



Daily Mains Answer Discussion (Punjab PCS) (Day - 7)

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Questions

1. Do you believe that human-wildlife conflict is increasing? How can it be prevented? Discuss. 15 marks
2. Ministry of Environment, Forest and Climate Change (MOEF&CC) has published the draft Environment Impact Assessment (EIA) Notification 2020, with the intention of replacing the existing EIA Notification, 2006 under the Environment (Protection) Act, 1986. Critically analyze the significance of the new draft notification. 15 marks
3. A sharp binary exists between human rights and wildlife rights. Do you agree? Critically examine the above statement in the context of the implementation of the Scheduled Tribes and Other Traditional Forest Dwellers (Recognition of Forest Rights) Act, 2006. 15 marks
4. "Climate change is a challenge to India's food security." Critically discuss the above statement. 15 marks
5. "Covid 19 has added to the challenge of plastic pollution." Critically discuss. 10 marks

1. Do you believe that human-wildlife conflict is increasing? How can it be prevented? Discuss. 15 marks

- Human-wildlife conflict (HWC) is when interactions between humans and wildlife lead to negative impact on both sides through fear, injuries, death, and loss of property or livelihoods.
- It is a double-edged sword as it is a threat to survival of many species and also to local populations. This conflict has led to the extinction and reduction of numerous species and uncountable human deaths and economic losses. (Especially large mammals during the Pleistocene Epoch - a time period spanning 2.6 million years ago until 11,700 years ago).
- Human-wildlife conflict is older than recorded history and still is growing rapidly. Various events such as elephants dying of electrocution in Odisha routinely, a state often known as a "graveyard" for elephants, six-year old tigress Avni, accused of killing 13 human beings, was shot dead in Maharashtra in 2018, human-leopard conflict increasing threefolds in Karnataka, etc indicates that the human wildlife conflict is, indeed increasing.

Reasons for Increase

- Rising population of humans and animals
 - Excessive human intervention has led to depletion of green cover in many forests.
 - Encroachment of forests, blocking of natural wildlife corridors for building roads, and setting up of resorts have hampered the free movement of wild animals in their own habitats.
 - Collateral damage of conservation - According to the government, increasing human-animal conflict is also partially a result of its success in increasing the animal population in the last few years.
- Habitat interference and fragmentation
 - Agricultural expansion and cultivation up to forest boundaries
 - Farming on forest fringes contributed hugely to the frequent intrusion of wild animals.
 - Large number of people dependent on forests for livelihood
- Increasing deforestation and habitat degradation
 - It pushes animals to adjoining areas with more food and water

- Transmigration of Animals - Herd of 40 elephants moved from Chhattisgarh to Madhya Pradesh which had only 7 elephants earlier
- Changes of availability of food in the forests and presence of easy food like small domestic animals and children
- Developmental works
 - Rapid and unplanned urbanization, which entails electrification penetrating into forest areas, increasing road density, destruction of natural animal corridors, agricultural expansion and cultivation up to forest boundaries.
 - Increasing road density
 - Destruction of animal corridors
 - Projects such as highways, railway tracks and factories destroy natural habitats
- Legislations
 - The model of conservation enshrined in the WIPA is premised on creating human-free zones for the protection of rare species based on the erroneous notion that local people are the prime drivers of wildlife decline. This approach has been successful in protecting certain species, certainly. But such an exclusionary approach is better suited to countries that are less densely populated and have a more developed non-rural economy.
 - Also, for many conservationists, FRA empowers forest dwellers at the cost of forest and wildlife conservation efforts.

How can it be prevented?

