Gist of EPW November Week 1, 2022

The Economic and Political Weekly (EPW) is an important source of study material for IAS, especially for the current affairs segment. In this section, we give you the gist of the EPW magazine every week. The important topics covered in the weekly are analyzed and explained in a simple language, all from a UPSC perspective.

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1. Etuaptmumk to Preserve Biodiversity

Context

With the Living Planet Report 2022 being published recently, this article talks about the importance of the Etuaptmumk approach in the conservation of the environment and biodiversity strategies.

Living Planet Report

- The Living Planet Report is a flagship report published by the World Wildlife Fund for Nature (WWF).
- The report is based on the Living Planet Index (LPI) which tracks the changes in the abundance of wild species populations across the globe.
- LPI features about 32,000 populations of 5,230 species across the world.
- The Living Planet Report is a biennial report (published every two years).
- It is a comprehensive study of trends in global biodiversity and the health of the planet.

Findings of Living Planet Report 2022

- Living Planet Report 2022 found that vertebrate wildlife populations are reducing severely in tropical regions of the world.

- Between 1970 and 2018, the monitored wildlife mammals, birds, amphibians, reptiles, and fish populations have reduced by about 69%.
- According to the report, freshwater populations have reduced by close to 83%.
- The report also notes that cycads (an ancient group of seed plants) are the most threatened species.
- Corals are reducing at the fastest rate followed by amphibians.
- Further, according to the report, the global abundance of oceanic sharks and rays has reduced by about 71% in the last 50 years mainly because of an 18-fold increase in the pressure on fishing.

Region-wise findings

- The highest degree of decline in the monitored wildlife populations was seen in Latin America and the Caribbean region (94%) which was followed by Africa (66%) and Asia-Pacific (55%).
- In the Southeast Asian region, the species are most likely to face the threat of a decline in wildlife populations.
- Additionally, the polar regions which include the east coast of Australia and South Africa are experiencing the highest probable impact of climate change, particularly the adverse effect on birds.

Biodiversity loss

- The biodiversity loss on account of climate change is taking place at a rapid rate causing irreversible damage to various species and ecosystems.
- Analysis of the data of the IUCN red list reveals that there are six key threats to biodiversity namely climate change, invasive species, agriculture, hunting and trapping, logging and pollution.
- **Examples**:
    - **Freshwater depletion**: Despite freshwater accounting for only 1% of the planet, about 50% of the human population lives within three kilometres of a freshwater body.
        - As per reports, only about 37% of the rivers longer than 1,000 km remain free-flowing over their entire length as the remaining are artificially invaded resulting in habitat fragmentation for the migratory aquatic creatures.
    - **Knock-on effect of farming:** The nitrogenous fertilisers that reach the seas/oceans from the agricultural fields cause algal bloom which leads to a population explosion of crown-of-thorns starfish as larvae of this fish thrive on algae. These fish then feed and damage the coral ecosystem.

        - This also impacts human settlements as coral reefs reduce wave energy by about 95%, protecting the coastal communities from tsunamis and storms.
    - **Destruction of mangroves:** Mangroves play a key role in mitigating climate change effects through sequestering and storing blue carbon.
        - However, there has been a 0.13% loss in the mangrove ecosystem per year due to aquaculture, agriculture, and coastal development.
        - This has put the coastal communities at significant risk of rising sea levels, tsunamis, and tidal waves.

Etuaptmumk approach to preserve biodiversity

- The Etuaptmumk or the Two-Eyed Seeing approach was developed by **Mi'kmaq Elder Albert Marshall.**
- Etuaptmumk principle recognises that better outcomes are possible if two or more perspectives are brought into collaboration.
- According to the Etuaptmumk principle, multiple perspectives help provide insights that could help resolve various challenges and also better our relationship with the earth.
- To date, the colonial principle of separating people from nature to preserve has been the fundamental polity adopted to combat climate change and preserve biodiversity.
- Applying the Etuaptmumk approach where the perspectives of the indigenous people are seen through one eye and mainstream ideas through the other and implementing the knowledge and understanding from both eyes helps produce faster, sustainable and better outcomes.

Way forward

- Urgent and ambitious reformative changes which are also integrated are required to address the root causes of degradation which include demographic, sociocultural, financial, technological, or governance-related causes.
- Targets should be set in such a way that they help achieve environmental and socio-economic gains and also ensure that the interests of indigenous and local communities are protected.
- Further, a rights-based approach that ensures a secure life and good health for all must be given the utmost priority.
- The voice of the most vulnerable communities who are likely to be affected the most due to biodiversity loss should be heard.

Conclusion

The Earth, which is the only life-sustaining planet, is currently witnessing increased threats owing to biodiversity loss and climate change mainly due to various anthropogenic factors and

practices. In this context, it has become important to treat biodiversity loss and climate change as intertwined problems and develop a nature-positive, transformative, composite, sustained and integrated solution by combining indigenous as well as mainstream knowledge.

2. Pandemic-aggravated Inaccessibility in School Education

Context

- This article examines the trends with respect to school education in India based on the findings of two reports released by the Union Ministry of Education.
- These reports provide an idea about the impact of the pandemic on school education and the various shortcomings in terms of access to school education, infrastructure, and gender and social disparities.

