

UPSC Civils Daily Mains Question 26th May-2021

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India has been facing a severe problem of land degradation. To curb this problem Indian government is committed to the target of UN land degradation neutrality (LDN) by 2030. In this light, explain the causes of land degradation. What measures to be followed to achieve LDN by 2030?

Human activities are reducing Earth's life-support capacity. The ecological imbalance is manifesting itself in the form of well-established trends of air pollution, falling water tables, shrinking forests, polluted rivers and climate change. These phenomena, besides affecting air and water quality, have rendered land degraded both for biotic and abiotic resources.

UNCCD and the UN Environment Programme (UN Environment) came together to mark the United Nations General Assembly adoption of the "2030 Agenda for Sustainable Development"

- Land degradation neutrality (LDN) is a condition where further land degradation (loss of productivity caused by environmental or human factors) is prevented and already degraded land can be restored.
- LDN has been defined by the Parties to the Convention as:
 - A state whereby the amount and quality of land resources, necessary to support ecosystem functions and services and enhance food security, remains stable or increases within specified temporal and spatial scales and ecosystems.

Significance

- LDN represents a **paradigm shift in land management policies and practices.**
- It is a unique approach that counterbalances the expected loss of productive land with the recovery of degraded areas.
- It strategically places the measures to conserve, sustainably manage and restore land in the context of land use planning.
- As land is fixed in quantity, there is ever-increasing competition to control land resources and capitalize on the flows of goods and services from the land.
- LDN represents a paradigm shift in land management policies and practices.
- It is a unique approach that counterbalances the expected loss of productive land with the recovery of degraded areas.
- This has the potential to cause social and political instability, fuelling poverty, conflict and migration.

Causes of land degradation

Land degradation is caused by multiple forces

- including extreme weather conditions, particularly drought.

- It is also caused by human activities that pollute or degrade the quality of soils and land utility.
- It negatively affects food production, livelihoods, and the production and provision of other ecosystem goods and services.
- Desertification is a form of land degradation by which fertile land becomes desert.

Measures to be followed to achieve LDN by 2030

- Land restoration is one of the cheapest solutions to address the global crisis of climate change and biodiversity loss.
- The action programme in India for the achievement of LDN by 2030 must take into account transformative efforts to avoid, reduce and reverse land degradation through socially equitable means.
- The first step is to initiate action to avoid any activity or process leading to land degradation.
- Nature-based solutions such as conservation of forests, practicing organic agriculture, utilization of land as per land use delineation and conservation of water bodies should get priority as these are locally acceptable and adaptable.
- These measures need to be followed by the treatment of degraded areas by supporting plant life depending upon the use to which land can be put to, be it agriculture, horticulture, pasture/grassland or forestry.
- Increasing domestic public expenditure on protecting terrestrial ecosystems is important for tackling pressing social and economic challenges.

India's targets would be better achieved if schemes on integrated land and water management such as catchment area treatment, watershed management, soil and water conservation and river basin management are included as well. Implementation of such an integrated management would help in biodiversity conservation, livelihood generation, climate change mitigation and reclamation of land resources.

UPSC Civils Daily Mains Question 27th May-2021

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Environmental Impact Assessment (EIA) is a tool used to identify the environmental, social and economic impacts of a project prior to decision-making. Is the EIA beneficial? Examine the flaws in it.

Environmental Impact Assessment (EIA) is a process of evaluating the likely environmental impacts of a proposed project or development, taking into account inter-related socio-economic, cultural and human-health impacts, both beneficial and adverse.

It aims to predict environmental impacts at an early stage in project planning and design, find ways and means to reduce adverse impacts, shape projects to suit the local environment and present the predictions and options to decision-makers.

EIA is beneficial because it

- Links environment with development for environmentally safe and sustainable development.
- Encourages the adaptation of mitigation strategies in the developmental plan.
- Provides a cost effective method to eliminate or minimize the adverse impact of developmental projects.

Flaws in EIA

- There are several projects with significant environmental impacts that are exempted from the notification either because they are not listed in schedule I, or their investments are less than what is provided for in the notification.
- Lack of expertise in various fields such as environmentalists, wildlife experts, Anthropologists and Social Scientists within the assessing team.
- A number of projects with significant environmental and social impacts have been excluded from the mandatory public hearing process.
- One of the biggest concerns with the environmental clearance process is related to the quality of the EIA report that is being carried out.
- Public comments are not considered at an early stage, which often leads to conflict at a later stage of project clearance.
- Emergency preparedness plans are not discussed in sufficient details and the information not disseminated to the communities.