The solutions can either be on the policy level or specific to the wildlife or area concerned

- Physical Prevention
 - Planting 'barrier' crops that repel animals - Chilli can prevent entry of elephants in croplands (in Mozambique)
 - Innovative solutions - Northeast Frontier Railway using 'Plan Bee' to ward off elephants using buzzing sound to scare away elephants
 - Technology - Tracking devices can be attached to few members of the herd so that their movements can be tracked for preventing damage
- Policy Measures
 - In 2016, the Environment Ministry issued a notification declaring as 'vermin' certain wildlife like wild boars, nilgai, and rhesus monkeys. This empowered farmers to cull or kill such animals in certain areas of States like Bihar, Himachal Pradesh, Uttarakhand, Uttar Pradesh etc. However, such a measure runs counter to sustainability principles, which hold forest and wildlife to be an integral part of the ecosystem. I
 - Immune-contraception has been introduced in order to control the population of nilgai, monkeys and wild boars.
 - Project Elephant and National Tiger Conservation Authority (NTCA) guidelines have been issued to mitigate the conflict
 - The Centre also provided funds under the Integrated Development of Wildlife Habitats scheme, which was modified during the 11th Five-Year Plan to widen the scope of conservation intervention by offering

technical and financial assistance to States and Union Territories.

- The National Wildlife Action Plan (NWAP) (2002- 2016) seeks to provide protection to wildlife in multiple-use areas such as farm lands, wastelands, wetlands, coastal habitats, etc., which helps to reestablish natural wildlife corridors and link the protected areas to enable genetic continuity between and among them. Further, the draft of NWAP (2017- 2031) is ready for approval from the Centre.
- Compensation - in some cases, governmental systems have been established to offer monetary compensation for losses sustained due to human-wildlife conflict. These systems hope to deter the need for retaliatory killings of animals, and to financially incentivize the co-existing of humans and wildlife.
- Spatial analyses and mapping conflict hotspots - mapping interactions and creating spatial models has been successful in mitigating human-carnivore conflict and human-elephant conflict, among others.
- Interdisciplinary approach to understand a conflict and ensuring access to necessary skills and resources
- HWC should be part of national policies and strategies for wildlife, development and poverty alleviation
- Efforts focused on underlying socio-political conflicts fuelling the situation rather than temporary fixes or exacerbating pre-existing tensions

Coordinated and collaborative conservation actions are therefore required to deliver meaningful results and allow communities to shift from conflict to coexistence with wildlife

Way Forward

- In his landmark 1991 Union budget speech, then-finance minister Manmohan Singh said, "We cannot deforest our way to prosperity and we cannot pollute our way to prosperity". He was correct. But coming up on three decades since, India has yet to find the right policy and regulatory mix to reflect that realization.

2. Ministry of Environment, Forest and Climate Change (MOEF&CC) has published the draft Environment Impact Assessment (EIA) Notification 2020, with the intention of replacing the existing EIA Notification, 2006 under the Environment (Protection) Act, 1986. Critically analyse the significance of the new draft notification. 15 marks

Introduction

- The concept of EIA has its roots in the US. Embracing the neoliberal policies in the 1970s, the US passed environmental laws to include scientific assessment and public participation while taking important environmental decisions.
- Soon after the Bhopal gas leak disaster in 1984, India legislated the Environment (Protection) Act, 1986 under which, it notified its first EIA Notification in 1994, setting in place a legal framework for regulating activities that access, utilize, and affect natural resources. This set of norms was amended in 2006, which is valid up till now.
- Earlier this year, the government of India redrafted the EIA notification in order to add the amendments and relevant court orders issued since 2006.

What is EIA

- An EIA makes a scientific estimate of the likely impacts of a project, such as a mine, irrigation dam, industrial unit or waste treatment plant. It is a process whereby people's views are taken into consideration for granting final approval to any developmental project or activity. It is basically, a decision-making tool to decide whether the project should be approved or not.

