

Emissions by 2070, and maintaining or enhancing the forest carbon stock. Consequently, it is imperative to incorporate these issues within the scope of the Act.

What are the key features of the Forest (Conservation) Amendment Bill?

Name: The Bill renames the parent legislation, the FCA, to Van (Sanrakshan Evam Samvardhan) Adhiniyam, which translates to Forest (Conservation and Augmentation) Act. The new name reflects a new focus on afforestation and reforestation activities.

Preamble: The bill inserts a Preamble in the FCA to express a commitment to achieving net zero emissions by 2070, creating a carbon sink, increasing forest cover, and improving the livelihoods of forest-dependent communities.

Read more: [What are the key provisions of the Forest \(Conservation\) Amendment Bill, 2023?](#)

What are the positive aspects of the Forest (Conservation) Amendment Bill?

Agro-forestry: The Bill encourages private forests and agro-forestry projects because these would not be considered forests in the traditional sense. These projects would be exempt from the provisions of the FCA. That would ensure that farmers or owners of these private forests can harvest their lands, for commercial or other uses, without the need for acquiring forest clearance. This could potentially result in a major growth in agro-forestry projects and a significant increase in forest cover, which will help India in achieving its international commitment (NDC) and 33 percent forest cover.

Elimination of ambiguities: Removal of uncertainties in the applicability of FCA will facilitate the decisions making process on the proposals involving non-forestry use of forest land by the authorities.

Better forest management: The inclusion of additional activities such as forestry activities in the Bill, such as creating infrastructure for frontline forest staff, will facilitate a swift response to natural hazards in forested areas. Currently, the lack of enabling provisions in the FCA makes it challenging to establish essential infrastructure in forest regions. This impacts various forestry operations, regeneration efforts, monitoring, supervision, and forest fire prevention. By introducing these provisions, the bill seeks to improve forest management and conservation.

What are the concerns with the Forest (Conservation) Amendment Bill?

Restricting Supreme Court's judgement: The Bill will impose significant limitations on the application of the landmark Godavarman judgment of 1996, which broadened the scope of the 1980 FCA. The proposed amendment now narrows the Act's coverage to only legally notified forests and forests recorded in government records on or after October 25, 1980. This change could potentially impact approximately 28% of India's forest cover, covering nearly 2,00,000 square kilometers. These forests include forests of exceptional ecological value, including the Unclassed Forests in Nagaland, which have not been officially recorded or designated as forests until now.

States may now be free to allow the destruction of Unclassed forests for construction and development. Consequently, this amendment may have implications for ecologically significant areas, such as the large portions of the Aravalli Hills in the Delhi National Capital Region.

Exclusion of fragile ecosystems: By exempting the requirement for forest clearances for security-related infrastructure within 100 km of international borders, the Bill excludes some of India's most delicate ecosystems. These include globally recognized biodiversity hotspots such as the forests of northeastern India and high-altitude Himalayan forests and meadows.

Exemptions: The Bill includes exemptions for construction projects like zoos, safari parks, and eco-tourism facilities. However, these artificially created green areas differ significantly from natural ecosystems, which offer various ecosystem services.

Moreover, the Bill grants the Union government unrestricted powers to specify 'any desired use' beyond the original or amended FCA's specified purposes. This raises concerns about potential exploitation of forest resources without adequate environmental scrutiny.

Disenfranchising forest people: The Bill does not mention the Scheduled Tribes and Other Traditional Forest-dwellers (Recognition of Forest Rights) Act, 2006. Consequently, the exclusion of certain forest areas and the simplified diversion process might lead to the removal of the requirement to consult forest people's institutions (gram sabhas).

If India is to meet its net zero carbon commitments and increase forest cover, it would require the participation of forest people. For example, in Nepal, the handing over of forests to local community forest user groups helped the country increase its forest cover from 26% to 45% over just three decades.

What should be the way forward?

