

WEEKLY UPDATES – (22 MAY – 28 MAY)

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INTERNATIONAL RELATIONS

G20 Countries and Disaster Risk Reduction

Context:- Recently, the First **G20** Disaster Risk Reduction Working Group (DRR WG) meeting under India's G20 Presidency took place, where India highlighted the importance of **Disaster Risk Reduction (DRR)**.

Highlights of the Meeting?

- The G20 Disaster Risk Resilience Working Group has called upon governments to build a **social protection system** with an effective and preferred instrument for disaster risk financing.
 - It emphasised the **need for new-age Social Protection Systems that invest in local risk resilience** to mitigate, prepare and recover from disasters.
- The five **priorities outlined:**



- The G20 DRR WG intended to include considerations for the **Sendai Framework's mid-term review**, renew multilateral cooperation at all levels, and inform future global policies and initiatives related to DRR.

G20 and Need for Risk Mitigation Strategy

The G20 nations have a population of 4.7 billion and face risk from asset concentration and vulnerability to natural disasters.

- Also, four out of the top 10 vulnerable countries are from G20 members in the world risk index.
- The combined estimated annual average loss is equivalent to 9 per cent of the average annual investment in infrastructure totalling \$218 billion for G20 countries.
- Thus such kind of socio-economic losses can be mitigated by reducing risk through various measures such as:



Key Strategies for Reducing Disaster Risk

Better Economic and Urban Development:

Reducing risk can be achieved mainly by reducing vulnerability and exposure to risk through measures such as **better economic and urban development choices and practices**, protection of the environment, reduction of poverty and inequality, etc.

Financing:

There is a need to re-imagine **financing disaster risk reduction**. The financing requirements flowing through government budgets are not independent of a country's fiscal position and hence may be limited.

Infrastructure:

Infrastructure, such as roads, rails, airports, and electricity lines created through public revenues **need to be resilient to disasters and may require more funds incrementally**.

Dealing with Extensive and Intensive Risk:

Differential strategies to deal with extensive risk (risk of losses from frequent but moderate impacts) and intensive risk (from low frequency and high impact events), should be worked out.

Initiatives for Disaster Risk Reduction

Global:

- Sendai Framework for Disaster Risk Reduction 2015-2030
- The Climate Risk and Early Warning Systems (CREWS)
- International Day for Disaster Risk Reduction - 13th October
- Green Climate Fund's Sectoral Guide on Climate Information & Early Warning Systems

India's Initiatives:

- Coalition for Disaster Resilient Infrastructure Society (CDRIS)
- National Disaster Management Plan (NDMP)

POLITY

Appointment of Judges in Supreme Court

Context:-The **Supreme Court of India** recently witnessed the administration of oath to two new judges, **Justice Prashant Kumar Mishra**, and **Justice K.V. Viswanathan**, by **Chief Justice of India DY Chandrachud**.

- With their induction, the court has reached its **sanctioned strength of 34 judges**.

How are Supreme Court Judges Appointed?

Composition and Strength of the Supreme Court:

- Originally, the **Supreme Court had eight judges** (one chief justice and seven others).
- The Parliament has **increased** the number of judges over time.
- The current strength of the **Supreme Court is 34 judges (one chief justice and 33 others)**.

Qualifications for Appointment as a Judge:

- According to **Article 124(3) of the Constitution**, a person can be appointed as a judge of the Supreme Court if he or she:
 - A person must be a **citizen of India**.
 - Must have served as a **judge of a High Court for at least five years or two such courts in succession**.
 - Alternatively, must have been an **advocate of a High Court for at least ten years** or two or more such courts in succession.
 - Must be a **distinguished jurist in the opinion of the president**.

Appointment:

- The Judges of the Supreme Court are appointed by the **President under clause (2) of Article 124 of the Constitution**.
 - The President consults with judges of the Supreme Court and High Courts to make informed appointments.

Oath of Office:

- Every appointed judge must make and subscribe to an oath before the President or an appointed person.
- The oath includes commitments to uphold the Constitution, **sovereignty** and **integrity of India**, and **perform duties without fear or favour**.

Tenure and Resignation:

- There is no prescribed minimum age limit for a judge's appointment.
- A judge of the Supreme Court serves until they reach the **age of 65 years**.
 - However, a judge may resign before reaching the age of 65 years by tendering their resignation to the President.

Removal:

- A judge of the Supreme Court can only be removed from office by an order of the **President**.
- The removal process requires an address by each House of Parliament, supported by a special majority i.e., a majority of the total membership of that House and a majority of not less than **two-thirds of the members present and voting**.
- The grounds for removal are proven misbehaviour or incapacity.
- Parliament has the authority to regulate the procedure for presenting the address and investigating and proving the misbehaviour or incapacity of a judge.
- Once appointed, judges can serve until the age of 65 and cannot be removed during their tenure except for proved misbehaviour or incapacity.

Collegium System:

- It is the system of appointment and transfer of judges that has evolved through judgments of the Supreme Court, and not by an Act of Parliament or by a provision of the Constitution.
- There is no mention of the Collegium either in the original Constitution of India or in successive amendments.
- The Supreme Court collegium is headed by the CJI and comprises four other senior most judges of the court.

- A High Court collegium is led by its Chief Justice and four other senior most judges of that court.

Related Constitutional Provisions:

- **Article 124(2)** of the Indian Constitution provides that the Judges of the Supreme Court are appointed by the President after consultation with such a number of the Judges of the Supreme Court and of the High Courts in the States as the President may deem necessary for the purpose.
- **Article 217** of the Indian Constitution states that the Judge of a High Court shall be appointed by the President consultation with the Chief Justice of India, the Governor of the State, and, in the case of appointment of a Judge other than the Chief Justice, the Chief Justice of the High Court.

Evolution of the Collegium System in Judiciary:

First Judges Case (1981):

- It declared that the “primacy” of the Chief Justice of India (CJI)s recommendation on judicial appointments and transfers can be refused for “cogent reasons.”
- The ruling gave the Executive primacy over the Judiciary in judicial appointments for the next 12 years.

Second Judges Case (1993):

- Supreme Court introduced the Collegium system, holding that “consultation” really meant “concurrence”.
- It added that it was not the CJI’s individual opinion, but an institutional opinion formed in consultation with the two senior-most judges in the SC.

Third Judges Case (1998):

- Supreme Court on President’s reference expanded the Collegium to a five-member body, comprising the CJI and four of his senior-most colleagues.

Power to promulgate/re-promulgate ordinances

Context: To overturn a unanimous decision of the SC’s Constitution Bench [which gave the Delhi govt control over services in the NCT], the central government has issued an Ordinance.