Key Changes and Concerned Issues

- Post-Facto Approval
 - Clearances for projects can be awarded even if they have started construction or have been running phase without securing environmental clearances.
 - Under the notification, the projects which are operating without any prior Environmental Clearance will have the right to seek approval from the MOEF's Expert Appraisal Committee as long as it is permissible by law and it follows all the environmental norms.
- Issue
 - This also means that any environmental damage caused by the project is likely to be waived off as the violations get legitimized. As the only remedy would be to impose a fine or punishment, but that would not reverse the detrimental consequences on the environment.
 - It is in derogation of the fundamental principles of environmental jurisprudence and violation of the "precautionary principle," which is a principle of environmental sustainability.
 - The practice of post-facto approvals removes the relevance of public hearings, meant to address the concerns of the relevant stakeholders. This provision, if notified, would make the mandatory procedure a mere formality, leading to gross negligence by industries.
- Easy Way out
 - Projects operating in violation of the Environment Act will now be able to apply for clearance.
 - All the violator will need are two plans for remediation and resource augmentation corresponding to 1.5-2 times "the ecological damage assessed and economic benefit derived due to violation".
- Public Consultation Process
 - The notice period for public hearing has been cut from 30 days to 20 days.
 - The new draft exempts a long list of projects from public consultation. For example, linear projects such as roads and pipelines in border areas will not require any public hearing.
 - Issue
 - This will make it difficult to study the draft EIA report, more so when it is not widely available or provided in the regional language.
- Compliance Report Issue
 - Under the proposed changes, project proponents need to submit only one annual report on compliance with conditions, compared to the existing two.
- Bypassing EIA Process
 - For project modernization and expansion, the norms in Notification 2020 are liberal, with only those involving more than 25% increase requiring EIA, and over 50% attracting public consultation
- Nomenclature of terms (Strategic Projects)
 - While projects concerning national defence and security are naturally considered strategic, the government gets to decide on the "strategic" tag for other projects. The 2020 draft says no information on "such projects shall be placed in the public domain".
 - Issue

- This opens a window for summary clearance for any project deemed strategic without having to explain why.
- Exclusions
 - The EIA Notification 2020 excludes reporting by the public of violations and non-compliance. Instead, the government will take cognizance of reports only from the violator/promoter, government authority, Appraisal Committee or Regulatory Authority.
 - Issue
 - Such projects can then be approved with conditions, including remediation of ecological damage, which, again, will be assessed and reported by the violator (and not an unconnected agency), although Central Pollution Control Board guidelines must be used.
 - In short, the new draft rules might seem to favour the interests of the project proponent by whittling down public consultations, accepting flawed and faulty EIA reports resulting from external influences, and ignoring the non-renewable nature of resources.
- Ensuring ease of doing business
 - While speedy approvals may result in securing investments, these could often be diverted towards the wrong projects and in turn the wrong sectors. All of which could do more harm than good.
- Non-compliance of prior Environment Clearance or prior Environment Permission
 - The current draft has diluted the penal provisions of non-compliance, further curtailing the power of the regulatory authority to withdraw the EC or take punitive action against the project proponent under the same Act.
 - Issue
 - This has reduced the provision to a 'pollute and pay' model, which has nightmarish consequences for the ecology and livelihoods dependent on it. Resultant of which this provision is ultra vires of its parent act as it dilutes the penalty provisions laid down in it, which has an extensive range of penal actions, such as prosecution and punishment for non-compliance and contravention of the provisions, orders and directions issued under it.
- Legal Issue
 - For an action of the Central government to be treated as a measure referable to Section 3, it must satisfy the statutory requirement of being necessary or expedient for the purpose of protecting and improving the quality of the environment and preventing, controlling and abating environment pollution”.
- Comparison with global norms
 - EIA rules must meet the requirements of the precautionary principle of avoiding harm, and intergenerational equity.
 - Issue
 - These privileged the interests of the project proponent by whittling down public consultations, accepting flawed and faulty EIA reports resulting from external influences, and ignoring the non-renewable nature of resources.
- Removal of several activities from the purview of public consultation
 - The projects under existing norms are identified on the basis of screening by Expert Appraisal Committees, rather than being exempted through listing in the Schedule.

- Coal and non-coal mineral prospecting and solar photovoltaic projects do not need prior environmental clearance or permission in the new scheme.

