

**INTERNATIONAL RELATIONS**

**India-Africa ties**

**In Context:** The 20-member Africa Expert Group (AEG), established by the Vivekananda International Foundation (VIF), recently presented the Report entitled 'India-Africa Partnership: Achievements, Challenges and Roadmap 2023'.

**The report highlights on Africa**

- ✓ The report examines the transitions unfolding in Africa: demographic, economic, political and social.
  - From this blend of changes, stamped by the adverse impact of the pandemic and complicated geopolitics, emerges a continent that is set to transform itself.
- ✓ As stated by the report, Africa is slowly heading toward regional integration and is devoted to democracy, peace and progress.

**India Africa Relations**

- ✓ Long history of partnership:
  - India has a long history of partnership with Africa, with solidarity and political affinity going back to the early 1920s when both regions were fighting against colonial rule and oppression.
  - After India gained independence, it became a leading voice in support of African decolonization at the United Nations.
- ✓ Promoted South-South Cooperation since independence:
  - Indian Technical and Economic Cooperation (ITEC) programme:
    - In 1964, India launched the ITEC Programme to provide technical assistance through human resource development to other developing countries, with African countries the greatest beneficiaries of it and the Special Commonwealth African Assistance Programme (SCAAP).
  - Building African capacity:
    - In 1949, India announced 70 scholarships for students from other developing countries to pursue studies in the country.
- ✓ Areas of Cooperation:
  - India-Africa cooperation has also focused on techno-economic capacity building, skill development and capacity building featured prominently in all the India-Africa Forum Summits

**Emerging Challenges**

- ✓ Superimposed on this landscape is the sharpening competition among at least half a dozen external partners such as China, Russia, the United States, the European Union, Japan, Türkiye and the United Arab Emirates.
- ✓ The competition is mainly for strengthening their relations with parts of Africa to ensure market access, gain energy and mineral security, and increase political and economic influence.
- ✓ China's role:
  - China stands apart, armed with a consistent and robust policy since 2000 to become virtually Africa's biggest economic partner.
  - An essay in the report aptly portrays China's role as 'the infrastructure developer', 'the resource provider', and 'the financier.'
  - It has invested enormously in Africa in terms of money, materials and diplomatic push.
  - Since 2007, Chinese leaders have visited the continent 123 times, while 251 African leaders have visited China.
- ✓ Limitations to India's approach
  - India's model of development cooperation in Africa lacks a clear strategy.
  - Comparison with the Chinese Model: In the absence of a clear and well-articulated vision for Africa, India's development cooperation is often compared to the Chinese model of development cooperation in the region — despite significant differences — which is based on state-led infrastructure for resource deals, rising debt threats, lack of domestic capacity building and job creation.
  - 'Ten Guiding Principles for India-Africa Engagement':
- ✓ In 2018, India's PM outlined the 'Ten Guiding Principles for India-Africa Engagement', often regarded as India's vision statement for Africa.
- ✓ But these tenets cannot be seen as the mission for the next decade because many aspects are not new and instead represent continuity in principles that have traditionally defined India-Africa engagement.

**Report recommendations - 'Roadmap 2030'**

- The central part of the VIF report is 'Roadmap 2030', a set of policy recommendations that are designed to deepen and diversify the India-Africa partnership.
- Political and diplomatic cooperation:
  - ✓ India-Africa Forum Summit:
    - Political and diplomatic cooperation should be strengthened by restoring periodic leaders' summits through the medium of the India-Africa Forum Summit; the last summit was in 2015.
  - ✓ Dialogue with African Union (AU):

- Besides, a new annual strategic dialogue between the chairperson of the African Union (AU) and India's External Affairs Minister should be launched in 2023.
- ✓ AU's entry into the G-20:
  - Another recommendation relates to forging consensus among G-20 members on the AU's entry into the G-20 as a full member.
- ✓ Defence and security cooperation: the government needs to
  - Increase the number of defence attachés deployed in Africa,
  - Expand dialogue on defence issues,
  - Expand lines of credit to facilitate defence exports.
- Economic and development cooperation: India-Africa trade touching \$98 billion in FY22-23 is an encouraging development.
  - ✓ This figure can go up if access to finance through the creation of an Africa Growth Fund (AGF) is ensured.
- Socio-cultural cooperation:
  - ✓ Socio-cultural cooperation should be increased through
    - Greater interaction between universities, think tanks, civil society and media organisations in India and select African countries.
  - ✓ Visa measures for African students who come to India for higher education should be liberalised.
    - They should also be given work visas for short periods.

