

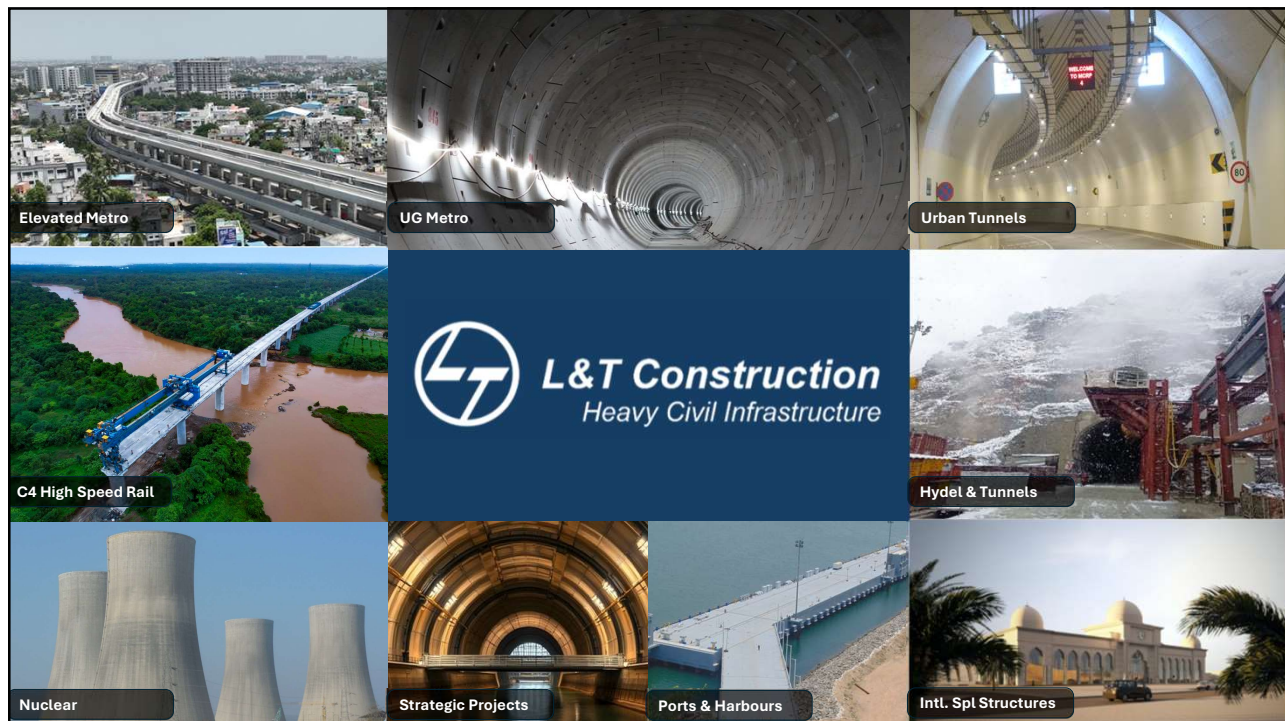
Biodiversity Management – Crocodile Conservation at L&T High-Speed Rail Project



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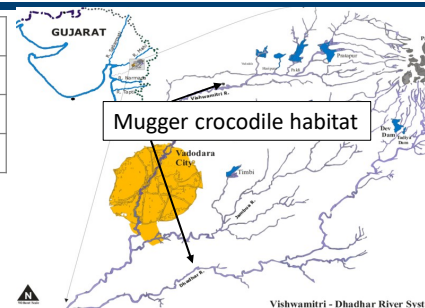


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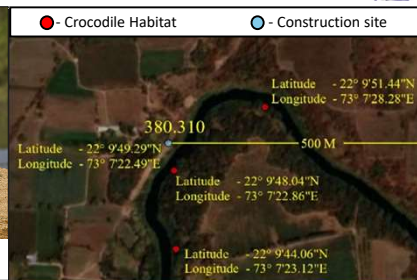
MAHSR Project

Project name	Mumbai Ahmedabad High Speed Rail project
Site name	C4 – Section 5, Vadodara, Gujarat
Species found	Mugger crocodile (Status: Vulnerable)
No. of crocodiles	250 (as of 2018 from survey)

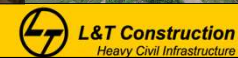
- MAHSR project passes right through the Vishwamitri River, a crocodile habitat
- Survey conducted to understand the population and impacts of Crocodiles.