About the Ordinance:

- It gave the Lieutenant Governor of Delhi power over services.
- It established a National Capital Civil Service Authority.
 - The authority will comprise the CM and two senior IAS officials.
 - It would decide matters by majority votes – which may lead to a situation in which the view of the elected CM could be overruled.

Ordinances in Indian Polity

About:

- **Article 123 of the Constitution** of India grants the President certain law-making powers to promulgate ordinances when either of the two Houses of Parliament is not in session, in urgent situations.
 - Hence, it is not possible for the ordinances to be issued by Parliament.
 - When an ordinance is promulgated but the **legislative session is yet to commence, the ordinance remains in effect as law.** It has the same force and effect as an Act of the legislature.
 - But it requires subsequent **ratification by Parliament within six weeks of its reassembly.**
 - An ordinance promulgated by the President has a maximum **validity of six months and six weeks from the date of its promulgation.**
- The **Governor of a state can also issue ordinances under Article 213** of the Constitution of India, when the **state legislative assembly is not in session.**
- If the two Houses start their sessions on different dates, the later date is considered (**Articles 123 and 213**).

Enactment:

- In the process of enacting an ordinance, the **decision to bring forth the ordinance lies with the government**, as the President acts on the advice of the Council of Ministers.
 - If the **President deems it necessary, s/he may return the Cabinet's recommendation for reconsideration.**
 - However, if it is sent back (with or without reconsideration), the President must promulgate it.

Withdrawal:

- The **President can withdraw an Ordinance**, and both Houses of Parliament can pass resolutions to disapprove it, potentially leading to its lapse. **Rejection of an ordinance would, however, imply the government has lost majority.**
 - However, If an Ordinance enacts a **law that falls outside the purview of Parliament's competence, it is considered void.**

Repromulgation of Ordinance:

- When an Ordinance lapses, the government can choose to re-promulgate it if necessary.
- In a 2017 case, the Supreme Court ruled that repeated **re-promulgations without legislative consideration would be unconstitutional and a violation of the legislature's role.**
 - The court **emphasised that the power to issue an Ordinance should be treated as an emergency measure** and not as a means to bypass the legislature.

Advantages

They allow quick and effective action on urgent matters.

They enable policy implementation without legislative hurdles.

They provide legal certainty and clarity in case of a judicial gap or ambiguity.

They reflect the responsiveness and accountability of the executive branch.

Disadvantages

They bypass the democratic process of law-making and reduce parliamentary oversight. They undermine the principle of separation of powers and encroach on the domain of the legislature.

They undermine the principle of separation of powers and encroach on the domain of the legislature.

They create legal instability as they are temporary and subject to change or repeal.

They may be misused for political or personal gains or to avoid public scrutiny or debate.

SC verdicts on the issue

RC Cooper Case 1970:

- If an Ordinance is issued solely to bypass the Parliament, the President's decision to promulgate the Ordinance can be challenged.

D C Wadhwa v. State of Bihar 1986:

- If the Government ignores the legislature and repromulgate an Ordinance, it would be a colourable exercise of power.

Krishna Kumar Singh v. State of Bihar 2017:

- Reiterated that the Governor's power to issue an Ordinance is in the nature of an **emergency power**. Repeated re-promulgations without bringing the Ordinance to the legislature would be **unconstitutional**.

INTERNAL SECURITY

Rohingya Refugees in India

Context:-A recent report titled 'A Shadow of Refuge: Rohingya Refugees in India' sheds light on the **challenges faced by Rohingya refugees in India.**

- The report was jointly prepared by **The Azadi Project, a women's rights non-profit and Refugees International**, an international NGO that advocates for the rights of stateless people

Rohingya Crisis

- The Rohingya people have suffered decades of **violence, discrimination and persecution in Myanmar.**
 - Rohingya are not recognized as an official ethnic group and have been **denied citizenship since 1982.** They are one of the largest stateless populations in the world.
- Since the early 1990's, the **Rohingya have fled successive waves of violence in Myanmar.**
 - Their **largest and fastest exodus began in August 2017** when violence broke out in Myanmar's Rakhine State, driving more than 742,000 people to seek refuge in neighbouring countries —**the majority of whom were women and children.**

Concerns and Recommendations Outlined in the Report

Concerns Related to Rohingya:

Denied Exit Permissions for Resettlement:

- **India's refusal to grant exit visas to Rohingya refugees** who have completed refugee status determinations and gained approval for resettlement in third countries is a **significant concern.**

Stigmatisation and Anti-Refugee Sentiment:

- **The Rohingya refugees in India face various challenges**, including being labelled as "**illegal migrants**".

Fear of Deportation:

- Actual and threatened deportations have instilled a **sense of fear within the Rohingya community**, compelling some to return to **camps in Bangladesh.**

Harsh Living Conditions:

- The report details the dire living conditions of Rohingya refugees in India, residing in **slum-like settlements without safe running water, toilets, or access to basic healthcare and education.**

Current Legislative Framework in India to Handle Refugees?

- India treats all foreigners whether illegal immigrants, refugees/asylum seekers or those overstaying visa permits under

Foreigners Act of 1946:

Under Section 3, the central government is empowered to detect, detain and deport illegal foreign nationals.

Passport (Entry into India) Act, 1920:

Under Section 5, authorities can remove an **illegal foreigner by force under Article 258(1) of the Constitution of India.**

Registration of Foreigners Act of 1939:

Under this, there is a mandatory requirement under which all foreign nationals (excluding overseas citizens of India) visiting India on a long-term visa (more than 180 days) are required to register themselves with a **Registration Officer within 14 days of arriving in India.**

Citizenship Act, 1955:

It provided provisions for renunciation, termination, and deprivation of citizenship.

SOCIAL JUSTICE

Nhrc Accreditation By Ganhri

Context: The credibility and independence of the National Human Rights Commission of India have been questioned by the Global Alliance of National Human Rights Institutions (GANHRI), the international body that accredits NHRIs based on their compliance with the UN-mandated Paris Principles.

Details

- The National Human Rights Commission of India (NHRC) is a statutory body that was established in 1993 with the mandate of protecting and promoting human rights in the country.
- The NHRC-India has been **accredited with 'A status' by GANHRI since 1999**, which means that it is fully compliant with the Paris Principles and can participate independently in the UN Human Rights Council and other UN mechanisms.
 - However, **in 2016, the NHRC-India's accreditation was deferred** due to some concerns raised by GANHRI's Sub-Committee on Accreditation (SCA).
- The **credibility and independence of the NHRC have been questioned by the Global Alliance of National Human Rights Institutions (GANHRI)**.

