

ENVIRONMENT AND ECOLOGY

Deemed Forest

In Context- Odisha has no ‘deemed forest’ as per the amended Forest (Conservation) Act, 1980.

About

- The Odisha government, since 1996, had with the help of expert committees at the district level identified nearly 66 lakh acres as ‘deemed forest’ but many of them were not officially notified as such in government records.
- This would be about 40-50% of Odisha's total forest land, adding that the government’s interpretation of the Forest Act would end up accelerating the razing of forests.
- The Odisha government’s order likely conflicts with the Environment Ministry’s assurances to a parliamentary committee that “deemed forests” would continue to be protected.
- Protection under the Forest Act means that land cannot be diverted without the consent of the Centre as well as gram panchayats.
- The amendments brought by the Ministry of Environment and Forest said the changes to the Act of 1980 were necessary to remove ambiguities and bring clarity to where forest laws could be applied.
- As per the amendments, if notified forest land was legally diverted between 1980 and 1996, for non-forest use, the Forest Conservation Act, 1980 would not apply.

Formation of Expert Committees:

- The States were expected to form expert committees and identify plots of land that were encapsulated under the new definition of forest.
- However not all States submitted these reports, leaving considerable leeway to States to define, or leave out large parcels of land from the definition of forest.

What are deemed forests?

- The concept of deemed forests has not been clearly defined in any law including the Forest Conservation Act of 1980.
- The Supreme Court in the case of T N Godavarman Thirumalpad (1996) accepted a wide definition of forests under the Act.
- “The word ‘forest’ must be understood according to its dictionary meaning, which covers all statutorily recognised forests, whether designated as reserved, protected or otherwise for the purpose of Section 2 (1) of the Forest Conservation Act.
- The term ‘forest land’ occurring in Section 2 will be any areas recorded as forest in the government record irrespective of the ownership.
- The provisions enacted in the Forest Conservation Act 1980 for the conservation of forest and the matters connected therewith must apply clearly to all forest so understood irrespective of the ownership or classification thereof.