We need much stronger laws to protect the environment and to ensure that natural resources are available to the poorest who need them the most. There are a large number

of communities like Adivasis, peasants and coastal and fisher communities whose lives mainly depend on the state of the environment. Any drastic changes in EIA will have a direct impact on the living and working conditions of these people and the ecology.

The findings of EIA should be focused on the significant and essential issues. It is also required to provide a sufficient explanation on why they are important, and study its validity in order to facilitate a basis for policy decisions.

UPSC Civils Daily Mains Question 28th May-2021

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Is the Namami ganga project successful? Examine various issues raised in cleaning Ganga river. What measures should be taken to overcome these issues and make the project successful?

Namami ganga project is an Integrated Conservation Mission for river Ganga, approved as a 'Flagship Programme' by the Union Government in 2014. It is being implemented by the National Mission for Clean Ganga (NMCG) to ensure effective abatement of pollution and rejuvenation of the river Ganga by adopting a river basin approach to promote inter-sectoral coordination for comprehensive planning and management and to maintain minimum ecological flows in the river Ganga with the aim of ensuring water quality and environmentally sustainable development

The namami ganga project is not fully successful as

- National Mission for Clean Ganga (NMCG) has so far managed to spend just 29% of the sanctioned budget to complete 37% of the projects.
- A bulk of the projects sanctioned, 152, pertain to putting in place sewage infrastructure, like sewage treatment plants (STPs) — one of the most crucial components to keep the river clean.

Of these 152 STPs, only 46 have been completed as of January, 2020.

Issues raised in cleaning Ganga river

- Sewage treatment is inadequate
- Lack of coordination between the agencies responsible for carrying out different tasks.
- Ecological flow has been decreasing (E-flow or Environmental Flow refers to the minimum flow of water considered necessary for protecting the structure and function of an ecosystem and its dependent species)
- Decreased E-flow results in groundwater depletion as groundwater extraction increases.
- less utilization of funds under NMCG resulting in the amount lying in banks due to non-finalisation of action plans.
- Inadequate management of the sludge faecal resulting in invariable pollution of ganga.

Measures to overcome these issues

- Organic agriculture should be cultivated along the riverbed.
- Reuse treated wastewater for irrigation and empty into natural drains.
- Many of the strategies need to integrate long-term ecological and sustainability goals.
- local storages like ponds, lakes have to be created to prevent floods and drought situations
- smaller tributaries have to be restored near gang basin

For successful implementation of the project the issues under it have to be overcome with adequate measures.

UPSC Civils Daily Mains Question 29th May-2021

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Pesticides Management Bill, 2020 is expected to handle the inadequacy of the 50-year-old Insecticides Act, 1968. Mention key provisions of the bill. Also critically examine various apprehensions in the bill.

The Pesticide Management Bill, 2020 seeks to regulate the manufacture, import, sale, storage, distribution, use, and disposal of pesticides, in order to ensure the availability of safe pesticides and minimize the risk to humans, animals, and environment. It also seeks to replace the Insecticides Act, 1968 which currently governs the registration, manufacturing, export, sale and use of pesticides in India

Key provisions of the bill

- It will empower farmers by providing them with all the information about the strength and weakness of pesticides, the risk and alternatives. All information will be available openly as data in digital format and in all languages.
- The Bill has a unique feature in the form of a provision for compensation in case there is any loss because of the spurious or low quality of pesticides.
- All pesticide manufacturers have to be registered and bound by the new Act, once it is passed. The advertisements of pesticides will be regulated so there should be no confusion or no cheating by the manufacturers.
- Constitution of Central Pesticides Board to advise the central and state governments on scientific and technical matters arising under the Act

Benefits with the bill

- It promotes production and distribution of safe and effective pesticides.
- It assesses the potential effects of these products on the health of people and the environment.
- Advertisement of pesticides will create awareness and prevent misconceptions
- violation of rules will have heavy penalties to the manufacturers

Concerns with the bill

- PMB 2020 does not allow the export of pesticides that are banned in India even if those are approved for use in other countries.
- The provision of import of formulations under the bill ultimately damages the crop, health of farmers, and the environment.
- Obtaining a prescription by the farmers will decline the adequate and timely procurement of the pesticides.
- Licensing and registration power is more in the hands of the bureaucrats.

