for UPSC-CSE

For Prelims:

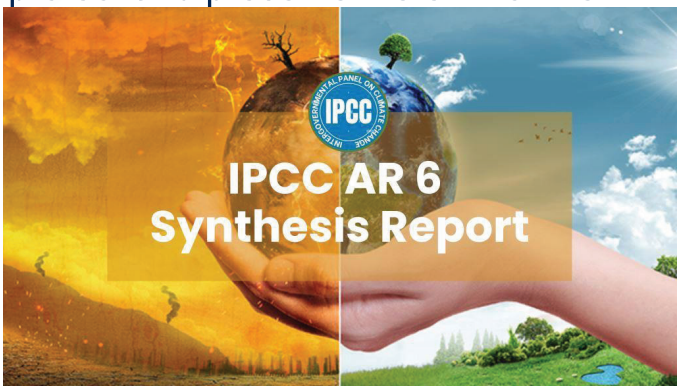
- What is IPCC?
- Findings of IPCC

For Mains:

- GS 3: Environment
- Findings of IPCC
- Measures are taken to control climate change

WHAT ARE THE FINDINGS OF THE IPCC AR 6 SYNTHESIS REPORT?

- **Role of CO2:** The report reinforces the scientific view that CO2 is the primary GHG and needs to be drastically reduced. The report asserts that for every 1000 Gt of Carbon Dioxide emitted due to anthropogenic activity, the global surface temperature rises by 0.45°C.
- **Climate justice and equity:** These are crucial enablers to ensure climate action and growth and development in developing countries.
- **Financing gap:** The reports say that the largest financing gaps are in developing countries and financial support from developed countries is a critical enabler. It further says that the support from developed countries is falling short of the levels needed to mitigate the negative impacts of climate change.
- **Focus on Sustainable Development:** The report highlights that the negative fallouts of developmental processes will exacerbate the issue of climate change. Also, climate change events like floods, heat waves, etc, will also impact the existing pace of development. Hence, there is a need to focus on sustainable development and climate-resilient development.
- **Need for International Cooperation:** Apart from financing needs international cooperation is also needed in sharing technology and best practices.
- **Mitigation and Adaptation measures:** In order to offset the losses made by climate change there is a need to bring in mitigation and adaptation measures. The rise in temperature and the related impact cannot be reversed entirely so a focus on mitigation and adaptation measures is needed.
- **Emphasis on 'LIFE':** The report highlights the Indian vision for 'LiFE', or Lifestyle for Environment, which is a global mass movement for promoting an environmentally friendly lifestyle to protect and preserve the environment.

