CONSERVATION IN CAMBODIA

Introduction

Cambodia was known as a country with the second largest indochinese tigers' population in 1999. With just less than a decade later, the species is pronounced functionally extinct. Only three tigers were spotted in the Keo Seima Wildlife Sanctuary during 2000-2003. The last seen tiger was at Srepok Wildlife Sanctuary, Mondulkiri on November 2007. This rapid decline is mainly caused by extreme deforestation causing habitat degradation and intense poaching of tigers and its prey.

Due to this decline, Cambodia is working on tiger reintroduction and as one of the 13 tiger range countries aims to double the tiger's population by 2022. However, having a species that

pronounced functionally extinct is a big task.

Ecological Significance

Tigers were known as the apex predators and also the keystone species of its habitat. It plays an essential role in the health and diversity of the ecosystem; protect it is protecting the entire ecosystem.

As apex predators, having tigers as carnivores limit the number of herbivores to a sustained number that the primary producers can provide. By having an active role in the food chain, the tigers support the flow of various nutrient cycling. For instance, carbon cycle, autotrophs take up carbon to do photosynthesis then they are eaten by herbivores which then are eaten by carnivores like tigers. When the predators die, decomposers break the organic matter down and give nutrients to soil allowing the cycle to continue. Having tigers in an ecosystem can help other plants and species to grow by giving them space since tigers are very territorial. Another ecological importance of tigers is that, since they are the 'interior' species, their habitats are big intact forest, so by protecting its habitat, it can help to fight against river siltation and flooding, storms, and other disasters.

Specifically to Cambodia, tiger is an iconic species and crucial on the Cambodian eastern plains landscape. The eastern plains landscape or EPL covers over 30000 square kilometers and lies across four provinces: Mondulkiri, Ratanakiri, Stung Treng, and Kratie. It is now still home to endangered species such as Banteng, Eld's deer, critically endangered species like leopards, and thousands of indochinese tigers

Having tigers in an ecosystem is a sign that the ecosystem is healthy and with its extinction would

cause the entire ecosystem to collapse.

Value to human communities

While having an important role the ecosystem, tigers also contributed immensely to the living of many people.

Economically, tiger is an opportunity to increase the eco-tourism. Forests like the dense forest is not suitable for tourists; therefore, the EPL can attract thousands of tourists to see these incredible tigers. Furthermore, after enjoying the sight of forests and tigers, tourists might also delay their vacations to nearby places like angkor wat. The incomes from the tourists can support the local communities and Cambodia tourism industry as a whole.

Since having a good number of tigers is an indication of a healthy ecosystem, the forests benefit the local in many many ways. This big forest can help reduce disasters that are affecting the locals such as flooding, storms, and climate change. The forests provide clean water, fresh air, and act as a big carbon sequester as well. Furthermore, since 80% of Cambodians live in rural area and rely strongly on the forest products such as daily woods usage and fuelwood. A healthy forests keep us all healthy and benefited.

As mentioned above, tiger is an iconic species in Southeast Asia, but also very special in Cambodian culture. Tigers were presented in many folktales back in the old days that are also still pass on through generations. Furthermore, tiger is also one of the animals presented in Cambodian zodiac.

Threats

Even with all these benefits from tigers, mankind hasn't been realizing how we're putting tremendous pressure to the species and its habitat.

One of the threats to tiger is the habitat loss due to massive deforestation. According to globalforestwatch.org, Cambodia loss forests accumulate to 23% from 2000 to 2017, with only 3% of primary forest present. The EPL, in particular, is under pressure from mining, deforestation for road construction, and habitats fragmentation. Because forests were torn down for these various human needs, it leads to decrease in tigers density until it extincts; furthermore, it also changes the community structure of the ecosystem because tiger is an umbrella species and losing it would cause a domino effect. Another major threat is the habitat fragmentation for road constructions; this is a very serious problem as tiger is an interior species. As we keep dividing the habitats, it causes an 'edge effect'. The edge species would increase in proportion to the decrease of interior species (tigers).

Another major threat is poaching. Poaching of tigers for illegal wildlife trade increase tremendously over the last few years. People had been increasing their demands for tiger's body parts used for decorations, clothes, and medicine. Especially in China, Tigers farming increase poaching in Southeast Asia and it shows us that it's important to not just have zero poaching, but zero demands of tiger's parts. Habitat fragmentations also make it easier for poachers to hunt tigers down. Not just poaching tigers decrease tigers' population, but poaching tigers' prey also is the main cause. Tiger's diet is herbivores, but herbivores in the EPL such as Banteng, Eld's deer continue to decrease. For instance, Banteng's population decreases about 95% from the 1960s until the 1990s and continue to diminish overtime and currently this species is categorized

as endangered.

Current Conservation Actions

Realizing the importance of tigers, the Cambodian government launched the tiger reintroduction program in the Eastern Plains Landscape of Cambodia. Tigers then are transported from India as they identified that it belongs to the same subspecies which is the Indochinese tigers.

In the EPL, they divided into different zones: Lomphat wildlife sanctuary, Mondulkiri protected forest, Phnom Prich wildlife sanctuary, and Seima protected forest. As for WWF, they are supporting the government on this conservation. They are conducting research, monitoring tigers especially its prey species, and ultimately safeguarding all the species. They also established a landscape conservation in which they safeguard the habitats of all the zones from illegal deforestation. Cambodia also involve in TX2 campaign that aims to double tigers' population by 2022.

Predictions

For each of the zones made as part of tigers' reintroduction. There are potential numbers of tigers they expected to have by 2050. For Lomphat wildlife sanctuary, there are hopefully 15 tigers by 2050. For Mondulkiri protected forest, Phnom Prich wildlife sanctuary, and Seima protected forest, they expected to have 43, 24, and 27 individuals of tiger respectively.

Recommendations

Having zero poaching is not enough to stop the threats toward tigers, we also need to ensure that we have zero demands for tiger's parts. To do this, I recommend negotiating with big

countries that have huge demand of tiger's parts. I would really really recommend a strong law enforcement because I believed that the main cause of this species' extinction is weak law enforcement.

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