

# China makes developers pay compensation for their ecological impacts. Here's how this unique scheme works

September 11 2023, by Shuo Gao, Eleanor Jane Milner-Gulland, Joseph William Bull and Sophus zu Ermgassen

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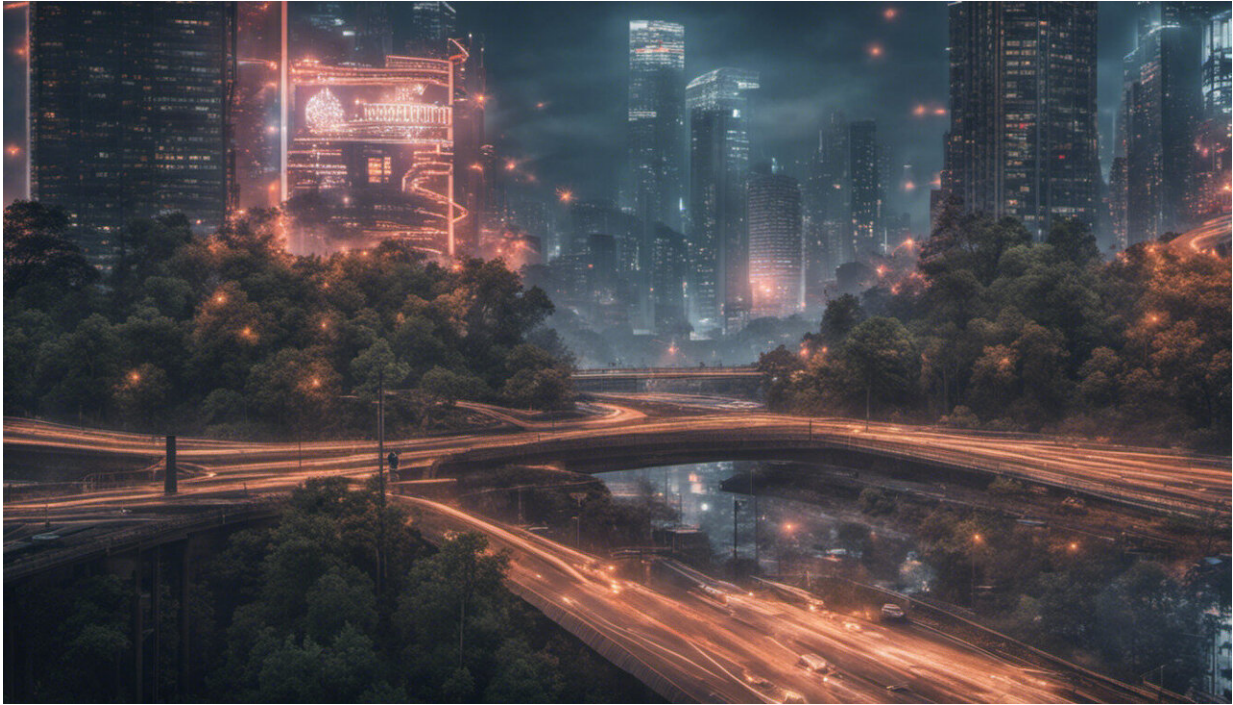
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In 2017, the Chinese environmental NGO, Friends of Nature, sued the developer of a dam in Yunnan province in the country's south west. The NGO alleged that the project's environmental impact assessment had

failed to fully capture how the dam would affect the surrounding rainforest, and particularly the endangered [green peafowl](#) that lives there. This weak assessment report was one reason why the project was granted consent and even highlighted as best practice by the local government.

In 2020 a court in Yunnan [ordered a halt](#) to construction of the dam, but the discussion around the case did not end. This was not an isolated issue related to one local government's hasty approval of a [project](#) with a flawed environmental impact assessment. Instead, it revealed systemic challenges for China's ecological compensation system in which developers often get to assess their own environmental impacts.

Nowhere in the world are these potential trade-offs between infrastructure and the environment more stark than in China, which features both a global biodiversity hotspot and huge and fast-developing economy. This all adds up. For instance, it is estimated that between 2010 and 2013 China poured more concrete than the U.S. did [in the entire 20th century](#).



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Weak environmental impact assessments and the subsequent approval of harmful development projects are endemic to planning processes worldwide. However, the ecological compensation system in China is rather different to those elsewhere. In China, developers first assess the environmental impact of their new projects. They can then choose to redress these impacts by themselves or to pay upfront restoration fees to the government, who will use the money to do it for them. We recently published research exploring [how this system works](#) (and when it doesn't) and what other parts of the world could learn from it.

## **Unreliable and often ineffective**

We reviewed 31 projects across different regions in China, including the



Yunnan dam. We found that only seven of the relevant environmental impact assessments used quantitative metrics to measure their impact on biodiversity. This is perfectly legal, as these metrics are not compulsory. But the lack of standard measurements means any compensation programs can't be reliable.

Nonetheless, developers are encouraged to design restoration and compensation schemes and include them in their environmental assessment reports submitted to the government. However, they are not required to restore habitats which are similar to the ones being lost. This means projects can replace valuable habitats with less valuable areas—planting roadside trees to make up for lost wetland forest, for example. Species and habitats could therefore be degraded or lost even though ecological compensation has been paid.

When developers don't want to restore nature themselves, or their proposals are not significant enough to make up for the [habitat loss](#) they have caused, they are required to pay restoration fees to the government.



Credit: AI-generated image ([disclaimer](#))

Under China's environmental laws and regulations, local government collects these restoration fees from developers and spends them on creating new habitats or recovering degraded habitats elsewhere. For instance, forestry law requires restoration fees to be spent towards ensuring no net loss in the area covered by forest (albeit without consideration of forest type, so a native forest could be replaced with a non-native plantation).

It might be better if China's public sector was fully in charge of ecological compensation, rather than letting developers design their own compensatory projects. But it's very hard to find information that would let us know.

Out of 2,844 local governments across China, fewer than 1% have disclosed how much restoration money they have collected and spent and what they spent it on. We did manage to sample ten reports disclosed by local governments and found that they implement similar biodiversity-enhancement projects to developers.

## **Individual species can fall through the net**

Due to the lack of proper metrics to capture biodiversity losses and inadequate information published, it is near-impossible to compare outcomes and to evaluate the effectiveness of ecological compensation projects. However, it is clear that there is a lack of regulatory safeguards for biodiversity on China's development sites.

This is because the ecological compensation policy relates mostly to [habitat](#) area. It does not well account for a habitat's quality, its functional role within a wider ecosystem, its conservation value, the amount of species that live there and many other such attributes. The focus on habitat means individual threatened species (such as the green peafowl) can fall through the net.

China's central [government](#) should consider passing a law that would mean biodiversity impact measurements would have to use a unified indicator framework, and, if possible, make it compulsory for all development activities. Equally, China may also need to improve compensation governance for data tracking and conservation effectiveness monitoring. Establishing [a public national offset register](#) would help.

Other countries might learn from China. Paying upfront restoration fees could encourage developers elsewhere to avoid and minimize their environmental impacts at the early stages of their projects. Besides, the levying of fees from developers to be spent by [local governments](#) on projects to enhance both nature and people's well-being in a strategic way could be a useful model for ecological compensation elsewhere.

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