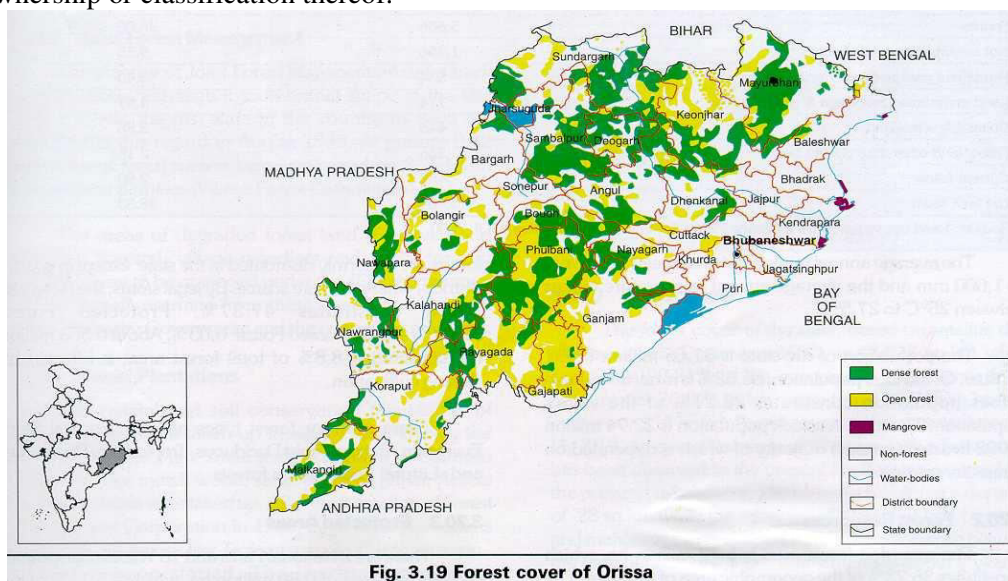


Fig. 3.19 Forest cover of Orissa

About the amendment of the Forest Act, 1980

- The Forest (Conservation) Act, 1980 amended to make it applicable to certain types of land that include land notified as a forest under the Indian Forest Act, 1927 or in government records after the 1980 Act came into effect.
- The Act will not be applicable for land converted to non-forest use before December 12, 1996.
- It also exempts certain types of land from the purview of the Act. These include land within 100 km of India’s border needed for national security projects, small roadside amenities, and public roads leading to a habitation.
- It is now renamed as the Van (Sanrakshan Evam Samvardhan) Adhiniyam — translated as Forest Conservation and Augmentation.
- It only accords protection to a forest that has been declared so in accordance with the provisions of the Forest Act, 1927 and also land that has been specifically notified as forest on or after October 25, 1980.
- The 1996 Godavarman verdict by the Supreme Court enjoined States to bring in such unrecorded land that conformed to the ‘dictionary’ meaning of forest.
- ‘Deemed forest’ is forest land that has not been notified as such by the Centre or States.
- Preservation of forest areas in India under the Forest Conservation Act, 1980 has been continuously monitored by the Supreme Court since the Godavarman case judgement in 1996.
- The state government must obtain clearances from the Supreme Court for effecting changes to land classified as deemed forests since the verdict.

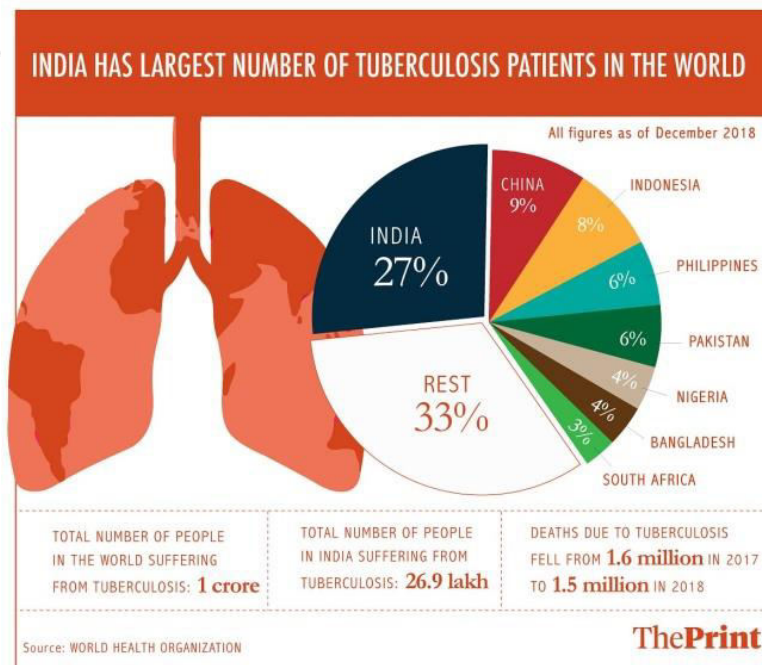
HEALTH GOVERNMENT POLICIES AND INTERVENTIONS

Antimicrobial Resistance & Air Pollution

- **In Context-**According to the Lancet Planetary Journal, Air laden with unhealthy amounts of PM2.5 can become a highway for antibiotic-resistant bacteria and genes.
- Particulate Matter & Antimicrobial resistance (AMR)
- According to a new analysis published in The Lancet Planetary Journal, this particulate matter, called PM2.5, could drive the world’s next public health threat – antimicrobial resistance (AMR), when disease-causing bacteria become immune to the drugs that could once destroy them.
- The researchers wrote that this airborne spread could have resulted in premature deaths in India and China, and other population-dense countries.
- Some 18.2 million years of life could have been lost this way in 2018 worldwide, resulting in an economic loss of \$395 billion (more than Pakistan’s GDP).

Relation of PM & AMR

- The authors of the journal have found that every 10% rise in air pollution was correlated with an AMR increase of 1.1% across countries and continents.
- PM2.5 emissions from burning firewood in homes for cooking or heating could carry bacteria and antibiotic-resistant genes, be transmitted over long distances, and eventually be inhaled by individuals.
- PM2.5 is known to penetrate the body’s defences and enter the bloodstream and lungs – a symptom associated with chronic conditions such as cancer, heart disease, and asthma.



- The analysis found that the contribution of PM2.5 to AMR was found to be greater than that of antibiotic use or due to drinking water.

What is Particulate Matter (PM)?