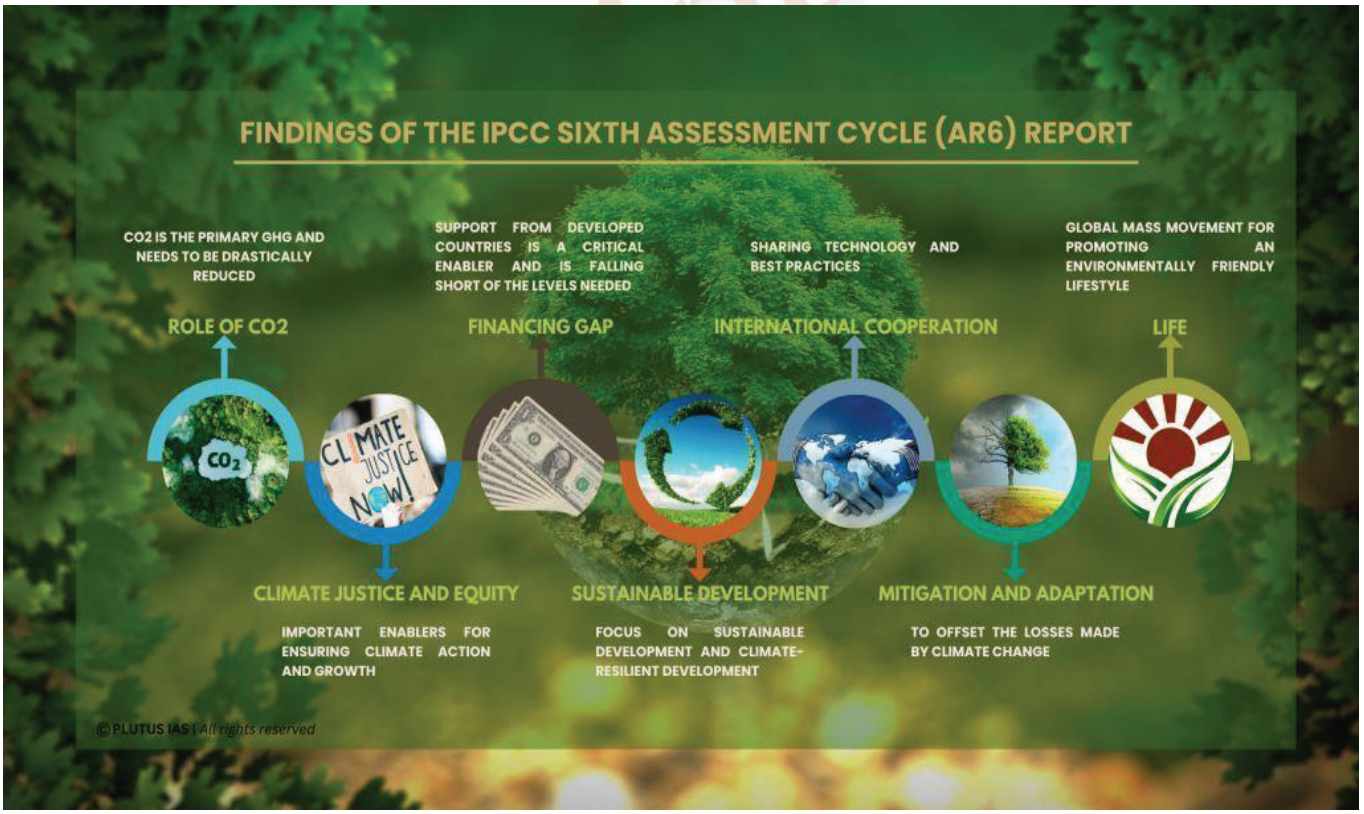


IPCC Report

WHAT IS IPCC?

The IPCC (Intergovernmental Panel on Climate Change) is a scientific intergovernmental body established in 1988 by the World Meteorological Organisation (WMO) and the United Nations Environment Programme (UNEP). The aim of the IPCC is to provide policymakers with regular assessments of the scientific basis of climate change, its impacts and future risks, and options for adaptation and mitigation.

- The mandate of the IPCC is to provide policymakers with regular assessments of the scientific basis of climate change, its impacts, and options for adaptation and mitigation.
- The IPCC does not carry out its own research but instead assesses and synthesizes the latest scientific, technical, and socio-economic literature relevant to climate change.
- The IPCC operates through a cycle of assessment reports, with the most recent being the Sixth Assessment Report (AR6) released in 2021. These IPCC reports involve a comprehensive and rigorous review of the existing literature by hundreds of scientific experts from around the world, as well as input from governments and stakeholders. The IPCC's assessments have been instrumental in shaping international climate policy, including the United Nations Framework Convention on Climate Change (UNFCCC) and the Paris Agreement.



IPCC

WHAT ARE THE ASSESSMENT REPORTS?

- IPCC Assessment reports are comprehensive evaluations of the state of the earth's climate. It is a compilation of scientific information produced as a result of research conducted by various scientists and environmentalists.
- Each IPCC Assessment report undergoes a rigorous review process, including review by hundreds of experts, governments, and stakeholders, to ensure that it is based on the most up-to-date and accurate information available.
- IPCC reports are the basis of the policy responses taken by the countries. They form part of the direction to be taken by countries individually and collectively.

To date, IPCC has published 6 assessment reports with AR-6 being the latest one.

Source:

PIB

Landfill Fire

This article covers "Daily current events "and the topic is about 'Landfill fire' which is in news, it covers "Environment" In GS-3, the following content has relevance for UPSC.

For Prelims: Landfill Fire
For Mains: GS-3, Environment

Why in news:

On March 2, the dumping yard caught fire. The garbage yard, which included a large amount of plastic waste, smoldered over the following 12 days, casting a noxious cloud over Kerala's commercial city.

ABOUT LANDFILL

A landfill also known as a tip, dump, rubbish dump, garbage dump, or dumping ground, is a location where waste items are disposed of.