Other Issues

- 2020 draft offers no solution for the political and bureaucratic stronghold on the EIA process.
- In spite of the focus on climate change at the international and domestic level, the EIA notification has not incorporated specific reference to climate resilience, impact or vulnerability from the scope of EIA study. This contradicts the provisions of UNFCCC and Paris Agreement.
- Restricts the role played by experts and scientists in the clearance process.
- To allow digital environmental clearances that could compromise the due diligence process.
- No wildlife clearance is required for projects which do not need environmental clearance.
- The draft increases the validity of the environment clearances in certain sectors like mining and river valley projects.
- It also gives the National Highway Authority of India the power to expand its linear infrastructure without an environmental clearance but an environment impact assessment will be required from them.

Positive Take Aways

- Makes the process more transparent and expedient by the implementation of an online system.
- It aims to standardize the process of Environmental clearance by reducing overall time.
- It tries to strengthen the monitoring mechanism for compliance of conditions of prior Environmental clearance by introducing system of late fees/penalties in case of failure to submit yearly compliance reports by project proponent.
- Clear demarcation of roles and responsibilities and inter coordination among the authorities have been made for category A, B1 and B2.
- The EIA report structure has been more standardized.
- An appeal can be made to NGT for prior EC
- The proponent is supposed to submit a bank guarantee valid for 5 years equivalent to the amount of remediation plan and natural and community resource augmentation plan and natural and community reserve augmentation plan with SPCB as the case may be and the bank guarantee will be released after successful implementation of the action plan.
- In case of violation cases the project proponent is required to prepare and implement the EMP, comprising of the remediation plan and natural and community resource augmentation plan corresponding to 1.5 times and 2 times the ecological damage assessed and economic benefits derived due to violation in case of Suo moto applications or Govt cases reported cases respectively.

Way Forward

- Post-facto approvals + Prior-EC or prior-EP - need to be revisited
- Bureaucratic issues + Greater transparency in the clearance process
- Precautionary + Prevention Principle + Integration Principle – needs to be followed
- Dissemination of all documents for public scrutiny+ Local Communities - Public hearing notice to be published in popular vernacular language newspaper

- Lifecycle cost analysis + Embed Sustainability + Climate Change Impact in EIA
- Parliamentary standing committee on environment and forest

Conclusion

- The proposed draft can be revisited so as to uphold the key principles of environmental law such as the polluter-pays principle etc. There is a dire need for the EIA process to be strengthened further to prevent any adverse effect on the environment and for that very reason, there is a serious need for a comprehensive legislation on EIA governance in the country to avoid any further man instigated disasters.

3. A sharp binary exists between human rights and wildlife rights. Do you agree? Critically examine the above statement in the context of the implementation of the Scheduled Tribes and Other Traditional Forest Dwellers (Recognition of Forest Rights) Act, 2006. 15 marks

Introduction - A sharp binary does exist between human rights and wildlife rights

- The work of the Conservation of Human Rights in forest is grounded in recognition that, because of indigenous people's strong economic and cultural relationships to land and natural resources, conservation actions have significant potential to contribute to the realization of human rights. Responsible actions mindful of the rights of others, and of obligations to help respect, protect and promote the enjoyment of those rights, also contribute to building a climate of transparency and accountability that enhances the opportunities for long-term conservation.
- At the same time, efforts to conserve biodiversity and protect ecosystem integrity affect people's access to land and other natural resources, and consequently their enjoyment of human rights. Frequently, the people who live in highbiodiversity areas are among a country's most vulnerable, and their livelihoods depend directly on ecosystem services and access to land and natural resources.
- Therefore, organizations/institutions/state involved in conservation therefore share a responsibility to understand and address potential negative impacts of conservation actions on people whose rights or livelihoods may be affected. Conversely, not being explicitly cognizant of the rights of all actors in an area can create or fuel conflicts over land, water and other resources, which can undermine conservation efforts.
- But the issue also needs to be analysed quantitatively and qualitatively in Terms of the Legislation that governs the implementation whole paradigm.

