



NHAI Sustainability Report 2023-24

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Why in News?

The [National Highways Authority of India \(NHAI\)](#) released its **second Sustainability Report** for FY 2023-24, detailing significant achievements in integrating [Environmental, Social, and Governance \(ESG\)](#) principles into its operations.

- The report aligns with India's [Mission LiFE](#), and the principles of a [circular economy](#).

What are the Major Environmental Sustainability Initiatives Undertaken by NHAI?

- **Decoupling Growth from Emissions:** Despite a **20% increase in National Highway construction**, NHAI successfully **reduced its GHG emission intensity** from **1.0 to 0.8 MTCO₂e/km**, demonstrating a clear decoupling of construction growth from environmental harm.
- **Promoting Circular Economy:** In FY 2023-24, NHAI **utilized over 631 lakh metric tonnes of recycled and reused materials**, including **fly ash, plastic waste, and reclaimed asphalt**, significantly reducing construction waste and enhancing resource efficiency.
- **Water Body Rejuvenation:** Under the [Amrit Sarovar Mission](#), NHAI has developed **467 water bodies** across the country.
 - These efforts have also resulted in the **recovery of 2.4 crore cubic meters of soil**, leading to estimated **cost savings of ₹16,690 crore** in construction material.
- **Reduced Water Use Intensity:** The report notes a **74% reduction in water use intensity** in **water-stressed regions**, reflecting NHAI's commitment to water conservation in infrastructure development.

How Infrastructure Development can be Synergised with Environmental Sustainability?

- **Adopt Green Infrastructure Principles:** Design infrastructure that works with nature — e.g., **permeable pavements, green roofs, bio-swales, urban forests**.
- **Integrate EIA at Planning Stage:** Make [Environmental Impact Assessments \(EIA\)](#) not just a formality but a decision-making tool.
 - Use **Strategic Environmental Assessments (that includes social assessment)** for multi-project or regional scale planning.
- **Use Sustainable Materials & Promote Circular Economy:** Use recycled, low-carbon, and locally sourced materials in construction.
 - Encourage reuse of waste- **fly ash, plastic, construction & demolition (C&D) waste**.
- **Green Cover and Compensatory Afforestation:** Integrate tree plantation, green belts, and ecological buffers into highways, rail, and urban plans.
 - Follow the **"Tree First, Road Next"** approach in sensitive zones.
- **Water Conservation and Management:** Design stormwater harvesting, greywater reuse, and water-efficient systems in urban and transport projects. Rejuvenate local water bodies.

- **Wildlife and Biodiversity Considerations:** Build eco-bridges, underpasses, and animal corridors in linear infrastructure (roads, rails).
- **Low-Carbon Transport Infrastructure:** Promote mass rapid transit systems, NMT (non-motorized transport), and EV-ready highways.
 - Develop **more dedicated freight corridors** that reduce emissions and congestion.
- **Policy Alignment and ESG Compliance:** Align infrastructure projects with Mission LiFE, [National Action Plan on Climate Change \(NAPCC\)](#), and Sustainable Development Goals (SDGs).
 - Encourage **Environmental, Social and Governance (ESG)** reporting by public sector agencies.

National Highways Authority of India

- NHAI is a **statutory body under the Ministry of Road Transport and Highways**, responsible for the development, maintenance, and management of National Highways in India.
- It was established under the NHAI Act, 1988 and became operational in February 1995.
 - The authority is headed by a Chairman and includes up to five full-time and four part-time members, appointed by the Central Government.

Conclusion

NHAI's Sustainability Report reflects a strategic shift from **"build fast" to "build green"**, **integrating climate consciousness with infrastructure expansion**. India must walk the path of **'concrete with conscience'**, where every highway, bridge, or port is not just an economic asset but also an ecological responsibility.

Related Keywords for Mains:

- **Infrastructure & Sustainability:**
 - **"Highways to Carbon Sinks"** – Turning transport corridors into ecological assets.
 - **"Bricks, Bytes, and Biodiversity"** – Merging construction, digital tools, and ecology.
 - **"Measure Emissions, Manage Growth"** – Emission intensity as a planning tool.
- **ESG & Circular Economy:**
 - **"Recycle, Reuse, Rebuild"** – Core pillars of sustainable construction.
 - **"Waste is Wealth in Motion"** – Turning construction waste into assets.
 - **"Carbon Cost Matters as Much as Capital Cost"** – ESG as a budgeting lens.

Drishti Mains Question:

"Infrastructure development is often seen as a trade-off with environmental sustainability. In the Indian context, how can sustainable infrastructure be achieved without compromising the needs of economic growth and ecological preservation?"

UPSC Civil Services Examination, Previous Year Question (PYQ)

Q. "Investment in infrastructure is essential for more rapid and inclusive economic growth." Discuss in the light of India's experience. (2021)