Complete ground surveys: Rather than restricting the scope of the Forest Conservation Act, there should be a concerted effort to prioritize the completion of the demarcation process for unrecorded forests. This approach would ensure that these forests are properly recognized and safeguarded under the existing legislation.

Balance development and conservation: There should be a careful balance between development projects and forest conservation. Compensatory afforestation should be carried out on non-forest land or degraded forest land, rather than promoting plantations over natural forests.

Indigenous and forest community rights: The rights of indigenous and forest communities should be respected, and their consent sought when it comes to the diversion of forest land. Their livelihoods and dependence on forests should be considered in decision-making processes.

Sources: [The Hindu](#), Indian Express ([Article 1](#) and [Article 2](#)), [PIB](#)

Circular Economy in India: Explained, pointwise

Introduction

Recently, under India's G 20 presidency, the Resource Efficiency and Circular Economy Industry Coalition (RECEIC) was launched. It is a first-of-its-kind initiative aimed at promoting resource efficiency and circular economy practices with participation from 39 global companies. Resource efficiency and circular economy are powerful strategies to minimise dependence on natural resources, reduce waste and encourage sustainable design practices. Recognising the need to switch from the 'take-make-dispose' (linear economy) to 'reduce-reuse-recycle' (circular economy)

model, India has prioritised 'Resource Efficiency and Circular Economy' as one of the three core themes for deliberations in the G-20 forum. In this context, it is important to understand India's current position, challenges in adopting circular economy and steps taken by the government to achieve circular economy.

Read more: [Circular Economy: Meaning, Benefits and Opportunities](#)

What is India's current position in terms of circular economy?

India's current economic model is largely linear, where resources are extracted, processed, and transformed into products that are sold to consumers.

From 1970 to 2015, India witnessed a six-fold increase in its annual material consumption, from 1.18 billion tonnes to 7 billion tonnes. This figure is expected to double to 14.2 billion tonnes by 2030. This material consumption is supported by a high speed of resource extraction. India's resource extraction is 1,580 tonnes/acre, which is 251% higher than the world average of 450 tonnes/acre.

Only about 20 per cent goods are recycled in India and after use, the products are discarded, leading to a significant amount of waste generation. According to the Central Pollution Control Board (CPCB), India generates over 62 million tonnes of waste every year, and this is expected to increase to 165 million tonnes by 2030. Most of this waste is disposed of in landfills or dumped in open spaces, leading to environmental degradation and health hazards.

What are the challenges in India in achieving the vision of a circular economy?

Lack of awareness and understanding: There is a lack of awareness and understanding among businesses, policymakers, and consumers about the benefits of circular economy and the need to transition towards it.

Limited infrastructure: India has limited infrastructure for waste management and recycling, which makes it difficult to implement circular economy practices.

Inefficient waste collection and segregation: In many parts of India, waste collection and segregation are inefficient, which hinders the recycling process and leads to the disposal of valuable resources.

Limited availability of recycled materials: There is a limited availability of recycled materials in India, which makes it difficult for businesses to incorporate recycled materials into their production processes.

Lack of incentives: In a circular economy, businesses need to redesign their products, services, and business models to use resources more efficiently, reduce waste, and minimize environmental impact. However, this transition can be costly and time-consuming, and without incentives, businesses may prioritize short-term profits over long-term sustainability goals. This can hinder the adoption of circular practices. There is a lack of adequate incentives for businesses to adopt circular economy practices.

Limited research and development: There is limited research and development in the field of circular economy, which hinders the development of new technologies and solutions for recycling and waste management.

Lack of multi-stakeholder level understanding: There is an absence of a multi-stakeholder level understanding of the circular economy. A circular economy requires a collective effort from all stakeholders to create systemic change in the way goods and services are designed, produced, consumed, and disposed. The absence of a multi-stakeholder approach can limit knowledge sharing and exchange of best practices.

What are the steps taken by the government for India's transition to a circular economy?