Scheduled Tribes and Other Traditional Forest Dwellers (Recognition Of Forest Rights) Act 2006

- The Scheduled Tribes and Other Traditional Forest Dwellers (Recognition of Forest Rights) Act 2006 (FRA) aims to redress the historical injustice that forest-dwellers have experienced, particularly the denial of their rights to forest land and resources. This act was enacted to recognize and vest forest rights and occupation of forest land for scheduled tribes and other traditional forest dwellers.

Positive Aspects

- Community Forest Rights
 - The Act recognizes the rights of a gram Sabha over forest land within the traditional boundaries of a village or seasonal use of landscape in case of pastoral communities.
 - This allows the villagers to own and collect, use and dispose of minor forest produce besides timber and the right to use grazing land and water bodies, among others.
- Authority of the Gram Sabha
 - It gives the gram sabha the right to protect and manage their forest which in turn helps conserving the

wildlife as well.

- Distinguishing Rights
 - FRA clearly states CFR rights apply not just to village forests, but also to protected forests, reserved forests (which have more restricted access than protected forests), and even protected areas like wildlife sanctuaries and national parks.
- Upholds constitution
 - This legislation furthers the objectives of Articles 19 and 46 of the Constitution and thus, does not violate the fundamentals of the Constitution. It, instead, is balancing the interests of the forest dwellers residing in those territories and the pursuits of forest conservation and preservation. Therefore, the legislation has sought to solve the dichotomy between the forest dwellers and the conservationists.
- Rehabilitation Rights
 - Right to in situ rehabilitation including alternative land in cases where STs and Other Traditional Forest Dwellers have been illegally evicted/ displaced from forest land without receiving legal entitlements.
- Inclusion to the Tribes
 - The act through identifying individual forests right and community forest rights tries to provide inclusion to tribes.

Issues

- Different Criteria
 - One of the major limitations of the FRA is the differentiated eligibility of ST and OTFD claimants, which, compounded by the ambiguity in the wording of the Act, has disadvantaged the latter severely.
 - OTFDs are required to prove continuous residence or dependence in the areas being claimed for three generations (75 years). This dates back to a period when most of these areas were under princely states or zamindars, with no survey or land demarcation, and no government records. Thus, these equally deserving communities are unable to produce documentary evidence to support their claims.
 - There is no national level data on FRA implementation for OTFDs
- Intra-society dynamics
 - There is a history of non-tribal being treated as outsiders in forested areas, and particularly in Scheduled Areas, where there are special provisions in land and tenancy laws for the tribal populations, such as in the Santhal Pargana areas of Jharkhand.
- Lack of adequate representation in the process of recognition of forest rights
 - The FRC, which is formed by the gram Sabha (village council) to initiate the process of recognition of forest rights does not provide for adequate representation for Scheduled Castes in the committee.
- The use of violence to restrict access to forest rights
 - Another key barrier is the use of violence by other community members towards Dalit forest dwelling communities to prevent them from claiming their forest rights under the FRA.
- Transparency issue
 - There is a complete lack of transparency in the entire FRA process, right from panchayat data on claims filed to records on the status of claims, area in claims vs. area in title, reasons for rejection, pending claims,

etc.

- Lack of Political Will
 - There is no political will to implement this act as assertion of power of forest dwelling communities is in direct conflict with the agenda of ease of doing business.
- Rehabilitation issue
 - Acquisition of tribal land for these projects led to large scale displacement of the tribal population. The rehabilitation has not been very successful aspect of the act.
- Erosion of Tribal Identity
 - Further, extinction of tribal dialects and languages indicate an erosion of tribal identity in certain areas.
- Degradation of Environment
 - Degradation of the natural environment, particularly through the destruction of forests, and a rapidly shrinking resource base, has also harmed tribal women.
- Awareness
 - Leaving aside questions about the suitability of the rightsbased approach, the tribal communities at the very least needed to be educated about the Act – and how it could be used to secure their lives.
- New Policies
 - In recent times, new policies and orders such as the Compensatory Afforestation Act, draft forest policy, village forest rules have provisions that are diluting or contradicting the FRA.
- Lack of Coordination
 - Lack of coordination between the tribal, revenue and forest department on implementation of the Act.
- Ineffective documentation
 - There is a lack of reliable baseline or periodic progress data for analyzing the actual impact of implementation.
- Bureaucratic Delays
 - Interdepartmental conflicts, bureaucratic unwillingness and the lack of information and publicity have severely hampered the implementation of the Act.
- Encroaching on Rights
 - The study by Council for Social Development reported that in most cases the forest department overlooked the entire settlement process and exercised veto rights overturning the decisions reached by the Gram Sabha unlike its supervisory role contemplated under the Act.