TYPES OF LANDFILL

- **Municipal Solid Waste Landfills (MSWLFs):** Specifically designed to manage domestic rubbish and other non-hazardous waste.
- **Bioreactor Landfills:** A type of MSWLF that converts and decomposes organic waste fast.

- **Industrial Waste Landfills:** Designed to collect commercial and institutional rubbish (also known as industrial waste), which accounts for a significant volume of solid waste even in small towns and cities.
- **Construction and Demolition (C&D) Debris Landfills:** C&D materials frequently incorporate bulky, heavy materials such as concrete, wood, metals, glass, and salvaged building components.
- **Coal Combustion Residual (CCR) landfills:** A landfill for industrial trash used to manage and dispose of residuals from coal combustion (CCRs or coal ash).
- **Hazardous Waste Landfills:** Hazardous waste disposal facilities.

CAUSES OF LANDFILLS FIRE

- **Waste containing flammable materials:** Combustible materials, such as low-quality plastics, can be found in openly discarded garbage and have a greater calorific value of roughly 2,500-3,000 kcal/kg.
- **Summer is dry and hot:** The biodegradable component composts much faster, boosting the heap temperature to 70-80° C.
- **Low efficiency in waste processing:** Municipalities in India gather more than 95% of urban waste, yet waste processing efficiency is about 30-40%.
- **Poor segregation of waste at source:** Municipalities are expected to segregate their wet and dry garbage and recycle the recovered byproducts.
- **Massive amounts of unprocessed trash:** Remains in open landfills for long periods.

Landfill Fire

IMPACTS OF LANDFILL FIRE

- **Greenhouse gases:** Landfill fires release greenhouse gases, which harm the ecosystem.
- **Schools Education System:** This affects the education system since the landfill fire forces the closure of surrounding schools.
- Carcinogens- The waste may contain carcinogen materials which increase the chances of being affected by the cancer-causing disease.

MEASURES TO COMBAT LANDFILL FIRE

- Precautionary Measures:
  - For immediate intervention, water tankers equipped with sprinklers should be stationed at the waste site.
  - The municipality should work with the local fire service to develop a plan of action ahead of time.
  - Waste-processing workers (plant operators, segregation, and so on) should have basic fire safety and response training.
  - The municipality should have video surveillance of the landfill's most combustible section around the clock.
- Short-Term Measures:
  - The first immediate step is to divide a site into blocks based on the type of garbage.
  - Bricks that have been capped with dirt are less prone to catch fire, therefore these should be separated as well.
  - To encourage individuals to stay indoors.
  - People are given N95 masks.
- Long-Term / Permanent Solutions:
  - Bioremediation can be used to remove trash piles.
  - Biomining should be implemented for waste disposal that is both safe and low-cost.
  - Cover the entire site with soil.

GOVERNMENT MEASURES FOR SOLID WASTE MANAGEMENT

- Solid Waste Management Rules (SWM), 2016: The new regulations mandate waste segregation at the source to redirect waste to wealth through recovery, reuse, and recycling. Before handing over waste to the collector, waste generators must now separate waste into three streams: biodegradables, dry (Plastic, Paper, Metal, Wood, etc.), and domestic hazardous waste (diapers, napkins, insect repellants, cleaning agents, etc.).
- Pollution Control Boards: The Pollution Control Boards are ordered to take measures to persuade local authorities of the importance of proper municipal solid waste management.

WASTE DISPOSAL CHALLENGES FACED BY MUNICIPAL CORPORATIONS

- Inadequate funding
- The communication gap between central and state governments.
- Waste-to-energy initiatives are struggling.
- Municipal organizations have flaws at every stage of garbage management.
- Inadequate manpower
- Inadequate amount of waste management technology personnel.
- Absence of new technological techniques, research, and developments.

- Absence of public cooperation in waste sorting at the source.

WAY FORWARD

- The permanent and necessary solution is to ensure that cities have a systematic waste-processing system in place where moist and dry trash is processed separately and their byproducts are appropriately disposed of (recycling, soil enrichment, etc.). Many parties, including municipalities and waste-processing unit operators, will need to work together to achieve this.
- Given that India's summer has already begun, towns must take immediate steps to prevent fires while simultaneously concentrating on long-term solutions to enhance solid waste management.