GANHRI's Assessment of NHRC

- The Paris Principles are a set of standards that define the role, composition, status and functions of NHRIs.
- According to GANHRI, the **NHRC of India does not fully meet the Paris Principles due to several reasons, such as:**
 - The **selection and appointment process** of the NHRC members is not transparent, inclusive and participatory, and does not ensure pluralism and diversity.
 - The **NHRC does not have adequate financial and administrative autonomy** from the government, and its budget is not sufficient to carry out its functions effectively.

- The NHRC **does not have full jurisdiction over all human rights issues**, such as those related to the armed forces, and faces challenges in accessing places of detention and victims of human rights violations.
- The NHRC **does not have enough powers to enforce its recommendations** and orders and faces delays and non-compliance from the authorities.
- The NHRC does not engage sufficiently with other NHRIs, civil society organizations, international human rights mechanisms and the public.

What is GANHRI?

- GANHRI is recognised and a trusted partner, of the United Nations.
- It was established in 1993 as the International Coordinating Committee of National Institutions for the promotion and protection of human rights (ICC).
- It has been known as the **Global Alliance of National Human Rights Institutions (GANHRI)** since 2016 and is a member-based network organization that gathers NHRIs from all around the world.
- It is composed of **120 members**, India also is a member of GANHRI
- Its secretariat is situated in **Geneva, Switzerland**.

Why are the Reasons for Deferment?

- The GANHRI cited reasons such as:

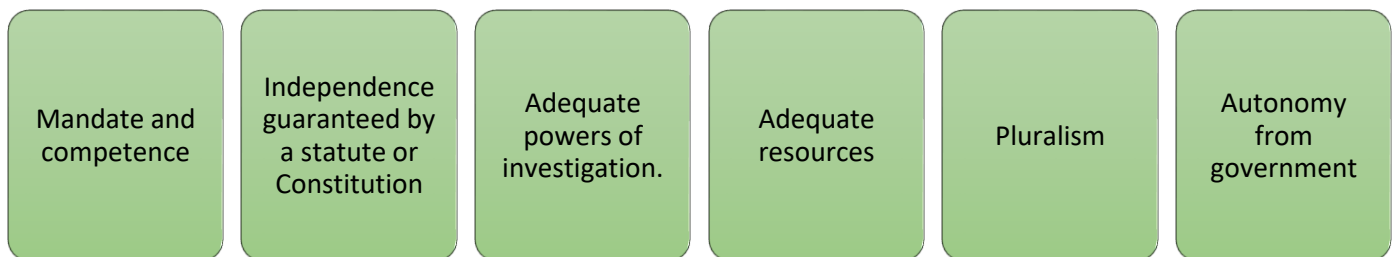


- The GANHRI said the NHRC has repeatedly **failed to deliver its mandate**, in particular to protect the rights of people from marginalized communities, religious minorities, and human rights defenders.
- NHCR's lack of independence, pluralism, diversity and accountability are **contrary to the U.N.'s principles on the status of national institutions** (the 'Paris Principles').

What are the Paris Principles and 'A' Status?

- The **United Nations' Paris Principles**, adopted in 1993 by the UN The General Assembly provides the international benchmarks against which **National Human Rights Institutions (NHRI)** can be accredited.

The Paris Principles set out six main criteria that NHRIs are required to meet. These are:



- The GANHRI is a group of 16 human rights agencies – 4 from each region; the Americas, Europe, Africa, and the Asia-Pacific – that have the **Highest Rating ('A') for following the Paris Principles**.
- The 'A' rating also lets them join the **work of the GANHRI and the UN on human rights issues**.
 - The NHRC got its 'A' rating in 1999 and kept it in 2006, 2011, and 2017 after a delay. The GANHRI had delayed it because of some problems with the NHRC's staff and appointments. The NHRC is led by Justice Arun Mishra, who used to be a Supreme Court judge.

National Human Rights Commission of India (NHRC)

About

- It is a **statutory body established in 1993 under the Protection of Human Rights Act**.
- It is mandated to protect and promote human rights in India, which include civil, political, economic, social and cultural rights.

Function and Power

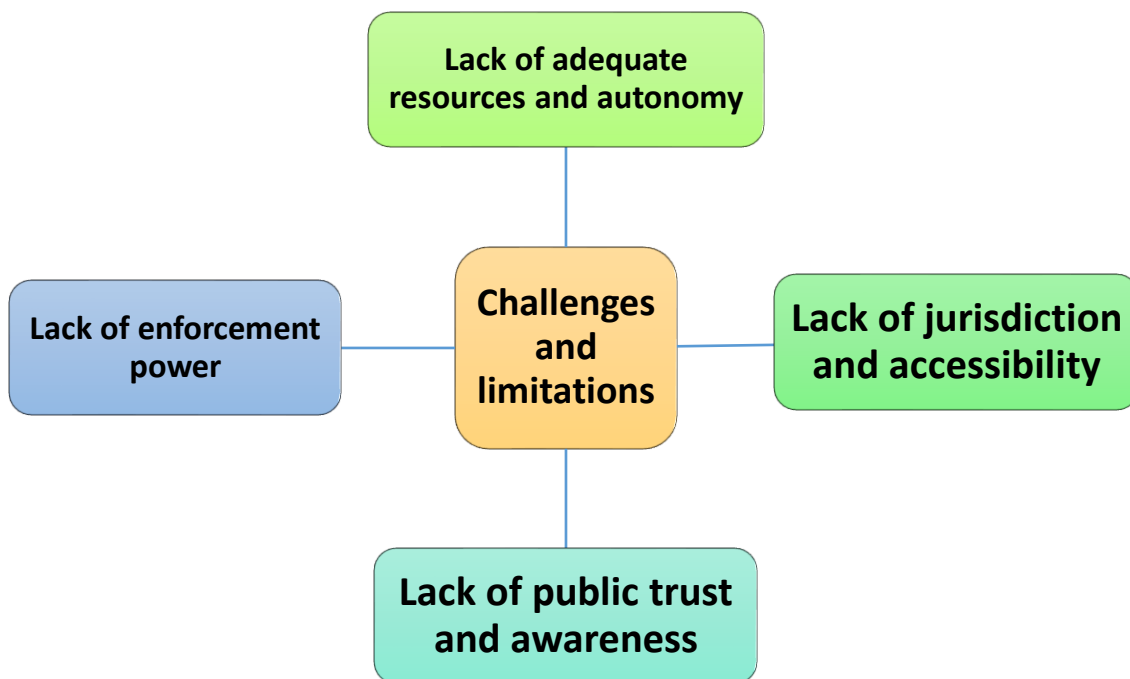
- It has various functions and powers, such as conducting inquiries, intervening in court proceedings, reviewing laws and policies, spreading human rights awareness and

education, and cooperating with other national and international human rights institutions.