National Resource Efficiency Policy (NREP): The NREP was launched in 2019 with the objective of promoting sustainable production and consumption patterns, enhancing resource efficiency, and reducing the environmental impact of economic activities. The policy includes measures to encourage the adoption of circular business models, such as product-as-a-service, leasing, and sharing, and promotes the use of recycled materials.

Extended Producer Responsibility (EPR): EPR is a regulatory framework that makes manufacturers and producers responsible for the post-consumer waste generated by their products. The EPR framework encourages producers to adopt sustainable product design practices, increase the use of recycled materials, and support waste management and recycling initiatives. The government has formulated the **Battery Waste Management Rules 2022**, **Plastic Waste Management Rules** as amended in 2022, **e-Waste Management Rules 2022** in this context.

Swachh Bharat Mission (SBM): The Swachh Bharat Mission was launched in 2014 with the objective of promoting cleanliness, hygiene, and waste management. The mission includes initiatives to promote waste segregation, recycling, and composting, and aims to make India a “zero-waste” country. A reduction in waste generation is central to the goal of a circular economy.

Atal Innovation Mission: The Atal Innovation Mission was launched in 2016 to promote innovation and entrepreneurship in India. The mission includes initiatives to support the development of circular business models and encourage the adoption of sustainable technologies.

Bio-Economy and Biofuels: The **Pradhan Mantri JI-VAN Yojana** provides financial support to integrated bio-ethanol projects to set up second generation (2G) ethanol projects. The government has also made it mandatory for coal-burning thermal power plants to use a 5% blend of biomass pellets along with coal. The **Galvanizing Organic Bio-Agro Resources (GOBAR) Dhan scheme** was launched to convert cattle dung and other organic waste into compost, biogas, and biofuels to promote sustainable agriculture and reduce pollution. The **Sustainable Alternative Towards Affordable Transportation (SATAT) Scheme** was launched in 2018 to promote the use of Compressed BioGas (CBG) as an alternative green transportation fuel.

Financial Incentives: The government has implemented various financial incentives to encourage the adoption of circular business models and promote sustainable consumption patterns. These incentives include tax benefits, subsidies, and low interest loans to the recycling industry.

What should be done to achieve the vision of a circular economy?

Develop a comprehensive circular economy policy: India needs to create a policy framework that outlines the goals, strategies, and mechanisms to transition towards a circular economy. This policy should be based on extensive research and stakeholder consultations to ensure that it is effective and feasible.

Promote waste reduction and management: India needs to focus on reducing waste generation and managing waste more efficiently. This could include measures such as promoting recycling, composting, and waste-to-energy conversion.

Encourage sustainable production and consumption: India should encourage the production and consumption of sustainable products and services that are designed to be reused, repaired, or recycled. This could be achieved through measures such as tax incentives, product labeling, and awareness campaigns.

Develop circular business models: India should encourage businesses to adopt circular business models, such as product-as-a-service, leasing, and sharing. This could help reduce resource consumption and waste generation, while also creating new business opportunities.

Invest in innovation and technology: India should invest in innovation and technology to develop new circular solutions, such as advanced recycling technologies, sustainable materials, and renewable energy sources.

Collaborate with stakeholders: India should collaborate with various stakeholders, including government agencies, businesses, NGOs, and consumers, to create a shared vision and work towards a common goal of circular economy.

Conclusion

The transition to a circular economy is expected to provide numerous benefits to India, ranging from environmental conservation to economic growth and job creation. The circular economy's emphasis on reducing waste generation, promoting local production and resource optimization, and reducing greenhouse gas emissions aligns with India's commitments to sustainable development and climate change mitigation. Therefore, India must take proactive steps to accelerate the transition to a circular economy, including investing in infrastructure, encouraging innovation and technology development, and building public awareness and support for a circular economy.