#### **Future outlook**

- India has a substantive partnership with Africa and a rich fund of goodwill, but it is "essential for New Delhi to review its Africa policy periodically, stay resilient by making the required changes, and place a razor-like focus on its implementation".
- India needs to be dynamic in its engagements in Africa and address the changing needs of the Continent while emphasising the huge opportunity the African Continental Free Trade Area agreement presents for India.

### **ENVIRONMENT**

#### **Plasticulture:**

**In context:** The agriculture food system is increasingly becoming dependent on plastics resulting in more plastic pollution.

#### **What is plasticulture?**

1. Plasticulture is a term used to represent the application of plastics in the agricultural sector.
2. The proliferation of plasticulture endangers soil, biodiversity and human health.
3. In the farming sector, plastics are used to pack seeds and fertilisers in single-use plastic sachets, sacks and plastic containers.
4. Other plastic products used in agriculture are - seedling trays, mulching film, greenhouse film, protective nets, drip irrigation tapes and irrigation pipes.
5. Polyethylene, polypropylene, expanded polystyrene, polyvinyl chloride (PVC) and polyethylene terephthalate are few main polymers found in them.
6. Agricultural value chains used 12.5 million tonnes of plastic products globally in 2019, reported the Food and Agricultural Organization (FAO).

#### **What are the threats posed by plasticulture?**

- ✓ The application of plastics in the agriculture sector is hailed to contribute towards the 'Second Green Revolution' in the country.
- ✓ Soil is becoming poisoned due to the application of chemicals and plastics which eventually threatens the whole ecosystem.
- ✓ Just 1 kg of thin mulching sheets is enough to cover and contaminate as much as 700 square feet of agricultural land.
- ✓ Microplastics - The plasticulture has led to microplastics entering every living organism on the planet.
- ✓ According to the FAO report, soils are known to contain larger quantities of microplastics than oceans.
- ✓ Soil porosity - With time the additives and chemicals embedded in mulch films can gradually diminish soil porosity and hinder air circulation.
- ✓ Microbial activity - It also has the capacity to alter microbial communities, thereby reducing farmland fertility.
- ✓ Poison plastic - PVC releases toxic chlorine-based chemicals and is a known carcinogen.
- ✓ PVCs or low-density polyethylene are primarily used in the plastic mulch films and also in irrigation pipes and drip tapes.
- ✓ Leaching - Carcinogenic chemicals, specifically phthalate acid esters, from plastic films have high potential of leaching into farm soil.

#### **What are the challenges in reducing plasticulture?**

- ✓ Plastics industry - Constantly promotes its own studies on how plastics boost yields, save water, reduce fertilisers, and cut labour.
- ✓ The industry maintains a deafening silence on its negative impacts on soil and environment.

- ✓ Furthermore, it has a strong lobby to influence the government.
- ✓ Rules - The Centre banned single-use carry bags with less than 120 microns, but it provided a 50% subsidy for using single-use mulching sheets as thin as 15 microns.
- ✓ Government initiatives - Plastics are being promoted by the industries through several government bodies like
- ✓ In 2001, to promote the use of plastics, Ministry of Agriculture constituted National Committee on Plasticulture Applications in Horticulture (NCPAH).
- ✓ This was renamed as National Committee on Precision Agriculture & Horticulture.
- ✓ Currently, 22 Precision Farming Development Centres have been established to promote the use of plastics in horticulture.
- ✓ Around 99% of plastic is produced from fossil fuels by refining oil, natural gas, or coal.
- ✓ Petrochemical industry - Growth in the petrochemical industry will also boost plasticulture practices in the country.
- ✓ The demand for chemicals and petrochemicals in India is expected to reach US\$ 1 trillion by 2040.
- ✓ Plastic Waste Management - Management of agricultural plastic waste is close to non-existent and have become immortal and omnipresent.
- ✓ Most 'agro plastics' have a limited lifetime (less than a year) hence, farmers manage their agroplastics in two ways: Burning or burying.
- ✓ When plastics are burned, they emit hazardous substances such as dioxins and furans, which cause cancer.
- ✓ Burying of plastics releases microplastics which impact human health when agricultural produce is consumed.
- ✓ About 67% of the people in villages preferred to burn household plastic waste, according to the findings of a survey released in 2022.