Role

- The NHRC has played a significant role in addressing various human rights issues in India, such as custodial deaths and torture, communal violence, child labour, bonded labour, trafficking, sexual harassment, discrimination, displacement, health care, environment and development.
- It has contributed to the development of human rights jurisprudence and standards in India, by issuing guidelines, recommendations and advisories on various matters related to human rights.

Challenges and limitations



Malnutrition

Context:-Recently, the Orissa High Court has directed the State government to draw an action plan to ensure complete absence of **Severe Acute Malnutrition (SAM)** children and reduction of Moderate Acute Malnutrition (MAM) children by half in the State, by the end of 2023.

What is Malnutrition?

- Malnutrition refers to **deficiencies or excesses in nutrient intake**, imbalance of essential nutrients or impaired nutrient utilization.
- The double burden of malnutrition consists of both **undernutrition and overweight and obesity, as well as diet-related noncommunicable diseases**.
- Undernutrition manifests in four broad forms: **wasting, stunting, underweight, and micronutrient deficiencies**.

India's Malnutrition Profile

- The first **National Family Health Survey (NFHS)** in **1992-1993** found that India was **one of the worst performing countries** on child health indicators.
- There are about **189.2 million undernourished people** in India with a majority of whom are women and children.
- According to government figures from the year **2015-2016**, **22.9 per cent of women** in the 15-29 age group are underweight, as compared to 20.2 per cent of men in the same age group.
 - Further, according to The **State of Food Security and Nutrition in the World 2020 report**, in 2016, nearly 51.4 per cent of women of reproductive age in India were suffering from anaemia.
 - Almost 50 per cent of women are facing severe undernutrition and Anaemia.
- Around **60 million children**, which is roughly about half, of all children in India are **underweight**, about 45 per cent are stunted, 21 per cent are wasted, 57 per cent are vitamin A deficient and 75 per cent are anaemic.
- Malnutrition has thus become the **major contributor to the under-five mortality rate in India**.
- These statistics indicate that **undernutrition in India is a gendered problem**.
 - The root cause for these male-female differentials can be found in native socio-cultural norms and mindsets.
 - Such norms, rooted in patriarchy, would suggest that distribution of resources, including food, should be done in a hierarchical manner, with male members of the family typically at the top of the ladder.
- Malnutrition and the widespread prevalence of stunting, wasting and nutritional deficiencies among women and children are **well-recognised elements of India's profile** in the **Global Hunger Index**.

- The prevalence of malnutrition in India has notably declined over the last decade, and the **Comprehensive National Nutrition Survey 2016-18** revealed that major challenges remain.
 - According to the NFHS-4, the **percentage of wasted, stunted and malnourished** children in 2015-16 stood at **21, 38.4 and 35.7 respectively**.
 - As compared to NFHS-4 data, the **Comprehensive National Nutrition Survey (CNNS)** compiled in 2017-18 showed an **improvement of 4 per cent, 3.7 per cent and 2.3 per cent** in wasted, stunted and malnourished children **respectively**.

Major causes of malnutrition in India

| Major causes of malnutrition in India | | | | | | | |
|--|---|--|---|--|---|---|---|
| High levels of adult undernutrition affect one-third of the country's adults | High levels of child undernutrition, affect almost every second child | High levels of maternal undernutrition, lead to low birth-weight | Inadequate access to safe drinking water and proper sanitation facilities | Inadequate attention to the health and nutrition of adolescent girls | Low awareness regarding nutrition and the use of local nutritious food including sources of nutrients | Issues relating to the prevention of illnesses and access to healthcare | Inappropriate and sub-optimal infant and young child feeding and caring practices |

Initiatives:

| | |
|---|--|
| POSHAN Abhiyaan: | •The government of India has launched the National Nutrition Mission (NNM) or POSHAN Abhiyaan to ensure a "Malnutrition Free India" by 2022. |
| Mid-day Meal (MDM) scheme: | •It aims to improve nutritional levels among school children which also has a direct and positive impact on enrolment, retention and attendance in schools. |
| Anemia Mukht Bharat Abhiyan: | •Launched in 2018, the mission aims at accelerating the annual rate of decline of anaemia from one to three percentage points. |
| Integrated Child Development Services (ICDS) Scheme: | •It was launched in 1975 and the scheme aims at providing food, preschool education, primary healthcare, immunization, health check-up and referral services to children under 6 years of age and their mothers. |
| Pradhan Mantri Matru Vandana Yojana (PMMVY): | •Rs.6,000 is transferred directly to the bank accounts of pregnant women for availing better facilities for their delivery. |
| The National Food Security Act (NFSA), 2013: | •It aims to ensure food and nutrition security for the most vulnerables through its associated schemes and programmes, making access to food a legal right. |

Child Wasting in India

Context:-Recently, **UNICEF (United Nations Children's Fund)**, **WHO (World Health Organization)**, **World Bank Group** have released a report titled- **“Levels and trends in child malnutrition: Joint Child Malnutrition Estimates (JME)”**, stating that in 2020, 18.7 % of Indian children were affected by **Wasting caused by poor nutrient intake**.

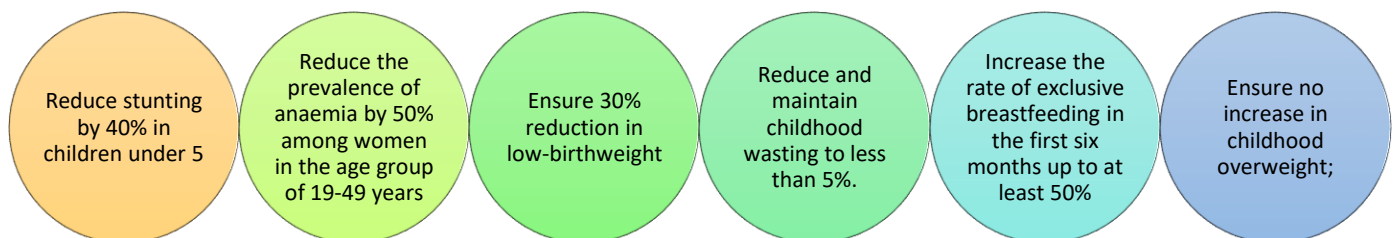
What are Joint Malnutrition Estimates (JME)?

- The JME group was created in **2011** to address the call for **harmonized child Malnutrition estimates**.
- The inter-agency team releases **annual estimates for child stunting, overweight, underweight**, wasting and severe wasting.
- Child malnutrition estimates for the indicators stunting, wasting, overweight and underweight describe the magnitude and patterns of under- and overnutrition.
 - The UNICEF-WHO-WB Joint Child Malnutrition Estimates inter-agency group updates regularly the global and regional estimates in prevalence and numbers for each indicator.
- The key findings in the 2023 Edition include **global and regional trends for all mentioned indicators** as well as country-level modelled estimates for stunting and overweight.