- Particulate matter (PM) are inhalable and respirable particles composed of sulphate, nitrates, ammonia, sodium chloride, black carbon, mineral dust and water.
- PM 2.5 refers to tiny particles or droplets in the air that are 2 ½ microns or less in width.
- Sources: The most common human-made sources include internal combustion engines, power generation, industrial processes, agricultural processes, construction, and residential wood and coal burning.
- The most common natural sources for PM2.5 are dust storms, sandstorms, and wildfires.

What is Antimicrobial Resistance?

About:

- Antimicrobial Resistance (AMR) occurs when bacteria, viruses, fungi and parasites change over time and no longer respond to medicines making infections harder to treat and increasing the risk of disease spread, severe illness and death.

AMR in India

- Data show that India leads the world in antibiotic use.
- The indiscriminate use of antibiotics among people and animals, poor hygiene and sanitation, and lack of awareness have fueled this rise.
- The COVID-19 pandemic only exacerbated these issues, together with a surge in the sales of antibiotics to treat bronchitis and pneumonia.
- The higher circulation of antibiotic-resistant bacteria and antibiotic-resistance genes (ARGs) across humans, animals, and environments also creates new transmission pathways.
- A 2019 study found India's rivers and lakes to be concentrated with antimicrobial-resistant bacteria. Pharmaceutical wastewater and untreated effluents from hospitals were the root causes.

Major Causes

- Antibiotic resistance occurs when bacteria evolve to evade antibiotics. Overuse and misuse of antibiotics are the biggest drivers of resistance.
- That means that the more we use antibiotics, the worse the problem of antibiotic resistance becomes.
- Other drivers of antimicrobial resistance include:
 - The lack of access to clean water, sanitation and hygiene (WASH) for both humans and animals,
 - Poor infection and disease prevention and control in healthcare facilities and farms,
 - Poor access to quality, affordable medicines, vaccines and diagnostics,
 - Lack of awareness and knowledge.

Issues

- Difficulty in treating infections: Microbial resistance to antibiotics has made it harder to treat infections such as pneumonia, tuberculosis (TB), blood-poisoning (septicaemia) and several food-borne diseases.
- Rising health cost: AMR also imposes a huge health cost on the patient in the form of longer hospitalisation, health complications and delayed recovery.
- AMR adds to the burden of communicable diseases and strains the health systems of a country.
- Other patients also at risk: It puts patients undergoing major surgeries and treatments, such as chemotherapy, at a greater risk. Many times, patients recover from advanced medical procedures but succumb to untreatable infections.
- Antimicrobials in the agri-food system: There is also an urgent need to reduce the usage of antimicrobials in the agri-food system. Scientific evidence suggests that the less antimicrobials are used, it is less likely that there will be an emergence of drug resistance.

Measures Taken to Rising Antimicrobial Resistance in India

- National Action Plan on Antimicrobial Resistance (NAP-AMR): It has a focus on the One Health approach & was launched with the aim of involving various stakeholders ministries/departments.

- AMR Surveillance Network: ICMR established the AMR surveillance and research network (AMRSN) to generate evidence and capture trends and patterns of drug resistant infections in the country.
- AMR Research & International Collaboration: ICMR has taken initiatives to develop new drugs /medicines through international collaborations in order to strengthen medical research in AMR.
- India's National Action Plan for containment of AMR: It focuses on an integrated One Health approach and involves coordination at the state, national and international levels.
- Key priority of National Health Policy 2017: In its National Health Policy 2017, India has identified managing AMR as a key priority and since then the health ministry has taken several initiatives to nip the epidemic that is growing fast globally.

Suggestions & way ahead

- Addressing Air pollution: AMR is not new. The present focus on environmental factors, however, illustrates that in the fight against antimicrobial-resistant bacteria, we need to address air pollution if we are to plug one hole, while measures to combat other drivers continue.
- Antibiotic use in itself is expected to rapidly increase in low- and middle-income countries like India by 2050.
- Learning from China: The analysis hailed China's case as instructive. In the 2010s, China implemented restrictions on antibiotic sales and began to tackle air pollution on a war footing.
- In the next seven years, air pollution declined as much as it had in the U.S. in three decades.
- Ultimately, the country reaped gains against the twin challenges of PM2.5 and AMR – a trend researchers predict is likely to endure.