Source:

The Wire

GENOME SEQUENCING

This article covers "Daily Current Affairs" and the topic details Genome Sequencing. In view of the receding COVID-19 the Prime Minister has warned that the dangers from the deadly virus are not over and thorough genome sequencing must be conducted to preempt any kind of health crisis. The topic "Genome sequencing" has relevance in the Science and Technology section for the UPSC CSE exam.

For Prelims:

About Genome Sequencing

For Mains:

GS 3: Science and Technology

Application of Genome Sequencing in various areas

Related gene editing techniques

Why in the news?

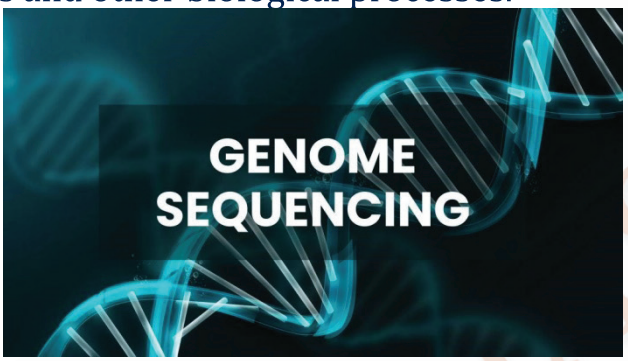
Recently Prime Minister Narendra Modi has raised a flag of caution expressing fears that the dangers of COVID-19 are not over. There is a need to be cautious and conduct

whole genome sequencing of new COVID-19 samples. This must be done to keep an eye on the new mutations or variants related to the virus.

WHAT IS GENOME SEQUENCING?

A genome is the entire set of genetic instructions that make up an organism, including all of its genes, non-coding regions, and other regulatory elements.

Genome sequencing is the process of determining the complete DNA sequence of an organism's genome. Genome sequencing is a powerful tool for understanding the genetic basis of diseases and other biological processes.



Genome Sequencing

WHAT IS WHOLE GENOME SEQUENCING?

Whole genome sequencing is a method to determine the order of bases in the genome of an organism in one process.

The process of whole genome sequencing involves breaking down the DNA into small fragments and then sequencing each fragment individually. The resulting sequences are then aligned and assembled into a complete genome sequence. This process can be time-consuming and expensive, but advances in sequencing technology have made it increasingly faster and more cost-effective.

WHAT ARE THE METHODS OF DOING WHOLE GENOME SEQUENCING?

- **Clone by Clone method:** This method involves breaking down the genome into smaller sections, which are then inserted into bacteria and grown to produce identical clones. These clones are further broken down into smaller chunks of DNA, which are sequenced and reassembled to create the complete genome sequence. While this method is time-consuming and expensive, it is reliable and was used to sequence the first human genome.
- **Whole-genome shotgun method:** It is a method of DNA sequencing that breaks DNA into small, random pieces for sequencing and reassembly. It is best suited for shorter reads and requires a reference genome and sophisticated computational

approaches for reassembly. It may also be challenging for genomes with many repetitive regions.