Progress:

- There is insufficient progress to reach the **2025 World Health Assembly (WHA) global nutrition targets** and UN-mandated **Sustainable Development Goal target 2.2**.

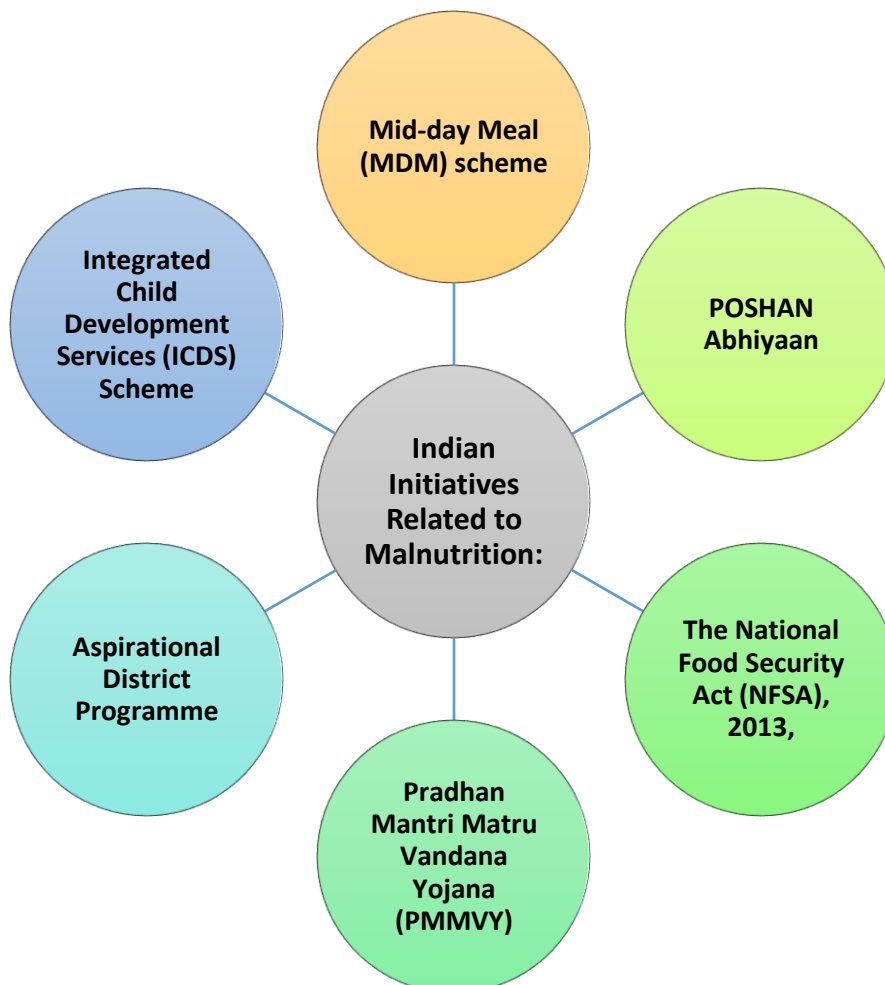
WHA global Nutrition Targets are:



What is Malnutrition?

- Malnutrition refers to **deficiencies, excesses or imbalances in a person's intake** of energy and/or nutrients.
- The term malnutrition covers two broad groups of conditions.
 - One is 'Undernutrition'—which includes stunting (low height for age), wasting (low weight for height), underweight (low weight for age) and micronutrient deficiencies or insufficiencies (a lack of important vitamins and minerals).
 - The other is **Overweight**, obesity and diet-related **noncommunicable diseases (such as heart disease, stroke, diabetes and cancer)**.
 - Childhood overweight occurs when children's calorie intake from food and beverages exceeds their energy requirements.

Indian Initiatives Related to Malnutrition:



BIOTECHNOLOGY

Calcium-41 for Radiometric Dating

Context:-Scientists have suggested using **Calcium-41 for Radiometric Dating** as an alternative to **Carbon-14** for determining the age of fossilized bones and rocks.

- They have suggested a technique called **Atom-Trap Trace Analysis (ATTA)** as a solution, because ATTA is sensitive enough to **spot Calcium-41, which is a rare isotope.**

What is Calcium-41 and ATTA?

Calcium-41:

- Calcium-41 is a **rare long-lived radioisotope** of calcium with a half-life of 99,400 years.
- Calcium-41 is produced in the **Earth's crust when cosmic rays from space collide with calcium atoms** in soil or rocks.
- This isotope has the potential to be employed in dating methods for objects that are older than what can be accurately determined **using carbon-14 dating.**

ATTA:

- It is based on **laser manipulation and detection** of neutral atoms.
- The sample is vaporized, and the atoms are laser-cooled and loaded into a light and magnetic field cage.
- By tuning the laser's frequency, **Calcium-41 atoms can be detected through electron transitions.**
 - **Electron transition:** In an atom, an electron in one orbital **can transition to the next if it's given a specific amount of energy;** then it jumps back by releasing that energy.
- The researchers reported being able to spot one **calcium-41 atom in every 10^{16} calcium atoms** with 12% precision in seawater.
 - It is selective and avoids confusion with potassium-41 atoms.

Applications of ATTA:

- The successful application of a calcium isotope opens the **possibility of extension to other metal isotopes.**
 - ATTA can be adapted to study other isotopes, such as argon-39, krypton-81, and krypton-85.
- In warmer climates, glaciers retreat and allow rock below to accumulate calcium-41. In colder climates, glaciers advance and block the calcium-41 from reaching the rock. This way, scientists **hope to use ATTA to study how long some rock has been covered by ice.**

What is Radiometric Dating?

- Radiometric dating is a method used to determine the age of rocks, minerals, and fossils based on the decay of radioactive isotopes.
- It relies on the principle that certain isotopes of elements are unstable and spontaneously decay over time into more stable forms. The rate of decay is measured by the half-life, which is the time it takes for half of the parent isotope to decay into the daughter isotope.
- Different isotopes have different half-lives, which makes them useful for dating different time ranges.
 - For example, carbon-14 dating is effective for dating organic materials up to about 50,000 years old. When an organic entity is alive, its body keeps absorbing and losing carbon-14 atoms. When it dies, this process stops and the extant carbon-14 starts to decay away.
 - Using the difference between the relative abundance of these atoms in the body and the number that should've been there, researchers can estimate when the entity died.

Limitations with Carbon-14:

- Carbon-14 is an unstable and weakly radioactive isotope of carbon. It has a half-life of 5,700 years and is used to estimate the age of carbon-based materials.
- Carbon dating using Carbon-14 is limited to objects up to 50,000 years old due to carbon-14's 5,700-year half-life.