Way Forward

- Many rights are conflicting, and shall be constantly negotiated in practice
- Rights are articulated globally, but must be realized in diverse local contexts
- Peoples' right to self-determination, use of natural wealth and resources, and not to be deprived of means of subsistence
- Cultural rights and bio-cultural diversity + Gender equality: Eliminating discrimination against women

- Sustainable development and equitable benefit-sharing • Community-based Natural Resource Management (CBNRM)
- Reviewing all rejected and pending claims to IFR and CFR expeditiously;
- Regular meetings of district and sub-division level committees
- Capacity building of Gram Sabha
- Institutional mechanisms to support community forest enterprises for value addition.
- Facilitating NGO's play in the implementation process
- Align all legislations and policies - Allocate financial resources

Conclusion

- While it is true that human activity has resulted in unprecedented environmental destruction as well as the extinction of species, there is also evidence of alternative paradigms where community-led forest conservation initiatives have been successful in preventing the overexploitation of natural resources. Therefore, Synergistic and collaborative spaces can be created to co-manage these lands with the explicit purpose of addressing historic wrongs as well as meeting conservation goals.

4. "Climate change is a challenge to India's food security." Critically discuss the above statement. 15 marks

- Food is one of society's key sensitivities to climate vulnerabilities. World Food Summit (1996) said food security exists when all people, at all times, have physical, social and economic access to sufficient, safe and nutritious food which meets their dietary needs and food preferences for an active and healthy life.
- For India, food security has to be a high priority since 25% of all hungry people worldwide and highest number of stunted and wasted children lives in India. According to the United Nation's World Population Prospects (June 2019), the Indian population is projected to increase from 1.36 billion in 2019 to 1.5 billion by 2030 and 1.64 billion by 2050.
- Agriculture and food production are likely to be significantly affected by climate change. According to one estimate, yields of major crops could decline by up to 25%. A recent IPCC report also warned that in the years to come, food security will stand threatened due to climate change coupled with increasing demands of the rising population.
- The impact of climate change on food security can be understood by three dimensions of food security:
 - Availability
 - Accessibility
 - Absorption

Food Production

- Climate change droughts will pose an increasing risk in the north-western part of India while southern India will experience an increase in wetness (World Bank)
- Significant increase in inter-annual and intraseasonal variability of monsoonal rainfall
- Water availability: India already suffers from water scarcity, especially the north western states of Punjab and Haryana (food bowl of India). Climate change may further cause disruptions in water supply due to erratic rainfall, thus invariably affecting food production in India
- More pressure on the groundwater resources for irrigation and this mismatch between the demand and supply of water is likely to have far reaching implications on food grain production

Food Access

- Depending on the climate change scenario, 200 to 600 million more people globally could suffer from hunger by 2080 (Fourth Assessment Report of the IPCC). Showing the gravity of problem of food access that world will be facing in future; there will be a 62 percent increase in severe stunting in South Asia by 2050.
- Climate change can slow down and even drastically reduce the improvements in food security and nutrition that India has managed to achieve so far.
- It also amplifies the economic divers of food security, variation in the length of the crop growing season and higher frequency of extreme events due to climate change and consequent growth of output adversely affects the farmer's net income