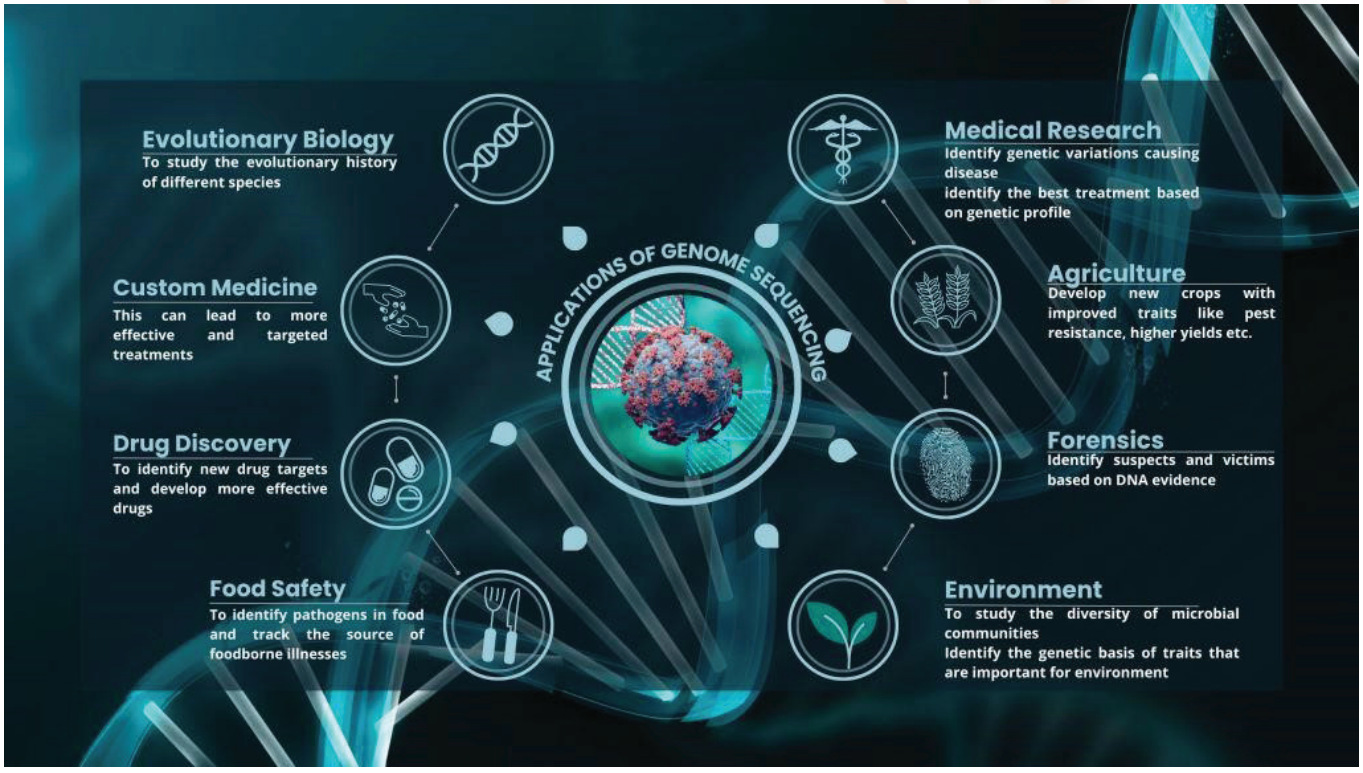
WHAT IS THE USE OF IT IN OUR LIVES?

The technique of Genome Sequencing has advanced over time and has attained great precision. It has helped in identifying the genetic causes of diseases and developing targeted therapies. Some uses of this technique are:

- Studying the evolution and diversity of different species.
- Identifying genetic variations that may impact an individual's health or response to medication.
- Developing new crops and improving agricultural productivity.
- Understanding the genetic basis of complex traits, such as intelligence or personality.

What are the applications of Genome Sequencing?

Genome sequencing has a wide range of applications in different fields. Here are some of the most significant applications:



Application Genome Sequencing

- **Medical Research and Diagnostics:** Genome sequencing is used to identify genetic variations that may cause or contribute to diseases. It can help identify the cause of rare genetic disorders, predict the risk of developing certain diseases, and identify

the best treatment for individual patients based on their genetic profile.

- **Agriculture:** It is used to develop new crops that are more resistant to pests, diseases, and drought. It can also help identify the genetic basis of traits such as yield, quality, and nutritional value.
- **Forensics:** It is used in forensic investigations to identify suspects and victims based on DNA evidence. It can also be used to identify the source of a pathogen in the event of a bioterrorism attack.
- **Environmental Science:** Genome sequencing is used to study the diversity of microbial communities in different environments, including oceans, soils, and the human gut. It can also help identify the genetic basis of traits that are important for environmental adaptation, such as salt tolerance in plants.
- **Evolutionary Biology:** Genome sequencing is used to study the evolutionary history of different species, including humans. It can help identify genetic variations that are unique to different populations, and shed light on the processes that have shaped the diversity of life on Earth.
- **Personalized Medicine:** Genome sequencing can be used to develop personalized treatment plans based on an individual's genetic profile. This can lead to more effective and targeted treatments, and reduce the risk of adverse drug reactions.
- **Drug Discovery:** Genome sequencing can help identify new drug targets and develop more effective drugs. By sequencing the genomes of pathogens, scientists can identify the genes and proteins that are essential for the pathogen's survival and develop drugs that target those proteins.
- **Food Safety:** It is used to identify pathogens in food and track the source of foodborne illnesses. By sequencing the genomes of pathogens in food samples, scientists can identify the strain of the pathogen and trace it back to its source.