**What is the way forward?**

- ✓ An outright ban on non-essential agri plastics.
- ✓ Countries like India have pioneered sustainable agricultural practices using locally available and eco-friendly materials, we should make use of it.
- ✓ A new 'Extended Legislature Responsibility' clause could be invoked.
- ✓ In this the people who have been given the mandate by the citizens take concrete measures to safeguard the planet from the hazards of plastic in agriculture.

**PRELIM FACTS**

**1. Ashadha Purnima:**

**In context:** The International Buddhist Confederation (IBC), under the aegis of Ministry of Culture, Government of India, will celebrate Ashadha Purnima on 3 July, 2023 as the Dharma Chakra Pravartana Divas at National Museum, Janpath, New Delhi. It is the annual flagship event of IBC and the second most sacred day for Buddhists after the Buddha Purnima or the Vaishakha Purnima.

**About Ashadha Purnima:**

- ✓ The day is also celebrated as Guru Purnima and it falls every year on the full moon day of the month of Ashadha as per the Indian lunar calendar.
- ✓ The day is also celebrated as Esala Poya in Sri Lanka and Asanha Bucha in Thailand.
- ✓ The day is remembered for the first teaching of Gautam Budha after attaining Enlightenment to the first five ascetic disciples (pancavargiya) on at 'Deer Park', Risipatana Mrigadaya in the present day Sarnath, near Varanasi.
- ✓ This day is also aptly observed as Guru Purnima by both Buddhists and Hindus as a day to mark reverence to their gurus.
- ✓ This day also marks the beginning of the rainy season retreat for the Monks and Nuns also starts with this day.
- ✓ The season lasts for three months from July to October. During the season they remain in a single place, generally in their temples dedicated to intensive meditation.

**About Guru Purnima:**

- ✓ According to the Hindu calendar, Guru Purnima generally falls on a full-moon day in the Hindu month of Ashadh.
- ✓ It is dedicated to Maharshi Veda Vyasa, the sage who is believed to have edited the sacred Hindu text, the Vedas and created the 18 Puranas, Mahabharata and the Srimad Bhagavatam.
- ✓ For Buddhists, the festival marks the first sermon of Lord Buddha, which is said to have been delivered at Sarnath, Uttar Pradesh, on this very day.
- ✓ It is also believed to mark the onset of monsoons.

**2. Ol Chiki script:**

**IN CONTEXT:** Recently, the Prime Minister India for saluting the immortal tribal revolutionaries on Hul Diwas used Ol Chiki script of Santhali language.

**About Ol Chiki script:**

- ✓ It was created in 1925 by Raghunath Murmu (1905-1982), writer and teacher from what is Mayurbhanj State (now part of Odisha) in India as a way to write Santhali a Munda language.
- ✓ Ol Chiki is also known as Ol Cemet', Ol Ciki, Ol or the Santhali alphabet.
- ✓ It was created as a way to promote Santhali culture.
- ✓ The script was first publicized in 1939 at the Mayurbhanj State exhibition.

- ✓ Murmu published over 150 books in Santhali in the Ol Chiki script, including novels, poetry, drama, grammars, dictionaries and other information about the language and script.
- ✓ Santhali is also written with the Latin, Odia, Bengali and Devanagari alphabets.
- ✓ Santhali language is spoken mainly in Jharkhand and West Bengal states in northern India, and also in northwestern Bangladesh, eastern Nepal and Bhutan.

**Key facts about Hul Diwas**

- ✓ The Santhal rebellion or ‘Hul’ – literally, revolution – began in 1855 two years before the uprising of 1857.
- ✓ It was an “organised war against colonialism” led by the Santals, standing against the myriad forms of economic oppression
- ✓ It was led by two brothers Sidhu and Kanhu.
- ✓ It saw the participation of as many as 32 caste and communities rallying behind them.

**3. Cosmic Background Hum:**

**In Context:** Scientists have discovered a new phenomenon in the cosmos: low-frequency gravitational waves. These are ripples in space-time that are caused by massive events such as collisions and mergers of black holes and neutron stars. Albert Einstein predicted their existence more than a century ago, but they have eluded detection until now.

**Details:** Unlike high-frequency gravitational waves, which have been detected by laser interferometers on Earth, low-frequency gravitational waves require a different approach.

**Methodology:** Scientists used radio telescopes to observe pulsars, which are rapidly spinning neutron stars that emit beams of radio waves. By measuring the precise timing of these pulses, scientists can detect tiny changes in the distance between Earth and the pulsars, which could be caused by passing gravitational waves.

**Outcome:** The results, published in The Astrophysical Journal Letters, are based on data from five international collaborations of radio astronomers. They suggest that the universe is filled with a background of low-frequency gravitational waves, which create a faint cosmic hum.