PRELIM FACTS

1. Vishwakarma Yojana

Context: Prime Minister of India recently announced a scheme for artisans - Vishwakarma Yojana.

About the scheme:

- This scheme will provide empowerment and support to the traditional industries coming under the MSME sector.
- It will have an allocation of up to ₹15,000 crore to help skill development among the youth.
- The scheme was announced in this year's budget for traditional artisans and craftspeople to enable them to improve the quality, scale and reach of their products to integrate them with the MSME value chain.
- **The components of the scheme will include:**
 - ✓ financial support
 - ✓ access to advanced skill training,
 - ✓ knowledge of modern digital techniques and efficient green technologies,
 - ✓ brand promotion,
 - ✓ linkage with local and global markets,
 - ✓ digital payments, and
 - ✓ Social security.

2. California's Redwoods

Context: A mission to undo decades of damage to the redwoods of California caused by unchecked logging involves even more logging and chain saws.

Key details:

- California is home to the world's only native coast redwood forest, which extends more than 450 miles from central California north to southern Oregon.
- A recent study found that the forest is drying as temperatures increase.
- Average summer temperatures in California have risen 3 degrees since the end of the 19th century.

About the redwood tree:

- It is also known as Sequoia sempervirens.
- It is the sole living species of the genus Sequoia in the cypress family Cupressaceae.
- It is an evergreen, long-lived, monoecious tree living 1,200–2,200 years or more.

- This species includes the tallest living trees on Earth
- These trees are also among the longest-living organisms on Earth.
- Before commercial logging and clearing began by the 1850s, this massive tree occurred naturally.

Concerns:

- Because of their height, many redwoods are at risk since they have to pump water hundreds of feet against gravity and friction.
- Hotter droughts in particular, like those that occurred here between 2012 and 2016, can stress trees to their breaking point.
- Wildfires also pose greater risks as conditions become warmer.
- Redwood logging of second- and third-generation redwoods still poses environmental problems.

Possible solutions

- Identifying “potential elder trees,” or second-growth redwoods, that have the best characteristics to become sky-scraping titans which can provide a home for large fern mats.
- These small ecosystems that can weigh hundreds of pounds and hold up to 5,000 gallons of water.
- Ferns, lichen and moss grow in them, and salamanders, spotted owls and bats reside in the trees.
- We can identify these exceptional trees and promote them by removing the competition.
- It’s about creating a tree that’s going to last for a thousand years, allowing a tree to reach its potential.

3. IFFCO Nano DAP (Liquid) Plant in Gujarat**In News**

- The Union Home Minister laid the foundation stone of Indian Farmers Fertiliser Cooperative (IFFCO) Nano DAP (Liquid) Plant at Gandhidham, Gujarat.

About IFFCO Nano DAP

- It is an efficient source of available nitrogen (N) and phosphorus (P₂O₅) for all the crops and helps in correcting the Nitrogen & Phosphorus deficiencies in standing crops.
- Nano DAP formulation contains Nitrogen (8.0% N w/v) and Phosphorus (16.0 % P₂O₅ w/v).
- Nano DAP (Liquid) has an advantage in terms of surface area to volume as its particle size is less than 100 Nanometre (nm).
- This unique property enables it to enter easily inside the seed surface or through stomata and other plant openings.
- Better spread ability and assimilation of Nano DAP inside the plant system leads to higher seed vigour, more chlorophyll, photosynthetic efficiency, better quality and increase in crop yields.
- Apart from this, Nano DAP through precision and targeted application fulfills the nutritional requirement of crops without harming the environment.

About IFFCO

- It is a multi-state cooperative society that is involved in the manufacturing and marketing of fertilizers at a large scale.
- It was founded in 1967 and has now become one of the biggest co-op in the country.
- As part of varied service vertices it aims to revolutionize the agricultural world with technology while uplifting farmers with services like mobile advisory, IFFCO Kisan Agriculture App, and Kisan call centre.

4. Permanent security units for all courts

Context: The Supreme Court has proposed “permanent security units” to guard court complexes across the country, recalling incidents of gunfire and violence on court premises.

Need for permanent security units:

- In the past year, courts in India have witnessed at least three major incidents of gunfire.
- Hence it is critical that judicial institutions take comprehensive steps to safeguard the well-being of all stakeholders.