Mugger Crocodile basking near the riverbank



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3

Why its required?

Potential Wildlife – Domestic Conflict



Potential Human – Wildlife Conflict



Potential Wildlife – Wildlife Conflict



Potential Work – Wildlife Conflict



⚠️ Posed a significant ecological challenge for the construction of India's first Bullet Train

⚠️ Construction activities near the river have raised concerns over protection of Mugger crocodile

Objective: To protect the local crocodile population, their habitat, and ensure safe coexistence with human activities and prevent any major conflicts

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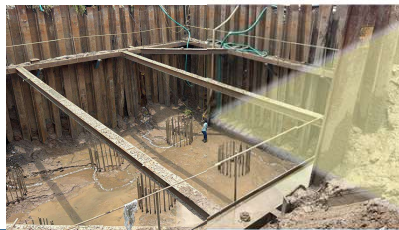
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Challenges faced

Construction activities may

- Destroy nesting sites
- Reduce prey availability, forcing crocodiles to migrate
- Reduce their numbers in certain areas
- Disturb crocodiles' natural movement in their habitat

Increased human activity due to construction activities can lead to encounters and conflicts



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5

Resource Requirement & Execution

1. Deployment of an internal team for studying the area
2. Study of eco-sensitive biodiversity through experts
3. Extensive research through a third-party agency (such as NGOs)
4. Identify hotspots of crocodile movements through local surveys
5. Maintenance of Crocodile Excluded Enclosure through a dedicated team
6. Cages for crocodile rescue and Rescue Van
7. Signs and displays at major interaction locations
8. Periodic training for workmen and locals
9. Dedicated Rescue team inspections
10. Rescue of crocodile in a safe manner
11. Transport of rescued crocodiles to safe habitat

Crocodile Excluded Enclosure



Cage for crocodile rescue



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6

Crocodile Rescue Process



7

Specialities of the Project

Outcomes:

1. Enhanced habitat protection
2. Reduced human-wildlife conflicts
3. Immediate response to wildlife presence, ensuring safe relocation

Uniqueness:

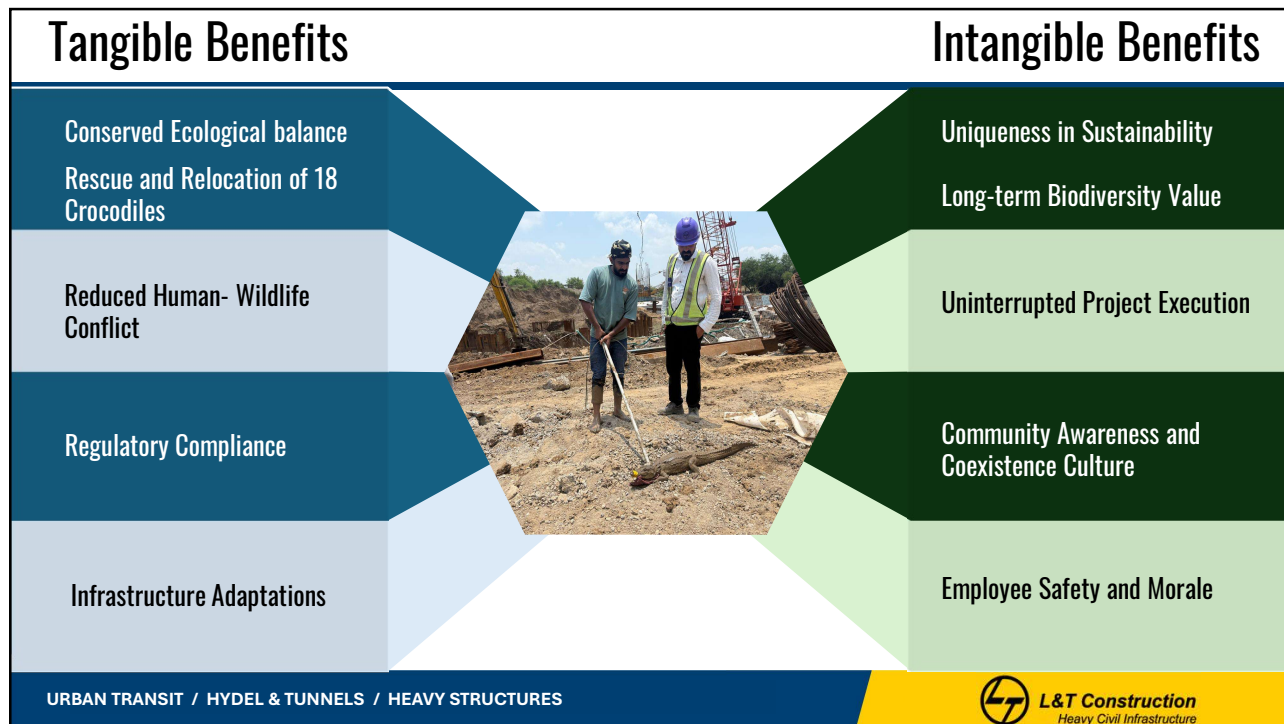
1. Blends biodiversity conservation with infrastructure development
2. Training fostered a culture of coexistence instead of conflict
3. Introduced wildlife-friendly engineering solutions



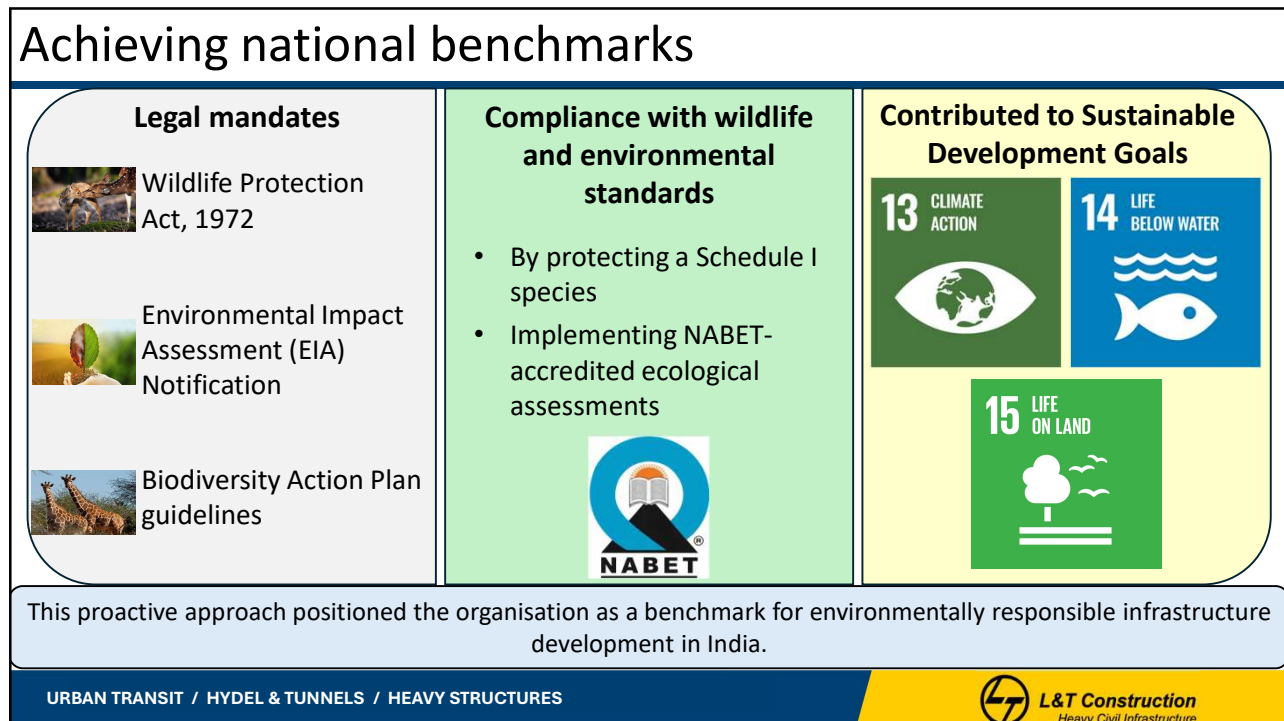
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L&T Construction
Heavy Civil Infrastructure