Source:
The Hindu
Wikipedia

Tuberculosis

Common symptoms of active lung Tuberculosis are cough with sputum and blood at times, chest pains, weakness, weight loss, fever, and night sweats. WHO recommends the use of rapid molecular diagnostic tests as the initial diagnostic test in all persons with signs and symptoms of Tuberculosis as they have high diagnostic accuracy and will lead to major improvements in the early detection of Tuberculosis and drug-resistant Tuberculosis. Rapid tests recommended by WHO are the Xpert MTuberculosis/RIF Ultra and Truenat assays.

Diagnosing multidrug-resistant and other resistant forms of Tuberculosis (see Multidrug-resistant Tuberculosis section below) as well as HIV-associated Tuberculosis can be complex and expensive.

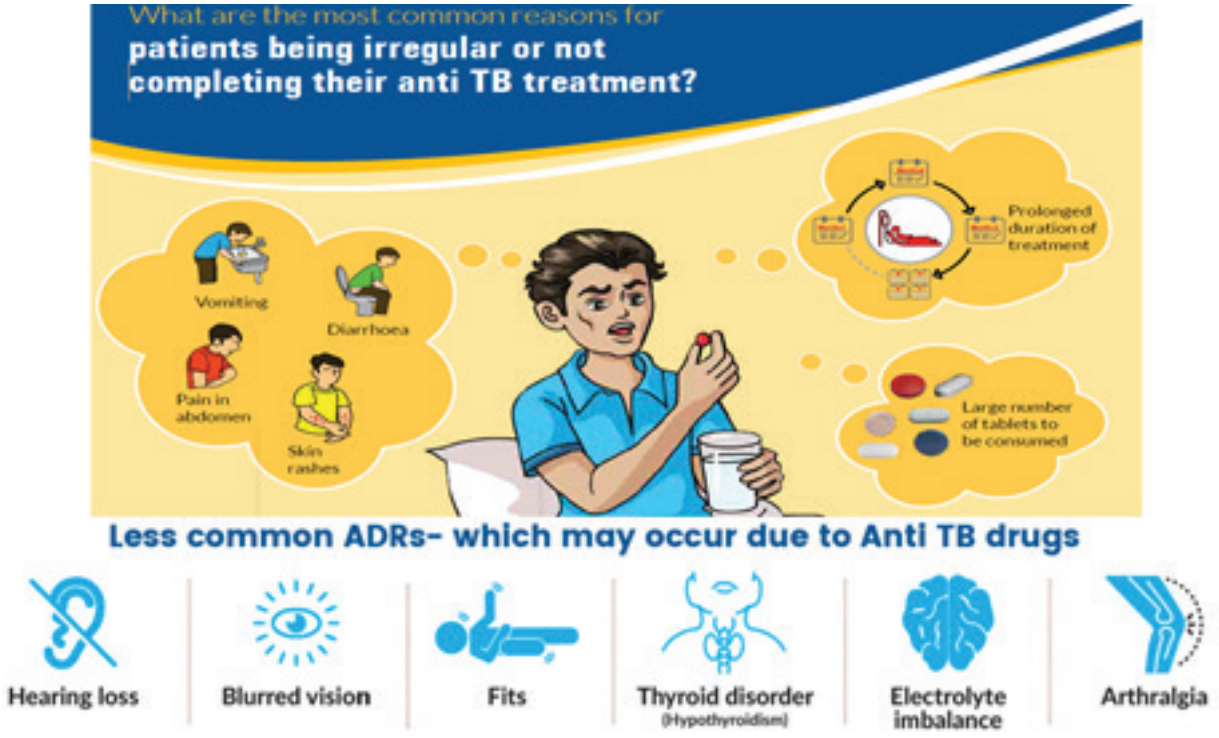
Tuberculosis is particularly difficult to diagnose in children.

Tuberculosis

TREATMENT OF TUBERCULOSIS

- Tuberculosis is a treatable and curable disease. Drug-susceptible Tuberculosis disease is treated with a standard 4-month or 6-month course of 4 antimicrobial drugs that are provided with support to the patient by a health worker or trained treatment supporter. Without such support, treatment adherence is more difficult.
- Since 2000, an estimated 74 million lives were saved through Tuberculosis diagnosis

and treatment.