Unified District Information System for Education Plus (UDISE+)

- Unified District Information System for Education (UDISE) which was started in 2012-13 is one of the largest management information systems on school education as it covers over 14.9 lakh schools, more than 95 lakh teachers and about 26.5 crore children.
- UDISE+ is an updated version of UDISE and at present, the entire system is online and has been collecting data in real-time annually since 2018-19.
- UDISE+ report is released by the Union Ministry of Education.
- UDISE+ has been mandated to collect data from all schools imparting formal education from Classes I to XII.
- UDISE+ collects data through an online Data Collection Form (DCF) based on parameters such as school, infrastructure, teachers, enrolments, examination results, etc.
- The DCF is divided into eleven sections and each section contains multiple questions to capture various performance indicators of the school.

Key findings of UDISE+ 2021–22

- According to the latest UDISE+ data, the total enrollment in the school education system from pre-primary to higher secondary has reached 26.5 crores in 2021-22.
    - Further, the total enrollment from primary to higher secondary levels is at 25.6 crores.
- Out of the total enrollment, boys continue to outnumber girls as boys account for 13.28 crore enrollments whereas girls account for 12.28 enrollments.
- The number of students at the pre-primary and primary levels had reduced slightly both in 2020-21 and 2021-22 mainly because of the pandemic.

- However, the enrolment in upper primary, secondary, and higher secondary has improved which reflects better retention rates in school education.
- The enrolment in government schools has increased by about 80 lakh to reach 14 crores whereas enrolment in private unaided schools declined by about 56 lakh to reach 8.2 crores.
    - Experts suggest that the livelihood crisis caused due to the pandemic is one of the key reasons for students to take up admissions in government-run schools.
- Another impact of the pandemic is the decline in the number of schools from about 15.1 lakh in 2020-21 to 14.9 lakh in 2021-22,
    - Both government-run schools as well as unaided private schools have witnessed a decline.
- Furthermore, the number of teachers has also seen a reduction from 96.9 lakh to 95 lakh and the reduction of teachers was seen to be the highest in private schools.
- The increase in the dropout rates of students is also seen as an adverse impact of the pandemic.
    - The dropout rates in primary education increased by about 66% in 2021-22, while dropout rates in the upper primary have increased by about 50%. However, the dropout rate at the secondary level has reduced slightly.
    - It is also important to note that the dropout rates among girl students were found to be lower than that of boys, both at the primary and secondary levels, while it was higher at the upper primary level.

Trends in important parameters

The three key parameters that provide a clear picture of the efficacy of the school education system are:

- **Gross Enrolment Ratio (GER):** Compares the enrollment rate at each level of education with the population of the age group at that level.
    - The overall enrolment rate in primary education was found to be 103.4% in 2021-22, it was 104.8% for girls and 102.1% for boys.
    - At the higher secondary level, the overall enrolment rate was found to be 57.6%, it was 58.2% for girls and 57% for boys.
    - It is important to note that the GER for Scheduled Caste students at the primary and higher secondary levels was higher than that of the overall population, while that of Scheduled Tribe students was less than the total population.
    - The share of Other Backward Classes (OBC) students in the total enrolment also reduced slightly from the primary level to the higher secondary level.
- **Gender Parity Index (GPI):** Checks whether the number of girls enrolled in schools is in line with the number of girls in the population group.

    - GPI is represented in the form of 1 and a score higher than 1 indicates a higher representation at all four levels.
- **Pupil-Teacher ratio (PTR):** PTR is the ratio of the number of students to the number of teachers.
    - As per the latest trend, PTR has improved at all four levels with the highest improvement at the secondary and higher secondary levels.

Performance Grading Index (PGI)

- The Performance Grading Index (PGI) is a tool that provides insight into the trends in school education in the country including key levers that drive their performance and critical areas for improvement.
- The Performance Grading Index (PGI), released by the Ministry of Education annually.
- The structure of PGI consists of 1000 points across 70 indicators grouped into 2 categories namely the Outcomes and Governance Management.
    - These categories are further classified into 5 categories namely Learning Outcomes (LO), Access (A), Infrastructure and Facilities (IF), Equity (E), and Governance Process (GP).
- The information on these indicators is extracted from data available from the UDISE, National Achievement Survey (NAS), Mid Day Meal database, Public Financial Management System (PFMS) and the information on the Shagun Portal.

Read more about - Performance Grading Index (PGI)

Important findings of PGI 2020-21

- PGI 2020-21 classified the States/UTs into ten grades with the highest achievable Grade being Level 1 (state/UT scoring more than 950 points out of total of 1000) and the lowest being Level 10 (scores below 551).
- The trends in the PGI 2020-21 suggest an improvement in performance despite the pandemic.
- According to the report, no state has been able to move to the level one category but the number of states in the level two and three categories has increased by 7 and 12, respectively in 2020–21.
    - **Level 2 states and UTs** (scores between 901 and 950): Kerala, Punjab, Chandigarh, Maharashtra, Gujarat, Rajasthan, and Andhra Pradesh.
- Further, the number of states at Level 4, 5, 6, and 7 categories has declined but the good news is that there were no states in the bottom three categories in 2020-21.
- However, experts and critics have pointed out several flaws in PGI as the majority of the indicators are drawn from NAS 2017, which is outdated.