**Cosmic background hum:**

- ✓ The cosmic background hum is a faint, low-frequency sound that fills the entire universe. It is not audible to human ears, but it can be detected by sensitive instruments such as radio telescopes.
- ✓ The cosmic background hum is a remnant of the cosmic microwave background (CMB), which is the oldest light in the universe. The CMB was emitted about 380,000 years after the Big Bang when the universe became transparent to radiation.
- ✓ The CMB has been stretched by the expansion of the universe, and its wavelength has increased from microwaves to radio waves. The cosmic background hum is essentially the CMB in sound form.
- ✓ The detection of the cosmic background hum was a remarkable achievement, as it required filtering out all the other sources of noise in the sky, such as stars, galaxies, and human-made signals.

**Significance**

- ✓ It confirms the standard model of cosmology, which describes how the universe evolved from a hot and dense state to its current state.
- ✓ It provides information about the early stages of the universe, such as its temperature, density, and composition.
- ✓ It reveals clues about the origin and nature of dark matter and dark energy, which are mysterious components that make up most of the mass and energy of the universe.
- ✓ It offers a new way to test theories of quantum gravity and extra dimensions, which are beyond the scope of conventional physics.

**Conclusion:** The cosmic background hum is one of the most fascinating phenomena in modern science. It allows us to hear the echoes of creation and to probe the secrets of the cosmos. It is a testament to the power of human curiosity and ingenuity, and a reminder of our place in this vast and wonderful universe.

**4. Mekedatu Reservoir Project**

**IN CONTEXT:** Environmentalists recently advocated for the revival of the raja kaluve network and dead lakes in Bengaluru to resolve the city’s drinking water problem instead of moving ahead with the Mekedatu Reservoir Project.





**About Mekedatu Reservoir Project:**

- ✓ The Mekedatu multi-purpose (drinking and power) project involves building a balancing reservoir near Kanakapura in Ramanagera district of Karnataka.
- ✓ It is 4 km from the Tamil Nadu border and 100 km from Bengaluru.
- ✓ The estimated Rs 9,000-crore project, once completed, is aimed at ensuring drinking water to Bengaluru and neighbouring areas (4.75 TMC) and it can also generate 400 MW of power.
- ✓ Named after the village where the project is expected to be constructed, the reservoir will have a capacity of 284,000 million cubic feet (TMC).
- ✓ The project is proposed at the confluence of Cauvery with its tributary Arkavathi.

**Issue:**

- ✓ Tamil Nadu — the lower riparian state — has claimed that the project is against the interest of the state’s water requirement.
- ✓ The lower riparian state has to give its no-objection for any project that comes up on the Cauvery as per the Cauvery tribunal and Supreme Court order.

**ANSWER WRITTING**

**Q. Trust is fundamental to all relations and institutions, but before trusting one needs to verify? Why verification is necessary to trust and what are the ways to verify?**

**INTRODUCTION:**

Trust is the foundation upon which is necessary for any relationship to be built upon. For example, while talking about the legitimacy of public institutions and a functioning democratic, people’s trust is required. Trust is important for the success of a wide range of public policies that depend on behavioral responses from the public. For example, public trust leads to greater compliance with regulations and the tax system.

**Importance of Verification**

Trust is important but to trust blindly is not good. It makes people devoid of rationality. For example, the judicial appointments in India are done without any political interference and also the selection of Chief Justice has been done by the collegium system. The country believed and trusted in the selection procedure. But there have been instances where the rule of seniority was neglected while appointing judges such as the appointment of Justice A.N Ray after the verdict of Kesavananda Bharati case verdict. Moreover, people are not allowed to question the decisions of courts otherwise they are subjected to the contempt of court. But such incidents may lose the faith of people in the judiciary. Though the Supreme Court decisions are not questioned, this demands the development of verification process to enhance trust building.

The unquestioned trust can result in distortion everywhere. In the context of society, if we tend to follow the rules and traditions without questioning them, it may result in a regressive society. For example, in some societies in Africa, the practice of ‘Breast Ironing’ is prevalent which is actually done to protect women’s chastity. Such practices stop women’s progress and liberty. Before the ‘Arab Spring’ in 2011, dictatorship existed in the Arab world to a great extent as people believed dictators and followed their decisions without questioning them. But the reasons took over to break the blind trust that causes socioeconomic inequalities in countries. Inflation, unemployment, corruption and hunger was on rise.