The plan:

- The Supreme Court has asked the High Courts to prepare security plans in consultation with the Principal Home Secretaries, Directors-General of Police and Police Commissioners to protect the courts.

- The security plan may include a proposal for setting up of permanent court security unit(s) in each complex.

The security plan ought to indicate the:

- ✓ strength and source of drawing of manpower for these security units, including armed and unarmed personnel and supervisory officers for each unit,
- ✓ the minimum term and mode of deployment of manpower,
- ✓ their list of duties
- ✓ additional financial benefits,
- ✓ special modules for training and
- ✓ Sensitizing personnel in matters of court security.

5. Bilateral Naval Maritime Partnership Exercise

Context: Indian Navy Participates In Bilateral Naval Maritime Partnership Exercise With UAE Navy

Key details:

- Two Indian Naval Ships INS Visakhapatnam and INS Trikan will participate in a bilateral Naval Maritime Partnership Exercise with the UAE Navy.
- INS Visakhapatnam is one of the largest operational Destroyer in Indian Navy and is a completely indigenous warship made by the Mazagaon Docks Limited.
- INS Trikan is an advance stealth frigate commissioned in 2013.
- The ship is a contemporary warship with state of the art technology incorporated in every facet of its design to make her stable, stealthier, fast and formidable.

Aim:

- To enhance the interoperability and synergy between the two navies by cross training on tactics, techniques and procedures while developing stronger professional bonds.
- to jointly tackle the common challenges of piracy, smuggling, human trafficking,
- Enhance maritime security and undertake joint Humanitarian Assistance & Disaster Relief operations.

ANSWER WRITING

Q. “Custodial violence is a gross violation of human rights of the victim, but no less ethical pain for the accused”. In light of this statement, discuss the values that are compromised for both the accused and the victim.

- **IN CONTEXT:** Custodial violence primarily means violence in the judicial and the police custody, involving the victim subject to rape, torture, and even death. Custodial violence is a clear violation of human rights, which include all types of physical and mental torture inflicted upon the victim. It is a show of ‘instant justice’ demonstrated by the police, a civil force of state vested with authority and duty to maintain law and order in society by themselves, ruining the pillars of social order and justice in our society.
- **Values that are compromised for the victim**
 - **Human dignity:** The highest form of fundamental rights is human dignity. Article 21 of the Indian constitution guarantees an individual the right to life with dignity and personal liberty. Whenever an individual is taken into custody it becomes the legal property of the state, wearing the cloak of legal guardian.
 - **Justice and Fairness:** Whenever custodial violence happens humans are treated as a means to an end of getting out information. The inhuman and degrading treatment reflects the betrayal of custodial trust by a public authority against the defenseless citizens. The victims do not get the right to fair trial and prove themselves innocent.
 - **Social Equality:** Generally, the victims of custodial crimes, torture, injury or death belong to weaker sections of society. The poor, the downtrodden and the ignorant with little, or no political or nancial power, are unable to protect their interests.
 - **Self-respect:** Physical or mental torture caused when the person is in police custody has irreversible impact on the mental or physical well-being as well as the overall functioning of individuals, children, family or even the entire society that is affected.

➤ **Values that are compromised for the accused**

- **Public faith and trust:** Custodial Violence disrupts the moral fabric of our society and reduces the public trust in law enforcement. Police is vested with authority and duty to maintain law and order and when they indulge in custodial torture it violates not only public confidence in them but also raises questions on their integrity and probity.
- **Violation of oath and duty:** Police take an oath to always maintain the highest ethical standards and uphold the values of community, and the agency that they serve. Instances of custodial torture show the violation of their oath and duty that encompasses maintaining a safe and secure environment.
- **Accountability and transparency:** Police officers are the public officials that society has authorized, even obliged, to use force. Ensuring that police officers use that warrant equitably, legally, and economically on behalf of citizens is at the core of police administration. Police are expected to uphold laws and follow due process of law. Holding police accountable is important for maintaining the public's faith in the system.
- **Self-restraint:** Self-control includes being able to stay on task and interrupt any undesired impulsive reactions by refraining from acting on them.