GOVERNANCE

Khelo India University Games 2023

Context:-Recently, the **Prime Minister** virtually inaugurated the **3rd edition of Khelo India University Games (KIUG)** in Lucknow, Uttar Pradesh, marking the beginning of a **new era for sports in India**.

Key Points about KIUG 2023?

- The mascot of the **3rd edition of Khelo India University Games** is named **Jitu**, which represents **Swamp Deer (Barasingha) - the state animal of Uttar Pradesh**.
 - The first edition was Khelo India University Games held in **Odisha in 2020**, the second edition was held in **Bangalore, Karnataka in 2022** (shifted from 2021 to 2022 due to Covid-19 pandemic).
- The games will witness the participation of over **4750 athletes** from more than **200 Universities competing in 21 sports categories**. Competitions will take place in **Varanasi, Lucknow, Gautam Buddha Nagar, and Gorakhpur**.
- The Prime Minister also emphasised that this interaction fosters a sense of unity, promoting the spirit of '**Ek Bharat Shreshtha Bharat**.'

Khelo India

- It is a national programme launched by the Government of India in 2018 to promote sports and fitness among the youth of the country.
- It aims to identify and nurture sporting talent, provide them with world-class training and facilities, and create a culture of sports and physical activity in India.

Features

- It provides **annual financial assistance of Rs. 5 lakhs per athlete for eight years to selected potential sportspersons under the Khelo India Talent Development Scheme**.
- It **organises the Khelo India Youth Games**, a multi-disciplinary sporting event for under-17 and under-21 athletes, and the Khelo India University Games, a similar event for university students.

- It supports the **creation and upgradation of sports infrastructure** at various levels, such as district, state and national.
- It **implements the Khelo India School Games**, which are competitions among schools in various sports disciplines.
- It conducts mass participation events such as Khelo India Fitness Assessment Programme, Khelo India Pledge and Khelo India Quiz to raise awareness and enthusiasm for sports among the masses.

Centres of Excellence:

- Khelo India also supports the establishment of state-of-the-art sports facilities across India, called **Khelo India State Centres of Excellence (KISCE)**. These centres aim to provide basic facilities for sportspersons with potential and cater to three sporting disciplines each.

Some of the **KISCEs** are



ECONOMY

RBI to Withdraw Rs 2,000 Notes from Circulation

Context:- On May 19, 2023, the Reserve Bank of India (RBI) announced that it will withdraw the Rs 2000 denomination banknotes from circulation.

- While the **existing notes will remain legal tender**. The RBI has provided a generous timeframe, **allowing individuals to deposit or exchange the notes until September 30, 2023**.
- This move is part of the **RBI's Clean Note Policy**, which aims to provide the **public with high-quality currency notes** and coins with improved security features.

Demonetisation

Meaning :- It is the process of eliminating the lawful acceptance status of a monetary unit
→ **The existing types of currency are withdrawn through circulation and supplanted with new currency.**

Need:- While **demonetization is exceptional**, governments around the globe have used it to check – **hyperinflation situations, counterfeit currency, terror and tax fraud**, and to introduce a new monetary system in some circumstances.

Advantages:- Control criminal activities forbid tax avoidance and other financial crimes, contribute to a **paperless financial system**

Disadvantages:- Expenses issuing new currency and coinage minting can be high, illegal activity will not be stopped entirely and may create chaos among individuals

Primary reasons for demonetisation in India in 2016:- To check fake currency notes and to break the grip of corruption and black money

Why has the RBI withdrawn Rs 2000 notes?

- With the fulfilment of the objective, the printing of Rs 2000 notes was stopped in 2018-19.
- The RBI issued the majority of the Rs 2000 denomination notes prior to March 2017 – now at the end of their estimated lifespan of 4-5 years.
- Therefore, in pursuance of the Clean Note Policy of the RBI, it has been decided to withdraw the Rs 2000 denomination banknotes from circulation.

What is the Clean Note Policy?

- The policy was introduced in 1999 by the then RBI Governor: Bimal Jalan.
- It seeks to give the public good-quality currency notes and coins with better security features, while soiled notes are withdrawn out of circulation.
- Under the policy, the RBI had earlier decided to withdraw from circulation all banknotes issued prior to 2005 as they have fewer security features.

Advantages:

- **Stabilization of Currency:** Demonetization has been used as a **tool to stabilize the currency and fight inflation, facilitate trade, curb counterfeiting and access to markets, and push informal economic activity into more transparency and away from black and grey markets.**
- **Curbing Black Money:** The government argued that demonetization would flush out the black money or unaccounted income held in cash by **tax evaders, corrupt officials, criminals and terrorists.**
 - This would **increase the tax base** and revenue of the government and **reduce corruption and crime in the country.**
- **Promotes Digitization:** It also **encourages digitisation of commercial transactions, formalizes the economy and so, boosts government tax revenues.** It also improves **transparency, efficiency and convenience in the payment system** and reduces the cost of printing and managing currency.
 - The **formalization of the economy means bringing companies under the regulatory regime of government** and subject to laws related to manufacturing and income tax.

Disadvantages:

- **Temporary Slowdown:** The conversion process during demonetization can lead to a **temporary slowdown in economic activity.**
 - The disruption caused by the sudden withdrawal of old currency and the **limited availability of new currency** can **hamper business transactions, consumer spending, and overall economic productivity.**
- **Administrative Cost:** Implementing demonetization **involves substantial administrative costs.** Printing **new currency notes, recalibrating ATMs, and disseminating information about the changes** can be expensive.

- These costs are typically **borne by the government**, which can strain public finances and **divert resources from other essential sectors or public welfare programs**.
- **Impact on Cash Driven Sectors:** Cash-driven sectors, such as **retail, hospitality, and small businesses, can suffer significantly during demonetization**.
 - Small businesses, especially those operating on **thin profit margins**, may struggle to adapt to the new payment systems, **resulting in reduced sales, layoffs, and, in extreme cases, business closures**.

US Debt Ceiling Crisis

Context:-The United States Treasury Secretary has warned of the US defaulting on debt by June 1 if the House of Representatives and President's White House fail to reach an agreement to raise or suspend the debt ceiling.

What is the US debt ceiling?

- The debt ceiling is the **amount of money the US government is allowed to borrow to pay the nation's bills**.
- In the United States, the **Congress comprising the House and Senate approves the budget and funds for the Executive branch to run the country**.

Background

- The issue of debt ceiling arises from the fact that the United States has been running a fiscal deficit since 2001.
- Since income of the government is less than the expenditure, the government has to borrow to function.
- There is a limit to that borrowing which is periodically increased to allow the government to borrow more and continue working.
- **If the debt ceiling is not increased or suspended, the government would not be able to borrow and pay its outstanding dues.**
- The US has defaulted on its debt just once before, in 1979. A technical bookkeeping glitch resulted in delayed bond payments, an error that was quickly rectified and only affected a small number of investors.