Food Absorption

- Reduction of production and consumption of certain foods which are critical in the diet of poor rural and indigenous populations such as fish, fruits and vegetables and wild foods
- Reduction in the nutritional quality of foods: Lower concentration of proteins and minerals like zinc and iron due to elevated carbon dioxide levels
- Acceleration of hidden hunger or micronutrient deficiency
- Emergence of new patterns of pests and diseases which will affect human health and lower the capacity to utilise food effectively

Way Forward

- However, to improve the present situation while dealing with the climate change and ensuring the food security of the nation, several steps can be taken such as –
 - Reoriented, climate-resilient farm practices
 - Increased investment in development and dissemination of water and nutrient efficient crop varieties, tolerant of temperature and precipitation fluctuations
 - Agriculture policy focused on improving crop productivity and developing safety nets to cope with the risk of climate change
 - Four-pronged strategy for water sector
 - Increase irrigation efficiency
 - Promote micro Irrigation in water deficient areas
 - Better water resource infrastructure planning
 - Restoration of water bodies in rural areas

5. "Covid 19 has added to the challenge of plastic pollution." Critically discuss. 10 marks

- Plastic pollution is the accumulation of plastic waste in the environment which negatively affects all living things and their habitat. It has a lifespan of around 450 years and never fully degrades, but shrinks into smaller pieces called microplastics.
- Plastics have become a severe transboundary threat to natural ecosystems and human health, with studies predicting a twofold increase in the number of plastic debris (including micro and nano-sized plastics) by 2030. However, such predictions will likely be aggravated by the excessive use and consumption of single-use plastics (including personal protective equipment such as masks and gloves) due to COVID-19 pandemic.
- The world was already suffering from the plastic menace with the marine life most severely affected. Although COVID-19 lockdowns around the globe led to 5% drop in greenhouse gas emissions, but an increase in plastic pollution was witnessed.

Impact due to Covid-19

- Since December 2019, the world was affected by a pandemic originated by a novel coronavirus (SARS-CoV-2) responsible for a severe respiratory syndrome known as COVID-19. The severity of COVID-19 disease, allied with its high contagiousness and the absence of a safe and effective vaccine, has raised attention and fear from governments, medical staff, the scientific community, and the general public towards prevention and control of its transmission. As an attempt to flatten the epidemic curve ($R_0 \leq 1$), governments worldwide have implemented several precautionary measures.
- However, what started as a health crisis promptly evolved into an economic, social and environmental threat. During and post COVID-19, WHO estimates that every month the world needs 89 million plastic medical masks, 76 million plastic examination masks, and 1.6 million plastic protective goggles.
 - Plastic is the bedrock of medical equipment and protective gear such as gloves, face masks etc and they have seen massive increase in usage. Global sale of face masks skyrocketed from an estimated \$800 million in 2019 to \$166 billion in 2020
 - Plummeting oil prices have led to a dramatic decrease in the value of plastics. This might result in lower recycling and more production of virgin plastic. Recyclable plastic comprises around 94% of total plastic waste generated in India
 - Government of India was stressing on elimination of single-use plastic. But on the contrary, its production has increased
 - Since restaurants and shops were temporarily closed people ordered food deliveries and switching to disposable utensils Recycling programmes have been paused,
 - There are concerns regarding unscientific disposal of bio-medical waste by unauthorised healthcare facilities. Only 1.1 lakh out of 2.7 lakh healthcare facilities are authorised under the Bio-medical Waste Management Rules, 2016 so far.
 - Some reports claim that there is no evidence to prove that single-use plastic is safer than cloth or paper. UNEP estimates negative spill over effects of plastic waste on fisheries, tourism and maritime transport around \$40 billion each year. Waterlogged masks, gloves, hand sanitizer bottles and other coronavirus waste are already being found on our seabed's and washed up on our beaches, joining the day-to-day detritus in our ocean ecosystems.

Way Forward

- More focus should be on recycling.
- To increase recycling, we must improve segregation of waste at source and improve the collection and transportation of segregated wastes.
- Better segregation, collection, and then disposal.
- In long term, work on substituting plastic with alternatives.