New machines and methods must be mainstreamed and promoted among the farmers for minimal use of pesticides.

UPSC Civils Daily Mains Question 30th May-2021

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The frequent urban flooding in many states highlights the issues regarding management of urban water bodies in Indian. Examine. Also discuss how Urban watersheds are affected by anthropogenic activities.

Urban flooding is the accumulation of floodwaters that result when the inflow of storm water exceeds the capacity of a drainage system to infiltrate water into the soil or to carry it away.

There has been an increasing trend of urban flood disasters in India over the past several years whereby major cities in India have been severely affected. A special feature in India is that we have heavy rainfall during monsoons. There are other weather systems also that bring in a lot of rain. Storm surges can also affect coastal cities/ towns. Sudden release or failure to release water from dams can also have severe impact. In addition, the urban heat island effect has resulted in an increase in rainfall over urban areas. Global climate change is resulting in changed weather patterns and increased episodes of high intensity rainfall events occurring in shorter periods of time. Then the threat of sea-level rise is also looming large, threatening all the coastal cities. Cities/towns located on the coast, on river banks, upstream/ downstream of dams, inland cities and in hilly areas can all be affected.

Issues with urban flooding

- It causes damage to infrastructure, roads and settlements, industrial production, basic supplies, post disaster rehabilitation difficulties etc.
- Contamination of water results in trauma, loss of life, injuries and disease outbreak, etc.
- Loss of habitat, tree and forest cover, biodiversity loss and large scale greenery recovery failure is an environmental threat.
- Increased traffic congestion, disruption in rail services, disruption in communication- on telephone, internet cables causing massive public inconvenience is another concern.

Anthropogenic activities that affect urban watersheds

- Waste water from a tributary drain, sewage draining, industrial effluents, urban storm water runoff, solid waste and debris, pollution from agricultural fertilizers and chemicals etc. reduces water carrying capacity.

- Through land reclamation to accommodate growing urban population can lead to loss of whole or certain portions of water bodies.
- riverbank stabilization has been reducing because of developmental activities on flood plains
- increase in urban population without increase in infrastructure for disposal of waste is one of the effect for urban flooding
- illegal mining activities is a major concern
- The type and amount of vegetation, and the plant community structure, can greatly affect the storage capacity in any watershed.
- simple, overburdened drainage, frenzied and unregulated construction, buildings constructed without paying any heed to the natural topography and hydro-geomorphology all adds to the damage.

The need of the hour is urgent rebuilding of cities such that they have the sponginess to absorb and release water without causing so much misery and so much damage to the most vulnerable of our citizens, as we have seen.

UPSC Civils Daily Mains Question 31st May-2021

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Technology and innovation can introduce significant improvement and services into health services. In this light, discuss the impact of technology in healthcare.

Healthcare in India has been transformed over the last three decades. There is an improved index on life expectancy, infant mortality, and maternal deaths and of outcomes. Information technology and biotechnology are twin engines, with immense potential to transform healthcare delivery.

Impact of Technology on Healthcare

- The use of artificial intelligence can support clinical diagnosis with evidence-based guidance, and also prevent disease.
- From the virtual reality of 3D-printing we are now moving towards augmented reality (AR), by which every piece of node in a malignant melanoma can be completely removed. Thereby eliminating the risk of the cancer spreading to any other part of the body.
- Biotechnology and genetics help in understanding of human life and disease and have made personalized medicine a way of life.
- The CRISPR-Cas9 System is the remarkable recent breakthrough in genome editing technology,
- Providing solar-powered systems across primary health centers can improve health outcomes
- Integration Of automation in healthcare is of the biggest Shifts seeing today
- Digitization of health services can take a long time When public health spending is less than and then expenditure is out of pocket.
- Cloud computing allows doctors to access and compare patient data to be able to give better diagnosis and treatment to their patients.
- E-commerce platforms enable easy distribution of healthcare products.

Way Forward

- For India to grow, healthcare as an engine of the economy needs to flourish.
- Given its technology talent pool, India has a lot to offer in the domain of healthcare technology and preventive health and predictive analytics.
- India needs to rapidly adapt, embrace and drive change if it wishes to stay relevant in the global healthcare order.
- We need to achieve a balance between technology and innovation and continue to deliver care, while finding efficient ways to lower the cost of care.