Sources: [The Hindu](#), EAC-PM ([Document 1](#) and [Document 2](#))

Tiger conservation in India: Explained, pointwise

Introduction

Recently, the government has released detailed report of All India Tiger Estimation -2022 and final report of 5th cycle of Management Effectiveness Evaluation of Tiger Reserves on the occasion of International Tiger Day (29th July). These reports highlight the success of tiger conservation efforts in India.

What are the key findings of All India Tiger Estimation -2022?

The upper limit of the tiger population is estimated to be **3925** and the average number is 3682 tigers, reflecting an **annual growth rate of 6.1% per annum**.

India currently harbors almost **75% of the world's wild tiger population**.

Central India and the Shivalik Hills and Gangetic Plains witnessed a notable increase in tiger population, particularly in the states of Madhya Pradesh, Uttarakhand, and Maharashtra.

However, certain regions, such as the **Western Ghats, experienced localized declines.**

The largest tiger population of 785 is in Madhya Pradesh, followed by Karnataka (563) & Uttarakhand (560), and Maharashtra (444).

The tiger abundance within the Tiger Reserve is highest in Corbett (260), followed by Bandipur (150), Nagarhole (141), Bandhavgarh (135), Dudhwa (135).

Approximately **35% of the tiger reserves urgently require enhanced protection measures**, habitat restoration, ungulate augmentation, and subsequent tiger reintroduction.

Final Report of 5th cycle of Management Effectiveness Evaluation of Tiger Reserves About Management Effectiveness Evaluation

Management Effectiveness Evaluation (MEE) is adopted from the framework of the **International Union for Conservation of Nature and Natural Resources (IUCN) World Commission on Protected Areas.**

MEE is an important tool to assist and improve the management of Tiger Reserves and their associated landscape connectivity.

51 out of 53 Tiger Reserves have been independently evaluated through the MEE process in the fifth cycle in 2022.

For the assessment of the MEE Framework, **33 criteria** have been developed and a percentage rating was calculated for each Tiger Reserve from the scores of all 33 criteria/indicators.

Key findings

The results indicate an overall **mean score of 78.01% for 51 Tiger Reserves.**

A total of **12 Tiger Reserves have achieved 'Excellent' category** (rating greater than or equal to 90 percent).

21 Tiger Reserves were in 'Very Good' category (75-89 percent rating).

13 Tiger Reserves achieved 'Good' category (60-74 percent rating).

5 Tiger Reserves were in 'Fair' category (50-59 percent rating).

What is Project Tiger and National Tiger Conservation Authority (NTCA)?

Project Tiger was **launched in 1973** to promote conservation of the tiger. It came at a time when the population of tigers in India was rapidly dwindling, due to unfettered hunting and habitat loss.

Project Tiger is an ongoing **Centrally Sponsored Scheme** of the Ministry of Environment, Forests and Climate Change providing central assistance to the tiger States for tiger conservation in designated tiger reserves.

The National Tiger Conservation Authority (NTCA) is a **statutory body** of the Ministry, with an overarching supervisory / coordination role, performing functions as provided in the Wildlife (Protection) Act, 1972.

Read more: [What are the government initiatives focused on improving the tiger population in India?](#)

What are the achievements of Project Tiger?

Population increase: In 1970s, the tiger population was estimated to be around 1800. Project Tiger started in 1973 with 268 tigers. Now, the tiger population is estimated to be 3925.

Expansion of Tiger reserves: The initial number of 9 tiger reserves across 18,278 sq km of land in 1973 has now expanded to 53 tiger reserves cumulatively protecting an area of 75,796.83 sq km, approximately 2.3 per cent of the country's geographical area.

Protecting other species: The ban on hunting to protect tigers resulted in the population of numerous other animals experiencing an increase.

Why tigers should be conserved?

Preserving the ecosystem: The tiger plays a pivotal role in the health and diversity of an ecosystem. It is a top predator who keeps the population of wild ungulates in check, thereby maintaining the balance between herbivores and the vegetation upon which they feed. Therefore, the presence of tigers in the forest is an indicator of the well-being of the ecosystem.