TB treatment

MULTIDRUG OF TUBERCULOSIS(MDR-TB)

- Tuberculosis medicines have been used for decades and strains that are resistant to one or more of the medicines have been documented in every country surveyed.
- Drug resistance emerges when Tuberculosis medicines are used inappropriately, through incorrect prescription by health care providers, poor quality drugs, and patients stopping treatment prematurely.
- Multidrug-resistant tuberculosis (MDR-Tuberculosis) is a form of Tuberculosis caused by bacteria that do not respond to isoniazid and rifampicin, the 2 most effective first-line Tuberculosis drugs.
- MDR-Tuberculosis is treatable and curable by using second-line drugs. However, second-line treatment options are limited and require extensive chemotherapy (of at least 9 months and up to 20 months of treatment) with medicines that are expensive and toxic.
- In some cases, more extensive drug resistance can develop. Tuberculosis caused by bacteria that do not respond to the most effective second-line Tuberculosis drugs can leave patients with limited treatment options.
- MDR-Tuberculosis remains a public health crisis and a health security threat.
- In accordance with WHO guidelines, detection of MDR/RR-Tuberculosis requires bacteriological confirmation of Tuberculosis and testing for drug resistance using rapid molecular tests, culture methods or sequencing technologies.
- Treatment of MDR/RR-Tuberculosis requires a course of second-line drugs for at

least 9 months and up to 20 months, supported by counselling and monitoring for adverse events. WHO recommends expanded access to all-oral regimens.

- Only about one in three people with drug resistant Tuberculosis accessed treatment in 2020.
- Worldwide in 2019, the treatment success rate of MDR/RR-Tuberculosis patients was 60%. In 2020, WHO recommended a new shorter (9–11 months) and full oral regimen for patients with MDB-Tuberculosis.
- Research findings have shown that patients find it easier to complete the regimen, compared with the longer regimens that last up to 20 months. Resistance to fluoroquinolones should be excluded prior to the initiation of treatment with this regimen.
- By the end of 2021, 92 countries started using shorter MDR-Tuberculosis treatment regimens and 109 had started using bedaquiline, in an effort to improve the effectiveness of MDR-TB treatment.

INDIA'S STATUS IN TUBERCULOSIS

- The government's National Tuberculosis Elimination Program collects the majority of India's TB statistics.
- According to WHO, An estimated 2.8 million TB cases with TB killing more than 4,00,000 occur in India every year.

MEASURES WERE TAKEN BY INDIA TO ERADICATE TUBERCULOSIS

- **The National Tuberculosis Elimination Programme(NTEP):** It aims to reduce India's tuberculosis burden by 2025 strategically.
- **The National Strategic Plan for TB Elimination:**
  - Its multi-pronged approach aimed to detect all TB patients, with a focus on Tuberculosis patients seeking care from private providers and undiagnosed Tuberculosis, and was launched in a mission mode to meet the target of eradicating Tuberculosis by 2025.
- **Ni-Akshay Poshan Yojana(NPY)(Nutritional Support to TB):** It contributes to meeting the dietary needs of TB patients, particularly those who are underserved.
- From 2018 to the present, about Rs. 1,707 crores has been disbursed to over 65 lakh patients undergoing TB treatment across the country.
- **Patient-Provider Support Agencies (PPSA):** Patient Provider Support Agencies (PPSA) have been rolled out in 250 districts through the domestic setup and JEET program to engage the commercial sector.
- **Universal Drug Susceptibility Testing (UDST):** To ensure that every diagnosed TB patient is tested for medication resistance prior to or at the time of treatment beginning.
- **Pradhan Mantri TB Mukt Bharat Abhiyaan:** To bring all community stakeholders together to help persons receiving TB treatment and to expedite the country's

progress towards TB elimination.

- **Ayushman Bharat – Health and Wellness Centres:** Decentralize comprehensive primary care, including tuberculosis care, at the grassroots level.
- **Bedaquiline and Delamanid:** Newer medications, such as bedaquiline and delamanid, have also been approved for the treatment of DRTB.

Need of the hour:

- The development and widespread use of an adult tuberculosis vaccination.
- Reduce production costs so that fewer anti-TB medications are available to everyone
- Developing injection-free and oral TB medications
- For diagnosing tuberculosis, AI-assisted portable radiography with 90-second reporting and 95% accuracy is used.

Source:

Hindustantimes
WHO