Unverified trust always proves to be rigorous and influences the growth and progress of people and nations. It impacts decision making and leads to instability in the long run. Whereas verified truth enhances trust and confidence further.

**Ways to verify in the case of an organization**

- ✓ Scrutinize before following: By being more rational, people can question everything they do or follow. The rationality will come with the right knowledge and education. This is especially true in the case of social rituals and customs.
- ✓ Periodic Review: In the case of the economy, Reports and review at regular intervals can help in highlighting discrepancies and breach of trust. For example, CAG submits reports to the President that ensure transparency and accountability of the government.
- ✓ Promoting Transparency: If an institution, whether it is judiciary or legislature, is transparent and ensures its working is accessible, it will help in ensuring accountability. For example, the Right to Information act helps in verifying government’s claims.
- ✓ Observation: One can verify trust by observing if the other party is sticking to their commitments and promises.
- ✓ Fulfillment of commitments: Periodic review, quarterly and annual reports submission, regular meetings can ensure the fulfillment of tasks by the organizations.

The philosophy of ‘trust but verify’ ensures that all decisions and their functioning are in logical, objective, and rational manner rather than relying on mere guts and emotions. This brings more efficiency in the system.

**MCQs**

1. INS Shivaji, is an Indian Naval station, located in which state?
  - a) Gujarat
  - b) Odisha
  - c) Maharashtra
  - d) West Bengal
2. Consider the following statements regarding Mekedatu Reservoir Project:
  1. The project involves building a balancing reservoir in Karnataka.
  2. The project is proposed at the confluence of Cauvery with its tributary Arkavathi.
 Which of the statements given above is/are correct?

- a) 1 only                      b) 2 only                      c) **Both 1 and 2**                      d) Neither 1 nor 2
3. Consider the following statements regarding Ashadha Purnima:  
1. It is observed as Guru Purnima by both Buddhists and Hindus as a day to mark reverence to their gurus.  
2. This day also marks the beginning of the rainy season retreat for the Monks and Nuns.  
Which of the statements given above is/are correct?  
a) 1 only                      b) 2 only                      c) **Both 1 and 2**                      d) Neither 1 nor 2
4. Ol Chiki script, which was recently seen in the news is used to write which of the following language?  
a) **Santhali**                      b) Bodo                      c) Manipuri                      d) None of these
5. Considered the following statement regarding Pangong Tso lake.  
1. It is an endorheic lake.  
2. It is the world's highest saltwater lake.  
3. One-third of the Pangong Lake lies in India and the other two-thirds in China.  
How many of the above statement is/are correct?  
a) Only 1                      b) Only 2                      c) **Only 3**                      d) None
6. Which of the following sectors are part of the Index of Eight Core Industries (ICI)?  
1. Coal  
2. Gold  
3. Electricity  
4. Textiles  
5. Fertilizers  
Choose the correct code:  
a) 1,2 and 5                      b) 1,3,4,and 5                      c) **1,3,and 5**                      d) All of these
7. Consider the following statements with respect to 'Tam Pa Ling Cave':  
1. It is a sloping cave situated high in the Annamite Mountain range in Northern Laos.  
2. A tooth was found in the Cave, linking it to the presence of Denisovans, an extinct human relative.  
3. The evidence from Tam Pa Ling has pushed back the timing of Homo sapiens' arrival in Southeast Asia.  
How many of the above statements are correct?  
a) Only 1                      b) Only 2                      c) **Only 3**                      d) None of these
8. With reference to the Green Credit Programme, consider the following statements:  
1. The Ministry of Environment, Forest and Climate Change has notified the 'Green Credit Programme (GCP)' implementation rules for 2023.  
2. The Green Credit Programme is a mechanism that complements the domestic Carbon Market.  
3. The Green Credit System solely focuses on CO2 Emission reductions.  
How many of the above statements are not correct?  
a) **Only 1**  
b) Only 2  
c) Only 3  
d) None
9. Considered the following statement:  
1. The Santhal rebellion or 'Hul' revolution began in 1855 two years before the uprising of 1857.  
2. It was led by two brothers Sidhu and Kanhu.  
Which of the following statement is/are correct?  
a) Only 1  
b) Only 2  
c) **Both 1 and 2**  
d) None
10. Considered the following statement plasticulture  
1. Plasticulture is a term used to represent the application of plastics in the agricultural sector.  
2. The proliferation of plasticulture endangers soil, biodiversity and human health.  
Which of the following statement is/are correct?  
a) Only 1  
b) Only 2  
c) **Both 1 and 2**  
d) None