8



9



10

Best practices





Delivered measurable & high-impact results
proving ecological sensitivity and infrastructure development can coexist



Project rescued and relocated 18 crocodiles
to protected natural habitats without a single incident



A replicable/ adaptable model
for integrating wildlife conservation into heavy infrastructure projects

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11

Replication potential within Construction sector

Railway or Highway expansion
Crocodiles, Elephants and Leopard corridors

Renewable energy projects
Wind or solar farms may impact bird or bat populations

Metro construction
Near lakes, rivers, or wetlands – Crocodiles and other aquatic life

Mining Operation
Forest and wetland ecosystems for monkeys, deer and elephants

Article [Full-text available](#)

Mugger Crocodile (*Crocodylus palustris*) Mortality due to Roads and Railways in Gujarat, India

December 2019 · Herpetological Conservation and Biology · 14(3):615-626

Raju Vyas · Anirudh Vasava

Overview Citations (16) References (42)

Abstract and figures

An extensive network of roads and railways cuts across the Indian landscape, resulting in vehicle collisions with a variety of wildlife. A frequent victim of these collisions is the Mugger Crocodile (*Crocodylus palustris*). Of the 38 crocodile-vehicle collisions (CVC) recorded between 2005 and 2018, 24 were on roads and 14 were on railway tracks. Sex was determined for 23 individuals (10 males, 13 females, 15 unknown). Twenty-nine individuals were found dead at the site of collisions, four individuals died while undergoing medical treatment, and five were treated successfully and returned to wild. The majority of collisions occurred in Vadodara, central Gujarat, India. There has been a rise in CVC in the last decade, wherein only four CVC were reported between 2005 and 2010, which rose to 34 in the following 8 y (2011-2018). Length of Mugger Crocodiles involved in collisions

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12

Replication potential within companies

"We don't own the planet Earth; we belong to it. And we must share it with our wildlife."
-Steve Irwin

Practical and replicable across the Indian construction & infrastructure sectors



Structured approach
Cross-sector applicability



Aligns with ESG, Legal and CSR goals
Use of local resources and expertise



Cost-effective and Risk-reducing

Companies where it can be replicated



Infrastructure



Mining



Energy



Urban sectors

To conclude, the project's conservation-led development model presents a ready-to-implement blueprint for the Indian industry

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13

Bio-diversity Conservation



Mumbai Trans Harbour Link – Atal Setu

Mumbai Coastal Road Project

Creek was preserved for flamingo migration along with mangrove conservation and use of warm lights for turtle protection along the TAB

Artificial Coral Reef to enhance the coastal and marine biodiversity

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14

SAFE HAVEN FOR REPTILES



Crocodile Population Over the Years	Population
2011	205
2015	260
2020	275
2025	442

200-MEMBER TEAM JOINED CENSUS: The crocodile census was carried out three times in Feb 2025 under the supervision of the GEER Foundation, which participated in this exercise for the first time. Two counts were conducted during the day and one at night. On Feb 5, the daytime survey recorded 442 crocodiles, while the night count the same day logged 411. The following day, Feb

River Stretch	Population
Akota Bridge to Dena	220
Kalali to Talsat	77
Akota Bridge to Mujmahuda	55
Vadsar Bridge to Kalali	48
Mujmahuda to Vadsar	42

Times Of India- Aug 13, 2025

Thank you



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