➤ To sum up, custodial violence is the cold blooded and inhuman act of law enforcement on prisoners, under trials and detainees which include heinous acts such as physical and sexual assault, psychological torture, and in the extreme cases, fake encounters. The growing instances of custodial violence poses a challenge to the ethos of our welfare state as propounded by the Constitution and virtues such as guarantee of life and personal liberty.

MCQ

1. Consider the following statements.
 1. The Danube, Europe's second longest river, has historically been crucial for the movement of freight.
 2. The Sulina Channel, which has been dredged and straightened, is the only one deep and wide enough for freight transport.

Which of the statement given above is / are correct?

 - a) 1 only
 - b) 2 only
 - c) **Both 1 and 2**
 - d) None of the above
2. Recently 'Operation Jericho' is in news is related to which of the following state?
 - a) **Mizoram**
 - b) Uttar Pradesh
 - c) Jharkhand
 - d) Jammu and Kashmir

3. Consider the following statements.
 1. Indian Navy Participates In Bilateral Naval Maritime Partnership Exercise with UAE Navy.
 2. Two Indian Naval Ships INS Visakhapatnam and INS Trikan will participate in a bilateral Naval Maritime Partnership Exercise.
 3. INS Visakhapatnam is one of the largest operational Destroyers in Indian Navy and is a completely indigenous warship made by the Mazagaon Docks Limited.

How many of the above statements is/are correct.

- a) Only one
- b) Only two
- c) **Only three**
- d) None

4. Consider the following statements.

1. 'Vishwakarma Yojana' will be launched on occasion of Vishwakarma Jayanti, benefiting individuals skilled in traditional craftsmanship, particularly from the OBC community.
2. The government is planning skill development training for two crore women under the 'Lakhpati Didi' scheme that aims to encourage them to start micro-enterprises.
3. Under 'Lakhpati Didi' scheme, skill training will be provided to women so that they can earn at least Rs 1 lakh annually.

How many of the above statements is/are correct.

- a) Only one
- b) Only two
- c) **Only three**
- d) None

5. Consider the following statements about deemed forest.

1. The concept of deemed forests has not been clearly defined in any law including the Forest Conservation Act of 1980.

2. The Supreme Court in the case of T N Godavarman Thirumalpad (1996) accepted a wide definition of forests under the Act of 1980.
3. It is now renamed as the Van (Sanrakshan Evam Samvardhan) Adhiniyam — translated as Forest Conservation and Augmentation.
- How many of the above statements is/are correct.
- Only one
 - Only two
 - Only three**
 - None
6. Recently Murmansk Port is in news, considered the following statement regarding Murmansk Port.
- The seaport of Murmansk is one of the largest ice-free ports in Russia.
 - It is located on the Kola Peninsula at the coast of Barents Sea.
- Which of the statement given above is / are correct?
- 1only
 - 2 only
 - Both 1 and 2**
 - None of the above
7. Considered the following statements:
- NavIC offers Standard Position Service (SPS) for civilian use and Restricted Service(RS) foe strategic Applications.
 - The NavIC coverage area includes India and A region up to 1,500km beyond the Indian boundary.
- Which of the statements given above is/are correct?
- Only 1
 - Only 2
 - Both1 and 2**
 - Neither 1 nor 2
8. Recently Windfall Tax is in news, considered the following statement.
- The Windfall tax is a higher tax levied by the government on specific industry on their unexpected and above- average profits.
 - Its purpose is to reduced excess profits in one area to raise funds for the greater social good.
- Which of the statements given above is/are correct?
- Only 1
 - Only 2
 - Both1 and 2**
 - Neither 1 nor 2
9. Recently, Libya is facing crisis due to clashes between two armed groups. considered the following statement:
- Libya is a land locked country.
 - The Sahel region is largely semi-arid belt of barren, sandy and rock-strewn land in Africa, Libya is part of this region.
- Which of the statements given above is/are correct?
- Only 1
 - Only 2
 - Both1 and 2
 - Neither 1 nor 2**
10. Recently, PM –eBUS Sewa Scheme is in news considered the following statement:
- Government approve 57,623 crores for PM-eBUS Sewa Scheme.
 - Under Public Private Partnership model.
- Which of the statements given above is/are correct?
- Only 1
 - Only 2
 - Both1 and 2**
 - Neither 1 nor 2