- US Secretary of Treasury Janet Yellen has said the United States could default in early June if the debt ceiling is not extended.

What is the ongoing debt-ceiling crisis?

- So far, the debt-ceiling has been increased periodically to enable the US government to function and prevent the country from defaulting.
- However, **the Republicans in the House and the Biden administration are currently at an impasse.**
- The Republicans passed a bill in the House in April that would increase the debt-ceiling by \$1.5 trillion or until March 31, 2024 —whichever comes first— along with a set of conditions that Democrats and Biden administration have so far not accepted.
- While the Republicans argue that measures proposed by them are required for fiscal health of the United States, the Democrats say the Republicans are cutting much-needed welfare measures.

Impact of possible US default

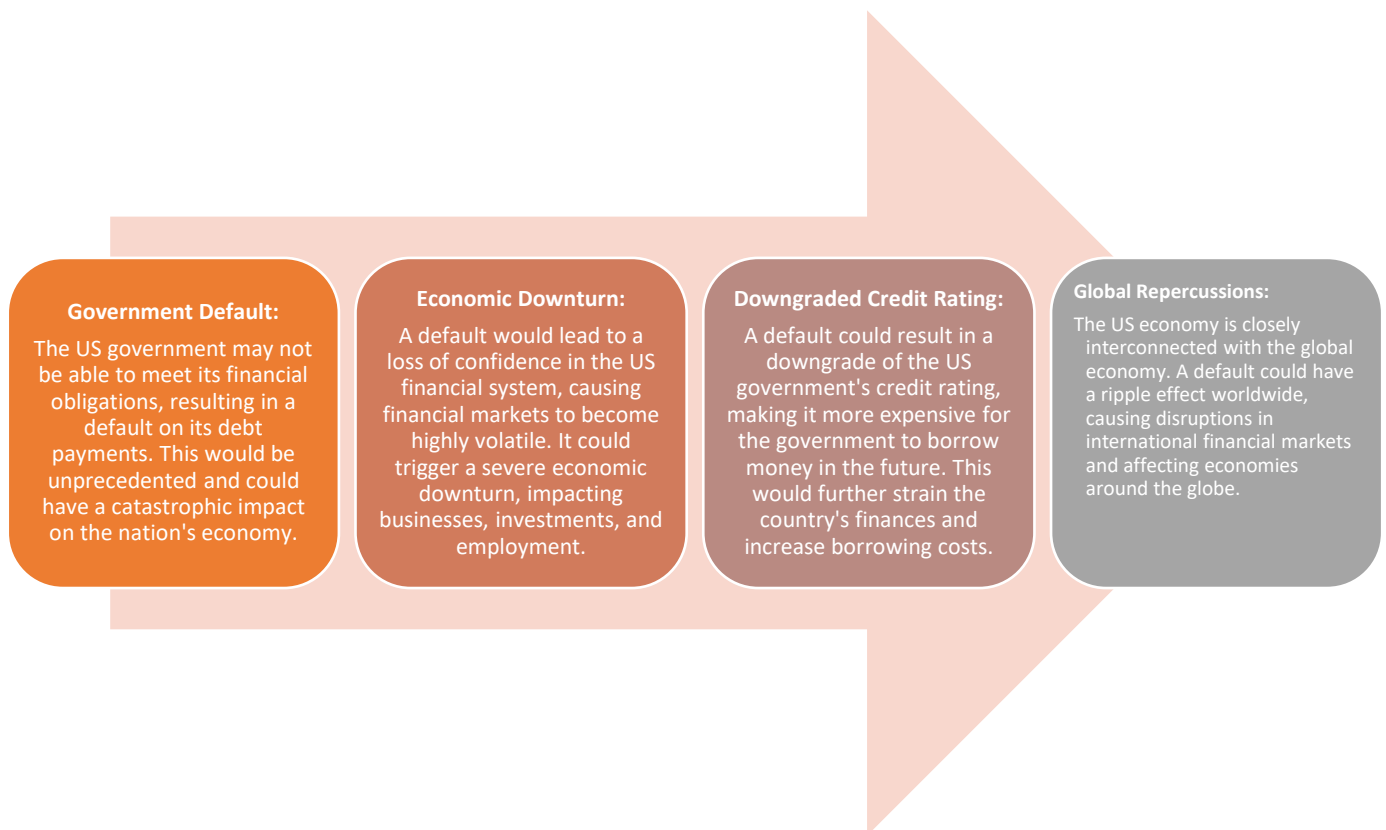
- The result of the US default would be a disaster for the US economy.
- Even if the US debt default is in place for just one week, 1.5 million jobs across the world would be lost, according to an estimate by Moody's Analytics, which added that a prolonged default could cost 7.8 million American jobs.
- The **United States would be hit by a recession and share markets would become very volatile.**
- The **threat has emerged just as the world economy is contending with a panoply of threats — from surging inflation and interest rates to the ongoing repercussions of Russia's invasion of Ukraine to the tightening grip of authoritarian regimes.**

Effect of US default on world

- The repercussions of a first-ever default on the federal debt **would quickly reverberate around the world.**
- Orders for Chinese factories that sell electronics to the United States could dry up.
- Swiss investors who own US Treasury would suffer losses.

- Sri Lankan companies could no longer deploy dollars as an alternative to their own dodgy currency.
- Of all the foreign exchange reserves held by the world's central banks, US dollars account for 58 per cent.
- From 1999 to 2019, 96 per cent of trade in the Americas was invoiced in US dollars. So was 74 per cent of trade in Asia.
- A rising dollar can trigger crises abroad by drawing investment out of other countries and raising their cost of repaying dollar-denominated loans.

What happens if the Government Defaults?



How Does India Manage Borrowing and Debt Obligation?

- India has a formal debt ceiling mechanism as per FRBM Act but does not have debt ceiling in terms of absolute amount like the US has. Therefore, Debt Ceiling in the US can be compared with **Fiscal Deficit** target in India.

- In India this target is in term of % of **GDP (Gross Domestic Product)** not in and absolute amount like in USA.
- Indian government manages **borrowing and debt obligations** through various mechanisms and institutions such as,
 - **Fund raising through Securities and Bonds:** It issues government securities, such as treasury bills and government bonds, in the domestic market.
 - **Fiscal Responsibility and Budget Management (FRBM) Act:** It provides a legislative framework for **fiscal discipline and debt management** in India. It sets targets for fiscal deficits and debt-to-GDP ratios, aiming to ensure long-term fiscal sustainability. The government's borrowing decisions are guided by the principles outlined in the FRBM Act.
 - **Reserve Bank of India (RBI):** The RBI plays a significant role in managing the country's borrowing and debt. It acts as the **banker to the central government and facilitates the issuance**, auction, and trading of government securities. The RBI also manages the government's **cash flows, ensuring smooth settlement of debt transactions**.

