# Dangers of Fragmenting Tiger Populations

## What is the issue?

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- A recent study has estimated that the probability of tiger extinction due to unplanned development is over 50%.
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- This is mainly because of changes in future land use, increased fragmentation of its habitat and the inevitable loss in genetic diversity.
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## What does the study say?

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- The study has used genetic data to capture the effects of changing landscapes and increasing isolation of tiger population.
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- It highlighted the unplanned development would increase extinction probability to 56% and result in a 35% decrease in genetic variability.
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- Like other large carnivores, tigers require vast swathes of jungle to hunt and thrive, and are particularly vulnerable to habitat fragmentation.
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## What are the challenges?

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- **Mining -** Increase in mined area and built-up area can lead to “15 times higher extinction probability” in small and medium protected forests.
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- Notably, Mines and Minerals (Development and Regulation) Act was recently amended to expedited environmental clearances.
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- Significanlty, areas of largescale coal mining in central india (MP, Maharastra and Chattisgarh) lie adjacent to Tigar Reserves.
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- **Roads -** A key threat to tiger populations is the increase in road traffic, which is estimated to grow at 13% per annum for the next two decades.
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- The busy Mumbai-Kolkata NH-6 cuts through the Nagzira Tiger Reserve and Nawegaon National Park in Maharashtra and its widening has been proposed.
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- There has already been an increase in agricultural activities and construction along the highway, making it harder for tigers to move across.
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## What can be done?

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- **Restoring and protecting corridors** could reverse declining population.
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- **Adding a buffer zone** around small populations was found to reduced the extinction probability by as much as 70%.
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- There is already a lot of research on road ecology in the west and India needs to dig into them to evolve suitable solutions for tiger conservation.
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- Notably, the study has suggested the **installation of mitigation structures** like under- and over-passes for wildlife to pass across roads.
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### Source: Indian Express

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