Protecting water sources: Tiger habitats overlap with important watersheds. Protecting these tiger forests is the most cost-effective way to prevent droughts, reduce flooding, and limit the impacts of climate change. For example, the 51st Tiger Reserve, Srivilliputhur Megamalai, in southern India will safeguard more than 1,000 sq km of key river habitat.

Protecting tigers also protects other species: Tiger-protected areas save other species as well. For example, Manas Tiger Reserve in Assam also support the pygmy hog and the Bengal florican. Without tigers, these and many more species would not be as well protected.

Read more: [What is the significance of conserving the tiger population?](#)

What are the threats to tiger conservation?

Climate change-related impacts on habitats and the loss of the quality of forests over time is one of the challenges in tiger conservation. Out of the approximately 400,000 square kilometers of forests in tiger states, only one-third are in relatively healthier condition.

Illegal wildlife trade: Even though poaching is illegal, the demand for tiger products remains high, and poachers continue to kill tigers for profit.

Habitat and loss of prey species: Large-scale habitat Degradation and dwindling prey populations are the major long-term threats to the existence of tigers in the country. Although extensive habitat is available in some landscapes, agriculture, clearing of forests for development – especially road and rail networks, hydel projects are forcing tigers into small and scattered islands of remaining habitat. Tigers need large territories. And along with habitat, tigers have also suffered a severe loss of natural prey populations in key habitats.

Region wise threats

Wildlife habitats in the **Central Indian region** face various threats, including habitat encroachment, illegal hunting, conflicts with humans, unregulated cattle grazing, excessive harvesting of non-timber forest products, forest fires, mining, and expanding infrastructure.

North Eastern Hills and Brahmaputra region is currently facing several threats such as habitat loss, poaching, and human-wildlife conflict.

In the **Sundarbans**, the tiger population and landscape are both threatened by biotic interference in the form of forest exploration, fishing, palm and timber extraction, and the expansion of waterways.

What should be the way ahead for tiger conservation?

A **landscape approach** is required to protect the entire landscape. Landscape planning emphasises on corridors which allow free movement for dispersing tigers, equal protection to tigers living outside tiger reserves, habitat improvement outside tiger reserves to improve availability of food, water and cover for tiger and its prey base.

Illegal trade of tiger organs needs a **coordination** among forests, customs, postal and police departments and paramilitary forces like ITBP, SSB and BSF to curb internal and border transaction of tiger organs.

Special engagements with CITES, IUCN and Traffic are needed to monitor factors responsible for demand of tiger organs, identify hot spots and nexus operating outside Indian borders. Strong surveillance, intelligence gathering and coordination among national and international agencies would ensure a safe journey for tiger conservation in India.

Estimation of carrying capacity of tiger reserves should be priority for coming years to assess an optimum level of tiger population a reserve can sustain. Translocation of excess animals can be carried out to tiger deficit reserves to further strengthen tiger population. Sariska Tiger Reserve in Rajasthan, Panna Tiger Reserve in Madhya Pradesh and Rajaji Tiger reserve in Uttarakhand are doing well with their translocated population of tiger.

Conclusion

The increase in the tiger population is a positive sign, but we must not become complacent and there is a need to continue our efforts to ensure the survival of this magnificent animal and safeguard our forested ecosystems in their entirety. Tigers are not just a part of India's wildlife heritage but also a symbol of the country's ecological richness and economic well-being.

To ensure the long-term survival of tigers in India, a multi-faceted approach is needed, including protecting and expanding tiger habitats, preserving population connectivity, minimizing human-tiger conflicts, and combating threats like habitat loss, poaching, and illegal trade. It's important to restore habitats, increase ungulate populations, and plan reintroduction of tigers in low density areas to tackle conflict issues. The involvement of various stakeholders, such as governments, NGOs, local communities, and businesses, is crucial.

Sources: PIB ([Press release 1](#) and [Press release 2](#)), [Status of Tigers 2022 report](#)