Conclusion

- The access and quality of school education are two significant factors that have long-term consequences on the lives and livelihoods of the people and the overall development of the country.
- However, the data and findings of recent reports show that the pandemic has had an adverse impact on the overall outcomes of school education.
- Evidence-based policymaking and adoption of the global best practices are the keys to producing better outcomes in school education.

3. Beyond a Technological Understanding of Technology

Context

This article highlights the concerns around technology and society and the importance of a sociological understanding of technology.

Background

- Policymakers and administrators across the globe have been looking towards a technology-centred development trajectory.
- This policy or strategy has been specially adopted by developing countries in East and South Asia and Latin America.
- In India, technological progress which had been undercurrent during the five-year plans era came under the spotlight post the 1991 industrial reforms.

Technology-led Development in India

- Digital technology ecosystems are seen at the centre of development strategies in India.
- With the advent of "Industry 4.0 or the fourth industrial revolution", digitalisation of governance and economy is taking place at a rapid rate. In order to facilitate digitalisation, the Digital India Mission was launched in 2015.
- Further, initiatives such as the National Digital Literacy Mission, the JAM trinity (Jan Dhan–Aadhaar–mobile), PM Gramin Digital Saksharta Abhiyan (PMGDisha), Ayushman Bharat Digital Mission, e-Kranti, COVID Vaccine Intelligence Network (CoWin), e-Skill India, etc. which deal with various sectors such as education, urban development, health, labour, and welfare have been linked with digital technology ecosystems or payment systems.

- Reports have also indicated that technological advancement and digital penetration have helped to better developmental outcomes, improve skills, and open access to new resources, networks, and livelihood options.

Concerns associated with technology-led development

- It is overlooked that technological experiences among marginalised and vulnerable social groups are often complicated, non-linear, and unpredictable in their outcomes.
- A large number of inequalities have been seen in technological experience. For example, access to CoWin was initially dominated by affluent urban males, with many women, sexual minorities, rural households and other marginalised sections unable to access it mainly because of their socio-economic position.
- Further, during the COVID pandemic, it was seen that individuals with a lack of digital access experienced a gap in educational reach.
- It is to be acknowledged that technological advancements and development are not always linear in their outcomes.
    - **Example**: the advent and penetration of mobile phones have proven to be liberating for some while it has increased the disempowerment of others. While it has become indispensable for livelihood or political participation for some, it is only seen as an entertainment gadget by others. If it has facilitated freedom of expression for some, it has impinged the right to privacy of a few.
- In 2017, the coercive policy of linking individual-identification technologies to public distribution of essentials such as food items had severe implications on the children of marginalised communities in Jharkhand as the ration cards were not digitally linked to their Aadhaar cards.
    - Similar issues were also seen with the registrations on the e-Shram portal.
- The adverse outcomes and intangible inequalities of technology are mainly driven not just by loopholes in the design and execution, but also due to the social position of individuals and their associated groups.

Technologically marginalised

- Marginalised and vulnerable sections of society which include Dalits, SC and STs, transgenders, etc. do not always have the required access to technology, networks and markets.
    - Further, they also lack the means and opportunities to overcome vulnerabilities.
- Such groups of people are often pushed into the vicious cycle of market capitalism and vulnerability is aggravated.
- Digital technological revolutions or reforms or advancements have bypassed such groups which has led to their exclusion and thereby increased the degree of their marginalisation and deprivation.

- In recent years there has been a significant increase in the people being employed in the gig economy and informal sectors on account of the low performance of the agriculture sector and the lack of opportunities in the industrial manufacturing sector.
    - Lakhs of individuals from rural areas are forced to take up low-quality, and stressful work in high-cost urban areas.
    - Despite these individuals being technologically connected, there has been a lack of development of meaningful long-lasting skills and capabilities in such jobs.
- These outcomes indicate that the notion of digital technology automatically ushering in the betterment of life and livelihood is a false notion.
- Empirical evidence among the marginalised groups indicates that digital technologies can further exclusion and that technological advancements do not always guarantee socio-political and economic advancements.

Socio-political and economic understanding of technology

- Studies show that by improving the socio-political understanding of technology various concerns associated with technological initiatives can be addressed.
- Socio-political and economic approaches towards technology will also help broader the vision of the role of technology.
- By ensuring that technological advancements do not dilute aspects such as dignity and empowerment of marginalised sections of society, the complete potential of technological advancements can be realised and democratic participation of these groups can also be improved.
- It is important to visualise social justice and technological advancements together and technology must be deployed to support social justice and advancement.

Conclusion

The vision of "maximum technology, maximum value, maximum empowerment" can be achieved by improving the socio-political and economical understanding of technology. The socio-political and economic concerns associated with technological advancements must be included and addressed in technological strategies in order to ensure genuine modernity and well-being.