What will be the Impact on the Indian Economy?

- **Rupee Depreciation:**
 - The Indian rupee may depreciate against the dollar, **making imports more expensive and potentially increasing inflationary pressures** in the Indian economy.
- **Trade Disruptions:**
 - The United States is one of India's major trading partners, and any economic downturn resulting from a **debt ceiling crisis can reduce demand for Indian exports**.
 - Reduced exports to the US can negatively impact Indian industries dependent on American consumers, such as information technology, textiles, and pharmaceuticals.
- **Impact on Forex:**
 - India holds a significant amount of **foreign exchange reserves**, including US Treasuries. A default or downgrade of **US debt can result in losses on these investments**, potentially impacting India's foreign exchange reserves and overall financial stability.

New Tax Rules for Online Gaming Platforms

Context:-The Central Board of Direct Taxes (CBDT) has recently introduced **new tax rules for online gaming platforms in India**. These rules aim to bring clarity and establish guidelines for **Tax Deducted at Source (TDS) on winnings from online gaming**.

What are the New Tax Rules for Online Gaming?

No TDS on Winnings up to Rs 100:

- Online gaming platforms **will not be required to deduct tax at the source for a player if the net winning does not exceed Rs 100**.
- This threshold provides relief for **players with smaller winnings**.

Taxable Deposits:

- Bonus, referral bonus, and incentives provided by the online gaming company are **considered taxable deposits**.
- These deposits will be subject to tax under **Rule 133 of the Income-tax Act**.

Calculation of Net Winnings:

- Calculation of net winnings in the online gaming industry will **consider each user account separately when a user has multiple accounts**.
- The deposit, withdrawal, or balance in the user account refers to the **total amount across all user accounts associated with the individual**.
- Transfers between user accounts under the same online intermediary, belonging to the same user, **will not be treated as withdrawals or deposits**.
- However, if a withdrawal or deposit occurs between **one user's account and another user's account, such transfers will be considered as withdrawals**.

Valuation of Winnings:

- The valuation of winnings in kind will be based on the **fair market value**, except when the online gaming intermediary has purchased the winnings before providing them to the user.
- If the online gaming intermediary manufactures items as winnings, the fair market value will be considered.

▪ TDS Provision for Online Gaming:

- To regulate online gaming transactions, the **Finance Act 2023 introduced section 194BA in the Income-tax Act, 1961**, requiring online gaming platforms to deduct **income tax on net winnings in a user's account**.
- TDS at a **rate of 30% will be applicable** on the net winnings from any online gaming platform.
- Tax is required to be deducted at the time of withdrawal and at the end of the **financial year**.

Impact:

- **Increased tax burden** on online gamers.
- Impact on professional gamers and streamers, potentially higher taxes and more complex financial management.
- Esports organizations may need to **adjust financial models and consider tax implications for revenue streams.**
- Financial implications and potential **reduction in gaming income.**
- Compliance challenges in understanding and adhering to new tax rules.
- Possibility of players **migrating to jurisdictions with more favourable tax regulations.**

Tax Deduction at Source:

A person (deductor) who is liable to make payment of specified nature to any other person (deductee) shall deduct tax at source and remit the same into the account of the Central Government.

What is CBDT?

- It is a **statutory authority** that functions under the **Central Board of Revenue Act, 1963.**
 - It is a part of the **Department of Revenue in the Ministry of Finance.**
- It provides **inputs for policy and planning of direct taxes in India** and is also responsible for the administration of direct tax laws through the **Income Tax Department.**
- Direct Taxes include **income tax, corporation tax etc.**

SCIENCE & TECHNOLOGY

Human Pangenome Map

Context:- A pangenome reference map has been built using genomes from 47 anonymous individuals from Africa, the Caribbean, Americas, East Asia, and Europe.

What is a reference genome?

- When genomes are newly sequenced, they are compared to a reference map called a reference genome. This helps to understand the regions of differences between the newly sequenced genome and the reference genome.
- Reference genome was first built in 2001. It **helped scientists discover thousands of genes linked to various diseases and better understand diseases like cancer at the genetic level and design novel diagnostic tests.**
- However, the reference genome had many gaps and errors. It was also not representative of all human beings as it was built using mostly the genome of a single individual of mixed African and European ancestry.
- Therefore, to address these gaps and errors, scientists have developed the pangenome map.

What is a pangenome map?

- **The pangenome is a graph unlike the earlier reference genome which was a linear sequence.**
- **The graph of each chromosome resembles a bamboo stem**, with nodes where sequences from all 47 individuals come together, indicating similarity.
- **The internodes, which have different lengths, represent genetic variations among individuals from different ancestries.**
- **The researchers used long-read DNA sequencing technologies** to create complete and contiguous chromosome maps in the pangenome project.
- **Longer reads technology helps to assemble the sequences with minimum errors** and read through the repetitive regions of the chromosomes which are hard to sequence with short-read technologies used earlier.

- However, even though pangenome map is error free, it does not represent all of human diversity.

Why is a pangenome map important?

- Even though two humans are more than 99% similar in their DNA, there is still about a 0.4% difference between them.
- Hence, **a complete and error-free human pangenome map will help understand these differences and explain human diversity better.**
- It will also help **understand genetic variants in some populations**, which result in underlying health conditions.
- **The present map does not contain Indian genome sequences.** However, it will help in mapping Indian genomes against the error-free and full reference genomes known till date.
- **Future pangenome maps** incorporating high-quality genomes from diverse Indian populations, including endogamous and isolated groups, will provide insights into disease prevalence, facilitate the identification of new genes associated with rare diseases, and aid in the discovery of novel drugs to combat these diseases.

What is Genome?

▪ Genome:

- The **Genome** is like a blueprint or instruction manual for life. It contains all the **genes and the spaces between the genes that make up our chromosomes.**
- Our chromosomes are made up of **DNA (Deoxyribonucleic Acid)**, which is a long string composed of four **building blocks called nucleotides or bases (A, T, G, and C).** These building blocks are arranged in different combinations and repeated millions of times to create **23 pairs of chromosomes.**
- The genome provides **valuable information about our genetic makeup** and helps researchers explore various aspects of human biology and health.

▪ Genome sequencing:

- Genome sequencing is the method used to **determine the precise order of the four bases (A, T, G and C)** and how they are arranged in chromosomes.

- By sequencing individual genomes, scientists can **learn about human genetic diversity and understand how certain diseases** may affect us.